KEMENTERIAN SUMBER ASLI
DAN KELESTARIAN ALAM
JABATAN ALAM SEKITAR

LAPORAN TAHUNAN
ANNUAL REPORT
2025

JABATAN ALAM SEKITAR
DEPARTMENT OF ENVIRONMENT



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Department of Environment, Malaysia
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Printed on Woodfree Paper

ISSN 2636-9842



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Prakata / Preface

> **“JAS terus mempromosi program kesedaran dan pendidikan alam sekitar serta penyebaran maklumat kepada pelbagai peringkat masyarakat sebagai usaha berterusan dalam membangunkan masyarakat mesra alam di negara ini.**
> DOE continues to promote environmental education and awareness programmes as well as disseminate information to various levels of the society towards building an environmentally friendly society in the country.”

Jabatan Alam Sekitar dengan sukacitanya membentangkan Laporan Tahunan 2025 yang merangkumi pencapaian dan pelaksanaan program pada tahun tersebut. Selari dengan misi Jabatan ini, “Memastikan Pembangunan Lestari di Dalam Proses Memajukan Negara” dan visi “Pemuliharaan Alam Sekitar Untuk Kesejahteraan Rakyat”, JAS meneruskan mandat yang diberi untuk mentadbir Akta Kualiti Alam Sekeliling, 1974.

Penekanan yang berterusan diberikan dalam usaha mencegah dan mengawal pencemaran air, pencemaran udara dan pengurusan buangan terjadual. Pemeriksaan ke atas punca-punca pencemaran dan tindakan undang-undang telah diambil ke atas pihak-pihak yang melakukan kesalahan.

Sejumlah 533 laporan EIA telah diterima dan diproses oleh JAS pada tahun 2025. Daripada bilangan ini, sebanyak 475 laporan bagi aktiviti yang tertakluk di bawah Jadual Pertama, Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 2015, dan 58 laporan bagi aktiviti yang tertakluk di bawah Jadual Kedua perintah tersebut.

Pada tahun 2025, sejumlah 320 kesalahan di bawah Akta Kualiti Alam Sekeliling 1974 (AKAS 1974) telah didakwa di mahkamah dan telah disabitkan kesalahan dengan denda yang dikenakan berjumlah RM 8,578,400.00.

JAS terus mempromosi program kesedaran dan pendidikan alam sekitar serta penyebaran maklumat kepada pelbagai peringkat masyarakat sebagai usaha berterusan dalam membangunkan masyarakat mesra alam di negara ini.

“Alam Sekitar, Tanggungjawab Bersama”

The Department of Environment wishes to present the 2025 Annual Report which provides an account of its achievements and programme implementations in that year. In line with the department’s mission ‘To Ensure Sustainable Development in the Process of Nation Building” and vision, ”Environmental Conservation for the Wellbeing of the People”, DOE continues its mandate to administer the Environmental Quality Act (EQA), 1974.

Continued emphasis is given to the prevention and control of water pollution, air pollution and schedule waste management. Inspections on pollution sources have been intensified and improved. Legal actions have also been taken against environmental offenders.

A total of 533 EIA reports were received and processed by the DOE in 2025. Of these, 475 were reports of activities specified in this First Schedule of Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015, and 58 reports were of activities that are subject to the Second Schedule of the order.

In 2025, a total of 320 offences under the Environmental Quality Act 1974 (EQA 1974) were prosecuted in court and were convicted with fines totalling RM 8,578,400.00.

DOE continues to promote environmental education and awareness programmes as well as disseminate information to various levels of the society towards building an environmentally friendly society in the country.

“Environment, Our Shared Responsibility”





BAB
CHAPTER

01

MAKLUMAT KORPORAT

CORPORATE INFORMATION



PENGENALAN / Introduction

Akta Kualiti Alam Sekeliling (AKAS) 1974, telah diwartakan pada Mac 1974 dan mula dikuatkuasakan pada 15 April 1975. Penguatkuasaan AKAS 1974 ini mewujudkan keperluan untuk menubuhkan satu agensi yang bertanggungjawab dalam melaksanakan tugas tersebut. Jabatan Alam Sekitar (JAS) adalah agensi kerajaan yang bertanggungjawab dalam menguruskan isu-isu berkaitan alam sekitar, melaksanakan penguatkuasaan terhadap pencemaran alam sekitar dan merancang kawalan pencemaran seperti yang ditetapkan dalam AKAS 1974.

JAS pertama kali ditubuhkan sebagai Bahagian Alam Sekitar di bawah Kementerian Kerajaan Tempatan dan Alam Sekitar pada 15 April 1975. Bahagian ini kemudian dipindahkan di bawah Kementerian Sains, Teknologi dan Alam Sekitar pada Mac 1976. Demi menjaga dan memulihara alam sekitar, Bahagian Alam Sekitar dinaiktaraf menjadi Jabatan Alam Sekitar Malaysia pada 1 September 1983. Pada Mac 2004, JAS diletakkan di bawah Kementerian Sumber Asli dan Alam Sekitar. Pada tahun 2018, JAS ditempatkan di bawah naungan Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim dan seterusnya pada Mac 2020, JAS berada di bawah Kementerian Alam Sekitar dan Air. Kini JAS bernaung di bawah Kementerian Sumber Asli dan Kelestarian Alam.

The Environmental Quality Act (EQA) 1974 was promulgated in March 1974 and came into force on 15 April 1975. The enforcement requirements of EQA 1974 led to the establishment of an agency responsible for carrying out these tasks. The Department of Environment (DOE) is a government agency responsible for managing environmental issues, enforcing regulations on environmental pollution sources, and planning pollution control measures under EQA 1974.

DOE was initially established as the Environmental Division under the Ministry of Local Government and Environment on 15 April 1975. The division was later placed under the Ministry of Science, Technology and Environment in March 1976. In recognition of the importance of environmental conservation and preservation, the Environmental Division was upgraded to a Department known as the Department of Environment Malaysia on 1 September 1983. In March 2004, DOE was placed under the Ministry of Natural Resources and Environment. In 2018, it was placed under the auspices of the Ministry of Energy, Science, Technology, Environment and Climate Change and subsequently in March 2020 DOE was placed under the Ministry of Environment and Water. Now, DOE is one of the agencies under the Ministry of Natural Resources and Environmental Sustainability.

Visi, Misi & Strategi
Vision, Mission & Strategies



MISI / MISSION

Memastikan Pembangunan Lestari di dalam Proses Memajukan Negara
To Ensure Sustainable Development in the Process of Nation Building

VISI / VISION

Pemuliharaan Alam Sekitar untuk Kesejahteraan Rakyat
Environmental Conservation for the Well-being of the People

STRATEGI / STRATEGIES

- Integrasi Faktor Alam Sekitar Dalam Perancangan Pembangunan
  Integration of Environmental Factors in Development Planning
- Pembangunan Lestari Melalui Pemuliharaan Sumber Semulajadi
  Sustainable Development Through Conservation of Resources
- Pencegahan dan Kawalan Pencemaran
  Pollution Prevention and Control
- Kerjasama Antara Agensi dan Persekutuan Negeri
  Inter-Agency and Federal State Cooperation
- Promosi Pendidikan dan Kesedaran Alam Sekitar
  Promotion of Environmental Education and Awareness
- Penyertaan Awam Dalam Pengurusan Alam Sekitar
  Public Participation in Environmental Management
- Kerjasama dan Hubungan Dua Hala, Serantau dan Antarabangsa
  Bilateral, Regional and International Cooperation

LOGO JABATAN / Department's Logo

**Reka bentuk ini terdiri daripada sepasang tangan dan bunga kebangsaan, iaitu Bunga Raya.
Ia juga berkonsepkan bentuk gasing serta wau (layang-layang) yang merupakan simbol kebangsaan
dan menggambarkan identiti kebangsaan.**

**The design consists of a pair of hands and the national flower, Hibiscus.
It incorporates the shapes of Gasing (top) and Wau (kite) into the concept which symbolize national identity.**

Pengertian Simbolik Logo / Symbolic Meaning of the Logo



Gasing Yang Berputar - Ia menggambarkan kedinamikan, kejujuran dan pendekatan seimbang JAS dalam perlindungan alam sekitar.

Spinning Top - It depicts the dynamism, honesty, and balanced approach of environmental protection by DOE.

Layang-layang Yang Meninggi - Ia menggambarkan peningkatan kesedaran nasional terhadap alam sekitar.

Kite Flying High - It represents the increase in environmental awareness among citizens.

Sepasang Tangan - Sepasang tangan melambangkan perlindungan alam sekitar dan pemuliharaan warisan semula jadi. Ia juga merupakan keupayaan JAS untuk menjaga dan menguatkuasakan.

A Pair of Hands – It symbolizes environmental preservation and natural heritage conservation. It also represents DOE's ability to protect and conduct enforcement.

Bunga Raya - Ia adalah simbol kebangsaan yang mengambarkan semangat patriotisme dan keberanian dalam menghadapi cabaran yang mendatang.

Hibiscus - It is a national symbol that depicts the spirit of patriotism and courage in facing future challenges.

Keseluruhan - Unsur-unsur semulajadi, termasuk akuatik daratan, dan suasana yang diwakili oleh gelombang air(akuatik), bunga raya(daratan) dan biru langit (atmosfera)

Wholeness - Natural elements, including land, aquatic, and atmosphere which are represented by waves (aquatic), hibiscus (land), and blue sky (atmospheric).

Pengertian Warna Logo / Meaning of the Logo Colour



Hijau - Melambangkan persekitaran hijau, perlindungan dan pemuliharaan semula jadi terutamanya tumbuh-tumbuhan semulajadi termasuk gunung dan bukit.

Green - Symbolizes green environment, protection, and natural conservation especially flora including mountains and hills.



Biru - Air yang bersih dan udara bersih, perlindungan dan pemuliharaan sumber air dan udara bersih termasuk lapisan ozon.

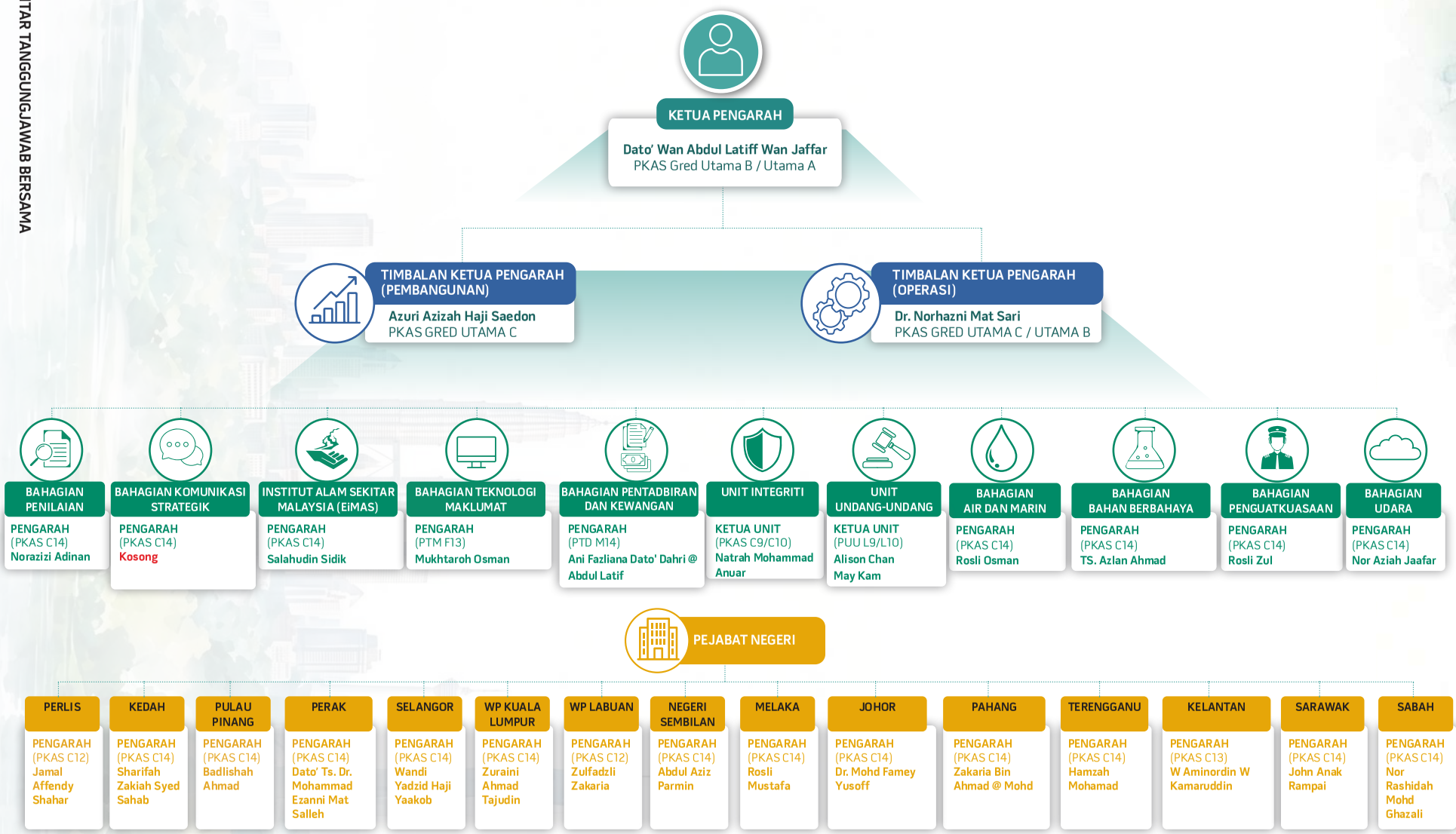
Blue - Clean water and air, protection and conservation of water resources and air including the ozone layer.



Merah - Bersemangat dan keberanian dalam menguatkuasakan undang-undang dan peraturan mengenai perlindungan alam sekitar.

Red - Enthusiasm and courage in enforcing laws and regulations for environmental protection.

CARTA ORGANISASI / Organization Chart



PENGURUSAN SUMBER MANUSIA DAN KEWANGAN
Human Resources and Financial Management

PERBELANJAAN PEMBANGUNAN JAS 2025

Jabatan Alam Sekitar telah menerima peruntukan Pembangunan sebanyak **RM84,300,000.00** bagi Tahun 2025. Dengan peruntukan sedemikian, sebanyak 18 projek telah berjaya dilaksanakan dengan prestasi perbelanjaan sebanyak **99.52%.**

PERBELANJAAN PERUNTUKAN MENGURUS 2025

Peruntukan Mengurus yang telah diluluskan bagi tahun 2025 adalah sebanyak **RM130,443,300.00.** Manakala, peruntukan dipinda pada 31 Disember 2025 adalah sebanyak **RM138,048,300.00**. Anggaran Peruntukan Mengurus Tahun 2025 mengikut Objek Am adalah seperti di **Jadual 1.1**.

DEVELOPMENT EXPENDITURE OF DOE IN 2025

Department of Environment received an allocation of **RM84,300,000.00** for Development Expenditure in 2025. With that allocation, 18 projects were successfully completed, with performance expenditure at **99.52%.**

OPERATING EXPENDITURE 2025

The approved Operating Expenditure for 2025 was **RM 130,443,300.00** However, this was amended on 31 December 2025 to **RM138,048,300.00.** The estimated Operating Expenditure for 2025 is shown in **Table 1.1.**

Jadual 1.1: Perbelanjaan Peruntukan Mengurus 2025
Table 1.1: Operating Expenditure 2025

PERUNTUKAN DILULUSKAN APPROVED ALLOCATION (RM)	OBJEK AM (OA) GENERAL OBJECT	PERUNTUKAN DIPINDA AMENDED ALLOCATION (RM)
98,917,300.00 (75.9%)	1000 Emolumen / Emolument	104,888,300.00 (75.9%)
29,276,000.00 (22.4%)	20000 Perkhidmatan & Bekalan Services and Supplies	29,912,344.00 (21.7%)
1,050,000.00 (0.8%)	30000 Aset / Assets	2,062,965.00 (1.5%)
1,200,000.00 (0.9%)	40000 Pemberian dan Kenaan Bayaran Tetap / Grants and Fixed Charges	1,184,691.00 (0.9%)
RM 130,443,300.00	Jumlah Keseluruhan OVERALL TOTAL	RM 138,048,300.00

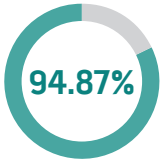
SUMBER MANUSIA

i. Jumlah perjawatan di Jabatan Alam Sekitar sehingga 31 Disember 2025 ialah 1,520 dengan pengisian sejumlah 1,442 bersamaan dengan 94.87%.
ii. Selaras dengan konsep pembelajaran secara berterusan, semua warga kerja JAS digalakkan mengikuti pelbagai kursus yang dianjurkan. Bagi tahun 2025, 100 % daripada keseluruhan bilangan anggota JAS telah menjalani kursus melebihi 5 hari dengan jayanya.
iii. Seramai 112 pegawai Jabatan telah diraikan dalam Majlis Anugerah Perkhidmatan Cemerlang Tahun 2024 yang diadakan pada 6 Mei 2025 bertempat di Dewan *The Renjana*, Shaftbury Putrajaya.

HUMAN RESOURCES MANAGEMENT

i. As of 31 December 2025, the total number of positions in the Department of Environment is 1,520 with 1,442 positions filled, equivalent to 94.87%.
ii. In line with the concept of continuous learning, all DOE employees are encouraged to attend various organized courses. For the year 2025, 100% of DOE members successfully completed courses lasting five days or more.
iii. A total of 112 Department officers were celebrated at the 2024 Excellent Service Award Ceremony, held on 6 May 2025 at Dewan The Renjana, Shaftsbury, Putrajaya.

Jadual 1.2: Maklumat Pengurusan Sumber Manusia JAS 2025
Table 1.2: DOE Human Resources Management Information 2025



PERATUSAN PENGISIAN PERJAWATAN
THE PERCENTAGE OF OCCUPANCY



PERATUSAN PEGAWAI MENGHADIRI KURSUS
PERCENTAGE OF OFFICERS ATTENDING COURSES



112
ANUGERAH PERKHIDMATAN CEMERLANG
EXCELLENT SERVICE AWARDS (ESA)

Perjawatan JAS sehingga 31 Disember 2025
Occupancy as at 31 December 2025



Jumlah perjawatan:
Positions:
1,520

Kekosongan yang diisi:
Occupied:
1,442

Kekosongan:
Vacancy:
78



- Semua pegawai JAS telah menghadiri kursus selama 5 hari dan lebih pada tahun 2025.
- All DOE officers have attended courses of 5 days or more in 2025.



- 112 orang pegawai JAS menerima APC pada tahun penilaian 2024.
- 112 DOE officers received ESA in the evaluation year of 2024.



- Majlis APC Jabatan Alam Sekitar 2024 telah diadakan pada 6 Mei 2025 .
- The Department of Environment ESA 2024 event was held on 6 May 2025.

Jadual 1.3: Pecahan Pegawai JAS mengikut Jantina
Table 1.3: Breakdown of DOE Officers by Gender

LELAKI / MALE
54.85%
791



WANITA / FEMALE
45.15%
651

Jadual 1.4: Pecahan mengikut Perjawatan Pegawai
Table 1.4: Breakdown of Positions



PEGAWAI TEKNIKAL
TECHNICAL OFFICERS
1,113



PEGAWAI BUKAN TEKNIKAL
NON-TECHNICAL OFFICERS
407

KURSUS *THE ART OF LEADERSHIP* JABATAN ALAM SEKITAR TAHUN 2025

Kursus *The Art of Leadership* Jabatan Alam Sekitar Tahun 2025 telah diadakan pada 29 hingga 31 Oktober 2025 bertempat di Perdana Kuala Lumpur City Centre Hotel, Kuala Lumpur. Pelaksanaan kursus setiap tahun adalah selaras dengan JAS *Training Road Map* yang diputuskan dalam Mesyuarat Jawatankuasa Latihan Bil. 2 Tahun 2023.

Kursus selama 3 hari 2 malam ini disasarkan kepada pegawai kanan gred 12 dan ke atas dengan pendekatan yang unik dan diadun dengan aktiviti berskala tinggi bagi memberikan pendedahan kepada para peserta untuk memahami cabaran-cabaran kepimpinan dalam persekitaran yang menuntut kewibawaan dan kematangan. Kursus ini juga membantu para pegawai kanan dalam mengenal pasti langkah memimpin kumpulan kerja bagi mencapai matlamat organisasi dan memberikan penekanan tentang pembudayaan semangat bekerjasama, menjulang nilai integriti, menangani tekanan dalam tugasan dalam menghasilkan prestasi kerja organisasi yang cemerlang. Selain itu, ia juga membantu mengasah kemahiran dalam pengendalian emosi yang matang dan rasional bagi memastikan kaedah yang sistematik dapat diambil dalam mengurangkan risiko konflik.

Jumlah pegawai kanan yang terlibat adalah seramai 30 orang. Majoriti peserta telah memberikan respon dan maklumbalas yang sangat baik terhadap pelaksanaan kursus ini.

THE ART OF LEADERSHIP COURSE DEPARTMENT OF ENVIRONMENT 2025

The Department of Environment's The Art of Leadership Course for the year 2025 was held from 29 to 31 October 2025 at the Perdana Kuala Lumpur City Centre Hotel, Kuala Lumpur. The implementation of this course annually is in line with the JAS Training Road Map, which was agreed upon during the Training Committee Meeting No. 2 of 2023.

This 3-day and 2-night course is targeted at senior officers in Grade 12 and above, using a unique approach blended with high-scale activities to provide participants with exposure to the challenges of leadership in an environment that demands credibility and maturity. This course also helps senior officers identify steps to lead work groups in achieving organizational goals and emphasizes cultivating a spirit of cooperation, upholding the value of integrity, and dealing with pressure in assignments to produce excellent organizational work performance. In addition, it helps hone skills in handling emotions in a mature and rational manner, ensuring that systematic methods can be applied to reduce the risk of conflict.

A total of 30 senior officers participated in the course. Majority of the participants gave positive responses and feedback regarding the implementation of this course.





Perdana Kuala Lumpur City Centre Hotel, Kuala Lumpur

29 hingga 31 Oktober 2025 / 29 to 31 October 2025

Aktiviti di Kursus The Art of Leadership / Activities at the Art of Leadership Course

PROGRAM *SOUL, MIND AND BODY BOOSTER* 25 - 26 MAC 2025

Program *Soul, Mind and Body Booster* anjuran Bahagian Pentadbiran dan Kewangan dengan kerjasama PUSPANITA JAS telah berjaya dilaksanakan pada 25 dan 26 Mac 2025 bertempat di Dewan Baiduri, Menara PETRA.

Terdapat 3 pecahan slot bagi program ini iaitu ;

i. ***Soul Booster*** – "SEMPURNAKAN SOLATmu, SEGARKAN JIWAmu"
ii. ***Mind Booster*** – Keseronokan Pekerja Membina Pekerja Bahagia
iii. ***Body Booster*** – Sayangi Jantung dan Buah Pinggang Anda

Program ini merupakan inisiatif Bahagian Pentadbiran dan Kewangan melalui Seksyen Sumber Manusia memandangkan kesejahteraan holistik seseorang pekerja adalah penting bagi mewujudkan organisasi yang cekap dan produktif. Justeru itu, gabungan *Soul* (Jiwa), *Mind* (Fikiran) dan *Body* (Tubuh Badan) adalah saling berkait antara satu sama lain. Program ini dijalankan secara hibrid bersemuka/maya dan telah mendapat penyertaan seramai 150 orang peserta.

Slot *Soul Booster* telah dikendalikan dengan jayanya oleh pihak Geng Ngaji Global iaitu pihak perunding yang telah diberikan kepercayaan bagi mengendalikan slot 'SEMPURNAKAN SOLATmu, SEGARKAN JIWAmu'. Sesi ini telah dirangka untuk memberikan kefahaman mendalam mengenai penghayatan solat yang sempurna agar dapat membentuk individu/pekerja yang lebih berdisiplin, taat kepada perintah agama dan membina jati diri yang berintegriti.

Slot *Mind Booster* pula dikendalikan oleh Cik Aruna A/P Santhappan, iaitu seorang ahli psikologis sukan yang berpengalaman luas dalam mengendalikan ceramah-ceramah motivasi untuk korporat, sekolah-sekolah dan pusat pengajian tinggi. Perkongsian ilmu ini telah memberikan pendedahan kepada peserta tentang kaedah mengekalkan '*resiliency*' tatkala berhadapi dengan tekanan di ruang lingkup persekitaran kehidupan termasuklah ketika berada di tempat kerja.

Slot terakhir pula iaitu slot *Body Booster* dikendalikan oleh YBrs. Dr Mohd Tariq Bin Mhd Noor, Pakar Perubatan Kesihatan Awam, Ketua Sektor Intervensi NCD, Bahagian Kawalan Penyakit, Kementerian Kesihatan Malaysia dengan penerangan beliau yang terperinci dalam mengenalpasti punca yang menyebabkan penyakit berkaitan kardiovaskular dan buah pinggang, beserta cara menangani penyakit tersebut.

SOUL, MIND AND BODY BOOSTER PROGRAM 25 - 26 MAC 2025

The Soul, Mind and Body Booster Program, organized by the Administration and Finance Division in collaboration with PUSPANITA JAS, was successfully conducted on 25 and 26 March 2025 at Dewan Baiduri, Menara PETRA.

There were three session segments for this program, namely:

i. **Soul Booster** – "*SEMPURNAKAN SOLATmu, SEGARKAN JIWAmu*"
ii. **Mind Booster** – *Keseronokan Pekerja Membina Pekerja Bahagia*
iii. **Body Booster** – *Sayangi Jantung dan Buah Pinggang Anda*

This program was an initiative by the Administration and Finance Division through the Human Resources Section, recognizing that employees' holistic well-being is essential in creating an efficient and productive organization. Therefore, the integration of the soul, mind, and body is closely interconnected. The program was conducted in a hybrid format (physical and virtual) and was attended by 150 participants.

The Soul Booster session was successfully conducted by *Geng Ngaji* Global, the appointed consultancy entrusted to deliver the session titled "*SEMPURNAKAN SOLATMU, SEGARKAN JIWAMU*." This session was designed to provide an in-depth understanding of the proper observance of prayer, with the aim of shaping individuals and employees who are more disciplined, obedient to religious teachings, and possess strong integrity and character.

The Mind Booster session was conducted by Ms. Aruna A/P Santhappan, an experienced sports psychologist with extensive expertise in delivering motivational talks for corporate organizations, schools, and higher learning institutions. This knowledge-sharing session provided participants with exposure to methods for maintaining resilience when facing pressure in various life contexts, including the workplace.

The final session, Body Booster, was conducted by YBrs. Dr. Mohd Tariq Bin Mhd Noor, a Public Health Medicine Specialist and Head of the NCD Intervention Sector, Disease Control Division, Ministry of Health Malaysia. He provided detailed explanations on identifying the causes of cardiovascular and kidney-related diseases, as well as methods to manage and prevent these conditions.



YBrs. Ustaz Mohd Khalaf bin Shamsuddin memberikan penerangan dalam sesi Amali Wuduk Sempurna. / YBrs. Ustaz Mohd Khalaf bin Shamsuddin delivered an explanation during the Practical Session on Perfecting Wudu (Ablution).



Peserta ketika sesi Amali Solat Sempurna. / Participants during the Practical Session on Proper Prayer



YBrs. Ustaz Ahmad Harith bin Shamsul Bahrin sedang memberikan penjelasan tentang rukun gerakan dalam solat untuk mencapai kesempurnaan. / YBrs. Ustaz Ahmad Harith bin Shamsul Bahrin is explaining the pillars of movements in prayer to achieve perfection.



Cik Aruna A/P Santhappan, Ahli Psikologi Sukan ketika perkongsian dalam sesi Keseronokan Bekerja Membina Pekerja Bahagia / Ms. Aruna A/P Santhappan, Sports Psychologist, during her sharing in the "Joy at Work: Building Happy Employees" session.



YBrs. Dr Mohd Tariq Bin Mhd Noor, Pakar Perubatan Kesihatan Awam, Ketua Sektor Intervensi NCD, KKM / YBrs. Dr. Mohd Tariq Bin Mhd Noor, Public Health Medicine Specialist, Head of the NCD Intervention Sector, Ministry of Health Malaysia (KKM).

ANUGERAH PERKHIDMATAN CEMERLANG 2024



Pihak Pengurusan Tertinggi JAS bersama barisan Pengarah JAS. / The Top Management of JAS together with the JAS Directors.

Majlis Anugerah Perkhidmatan Cemerlang JAS Tahun 2024 dan Jasamu Dikenang telah diadakan pada 6 Mei 2025 lalu bertempat di Dewan The Renjana, Shaftbury Putrajaya. Pelaksanaan Majlis APC ini adalah kali ketiga dianjurkan Jabatan Alam Sekitar lanjutan daripada keputusan pihak Kementerian untuk menyerahkan pelaksanaan Majlis APC untuk dilaksanakan Jabatan masing-masing.

Majlis ini telah dilaksanakan secara sederhana tetapi meriah dan seramai 112 orang pegawai JAS telah terpilih untuk menerima penganugerahan ini. Majlis turut meraikan 9 orang pegawai dan kakitangan JAS yang telah bersara pada tahun 2024 dan 2025.

EXCELLENT SERVICE AWARDS (ESA) 2024



Pihak Pengurusan Tertinggi JAS bersama pegawai/kakitangan JAS yang telah bersara pada tahun 2023 dan 2024. / The Top Management of JAS with officers and staff members who retired in 2023 and 2024

The DOE Excellent Service Award Ceremony 2024 and Jasamu Dikenang were held on 6th May 2026 at The Renjana Hall, Shaftbury, Putrajaya. The Department of Environment organized this ceremony for the third time, following the Ministry's decision to delegate the implementation of the ceremony to the respective departments.

This ceremony was held in a simple yet lively manner, with a total of 112 DOE officers selected to receive the award. The ceremony also honoured 9 former DOE officers and staff members who retired in 2024 and 2025.







Pihak Pengurusan Tertinggi JAS bersama sebahagian penerima APC Tahun 2024. / The Top Management of JAS together with some recipients of the 2024 ESA.

KURSUS PEMANTAPAN PROFESIONALISME

Pada 12 - 14 Ogos 2025, Bahagian Pentadbiran dan Kewangan melalui Seksyen Sumber Manusia telah menganjurkan Kursus Pemantapan Profesionalisme JAS 2025 bertempat di Swiss-Bel Hotel, Melaka. Kursus ini terbuka kepada semua pegawai gred 5 sehingga Gred 10.

Kursus Pemantapan Profesionalisme JAS ini dilaksanakan dengan objektif utama seperti di bawah:

i. Meningkatkan keupayaan dan kemahiran kepimpinan kepada para pegawai Jabatan.
ii. Mewujudkan pembudayaan organisasi cemerlang di kalangan pegawai dan kakitangan JAS.
iii. Mengukuhkan jalinan hubungan profesional dan kerjasama yang baik sesama warga Jabatan.
iv. Membantu warga Jabatan untuk bukan sahaja sihat dari sudut fizikal, tetapi juga sihat dari sudut pengurusan emosi ; dan
v. Meningkatkan kemahiran komunikasi dalam organisasi

PROFESSIONALISM STRENGTHENING COURSE

On 12 - 14 August 2025, the Human Resources Section under the Administration and Finance Division organized the DOE Professionalism Enhancement Course at Swiss-Bel Hotel, Melaka. This annual course was open to all officers from Grade 5 to Grade 10.

This DOE Professionalism Enhancement Course is implemented with the main objectives as below:

i. Improve the ability and leadership skills of Department officials;
ii. Create an excellent organisational culture among DOE officers and staff;
iii. Strengthen professional relationships and good cooperation among Department members;
iv. Assist the officers of the Department in achieving not only physical well-being, but also sound emotional management; and
v. Improve communication skills in the organisation.







Sebahagian aktiviti di Kursus Pemantapan Profesionalisme, 12 - 14 Ogos 2025 /
Some activities conducted at the Professionalism Enhancement Course, held from 12 - 14 August 2025

KURSUS PEMERKASAAN ORGANISASI

Kursus Pemerkasaan Organisasi Jabatan Alam Sekitar Tahun 2025 telah diadakan pada 22 - 24 Julai 2025 bertempat di Tadom Hill Resort, Banting, Selangor. Pelaksanaan kursus ini adalah selaras dengan JAS Training Road Map yang diputuskan dalam Mesyuarat Jawatankuasa Latihan Bil. 2 Tahun 2023 lalu.

Kursus anjuran Seksyen Sumber Manusia, Jabatan Alam Sekitar ini dikendalikan oleh Tadom Hill Resort dan telah melibatkan seramai 44 orang pegawai dan kakitangan JAS seluruh Malaysia.

Kursus selama 3 hari 2 malam ini disediakan bagi memberikan pendedahan kepada peserta dari gred 1 hingga 5 untuk memahami langkah membudayakan kerja berpasukan bagi mencapai matlamat organisasi. Kursus ini juga menekankan tentang pembudayaan semangat bekerjasama dan membina budaya kreatif dan inovatif dalam menghasilkan prestasi cemerlang terutama bagi pegawai lantikan baru dan pegawai yang baru bertukar masuk ke Jabatan Alam Sekitar.

Dengan memahami sikap dan cara berkomunikasi, para peserta dapat menjadi pegawai yang berkomitmen tinggi serta memupuk semangat kerja berpasukan.

ORGANISATIONAL EMPOWERMENT COURSE

The Department of Environment Organisational Empowerment Course 2025 was held from 22 - 24 July 2025 at Tadom Hill Resort, Banting, Selangor. The implementation of this course is in line with the JAS Training Road Map, which was agreed upon during Training Committee Meeting No. 2 of 2023.

The course organized by the Human Resources Section of the Department of Environment was conducted at Tadom Hill Resort and involved a total of 44 DOE officers and staff from across Malaysia.

This 3-day, 2-night course was designed to provide participants from Grade 1 to 5 with exposure to understand the steps for cultivating teamwork in achieving organisational goals. The course also emphasises the importance of fostering the spirit of cooperation and building a creative and innovative culture to achieve excellent performance, particularly for newly appointed officers and those who were recently transferred to the Department of Environment.

By understanding attitudes and ways of communicating, participants will become a highly committed employee and foster a strong team spirit.







Sebahagian Aktiviti Kursus Pemerkasaan Organisasi JAS Tahun 2025 yang diadakan pada 22 - 24 Julai 2025
Some activities of the DOE Organisational Empowerment Course 2025, held from 22 - 24 July 2025

MAJLIS KUALITI ALAM SEKELILING (EQC)

Penubuhan Majlis Kualiti Alam Sekeliling (EQC), diperuntukkan di bawah Seksyen 4, Akta Kualiti Alam Sekeliling (AKAS) 1974 dan tugas-tugasnya pada amnya menasihati Yang Berhormat Menteri mengenai perkara-perkara berhubung AKAS 1974 dan apa-apa yang dirujukkan kepadanya oleh YB Menteri.

YB Nik Nazmi Bin Nik Ahmad, Menteri Sumber Asli dan Kelestarian Alam (NRES) telah melantik YBrs. Prof. Dr. Maketab Bin Mohamed sebagai Pengerusi Majlis Kualiti Alam Sekeliling (EQC) berkuat kuasa pada 30 Ogos 2024 sehingga 29 Ogos 2027.

Susulan daripada itu, Ahli Tetap dan Ahli Ganti yang terdiri daripada beberapa agensi seperti yang telah diperuntukkan di bawah Seksyen 4(2), AKAS 1974 telah dilantik oleh YB Menteri NRES berkuat kuasa pada 1 Mei 2025 sehingga 29 Ogos 2027. Senarai Ahli Tetap dan Ahli Ganti EQC adalah seperti di Lampiran.

Jabatan Alam Sekitar (JAS) yang bertindak sebagai urus setia Mesyuarat Majlis Kualiti Alam Sekeliling (EQC) telah mengadakan mesyuarat tersebut pada tahun 2025 seperti di bawah.

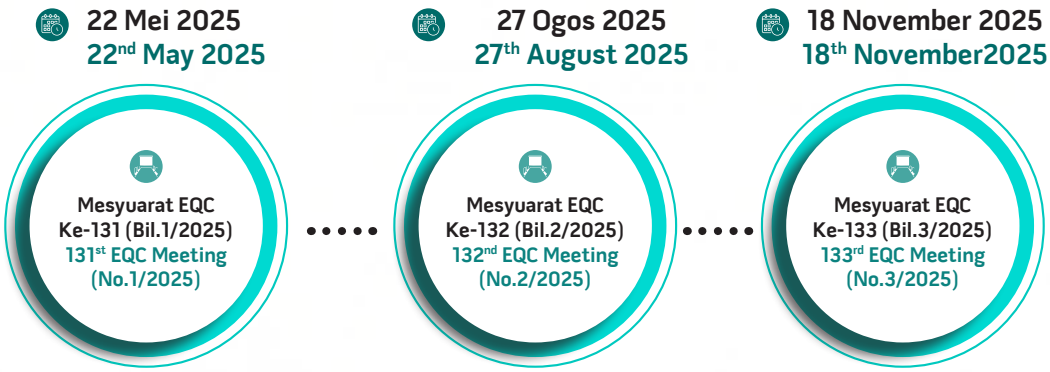
ENVIRONMENTAL QUALITY COUNCIL (EQC)

The establishment of the Environmental Quality Council (EQC) is provided under Section 4, Environmental Quality Act (EQA) 1974 whose functions shall be generally to advise the Yang Berhormat Minister on matters pertaining to EQA 1974 and any matter referred to it by the YB Minister.

YB Nik Nazmi Bin Nik Ahmad, Minister of Natural Resources and Environmental Sustainability (NRES) has appointed YBrs. Prof. Dr. Maketab Bin Mohamed as the Chairman of the Environmental Quality Council (EQC) for the period of 30th August 2024 until 29th August 2027.

Then, YB Minister NRES has appointed Permanent and Alternate Member of EQC from related agencies as enacted under Section 4(2), EQA 1974 for the period of 1st May 2025 until 29th August 2027. The EQC Members are listed in the Attachment below.

Department of Environment (DOE), as the secretariat of EQC Meeting has organized several meetings in 2025 as below.



Mesyuarat EQC yang bersidang pada tahun 2025 telah membincangkan perkara-perkara seperti berikut:-

i. Draf perundangan dan perundangan yang telah diwartakan di bawah AKAS 1974;
ii. Penerbitan JAS seperti *Guidelines on Pollution Prevention in Industrial Siting* 2025 dan Pelan Tindak Balas Tumpahan Minyak;
iii. Penguatkuasaan ke atas pengimportan e-waste secara haram dan pengoperasian kilang haram memproses *e-waste*;
iv. Dasar berkaitan pengurusan buangan terjadual dan *palm oil mill effluent* (POME); dan
v. Bahan pencemar baharu.

The EQC Meetings held in 2025 has discussed several matters as below:-

i. Draft and gazetted legislations under EQA 1974;
ii. DOE's publication such as Guidelines on Pollution Prevention in Industrial Siting 2025 and Oil Spill Response Plan;
iii. Enforcement on illegal importation of e-waste and operation of illegal factory processing e-waste;
iv. Policies relating to schedule waste management and palm oil mill effluent (POME); and
v. New emerging pollutants.

LAMPIRAN SENARAI AHLI MAJLIS KUALITI ALAM SEKELILING (EQC) PENGGAL KE-17
LIST OF MEMBERS OF THE ENVIRONMENTAL QUALITY COUNCIL (EQC) 17th TERM
(30 OGOS 2024 HINGGA 29 OGOS 2027)
(30th AUGUST 2024 TO 29th AUGUST 2027)

BIL. / NO.	PERJAWATAN / MEMBERSHIP	NAMA / NAME
1.	Pengerusi Majlis Kualiti Alam Sekeliling (EQC)	YBrs. Prof. Dr. Maketab Bin Mohamed
2.	Wakil daripada Kementerian Sumber Asli dan Kelestarian Alam (NRES) sebagai seorang wakil Menteri yang dipertanggungkan dengan tanggungjawab bagi sumber asli dan alam sekitar.	**Ahli Tetap** YBhg. Datuk Dr. Ching Thoo A/L Kim Ketua Setiausaha NRES
		Ahli Ganti YBhg. Datuk Nor Yahati Binti Awang Timbalan Ketua Setiausaha (Kelestarian Alam) NRES
3.	Wakil daripada Kementerian Sains, Teknologi dan Inovasi (MOSTI) sebagai seorang wakil Menteri yang dipertanggungkan dengan tanggungjawab bagi sains, teknologi dan inovasi.	**Ahli Tetap** Pn. Aidawati Binti Misdar Setiausaha Bahagian Bahagian Teknologi Strategik dan Aplikasi S&T (TSA) Kementerian Sains, Teknologi dan Inovasi
		Ahli Ganti Dr. Radin Zulhazmi Bin Radin Abdul Halim Timbalan Setiausaha Bahagian Bahagian Teknologi Strategik dan Aplikasi S&T (TSA) Kementerian Sains, Teknologi dan Inovasi
4.	Wakil daripada Kementerian Perdagangan Antarabangsa dan Industri (MITI) sebagai seorang wakil Menteri yang dipertanggungkan dengan tanggungjawab bagi perdagangan antarabangsa dan industri.	**Ahli Tetap** Pn. Shireen Jasmin Ali Pengarah Bahagian Alam Sekitar, Sosial dan Tadbir Urus Dalam Industri MITI
		Ahli Ganti En. Abdul Aziz Mohamad Sharkawi Ketua Penolong Pengarah Kanan Bahagian Alam Sekitar, Sosial dan Tadbir Urus Dalam Industri MITI
5.	Wakil daripada Kementerian Perdagangan Dalam Negeri dan Kos Sara Hidup sebagai seorang wakil Menteri yang dipertanggungkan dengan tanggungjawab bagi perdagangan dalam negeri dan hal ehwal pengguna.	**Ahli Tetap** Pn. Siti Juriani Binti Jalaludin Pengarah Bahagian Penyelidikan dan Dasar Kepenggunaan Kementerian Perdagangan Dalam Negeri dan Kos Sara Hidup
		Ahli Ganti Pn. Maryanti @ Mardhiyyah Binti Abd. Malek Ketua Penolong Pengarah Bahagian Penyelidikan dan Dasar Kepenggunaan Kementerian Perdagangan Dalam Negeri dan Kos Sara Hidup
6.	Wakil daripada Kementerian Pertanian dan Keterjaminan Makanan sebagai seorang wakil Menteri yang dipertanggungkan dengan tanggungjawab bagi pertanian dan industri asas tani.	**Ahli Tetap** En. Shahril Faizal Bin Abdul Jani Setiausaha Bahagian Bahagian Dasar dan Perancangan Strategik Kementerian Pertanian dan Keterjaminan Makanan
		Ahli Ganti En. Muhamed Bin Mat Yaakob Timbalan Setiausaha Bahagian (Perancangan Strategik) Bahagian Dasar dan Perancangan Strategik Kementerian Pertanian dan Keterjaminan Makanan

BIL. / NO.	PERJAWATAN / MEMBERSHIP	NAMA / NAME
7.	Wakil daripada Kementerian Sumber Manusia sebagai seorang wakil Menteri yang dipertanggungkan dengan tanggungjawab bagi sumber manusia.	**Ahli Tetap** YBhg. Datuk Azman Bin Mohd Yusof Ketua Setiausaha Kementerian Sumber Manusia
		Ahli Ganti YBhg. Dato' Hajah Norison Binti Ramli Timbalan Ketua Setiausaha (Dasar dan Antarabangsa) Kementerian Sumber Manusia
8.	Wakil daripada Kementerian Pengangkutan Malaysia (MOT) sebagai seorang wakil Menteri yang dipertanggungkan dengan tanggungjawab bagi pengangkutan.	**Ahli Tetap** En. Mohamad Syakir Bin Abu Bakar Timbalan Setiausaha Bahagian Bahagian Perancangan Strategik dan Antarabangsa Kementerian Pengangkutan Malaysia
		Ahli Ganti En. Abdul Rahman Bin Hashim Ketua Penolong Setiausaha Bahagian Perancangan Strategik dan Antarabangsa Kementerian Pengangkutan Malaysia
9.	Wakil daripada Kementerian Pembangunan Kerajaan Tempatan (KPKT) sebagai seorang wakil Menteri yang dipertanggungkan dengan tanggungjawab bagi perumahan dan kerajaan tempatan.	**Ahli Tetap** Pn. Rizawati Binti Abdul Kadir Setiausaha Bahagian Bahagian Kemampanan Bandar Kementerian Pembangunan Kerajaan Tempatan
		Ahli Ganti Dr. Margaret Anak Kuyor Timbalan Setiausaha Bahagian Bahagian Kemampanan Bandar Kementerian Pembangunan Kerajaan Tempatan
10.	Wakil daripada Kementerian Peralihan Tenaga Dan Transformasi Air (PETRA) sebagai seorang wakil Menteri yang dipertanggungkan dengan tanggungjawab bagi tenaga, teknologi hijau dan air.	**Ahli Tetap** Dr. Safuwan Bin Samah Setiausaha Bahagian Bahagian Perancangan Strategik dan Hubungan Antarabangsa PETRA
		Ahli Ganti Dr. Mohammad Azziyadi Bin Ismail Ketua Penolong Setiausaha Bahagian Perancangan Strategik dan Hubungan Antarabangsa PETRA
11.	Wakil daripada Kementerian Kesihatan Malaysia (KKM) sebagai seorang wakil Menteri yang dipertanggungkan dengan tanggungjawab bagi kesihatan.	**Ahli Tetap** Dr. Thilaka Chinnayah Pengarah Bahagian Kawalan Penyakit KKM
		Ahli Ganti Dr. Ahmad Riadz Bin Mazeli Ketua Penolong Pengarah Kanan Bahagian Kawalan Penyakit KKM

BIL. / NO.	PERJAWATAN / MEMBERSHIP	NAMA / NAME
12.	Seorang anggota bagi masing-masing Sabah dan Sarawak selepas berunding dengan Kerajaan Negeri Sabah dan Sarawak.	**Kerajaan Negeri Sabah** **Ahli Tetap** YB Datuk Seri Panglima Christina Liew Menteri Pelancongan, Kebudayaan dan Alam Sekitar Sabah **Ahli Ganti** YB Datuk Joniston Bangkuai Pembantu Menteri Pelancongan, Kebudayaan dan Alam Sekitar Sabah **Kerajaan Negeri Sarawak** **Ahli Tetap** Datu Abg Ahmad Abg Morni Setiausaha Tetap Kementerian Tenaga & Kelestarian Alam Sekitar Sarawak **Ahli Ganti** Datu Jack Anak Liam *Controller* Kualiti Alam Sekitar Sarawak Lembaga Sumber Asli dan Alam Sekitar Sarawak
13.	Wakil daripada Petroliam Nasional Berhad (PETRONAS) sebagai seorang anggota yang dilantik Menteri daripada kalangan orang yang terlibat dalam industri petroleum.	**Ahli Tetap** Dr. Salmaan Hussain Inayat Hussain Pengurus Besar Kanan PETRONAS **Ahli Ganti** Pn. Noor Suhailah Binti Othman *Custodian* (Environment) PETRONAS
14.	Wakil daripada Persatuan Minyak Sawit Malaysia (MPOA) sebagai seorang anggota yang dilantik Menteri daripada pencalonan oleh industri kelapa sawit.	**Ahli Tetap** Pn. Shreen Xaviar R&D *and Sustainability Senior Manager* MPOA **Ahli Ganti** En. Mohammad Jaaffar Ahmad Director, *Government Affairs* MPOA
15.	Seorang anggota yang dilantik Menteri daripada pencalonan oleh Persekutuan Pengilang Malaysia (FMM) atau mana-mana yang orang yang terlibat dalam pembuatan.	**Ahli Tetap** En. Danny Ng Kian Boon Pengerusi FMM *Environmental Management & Circular Economy Committee* **Ahli Ganti** En. Gobinathan Kumaran Nair Naib Pengerusi FMM *Environmental Management & Circular Economy Committee*
16.	Wakil daripada *Malaysian Rubber Products Manufacturer Association* (MRPMA) sebagai anggota dilantik Menteri daripada pencalonan oleh industri getah.	**Ahli Tetap** En. Yeaw Kok Kwey Presiden MRPMA **Ahli Ganti** En. Loh Yoon Hon Timbalan Presiden MRPMA

BIL. / NO.	PERJAWATAN / MEMBERSHIP	NAMA / NAME
17.	Wakil daripada Universiti Kebangsaan Malaysia (UKM) sebagai anggota dilantik Menteri daripada kakitangan akademik institusi pengajian tinggi.	**Ahli Tetap** Prof. Dato' Gs. Ts. Dr. Mohd. Ekhwan Hj. Toriman Naib Canselor, UKM
		Ahli Ganti Prof. Dr. Goh Choo Ta Profesor, UKM
18.	Wakil daripada *Malaysian Nature Society* (MNS) dan *World Wildlife Fund* (WWF) sebagai anggota dilantik Menteri daripada organisasi bukan kerajaan yang aktif dalam menggalakkan dan mempertingkatkan kualiti alam sekeliling.	**Malaysian Nature Society (MNS)** **Ahli Tetap** Pn. Anna Wong @ Wong Yun Moi Presiden MNS **Ahli Ganti** Pn. Noor Jehan Abu Bakar Naib Presiden MNS
		World Wildlife Fund (WWF) **Ahli Tetap** Pn. Shantini Guna Rajan *National Policy Lead* WWF **Ahli Ganti** En. Arhwin Kalai Chelvan *Policy & Legal Analyst* (Freshwater & Protected Areas) WWF



MENTERI SUMBER ASLI DAN KELESTARIAN ALAM
MINISTER OF NATURAL RESOURCES AND ENVIRONMENTAL SUSTAINABILITY

Ruj. Kami : [redacted]
Tarikh : 2% April 2025

[redacted]
Ketua Setiausaha
Kementerian Sumber Asli dan Kelestarian Alam
Blok F11, Kompleks F
Lebuh Perdana Timur, Presint 1
Pusat Pentadbiran Kerajaan Persekutuan
62000 PUTRAJAYA

[redacted]
PELANTIKAN SEBAGAI AHLI TETAP MAJLIS KUALITI ALAM SEKELILING PENGGAL KE-17

Dengan segala hormat dan takzimnya saya merujuk kepada perkara di atas.

2. Saya dengan sukacitanya melantik YBhg. Datuk Dr. sebagai **Ahli Tetap Majlis Kualiti Alam Sekeliling** berkuat kuasa mulai **1 Mei 2025 sehingga 29 Ogos 2027**. Pelantikan ini adalah selaras dengan kuasa yang diberikan kepada saya di bawah Seksyen 4, Akta Kualiti Alam Sekeliling 1974 [*Akta 127*].

3. Saya mengucapkan setinggi-tinggi tahniah atas pelantikan ini dan berharap YBhg. Datuk Dr. dapat memberikan sumbangan yang terbaik.

Salam hormat.

"MALAYSIA MADANI"

"BERKHIDMAT UNTUK NEGARA"

(NIK NAZMI BIN NIK AHMAD)

Aras 9, Blok F11, Kompleks F, Lebuh Perdana Timur, Presint 1, 62000 Putrajaya, Malaysia
Tel: 03-8091 7021 Faks: 03-8091 7350

Gambar 1: Contoh Surat Lantikan Ahli Tetap dan Ahli Ganti EQC oleh YB Menteri NRES
Photo 1: Example of appointment letter of the Permanent and Alternate Members of EQC by YB Minister NRES



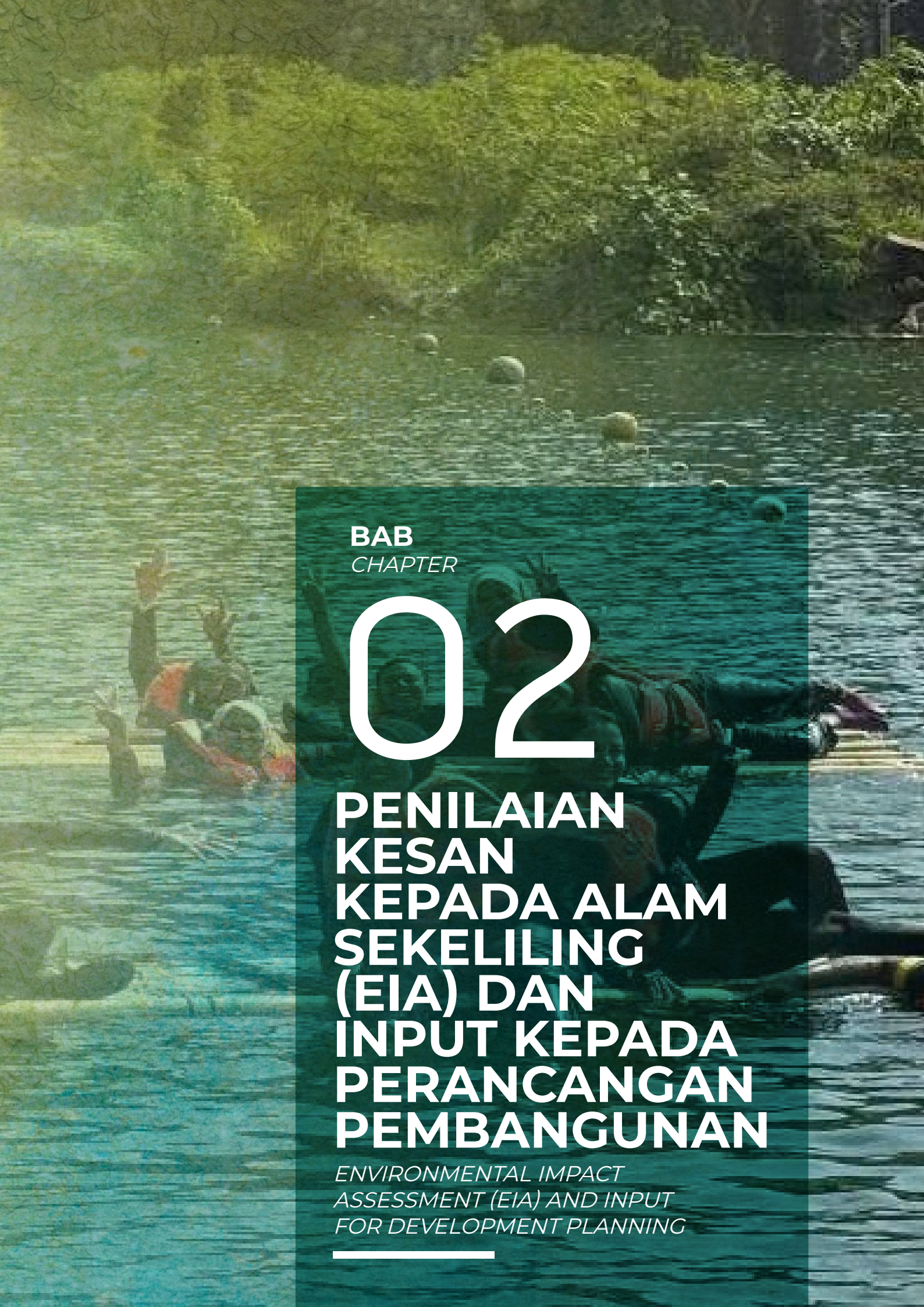






Gambar 2: Gambar-Gambar Mesyuarat Majlis Kualiti Alam Sekeliling (EQC) Tahun 2025
Photo 2: Pictures of Environmental Quality Council (EQC) Meeting in 2025





BAB
CHAPTER

02

PENILAIAN KESAN KEPADA ALAM SEKELILING (EIA) DAN INPUT KEPADA PERANCANGAN PEMBANGUNAN

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND INPUT FOR DEVELOPMENT PLANNING

PENILAIAN KESAN KEPADA ALAM SEKELILING (EIA) DAN INPUT KEPADA PERANCANGAN PEMBANGUNAN

Environmental Impact Assessment (EIA) and Input For Development Planning

EIA merupakan salah satu alat perancangan dalam pengurusan kelestarian alam sekitar yang mengenal pasti, meramal dan menilai impak terhadap alam sekitar serta memberikan maklumat terhadap kualiti alam sekitar semasa dan jangkaan kualiti yang akan diterima akibat sesuatu pembangunan. Selain itu, Laporan EIA turut mengenal pasti langkah mitigasi bagi meminimumkan kesan kepada alam sekeliling sebelum sesuatu projek dilaksanakan.

Penilaian Laporan EIA memberikan input yang memandu arah pihak berkuasa dalam membuat keputusan akhir terhadap projek pembangunan yang dicadangkan.

Untuk memastikan EIA menyumbang sepenuhnya dalam proses membuat keputusan bagi pengurusan alam sekitar yang lebih baik, prosedur dan pelaksanaan EIA yang dinamik perlu ditambah baik secara berkala seiring dengan pembangunan teknologi dan perkembangan ekonomi dunia.

Pelaksanaan EIA yang berkesan akan dapat memastikan pertimbangan alam sekitar diberikan penekanan dengan jelas dan digabungkan dalam proses membuat keputusan dan seterusnya menggalakkan pembangunan lestari demi kesejahteraan dan kemakmuran kepada kehidupan rakyat.

LAPORAN EIA 2025

Sejumlah 533 Laporan EIA telah diterima dan dinilai oleh JAS pada tahun 2025 berbanding 499 Laporan EIA pada tahun 2024 **(Rajah 2.1)**. Laporan EIA tersebut adalah sebanyak 475 (89.1%) laporan bagi aktiviti yang tertakluk di bawah Jadual Pertama, Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 2015, manakala 58 (10.9%) laporan bagi aktiviti yang tertakluk di bawah Jadual Kedua perintah tersebut. Dari tahun 2015, sehingga kini sejumlah 4,491 Laporan EIA telah diterima oleh Jabatan.

EIA is a planning tool in the management of environmental sustainability. It identifies, predicts, and evaluates impacts on the environment and provides information on the current and expected quality of the environment as a result of development activity. The EIA Report will also identify mitigation measures to offset potential adverse effects on the environment prior to project implementation.

EIA Report assessment provides input that guides the authority in making final decisions on a proposed development project.

To ensure that EIA fully contributes to the decision- making process for improved environmental management, dynamic EIA procedures and implementations need to be periodically improved in line with technological and world economic development.

An effective EIA implementation will ensure that environmental considerations are clearly emphasized and incorporated into the decision-making process, hence will promote sustainable development for the well-being and prosperity of the people.

EIA REPORTS 2025

A total of 533 EIA Reports were received and reviewed by the DOE in 2025, compared to 499 in 2024 **(Figure 2.1)**. Of this figure, 475 (89.1%) were reports of activities under the First Schedule of the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015, while 58 (10.9%) were reports of activities under the Second Schedule of the Order. Since 2015, the Department has received 4,491 EIA Reports.

Selangor menerima bilangan Laporan EIA tertinggi pada tahun 2025 iaitu sebanyak 82 (15.4%) laporan, diikuti dengan Pahang sebanyak 61 (11.4%) laporan dan Perak sebanyak 57 (10.7%) laporan **(Rajah 2.2)**. **Rajah 2.3** menunjukkan status keputusan Laporan EIA dengan jumlah laporan yang diterima mengikut Negeri.

Rajah 2.4 menunjukkan Laporan EIA yang diterima berdasarkan aktiviti yang ditetapkan. Aktiviti pengolahan dan pelupusan buangan merupakan yang paling banyak diterima pada tahun 2025 iaitu sebanyak 208 (32.8%) laporan, diikuti aktiviti berkaitan pembangunan di kawasan cerun sebanyak 85 (13.4%) laporan dan aktiviti berkaitan perhutanan sebanyak 66 (10.4%) laporan.

Selangor received the highest number of EIA Reports in 2025, with 82 (15.4%) reports, followed by Pahang with 61 (11.4%) reports and Perak with 57 (10.7%) reports **(Figure 2.2).** The total number of reports received according to the State is shown in **Figure 2.3.**

Figure 2.4 illustrates the EIA Reports received based on prescribed activities. Reports on waste treatment and disposal activities in 2025 were most received, with 208 (32.8%) reports, followed by activities related to the development in slope areas with 85 (13.4%) reports and forestry activities with 66 (10.4%) reports.

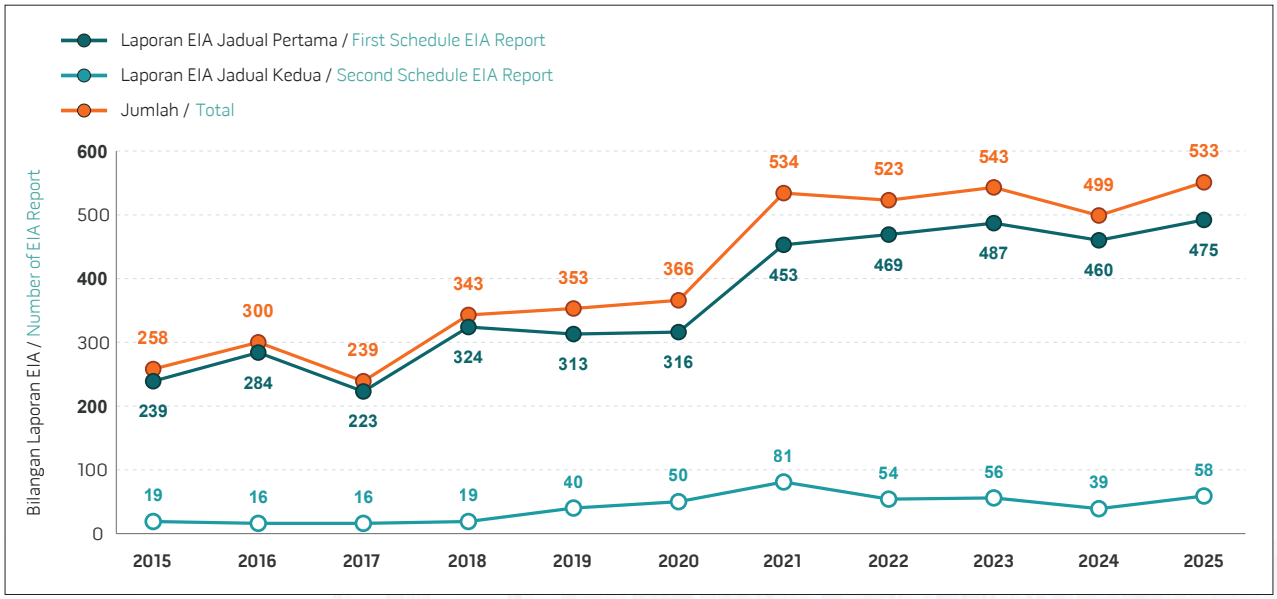
TREND 2015 -2025

Peningkatan ketara dalam laporan EIA yang diterima, daripada 258 laporan pada 2015 kepada 533 laporan pada 2025.
A significant increase in EIA reports received, from 258 reports in 2015 to 533 reports in 2025.

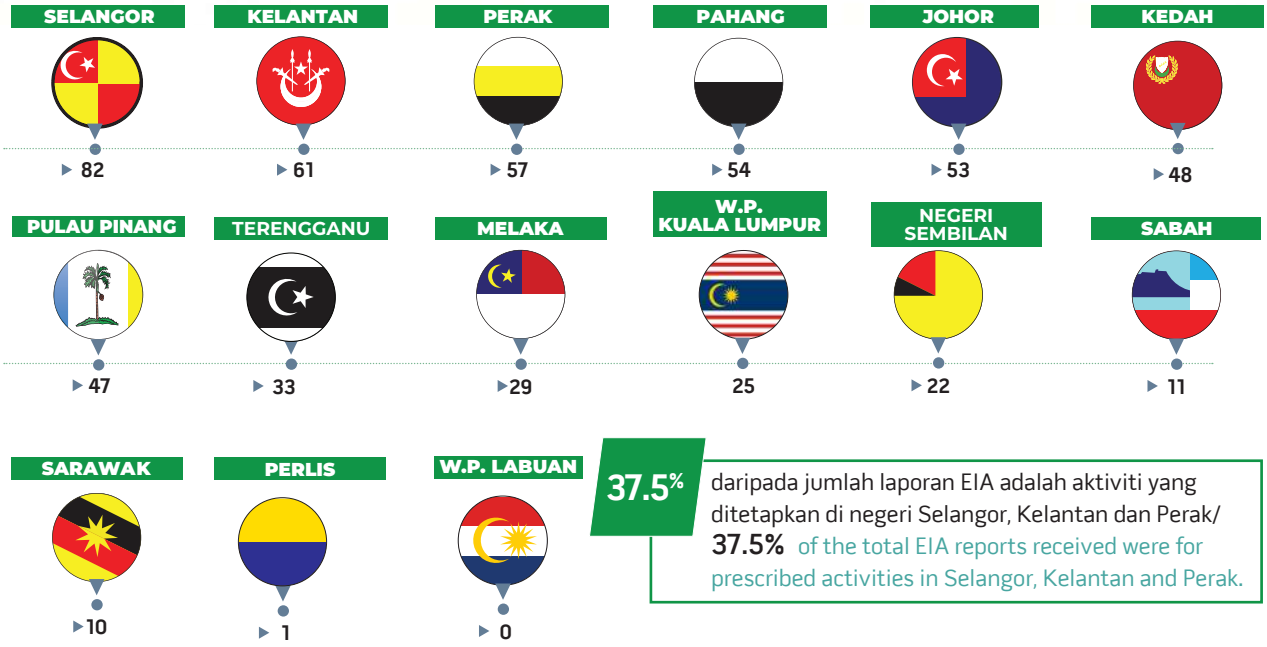
533
Laporan EIA pada 2025
EIA Reports in 2025

2.1x
Peningkatan 2015-2025
Increase 2015-2025

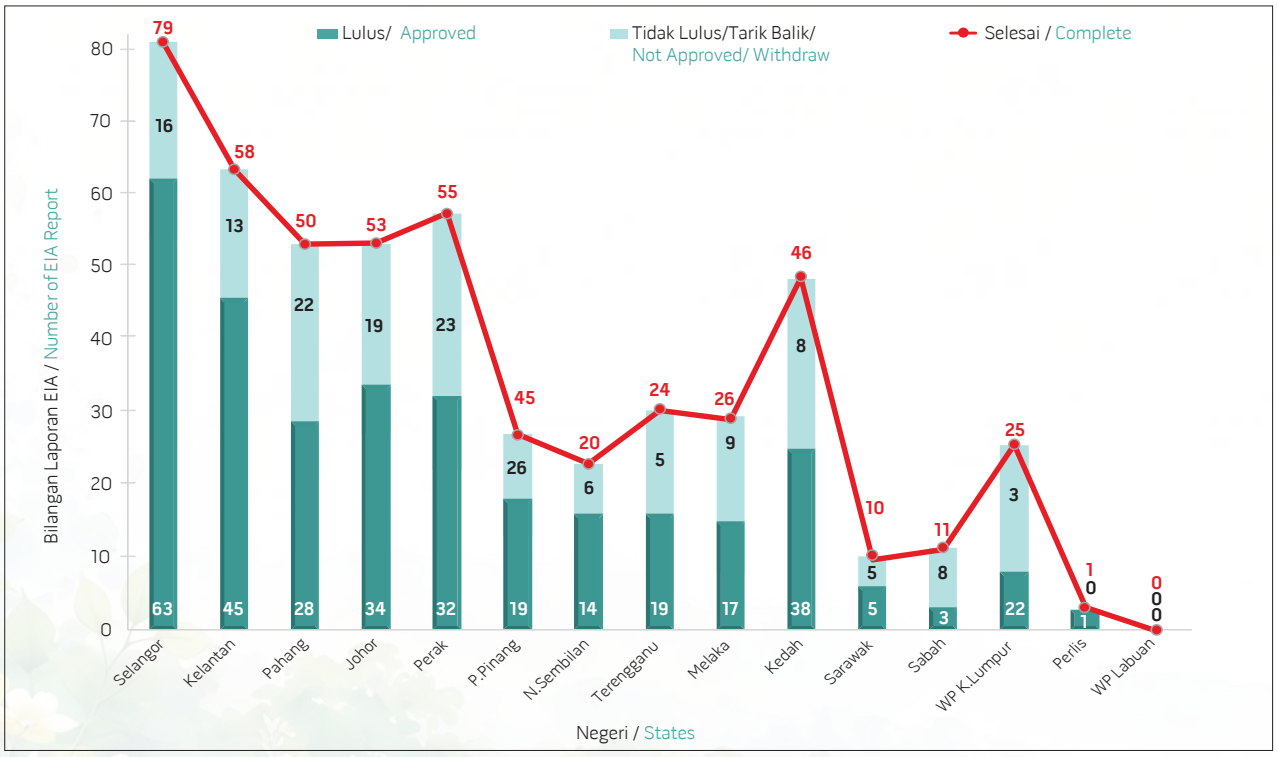
543
Tertinggi pada 2023
Highest in 2023



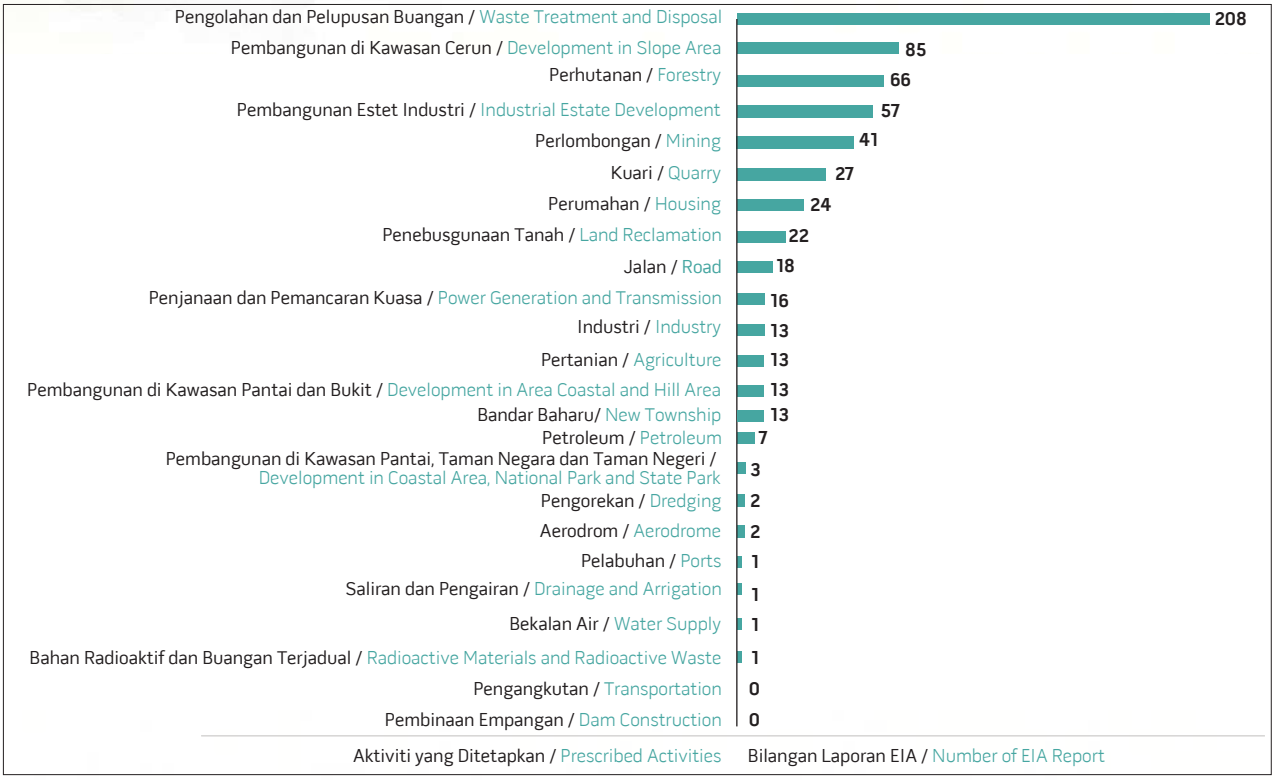
Rajah 2.1: Bilangan Laporan EIA yang Diterima mengikut Tahun bagi 10 Tahun Terkini
Figure 2.1: Number of EIA Reports Received by Years for the Last 10 Years



Rajah 2.2: Bilangan Laporan EIA yang Diterima mengikut Negeri, 2025
Figure 2.2: The Number of EIA Reports Received by State, 2025



Rajah 2.3: Penerimaan dan Keputusan Laporan EIA Mengikut Negeri, 2025
Figure 2.3: EIA Reports Received, and Results of EIA Reports by State in 2025



Rajah 2.4: Bilangan Laporan EIA yang Diterima Mengikut Aktiviti Yang Ditetapkan, 2025
Figure 2.4: Number of EIA Reports Received by Prescribed Activities, 2025

PENGUATKUASAAN PROJEK EIA

Penguatkuasaan projek EIA dilaksanakan melalui kaedah pemeriksaan di lapangan dan juga pemeriksaan secara *desktop*. Keseluruhannya sebanyak 2,153 siasatan penguatkuasaan samada di darat atau badan air telah dijalankan pada tahun 2025 untuk mengenal pasti status fasa pembangunan dan pematuhan kepada syarat kelulusan EIA (**Rajah 2.5**). Daripada jumlah itu, sebanyak 83% didapati patuh kepada syarat-syarat kelulusan Laporan EIA manakala 17% pula adalah tidak patuh.

Daripada keseluruhan jumlah itu, sebanyak 1,155 pemeriksaan secara *dekstop* telah dijalankan (**Rajah 2.6**). Melalui pemeriksaan *desktop*, didapati bahawa sebanyak 96% pemeriksaan patuh manakala 4% tidak patuh. Pemeriksaan secara *desktop* bertujuan memastikan pemantauan pematuhan secara berterusan melalui sistem atas talian yang diperkenalkan oleh JAS serta melalui laporan-laporan yang perlu dikemukakan kepada JAS secara berkala.

Daripada siasatan yang dijalankan, tindakan penguatkuasaan telah diambil merangkumi pengeluaran 271 notis arahan dan 10 kompaun.

EIA PROJECT ENFORCEMENT

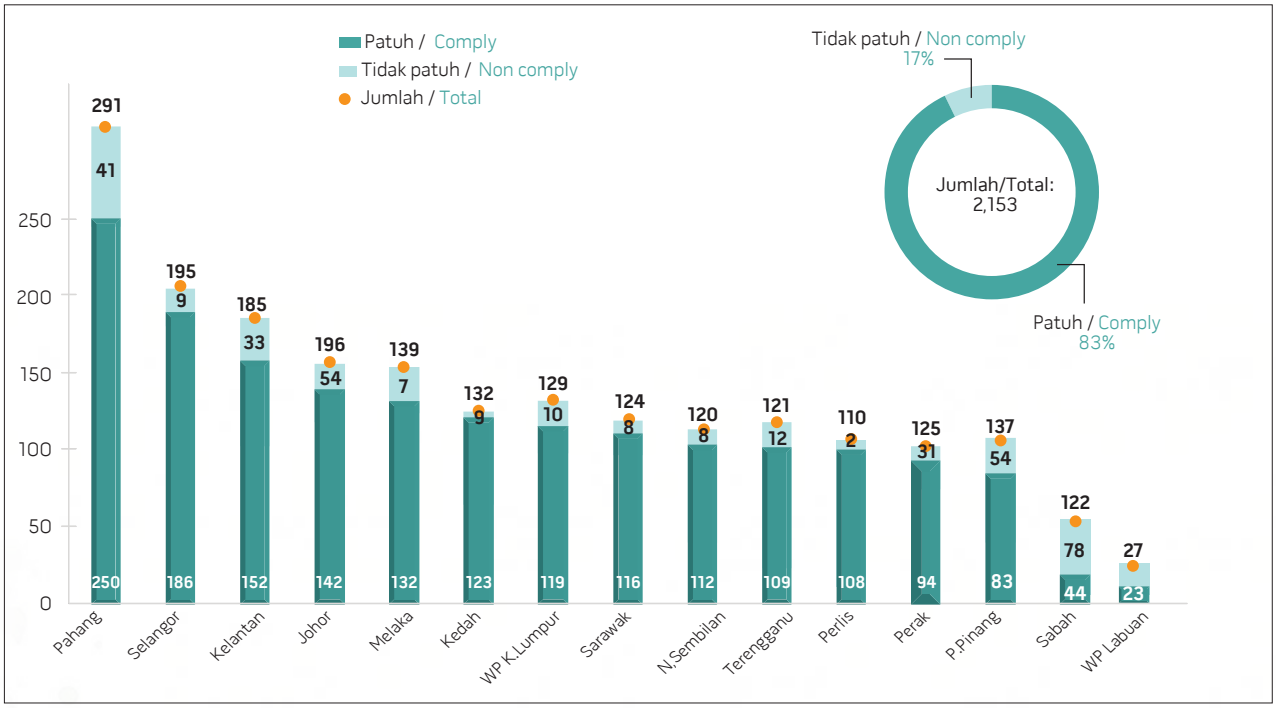
The enforcement of the EIA project is carried out through field enforcement methods and desktop enforcement. A total of 2,153 enforcement inspections (on land or water) were conducted in 2025 to identify the status of the development phase and compliance with EIA conditions requirements **(Figure 2.5).** Of the total figure, 83% complied with EIA approval conditions, while 17% were non-compliant.

Out of the total amount, 1,155 desktop enforcement were carried out **(Figure 2.6).** 96% were compliant, while 4% were non-compliant. Desktop enforcements are aimed at ensuring continuous monitoring for compliance through the online system introduced by DOE, as well as through reports submitted to DOE on a periodical basis.

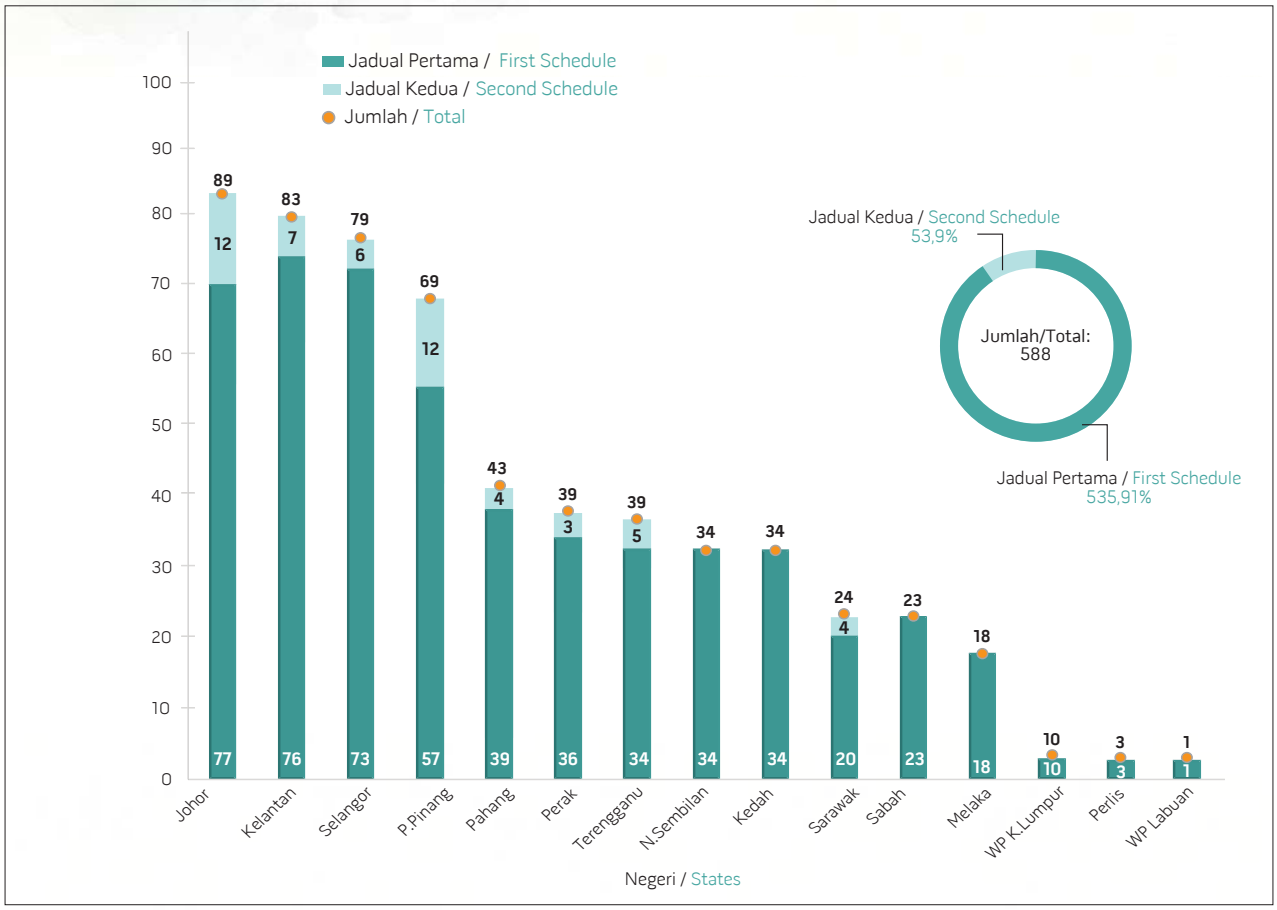
Based on the inspections conducted, enforcement actions involved the issuance of 271 notices and 10 compounds. A total of 19 investigation papers were

Sebanyak 19 kertas siasatan telah dibuka untuk didakwa di mahkamah kerana tidak mematuhi syarat-syarat kelulusan EIA. Pada tahun 2025 juga, sebanyak 37 pertuduhan dengan jumlah denda sebanyak RM 2,385,000.00 bagi kesalahan di bawah Seksyen 34A(6), Akta Kualiti Alam Sekeliling 1974. Selain itu, sebanyak 13 perintah larangan bagi aktiviti yang ditetapkan di bawah Seksyen 34AA, Akta Kualiti Alam Sekeliling 1974 juga telah dikeluarkan bagi kesalahan serius berkaitan pematuhan syarat kelulusan EIA (**Rajah 2.7**).

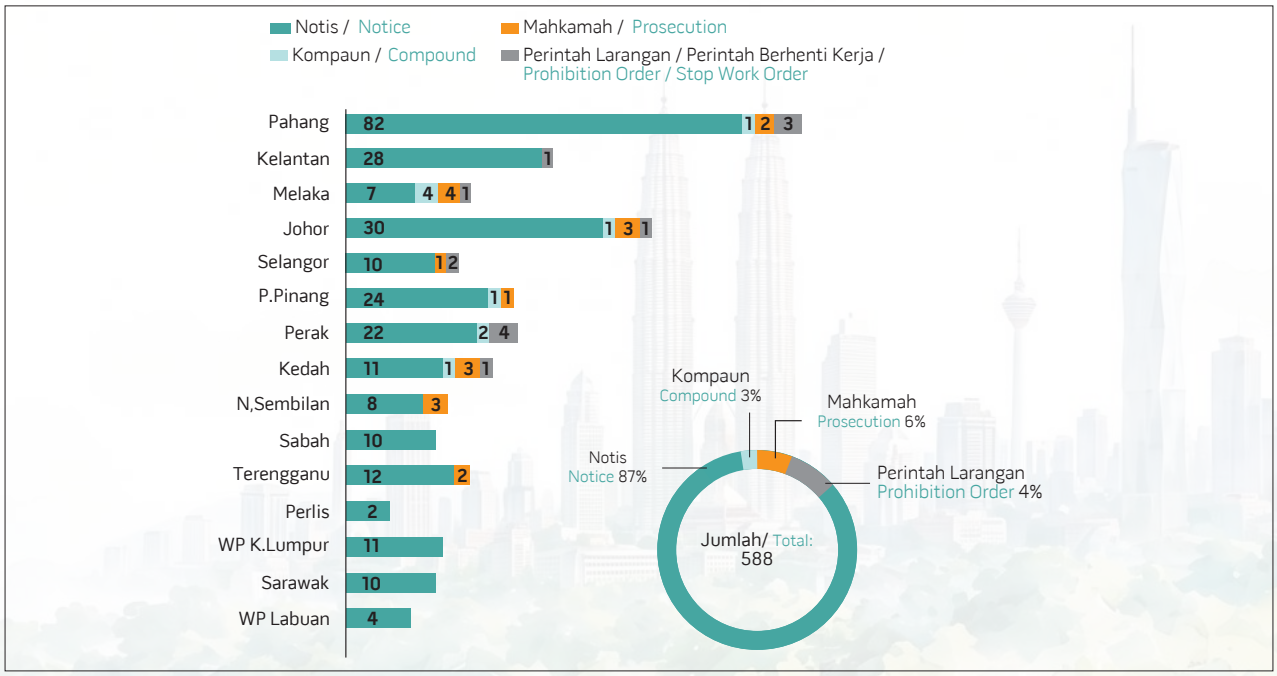
opened for prosecution in court for non-compliance cases. In 2025 also, total of 37 non-compliance cases were charged in court with penalties amounting to RM 2,385,000.00 pursuant to Section 34A (6), Environment quality Act 1974. In addition, 13 prohibition orders for prescribed activities under Section 34AA, Environmental quality Act 1974, were also issued for serious offences related to compliance with EIA approval conditions (**Figure 2.7**).



Rajah 2.5: Siasatan Penguatkuasaan Projek EIA, 2025
Figure 2.5: EIA Project Enforcement Inspections, 2025



Rajah 2.6: Pemeriksaan *Dekstop* Projek EIA, 2025
Figure 2.6: EIA Project Desktop Inspections, 2025



Rajah 2.7: Tindakan Susulan Penguatkuasaan Projek EIA, 2025
Figure 2.7: Follow Up Action of EIA Project Enforcement, 2025



Aktiviti Penguatkuasaan EIA di Tapak Projek Penambakan
EIA Enforcement Activity at Reclamation Project Site



Aktiviti Penguatkuasaan EIA di Tapak Projek Perumahan
EIA Enforcement Activity at Residential Project Site



Aktiviti Penguatkuasaan EIA di Tapak Projek Lombong dan Kuari/
EIA Enforcement Activity at Mining and Quary Project Site

PERINTAH LARANGAN ATAU PERINTAH BERHENTI KERJA

Peruntukan undang-undang di bawah Seksyen 34AA, Akta Kualiti Alam Sekeliling 1974 (Pindaan 2012) membolehkan Ketua Pengarah Kualiti Alam Sekeliling mengeluarkan perintah larangan atau perintah berhenti kerja kepada orang yang menjalankan aktiviti yang ditetapkan dalam tiga (3) keadaan iaitu:

i. Tanpa kelulusan Laporan EIA;
ii. Mencabuli apa-apa syarat yang dilampirkan di dalam kelulusan Laporan EIA; atau
iii. Pada pendapat Ketua Pengarah adalah dijalankan mengikut cara yang mungkin menyebabkan kerosakan alam sekeliling.

Perintah larangan atau perintah berhenti kerja itu boleh dikeluarkan bagi maksud menghalang aktiviti yang ditetapkan daripada berterusan seperti berikut:

i. Secara mutlak atau bersyarat;
ii. Bagi apa-apa tempoh sebagaimana yang ditentukan oleh Ketua Pengarah; atau
iii. Sehingga kehendak untuk meremedi sebagaimana yang diarahkan oleh Ketua Pengarah telah dipatuhi.

Sejak 2013, JAS telah mengenakan sejumlah 97 tindakan perintah larangan terhadap projek EIA. Pada tahun 2025, sejumlah 13 bilangan perintah larangan telah dikeluarkan melibatkan sepuluh (10) aktiviti kitar semula sisa pepejal dan pengolahan buangan terjadual, satu (1) aktiviti perlombongan, satu (1) aktiviti estet perindustrian dan satu (1) aktiviti pertanian. Pada tahun 2025 juga, sebanyak empat (4) perintah larangan yang dikenakan telah ditarik balik melibatkan satu (1) aktiviti estet perindustrian, dua (2) aktiviti kitar semula sisa pepejal dan pengolahan buangan terjadual dan satu (1) aktiviti pertanian (**Rajah 2.8**).

PROHIBITION ORDER OR STOP WORK ORDER

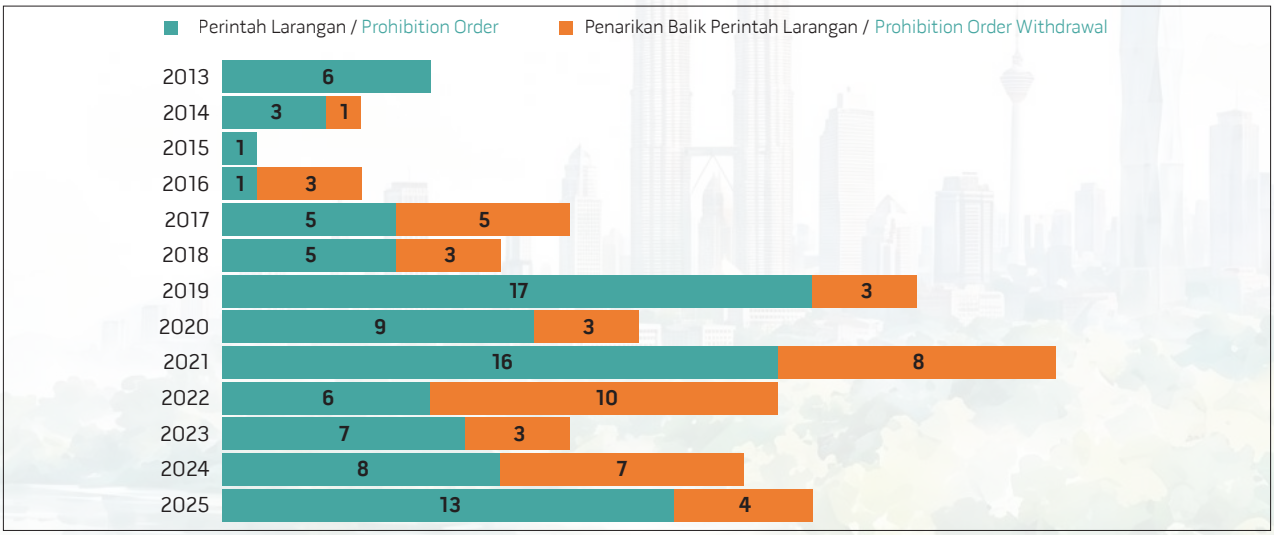
The legal provisions under Section 34AA, Environmental Quality Act 1974 (Amendment 2012) allow the Director General of Environmental Quality to issue a prohibition order or stop work order to the person who perform the prescribed activities in three (3) circumstances, which are:

i. Without EIA Report approval;
ii. Violation of conditions attached to the EIA Report; or
iii. In the opinion of the Director General is performed in a way that could cause environmental damage.

A prohibition order or stop work order may be issued to prevent the prescribed activities from continuing as follows:

i. Either absolutely or conditionally;
ii. For such period as the Director-General may determine; or
iii. Until the remediation requirements as directed by the Director General have been complied with.

Since 2013, DOE has imposed 97 prohibition order actions against EIA project. In 2025, 13 prohibition orders were issued involving ten (10) solid waste recycling and recovery schedule waste activities, one (1) mining activities, one (1) industrial estate activities, and one (1) agriculture activity. In addition, four (4) prohibition order charges were withdrawn, involving one (1) industrial estate activities, two (2) solid waste recycling and recovery schedule waste activities, and one (1) agriculture activity (**Figure 2.8**).



Rajah 2.8: Statistik Perintah Larangan dan Penarikan Balik Perintah Larangan
Figure 2.8: Statistic of Prohibition Order and Withdrawal of Prohibition Order





Aktiviti Pemantauan terhadap Perintah Larangan
Monitoring Activities against Prohibition Orders

PELAN PENGURUSAN ALAM SEKITAR (EMP)

EMP merupakan komponen penting dalam pelaksanaan projek EIA kerana ia merupakan salah satu elemen untuk memastikan pematuhan terhadap syarat-syarat kelulusan Laporan EIA dan seterusnya pematuhan terhadap perundangan yang berkaitan dengan alam sekitar.

EMP yang disediakan oleh Penggerak Projek akan menggariskan strategi dan tindakan yang perlu dilaksanakan berdasarkan amalan pengurusan terbaik untuk melindungi alam sekitar. Sehubungan itu, EMP akan memastikan segala cadangan di dalam Laporan EIA berjaya dilaksanakan dalam fasa reka bentuk akhir, pembinaan dan operasi sesuatu projek EIA.

EMP adalah dokumen yang perlu disemak dan dikemas kini berdasarkan pelbagai perubahan yang berlaku. Faktor perubahan ini berkemungkinan disebabkan oleh perubahan pada butiran projek, kawasan persekitaran dan penambahan langkah kawalan untuk mematuhi piawaian yang ditetapkan di dalam kelulusan Laporan EIA.

Sepanjang tahun 2025, sebanyak 588 EMP telah diterima dan diproses oleh JAS **(Rajah 2.9)**. Daripada jumlah itu, sebanyak 535 (91%) adalah daripada aktiviti yang tertakluk di bawah Jadual Pertama, Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 2015, Akta Kualiti Alam Sekeliling 1974 manakala 53 (9%) bagi aktiviti yang tertakluk di bawah Jadual Kedua perintah tersebut.

Johor menerima bilangan EMP tertinggi pada tahun 2025 iaitu sebanyak 89 (15%), diikuti dengan Kelantan sebanyak 83 (14%) dan Selangor sebanyak 79 (13%).

ENVIRONMENTAL MANAGEMENT PLAN (EMP)

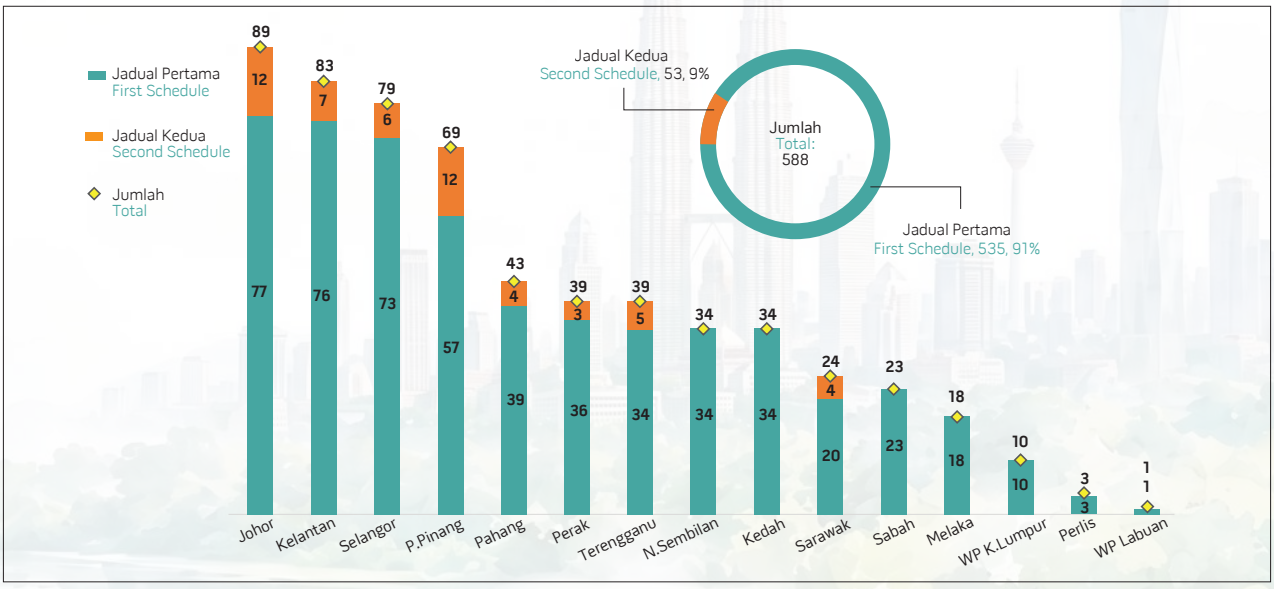
The EMP is an important element in the implementation of EIA projects as it ensures compliance with the approval conditions of the EIA report and compliance with legislation related to the environment.

The EMP prepared by Project Proponents will outline strategies and actions that need to be implemented based on Best Management Practices to protect the environment. Accordingly, the EMP will ensure the successful implementation of all recommendations in the EIA Report, especially in the final design stage, construction, and operation of an EIA project.

The EMP is a document that needs to be reviewed and updated based on changes that take place. The change factor is likely caused by changes of project details, surrounding areas, and the addition of control measures to ensure compliance with the standards set in the approval of the EIA Report.

In 2025, a total of 588 EMPs were received and processed by DOE **(Figure 2.9)**. 535 (91%) activities were under the First Schedule of the Environment Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015, Environmental Quality Act 1974 while 53 (9%) were under the Second Schedule of the Order.

Johor recorded the highest number of EMP in 2025, with 89 (15%), followed by Kelantan with 83 (14%), and Selangor with 79 (13%).



Rajah 2.9: Bilangan Pelan Pengurusan Alam Sekitar yang Diterima Mengikut Negeri, 2025
Figure 2.9: Number of Environmental Management Plan Received by States, 2025

SKIM PENDAFTARAN JURURUNDING EIA

Skim Pendaftaran Jururunding EIA telah mula diperkenalkan pada 1 Jun 2007. Pendaftaran Jururunding EIA ini adalah satu keperluan undang-undang di bawah Seksyen 34A, Akta Kualiti Alam Sekeliling, 1974 (Pindaan 2012) yang mewajibkan semua Jururunding EIA atau orang yang layak berdaftar dengan JAS untuk menjalankan kajian EIA dan mengemukakan Laporan EIA kepada JAS.

Pendaftaran terbuka kepada semua individu dan ianya dibahagikan kepada lima (5) kategori iaitu EIA *Consultant (C), Subject Consultant (CS), Subject Specialist (SS), Assistant Consultant (AC) dan Assistant Consultant & Subject Specialist (ACS).*

Sepanjang tahun 2025, sejumlah 141 permohonan pendaftaran baharu telah diterima dan daripada jumlah tersebut, sebanyak 98 permohonan telah diluluskan. Sejumlah 160 permohonan pembaharuan pendaftaran juga telah diterima sepanjang tahun 2025 dan daripada jumlah tersebut, sebanyak 145 permohonan telah diluluskan.

Sehingga 31 Disember 2025, sebanyak 786 individu telah berdaftar di bawah Skim Pendaftaran Jururunding EIA melalui sistem *Malaysian Certified Environmental Practitioner (myCEP),* iaitu terdiri daripada 175 orang *EIA Consultant (C),* 93 orang *Subject Consultant (CS),* 263 orang adalah *Subject Specialist (SS)*, 237 orang adalah *Assistant Consultant (AC)* dan 18 orang adalah *Assistant Consultant & Subject Specialist (ACS).* **Jadual 2.1** menunjukkan pecahan bilangan Jururunding EIA dan peratusan mengikut kategori

EIA CONSULTANT REGISTRATION SCHEME

The EIA Consultant Registration Scheme was first introduced on the 1 June 2007. The registration of EIA consultant is a legal requirement under Section 34A, Environmental Quality Act, 1974 (Amendment 2012), which requires all EIA consultants or qualified persons to register with DOE before conducting EIA studies and submitting the EIA Report to DOE.

Registration is open for all individuals and divided into five (5) categories, namely, EIA Consultant (C), Subject Consultant (CS), Subject Specialist (SS), Assistant Consultant (AC), and Assistant Consultant & Subject Specialists (ACS).

In the year 2025, a total of 141 applications for new registration were received, of which 98 applications were approved under various categories. A total of 160 renewal applications were received throughout the year of 2025 and of which 145 applications were approved.

As at 31 December 2025, 786 individuals were registered under the EIA Consultant Registration Scheme through the Malaysian Certified Environmental Practitioner (myCEP) system, of which 175 were EIA Consultants (C), 93 were Subject Consultants (CS), 263 were Subject Specialists (SS), 237 were Assistant Consultants (AC), and 18 were Assistant Consultants & Subject Specialists (ACS). **Table 2.1** shows the breakdown of EIA consultants and percentage by category.

Jadual 2.1: Bilangan Jururunding EIA
Table 2.1: Number of EIA Consultants

BIL. NO.	KATEGORI CATEGORY	BILANGAN JURURUNDING NUMBERS OF CONSULTANT	PERATUSAN PERCENTAGE
1.	EIA Consultant (C)	175	22.3
2.	Subject Consultant (CS)	93	11.8
3.	Subject Specialist (SS)	263	33.4
4.	Assistant Consultant (AC)	237	30.2
5.	Assistant Consultant & Subject Specialist (ACS)	18	2.3
Jumlah / Total		**786**	**100**

SKIM PENDAFTARAN JURUAUDIT ALAM SEKITAR

Skim Pendaftaran Juruaudit Alam Sekitar telah mula diperkenalkan pada Jun 2009. Mulai 1 Disember 2009, JAS hanya menerima laporan audit pematuhan yang disediakan oleh Juruaudit Alam Sekitar yang berdaftar dengan JAS sahaja.

Pendaftaran Juruaudit Alam Sekitar ini adalah satu keperluan undang-undang di bawah Seksyen 33A, Akta Kualiti Alam Sekeliling 1974 (Pindaan 2012) yang menyatakan hanya orang yang layak sahaja dibenarkan menjalankan audit alam sekeliling. Pelaksanaan audit dan pelaporan audit alam sekeliling harus mengikut prosedur dan garis panduan yang telah ditetapkan oleh JAS.

Sepanjang tahun 2025, sejumlah 14 permohonan pendaftaran baharu telah diterima dan daripada jumlah tersebut, sebanyak 12 permohonan telah diluluskan. Sejumlah 52 permohonan pembaharuan pendaftaran juga telah diterima sepanjang tahun 2025 dan daripada jumlah tersebut, sebanyak 44 permohonan telah diluluskan (**Jadual 2.2**). Sehingga 31 Disember 2025, seramai 125 orang individu telah didaftarkan sebagai Juruaudit Alam Sekitar.

Pelaksanaan audit ini merupakan salah satu kaedah pematuhan kendiri yang dilaksanakan bagi memastikan pematuhan yang berterusan terhadap Akta Kualiti Alam Sekeliling 1974.

Pada tahun 2025, sebanyak 885 audit alam sekeliling di bawah Seksyen 33A, Akta Kualiti Alam Sekeliling 1974 telah dijalankan ke atas projek pembangunan yang tertakluk kepada Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekitar) 2015 (**Rajah 2.10**).

ENVIRONMENTAL AUDIT REGISTRATION SCHEME

The Environmental Audit Registration Scheme was first introduced in June 2009. Starting from 1 December 2009, DOE only accepts compliance audit reports prepared by Environmental Auditors registered with DOE.

The registration of environmental auditor is a legal requirement under Section 33A Environmental Quality Act, 1974 (Amendment 2012), which states that only qualified persons are allowed to conduct environmental audits. Audits and its reporting must be conducted and prepared in accordance with the procedures and guidelines established by DOE.

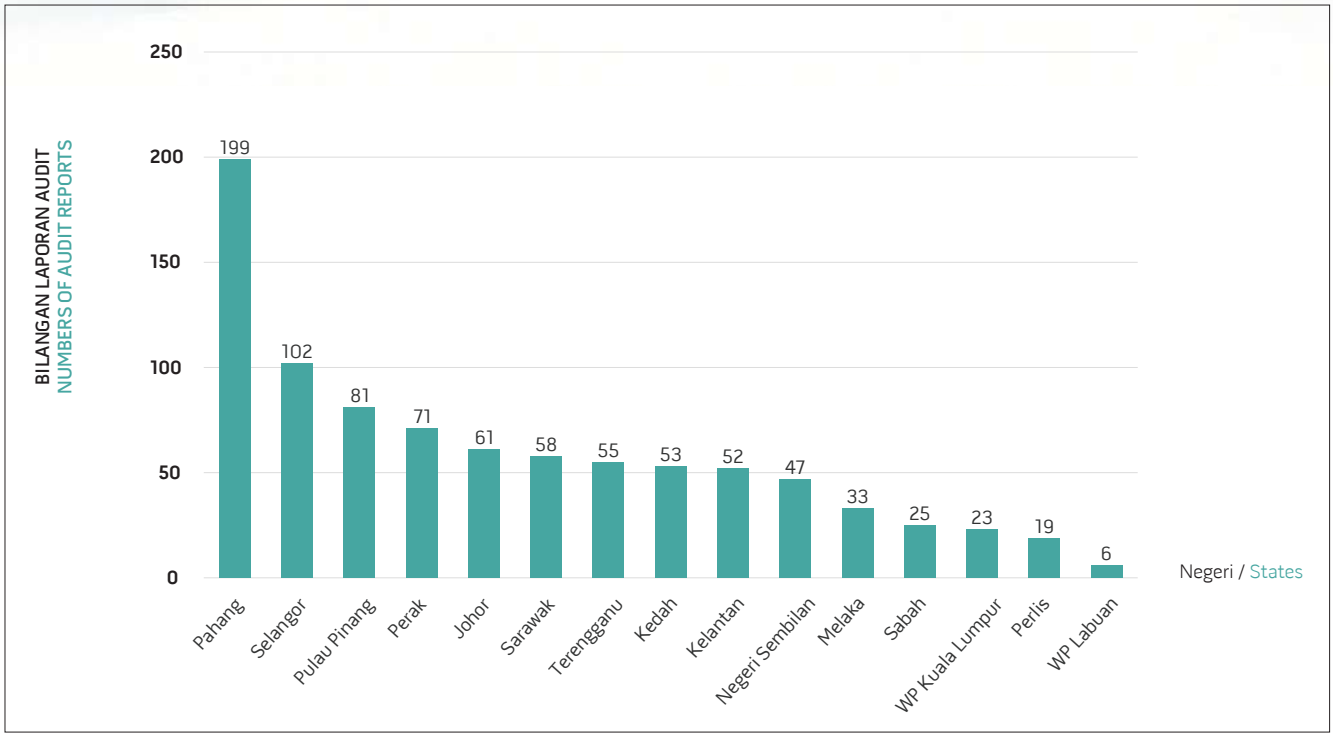
In 2025, a total of 14 applications for new registration were received, of which 12 applications were approved. A total of 52 renewal applications were received, of which 44 applications were approved (**Table 2.2**). As at 31 December 2025, 125 individuals were registered as Environmental Auditors.

Auditing is one of the self-regulatory methods implemented to ensure continuous compliance with the Environmental Quality Act 1974.

In 2025, a total of 885 environmental audits were conducted under Section 33A, Environmental Quality Act 1974, for development projects prescribed under the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015 (**Figure 2.10**).

Jadual 2.2: Jumlah Permohonan Juruaudit Alam Sekitar yang Diluluskan bagi Tahun 2025
Table 2.2: Number of Approved Environmental Auditor Applications in 2025

JENIS PERMOHONAN TYPES OF APPLICANTS	JUMLAH PERMOHONAN NO. OF APPLICANTS	JUMLAH LULUS NO. OF APPLICATIONS APPROVED	PERATUSAN LULUS PERCENTAGE APPROVED
Baharu / New	14	12	85.7 %
Pembaharuan / Renew	52	44	84.6 %



Rajah 2.10: Bilangan Audit Alam Sekeliling bagi Projek EIA mengikut Negeri, 2025
Figure 2.10: Number of Environmental Audits for EIA Projects by State, 2025

PERMOHONAN KELULUSAN MENJALANKAN AKTIVITI EKPLORASI DI DALAM KAWASAN ZON EKONOMI EKSKLUSIF (ZEE)

Eksplorasi minyak dan gas merupakan proses awal dalam pembangunan medan pengeluaran minyak dan gas bertujuan untuk mengenal pasti lokasi sumber minyak dan gas. Aktiviti eksplorasi minyak dan gas ini tidak tertakluk kepada Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 2015.

Kebanyakan lokasi medan eksplorasi minyak dan gas luar pantai berada di dalam kawasan ZEE. Kelulusan bagi projek-projek di dalam kawasan ZEE ini adalah di bawah bidang kuasa Jawatankuasa Menimbang dan Meluluskan Permohonan di bawah Seksyen 21(1) dan Seksyen 22 Akta Zon Ekonomi Eksklusif 1984 (Akta 311) (JKZEE) yang diselaraskan oleh Kementerian Perdagangan Dalam Negeri dan Kos Sara Hidup (KPDN) sebagai urusetia.

Keahlian Jawatankuasa ini dianggotai oleh pelbagai agensi di peringkat persekutuan termasuk JAS. JKZEE berperanan menilai dan meluluskan sesuatu permohonan untuk kerja-kerja membina, mengendali atau menggunakan mana-mana pulau, pemasangan atau struktur buatan, pemasangan kabel serta talian paip di ZEE.

APPLICATIONS TO EXPLORATION ACTIVITIES IN THE EXCLUSIVE ECONOMIC ZONE (EEZ)

The exploration of oil and gas is the initial process of identifying the resource location for oil and gas for the development of an oil and gas production field. This oil and gas exploration activity is not subject to the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015.

Most offshore oil and gas exploration fields are located within the EEZ. Approval for projects within the Exclusive Economic Zone (EEZ) falls under the jurisdiction of the Committee for the Consideration and Approval of Applications pursuant to Section 21(1) and Section 22 of the Exclusive Economic Zone Act 1984 (Act 311) (JKZEE), which is coordinated by the Ministry of Domestic Trade and Cost of Living (KPDN) as the secretariat.

The members of the committee are from various federal agencies, including DOE. The committee evaluates and approves applications for construction work, operation or use of any island, artificial installations or structures, cable, and pipeline installation in the EEZ.

Selain daripada menilai laporan EIA bagi aktiviti pembangunan medan minyak dan gas di dalam kawasan ZEE, JAS juga turut bertanggungjawab memberikan input kepada JKZEE bagi permohonan kelulusan projek yang tidak tertakluk kepada Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 2015 yang diselaraskan oleh Majlis Keselamatan Negara (MKN) sebagai urusetia. Pada tahun 2025, JAS telah menerima sebanyak 9 permohonan pembangunan di dalam kawasan ZEE dan telah dinilai oleh JAS Negeri yang berkaitan iaitu 2 di Terengganu, 5 di Sarawak dan 2 di Sabah.

INPUT ALAM SEKITAR KEPADA PERANCANGAN PEMBANGUNAN

Pada tahun 2025, sejumlah 11,721 input alam sekitar telah diberikan oleh Pejabat JAS Negeri kepada penggerak projek, Kerajaan Negeri, Pihak Berkuasa Tempatan, Pejabat Tanah serta serta agensi-agensi lain yang berkaitan (**Rajah 2.11**).

Input teknikal yang diberikan ini adalah penting bagi memastikan keperluan perundangan alam sekitar dipatuhi dan aspek alam sekitar diberikan pertimbangan yang sewajarnya di dalam proses membuat keputusan di dalam sesuatu perancangan pembangunan.

Di pihak Ibu Pejabat JAS, input alam sekitar turut diberikan kepada agensi seperti Kementerian Perumahan dan Kerajaan Tempatan (KPKT), *Malaysian Investment Development Authority* (MIDA), Kementerian Perdagangan Dalam Negeri dan Kos Sara Hidup (KPDN) dan Kementerian Sumber Asli dan Kelestarian Alam (NRES) mengenai penyelarasan perancangan pembangunan, pelaburan industri dari dalam dan luar negara, pelan tempatan, kajian rancangan fizikal negara, kajian kawasan sensitif alam sekitar, pembukaan medan minyak, aktiviti di kawasan tanah tinggi dan sebagainya.

Inisiatif penubuhan Unit Pusat Setempat (OSC) di semua PBT di Semenanjung Malaysia telah mula diperkenalkan sejak tahun 2007 dengan objektif untuk menyelaras pelbagai permohonan pembangunan melalui satu sistem dan prosedur yang telus dan seragam.

Fungsi dan peranan OSC telah diperkasakan dengan mewujudkan sistem OSC secara atas talian. OSC 3.0 telah diperkenalkan pada 1 Jun 2014 bagi mengatasi masalah kelewatan kelulusan pemajuan.

Apart from evaluating the EIA report for oil and gas field development activities within the EEZ area, DOE is also responsible for providing input for the committee for approval of projects not subject to the Environmental Quality (Prescribed Activities) (Environmental Impact Assesment) Order 2015 coordinated by the National Security Council (MKN) (Secretariat) who acts as the secretariat. In 2025, DOE received 9 applications for development within the EEZ area evaluated by the relevant State DOE - 2 in Terengganu, 5 in Sarawak, and 2 in Sabah.

ENVIRONMENTAL INPUT FOR DEVELOPMENT PLANNING

In 2025, a total of 11,721 environmental inputs were provided to project proponents, State Government, Local Authorities, and Land Offices as well as other related agencies by the State DOE Office (**Figure 2.11**).

Technical input provided were relevant to ensure environmental legal requirements were complied with and appropriate considerations were given to environmental aspects in the decision-making process of a development plan.

The DOE headquarters also provided environmental inputs to agencies such as the Ministry of Housing and Local Government (KPKT), Malaysian Investment Development Authority (MIDA), Ministry of Domestic Trade and Cost of Living (KPDN), and Ministry of Natural Resources and Environmental Sustainability (NRES) on the coordination of development planning, local and foreign industrial investment, local plans, national physical plan study, studies on environmentally sensitive areas, development of oil and gas fields, activities in highlands, and others.

The initiative to establish a One Stop Centre unit (OSC) in all local authorities in Peninsular Malaysia began in 2007 to coordinate various development applications using one system and procedure that is transparent and uniform.

The function and role of OSC were enhanced with the establishment of the OCS online system. OCS 3.0 was introduced on 1 June 2014 to overcome the delay in the approval process.

Sistem OSC 3.0 plus online telah dinaik taraf kepada platform atas talian untuk menerima dan memproses permohonan pemajuan termasuk permohonan yang berkaitan dengan Kebenaran Merancang oleh setiap Pihak Berkuasa Tempatan (PBT).

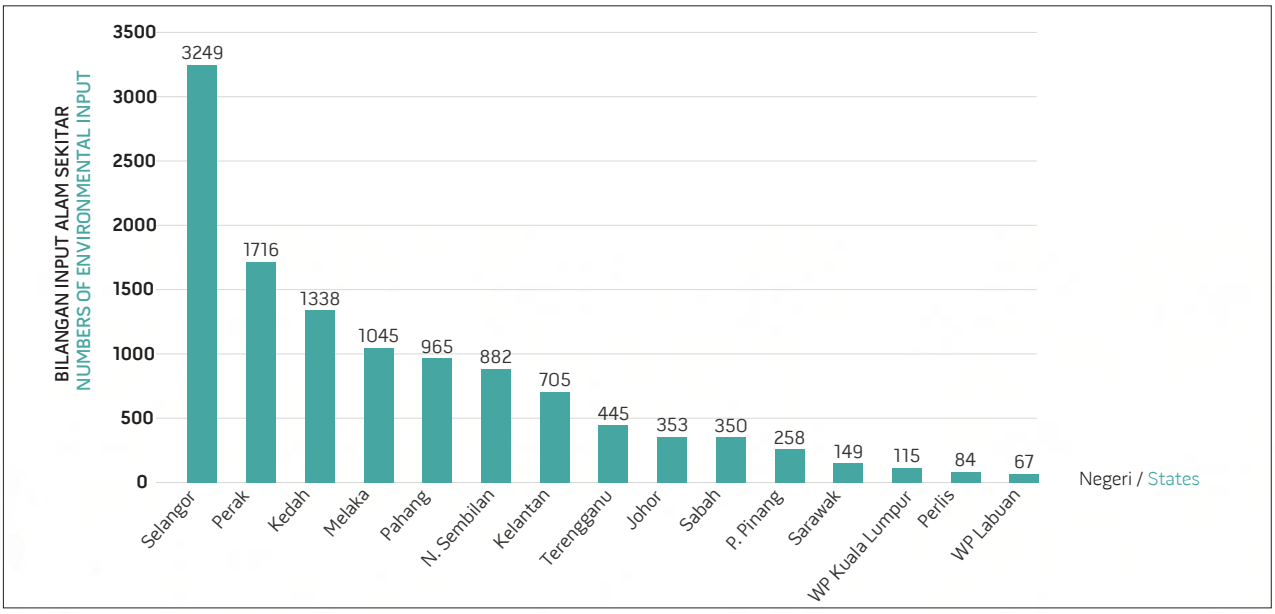
JAS Negeri adalah antara Agensi Teknikal Luar (ATL) yang bertanggungjawab untuk mengemas kini permohonan yang telah diterima bagi membuat pertimbangan keputusan permohonan pemajuan.

Pada tahun 2025, JAS telah menerima sebanyak 5,026 permohonan dalam sistem OSC 3.0 plus online. **Rajah 2.12** menunjukkan 99.0% kepatuhan ulasan teknikal JAS terhadap sistem dalam talian OSC 3.0 Plus.

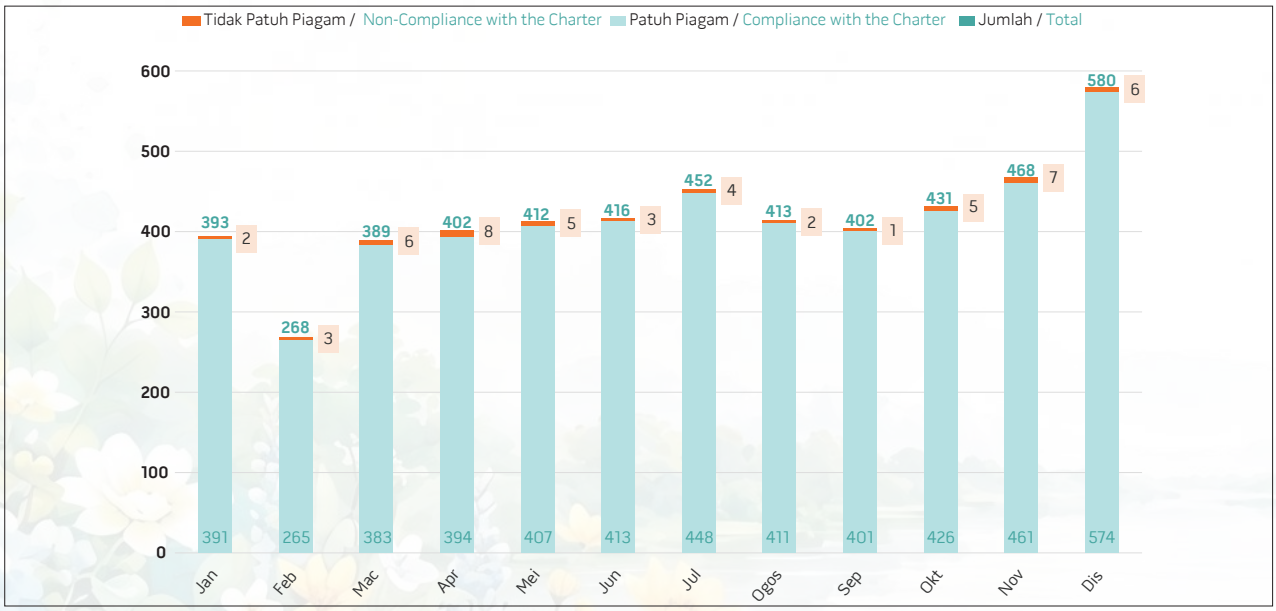
The OSC 3.0 plus online system has been upgraded to an online platform to allow it to receive and process development applications, including those related to Planning Permission by each Local Authority (PBT).

The State DOE is one of the External Technical Agencies (ETA) responsible for updating applications received for consideration.

In 2025, DOE received 5,026 applications in the OSC3.0 plus online system. **Figure 2.12** shows a 99.0% compliance of DOE technical comments to the OSC 3.0 plus online system.



Rajah 2.11: Bilangan Input Alam Sekitar kepada Perancangan Pembangunan mengikut Negeri, 2025
Figure 2.11: Number of Environmental Input for Development Planning by States, 2025



Rajah 2.12: Statistik Pematuhan OSC 3.0 Plus Online - Kebenaran Merancang mengikut Bulan, 2025
Figure 2.12: Statistic of OSC 3.0 Plus Compliance - Planning Permission by Month, 2025

KERJASAMA DAN LAWATAN TEKNIKAL JABATAN ALAM SEKITAR DENGAN PIHAK BERKEPENTINGAN

Jabatan Alam Sekitar (JAS) secara aktif turut melaksanakan libat urus bersama pihak berkepentingan dalam memberikan khidmat nasihat perancangan pembangunan, dan penyelarasan polisi berkaitan pengurusan alam sekitar khususnya melibatkan pembangunan projek berimpak tinggi yang memacu pembangunan negara.

Lawatan teknikal juga dilaksanakan dengan kerjasama pihak berkepentingan untuk memantapkan keupayaan pembangunan modal insan bagi semua pihak terlibat.

PROGRAM SINERGI JURURUNDING EIA

Program Sinergi Jururunding EIA telah berlangsung di TNB Research, Kajang pada 20 Ogos 2025. Program ini melibatkan penyertaan seramai 200 orang Jururunding EIA dan Juruaudit Alam Sekitar yang berdaftar dengan Jabatan Alam Sekitar di bawah Skim Pendaftaran Jururunding EIA dan Skim Pendaftaran Juruaudit Alam Sekitar.

Program Sinergi Jururunding EIA ini dianjurkan sebagai sebahagian inisiatif Jabatan untuk memperkukuhkan pembangunan modal insan di kalangan Jururunding EIA dan Juruaudit Alam Sekitar dalam melaksanakan tanggungjawab dan peranan sebagai Orang Yang Layak, dalam menjalankan kajian dan menyediakan Laporan EIA serta melaksanakan audit alam sekitar.

Selain itu, program ini juga menjadi platform untuk Jururunding EIA dan Juruaudit Alam Sekitar bertukar - tukar pandangan dan pendapat dalam semua aspek pengurusan alam sekitar dan meluaskan jaringan di kalangan profesional alam sekitar.

Sebanyak empat (4) kertas telah dibentangkan oleh JAS dan TNB Research Sdn. Bhd. seperti berikut:

i. **Kertas Pembentangan 1:** Cadangan Pindaan kepada Akta Kualiti Alam Sekeliling 1974 oleh Bahagian Penguatkuasa, JAS;
ii. **Kertas Pembentangan 2:** Garis Panduan Baharu *Guidelines on Pollution Prevention in Industrial Siting 2025* terbitan Jabatan Alam Sekitar oleh Bahagian Penilaian, JAS;
iii. **Kertas Pembentangan 3:** Polisi terkini melibatkan pengurusan buangan terjadual oleh Bahagian Bahan Berbahaya, JAS; dan
iv. **Kertas Pembentangan 4:** Pelaksanaan pematuhan EIA oleh TNB Research Sdn. Bhd.

COLLABORATION AND TECHNICAL VISIT DEPARTMENT OF ENVIRONMENT WITH STAKEHOLDERS

Department of Environment (DOE) actively engages with stakeholders to ensure that administrative affairs run smoothly. The Department of Environment (DOE) actively engages with stakeholders in development planning input and coordinating policies related to environmental management, especially involving the development of high-impact projects in spurring the development of the country.

Technical visits are also being arranged with the collaboration of stakeholders to enhance the capacity buildings for all parties.

EIA CONSULTANT SYNERGY PROGRAMME

An EIA Consultants Synergy Programme was held at TNB Research, Kajang on the 20 August 2025. The programme involved the participation of 200 EIA Consultants and Environmental Auditors registered with the Department of Environment (DOE) under the EIA Consultant Registration Scheme and the Environmental Auditor Registration Scheme.

The EIA Consultants Synergy Programme is organized as part of Department's initiatives to strengthen human capital development among EIA Consultants and Environmental Auditors in fulfilling their responsibilities and roles as Qualified Persons, who conduct studies, prepare EIA Reports and perform environmental audits.

In addition, this programme also provides a platform for EIA Consultants and Environmental Auditors to exchange views and opinions on all aspects of environmental management and to expand networking among environmental professionals.

A total of four (4) papers were presented by DOE and TNB Research Sdn. Bhd. as follows:

i. **Presentation Paper 1:** Proposed Amendments to the Environmental Quality Act 1974 by the Enforcement Division, DOE;
ii. **Presentation Paper 2:** New Guidelines on Pollution Prevention in Industrial Siting 2025 by the Assessment Division, DOE;
iii. **Presentation Paper 3:** Latest policies involving scheduled waste management by the Hazardous Substances Division, DOE; and
iv. **Presentation Paper 4:** Implementation of EIA compliance by TNB Research Sdn. Bhd.



Majlis Perasmian yang Disempurnakan oleh Pengarah Bahagian Penilaian, JAS
Opening Ceremony by the Director of Assessment Division.



Sesi Dialog bersama Pembentang
Dialogue Session with Presenters.



Peserta Program Sinergi Jururunding EIA
EIA Consultants Synergy Programme Participants.

BENGKEL DAN LATIHAN *HANDS-ON* PENGGUNAAN SISTEM MAKLUMAT GUNA TANAH PERANCANGAN BERSEPADU (I-PLAN)

Jabatan Alam Sekitar (JAS) Ibu Pejabat dengan kerjasama Bahagian Maklumat Guna Tanah Negara, Jabatan Perancangan Bandar dan Desa (PLANMalaysia) telah menganjurkan Bengkel dan Latihan *Hands-on* Penggunaan Sistem Maklumat Guna Tanah Perancangan Bersepadu (I-Plan) pada 24 Februari 2025.

Sistem I-Plan adalah satu sistem telah dibangunkan oleh PLAN Malaysia berperanan sebagai Pusat Rujukan Maklumat Guna Tanah Negara serta alat

WORKSHOP AND HANDS-ON TRAINING ON THE USE OF THE INTEGRATED PLANNING LAND USE INFORMATION SYSTEM (I-PLAN)

The Department of Environment (DOE) Headquarters, in collaboration with the National Land Use Information Division, Department of Town and Country Planning (PLANMalaysia), organised the Workshop and Hands-On Training on the Use of the Integrated Planning Land Use Information System (I-PLAN) on 24 February 2025.

The I-PLAN system is a system developed by PLANMalaysia that serves as the National Land Use Information Reference Centre, as well as a tool to

bagi membantu dalam proses kebenaran merancang dan perancangan fizikal sebagaimana yang telah ditetapkan di dalam Rancangan Pemajuan di peringkat persekutuan, negeri dan tempatan.

Bengkel dan Latihan *Hands-on* Penggunaan Sistem I-PLAN yang dilaksanakan secara *hybrid* kepada pegawai-pegawai Jabatan Alam Sekitar di Ibu Pejabat dan Negeri diharap dapat membantu untuk mendapatkan maklumat mengenai guna tanah, *zoning* sesuatu kawasan dengan lebih pantas dan tepat terutamanya semasa memproses dan memberi ulasan kepada permohonan input pembangunan dan pemprosesan Laporan EIA.

JAS dan PLANMalaysia berharap program seperti ini dapat diteruskan dalam memastikan kedua-dua agensi dapat memanfaatkan Sistem I-PLAN supaya saling melengkapi antara kedua-dua agensi dalam pemeliharaan dan pemuliharaan alam sekitar.

support the planning permission process and physical planning in accordance with the development plans established at the federal, state, and local levels.

The hybrid Workshop and Hands-On Training on the Use of the I-PLAN System, conducted for officers of the Department of Environment at the Headquarters and State levels, is expected to assist in obtaining land use and zoning information more quickly and accurately, particularly during the processing and review of development input applications and the processing of EIA Reports.

DOE and PLANMalaysia hope that programmes like this can be continued to ensure that both agencies can fully utilize the I-PLAN System, thereby complementing each other in environmental conservation and restoration.



Bengkel dan Latihan Hands-on Penggunaan Sistem I-PLAN
Workshops and Hands-on Training on the Use of the I-PLAN System

BENGKEL LIBAT URUS BERSAMA AGENSI DAN INDUSTRI BAGI CADANGAN PINDAAN PERINTAH KUALITI ALAM SEKELILING (AKTIVITI YANG DITETAPKAN) (PENILAIAN KESAN KEPADA ALAM SEKELILING) 20XX

Perundangan berkaitan EIA ini telah dilaksanakan lebih dari 30 tahun di Malaysia. Beberapa pindaan terhadap seksyen berkaitan EIA telah dilaksanakan bagi memantapkan pelaksanaan EIA di Malaysia. Selain itu pindaan terhadap aktiviti-aktiviti yang memerlukan kajian EIA juga telah dilaksanakan pada tahun 2015 oleh Jabatan Alam Sekitar dengan menetapkan dua

WORKSHOP FOR STAKEHOLDER ENGAGEMENT WITH AGENCIES AND INDUSTRIES FOR PROPOSED AMENDMENTS TO THE ENVIRONMENTAL QUALITY ORDER (PRESCRIBED ACTIVITIES) (ENVIRONMENTAL IMPACT ASSESSMENT) 20XX

The legislation related to EIA (Environmental Impact Assessment) has been implemented for over 30 years in Malaysia. Several amendments to the sections related to EIA have been carried out to strengthen the implementation of EIA in Malaysia. In addition, amendments to the activities that require an EIA study were also implemented in 2015 by the Department of

(2) Jadual yang menyenaraikan aktiviti yang perlu menjalankan EIA iaitu sebanyak 21 jenis aktiviti yang ditetapkan disenaraikan dalam Jadual Pertama dan 17 Jenis aktiviti di dalam Jadual Kedua, Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 2015.

Dalam menambah baik pelaksanaan EIA di Malaysia, JAS berdasarkan input dan maklum balas pelanggan termasuk agensi kerajaan, pihak penggerak projek, Badan Bukan Kerajaan (NGO) dan pihak-pihak berkepentingan lain telah melaksanakan Sesi Libat Urus (SLU) dan Bengkel Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 2015 dengan mengambil kira situasi semasa dan isu alam sekitar yang semakin kompleks.

Objektif Pindaan Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 20XX adalah:

i. Meningkatkan tahap pematuhan kendiri dalam perlaksanaan projek EIA sehingga 100% pematuhan menjelang tahun 2030;
ii. Menyelaras semula aktiviti-aktiviti yang ditetapkan dibawah Perintah EIA mengikut bidang kuasa Jabatan Alam Sekitar bagi meningkatkan keberkesanan penguatkuasaan undang-undang EIA sehingga 100% menjelang 2030; dan
iii. Menambah baik tafsiran dan istilah bagi meningkat kefahaman pemakaian dan perlaksanaan undang-undang EIA sehingga 100% dalam kalangan penggerak projek menjelang tahun 2030.

Pada tahun 2025, sebanyak empat (4) Sesi Libat Urus dan satu (1) Bengkel Pemurnian Bersama Agensi dan Industri bagi Cadangan Pindaan Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 20XX telah diadakan mengikut aktiviti seperti di **Jadual 2.3**.

Environment, which established two (2) schedules for activities that must undergo an EIA. These include 21 types of activities listed in Schedule One and 17 types of activities in Schedule Two of the Environmental Quality Order (Prescribed Activities) (Environmental Impact Assessment) 2015.

In improving the implementation of EIA in Malaysia, DOE based on input and feedback from customers including government agencies, project proponents, Non-Governmental Organizations (NGOs). and other stakeholders, had conducted Stakeholder Engagement Sessions (SLU) and workshops on the proposed amendment Environmental Quality Order (Prescribed Activities) (Environmental Impact Assessment) 2015 by considering the current situation and increasingly complex environmental issues.

The objective of the amendment to the Environmental Quality Order (Prescribed Activities) (Environmental Impact Assessment) 20XX are:

i. To improve the level of self-compliance in the implementation of EIA projects to achieve 100% compliance by 2030;
ii. To re-coordinate the prescribed activities under the EIA Order according to the jurisdiction of the Department of Environment to enhance the effectiveness of EIA law enforcement to 100% by 2030; and
iii. To improve the interpretation and terminology to enhance understanding of the application and implementation of EIA laws to 100% among project proponents by 2030.

In 2025, a total of four (4) Stakeholder Engagement Sessions and one (1) Workshop on the Review and Refinement with Agencies and Industry for the Proposed Amendments to the Environmental Quality Order (Prescribed Activities) (Environmental Impact Assessment) 20XX were held according to the activities listed in **Table 2.3.**

Jadual 2.3: Sesi Libat Urus bersama Agensi dan Industri bagi Cadangan Pindaan Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 20XX, 2025

Table 2.3: Engagement Session with Agencies and Industry for Proposed Amendments to the Environmental Quality Order (Prescribed Activities) (Environmental Impact Assessment) 20XX, 2025

BIL. NO.	TARIKH DATE	SESI LIBAT URUS BAGI CADANGAN PINDAAN PERINTAH KUALITI ALAM SEKELILING (AKTIVITI YANG DITETAPKAN) (PENILAIAN KESAN KEPADA ALAM SEKELILING) 20XX, 2025 ENGAGEMENT SESSION WITH AGENCIES AND INDUSTRY FOR PROPOSED AMENDMENTS TO THE ENVIRONMENTAL QUALITY ORDER (PRESCRIBED ACTIVITIES) (ENVIRONMENTAL IMPACT ASSESSMENT) 20XX, 2025
1.	13 Februari 2025 13 February 2025	Libat Urus bagi Aktiviti 8 (Perlombongan) Jadual Pertama dan Kedua dan Aktiviti 19 (Kuari), Jadual Pertama. Engagement for Activity 8 (Mining) First and Second Schedule, and Activity 19 (Quarry), First Schedule.
2.	25 Mac 2025 25 March 2025	Libat Urus bagi Aktiviti 17, Jadual Kedua (Radioaktif) dan Aktiviti 14, Pengolahan dan Pelupusan Buangan: i. 14(b) Sisa Pepejal; dan ii. 14(c) Kumbahan. Engagement for Activity 17 Second Schedule (Radioactive) and 14, waste treatment and disposal: i. 14(b) Solid Waste; and ii. 14(c) Sewage.
3.	30 April 2025 30 April 2025	Libat Urus bagi Aktiviti berikut: i. 11 (Penjanaan dan Pemancaran Kuasa), Jadual Pertama; ii. 12 (Pembangunan di Kawasan Pantai), Jadual Pertama; iii. 15, (Pengorekan) Jadual Pertama; iv. 21 (Bekalan Air) Jadual Pertama; dan v. 15, (Pembinaan Empangan) Jadual Kedua. Engagement for the following Activities: i. 11 (Power Generation and Transmission), First Schedule; ii. 12 (Development in Coastal Area), First Schedule; iii. 15 (Dredging), First Schedule; iv. 21 (Water Supply), First Schedule; dan v. 15 (Construction of Dam), Second schedule.
4.	08 Mei 2025 08 May 2025	Bengkel Pemurnian Bersama Agensi dan Industri bagi Cadangan Pindaan Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 20XX Workshop With Agencies and Industry for Proposed Amendments to the Environmental Quality Order (Prescribed Activities) (Environmental Impact Assessment) 20XX
5.	21 Mei 2025 21 May 2025	Mesyuarat bersama Malaysia Productivity Corporation (MPC) bagi persediaan kepada penyediaan Laporan Regulatory Impact Statement (RIS) bagi Cadangan Pindaan Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 20XX Meeting with Malaysia Productivity Corporation (MPC) for preparation of the Regulatory Impact Statement (RIS) for Proposed Amendments to the Environmental Quality Order (Prescribed Activities) (Environmental Impact Assessment) 20XX
6.	22 Ogos 2025 22 August 2025	Libat Urus bersama PETRONAS bagi Aktiviti Yang Ditetapkan (AYDT) berkaitan industri petroleum Engagement with PETRONAS for Prescribed Activities related to petroleum industry



Mesyuarat bersama Malaysia Productivity Corporation (MPC) bagi persediaan kepada penyediaan Laporan Regulatory Impact Statement (RIS) bagi Cadangan Pindaan Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 20XX / Meeting with Malaysia Productivity Corporation (MPC) for preparation of the Regulatory Impact Statement (RIS) for Proposed Amendments to the Environmental Quality Order (Prescribed Activities) (Environmental Impact Assessment) 20XX



Bengkel Pemurnian bersama Agensi dan Industri bagi Cadangan Pindaan Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 20XX
Workshop With Agencies and Industry for Proposed Amendments to the Environmental Quality Order (Prescribed Activities) (Environmental Impact Assessment) 20XX

PERBINCANGAN KUMPULAN BERSASAR BAGI PENAMBAHBAIKAN PEMAKAIAN *ENVIRONMENTAL IMPACT ASSESSMENT (EIA) GUIDELINES FOR DEVELOPMENT IN SLOPE AND HILL AREAS*

Jabatan Alam Sekitar (JAS) telah menganjurkan satu Perbincangan Kumpulan Bersasar bagi Penambahbaikan Pemakaian *Environmental Impact Assessment (EIA) Guidelines for Development in Slope and Hill Areas* bertempat di Putrajaya pada 6 November 2025. Penganjuran sesi ini bertujuan untuk menilai semula keberkesanan garis panduan sedia ada serta memperkukuh pelaksanaannya agar lebih selaras dengan dasar, polisi dan panduan terkini berkaitan pengurusan pembangunan di kawasan cerun dan tanah tinggi di peringkat Persekutuan dan Negeri.

Perbincangan memberi penekanan kepada keperluan memperkemas kriteria pemakaian Kajian EIA, skop penilaian teknikal serta kejelasan peranan dan tanggungjawab pihak berkepentingan dalam memastikan pembangunan dilaksanakan secara terkawal dan mampan.

FGD ini melibatkan penyertaan wakil-wakil daripada JAS Negeri serta pelbagai agensi teknikal yang berkaitan secara langsung dengan perancangan dan kawal selia pembangunan di kawasan cerun, antaranya PLANMalaysia, Jabatan Kerajaan Tempatan, Jabatan Kerja Raya (JKR), Jabatan Ukur dan Pemetaan Malaysia (JUPEM) serta Pihak Berkuasa Tempatan (PBT) seperti Majlis Perbandaran Ampang Jaya dan Majlis Bandaraya Pulau Pinang.

FOCUS GROUP DISCUSSION (FGD) ON THE ENHANCEMENT OF THE APPLICATION OF THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA) GUIDELINES FOR DEVELOPMENT IN SLOPE AND HILL AREAS

The Department of Environment (DOE) organised a Focus Group Discussion (FGD) on the Enhancement of the Application of the Environmental Impact Assessment (EIA) Guidelines for Development in Slope and Hill Areas in Putrajaya on 6 November 2025. The session was organised to review the effectiveness of the existing guidelines and to further strengthen their implementation so that they are better aligned with the latest policies, frameworks, and guidance related to development management in slope and hill areas at both the Federal and State levels.

The discussion emphasised the need to refine the criteria for the application of EIA studies, the scope of technical assessments, and the clarity of roles and responsibilities among stakeholders to ensure that development is carried out in a controlled and sustainable manner.

The FGD involved the participation of representatives from State DOE offices as well as various technical agencies directly related to the planning and regulation of development in slope areas. These included PLANMalaysia, Department of Local Government, Public Works Department (JKR), Department of Survey and Mapping Malaysia (JUPEM), as well as Local Authorities such as the Ampang Jaya Municipal Council and the Penang Island City Council.

Inisiatif ini dijangka dapat meningkatkan tahap keselamatan pembangunan, meminimumkan risiko bencana alam, serta menyumbang ke arah pembangunan negara yang lebih lestari, selamat dan seimbang dengan keperluan pemeliharaan alam sekitar, khususnya melibatkan pembangunan di kawasan cerun dan tanah tinggi.

This initiative is expected to enhance development safety, minimise the risks of natural disasters, and contribute towards a more sustainable national development that is balanced with the need for environmental protection, particularly in relation to project located in hilly and highland areas.



Sesi Perbincangan Kumpulan Bersasar Bagi Penambahbaikan Pemakaian Environmental Impact Assessment (EIA) Guidelines for Development in Slope and Hill Areas
Focus Group Discussion (FGD) Session on the Enhancement of the Application of the Environmental Impact Assessment (EIA) Guidelines for Development in Slope and Hill Areas

LAWATAN TEKNIKAL TIMBALAN KETUA PENGARAH (PEMBANGUNAN) JABATAN ALAM SEKITAR KE PROJEK EAST COAST RAIL LINK (ECRL) SEKSYEN 10, KUANTAN, PAHANG

Jabatan Alam Sekitar (JAS) telah mengadakan lawatan teknikal ke Projek ECRL Seksyen 10 di Kuantan, Pahang pada 2 Julai 2025 untuk melihat kemajuan dan pematuhan projek kepada syarat-syarat kelulusan Laporan EIA dan Akta Kualiti Alam Sekeliling 1974.

TECHNICAL VISIT OF DEPUTY DIRECTOR GENERAL (DEVELOPMENT) OF DEPARTMENT OF ENVIRONMENT TO THE EAST COAST RAIL LINK (ECRL) SECTION 10 PROJECT IN KUANTAN, PAHANG

Department of Environment (DOE) held a technical visit to the ECRL Section 10 Project in Kuantan, Pahang on the 2 July 2025 to monitor the progress and the compliance of the project towards the approval conditions of the EIA Report and the Environmental Quality Act 1974.

Lawatan kerja ini telah diketuai oleh YBrs. Tuan Haji Shafe'ee Bin Yasin, Timbalan Ketua Pengarah (Pembangunan) Jabatan Alam Sekitar. Turut serta Pengarah Bahagian Penilaian, Ibu Pejabat, Pengarah JAS Negeri Pahang, pegawai-pegawai JAS daripada Bahagian Penilaian, Ibu Pejabat, JAS Negeri Pahang dan JAS Negeri Terengganu.

Projek ini merupakan salah satu projek berimpak tinggi yang dilaksanakan dalam sektor infrastruktur dan jaringan pengangkutan yang memberi manfaat kepada rakyat. Projek ini dilaksanakan oleh Malaysia Rail Link (MRL) Sdn. Bhd. dan dijangka siap pada hujung tahun 2026.

This technical visit was led by YBrs. Tuan Haji Shafe'ee Bin Yasin, Deputy Director General (Development) of Department of Environment. Also present were the Director of the Assessment Division, Headquarters, Director of Pahang State DOE, DOE officers from the Assessment Division, Headquarters, Pahang State DOE, and Terengganu State DOE.

This project is one of the high-impact projects implemented in the infrastructure and transportation network sector that provides benefits to the public. This project is executed by Malaysia Rail Link (MRL) Sdn. Bhd. and is expected to be completed by the end of 2026.



Penerangan berkaitan pembinaan projek East Coast Rail Link (ECRL) Seksyen 10, Kuantan, Pahang / Explanation regarding the construction of the East Coast Rail Link (ECRL) Section 10 Project in Kuantan, Pahang



Pembentangan daripada Pihak MRL / A Presentation made by MRL



Delegasi Lawatan Teknikal Projek East Coast Rail Link (ECRL) Seksyen 10, Kuantan, Pahang JAS / Delegation to the East Coast Rail Link (ECRL) Section 10 Project in Technical Visit Kuantan, Pahang, DOE.

LAWATAN TEKNIKAL PENGARAH BAHAGIAN PENILAIAN, JAS IBU PEJABAT KE PROJEK RAPID TRANSIT SYSTEM (RTS) LINK JOHOR BAHRU – SINGAPURA

Jabatan Alam Sekitar (JAS) telah mengadakan lawatan teknikal ke Projek Rapid Transit System (RTS) Link Johor Bahru- Singapura pada 18 Februari 2025 untuk melihat kemajuan dan pematuhan projek kepada syarat-syarat kelulusan Laporan EIA dan Akta Kualiti Alam Sekeliling 1974.

Lawatan kerja ini telah diketuai oleh YBrs. Puan Rohimah Binti Ayub Pengarah Bahagian Penilaian, Ibu Pejabat. Turut hadir adalah pegawai-pegawai JAS dari Bahagian Penilaian, Ibu Pejabat dan JAS Negeri Johor.

Projek ini merupakan projek berimpak tinggi yang dilaksanakan dengan tujuan untuk mengurangkan kesesakan dan mempercepatkan tempoh perjalanan di antara Malaysia dan Singapura. Projek ini dilaksanakan oleh pihak Mass Rapid Transit Corporation dan RTS Operation Pte. Ltd.

TECHNICAL VISIT DEPARTMENT OF ENVIRONMENT TO THE RAPID TRANSIT SYSTEM (RTS) LINK JOHOR BAHRU – SINGAPORE PROJECT

Department of Environment (DOE) held a technical visit to the Rapid Transit System (RTS) Link Johor Bahru- Singapore on the 18th of February 2025 to monitor the progress and the compliance of the project towards the approval conditions of the EIA Report and the Environmental Quality Act 1974.

This technical visit was led by YBrs. Puan Rohimah Binti Ayub, Director of the Assessment Division, Headquarters. DOE officers from the Assessment Division, Headquarters and Johor State DOE also present.

This project is a high-impact project implemented with the aim of reducing congestion and shortening travelling time between Malaysia and Singapore. The project is being undertaken by Mass Rapid Transit Corporation (MRT) and RTS Operations Pte. Ltd.(RTSO).



Pegawai Jabatan Alam Sekitar (JAS) bersama MRT dan RTSO
Department of Environment (DOE) Officers with representatives from MRT and RTSO



Delegasi JAS di komponen laluan marin Projek Rapid Transi System (RTS) Link Johor Bahru - SIngapura bersama MRT dan RTSO
DOE delegation at Rapid Transit System (RTS) Link Johor Bahru - Singapore Marine Viaduct Component, Project site areas with MRT and RTSO



Delegasi JAS di atas laluan marin projek Rapid Transit System (RTS) Link Johor Bahru – Singapura
DOE Delegation on the marine viaduct of Rapid Transit System (RTS) Link Johor Bahru – Singapura Project

LAWATAN TEKNIKAL PROJEK EIA BAGI AKTIVITI:

i. PENGOLAHAN DAN PELUPUSAN BUANGAN
ii. INDUSTRI

Jabatan Alam Sekitar (JAS) telah mengadakan lawatan teknikal ke dua (2) cadangan projek EIA di negeri Sarawak iaitu *"Proposed Extension of Secure Landfill at the Kuching Integrated Waste Management Park* (KIWMP), *Trienekens (Sarawak) Sdn. Bhd."* dan cadangan projek *"Proposed Clinker Line 2 Project At Cahya Mata Cement Sdn. Bhd., Mambong, Kuching, Sarawak"* pada 26 Mei 2025 untuk melihat kemajuan dan pematuhan projek kepada syarat-syarat kelulusan Laporan EIA dan Akta Kualiti Alam Sekeliling 1974.

Lawatan kerja ini telah diketuai oleh YBrs. Puan Rohimah Binti Ayub Pengarah Bahagian Penilaian, Ibu Pejabat dan turut dihadiri oleh pegawai-pegawai JAS dari Bahagian Penilaian, Ibu Pejabat dan JAS Negeri Sarawak.

Lawatan teknikal ini bertujuan untuk melihat kemajuan dan pematuhan projek sedia ada kepada syarat-syarat kelulusan Laporan EIA dan Akta Kualiti Alam Sekeliling 1974 di samping melihat potensi impak yang dijangka akan bertambah susulan daripada cadangan penambahan keupayaan kapasiti bagi kedua-dua projek tersebut. Lawatan ini juga menjadi serampang dua mata bagi peningkatan pembangunan modal insan bagi pegawai JAS mendalami proses industri bagi tujuan penilaian EIA.

EIA PROJECT TECHNICAL VISIT FOR ACTIVITIES:

i. WASTE TREATMENT AND DISPOSAL
ii. INDUSTRY

The Department of Environment (DOE) conducted a technical visit to two (2) proposed EIA projects in the state of Sarawak, namely "Proposed Extension of Secure Landfill at the Kuching Integrated Waste Management Park (KIWMP), Trienekens (Sarawak) Sdn. Bhd." and the proposed project "Proposed Clinker Line 2 Project at Cahya Mata Cement Sdn. Bhd., Mambong, Kuching, Sarawak" on 26 May 2025 to assess project progress and compliance with the conditions of the EIA Report approval and the Environmental Quality Act 1974.

This working visit was led by YBrs. Puan Rohimah Binti Ayub, Director of the Assessment Division, Headquarters and was also attended by DOE officers from the Assessment Division, Headquarters, and DOE Sarawak.

This technical visit aimed to see the progress and compliance of existing projects with the conditions for approval of the EIA Report and the Environmental Quality Act 1974 in addition to seeing the potential impact that is expected to increase following the proposed capacity increase for both projects. This visit also served as dual purpose to increase human capital development for DOE officers to gain deeper insights into industrial processes for the purpose of EIA assessment.



Delegasi JAS ke Lawatan Teknikal di Tapak Pelupusan Trienekens Sarawak Sdn. Bhd.
DOE Delegation Technical Visit to Trienekens Sarawak Sdn. Bhd. Landfill





Delegasi JAS ke Lawatan Teknikal di Cahya Mata Cement
DOE Delegation Technical Visit at Cahya Mata Cement

PROGRAM PENGUKUHAN KEMAHIRAN PASUKAN PENYELAM JABATAN ALAM SEKITAR (JAS)

Bahagian Penilaian, Jabatan Alam Sekitar (JAS) telah menganjurkan beberapa program latihan dan pensijilan bagi memperkukuh keupayaan Pasukan Penyelam JAS sepanjang tahun 2025.

Kursus Pengukuhan Pasukan Penyelam JAS telah diadakan di Mersing, Johor dengan penglibatan dua (2) projek EIA yang sedang aktif pembinaan di badan air iaitu di Pulau Besar dan Pulau Pemanggil pada 14 - 16 Mei 2025. Kursus ini telah disertai oleh seramai 19 orang pegawai JAS yang terdiri daripada wakil Ibu Pejabat, Negeri dan Cawangan.

Program Pensijilan Asas dan Lanjutan Pasukan Penyelam JAS telah diadakan pada 15 - 18 Julai 2025 di Pulau Perhentian, Terengganu Darul Iman dengan penyertaan 17 orang pegawai JAS daripada peringkat Ibu Pejabat, Negeri dan Cawangan.

Penganjuran kedua-dua program ini merupakan langkah penting dalam memperkukuh kapasiti dan kepakaran teknikal pegawai JAS, khususnya dalam melaksanakan pemeriksaan projek pembangunan di kawasan badan air. Dengan pendedahan secara langsung di tapak projek serta latihan pensijilan yang komprehensif, kemahiran dan pengetahuan setiap ahli pasukan penyelam JAS dapat dipertingkatkan bagi menghadapi cabaran tugas di lapangan dengan lebih cekap dan berkesan.

SKILLS ENHANCEMENT PROGRAMME FOR THE DEPARTMENT OF ENVIRONMENT (DOE) DIVING TEAM

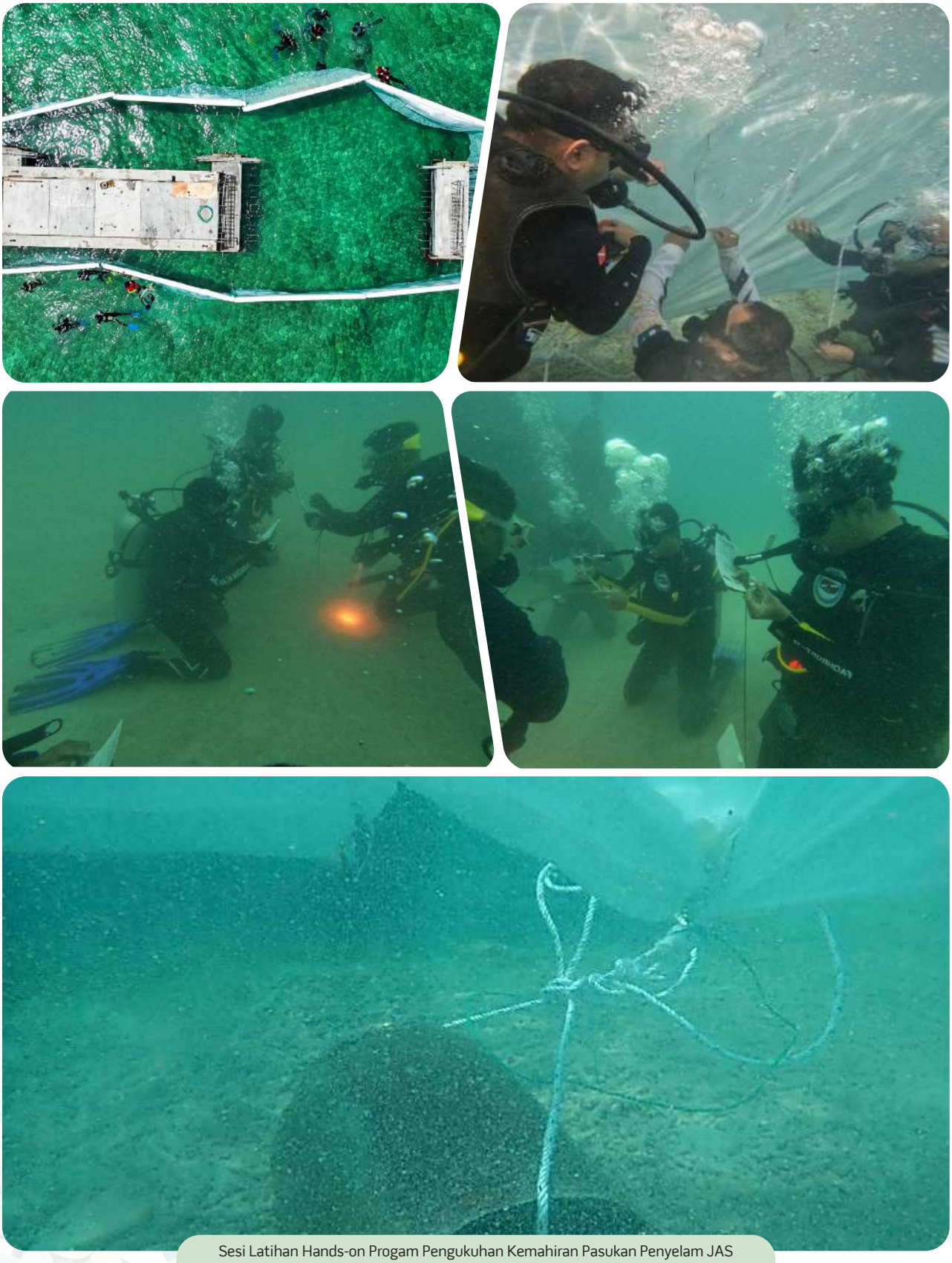
The Assessment Division of the Department of Environment (DOE) Headquarters organised several training and certification programmes in 2025.

DOE Diving Team Strengthening Course was held in Mersing, Johor, involving two (2) EIA projects that were actively under construction in water bodies located at Pulau Besar and Pulau Pemanggil from 14 - 16 May 2025. The course was attended by 19 DOE officers representing the Headquarters, State Offices, and Branch Offices.

Basic and Advanced Certification Programme for the DOE Diving Team was held from 15 - 18 July 2025 at Pulau Perhentian, Terengganu Darul Iman, with the participation of 17 DOE officers from the Headquarters, State Offices, and Branch Offices.

The organisation of these two programmes represents an important step in strengthening the capacity and technical expertise of DOE officers, particularly in conducting inspections of development projects in water bodies. Through direct exposure at project sites and comprehensive certification training, the knowledge and skills of each DOE diving team member can be further enhanced to better address operational challenges in the field.





Sesi Latihan Hands-on Progam Pengukuhan Kemahiran Pasukan Penyelam JAS
Hands-on Training Session for DOE Diver Team Skills Strengthening Programme







Pegawai Jabatan Alam Sekitar yang menjadi Peserta Program Pengukuhan Kemahiran Pasukan Penyelam Jabatan Alam Sekitar (JAS)
Department of Environment Officers who are Participants in the Department of Environment (DOE) Diving Team Skills Strengthening Programme





BAB
CHAPTER

03

PENGAWASAN DAN PENGUATKUASAAN

MONITORING AND ENFORCEMENT

PENGAWASAN DAN PENGUATKUASAAN
Monitoring and Enforcement



672
SUNGAI
River

1,353
STESEN PENGAWASAN
Monitoring Stations

8,118
SAMPEL AIR DINILAI
Water Samples Evaluated

PENGAWASAN KUALITI AIR SUNGAI

Jabatan Alam Sekitar (JAS) meneruskan program pemantauan kualiti air sungai pada tahun 2025 yang merupakan sebahagian daripada Program Pengawasan Kualiti Alam Sekitar atau *Environmental Quality Monitoring Programme* (EQMP). Ia bertujuan untuk menentukan status kualiti air sungai dan mengesan perubahan dalam kualiti air sungai. Sampel air dikumpulkan dari stesen yang ditetapkan untuk in-situ dan analisis makmal bagi menentukan ciri fizikal-kimia dan biologinya.

Indeks Kualiti Air (IKA) digunakan untuk mengukur tahap pencemaran dan kesesuaian jenis guna air seperti yang digariskan di dalam Standard Kualiti Air Kebangsaan (NWQS). NWQS merupakan standard ambien untuk melindungi kepelbagaian biologi akuatik serta digunakan juga sebagai penanda aras untuk penetapan jenis guna air bagi sungai tertentu.

IKA dibahagi kepada tiga (3) kategori iaitu bersih, sederhana tercemar dan tercemar. Indeks ini adalah

RIVER WATER QUALITY MONITORING

The Department of Environment (DOE) continues the river water quality monitoring programme in 2025 which is part of the Environmental Quality Monitoring Programme (EQMP). This initiative aims to determine the status of river water quality and to detect changes in river water quality. Water samples were collected from designated stations for in-situ and laboratory analysis to determine its physical-chemical and biological characteristics.

The Water Quality Index (WQI) is used to indicate the level of pollution and the corresponding suitability in terms of water uses according to the National Water Quality Standards for Malaysia (NWQS). NWQS is an ambient standard to protect aquatic biodiversity and it is also used as benchmark for the setting of uses for certain rivers.

The WQI is divided into three (3) categories of clean, slightly polluted, and polluted. The index is derived

berdasarkan enam (6) parameter Oksigen Terlarut (DO), Permintaan Oksigen Biokimia (BOD), Permintaan Oksigen Kimia (COD), Ammonikal Nitrogen (NH3-N), Pepejal Terampai (SS) dan pH.

Pada tahun 2025, kualiti air sungai dinilai berdasarkan sejumlah 8,118 sampel yang diambil dari sejumlah 1,353 stesen pengawasan kualiti air sungai manual yang merangkumi 672 sungai di seluruh negara seperti dalam **Jadual 3.1**.

based on six (6) parameters, which are Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Ammoniacal Nitrogen (NH3-N), Suspended Solid (SS), and pH.

In 2025, river water quality was assessed based on a total of 8,118 samples taken from a total of 1,353 manual river water quality monitoring stations covering 672 rivers in Malaysia as shown in **Table 3.1**.

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Perlis	Sg. Perlis	Sg. Arau	1RPLS012
		Sg. Arau	1RPLS014
		Sg. Empangan Timah Tasoh	1RPLS015
		Sg. Jarum	1RPLS006
		Sg. Jernih	1RPLS004
		Sg. Jernih	1RPLS005
		Sg. Kok Mak	1RPLS007
		Sg. Korok	1RPLS013
		Sg. Ngulang	1RPLS002
		Sg. Pelarit	1RPLS008
		Sg. Perlis	1RPLS001
		Sg. Serai	1RPLS003
		Sg. Terusan Mada	1RPLS010
		Sg. Terusan Mada	1RPLS011
		Sg. Wang Kelian	1RPLS009
Kedah	Sg. Kedah	Sg. Ahning	1KKDH011
		Sg. Changlun	1KKDH016
		Sg. Janing	1KKDH007
		Sg. Kedah	1KKDH001
		Sg. Napoh	1KKDH017
		Sg. Padang Terap	1KKDH002
		Sg. Padang Terap	1KKDH003
		Sg. Padang Terap	1KKDH004
		Sg. Padang Terap	1KKDH009
		Sg. Padang Terap	1KKDH012
		Sg. Pedu	1KKDH005
		Sg. Pendang	1KKDH008
		Sg. Sintok	1KKDH018
		Sg. Tekai	1KKDH006
		Sg. Temin	1KKDH010
		Sg. Terusan Lengkuas	1KKDH014
		Sg. Terusan Mada Selatan	1KKDH013
		Sg. Terusan Tengah	1KKDH015

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Kedah	Sg. Kerian	Sg. Kerian	1KKER001
	Sg. Kisap	Sg. Kisap	1KKSP001
	Sg. Kuah	Sg. Kuah	1KKUA001
	Sg. Merbok	Sg. Bakar Arang	1KMBK008
		Sg. Batu	1KMBK002
		Sg. Bongkok	1KMBK003
		Sg. Bukit Merah	1KMBK006
		Sg. Bukit Nanas	1KMBK011
	Sg. Merbok	Sg. Korok	1KMBK009
		Sg. Merbok	1KMBK001
		Sg. Petani	1KMBK007
		Sg. Tok Pawang	1KMBK004
		Sg. Tok Pawang	1KMBK005
		Sg. Tupah	1KMBK010
	Sg. Muda	Sg. Chepir	1KMUD012
		Sg. Gunung Inas	1KMUD021
		Sg. Jerong	1KMUD002
		Sg. Jerong	1KMUD003
		Sg. Karangan	1KMUD009
	Sg. Muda	Sg. Ketil	1KMUD007
		Sg. Muda	1KMUD001
		Sg. Muda	1KMUD004
		Sg. Muda	1KMUD005
		Sg. Muda	1KMUD013
		Sg. Muda	1KMUD014
		Sg. Muda	1KMUD015
		Sg. Muda	1KMUD016
		Sg. Muda	1KMUD018
		Sg. Muda	1KMUD019
		Sg. Muda	1KMUD023
		Sg. Muda	1KMUD024
		Sg. Muda	1KMUD025
		Sg. Pegang	1KMUD011
		Sg. Sedim	1KMUD008
		Sg. Sedim	1KMUD017
		Sg. Tawar	1KMUD006
		Sg. Tawar	1KMUD010
		Sg. Tawar	1KMUD020
	Sg. Perai	Sg. Jarak	1KPRI018
		Sg. Jarak	1KPRI019

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Kedah	Sg. Perai	Sg. Jarak	1KPRI024
		Sg. Keladi	1KPRI015
		Sg. Kulim	1KPRI014
		Sg. Kulim	1KPRI016
		Sg. Kulim	1KPRI017
		Sg. Kulim	1KPRI023
		Sg. Kulim	1KPRI025
		Sg. Seluang	1KPRI021
		Sg. Seluang Bawah	1KPRI020
Pulau Pinang	Sg. Ulu Melaka	Sg. Chenang	1KMLK006
		Sg. Melaka	1KMLK002
		Sg. Melaka	1KMLK003
		Sg. Melaka	1KMLK007
		Sg. Petang	1KMLK001
		Sg. Saga	1KMLK004
		Sg. Tuba	1KMLK005
	Sg. Bayan Lepas	Sg. Bayan Lepas	1PBLS003
		Sg. Tiram	1PBLS001
		Sg. Tiram	1PBLS002
	Sg. Jawi	Sg. Chempedak	1PJWI003
		Sg. Jawi	1PJWI001
		Sg. Junjong	1PJWI002
		Sg. Junjong	1PJWI004
		Sg. Junjong	1PJWI006
		Sg. Machang Bubok	1PJWI007
		Sg. Tengah	1PJWI005
	Sg. Juru	Sg. Ara	1PJRU006
		Sg. Juru	1PJRU001
		Sg. Juru	1PJRU012
		Sg. Kilang Ubi	1PJRU002
		Sg. Kilang Ubi	1PJRU003
		Sg. Kilang Ubi	1PJRU009
		Sg. Kilang Ubi	1PJRU010
		Sg. Kilang Ubi	1PJRU011
		Sg. Pasir	1PJRU004
		Sg. Permatang Rawa	1PJRU008
		Sg. Permatang Rawa	1PJRU013
		Sg. Rambai	1PJRU005
		Sg. Rambai	1PJRU007

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Pulau Pinang	Sg. Kerian	Sg. Kechil	1PKER002
		Sg. Kechil	1PKER005
		Sg. Kerian	1PKER003
		Sg. Kerian	1PKER004
		Sg. Kerian	1PKER006
		Sg. Kerian	1PKER009
		Sg. Kerian	1PKER014
		Sg. Serdang	1PKER007
	Sg. Kluang	Sg. Ara	1PKLU002
		Sg. Ara	1PKLU003
	Sg. Kluang	Sg. Dua Besar	1PKLU005
		Sg. Kluang	1PKLU001
		Sg. Relau	1PKLU004
	Sg. Perai	Sg. Air Melintas	1PPRI007
		Sg. Jarak	1PPRI009
		Sg. Jarak	1PPRI011
		Sg. Jarak	1PPRI012
		Sg. Kereh	1PPRI006
		Sg. Kereh	1PPRI008
		Sg. Kereh	1PPRI024
		Sg. Kubang Semang	1PPRI005
		Sg. Perai	1PPRI003
		Sg. Perai	1PPRI004
		Sg. Pertama	1PPRI022
		Sg. Seluang Bawah	1PPRI010
	Sg. Pinang	Sg. Air Itam	1PPNG006
		Sg. Air Itam	1PPNG011
		Sg. Air Itam	1PPNG018
		Sg. Air Terjun	1PPNG019
		Sg. Batu Feringghi	1PPNG001
		Sg. Batu Feringghi	1PPNG002
		Sg. Dondang	1PPNG012
		Sg. Dondang	1PPNG013
		Sg. Dondang	1PPNG014
		Sg. Dondang	1PPNG015
		Sg. Dondang	1PPNG016
		Sg. Dondang	1PPNG017
		Sg. Jelutong	1PPNG010
		Sg. Pinang	1PPNG003
		Sg. Pinang	1PPNG008
		Sg. Pinang	1PPNG021

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Pulau Pinang	Sg. Pinang	Sg. Satu	1PPNG020
		Sg. Titi Kerawang	1PPNG004
Perak	Sg. Bernam	Sg. Bernam	1ABNM001
		Sg. Bernam	1ABNM002
		Sg. Bernam	1ABNM003
		Sg. Bernam	1ABNM004
		Sg. Bernam	1ABNM005
		Sg. Bernam	1ABNM006
		Sg. Gelinting	1ABNM015
		Sg. Inki	1ABNM012
	Sg. Bernam	Sg. Slim	1ABNM007
		Sg. Slim	1ABNM008
		Sg. Slim	1ABNM011
		Sg. Trolak	1ABNM009
		Sg. Trolak	1ABNM010
		Sg. Trolak	1ABNM014
	Sg. Bruas	Sg. Bruas	1ABRU001
		Sg. Bruas	1ABRU004
		Sg. Bruas	1ABRU005
		Sg. Dandang	1ABRU006
		Sg. Licin	1ABRU007
		Sg. Rotan	1ABRU002
		Sg. Rotan	1ABRU003
	Sg. Kerian	Sg. Selama	1AKER011
		Sg. Selama	1AKER012
		Sg. Selama	1AKER016
		Sg. Semang	1AKER013
		Sg. Terusan Bagan Serai	1AKER015
	Sg. Kurau	Sg. Air Hitam	1AKRU007
		Sg. Ara	1AKRU001
		Sg. Ara	1AKRU006
		Sg. Kurau	1AKRU002
		Sg. Kurau	1AKRU003
		Sg. Kurau	1AKRU004
		Sg. Kurau	1AKRU005
	Sg. Perak	Sg. Batang Padang	1APRK003
		Sg. Batang Padang	1APRK006
		Sg. Batang Padang	1APRK009
		Sg. Behrang	1APRK077
		Sg. Berok	1APRK068

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Perak	Sg. Perak	Sg. Bidor	1APRK002
		Sg. Bidor	1APRK004
		Sg. Bidor	1APRK005
		Sg. Chenderiang	1APRK012
		Sg. Chenderiang	1APRK013
		Sg. Chepor	1APRK056
		Sg. Cuar	1APRK046
		Sg. Ibol	1APRK066
		Sg. Kampar	1APRK031
		Sg. Kampar	1APRK032
		Sg. Kangsar	1APRK043
		Sg. Kangsar	1APRK044
		Sg. Kangsar	1APRK079
		Sg. Kepayang	1APRK037
		Sg. Kepayang	1APRK038
		Sg. Kerbau	1APRK064
		Sg. Kerbau	1APRK078
		Sg. Kerdah	1APRK041
		Sg. Kerdah	1APRK053
		Sg. Kinjang	1APRK055
		Sg. Kinta	1APRK019
		Sg. Kinta	1APRK022
		Sg. Kinta	1APRK024
		Sg. Kinta	1APRK025
		Sg. Kinta	1APRK033
		Sg. Kinta	1APRK034
		Sg. Kinta	1APRK057
		Sg. Kinta	1APRK058
		Sg. Kinta	1APRK063
		Sg. Klah	1APRK014
		Sg. Klah	1APRK015
		Sg. Klian Baru	1APRK016
		Sg. Klian Baru	1APRK017
		Sg. Klian Gunong	1APRK081
		Sg. Kuang	1APRK042
		Sg. Manong	1APRK060
		Sg. Nyamok	1APRK052
		Sg. Pari	1APRK023
		Sg. Pari	1APRK028
		Sg. Pelus	1APRK039

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Perak	Sg. Perak	Sg. Pelus	1APRK040
		Sg. Perak	1APRK001
		Sg. Perak	1APRK018
		Sg. Perak	1APRK020
		Sg. Perak	1APRK045
		Sg. Perak	1APRK047
		Sg. Perak	1APRK048
		Sg. Perak	1APRK049
		Sg. Perak	1APRK051
		Sg. Perak	1APRK059
		Sg. Perak	1APRK065
		Sg. Perak	1APRK069
		Sg. Perak	1APRK070
		Sg. Perak	1APRK071
		Sg. Perak	1APRK072
		Sg. Perak	1APRK074
		Sg. Perak	1APRK080
		Sg. Perak	1APRK082
		Sg. Perak	1APRK086
		Sg. Pinji	1APRK021
		Sg. Pinji	1APRK036
		Sg. Pulau	1APRK067
		Sg. Raia	1APRK030
		Sg. Raia	1APRK035
		Sg. Rui	1APRK084
		Sg. Rui	1APRK085
		Sg. Seluang	1APRK050
		Sg. Serokai	1APRK026
		Sg. Serokai	1APRK027
		Sg. Sintang	1APRK054
		Sg. Sungkai	1APRK007
		Sg. Sungkai	1APRK008
		Sg. Sungkai	1APRK073
		Sg. Sungkai	1APRK075
		Sg. Sungkai Mati	1APRK010
		Sg. Sungkai Mati	1APRK011
		Sg. Tapah	1APRK076
		Sg. Teja	1APRK083
		Sg. Tesong	1APRK062
		Sg. Tumboh	1APRK029
		Sg. Woh	1APRK061

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Perak	Sg. Raja Hitam	Sg. Derhaka	1ARHT004
		Sg. Derhaka	1ARHT006
		Sg. Manjong	1ARHT001
		Sg. Manjong	1ARHT002
		Sg. Nyior	1ARHT007
		Sg. Raja Hitam	1ARHT003
		Sg. Raja Hitam	1ARHT005
		Sg. Raja Hitam	1ARHT008
	Sg. Sepetang	Sg. Batu Tegoh	1ASPT006
		Sg. Batu Tegoh	1ASPT007
	Sg. Sepetang	Sg. Batu Tegoh	1ASPT009
		Sg. Batu Tegoh	1ASPT012
		Sg. Batu Tegoh	1ASPT016
		Sg. Jana	1ASPT004
		Sg. Jana	1ASPT013
		Sg. Lidin	1ASPT008
		Sg. Limau	1ASPT014
		Sg. Malai	1ASPT002
		Sg. Malai	1ASPT019
		Sg. Nyior	1ASPT018
		Sg. Nyior	1ASPT020
		Sg. Sepetang	1ASPT001
		Sg. Sepetang	1ASPT003
		Sg. Temerloh	1ASPT010
		Sg. Temerloh	1ASPT011
		Sg. Trong	1ASPT015
		Sg. Trong	1ASPT017
	Sg. Wangi	Sg. Deralik	1AWGI001
		Sg. Deralik	1AWGI002
		Sg. Wangi	1AWGI003
		Sg. Wangi	1AWGI004
Selangor	Sg. Bernam	Sg. Bernam	2BBNM013
		Sg. Bernam	2BBNM016
		Sg. Dusun	2BBNM017
	Sg. Buloh	Sg. Buloh	2BBLH001
		Sg. Buloh	2BBLH002
		Sg. Buloh	2BBLH003
		Sg. Buloh	2BBLH004
		Sg. Buloh	2BBLH005
		Sg. Buloh	2BBLH006

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Selangor	Sg. Klang	Sg. Ampang	2BKLG032
		Sg. Ampang	2BKLG042
		Sg. Anak Air Batu	2BKLG047
		Sg. Batu	2BKLG007
		Sg. Batu	2BKLG036
		Sg. Damansara	2BKLG008
		Sg. Damansara	2BKLG009
		Sg. Damansara	2BKLG017
		Sg. Damansara	2BKLG055
		Sg. Damansara	2BKLG067
	Sg. Klang	Sg. Gombak	2BKLG020
		Sg. Gombak	2BKLG027
		Sg. Jinjang	2BKLG044
		Sg. Kerayong	2BKLG013
		Sg. Kerayong	2BKLG051
		Sg. Keroh	2BKLG030
		Sg. Klang	2BKLG005
		Sg. Klang	2BKLG006
		Sg. Klang	2BKLG016
		Sg. Klang	2BKLG022
		Sg. Klang	2BKLG023
		Sg. Klang	2BKLG024
		Sg. Klang	2BKLG034
		Sg. Klang	2BKLG050
		Sg. Kuyoh	2BKLG011
		Sg. Penchala	2BKLG019
		Sg. Penchala	2BKLG054
		Sg. Pusu	2BKLG021
		Sg. Rasau	2BKLG003
		Sg. Rumput	2BKLG033
		Sg. Semelah	2BKLG025
	Sg. Langat	Sg. Anak Chuau	2BCHU004
		Sg. Balak	2BLGT025
		Sg. Batang Labu	2BLGT028
		Sg. Batang Labu	2BLGT030
		Sg. Batang Labu	2BLGT031
		Sg. Batang Labu	2BLGT032
		Sg. Batang Labu	2BLGT033
		Sg. Batang Labu	2BLGT035
		Sg. Chuau	2BCHU001

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Selangor	Sg. Langat	Sg. Chuau	2BCHU002
		Sg. Langat	2BLGT002
		Sg. Langat	2BLGT003
		Sg. Langat	2BLGT004
		Sg. Langat	2BLGT005
		Sg. Langat	2BLGT006
		Sg. Langat	2BLGT007
		Sg. Langat	2BLGT008
		Sg. Langat	2BLGT026
		Sg. Langat	2BLGT027
		Sg. Limau Manis	2BCHU003
		Sg. Rinching	2BLGT014
		Sg. Rinching	2BLGT015
		Sg. Semenyih	2BLGT010
		Sg. Semenyih	2BLGT011
		Sg. Semenyih	2BLGT012
		Sg. Sering	2BLGT034
	Sg. Selangor	Sg. Air Hitam	2BSEL002
		Sg. Air Hitam	2BSEL024
		Sg. Batang Kali	2BSEL003
		Sg. Guntong	2BSEL021
		Sg. Kanching	2BSEL007
		Sg. Kerling	2BSEL006
		Sg. Kundang	2BSEL012
		Sg. Rangkap	2BSEL016
		Sg. Rawang	2BSEL013
		Sg. Selangor	2BSEL001
		Sg. Selangor	2BSEL004
		Sg. Selangor	2BSEL005
		Sg. Selangor	2BSEL010
		Sg. Selangor	2BSEL011
		Sg. Selangor	2BSEL014
		Sg. Selangor	2BSEL015
		Sg. Selangor	2BSEL017
		Sg. Selangor	2BSEL018
		Sg. Selangor	2BSEL023
		Sg. Sembah	2BSEL009
		Sg. Sembah	2BSEL019
		Sg. Serendah	2BSEL008
		Sg. Sepang	2BSPG001

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Selangor	Sg. Selangor	Sg. Sepang	2BSPG002
		Sg. Sepang	2BSPG003
	Sg. Tengi	Sg. Tengi	2BTGI001
		Sg. Tengi	2BTGI002
		Sg. Tengi	2BTGI003
		Sg. Tengi	2BTGI004
WP Kuala Lumpur	Sg. Klang	Sg. Air Busuk	2WKLG041
		Sg. Batu	2WKLG028
		Sg. Batu	2WKLG056
		Sg. Batu	2WKLG061
		Sg. Belongkong	2WKLG040
		Sg. Bunos	2WKLG006
		Sg. Bunos	2WKLG039
		Sg. Bunos	2WKLG043
		Sg. Gombak	2WKLG018
		Sg. Gombak	2WKLG026
		Sg. Gombak	2WKLG060
		Sg. Jinjang	2WKLG014
		Sg. Jinjang	2WKLG031
		Sg. Jinjang	2WKLG045
		Sg. Kerayong	2WKLG046
		Sg. Kerayong	2WKLG058
		Sg. Keroh	2WKLG015
		Sg. Keroh	2WKLG048
		Sg. Klang	2WKLG001
		Sg. Klang	2WKLG002
		Sg. Klang	2WKLG003
		Sg. Klang	2WKLG004
		Sg. Klang	2WKLG049
		Sg. Kuyoh	2WKLG052
		Sg. Penchala	2WKLG010
		Sg. Toba	2WKLG037
		Sg. Untut	2WKLG038
Negeri Sembilan	Sg. Langat	Sg. Batang Benar	3NLGT013
		Sg. Batang Labu	3NLGT009
		Sg. Batang Labu	3NLGT025
		Sg. Batang Nilai	3NLGT023
		Sg. Batang Nilai	3NLGT024
		Sg. Beranang	3NLGT019
		Sg. Buan	3NLGT022

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Negeri Sembilan	Sg. Langat	Sg. Jijan	3NLGT026
		Sg. Pajam	3NLGT020
		Sg. Pajam	3NLGT021
	Sg. Linggi	Sg. Batang Penar	3NLGI009
		Sg. Batang Penar	3NLGI010
		Sg. Batang Penar	3NLGI020
		Sg. Batang Penar	3NLGI021
		Sg. Batang Penar	3NLGI027
		Sg. Batang Penar	3NLGI034
		Sg. Batu Hampar	3NLGI024
		Sg. Chembong	3NLGI012
	Sg. Linggi	Sg. Empangan Terip	3NLGI022
		Sg. Jelai	3NLGI025
		Sg. Kayu Ara	3NLGI016
		Sg. Kenaboi	3NLGI032
		Sg. Kepayong	3NLGI007
		Sg. Kepayong	3NLGI023
		Sg. Kundur Besar	3NLGI013
		Sg. Linggi	3NLGI001
		Sg. Linggi	3NLGI002
		Sg. Linggi	3NLGI003
		Sg. Linggi	3NLGI004
		Sg. Linggi	3NLGI005
		Sg. Linggi	3NLGI006
		Sg. Muar	3NLGI026
		Sg. Ngoi Ngoi	3NLGI040
		Sg. Paroi	3NLGI018
		Sg. Pedas	3NLGI014
		Sg. Rembau	3NLGI011
		Sg. Senawang	3NLGI017
		Sg. Simin	3NLGI015
		Sg. Temiang	3NLGI019
		Sg. Temiang	3NLGI033
	Sg. Lukut	Sg. Lukut	3NLKT001
	Sg. Melaka	Sg. Dusun	3NMLK017
		Sg. Kemunting	3NMLK039
		Sg. Tampin	3NMLK038
		Sg. Tampin	3NMLK041
	Sg. Muar	Sg. Gemas	3NMUA041
		Sg. Gemencheh	3NMUA043

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Negeri Sembilan	Sg. Muar	Sg. Gemencheh	3NMUA045
		Sg. Jelai	3NMUA054
		Sg. Kelamah	3NMUA044
		Sg. Muar	3NMUA042
		Sg. Muar	3NMUA046
		Sg. Muar	3NMUA047
		Sg. Muar	3NMUA048
		Sg. Muar	3NMUA049
		Sg. Muar	3NMUA050
		Sg. Muar	3NMUA051
		Sg. Muar	3NMUA052
		Sg. Muar	3NMUA053
		Sg. Muar	3NMUA055
	Sg. Pahang	Sg. Pertang	3NPHG002
		Sg. Serting	3NPHG003
		Sg. Serting	3NPHG004
		Sg. Serting	3NPHG005
		Sg. Triang	3NPHG006
	Sg Sepang	Sg. Rambai	2BSPG004
Melaka	Sg. Baru	Sg. Baru	3MBAR001
	Sg. Duyong	Sg. Duyong	3MDYG001
		Sg. Duyong	3MDYG002
		Sg. Duyong	3MDYG003
		Sg. Gapam	3MDYG004
		Sg. Punggur	3MPGR001
		Sg. Punggur	3MPGR002
	Sg. Kesang	Sg. Chin-Chin	3MKSG006
		Sg. Chin-Chin	3MKSG008
		Sg. Chin-Chin	3MKSG009
		Sg. Chohong	3MKSG004
		Sg. Chohong	3MKSG005
		Sg. Kesang	3MKSG001
		Sg. Kesang	3MKSG002
		Sg. Kesang	3MKSG003
		Sg. Tangkak	3MKSG007
	Sg. Linggi	Sg. Simpang Ampat	3MLGI029
		Sg. Siput	3MLGI030
		Sg. Siput	3MLGI031
		Sg. Tuang	3MTUG002

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Melaka	Sg. Melaka	Sg. Batang Melaka	3MMLK008
		Sg. Batang Melaka	3MMLK027
		Sg. Batang Melaka	3MMLK028
		Sg. Durian Tunggal	3MMLK011
		Sg. Malim	3MMLK014
		Sg. Malim	3MMLK034
		Sg. Melaka	3MMLK007
		Sg. Melaka	3MMLK009
		Sg. Melaka	3MMLK010
		Sg. Melaka	3MMLK012
		Sg. Melaka	3MMLK013
		Sg. Melaka	3MMLK015
	Sg. Melaka	Sg. Melaka	3MMLK021
		Sg. Melaka	3MMLK022
		Sg. Melaka	3MMLK023
		Sg. Melaka	3MMLK024
		Sg. Melaka	3MMLK025
		Sg. Melaka	3MMLK026
		Sg. Melaka	3MMLK030
		Sg. Melaka	3MMLK032
		Sg. Putat	3MMLK029
		Sg. Putat	3MMLK033
		Sg. Rembia	3MMLK035
		Sg. Rembia	3MMLK036
		Sg. Tampin	3MMLK031
	Sg. Merlimau	Sg. Merlimau	3MMLU001
		Sg. Merlimau	3MMLU002
		Sg. Merlimau	3MMLU003
		Sg. Merlimau	3MMLU004
		Sg. Merlimau	3MMLU005
	Sg. Seri Melaka	Sg. Air Salak	3MSMK001
		Sg. Seri Melaka	3MSMK002
		Sg. Sg.Udang	3MSUD001
	Sg. Tuang	Sg. Tuang	3MTUG001
Johor	Sg. Air Baloi	Sg. Air Baloi	3JABL001
		Sg. Air Baloi	3JABL002
		Sg. Air Baloi	3JABL003
	Sg. Batu Pahat	Sg. Amran	3JBPT018
		Sg. Bantang	3JBPT020
		Sg. Batu Pahat	3JBPT001

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Johor	Sg. Batu Pahat	Sg. Bekok	3JBPT005
		Sg. Bekok	3JBPT008
		Sg. Bekok	3JBPT016
		Sg. Bekok	3JBPT017
		Sg. Bekok	3JBPT019
		Sg. Bekok	3JBPT023
		Sg. Berlian	3JBPT007
		Sg. Chaah	3JBPT010
		Sg. Kahang	3JBPT022
		Sg. Lenik	3JBPT011
		Sg. Merek	3JBPT009
		Sg. Merpo	3JBPT006
		Sg. Panchor	3JBPT025
		Sg. Semberong	3JBPT003
		Sg. Semberong	3JBPT004
		Sg. Semberong Dam	3JBPT021
		Sg. Simpang Kanan	3JBPT002
		Sg. Simpang Kanan	3JBPT013
		Sg. Simpang Kiri	3JBPT012
		Sg. Simpang Kiri	3JBPT014
		Sg. Simpang Kiri	3JBPT015
		Sg. Temehel	3JBPT024
	Sg. Benut	Sg. Benut	3JBNT001
		Sg. Benut	3JBNT002
		Sg. Benut	3JBNT005
		Sg. Benut	3JBNT006
		Sg. Machap Dam	3JBNT008
		Sg. Parit Hj.Yassin	3JBNT004
		Sg. Pinggan	3JBNT007
		Sg. Ulu Benut	3JBNT003
	Sg. Danga	Sg. Danga	3JDGA001
		Sg. Danga	3JDGA002
	Sg. Endau	Sg. Anak Sg. Semberong	3JEND007
		Sg. Dengar	3JEND010
		Sg. Empangan Labong	3JEND027
		Sg. Endau	3JEND019
		Sg. Endau	3JEND022
		Sg. Endau	3JEND023
		Sg. Jasin	3JEND024
		Sg. Jebong	3JEND005
		Sg. Kahang	3JEND020

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Johor	Sg. Endau	Sg. Kahang	3JEND026
		Sg. Kahang	3JEND028
		Sg. Lenga	3JEND008
		Sg. Lenggor	3JEND009
		Sg. Lenggor	3JEND029
		Sg. Mamai	3JEND015
		Sg. Melatai	3JEND017
		Sg. Mengkibol	3JEND001
		Sg. Mengkibol	3JEND002
		Sg. Mengkibol	3JEND003
		Sg. Paloh	3JEND016
		Sg. Pamol	3JEND011
		Sg. Selai	3JEND025
		Sg. Semberong	3JEND004
		Sg. Semberong	3JEND006
		Sg. Semberong	3JEND012
		Sg. Semberong	3JEND018
		Sg. Semberong	3JEND021
		Sg. Singol	3JEND013
		Sg. Tamok	3JEND014
	Sg. Jemaluang	Sg. Jemaluang	3JJML001
		Sg. Jemaluang	3JJML002
	Sg. Johor	Sg. Anak Sg. Sayong	3JJHR023
		Sg. Anak Sg. Sayong	3JJHR032
		Sg. Belitong	3JJHR038
		Sg. Berangan	3JJHR013
		Sg. Bukit Besar	3JJHR007
		Sg. Bukit Besar	3JJHR009
		Sg. Chemangar	3JJHR019
		Sg. Johor	3JJHR011
		Sg. Johor	3JJHR014
		Sg. Johor	3JJHR015
		Sg. Johor	3JJHR040
		Sg. Johor	3JJHR041
		Sg. Johor	3JJHR042
		Sg. Layang	3JJHR001
		Sg. Layau Kiri	3JJHR017
		Sg. Lebam	3JJHR020
		Sg. Linggiu	3JJHR030
		Sg. Panti	3JJHR037
		Sg. Papan	3JJHR034

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Johor	Sg. Johor	Sg. Pelepah	3JJHR039
		Sg. Pelepah	3JJHR043
		Sg. Pelepah	3JJHR044
		Sg. Pelepah	3JJHR045
		Sg. Penggeli	3JJHR028
		Sg. Penggeli	3JJHR031
		Sg. Remis	3JJHR026
		Sg. Santi	3JJHR022
		Sg. Sayong	3JJHR024
		Sg. Sayong	3JJHR025
		Sg. Sayong	3JJHR027
		Sg. Sayong	3JJHR033
		Sg. Sebol	3JJHR029
		Sg. Seluyut	3JJHR035
		Sg. Semangar	3JJHR008
		Sg. Semenchu	3JJHR018
		Sg. Sening	3JJHR021
		Sg. Serai	3JJHR002
		Sg. Telor	3JJHR012
		Sg. Temoh	3JJHR016
		Sg. Tiram	3JJHR003
		Sg. Tiram	3JJHR004
		Sg. Tiram	3JJHR005
		Sg. Tiram	3JJHR006
	Sg. Kaw. Pasir Gudang	Sg. Buluh	3JPGD002
		Sg. Latoh	3JPGD004
		Sg. Masai	3JPGD005
		Sg. Perembi	3JPGD001
		Sg. Tukang Batu	3JPGD003
	Sg. Kempas	Sg. Kempas	3JKPS001
		Sg. Kempas	3JKPS002
	Sg. Kim-Kim	Sg. Kim-Kim	3JKIM001
		Sg. Kim-Kim	3JKIM002
	Sg. Mersing	Sg. Empangan Congok	3JMSG004
		Sg. Mersing	3JMSG001
		Sg. Mersing	3JMSG002
		Sg. Mersing	3JMSG003
	Sg. Muar	Sg. Air Panas	3JMUA035
		Sg. Belemang	3JMUA051
		Sg. Gemas	3JMUA036
		Sg. Jementah	3JMUA040

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Johor	Sg. Muar	Sg. Juasseh	3JMUA014
		Sg. Juasseh	3JMUA037
		Sg. Juasseh	3JMUA045
		Sg. Labis	3JMUA011
		Sg. Labis	3JMUA012
		Sg. Labis	3JMUA015
		Sg. Meda	3JMUA034
		Sg. Merbudu	3JMUA030
		Sg. Merlimau	3JMUA020
		Sg. Muar	3JMUA017
		Sg. Muar	3JMUA019
		Sg. Muar	3JMUA022
		Sg. Muar	3JMUA026
		Sg. Muar	3JMUA027
		Sg. Muar	3JMUA028
		Sg. Muar	3JMUA029
		Sg. Muar	3JMUA031
		Sg. Muar	3JMUA033
		Sg. Muar	3JMUA039
		Sg. Muar	3JMUA041
		Sg. Muar	3JMUA042
		Sg. Muar	3JMUA043
		Sg. Muar	3JMUA046
		Sg. Muar	3JMUA047
		Sg. P.Mengkuang	3JMUA018
		Sg. Pagoh	3JMUA049
		Sg. Palong	3JMUA024
		Sg. Palong	3JMUA025
		Sg. Pendol	3JMUA050
		Sg. Sarang Buaya	3JMUA038
		Sg. Segamat	3JMUA016
		Sg. Segamat	3JMUA044
		Sg. Segamat	3JMUA048
		Sg. Senarut	3JMUA021
		Sg. Serom	3JMUA032
		Sg. Simpang Loi	3JMUA023
		Sg. Tenang	3JMUA013
	Sg. Paloi	Sg. Paloi	3JPAL001
	Sg. Pontian Besar	Sg. Air Hitam	3JPBS001
		Sg. Ayer Merah	3JPBS005
		Sg. Pontian Besar	3JPBS002

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Johor	Sg. Pontian Besar	Sg. Pontian Besar	3JPBS003
		Sg. Pontian Besar	3JPBS004
		Sg. Pontian Besar	3JPBS006
		Sg. Pontian Besar	3JPBS007
	Sg. Pontian Kecil	Sg. Pontian Kecil	3JPKC001
		Sg. Pontian Kecil	3JPKC002
	Sg. Pulai	Sg. Pulai	3JPLI001
		Sg. Pulai	3JPLI002
		Sg. Pulai Dam	3JPLI004
		Sg. Ulu Choh	3JPLI003
	Sg. Rambah	Sg. Rambah	3JRBH001
		Sg. Rambah	3JRBH002
	Sg. Sanglang	Sg. Sanglang	3JSLG001
	Sg. Sedili Besar	Sg. Ambat	3JSBE005
		Sg. Dohol	3JSBE001
		Sg. Mupur	3JSBE009
		Sg. Pasir Panjang	3JSBE010
		Sg. Sedili Besar	3JSBE002
		Sg. Sedili Besar	3JSBE004
		Sg. Sedili Besar	3JSBE006
		Sg. Sedili Besar	3JSBE007
		Sg. Sedili Besar	3JSBE008
		Sg. Sedili Besar	3JSBE011
		Sg. Temubor Kanan	3JSBE003
	Sg. Sedili Kecil	Sg. Anak Sedili Kecil	3JSKE005
		Sg. Anak Sedili Kecil	3JSKE006
		Sg. Bahan	3JSKE002
		Sg. Bahan	3JSKE004
		Sg. Sedili Kecil	3JSKE001
		Sg. Sedili Kecil	3JSKE003
	Sg. Segget	Sg. Segget	3JSGT001
		Sg. Segget	3JSGT002
		Sg. Segget	3JSGT003
		Sg. Segget	3JSGT004
		Sg. Segget	3JSGT005
	Sg. Skudai	Sg. Melana	3JSKU008
		Sg. Melana	3JSKU009
		Sg. Skudai	3JSKU001
		Sg. Skudai	3JSKU002
		Sg. Skudai	3JSKU003
		Sg. Skudai	3JSKU004

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Johor	Sg. Skudai	Sg. Skudai	3JSKU005
		Sg. Skudai	3JSKU006
		Sg. Skudai	3JSKU007
		Sg. Skudai	3JSKU010
		Sg. Skudai	3JSKU011
	Sg. Tebrau	Sg. Bala	3JTRU008
		Sg. Pandan	3JTRU007
		Sg. Plentong	3JTRU004
		Sg. Sebulung	3JTRU009
		Sg. Sengkuang	3JTRU011
		Sg. Tampoi	3JTRU010
		Sg. Tebrau	3JTRU001
Pahang	Sg. Tebrau	Sg. Tebrau	3JTRU002
		Sg. Tebrau	3JTRU003
		Sg. Tebrau	3JTRU005
		Sg. Tebrau	3JTRU006
	Sg. Anak Endau	Sg. Anak Endau	4CAED001
		Sg. Anak Endau	4CAED002
	Sg. Balok	Sg. Balok	4CBLK001
		Sg. Balok	4CBLK002
		Sg. Panjang	4CBLK004
		Sg. Yior	4CBLK003
	Sg. Bebar	Sg. Bebar	4CBBR001
		Sg. Bebar	4CBBR002
		Sg. Merba	4CBBR005
		Sg. Serai	4CBBR003
		Sg. Serai	4CBBR004
	Sg. Cherating	Sg. Cherating	4CCHE001
	Sg. Kuantan	Sg. Belat	4CKTN001
		Sg. Charu	4CKTN006
		Sg. Galing Besar	4CKTN003
		Sg. Galing Besar	4CKTN004
		Sg. Kenau	4CKTN010
		Sg. Kuantan	4CKTN002
		Sg. Kuantan	4CKTN015
		Sg. Kuantan	4CKTN016
		Sg. Kuantan	4CKTN017
		Sg. Kuantan	4CKTN018
		Sg. Kuantan	4CKTN019
		Sg. Kuantan	4CKTN020
		Sg. Kuantan	4CKTN021

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Pahang	Sg. Kuantan	Sg. Pandan	4CKTN012
		Sg. Pinang	4CKTN005
		Sg. Reman	4CKTN014
		Sg. Riau	4CKTN007
		Sg. Talam	4CKTN013
	Sg. Merchong	Sg. Merchong	4CMCO002
		Sg. Merchong	4CMCO003
	Sg. Pahang	Sg. Anak Sg. Lepar	4CPHG136
		Sg. Batu	4CPHG056
		Sg. Belayar	4CPHG135
		Sg. Bentong	4CPHG040
		Sg. Bentong	4CPHG045
	Sg. Pahang	Sg. Bentong	4CPHG092
		Sg. Bentong	4CPHG133
		Sg. Bentong	4CPHG134
		Sg. Bentong	4CPHG144
		Sg. Benus	4CPHG047
		Sg. Benus	4CPHG118
		Sg. Benus	4CPHG152
		Sg. Bera	4CPHG019
		Sg. Bera	4CPHG020
		Sg. Bera	4CPHG058
		Sg. Bera	4CPHG059
		Sg. Bera	4CPHG063
		Sg. Berkelah	4CPHG098
		Sg. Bertam	4CBTM002
		Sg. Bertam	4CBTM010
		Sg. Bertam	4CBTM011
		Sg. Bertam	4CBTM013
		Sg. Bilut	4CPHG119
		Sg. Bilut	4CPHG129
		Sg. Burung	4CBTM005
		Sg. Chini	4CPHG004
		Sg. Gapoi	4CPHG086
		Sg. Habu	4CBTM004
		Sg. Jelai	4CPHG0130
		Sg. Jelai	4CPHG096
		Sg. Jelai	4CPHG125
		Sg. Jempol	4CPHG049
		Sg. Jempol	4CPHG050
		Sg. Jempol	4CPHG087

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Pahang	Sg. Pahang	Sg. Jempol	4CPHG088
		Sg. Jempol	4CPHG121
		Sg. Jengka	4CPHG041
		Sg. Jengka	4CPHG051
		Sg. Kecau	4CPHG091
		Sg. Kecau	4CPHG116
		Sg. Kecau	4CPHG151
		Sg. Kelau	4CPHG117
		Sg. Kelau	4CPHG145
		Sg. Kelau	4CPHG146
		Sg. Kelau	4CPHG153
		Sg. Kertam	4CPHG014
		Sg. Koyan	4CPHG033
		Sg. Krau	4CPHG003
		Sg. Kundang	4CPHG018
		Sg. Lenggok	4CBTM003
		Sg. Lepar	4CPHG006
		Sg. Lipis	4CPHG029
		Sg. Lipis	4CPHG030
		Sg. Lipis	4CPHG035
		Sg. Luit	4CPHG015
		Sg. Maran	4CPHG016
		Sg. Mentiga	4CPHG005
		Sg. Mentiga	4CPHG042
		Sg. Mentiga	4CPHG089
		Sg. Pahang	4CPHG007
		Sg. Pahang	4CPHG008
		Sg. Pahang	4CPHG010
		Sg. Pahang	4CPHG011
		Sg. Pahang	4CPHG012
		Sg. Pahang	4CPHG013
		Sg. Pahang	4CPHG021
		Sg. Pahang	4CPHG022
		Sg. Pahang	4CPHG023
		Sg. Pahang	4CPHG027
		Sg. Pahang	4CPHG054
		Sg. Pahang	4CPHG055
		Sg. Pahang	4CPHG097
		Sg. Pahang	4CPHG100
		Sg. Pahang	4CPHG104
		Sg. Pahang	4CPHG111

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Pahang	Sg. Pahang	Sg. Pahang	4CPHG113
		Sg. Pahang	4CPHG124
		Sg. Pahang	4CPHG126
		Sg. Pahang	4CPHG127
		Sg. Pahang	4CPHG131
		Sg. Pahang	4CPHG137
		Sg. Pahang	4CPHG138
		Sg. Pahang	4CPHG139
		Sg. Pahang	4CPHG141
		Sg. Pahang	4CPHG148
		Sg. Pahang	4CPHG150
		Sg. Penjuring	4CPHG044
		Sg. Pertang	4CPHG132
		Sg. Perting	4CPHG120
		Sg. Raub	4CPHG123
		Sg. Retang	4CPHG105
		Sg. Ringlet	4CBTM001
		Sg. Salak	4CPHG122
		Sg. Semantan	4CPHG025
		Sg. Semantan	4CPHG036
		Sg. Semantan	4CPHG061
		Sg. Semantan	4CPHG084
		Sg. Serting	4CPHG101
		Sg. Serting	4CPHG102
		Sg. T. Paya Bungor	4CPHG002
		Sg. Tahan	4CPHG109
		Sg. Tanglir	4CPHG048
		Sg. Tanglir	4CPHG053
		Sg. Tanglir	4CPHG057
		Sg. Tanglir	4CPHG106
		Sg. Tanglir	4CPHG107
		Sg. Tasik Bera	4CPHG140
		Sg. Tasik Chini	4CPHG043
		Sg. Tasik Chini	4CPHG060
		Sg. Tasik Chini	4CPHG071
		Sg. Tasik Chini	4CPHG108
		Sg. Tasik Chini	4CPHG110
		Sg. Tasik Chini	4CPHG112
		Sg. Tasik Chini	4CPHG114
		Sg. Tasik Chini	4CPHG115
		Sg. Tasik Chini	4CPHG130

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Pahang	Sg. Pahang	Sg. Tasik Chini	4CPHG143
		Sg. Teh	4CPHG090
		Sg. Tekal	4CPHG062
		Sg. Telang	4CPHG032
		Sg. Telemong	4CPHG046
		Sg. Telemong	4CPHG093
		Sg. Telemong	4CPHG094
		Sg. Telom	4CBTM008
		Sg. Telom	4CBTM009
		Sg. Tembeling	4CPHG142
		Sg. Teranum	4CPHG038
		Sg. Teras	4CPHG037
		Sg. Teras	4CPHG147
		Sg. Teris	4CPHG081
		Sg. Teris	4CPHG082
		Sg. Teris	4CPHG083
		Sg. Terla	4CBTM007
		Sg. Terla	4CBTM012
		Sg. Triang	4CPHG024
		Sg. Triang	4CPHG074
		Sg. Tringkap	4CBTM006
		Sg. Ulong	4CBTM014
	Sg. Rompin	Sg. Aur	4CRPN005
		Sg. Bakar	4CRPN016
		Sg. Jekatih	4CRPN012
		Sg. Jekatih	4CRPN013
		Sg. Jeram	4CRPN006
		Sg. Kepasing	4CRPN010
		Sg. Keratong	4CRPN011
		Sg. Keratong	4CRPN018
		Sg. Keratong	4CRPN021
		Sg. Keratong	4CRPN022
		Sg. Pontian	4CRPN003
		Sg. Pukin	4CRPN014
		Sg. Pukin	4CRPN015
		Sg. Pukin	4CRPN017
		Sg. Rompin	4CRPN004
		Sg. Rompin	4CRPN007
		Sg. Rompin	4CRPN008
		Sg. Rompin	4CRPN020
		Sg. Rompin	4CRPN030

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Pahang	Sg. Rompin	Sg. Sepayang	4CRPN002
	Sg. Tonggok	Sg. Tonggok	4CTGK001
		Sg. Tonggok	4CTGK002
Terengganu	Sg. Besut	Sg. Besut	4TBST002
		Sg. Besut	4TBST003
		Sg. Besut	4TBST004
		Sg. Besut	4TBST005
		Sg. Besut	4TBST006
		Sg. Jertih	4TBST001
	Sg. Chukai	Sg. Bungkus	4TCKI006
		Sg. Chukai	4TCKI003
		Sg. Ibok	4TCKI001
		Sg. Ibok	4TCKI002
		Sg. Ruang	4TCKI004
		Sg. Ruang	4TCKI005
	Sg. Dungun	Sg. Dungun	4TDGN002
		Sg. Dungun	4TDGN003
		Sg. Dungun	4TDGN004
		Sg. Dungun	4TDGN005
		Sg. Dungun	4TDGN006
		Sg. Telemboh	4TDGN001
	Sg. Ibai	Sg. Ibai	4TIBI001
		Sg. Ibai	4TIBI002
		Sg. Ibai	4TIBI003
	Sg. Kemaman	Sg. Cherul	4TKMM003
		Sg. Cherul	4TKMM004
		Sg. Cherul	4TKMM010
		Sg. Kemaman	4TKMM007
		Sg. Kemaman	4TKMM008
		Sg. Kemaman	4TKMM009
		Sg. Neram	4TKMM005
		Sg. Perasing	4TKMM006
		Sg. Ransan	4TKMM001
		Sg. Ransan	4TKMM002
	Sg. Kertih	Sg. Kertih	4TKTH001
		Sg. Kertih	4TKTH002
	Sg. Kluang	Sg. Kluang	4TKLU005
	Sg. Marang	Sg. Kerak	4TMRG001
		Sg. Marang	4TMRG002
		Sg. Temala	4TMRG003
	Sg. Merang	Sg. Merang	4TMER001

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Terengganu	Sg. Merchang	Sg. Landas	4TMCA001
		Sg. Merchang	4TMCA002
	Sg. Paka	Sg. Besul	4TPKA001
		Sg. Paka	4TPKA005
		Sg. Paka	4TPKA006
		Sg. Paka	4TPKA007
		Sg. Rasau	4TPKA003
		Sg. Rasau	4TPKA004
		Sg. Rengat	4TPKA002
	Sg. Setiu	Sg. Bari	4TSTU002
		Sg. Chalok	4TSTU001
	Sg. Setiu	Sg. Chalok	4TSTU005
		Sg. Chalok	4TSTU006
		Sg. Setiu	4TSTU004
		Sg. Setiu	4TSTU007
		Sg. Tarom	4TSTU003
	Sg. Terengganu	Sg. Berang	4TTGG002
		Sg. Berang	4TTGG011
		Sg. Nerus	4TTGG004
		Sg. Nerus	4TTGG005
		Sg. Nerus	4TTGG006
		Sg. Nerus	4TTGG010
		Sg. Nerus	4TTGG014
		Sg. Nerus	4TTGG015
		Sg. Pueh	4TTGG007
		Sg. Pueh	4TTGG008
		Sg. Telemong	4TTGG012
		Sg. Terengganu	4TTGG001
		Sg. Terengganu	4TTGG003
		Sg. Terengganu	4TTGG009
		Sg. Terengganu	4TTGG013
Kelantan	Sg. Golok	Sg. Golok	4DGLK002
		Sg. Golok	4DGLK003
		Sg. Golok	4DGLK004
		Sg. Golok	4DGLK005
		Sg. Golok	4DGLK006
		Sg. Jedok	4DGLK008
		Sg. Lanas	4DGLK007
		Sg. Tasik Garu	4DGLK001
	Sg. Kelantan	Sg. Aring	4DKLT013
		Sg. Belatop	4DKLT020

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Kelantan	Sg. Kelantan	Sg. Belatop	4DKLT021
		Sg. Belatop	4DKLT046
		Sg. Ber	4DKLT018
		Sg. Berok	4DKLT016
		Sg. Berok	4DKLT019
		Sg. Berok	4DKLT022
		Sg. Betis	4DKLT017
		Sg. Chiku	4DKLT037
		Sg. Chiku	4DKLT043
		Sg. Galas	4DKLT014
		Sg. Galas	4DKLT031
		Sg. Galas	4DKLT032
		Sg. Galas	4DKLT033
		Sg. Galas	4DKLT034
		Sg. Isos	4DKLT049
		Sg. Kelantan	4DKLT001
		Sg. Kelantan	4DKLT006
		Sg. Kelantan	4DKLT010
		Sg. Kelantan	4DKLT045
		Sg. Kelantan	4DKLT054
		Sg. Kelantan	4DKLT055
		Sg. Kelantan	4DKLT056
		Sg. Kelesa	4DKLT015
		Sg. Kenkren	4DKLT047
		Sg. Kerilla	4DKLT002
		Sg. Kerilla	4DKLT003
		Sg. Ketil	4DKLT036
		Sg. Ketil	4DKLT053
		Sg. Lebir	4DKLT026
		Sg. Lebir	4DKLT027
		Sg. Lebir	4DKLT028
		Sg. Lebir	4DKLT029
		Sg. Lebir	4DKLT058
		Sg. Muring	4DKLT059
		Sg. Nal	4DKLT007
		Sg. Nal	4DKLT008
		Sg. Nal	4DKLT009
		Sg. Nenggiri	4DKLT023
		Sg. Nenggiri	4DKLT024
		Sg. Nenggiri	4DKLT025
		Sg. Pehi	4DKLT011

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Kelantan	Sg. Kelantan	Sg. Pehi	4DKLT044
		Sg. Pelaur	4DKLT048
		Sg. Penangau	4DKLT050
		Sg. Pergau	4DKLT004
		Sg. Pergau	4DKLT005
		Sg. Pergau	4DKLT038
		Sg. Pergau	4DKLT039
		Sg. Pergau	4DKLT040
		Sg. Pergau	4DKLT041
		Sg. Pergau	4DKLT051
		Sg. Pergau	4DKLT052
		Sg. Rasau	4DKLT061
		Sg. Relai	4DKLT012
		Sg. Relai	4DKLT030
		Sg. Sokor	4DKLT042
		Sg. Tuang	4DKLT035
	Sg. Kemasin	Sg. Gali	4DKMS006
		Sg. Kemasin	4DKMS001
		Sg. Kemasin	4DKMS003
		Sg. Semerak	4DKMS002
		Sg. Semerak	4DKMS004
		Sg. Semerak	4DKMS005
	Sg. Pengkalan Chepa	Sg. Alor B	4DPCH003
		Sg. Alor Lintah	4DPCH004
		Sg. Keladi	4DPCH002
		Sg. Pengkalan Chepa	4DPCH005
		Sg. Pengkalan Chepa	4DPCH006
		Sg. Raja Gali	4DPCH001
	Sg. Pengkalan Datu	Sg. Pasir Hor	4DPDT004
		Sg. Pengkalan Datu	4DPDT001
		Sg. Pengkalan Datu	4DPDT002
		Sg. Pengkalan Datu	4DPDT003
Sarawak	Sg. Balingian	Sg. Balingian	6QBLG001
		Sg. Balingian	6QBLG002
	Sg. Baram	Sg. Baram	6QBRM001
		Sg. Baram	6QBRM002
		Sg. Baram	6QBRM003
		Sg. Baram	6QBRM004
		Sg. Tutuh	6QBRM005
	Sg. Kayan	Sg. Kayan	6QKYN001
		Sg. Kayan	6QKYN002

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Sarawak	Sg. Kayan	Sg. Kayan	6QKYN003
	Sg. Kemena	Sg. Kemena	6QKMN001
		Sg. Kemena	6QKMN002
		Sg. Kemena	6QKMN003
		Sg. Kemena	6QKMN004
		Sg. Sibiu	6QKMN005
	Sg. Kerian	Sg. Kerian	6QKRN014
		Sg. Kerian	6QKRN015
		Sg. Seblak	6QKRN016
		Sg. Selalang	6QKRN017
	Sg. Lawas	Sg. Lawas	6QLWS001
		Sg. Lawas	6QLWS002
		Sg. Lawas	6QLWS003
	Sg. Limbang	Sg. Limbang	6QLBG001
		Sg. Limbang	6QLBG002
		Sg. Limbang	6QLBG003
		Sg. Limbang	6QLBG004
		Sg. Limbang	6QLBG005
	Sg. Lupar	Sg. Ai	6QLPR001
		Sg. Ai	6QLPR002
		Sg. Lupar	6QLPR003
		Sg. Lupar	6QLPR004
		Sg. Lupar	6QLPR005
		Sg. Sekerang	6QLPR006
		Sg. Seterap	6QLPR007
		Sg. Undup	6QLPR008
	Sg. Miri	Sg. Adong	6QMRI001
		Sg. Dalam	6QMRI002
		Sg. Lutong	6QMRI003
		Sg. Lutong	6QMRI004
		Sg. Miri	6QMRI005
		Sg. Miri	6QMRI006
		Sg. Padang Liku	6QMRI007
	Sg. Mukah	Sg. Mukah	6QMKH001
		Sg. Mukah	6QMKH002
		Sg. Mukah	6QMKH003
		Sg. Mukah	6QMKH004
		Sg. Mukah	6QMKH005
	Sg. Niah	Sg. Niah	6QNIA001
		Sg. Niah	6QNIA002
		Sg. Sekaloh	6QNIA003

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Sarawak	Sg. Niah	Sg. Sekaloh	6QNIA004
	Sg. Oya	Sg. Oya	6QOYA001
		Sg. Oya	6QOYA002
		Sg. Oya	6QOYA003
	Sg. Rajang	Sg. Baloi	6QRJG019
		Sg. Binatang	6QRJG004
		Sg. Daro	6QRJG021
		Sg. Jemoreng	6QRJG022
		Sg. Julau	6QRJG005
		Sg. Kanowit	6QRJG006
		Sg. Meradong	6QRJG003
		Sg. Pakan	6QRJG020
		Sg. Pila Parit	6QRJG023
		Sg. Rajang	6QRJG008
		Sg. Rajang	6QRJG009
		Sg. Rajang	6QRJG010
		Sg. Rajang	6QRJG011
		Sg. Rajang	6QRJG012
		Sg. Rajang	6QRJG013
		Sg. Rajang	6QRJG014
		Sg. Rajang	6QRJG015
		Sg. Rajang	6QRJG016
		Sg. Rajang	6QRJG017
		Sg. Rajang	6QRJG018
		Sg. Salim	6QRJG007
		Sg. Sarikei	6QRJG001
		Sg. Sarikei	6QRJG002
	Sg. Sadong	Sg. Karangan	6QSDG001
		Sg. Karangan	6QSDG002
		Sg. Sadong	6QSDG003
		Sg. Sadong	6QSDG004
		Sg. Sadong	6QSDG005
		Sg. Sadong	6QSDG006
		Sg. Tarat	6QSDG007
	Sg. Sarawak	Sg. Kelantan	6QSWK017
		Sg. Kuap	6QSWK009
		Sg. Kuap	6QSWK010
		Sg. Maong Kiri	6QSWK011
		Sg. Samarahan	6QSWK013
		Sg. Samarahan	6QSWK014
		Sg. Sarawak	6QSWK001

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Sarawak	Sg. Sarawak	Sg. Sarawak	6QSWK003
		Sg. Sarawak	6QSWK004
		Sg. Sarawak	6QSWK006
		Sg. Sarawak	6QSWK007
		Sg. Sarawak	6QSWK008
		Sg. Sarawak Kanan	6QSWK002
		Sg. Sarawak Kiri	6QSWK005
		Sg. Semadang	6QSWK016
		Sg. Semenggoh	6QSWK012
		Sg. Tabuan	6QSWK015
		Sg. Tapah	6QSWK018
	Sg. Saribas	Sg. Layar	6QSRB002
		Sg. Layar	6QSRB003
		Sg. Saribas	6QSRB001
	Sg. Semunsam	Sg. Semunsam	6QSMS001
	Sg. Sibuti	Sg. Kabuloh	6QSBT001
		Sg. Kabuloh	6QSBT002
		Sg. Kejapil	6QSBT003
		Sg. Satap	6QSBT004
		Sg. Sibuti	6QSBT005
		Sg. Sibuti	6QSBT006
	Sg. Similajau	Sg. Similajau	6QSML001
		Sg. Similajau	6QSML002
	Sg. Suai	Sg. Suai	6QSUA001
	Sg. Tatau	Sg. Tatau	6QTTU001
	Sg. Trusan	Sg. Trusan	6QTSN001
Sabah	Sg. Apas	Sg. Apas	5SAPS001
	Sg. Balung	Sg. Balung	5SBLU001
	Sg. Bengkoka	Sg. Bengkoka	5SBKK001
		Sg. Bengkoka	5SBKK002
	Sg. Bingkongan	Sg. Bandau	5SBKG001
		Sg. Bingkongan	5SBKG005
		Sg. Bingkongan	5SBKG006
		Sg. Menggaris	5SBKG002
		Sg. Menggaris	5SBKG003
		Sg. Tandek	5SBKG004
	Sg. Bongawan	Sg. Bongawan	5SBGW001
	Sg. Brantian	Sg. Brantian	5SBTN001
	Sg. Kalabakan	Sg. Kalabakan	5SKBK001
		Sg. Kalabakan	5SKBK002
		Sg. Kalabakan	5SKBK003

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Sabah	Sg. Kalumpang	Sg. Kalumpang	5SKLP001
		Sg. Kalumpang	5SKLP002
		Sg. Kalumpang	5SKLP003
		Sg. Pang Burong 1	5SKLP004
		Sg. Pang Burong 2	5SKLP005
	Sg. Kedamaian	Sg. Kedamaian	5SKDI004
		Sg. Tempasuk	5SKDI001
		Sg. Tempasuk	5SKDI002
		Sg. Wariu	5SKDI003
	Sg. Kimanis	Sg. Kimanis	5SKMA001
	Sg. Kinabatangan	Sg. Karamuak	5SKBT006
		Sg. Kinabatangan	5SKBT001
		Sg. Kinabatangan	5SKBT002
		Sg. Kinabatangan	5SKBT004
		Sg. Kinabatangan	5SKBT005
		Sg. Koyah	5SKBT003
		Sg. Leepang	5SKBT009
		Sg. Menanggul	5SKBT008
		Sg. Pin	5SKBT010
		Sg. Takala	5SKBT007
	Sg. Labok	Sg. Kinipir	5SLBK001
		Sg. Kinipir	5SLBK002
		Sg. Labok	5SLBK006
		Sg. Liwagu	5SLBK003
		Sg. Liwagu	5SLBK004
		Sg. Maliau	5SLBK005
		Sg. Tungud	5SLBK007
	Sg. Lakutan	Sg. Lakutan	5SLKT001
	Sg. Likas	Sg. Darau	5SLKS008
		Sg. Inanam	5SLKS001
		Sg. Inanam	5SLKS002
		Sg. Inanam	5SLKS003
		Sg. Likas	5SLKS004
		Sg. Likas	5SLKS005
		Sg. Menggatal	5SLKS006
		Sg. Menggatal	5SLKS007
	Sg. Lingkungan	Sg. Bukau	5SLKG002
		Sg. Lingkungan	5SLKG001
	Sg. Membakut	Sg. Membakut	5SMBT001
	Sg. Menggalong	Sg. Menggalong	5SMGL001
		Sg. Menggalong	5SMGL002

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Sabah	Sg. Merotai	Sg. Merotai	5SMRT001
		Sg. Merotai	5SMRT002
		Sg. Merotai	5SMRT003
	Sg. Mounad	Sg. Mounad	5SMND001
		Sg. Mounad	5SMND002
	Sg. Moyog	Sg. Moyog	5SMYG001
		Sg. Moyog	5SMYG002
		Sg. Moyog	5SMYG003
		Sg. Moyog	5SMYG004
	Sg. Padas	Sg. Bunsit	5SPDS001
	Sg. Padas	Sg. Liawan	5SPDS002
		Sg. Padas	5SPDS003
		Sg. Padas	5SPDS004
		Sg. Padas	5SPDS005
		Sg. Padas	5SPDS011
		Sg. Pangatan	5SPDS006
		Sg. Pegalan	5SPDS008
		Sg. Pegalan	5SPDS009
		Sg. Pegalan	5SPDS010
		Sg. Tandulu	5SPDS007
	Sg. Paitan	Sg. Paitan	5SPTN001
	Sg. Papar	Sg. Papar	5SPPR001
		Sg. Papar	5SPPR002
		Sg. Papar	5SPPR003
		Sg. Papar	5SPPR004
		Sg. Papar	5SPPR005
	Sg. Sapi	Sg. Sapi	5SSAP002
		Sg. Sapi	5SSAP003
		Sg. Sapi	5SSAP004
		Sg. Sualong	5SSAP001
	Sg. Segaliud	Sg. Segaliud	5SSLD001
		Sg. Segaliud	5SSLD002
	Sg. Segama	Sg. Segama	5SSGM001
		Sg. Segama	5SSGM002
		Sg. Segama	5SSGM003
	Sg. Sembulan	Sg. Sembulan	5SSBL001
		Sg. Sembulan	5SSBL002
	Sg. Silabukan	Sg. Silabukan	5SSBK001
		Sg. Silabukan	5SSBK002

Jadual 3.1: Senarai Lembangan Sungai dan Sungai-Sungai yang Dipantau Mengikut Stesen, 2025
Table 3.1: List of the Catchments and Rivers Monitored by Station, 2025

NEGERI/ STATE	LEMBANGAN/ BASIN	SUNGAI/ RIVER	NOMBOR STESEN/ STATION NUMBER
Sabah	Sg. Sugut	Sg. Bongkud	5SSUG001
		Sg. Lohan	5SSUG002
		Sg. Merali	5SSUG003
		Sg. Sugut	5SSUG004
		Sg. Sugut	5SSUG005
		Sg. Sugut	5SSUG006
	Sg. Tawau	Sg. Tawau	5STWU001
		Sg. Tawau	5STWU002
		Sg. Tawau	5STWU003
		Sg. Tawau	5STWU004
	Sg. Telipok	Sg. Telipok	5STLP001
		Sg. Telipok	5STLP002
	Sg. Tenghilan	Sg. Tenghilan	5STHL001
	Sg. Tingkayu	Sg. Tingkayu	5STKY001
		Sg. Tingkayu	5STKY002
	Sg. Tuaran	Sg. Damit	5STUA001
		Sg. Damit	5STUA002
		Sg. Song Sai	5STUA003
		Sg. Tuaran	5STUA004
		Sg. Tuaran	5STUA005
	Sg. Tungku	Sg. Tungku	5STKU001
		Sg. Tungku	5STKU002
	Sg. Umas-Umas	Sg. Umas-Umas	5SUSM001

Sejumlah 55 stesen daripada rangkaian stesen pengawasan kualiti air sungai tersebut adalah khusus bagi memantau kualiti air sungai di hulu muka sauk yang terpilih seperti dalam **Jadual 3.2**. Persampelan kualiti air sungai dijalankan secara berjadual dan mengikut kekerapan yang telah ditetapkan iaitu enam (6) kali setahun. Parameter-parameter kualiti air yang diukur merangkumi parameter fizikal, kimia dan biologikal seperti **Jadual 3.3**.

55 stations from the network are specifically for the purpose of monitoring river water quality at upstream of selected water intakes for water supply facilities as listed in **Table 3.2**. River water quality sampling is conducted on a scheduled basis and at a prescribed frequency of six (6) times per year. The water quality parameters measured include physical, chemical, and biological parameters, as shown in **Table 3.3**.

Jadual 3.2: Stesen Pengawasan Kualiti Air Sungai di Hulu Muka Sauk
Table 3.2: River Water Quality Monitoring Station of Upstream Water Intake

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STATION ID/ ID STATION	MUKA SAUK/ WATER INTAKE
Perlis	Sg. Perlis	Sg. Terusan Mada	1RPLS010	Loji Rawatan Air Arau Fasa IV
		Sg. Terusan Mada	1RPLS011	Loji Rawatan Air TTPC, Sg. Baru
Kedah	Sg. Ulu Melaka	Sg. Melaka	1KMLK003	Ulu Melaka
		Sg. Saga	1KMLK004	Padang Saga
	Sg. Kedah	Sg. Ahning	1KKDH011	Padang Sanai
		Sg. Padang Terap	1KKDH012	Kuala Nerang
		Sg. Temin	1KKDH010	Changloon
	Sg. Muda	Sg. Muda	1KMUD014	Jeneri
		Sg. Muda	1KMUD015	Jeniang
		Sg. Muda	1KMUD016	Bukit Selambau
		Sg. Muda	1KMUD018	Pinang Tunggal
		Sg. Muda	1KMUD019	Nami
		Sg. Sedim	1KMUD017	Bikan
P.Pinang	Sg. Pinang	Sg. Satu	1PPNG020	Batu Feringgi
Perak	Sg. Bernam	Sg. Gelinting	1ABNM015	Loji Rawatan Air Ulu Slim
		Sg. Trolak	1ABNM014	Loji Rawatan Air Trolak Timur
	Sg. Kurau	Sg. Air Hitam	1AKRU007	Loji Rawatan Air Jelai
	Sg. Perak	Sg. Manong	1APRK060	Loji Rawatan Air Manong
		Sg. Perak	1APRK059	Loji Rawatan Air Sauk
		Sg. Tesong	1APRK062	Loji Rawatan Air Sg. Klah
		Sg. Woh	1APRK061	Loji Rawatan Air Kuala Woh
	Sg. Sepetang	Sg. Batu Tegoh	1ASPT016	Loji Rawatan Air Bukit Larut
Selangor	Sg. Klang	Sg. Gombak	2BKLG020	Loji Rawatan Air Gombak
	Sg. Langat	Sg. Batang Labu	2BLGT028	Loji Rawatan Air Salak Tinggi
		Sg. Semenyih	2BLGT010	Loji Rawatan Air Semenyih

Jadual 3.2: Stesen Pengawasan Kualiti Air Sungai di Hulu Muka Sauk
Table 3.2: River Water Quality Monitoring Station of Upstream Water Intake

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STATION ID/ ID STATION	MUKA SAUK/ WATER INTAKE
Johor	Sg. Batu Pahat	Sg. Semberong Dam	3JBPT021	Semberong Dam
	Sg. Benut	Sg. Machap Dam	3JBNT008	Machap Dam
	Sg. Endau	Sg. Kahang	3JEND026	Jalan Felda Kahang Timur, Kluang
	Sg. Muar	Sg. Jelai	3NMUA054	Loji Rawatan Air Dangi
		Sg. Jementah	3JMUA040	Loji Rawatan Air Jementah
		Sg. Muar	3JMUA039	Loji Rawatan Air Gombang
	Sg. Pulai	Sg. Pulai Dam	3JPLI004	Pulai Dam
Melaka	Sg. Kesang	Sg. Chin-Chin	3MKSG008	Muka sauk Loji Rawatan Air Chin-chin
Pahang	Sg. Pahang	Sg. Bertam	4CBTM013	Loji Rawatan Air Habu
		Sg. Gapoi	4CPHG086	Muka sauk Loji Rawatan Air Gapoi
		Sg. Jempol	4CPHG087	Loji Air Sg Jerik
		Sg. Jempol	4CPHG088	Loji Air Jengka 3
		Sg. Mentiga	4CPHG089	Loji Air Chini
		Sg. Terla	4CBTM012	Loji Rawatan Air Kuala Terla
		Sg. Triang	4CPHG074	Loji Rawatan Air Sg. Triang
		Sg. Ulong	4CBTM014	Brinchang Dam
Terengganu	Sg. Terengganu	Sg. Terengganu	4TTGG013	Loji Air Serada
Kelantan	Sg. Golok	Sg. Golok	4DGLK003	Syarikat Air Kelantan
	Sg. Kelantan	Sg. Chiku	4DKLT043	Felda Ciku 2
		Sg. Kelantan	4DKLT045	Loji Air Kelar, Pasir Mas
		Sg. Pehi	4DKLT044	Loji Air Pahi
Sabah	Sg. Padas	Sg. Padas	5SPDS011	Water Intake Jabatan Air Beaufort
	Sg. Papar	Sg. Papar	5SPPR004	Sekolah Kebangsaan Mandalipau
		Sg. Papar	5SPPR005	Water Intake Kogopon
Sarawak	Sg. Kerian	Sg. Selalang	6QKRN017	Selalang Water Intake
	Sg. Mukah	Sg. Mukah	6QMKH005	Mukah Water Intake
	Sg. Rajang	Sg. Daro	6QRJG021	Daro Water Intake
		Sg. Jemoreng	6QRJG022	Jemoreng Water Intake
		Sg. Pakan	6QRJG020	Pakan Water Intake
		Sg. Pila Parit	6QRJG023	Igan Water Intake

Jadual 3.3: Parameter-Parameter Kualiti Air Sungai
Table 3.3: River Water Quality Parameters

PARAMETER/ PARAMETER	UNIT/ UNIT
Oksigen Terlarut / Dissolved Oxygen (DO)	mg/l, % saturated
Permintaan Oksigen Biokimia / Biological Oxygen Demand (BOD)	mg/l
Permintaan Oksigen Kimia / Chemical Oxygen Demand (COD)	mg/l
Pepejal Terampai / Suspended Solid (SS)	mg/l
pH	unit
Ammoniacal Nitrogen (NH_3-N)	mg/l
Suhu / Temperature	°C
Konduktiviti / Conductivity	µS/cm
Kemasinan / Salinity	ppt
Kekeruhan / Turbidity	NTU
Pepejal terlarut / Dissolved solids	mg/l
Pepejal / Total solids	mg/l
Nitrat / Nitrate (NO_3)	mg/l
Klorida / Chloride (Cl)	mg/l
Fosfat / Phosphate (PO_4)	mg/l
Arsenik / Arsenic (As)	mg/l
Merkuri / Mercury (Hg)	mg/l
Kadmium / Cadmium (Cd)	mg/l
Kromium / Chromium (Cr)	mg/l
Plumbum / Lead (Pb)	mg/l
Zink / Zinc (Zn)	mg/l
Kalsium / Calsium (Ca)	mg/l
Ferum / Ferum (Fe)	mg/l
Kalium / Potassium (K)	mg/l
Magnesium / Magnesium (Mg)	mg/l
Natrium / Sodium (Na)	mg/l
Minyak dan Gris / Oil and Grease (O&G)	mg/l
Methylene Blue Active Substances (MBAS)	mg/l
E-coli	cfu/100ml
Total Coliform	cfu/100ml

Pada tahun 2025, sejumlah 8,118 sampel air sungai telah diuji merangkumi kesemua parameter kualiti air yang diukur. Kualiti air sungai dinilai berdasarkan IKA dan NWQS. IKA ditentukan dengan mengambil kira kepentingan enam (6) parameter penunjuk pencemaran utama iaitu Oksigen Terlarut (DO), Keperluan Oksigen Biokimia (BOD), Keperluan Oksigen Kimia (COD), Ammoniakal Nitrogen (NH_3N), pH dan Pepejal Terampai (SS).

In 2025, a total 8,118 river water samples were tested covering all the water quality parameters. River water quality is assessed based on WQI and NWQS. TWQI is determined by taking into account six (6) key pollution indicator parameters namely Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Ammoniacal Nitrogen (NH_3-N), Suspended Solids (SS), and pH.

SEBARAN DATA KUALITI AIR SUNGAI

Data-data kualiti air sungai telah digunakan oleh dua (2) kategori pengguna utama iaitu agensi/ jabatan kerajaan dan penuntut institusi pengajian tinggi. Pada tahun 2025, sejumlah 259 permohonan data telah diterima oleh JAS. Sebanyak 46.7% daripada permohonan data kualiti air sungai adalah daripada golongan pelajar dan penyelidik di institusi pengajian tinggi, 47.1% daripada perunding swasta bagi projek kerajaan dan swasta, dan 6.2% adalah daripada agensi atau jabatan kerajaan. Bilangan permohonan data kualiti air sungai yang diterima oleh JAS pada tahun 2025 adalah seperti yang ditunjukkan oleh **Jadual 3.4**.

DISSEMINATION OF RIVER WATER QUALITY DATA

River water quality data were utilized by two (2) categories of user which are government agencies and researchers from higher learning institutions. In 2025, a total of 259 data request were received by DOE. About 46.7% of the requests were from students and researchers from higher learning institutions, 47.1% from private consultant for government and private projects, and 6.2% from government agencies. The number of water quality data request received by DOE in 2025 is as shown in **Table 3.4**.

Jadual 3.4: Bilangan Permohonan mengikut Kategori Kelas Pemohon, bagi Tahun 2025
Table 3.4: Number of Application by Applicant Class Category for the Year 2025

KELAS CLASS	PEMOHON APPLICANT	BILANGAN PERMOHONAN NUMBER OF APPLICATION	PERATUSAN PERCENTAGE
I	Agensi-agensi atau Jabatan Kerajaan / Government Agencies or Departments	16	6.18%
II	Penuntut dan pensyarah IPTA dan IPTS, pelajar Malaysia di universiti/ kolej luar negara / Undergraduates and lecturers of public and private higher education institutions (IPTA and IPTS), Malaysian students in overseas universities/colleges	121	46.72%
III	Perunding swasta yang dilantik oleh kerajaan Private consultants appointed by the government	122	47.10%
JUMLAH/ TOTAL :		**259**	**100%**

PROGRAM DAN AKTIVITI YANG DIJALANKAN BERKAITAN PENGAWASAN KUALITI AIR SUNGAI

Pada tahun 2025, beberapa program dan aktiviti pengawasan kualiti air sungai telah dijalankan seperti yang disenaraikan di dalam **Jadual 3.5.**

PROGRAMMES AND ACTIVITIES CARRIED OUT RELATED TO RIVER WATER QUALITY MONITORING

In 2025, there were several river water quality monitoring activities and programmes that had been carried out as listed in **Table 3.5**.

Jadual 3.5 Program dan Aktiviti Program Pengawasan Kualiti Air Sungai Tahun 2025
Table 3.5 Programs and Activities Related to River Water Quality Monitoring Programme 2025

TARIKH/ DATE	AKTIVITI & PROGRAM/ ACTIVITIES & PROGRAMMES	TEMPAT/ VENUE
26 Feb 2025 26 Feb 2025	Mesyuarat Jawatankuasa Khas Menangani Kemerosotan Kualiti Air Sungai Kebangsaan (JK-KAS) Bil. 1 Tahun 2025 / Meeting of the Special Committee to Address National River Water Quality Degradation (JK-KAS) No. 1 of 2025	Kuala Lumpur
27 Feb 2025 27 Feb 2025	Mesyuarat dan Taklimat Pengenalan Platform Analitik Airnomik© untuk Mengawal Kualiti Air Sungai / Meeting and Introductory Briefing on the Airnomik© Analytics Platform for Controlling River Water Quality	Putrajaya
5-7 Ogos 2025 5-7 August 2025	Mesyuarat Penyelarasan Program Pengawasan Kualiti Air dan Kontigensi Tumpahan Minyak Kebangsaan Tahun 2025 / Coordination Meeting for the National Water Quality Monitoring and Oil Spill Contingency Program 2025	Selangor
18 Ogos 2025 18 August 2025	Penubuhan Pasukan Petugas bagi Memperkasakan Pengurusan Pencemaran Punca Tidak Tetap (NPS) Mesyuarat Pasukan Petugas Bil. 1/2025 /Establishment of the Task Force for Empowering Non-Point Source (NPS) Pollution Management Task Force Meeting No. 1/2025	Putrajaya
21 Ogos 2025 21 August 2025	Mesyuarat Jawatankuasa Khas Menangani Kemerosotan Kualiti Air Sungai Kebangsaan (JKKAS) Bilangan 2 Tahun 2025 / Meeting of the Special Committee to Address National River Water Quality Degradation (JK-KAS) Number 2 of 2025	Kuala Lumpur
9 Sept 2025 9 Sept 2025	Mesyuarat Semakan Semula PTO NPE Sungai Review Meeting of the River NPE PTO	Putrajaya
29 Sept 2025 29 Sept 2025	Lawatan Tapak Ke Stesen Pengawasan Kualiti Air Sungai Automatik Sungai Klang Site Visit to the Sungai Klang Automatic River Water Quality Monitoring Station	Selangor
30 Okt 2025 30 Oct 2025	Mesyuarat dan Sesi Libat Urus bersama Span Perbincangan Teknikal Perkongsian Data dan Integrasi / Meeting and Engagement Session with SPAN: Technical Discussion on Data Sharing and Integration	Putrajaya
7 Nov 2025 7 Nov 2025	Perbincangan Kajian Kes Sungai Tercemar – Pasir Gudang, Johor Case Study Discussion on Polluted Rivers – Pasir Gudang, Johor	Atas Talian
19 Nov 2025 19 Nov 2025	Sesi Pembentangan Hasil Kajian & Persampelan Insiden Pencemaran – Sungai Perak, Grik, Perak / Presentation Session on Study Findings & Sampling of the Pollution Incident – Sungai Perak, Grik, Perak	Parlimen Malaysia
25-27 Nov 2025 25-27 Nov 2025	Sesi Pemeriksaan Susulan Aduan – Isu Pencemaran Sungai Rui, Grik, Perak Follow-up Inspection Session on Complaint – Sungai Rui Pollution Issue, Grik, Perak	Perak
3 Dis 2025 3 Dec 2025	Mesyuarat Pasukan Petugas Punca Tidak Tetap (NPS) Bil. 2/2025 – Pembentangan Pelaksanaan Kawalan NPS oleh LUAS Non-Point Source (NPS) Task Force Meeting No. 2/2025 – Presentation on the Implementation of NPS Control by LUAS	Putrajaya




KUALA LUMPUR

26 Feb 2025 / 26 Feb 2025

Mesyuarat Jawatankuasa Khas Menangani Kemerosotan Kualiti Air Sungai Kebangsaan (JK-KAS) Bil. 1 Tahun 2025 yang dipengerusikan oleh YAB Datuk Seri Fadillah bin Yusof, Timbalan Perdana Menteri II
National Special Committee Meeting on Addressing River Water Quality Degradation (JK-KAS) No. 1 of 2025, Chaired by YAB Datuk Seri Fadillah bin Yusof, Deputy Prime Minister II




PUTRAJAYA

27 Feb 2025 / 27 Feb 2025

Mesyuarat dan Taklimat Pengenalan Platform Analitik Airnomik© yang dipengerusikan oleh Ketua Penolong Pengarah, Bahagian Air dan Marin
Meeting and Introductory Briefing on the Airnomik© Analytics Platform, Chaired by the Senior Assistant Director of the Water and Marine Division




SELANGOR

5-7 Ogos 2025 / 5-7 August 2025

Mesyuarat Penyelarasan Program Pengawasan Kualiti Air dan Kontigensi Tumpahan Minyak Kebangsaan Tahun 2025 yang telah dipengerusikan oleh Timbalan Ketua Pengarah Operasi, Jabatan Alam Sekitar
Coordination Meeting for the National Water Quality Monitoring and Oil Spill Contingency Program 2025, Chaired by the Deputy Director General of Operations, Department of Environment





PUTRAJAYA

18 Ogos 2025 / 18 August 2025

Penubuhan Pasukan Petugas bagi Memperkasakan Pengurusan Pencemaran Punca Tidak Tetap (NPS) Mesyuarat Pasukan Petugas Bil. 1/2025 yang dipengerusikan oleh Pengarah, Bahagian Air dan Marin
Establishment of the Task Force for Empowering Non-Point Source (NPS) Pollution Management Task Force Meeting No. 1/2025, Chaired by the Director of the Water and Marine Division




KUALA LUMPUR

21 Ogos 2025 / 21 August 2025

Mesyuarat Jawatankuasa Khas Menangani Kemerosotan Kualiti Air Sungai Kebangsaan (JKKAS) Bil.2 Tahun 2025 yang dipengerusikan oleh Y.A.B. Dato' Seri Hj Fadillah bin Hj Yusof, Timbalan Perdana Menteri II
National Special Committee Meeting on Addressing River Water Quality Degradation (JKKAS) No. 2 of 2025, Chaired by Y.A.B. Dato' Seri Hj Fadillah bin Hj Yusof, Deputy Prime Minister II




SELANGOR

29 Sept 2025 / 29 Sept 2025

Lawatan Tapak ke Stesen Pengawasan Kualiti Air Sungai Automatik Sungai Klang
Site Visit to the Sungai Klang Automatic River Water Quality Monitoring Station





PUTRAJAYA

30 Okt 2025 / 30 Oct 2025

Mesyuarat dan Sesi Libat Urus Bersama SPAN Perbincangan Teknikal Perkongsian Data Dan Integrasi yang dipengerusikan oleh Pengarah Bahagian Air dan Marin
Meeting and Engagement Session with SPAN: Technical Discussion on Data Sharing and Integration, Chaired by the Director of the Water and Marine Division





KUALA LUMPUR

19 Nov 2025 / 19 Nov 2025

Sesi pembentangan hasil kajian dan persampelan berhubung insiden pencemaran di Sungai Perak telah dipengerusikan oleh Timbalan Ketua Pengarah Operasi, Jabatan Alam Sekitar

Presentation Session on Research and Sampling Results Regarding the Pollution Incident in Sungai Perak, Chaired by the Deputy Director General of Operations, Department of Environment





SELANGOR

25-27 Nov 2025 / 25-27 Nov 2025

Sesi Pemeriksaan Susulan Aduan – Isu Pencemaran Sungai Rui, Grik, Perak

Follow-up Inspection Session on Complaint – Sungai Rui Pollution Issue, Gerik, Perak





PUTRAJAYA

18 Ogos 2025 / 18 August 2025

Mesyuarat Pasukan Petugas Punca Tidak Tetap (NPS) Bil. 2/2025 – Pembentangan Pelaksanaan Kawalan NPS oleh LUAS yang dipengerusikan oleh Pengarah Bahagian Air dan Marin

Non-Point Source (NPS) Task Force Meeting No. 2/2025 – Presentation on the Implementation of NPS Control by LUAS, Chaired by the Director of the Water and Marine Division

PENGAWASAN KUALITI AIR TANAH

PROGRAM YANG DIJALANKAN BERKAITAN PENGAWASAN KUALITI AIR TANAH

Sepanjang tahun 2025, terdapat beberapa aktiviti yang telah dijalankan oleh Seksyen Pengawasan Kualiti Air Tanah, Bahagian Air dan Marin. Aktiviti-aktiviti tersebut adalah seperti di bawah:

PROGRAM AUDIT DI STESEN PENGAWASAN KUALITI AIR TANAH DI MELAKA DAN PULAU PINANG

Tujuan program audit adalah seperti berikut:

- Menilai status perbelanjaan peruntukan bagi kerja-kerja penyelenggaraan yang telah diberikan kepada JAS Negeri;
  To assess the status of budget expenditures for maintenance works provided to the State DOE offices;
- Memastikan kerja persampelan yang dijalankan mematuhi Prosedur Operasi Standard (SOP) Program Pengawasan Kualiti Air Tanah;
  To ensure the sampling activities are conducted in compliance with the Standard Operating Procedures (SOP) of the Groundwater Quality Monitoring Programme;
- Mengenal pasti sekiranya terdapat sebarang perubahan guna tanah di kawasan sekitar stesen pengawasan kualiti air tanah; dan
  To identify any changes in land use in the areas surrounding the groundwater quality monitoring stations; and
- Menyiasat aduan yang diterima daripada pegawai JAS Negeri berkaitan stesen pengawasan kualiti air tanah.
  To investigate complaints received from State DOE officers related to groundwater quality monitoring stations.

GROUNDWATER QUALITY MONITORING

PROGRAMMES CONDUCTED RELATED TO GROUNDWATER QUALITY MONITORING

In 2025, there were several activities that had been carried out by the Groundwater Quality Monitoring Section, Water and Marine Division. The activities were as follows:

AUDIT PROGRAMME AT GROUNDWATER QUALITY MONITORING STATIONS IN MELAKA AND PENANG

The objectives of audit programme are as follows:



Kerja persampelan dijalankan oleh Pegawai JAS Melaka
The sampling procedure carried out by officer from DOE Melaka



Kerja persampelan dijalankan oleh Pegawai JAS Pulau Pinang /
The sampling procedure carried out by officer from DOE Penang

PROJEK RANCANGAN MALAYSIA KEDUA BELAS: PENAMBAHAN RANGKAIAN STESEN PENGAWASAN KUALITI AIR TANAH KEBANGSAAN

Berikut adalah aktiviti-aktiviti yang dijalankan:

1. **SESI *TESTING & COMMISSIONING (T&C)* BAGI PEMBINAAN STESEN PENGAWASAN KUALITI AIR TANAH KEBANGSAAN DI MALAYSIA DI BAWAH RANCANGAN MALAYSIA KEDUA BELAS DI NEGERI SEMBILAN, JOHOR DAN PULAU PINANG**

Satu sesi *Testing & Commissioning (T&C)* di Negeri Pulau Pinang telah diadakan pada 18 April 2025. Sesi ini diadakan di semua stesen pengawasan kualiti air tanah yang baru siap dibina di Negeri Sembilan iaitu stesen di Sekolah Kebangsaan Kampung Gelam, Jimah East Power Sdn. Bhd., Shell Hengyuan Refining, Petron Malaysia Refining, Sekolah Kebangsaan Taman Tuanku Jaafar, Sekolah Kebangsaan Taman Semarak dan Sekolah Menengah Kebangsaan Taman Semarak.

Sesi ini telah dihadiri oleh pihak kontraktor, pegawai dari Bahagian Perkhidmatan Mekanikal & Elektrikal, Jabatan Pengairan dan Saliran (JPS) Perak serta pegawai dari Bahagian Air dan Marin, JAS Putrajaya.

TWELFTH MALAYSIA PLAN PROJECT: EXPANSION OF THE NATIONAL GROUNDWATER QUALITY MONITORING STATION NETWORK

The following activities were carried out:

1. **TESTING & COMMISSIONING (T&C) SESSION FOR THE CONSTRUCTION OF NATIONAL GROUNDWATER QUALITY MONITORING STATION IN MALAYSIA UNDER THE TWELFTH MALAYSIA PLAN IN NEGERI SEMBILAN, JOHOR, AND PENANG**

A Testing & Commissioning (T&C) session in Penang was held on 18 April 2025. This session was conducted at all newly completed groundwater quality monitoring stations in Negeri Sembilan, namely the stations located at Sekolah Kebangsaan Kampung Gelam, Jimah East Power Sdn. Bhd., Shell Hengyuan Refining, Petron Malaysia Refining, Sekolah Kebangsaan Taman Tuanku Jaafar, Sekolah Kebangsaan Taman Semarak, and Sekolah Menengah Kebangsaan Taman Semarak.

The session was attended by the contractors, officers from Mechanical & Electrical Services Division (BPME) JPS Perak, Jabatan Pengairan dan Saliran (JPS) Perak, as well as officers from Water and Marine Division, DOE Putrajaya.



Sesi T&C di salah satu stesen di Negeri Sembilan /
T&C session at one of the stations in Negeri Sembilan

Satu sesi *Testing & Commissioning* (T&C) di Negeri Johor telah diadakan pada 23 April 2025. Lawatan ini diadakan di stesen pengawasan kualiti air tanah yang terletak di Sekolah Menengah Kebangsaan Tanjung Puteri, Luvata Malaysia Sdn. Bhd., Sekolah Kebangsaan Lepau, Sekolah Kebangsaan Pengerang dan Sekolah Jenis Kebangsaan (Cina) Pei Chih. Lawatan ini telah disertai oleh pihak kontraktor, pegawai dari Bahagian Perkhidmatan Mekanikal & Elektrikal (BPME) Ipoh, JPS Johor dan pegawai dari JAS Johor dan Bahagian Air Dan Marin, JAS Putrajaya.

A Testing & Commissioning (T&C) session in Johor was conducted on 23 April 2025. The visit was held at the groundwater quality monitoring stations located at Sekolah Menengah Kebangsaan Tanjung Puteri, Luvata Malaysia Sdn. Bhd., Sekolah Kebangsaan Lepau, Sekolah Kebangsaan Pengerang, and Sekolah Jenis Kebangsaan (Cina) Pei Chih. The visit was attended by the project contractors, officers from Mechanical & Electrical Services Division (BPME) Ipoh, JPS Johor, as well as officers from DOE Johor, and the Water and Marine Division, DOE Putrajaya.



Sesi T&C di salah satu stesen di Johor /
T&C session at one of the stations in Johor

Satu sesi *Testing & Commissioning* (T&C) di Negeri Pulau Pinang telah diadakan pada 9 September 2025. Sesi ini dilaksanakan di stesen pengawasan kualiti air tanah yang baru siap dibina yang terletak di tapak milik JAS Pulau Pinang, Kawasan Perusahan Perabot, Sungai Baong, Sungai Bakap, Pulau Pinang. Sesi ini telah dihadiri oleh pihak kontraktor, pegawai dari BPME, JPS Perak, serta pegawai dari Bahagian Air dan Marin, JAS Putrajaya.

A Testing & Commissioning (T&C) session in the state of Penang was held on 9 September 2025. The session was conducted at the newly completed groundwater quality monitoring station located at the DOE Penang Site, Kawasan Perusahaan Perabot, Sungai Baong, Sungai Bakap, Penang. The session was attended by the contractors, officers from BPME, JPS Perak, as well as officers from the Water and Marine Division, DOE Putrajaya.



Sesi T&C di salah satu stesen di Pulau Pinang /
T&C session at one of the stations in Penang

2. LAWATAN VERIFIKASI KE TAPAK CADANGAN LOKASI PEMBINAAN STESEN PENGAWASAN KUALITI AIR TANAH DI MELAKA DAN TERENGGANU

Satu lawatan verifikasi ke tapak cadangan lokasi pembinaan stesen pengawasan kualiti air tanah di Sekolah Rendah Agama (JAIM), Sungai Petai, Melaka telah diadakan pada 18 Jun 2025. Lawatan ini diadakan bagi melihat kesesuaian tapak dan memuktamadkan lokasi untuk pembinaan stesen pengawasan kualiti air tanah. Lawatan ini telah disertai oleh Guru Besar SRA Jaim Sungai Petai, pegawai dari Jabatan Agama Islam Negeri Melaka (JAIM), pegawai dari Bahagian Mekanikal dan Elektrikal JPS Perak, Pejabat Daerah dan Tanah Alor Gajah, Melaka serta pegawai dari Bahagian Air dan Marin, JAS Putrajaya.

2. VERIFICATION SITE VISIT FOR PROPOSED LOCATIONS OF GROUNDWATER QUALITY MONITORING STATIONS IN MELAKA AND TERENGGANU

A verification site visit to the proposed location for the Groundwater Quality Monitoring Station at Sekolah Rendah Agama (JAIM), Sungai Petai, Melaka, was conducted on 18 June 2025. The visit aimed to assess the suitability of the site and finalize the location for the construction of the groundwater quality monitoring station. The visit was attended by the Headmaster of SRA Jaim Sungai Petai, officers from the Melaka State Islamic Religious Department (JAIM), officers from Mechanical and Electrical Division, JPS Perak, the Alor Gajah District and Land Office, Melaka, as well as officers from Water and Marine Division, DOE Putrajaya.



Lawatan Verifikasi Lokasi Stesen Pengawasan Kualiti Air Tanah di Sekolah Rendah Agama (JAIM), Sungai Petai, Melaka / Verification Site Visit for Groundwater Quality Monitoring Station at Sekolah Rendah Agama (JAIM), Sungai Petai, Melaka

Satu mesyuarat telah diadakan pada 18 Ogos 2025 di Bilik Mesyuarat BPME, JPS Terengganu. Mesyuarat ini bertujuan untuk memuktamadkan lokasi pembinaan stesen pengawasan kualiti air tanah. Mesyuarat telah dipengerusikan oleh Ir. Surdiman Zahuri bin Sulaiman, Ketua Penolong Pengarah, Bahagian Perkhidmatan Mekanikal & Elektrikal (BPME), JPS Terengganu. Mesyuarat ini telah dihadiri oleh wakil dari JPS Terengganu, kontraktor, pegawai dari Pejabat Pendidikan Negeri, pegawai dari sekolah yang terlibat, serta pegawai Bahagian Air dan Marin, Jabatan Alam Sekitar (JAS) Putrajaya.

Satu lawatan tapak turut diadakan ke Sekolah Kebangsaan Bukit Kuang, Chukai, berikutan perubahan lokasi cadangan bagi pembinaan stesen pengawasan kualiti air tanah.

A meeting was held on 18 August 2025 in the BPME Meeting Room, JPS Terengganu. The purpose of the meeting was to finalize the locations for the construction of groundwater quality monitoring. The meeting was chaired by Ir. Surdiman Zahuri bin Sulaiman, Chief Assistant Director, Mechanical & Electrical Services Division (BPME), JPS Terengganu. The meeting was attended by representatives from JPS Terengganu, the contractors, officers from the State Education Office, officers from the schools involved, and officers from Water and Marine Division, Department of Environment (DOE) Putrajaya.

A site visit was also conducted to Sekolah Kebangsaan Bukit Kuang, Chukai, following a change in the proposed location for the construction of the groundwater quality monitoring station.



Mesyuarat Verifikasi Lokasi Stesen Pengawasan Kualiti Air Tanah di JPS Terengganu / Verification Meeting for Groundwater Quality Monitoring Station Location at JPS Terengganu

3. SESI PENERANGAN KEPADA BADAN KAWAL SELIA AIR (BKSA), PULAU PINANG MENGENAI KERJA-KERJA PENGGERUDIAN TELAGA TIUB DI PULAU PINANG

Pegawai dari Bahagian Air dan Marin, JAS Putrajaya telah menghadiri jemputan bagi sesi penerangan yang dianjurkan oleh BKSA Pulau Pinang pada 8 Oktober 2025, bertempat di Bilik Mesyuarat BPSM, Pulau Pinang. Sesi ini turut disertai oleh pegawai-pegawai dari Bahagian Kawal Selia Air Pulau Pinang serta pegawai dari BPME Bahagian Perkhidmatan Mekanikal & Elektrikal, JPS Perak.

Sesi penerangan ini diadakan bagi memberi penerangan ringkas kepada pihak BKAS, Pulau Pinang mengenai pembinaan stesen pengawasan kualiti air tanah di Pulau Pinang, kemajuan pembinaan dan prosedur persampelan yang dijalankan oleh JAS.

3. BRIEFING SESSION TO THE PENANG WATER REGULATION AUTHORITY (BKSA) ON BOREHOLE DRILLING WORKS IN PENANG

Officers from the Water and Marine Division, DOE Putrajaya attended a briefing session organized by BKSA Penang on 8 October 2025, held at the BPSM Meeting Room, Penang. The session was also attended by officers from the Penang Water Regulation Division and officers from Mechanical & Electrical Services Division (BPME), JPS Perak.

The briefing was conducted to provide BKSA Penang with an overview of the construction of the groundwater quality monitoring stations in Penang, the progress of construction, and the sampling procedures carried out by DOE.



Sesi Penerangan kepada Badan Kawal Selia Air (BKSA) Pulau Pinang /
Briefing Session to the Penang Water Regulation Authority

PROGRAM KAWALAN PENCEMARAN DAN PENGURUSAN TINDAK BALAS TUMPAHAN MINYAK

Pada tahun 2025, Bahagian Air dan Marin, Jabatan Alam Sekitar (JAS) telah menganjurkan dua belas (12) program berkaitan kawalan dan pengurusan tindak balas tumpahan minyak (Jadual 1). Program ini telah dihadiri oleh pegawai JAS, agensi-agensi kerajaan dan swasta di bawah Jawatankuasa Operasi Kebangsaan Tumpahan Minyak (National Oil Spill Operation Committee, NOSC) serta pihak berkepentingan yang berkaitan.

Objektif program yang dijalankan adalah:

i. Mendapatkan input/ ulasan daripada ahli Jawatankuasa dalam pengemaskinian *Standard Operating Procedure (SOP) for Joint Oil Spill Combat in the South China Sea Including Brunei Bay for Brunei Darussalam and Malaysia*.

ii. Mendapatkan input/ ulasan daripada pihak berkepentingan yang terdiri daripada agensi kerajaan dan swasta dalam projek Rancangan Malaysia Kedua Belas iaitu bagi Kajian Mekanisme Pelaksanaan Pematuhan Kepada Pelan Tindak Balas Tumpahan Minyak, dan Cadangan Kajian Pemerkasaan Pangkalan Data *Hydrocarbon Fingerprinting System (HyFiS)* Bagi Meningkatkan Keupayaan Sistem dalam Menjalankan Pemadanan Profil Minyak Hidrokarbon bagi Rancangan Malaysia Ketiga Belas.

iii. Memberi latihan dan pendedahan kepada pegawai JAS dan agensi terlibat dalam operasi tindak balas melawan tumpahan minyak di perairan Malaysia termasuk hands-on penggunaan Aplikasi *OILMAP for Oil Spill Modelling and Trajectory* serta perkara berkaitan tuntutan dan pampasan yang terlibat dalam kawalan dan pembersihan minyak akibat tumpahan minyak daripada kapal.

iv. Mewujudkan kerjasama dengan agensi maritime dalam pengurusan kes tumpahan minyak iaitu dalam elemen penguatkuasaan di laut dan tindak balas kawalan dan pembersihan minyak akibat insiden tumpahan minyak di laut.

OIL SPILL POLLUTION CONTROL AND RESPONSE MANAGEMENT PROGRAMMES

In 2025, the Marine and Water Division organized twelve (12) programs related to oil spill pollution control and response management (Table 1). Officers from the Department of Environment (DOE), government and private agencies under the National Oil Spill Operation Committee (NOSC) as well as other stakeholders, have attended these programmes.

The objectives of the programmes are:

i. To obtain input/ comments from the Committee Members in updating the Standard Operating Procedure (SOP) for Joint Oil Spill Combat in the South China Sea Including Brunei Bay for Brunei Darussalam and Malaysia.

ii. To obtain input/ comment from stakeholders of which included government and private agencies for the projects under Twelfth Malaysia Plan which is Research on the Mechanism for Compliance Implementation of the Oil Spill Response Plan, and proposed Research in Enhancement of Hydrocarbon Fingerprinting System (HyFiS) to improve the System's Capability in Hydrocarbon Oil Profile Matching under Thirteenth Malaysia Plan.

iii. To train and give exposure to the officers from the Department of Environment (DOE) and related government agencies in oil spill response operations within Malaysian waters including the hands-on training using OILMAP Application for Oil Spill Modelling and Trajectory and matter related to claim and compensation in oil spill response due to spillage from the ship.

iv. To establish the collaboration with maritime enforcement agencies in the oil spill management, both in marine enforcement and oil spill response at sea.

Jadual 3.6: Senarai Program yang telah Dilaksanakan
Table 3.6: The List of Conducted Programme

BIL. NO.	PROGRAM PROGRAMME	TARIKH DATE
1.	Sesi Libat Urus bagi Program Pengujian Dokumen Tatacara Audit Pelan Tindak Balas Kawalan Tumpahan Minyak (Oil Spill Response Plan, OSRP) Siri 3 - Zon Borneo di Hotel Lazenda, Wilayah Persekutuan Labuan Testing the Procedure Document for Auditing the Oil Spill Response Plan (OSRP) Series 3 - Borneo Region Stakeholder Engagement Session at Lazenda Hotel, Federal Territory of Labuan	23 – 27 Februari 2025 23 – 27 February 2025
2.	Sesi Libat Urus bagi Program Pengujian Dokumen Tatacara Audit Pelan Tindak Balas Kawalan Tumpahan Minyak (*Oil Spill Response Plan, OSRP*) Siri 4 - Zon Utara di Hotel The Orient Star, Lumut, Perak Testing the Procedure Document for Auditing the Oil Spill Response Plan (OSRP) Series 4 - North Region Stakeholder Engagement Session at The Orient Star Hotel, Lumut, Perak	14 – 18 April 2025 14 – 18 April 2025
3.	Sesi Libat Urus bagi Semakan & Penilaian MOSCoP menggunakan *Readiness Evaluation Tools for Oil Spill* (RETOS) di Hotel Avillion, Port Dickson, Negeri Sembilan MOSCoP Review and Evaluation Using Readiness Evaluation Tools for Oil Spill (RETOS) Stakeholder Engagement Session at Avillion Hotel, Port Dickson, Negeri Sembilan	23 – 16 Mei 2025 23 – 16 May 2025
4.	Sesi Libat Urus Kajian Mekanisme Pelaksanaan Pematuhan Pelan Tindak Balas Kawalan Tumpahan Minyak Siri 5 di The Pearl Hotel, Wilayah Persekutuan Kuala Lumpur The Study of the Implementation of the Mechanism in Compliance to the Oil Spill Response Plan Series 5 Stakeholder Engagement Session at The Pearl Hotel, Federal Territory of Kuala Lumpur	20 – 22 Mei 2025 20 – 22 May 2025
5.	Sesi Libat Urus bagi Tindak Balas Tumpahan Minyak (*Table -Top Exercise, TTX*) dan Pengujian Penggunaan Aplikasi *Oilmap for Oil Spill Trajectory* di Vellea, Port Dickson, Negeri Sembilan Engagement Session for Oil Spill Response - Table-Top Exercise (TTX) and Oilmap for Oil Spill Trajectory Application User Training at Vellea, Port Dickson, Negeri Sembilan	16 – 19 Jun 2025 16 – 19 June 2025
6.	Sesi Kunjungan Hormat YBhg. Dato' Ketua Pengarah Alam Sekitar Malaysia ke pejabat Agensi Pengurusan Bencana Negara (NADMA) Courtesy Visit Session of YBhg. Dato' Director General of Environment Malaysia to the office of National Disaster Management Agency (NADMA)	14 Ogos 2025 14 August 2025
7.	Latihan Melawan Tumpahan Minyak (Ex-Tamban) Tahun 2025 di Kerteh Port Sdn. Bhd., Kerteh, Terengganu Oil Spills Response Exercise 2025 (Ex-Tamban) at Kerteh Port Sdn. Bhd., Kerteh, Terengganu	18 – 21 Ogos 2025 18 – 21 August 2025
8.	Sesi Libat urus Latihan *Hands-On Penggunaan Hydrocarbon Fingerprinting System* (HyFIS) di EiMAS, Bangi, Selangor. Hands-On Training Session on the Use of Hydrocarbon Fingerprinting System (HyFIS) at EiMAS, Bangi, Selangor.	2 – 3 September 2025 2 – 3 September 2025
9.	Sesi Libat Urus Perbincangan Standard Operating Procedure (SOP) for Joint Oil Spill Combat in the South China Sea including Brunei Bay for Brunei Darussalam and Malaysia di Meritz Hotel, Miri, Sarawak Engagement Session to discuss on Standard Operating Procedure (SOP) on Joint Oil Spill Combat in the South China Sea including Brunei Bay for Brunei Darussalam and Malaysia at Meritz Hotel, Miri, Sarawak	17 – 19 September 2025 17 – 19 September 2025

Jadual 3.6: Senarai Program yang telah Dilaksanakan
Table 3.6: The List of Conducted Programme

BIL. NO.	PROGRAM PROGRAMME	TARIKH DATE
10.	Sesi Latihan Penggunaan Aplikasi Permodelan Tumpahan Minyak di Bilik Latihan ICT, JAS Putrajaya Oil Map Trajectory & Fates Modeling Application Training at ICT Training Room, DOE Putrajaya	1 Oktober 2025 1 October 2025
11.	Mesyuarat Jawatankuasa Operasi Kebangsaan Tumpahan Minyak di Bilik Mesyuarat Cempaka, Jabatan Alam Sekitar Malaysia National Oil Spill Operation Committee Meeting at Cempaka Meeting Room, Department of Environment Malaysia	2 Oktober 2025 2 October 2025
12.	Latihan Strategik Tindak Balas Tumpahan Minyak dan *Table-Top Exercise* di Hotel Thistle Port Dickson, Negeri Sembilan Oil Spill Response Strategic and Table-Top Exercise at Thistle Hotel, Port Dickson, Negeri Sembilan	13 – 17 Oktober 2025 13 – 17 October 2025







HOTEL LAZENDA, WILAYAH PERSEKUTUAN LABUAN

23 – 27 Februari 2025 / 23 – 27 February 2025

Sesi Libat Urus bagi Program Pengujian Dokumen Tatacara Audit Pelan Tindak Balas Kawalan Tumpahan Minyak (Oil Spill Response Plan, OSRP) Siri 3 - Zon Borneo
Engagement Session of the Testing the Procedure Document for Auditing the Oil Spill Response Plan (OSRP) Series 3 - Borneo Region







HOTEL THE ORIENT STAR, LUMUT, PERAK

14-18 April 2025 / 14th-18th April 2025

Sesi Libat Urus Bagi Program Pengujian Dokumen Tatacara Audit Pelan Tindak Balas Kawalan Tumpahan Minyak (Oil Spill Response Plan, OSRP) Siri 4 - Zon Utara

Engagement Session of the Testing the Procedure Document for Auditing the Oil Spill Response Plan (OSRP) Series 4-North Region



Sesi Libat Urus bagi Semakan & Penilaian MOSCoP menggunakan Readiness Evaluation Tools for Oil Spill (RETOS) pada 13-16 Mei 2025 di Hotel Avillion, Port Dickson, Negeri Sembilan / Engagement Session of MOSCoP Review and Evaluation Using Readiness Evaluationn Tools for Oil Spill (RETOS) on 13-16 May 2025 at Avillion Hotel, Port Dickson, Negeri Sembilan





Urus bagi Tindak Balas Tumpahan Minyak (Table-Top Exercise, TTX) dan Pengujian Penggunaan Aplikasi Oilmap for Oil Spill Trajectory pada 16-19 Jun 2025 di Villea, Port Dickson, Negeri Sembilan /
Engagement Session for Oil Spill Response - Table-Top Exercise (TTX) and Oilmap for Oil Spill Trajectory Application User Training on 16-19 June 2025, Villea, Port Dickson, Negeri Sembilan



Sesi Kunjungan Hormat YBhg. Dato' Ketua Pengarah Alam Sekitar Malaysia ke pejabat Agensi Pengurusan Bencana Negara (NADMA) pada 14 Ogos 2025 / Courtesy Visit Session of YBhg. Dato' Director General of Environment Malaysia to the office of National Disaster Management Agency (NADMA) on 14 August 2025



Latihan Melawan Tumpahan Minyak (Ex-Tamban)Tahun 2025 pada 18-21 Ogos 2025 di Kerteh Port Sdn Bhd, Kerteh, Terengganu / Oil Spills Response Exercise 2025 (Ex-Tamban) on 18-21 August 2025 at Kerteh Port Sdn. Bhd., Kerteh, Terengganu



Sesi Libat Urus Latihan *Hands-On Penggunaan Hydrocarbon Fingerprinting System* (HyFIS) pada 2-3 September 2025 /di EiMAS, Bangi, Selangor / Engagement Session of Hands-On Training Session on the Use of Hydrocarbon Fingerprinting System (HyFIS) on 2-3 September 2025 at EiMAS, Bangi, Selangor



Latihan Strategik Tindak Balas Tumpahan Minyak dan Table-Top Exercise pada 13-17 Oktober 2025 di Hotel Thistle Port Dickson, Negeri Sembilan / Oil Spill Response Strategic and Table-Top Exercise on 13-17 Oktober 2025 at Thistle Hotel, Port Dickson, Negeri Sembilan





Sesi Libat Urus Perbincangan Standard Operating Procedure (SOP) for Joint Oil Spill Combat in the South China Sea including Brunei Bay for Brunei Darussalam and Malaysia pada 17 – 19 September 2025 di Meritz Hotel, Miri, Sarawak / Engagement Session to discuss on Standard Operating Procedure (SOP) on Joint Oil Spill Combat in the South China Sea including Brunei Bay for Brunei Darussalam and Malaysia 17 – 19 September 2025, Meritz Hotel, Miri, Sarawak



Sesi Latihan Penggunaan Aplikasi Permodelan Tumpahan Minyak pada 1 Oktober 2025 di Bilik Latihan ICT, JAS Putrajaya / Training Session for Oil Map Trajectory & Fates Modeling Application Training on 1 October 2025, ICT Training Room, DOE Putrajaya



Mesyuarat Jawatankuasa Operasi Kebangsaan Tumpahan Minyak pada 2 Oktober 2025 di Bilik Mesyuarat Cempaka, Jabatan Alam Sekitar Malaysia / National Oil Spill Operation Committee Meeting on 2 October 2025 at Cempaka Meeting Room, Department of Environment Malaysia

JAWATANKUASA TABUNG PUSINGAN BAGI SELAT MELAKA DAN SELAT SINGAPURA (RFC)

Tabung Pusingan (RFC) telah ditubuhkan pada 11 Februari 1981 bagi tujuan melawan kejadian tumpahan minyak daripada kapal-kapal yang melalui Selat Melaka dan Selat Singapura.

Pengurusan Tabung ini dilaksanakan secara bergilir-gilir dalam kalangan tiga (3) buah negara anggota iaitu Indonesia, Malaysia dan Singapura bagi tempoh lima (5) tahun setiap giliran. Pengurusan Malaysia ke atas tabung ini telah tamat pada pada 31 Mac 2022. Mulai dari 1 April 2022 sehingga 31 Mac 2027 pengurusan tabung ini akan ditadbir urus oleh pihak Singapura.

Aktiviti yang telah dilaksanakan pada tahun 2025 adalah seperti berikut:

i. *RFC Oil Spill Table-Top Exercise* (TTX) bersama ITOPF pada 11 Februari 2025 di Hotel JEN Singapore Tanglin by Shangri-La, Singapura

ii. Mesyuarat Teknikal Revolving Fund Committee (RFC) pada 12 Februari 2025 di Hotel JEN Singapore Tanglin by Shangri-La, Singapura

iii. Mesyuarat Jawatankuasa Induk ke-44 *Revolving Fund Committee* (RFC) pada 8-10 Julai 2025 di Hotel Parkroyal on Beach Road, Singapura.

THE REVOLVING FUND COMMITTEE (RFC) OF STRAITS OF MALACCA AND SINGAPORE

The Revolving Fund was established on 11 February 1981, for the purpose of combating oil spills from ships passing through the Straits of Malacca and Singapore.

The management of this Fund is carried out on a rotational basis among the three (3) Littoral States, Indonesia, Malaysia, and Singapore, for a period of five (5) years for each cycle. Malaysia as host country concluded on 31 March 2022. Starting from 1 April 2022, until 31 March 2027, the management of this Fund is being undertaken by Singapore.

The activities carried out by the RFC in the year 2025 were:

i. RFC Oil Spill Table-Top Exercise (TTX) with ITOPF on 11 February 2025 at JEN Singapore Tanglin by Shangri Hotel, Singapore

ii. The Revolving Fund (RFC) Technical Meeting on 12 February 2025 at JEN Singapore Tanglin by Shangri Hotel, Singapore

iii. The 44th Revolving Fund Committee (RFC) Meeting on 8-10 July 2025 at Parkroyal on Beach Road Hotel, Singapore.



RFC Oil Spill Table-Top Exercise (TTX) bersama ITOPF di Hotel JEN Singapore Tanglin by Shangri-La, Singapura / RFC Oil Spill Table-Top Exercise (TTX) with ITOPF at JEN Singapore Tanglin by Shangri-La Hotel, Singapore.



Mesyuarat Teknikal Revolving Fund Committee (RFC) pada 12 Februari 2025 di Hotel JEN Singapore Tanglin by Shangri-La, Singapura / The Revolving Fund (RFC) Technical Meeting on 12 February 2025 at JEN Singapore Tanglin by Shangri-La Hotel, Singapura



Mesyuarat Jawatankuasa Induk ke-44 Revolving Fund Committee (RFC) pada 8-10 Julai 2025 di Hotel Parkroyal on Beach Road, Singapura / The 44th Revolving Fund Committee (RFC) Meeting on 8-10 July 2025 at Parkroyal on Beach Road Hotel, Singapore

KES PENCEMARAN TUMPAHAN MINYAK DI PERAIRAN MALAYSIA

Sepanjang tahun 2025, Jabatan Alam Sekitar telah menerima sebanyak 25 aduan kes tumpahan minyak. Daripada jumlah tersebut, hanya 11 kes (44%) merupakan insiden tumpahan minyak yang disahkan, apabila tumpahan ditemui di lokasi yang dilaporkan termasuk kehadiran bebola tar di pantai. Bagi baki 14 kes (56%), tiada tumpahan atau kesan pencemaran minyak ditemui di lokasi yang dilaporkan.

Pecahan bagi 11 aduan kes tumpahan minyak termasuk yang berasas mengikut kawasan perairan dan punca adalah seperti yang ditunjukkan di **Jadual 3.7** dan **Jadual 3.8**. Pada tahun 2025, tumpahan minyak dari terminal minyak dan kapal mencatatkan kes yang paling tinggi.

OIL SPILLS POLLUTION CASES AT MALAYSIAN WATERS

In year 2025, Department of Environment had received a total of 25 complaints of oil spill incidents cases. Out of this total, only 11 cases (44%) were substantiated oil spills incidents as the spills were found at the reported locations, including tar balls on the beaches. In the remaining 14 cases (56%), no spills or traces of oil pollution were found at the reported locations.

The breakdown of the 11 substantiated oil spill complaints by maritime area and source is as shown in **Table 3.7** and **Table 3.8**. In 2025, oil spills originating from oil terminals and vessels recorded the highest number of cases.

Jadual 3.7: Kes Pencemaran Tumpahan Minyak di Perairan Malaysia pada Tahun 2025
Table 3.7: Cases of Oil Spill Pollution at Malaysian Waters in year 2025

LOKASI/ LOCATION	KAWASAN/ AREA		BIL. KES/ NO. OF CASES	NEGERI/ STATE
Laut China Selatan/ South China Sea	Perairan Malaysia / Malaysian Waters	Semenanjung/Peninsular	1	Terengganu (1)
		Sabah, Sarawak & W.P Labuan	1	W.P Labuan (1)
	Zon Ekonomi Eksklusif (ZEE)/ Exclusive Economic Zone (EEZ)		-	-
Laut Sulu/ Sulu Sea	Perairan Malaysia/ Malaysian Waters	Sabah	-	-
Selat Melaka/ Straits of Malacca	Perairan Malaysia / Malaysian Waters		5	Pulau Pinang (2) Perak (1) Melaka (2)
Selat Johor/ Straits of Johor	Perairan Malaysia/ Malaysian Waters	Barat/ West	4	Johor (4)
		Timur/ East	-	-
Jumlah / Total			**11**	

Jadual 3.8: Bilangan Kes Pencemaran Tumpahan Minyak di Perairan Malaysia mengikut Punca pada Tahun 2025
Table 3.8: The Number of Oil Spill Pollution Cases at Malaysian Waters by Source in Year 2025

PUNCA / SOURCE	KEJADIAN / INCIDENT	BILANGAN / NUMBER
Kapal Vessel	Perlanggaran / Collision	-
	Terkandas/ K aram /Kebakaran Grounding / Sink / Fire	3
	Penyelenggaraan kapal Ship maintenance activities	-
Pelabuhan/ Terminal Port/ Terminal	Kebocoran injap / Valve leakage	1
	Kebocoran paip pemindah / Transfer pipe leakage	1
Pelantar / Platform	Tumpahan dari pelantar / Spillage from platform	-
Lain-lain / Others	Punca tidak dapat dikenal pasti Unknown source	6
Jumlah / Total		**11**

BENGKEL PENGURUSAN KESELAMATAN DOKUMEN RAHSIA RASMI DAN PENGURUSANNYA DI DALAM PERSEKITARAN ICT

Bahagian Air dan Marin (BAM), Ibu Pejabat Jabatan Alam Sekitar (JAS), telah menganjurkan Bengkel Pengurusan Keselamatan Dokumen Rahsia Rasmi dan Pengurusannya di dalam Persekitaran ICT pada 14 April 2025, bertempat di Bilik Mesyuarat Cempaka, JAS.

Bengkel ini telah dihadiri oleh Dr. Norhazni binti Mat Sari, Timbalan Ketua Pengarah (Operasi), Tuan Rosli bin Osman, Pengarah Bahagian Air dan Marin serta pegawai-pegawai daripada Bahagian Air dan Marin, Bahagian Teknologi Maklumat, Bahagian Penguatkuasaan, Bahagian Penilaian dan JAS Negeri Johor.

Selain itu, bengkel ini turut disertai oleh seramai 40 orang peserta daripada pelbagai kementerian, jabatan dan agensi kerajaan negeri Johor, termasuk:

- Jabatan Peguam Negara
- Jabatan Hal Ehwal Maritim
- Jabatan Perhutanan Semenanjung Malaysia
- Agensi Angkasa Malaysia (MYSA)
- Jabatan Kimia Malaysia
- Jabatan Laut Malaysia
- Jabatan Perikanan Malaysia
- Jabatan Perikanan Negeri Johor
- Jabatan Ukur dan Pemetaan Malaysia
- Jabatan Ketua Pengarah Tanah & Galian Persekutuan
- Kementerian Pengangkutan
- Kementerian Luar Negeri
- Agensi Penguatkuasaan Maritim Malaysia
- Majlis Keselamatan Negara
- Lembaga Pelabuhan Johor
- Bahagian Perancangan Ekonomi Negeri Johor
- Kapal Diraja Sultan Ismail (KDSI) dan
- Pusat Pencerapan Bumi, Universiti Kebangsaan Malaysia selaku Rakan Strategik.

WORKSHOP ON THE MANAGEMENT AND SECURITY OF OFFICIAL CLASSIFIED DOCUMENTS IN AN ICT ENVIRONMENT

The Water and Marine Division (BAM), Headquarters of the Department of Environment (DOE), organised the Workshop on the Management and Security of Official Classified Documents in an ICT Environment on 14 April 2025, held at the Cempaka Meeting Room, DOE.

The workshop was attended by Dr. Norhazni binti Mat Sari, Deputy Director General (Operations), Tuan Rosli bin Osman, Director of Water and Marine Division, as well as officers from the Water and Marine Division, Information Technology Division, Enforcement Division, Assessment Division, and the Johor State DOE.

In addition, the workshop was attended by 40 participants from various ministries, departments, and state government agencies of Johor, including:

- Attorney General's Chambers
- Maritime Affairs Department
- Forestry Department of Peninsular Malaysia
- Malaysian Space Agency (MYSA)
- Department of Chemistry Malaysia
- Department of Marine Malaysia
- Department of Fisheries Malaysia
- Johor State Fisheries Department
- Department of Survey and Mapping Malaysia
- Federal Land and Mines Office
- Ministry of Transport
- Ministry of Foreign Affairs
- Malaysian Maritime Enforcement Agency
- National Security Council
- Johor Port Authority
- Johor State Economic Planning Unit
- Sultan Ismail Royal Ship (KDSI)
- Earth Observation Centre, National University of Malaysia as a Strategic Partner.

Bahagian Air dan Marin, JAS telah menjemput penceramah daripada Pejabat Ketua Pegawai Keselamatan Kerajaan Malaysia (CGSO) bagi menyampaikan taklimat berkaitan pengurusan dokumen rahsia rasmi. Tujuan taklimat ini adalah untuk meningkatkan pematuhan terhadap pengendalian dokumen rahsia rasmi kerajaan serta melindungi maklumat tersebut daripada sebarang kebocoran yang boleh menjejaskan kedaulatan dan keselamatan negara.

The Water and Marine Division, DOE, invited speakers from the Chief Government Security Officer Office of Malaysia (CGSO) to deliver a briefing on the management of official classified documents. The briefing aimed to enhance compliance in handling government official classified documents and to protect sensitive information from any leakage that could compromise national sovereignty and security.





Bengkel Pengurusan Keselamatan Dokumen Rahsia Rasmi dan Pengurusannya di dalam Persekitaran ICT / Workshop on the Management and Security of Official Classified Documents in an ICT Environment

LAPORAN TAHUNAN SEKSYEN AUDIT BEBAN PENCEMARAN (SABP) 2025

MESYUARAT PENYELARASAN DATA BEBAN PENCEMARAN AIR BAGI PENYEDIAAN LAPORAN KUALITI ALAM SEKELILING TAHUN 2024

Mesyuarat ini telah diadakan pada 23 Januari 2025 di Bilik Mesyuarat Raflesia oleh Bahagian Air dan Marin secara hibrid. Bahagian Air dan Marin, Jabatan Alam Sekitar bertanggungjawab untuk mengumpul data bagi status beban pencemaran air di Malaysia sebagai salah satu komponen yang akan dilaporkan dalam Laporan Kualiti Alam Sekeliling .

Mesyuarat ini diadakan bagi membincangkan penyelarasan data berkaitan beban pencemaran air yang diperoleh daripada pihak pembekal data agar maklumat yang dikemukakan adalah tepat dan seterusnya memastikan penyediaan laporan EQR dapat dilaksanakan dengan baik.

Mesyuarat ini telah dihadiri oleh wakil dari Jabatan Kerajaan Tempatan, Jabatan Perkhidmatan Veterinar, Suruhanjaya Perkhidmatan Air Negara, Indah Water Konsortium, Jabatan Perkhidmatan Pembentungan serta agensi berkaitan bagi negeri Sabah dan Sarawak.

ANNUAL REPORT OF THE POLLUTION LOAD AUDIT SECTION (SABP) 2025

COORDINATION MEETING ON WATER POLLUTION LOAD DATA FOR THE PREPARATION OF THE 2024 ENVIRONMENTAL QUALITY REPORT

The meeting was conducted on 23 January 2025 at the Raflesia Meeting Room by the Water and Marine Division in a hybrid mode. The Water and Marine Division, Department of Environment, is responsible for collecting data on the status of water pollution loads in Malaysia as one of the components to be reported in the Environmental Quality Report (EQR).

The meeting was held to discuss the coordination of data related to water pollution loads obtained from data providers to ensure that the information submitted is accurate and to facilitate the effective preparation of the EQR.

The meeting was attended by representatives from Department of Local Government, Department of Veterinary Services, National Water Services Commission, Indah Water Konsortium, and Sewerage Services Department, as well as relevant agencies from the states of Sabah and Sarawak.



Mesyuarat dipengerusikan oleh Puan Norina a/k Frederick Sambang selaku pengerusi ganti / The meeting was chaired by Puan Norina a/k Frederick Sambang as the alternate chairperson

MESYUARAT AHLI JAWATANKUASA PENILAIAN PERUNDING (JPP) 2/2025 BAGI KAJIAN PENYEDIAAN DOKUMEN PENYATA IMPAK PERATURAN *(REGULATORY IMPACT STATEMENT,* RIS) BAGI CADANGAN PINDAAN KEPADA PERUNDANGAN BERKAITAN KAWALAN PENCEMARAN AIR DI BAWAH PROJEK PEMBANGUNAN RANCANGAN MALAYSIA KEDUA BELAS (RMKE-12)

Mesyuarat ini diadakan pada 7 Februari 2025 di Bilik Mesyuarat Raflesia bagi menilai dokumen Cadangan Teknikal dan Kewangan yang dikemukakan oleh firma perunding yang dipelawa serta memuktamadkan lantikan firma perunding untuk melaksanakan Kajian Penyediaan Dokumen Penyata Impak Peraturan (*Regulatory Impact Statement*, RIS) Bagi Cadangan Pindaan Kepada Perundangan Berkaitan Kawalan Pencemaran Air di bawah Projek Pembangunan Rancangan Malaysia Kedua Belas (RMKe-12).

MEETING OF THE CONSULTANT EVALUATION COMMITTEE (JPP) 2/2025 FOR THE STUDY ON THE PREPARATION OF THE REGULATORY IMPACT STATEMENT (RIS) DOCUMENT FOR THE PROPOSED AMENDMENTS TO LEGISLATION RELATED TO WATER POLLUTION CONTROL UNDER THE TWELFTH MALAYSIA PLAN (12MP) DEVELOPMENT PROJECT

The meeting was held on 7 February 2025 at the Raflesia Meeting Room to evaluate the Technical and Financial Proposal documents submitted by the invited consulting firms, as well as to finalize the appointment of a consulting firm to undertake The Study on The Preparation of The Regulatory Impact Statement (RIS) Document for The Proposed Amendments To Legislation Related To Water Pollution Control under the Twelfth Malaysia Plan (12MP) Development Project.



Mesyuarat di pengerusikan oleh Encik Rosli bin Osman, Pengarah Bahagian Air dan Marin
The meeting was chaired by Encik Rosli bin Osman, Director of the Water and Marine Division

PROGRAM LAWATAN KE HANWHA Q CELLS MALAYSIA SDN. BHD.

Bahagian Air dan Marin, Jabatan Alam Sekitar (JAS) Ibu Pejabat telah mengadakan Program Lawatan ke Syarikat Hanwha Q Cells Malaysia Sdn. Bhd., Cyberjaya pada tarikh 24 Februari 2025. Lawatan ini telah diadakan bersama-sama dengan Jabatan Alam Sekitar Cawangan Sepang.

SITE VISIT PROGRAMME TO HANWHA Q CELLS MALAYSIA SDN. BHD.

Water and Marine Division, Department of Environment (DOE) Headquarters, conducted a site visit programme to Hanwha Q Cells Malaysia Sdn. Bhd., Cyberjaya on 24 February 2025. The visit was carried out in collaboration with Department of Environment Sepang Branch.



Sesi Lawatan ke Sistem Pengolahan Efluen di Premis
Site Visit to the On-Site Effluent Treatment System

Program lawatan ini memberi manfaat melalui perkongsian pengetahuan dan pengalaman bersama pihak premis, terutamanya berkaitan sistem pengolahan efluen industri.

SESI LIBAT URUS BIL 1/2025 KAJIAN PENYEDIAAN DOKUMEN PENYATA IMPAK PERATURAN (*REGULATORY IMPACT STATEMENT, RIS*) BAGI CADANGAN PINDAAN KEPADA PERUNDANGAN BERKAITAN KAWALAN PENCEMARAN AIR DI BAWAH PROJEK PEMBANGUNAN RANCANGAN MALAYSIA KEDUA BELAS (RMKE-12)

Program ini telah dilaksanakan pada 21 hingga 25 April 2025 di Palm Seremban Hotel, Seremban, Negeri Sembilan. Sesi libat urus telah dihadiri oleh pegawai dari JAS Ibu Pejabat, JAS Negeri, serta pihak perunding yang dilantik.

Sesi ini diadakan untuk membincangkan input dan maklum balas peserta berkaitan kajian yang akan dijalankan, serta untuk menyemak semula perundangan berkaitan kawalan pencemaran air.

Kajian ini dijalankan untuk menyediakan Dokumen Penyata Impak Peraturan (Regulatory Impact Statement, RIS) sebagaimana yang ditetapkan di bawah *National Policy on Good Regulatory Practice (NPGRP)*.

The visit provided valuable insights through the exchange of knowledge and experience with the premises, particularly in relation to the industrial effluent treatment system.

ENGAGEMENT SESSION NO. 1/2025 THE STUDY ON THE PREPARATION OF THE REGULATORY IMPACT STATEMENT (RIS) FOR THE PROPOSED AMENDMENTS TO LEGISLATION RELATED TO WATER POLLUTION CONTROL UNDER THE TWELFTH MALAYSIA PLAN (12MP) DEVELOPMENT PROJECT

The programme was conducted from 21 to 25 April 2025 at the Palm Seremban Hotel, Seremban, Negeri Sembilan. The engagement session was attended by officers from the DOE Headquarters, DOE State Offices, and the appointed consulting firms.

The session was held to discuss participants' inputs and feedback on the study to be undertaken, as well as to review legislation related to water pollution control.

This study is being carried out to prepare the Regulatory Impact Statement (RIS) document as prescribed under the National Policy on Good Regulatory Practice (NPGRP).



Peserta Perbincangan dan Pembentangan Sesi Libat Urus /
Participants of the Discussion and Engagement Session Presentation

SESI LIBAT URUS BIL 2/2025 KAJIAN PENYEDIAAN DOKUMEN PENYATA IMPAK PERATURAN (*REGULATORY IMPACT STATEMENT*, RIS) BAGI CADANGAN PINDAAN KEPADA PERUNDANGAN BERKAITAN KAWALAN PENCEMARAN AIR DI BAWAH PROJEK PEMBANGUNAN RANCANGAN MALAYSIA KEDUA BELAS (RMKE-12)

Program ini dilaksanakan pada 5 - 9 Mei 2025 di Days Hotel & Suites by Wyndham, Fraser Business Park, Kuala Lumpur. Sesi ini telah dihadiri oleh pegawai dari JAS Ibu Pejabat dan JAS Negeri, dan merupakan kesinambungan daripada sesi terdahulu yang telah diadakan di Negeri Sembilan.

Antara perbincangan yang dijalankan adalah berkaitan pengemaskinian Dokumen Panduan Mengenai Reka Bentuk dan Operasi Sistem Pengolahan Efluen Perindustrian serta Dokumen Panduan Mengenai Pemantauan Prestasi Sistem Pengolahan Efluen Perindustrian, selaras dengan cadangan pindaan kepada perundangan berkaitan kawalan pencemaran.

ENGAGEMENT SESSION NO. 2/2025 THE STUDY ON THE PREPARATION OF THE REGULATORY IMPACT STATEMENT (RIS) FOR THE PROPOSED AMENDMENTS TO LEGISLATION RELATED TO WATER POLLUTION CONTROL UNDER THE TWELFTH MALAYSIA PLAN (12MP) DEVELOPMENT PROJECT

The programme was conducted from 5 - 9 May 2025 at Days Hotel & Suites by Wyndham, Fraser Business Park, Kuala Lumpur. The sessions were attended by officers from the DOE Headquarters and State Offices and served as a continuation of the previous sessions held in Negeri Sembilan.

Discussions focused on the updating of the Guidelines on the Design and Operation of Industrial Effluent Treatment Systems and the Guidelines on Monitoring the Performance of Industrial Effluent Treatment Systems, in line with proposed amendments to legislation related to pollution control.



Sebahagian Peserta Sesi Libat Urus /
Some of the Engagement Session Participants

PROGRAM LAWATAN KE PREMIS ETIKA BEVERAGES SDN. BHD., DAN LOJI RAWATAN KUMBAHAN (IWK) HLT 276, BANDAR BARU BANGI, SELANGOR

Program Lawatan ke Etika Beverages Sdn. Bhd. (Asahi Holdings Southeast Asia Sdn. Bhd.) dan Loji Rawatan Kumbahan (IWK) HLT 276, Bandar Baru Bangi, Selangor telah diadakan pada 7 Julai 2025. Program ini disertai oleh wakil Suruhanjaya Perkhidmatan Air Negara (SPAN), Jabatan Alam Sekitar Cawangan Kajang, serta wakil dari firma Zaid Ibrahim & Co selaku perunding yang dilantik bagi Kajian Penyediaan Dokumen Penyata Impak Peraturan (*Regulatory Impact Statement*, RIS) bagi Cadangan Pindaan kepada Perundangan Berkaitan Kawalan Pencemaran Air.

Lawatan ini diadakan untuk mendapatkan input dan memberi pendedahan kepada pihak perunding yang dilantik berkaitan pengurusan dan operasi sistem pengolahan efluen serta loji rawatan kumbahan. Maklumat yang diperoleh semasa sesi lawatan ini akan digunakan bagi melaksanakan penilaian impak peraturan terhadap pihak berkepentingan yang terlibat.

SITE VISIT PROGRAMME TO ETIKA BEVERAGES SDN. BHD. AND INDAH WATER KONSORTIUM (IWK) SEWAGE TREATMENT PLANT HLT 276, BANDAR BARU BANGI, SELANGOR

The site visit programme to Etika Beverages Sdn. Bhd. (Asahi Holdings Southeast Asia Sdn. Bhd.) and the Wastewater Treatment Plant (IWK) HLT 276, Bandar Baru Bangi, Selangor, was conducted on 7 July 2025. The programme was attended by representatives from the National Water Services Commission (SPAN), Department of Environment Kajang Branch, as well as representatives from Zaid Ibrahim & Co, the appointed consulting firm for The Study on the Preparation of the Regulatory Impact Statement (RIS) Document for the Proposed Amendments to Legislation Related to Water Pollution Control.

The visit was conducted to obtain input and provide exposure to the appointed consulting firm regarding the management and operation of the effluent treatment system and wastewater treatment plant. Information gathered during the visit will be used to carry out regulatory impact assessments for the relevant stakeholders involved.



Peserta Lawatan bersama Wakil Premis /
Tour participants with the premises representative

SESI TAKLIMAT MENGENAI PERUNDANGAN KAWALAN PENCEMARAN AIR DAN PELAKSANAAN *ZERO DISCHARGE POLICY* (ZDP) OLEH LEMBAGA URUS AIR SELANGOR (LUAS)

Sesi taklimat ini telah dilaksanakan pada 28 Oktober 2025 di Bilik Mesyuarat Raflesia, Bahagian Air dan Marin. Taklimat ini telah disampaikan oleh Puan Norfazilah binti Shaharudin, Penasihat Undang-undang LUAS.

BRIEFING SESSION ON WATER POLLUTION CONTROL LEGISLATION AND THE IMPLEMENTATION OF THE ZERO DISCHARGE POLICY (ZDP) BY SELANGOR WATER MANAGEMENT AUTHORITY (LUAS)

The briefing session was conducted on 28 October 2025 at the Raflesia Meeting Room, Water and Marine Division. The briefing was delivered by Puan Norfazilah binti Shaharudin, Legal Advisor of LUAS.

Sesi taklimat ini diadakan untuk mendapatkan penerangan mengenai pelaksanaan ZDP oleh pihak LUAS. Sesi ini juga bertujuan untuk menilai implikasi pelaksanaan ZDP terhadap penguatkuasaan peraturan kawalan pencemaran air di bawah Akta Kualiti Alam Sekeliling 1974.

Input yang diperoleh daripada sesi ini akan diambil kira dalam proses pindaan peraturan berkaitan kawalan pencemaran air bagi memastikan bahawa peraturan yang akan dipinda dan pelaksanaan ZDP saling melengkapi serta menyokong pemeliharaan kualiti air dan sumber air.

The session was held to obtain explanations regarding the implementation of the Zero Discharge Policy (ZDP) by LUAS. It also aimed to assess the implications of ZDP implementation on the enforcement of water pollution control regulations under the Environmental Quality Act 1974.

The input obtained from this session will be taken into account in the process of amending water pollution control regulations to ensure that the amended regulations and the implementation of ZDP complement each other and collectively support the preservation of water quality and resources.



Pengarah Bahagian Air dan Marin Menyampaikan Cenderahati kepada Puan Norfazilah binti Shaharudin / The Director of the Water and Marine Division presents a memento to Puan Norfazilah binti Shaharudin.

KOLOKIUM ANALISIS DATA OLEH PAKAR SCIENO TW SDN. BHD.

Kolokium ini telah dilaksanakan pada 19 Disember 2025 di Bilik Mesyuarat Raflesia, Bahagian Air dan Marin, dengan kerjasama Pakar Scieno TW Sdn. Bhd. (PSTW). Objektif kolokium ini adalah untuk mempelajari kaedah dan prosedur analisis data, terutamanya bagi set data yang besar dan kompleks, serta memberi peluang kepada pegawai untuk memahami dengan lebih mendalam proses pengiraan, semakan dan pengurusan data.

Sesi ini membolehkan pegawai meningkatkan pemahaman dan kemahiran dalam menganalisis data, sekaligus memastikan pengurusan dan interpretasi data dijalankan secara lebih sistematik, tepat dan boleh dipercayai. Selain itu, manfaat kolokium ini juga membolehkan pengetahuan yang diperoleh diaplikasikan dalam penyediaan laporan dan pengurusan data secara lebih berkesan.

COLLOQUIUM ON DATA ANALYSIS BY PAKAR SCIENO TW SDN. BHD.

The colloquium was held on 19 December 2025 at the Raflesia Meeting Room, Water and Marine Division, in collaboration with Pakar Scieno TW Sdn. Bhd. (PSTW). The objective of the colloquium was to learn the methods and procedures for data analysis, particularly for large and complex data sets, while also giving officers the opportunity to gain a deeper understanding of the processes involved in data calculation, review, and management.

The session enabled officers to enhance their understanding and skills in data analysis, ensuring that data management and interpretation are carried out in a more systematic, accurate, and reliable manner. In addition, the knowledge gained from the colloquium can be applied directly to report preparation and more effective management of data.



Peserta Kolokium Analisis Data / Data Analysis Colloquium Participants

KAJIAN PENYEDIAAN DOKUMEN PENYATA IMPAK PERATURAN (*REGULATORY IMPACT STATEMENT*, RIS) BAGI CADANGAN PINDAAN KEPADA PERUNDANGAN BERKAITAN KAWALAN PENCEMARAN AIR

Bahagian Air dan Marin, Jabatan Alam Sekitar (JAS) telah melaksanakan Kajian Penyediaan Dokumen *Regulatory Impact Statement* (RIS) bagi Cadangan Pindaan Perundangan Berkaitan Kawalan Pencemaran Air di bawah projek pembangunan Rancangan Malaysia Kedua Belas (RMKe-12) bagi tempoh 2024 hingga 2025.

Sepanjang tempoh pelaksanaan projek ini, beberapa bengkel dan sesi libat urus telah dilaksanakan bagi menyokong kerja-kerja semakan dan pindaan Peraturan-Peraturan Kualiti Alam Sekeliling, termasuk penyediaan dokumen RIS melalui pelaksanaan *Regulatory Impact Analysis* (RIA).

Kajian RIA ini memberi tumpuan kepada cadangan pindaan Peraturan-Peraturan Kualiti Alam Sekeliling (Efluen Perindustrian) 2009, Peraturan-Peraturan Kualiti Alam Sekeliling (Kumbahan) 2009, serta Peraturan-Peraturan Kualiti Alam Sekeliling (Kawalan Pencemaran daripada Stesen Pemindahan Sisa Pepejal dan Kambus Tanah) 2009. Kajian ini bertujuan menilai impak cadangan pindaan peraturan secara menyeluruh, termasuk dari aspek kos dan manfaat, bagi memastikan peraturan yang dicadangkan adalah praktikal, seimbang, berkesan serta berasaskan bukti dalam mengawal pencemaran air tanpa menjejaskan aktiviti ekonomi.

THE STUDY ON THE PREPARATION OF THE REGULATORY IMPACT STATEMENT (RIS) DOCUMENT FOR THE PROPOSED AMENDMENTS TO LEGISLATION RELATED TO WATER POLLUTION CONTROL

The Water and Marine Division, Department of Environment (DOE) has undertaken a Study on the Preparation of the Regulatory Impact Statement (RIS) Document for the Proposed Amendments to Legislation Related to Water Pollution Control under the Twelfth Malaysia Plan (12MP) development project for the period of 2024 to 2025.

Throughout the implementation of this project, several workshops and stakeholder engagement sessions were conducted to support the review and amendment of the Environmental Quality Regulations, including the preparation of the RIS document through the implementation of Regulatory Impact Analysis (RIA).

The RIA study focuses on the proposed amendments to the Environmental Quality (Industrial Effluent) Regulations 2009, Environmental Quality (Sewage) Regulations 2009, and Environmental Quality (Control of Pollution from Solid Waste Transfer Stations and Landfills) Regulations 2009. The study aims to comprehensively assess the impacts of the proposed regulatory amendments, including cost and benefit considerations, to ensure that the proposed regulations are practical, balanced, effective, and evidence-based in controlling water pollution without adversely affecting economic activities.

Pelaksanaan kajian ini turut melibatkan penglibatan pelbagai pemegang taruh, termasuk Kerajaan Persekutuan dan Negeri, badan kawal selia, agensi kerajaan, pihak industri, serta orang awam bagi memastikan pendekatan yang inklusif dan komprehensif dalam cadangan pindaan yang sedang dirangka.

Program dan aktiviti yang telah dilaksanakan bagi kajian ini adalah seperti yang dinyatakan dalam **Jadual 3.9**.

The implementation of this study also involves the participation of various stakeholders, including Federal and State Governments, regulatory bodies, government agencies, industry players, as well as the public, to ensure an inclusive and comprehensive approach in the development of the proposed amendments.

The programmes and activities implemented under this study are as presented in **Table 3.9.**

Jadual 3.9: Senarai Program/Aktiviti yang Dilaksanakan di bawah Kajian Penyediaan Dokumen Penyata Impak Peraturan (*Regulatory Impact Statement, RIS*) bagi cadangan pindaan kepada perundangan berkaitan kawalan pencemaran air di bawah projek pembangunan Rancangan Malaysia Kedua Belas (RMKe-12)

Table 3.9: List of Programme/Activity Conducted Under the Regulatory Impact Statement (RIS) for the Proposed legislative amendments for water pollution control under the Twelfth Malaysia Plan (12MP) development project

BIL. / NO.	AKTIVITI / PROGRAM	TARIKH / DATE
1	Mesyuarat Jawatankuasa Penilaian Perunding Bil. 1/2025 Consultant Evaluation Committee Meeting No. 1/2025	15 Jan 2024
2	Mesyuarat Jawatankuasa Penilaian Perunding Bil. 2/2025 Consultant Evaluation Committee Meeting No. 2/2025	7 Feb 2025
3	Mesyuarat Jawatankuasa Penilaian Perunding Bil. 3/2025 - Surat Setuju Terima (SST) & Perbincangan Perunding / Consultant Evaluation Committee Meeting No. 3/2025 - Letter of Acceptance (SST) & Consultant Discussion	7 Apr 2025
4	Mesyuarat Jawatankuasa Teknikal Pemandu Bil. 1/2025 - Laporan Insepsi Technical Steering Committee Meeting No. 1/2025 - Inception Report	20 Mei 2025
5	Mesyuarat Jawatankuasa Teknikal Pemandu Bil. 2/2025Laporan Kemajuan Technical Steering Committee Meeting No. 2/2025 - Progress Report	30 Jul 2025
6	Mesyuarat Jawatankuasa Teknikal Pemandu Bil. 3/2025 Laporan Draf Akhir Technical Steering Committee Meeting No. 3/2025 - Final Draft Report	19 Okt 2025
7	Mesyuarat Jawatankuasa Teknikal Pemandu Bil. 4/2025 Laporan Akhir Technical Steering Committee Meeting No. 4/2025 - Final Report	20 Nov 2025
8	Sesi Libat Urus Bil. 1/2025 (Palm Seremban Hotel) Engagement Session No. 1/2025 (Palm Seremban Hotel)	21-25 Apr 2025
9	Sesi Libat Urus Bil. 2/2025 (Days Hotel & Suites, KL) Engagement Session No. 2/2025 (Days Hotel & Suites, KL)	5-9 Mei 2025
10	Sesi Libat Urus bersama Pihak Berkepentingan Bil. 3/2025 (Hotel Pulse Grande) Stakeholder Engagement Session No. 3/2025 (Pulse Grande Hotel)	26-28 Ogos 2025
11	Sesi Libat Urus Bil. 4/2025 (The Pearl Hotel Kuala Lumpur) Engagement Session No. 4/2025 (The Pearl Hotel Kuala Lumpur)	14-16 Okt 2025



PENGUATKUASAAN TERHADAP AKTIVITI PEMBAKARAN TERBUKA

Kes pembakaran terbuka dikesan melalui operasi rondaan mencegah pembakaran terbuka yang dilaksanakan oleh JAS Negeri di kawasan-kawasan yang dikenal pasti sebagai kawasan yang berisiko berlaku kebakaran dan sering menerima aduan daripada orang awam. Di samping itu maklumat *hotspots* juga diperolehi melalui satelit yang dipantau dan dilaporkan oleh *ASEAN Specialised Meteorological Centre (*ASMC) yang berpusat di Singapura. Pada tahun 2025 sebanyak 688 *hotspots* di seluruh negara telah dilaporkan melalui satelit (**Jadual 3.10**).

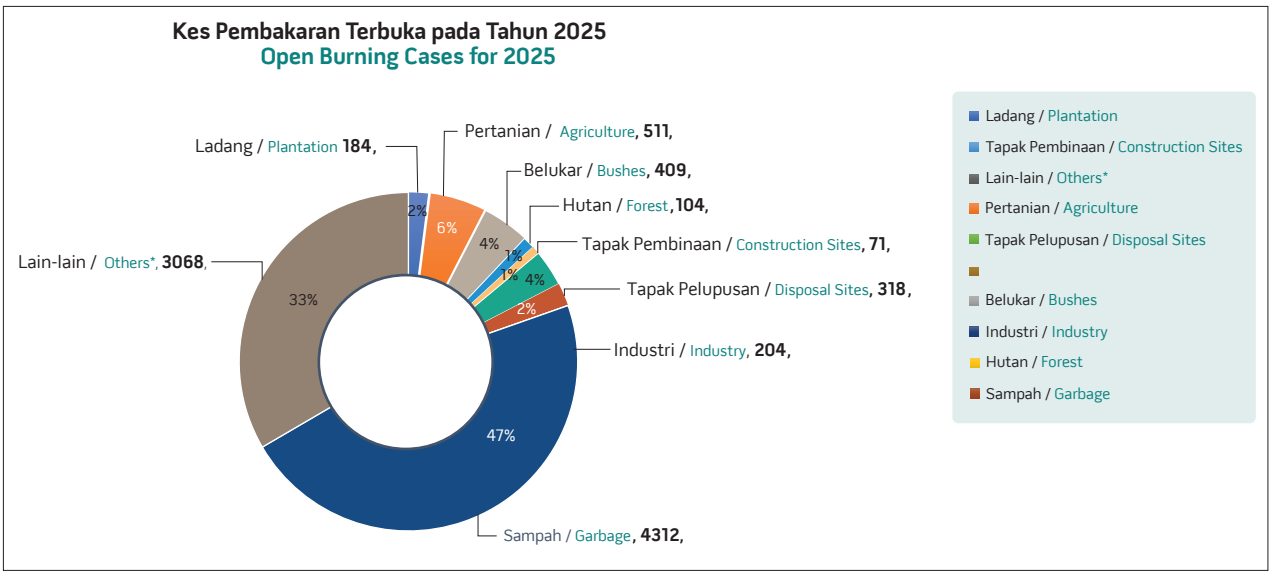
Sebanyak 9,181 kes pembakaran terbuka telah dikesan pada tahun 2025 (**Jadual 3.11**, **Jadual 3.12** dan **Rajah 3.1**) dan dilaporkan oleh setiap JAS Negeri melalui sistem atas talian dalaman JAS iaitu Sistem Elektronik Kawalan Alam Sekitar (e-KAS) di bawah Sub-Modul Pembakaran Terbuka dan Sub-Modul Aduan. Kejadian pembakaran terbuka yang utama sering berlaku adalah pembakaran sampah sarap di kawasan perumahan dan pembakaran sampah sarap di tepi bahu jalan (4,312 kes). Pembakaran bukan sampah sarap seperti daun, dahan pokok, pangkasan pokok, aktiviti keagamaan atau penyembahan yang dikategorikan sebagai lain-lain aktiviti (3,068 kes). Terdapat juga insiden kebakaran daripada aktiviti pertanian (511 kes) dan belukar (409 kes). Pembakaran terbuka sering berlaku terutamanya semasa cuaca panas dan kering iaitu pada bulan Jun (824 kes), Julai (1,464 kes) dan Ogos (1,033 kes). Daripada 9,181 kes pembakaran terbuka tersebut, 165 kes telah dikompaun dengan jumlah kompaun yang dikutip ialah sebanyak RM180,500 dan 2 kes dikenakan tindakan mahkamah dengan jumlah kutipan denda sebanyak RM100,000.00.

ENFORCEMENT AGAINST OPEN BURNING ACTIVITIES

Open burning cases were detected during daily ground surveillance conducted by DOE State Offices at identified fire-prone areas, which received frequent complaints from the public. Besides this, there are also hotspots detected via satellites reported by the ASEAN Specialised Meteorological Centre (ASMC) based in Singapore. In 2025, a total of 688 hotspots were detected via satellites (**Table 3.10**).

A total of 9,181 open burning cases were detected in 2025 (**Table 3.11**, **Table 3.12** and **Figure 3.1**) and these cases were reported by the DOE State Offices in DOE's internal online system (e-KAS) under the Open Burning Sub-Module and the Complaint Sub-Module. Frequent open burning incidents were found to occur due to activities such as garbage burning in residential areas and garbage burning by the roadside (4,312 cases). Burning of non-garbage such as leaves, tree branches, yard trimmings, and burning of any articles as part of religious rites or worshipping activities were categorised as other activities (3,068 cases). There were also fire incidents in agricultural areas (511 cases) and bushes (409 cases). Open burning often occurs especially during the hot and dry period in the months of June (824 cases), July (1,464 cases), and August (1,033 cases). Out of the 9,181 open burning cases detected, 165 cases were issued with compounds amounting to RM180,500.00 and 2 cases were subject to court action with a total fine of RM100,000.00.

Rajah 3.1: Bilangan Kes Pembakaran Terbuka mengikut Kategori, 2025
Figure 3.1: Number of Open Burning Cases by Categories, 2025



Nota / *Note* :
*Lain-lain - Pembakaran sampah sarap di kawasan perumahan, tepi jalan dan aktiviti keagamaan/penyembahan
**Others - Burning garbage in residential areas, streets and religious activities / worship*

Jadual 3.10: Bilangan Kes *Hotspots* Dikesan Melalui Satelit mengikut Negeri, 2025 (Sumber: ASMC)
Table 3.10: Number of Hotspots Detected through Satellite by States, 2025 (Source: ASMC)

NEGERI / STATE	BULAN / MONTH												
	Jan Jan	Feb Feb	Mac March	April April	Mei May	Jun June	Julai July	Ogos Aug	Sep Sept	Okt Oct	Nov Nov	Dis Dec	Jumlah Total
Johor	0	1	0	3	3	9	4	4	2	5	2	1	34
Kedah	0	3	15	2	0	0	0	1	0	2	0	1	24
Kelantan	0	3	0	0	2	0	1	9	1	0	0	0	16
Melaka	0	2	0	2	0	1	0	1	0	1	0	0	7
Negeri Sembilan	0	0	1	0	0	1	0	2	0	0	0	0	4
Pahang	0	4	10	3	0	4	30	5	6	6	2	1	71
Perak	0	8	0	0	2	4	3	5	0	1	0	0	23
Perlis	2	4	1	0	0	0	0	0	0	1	0	0	8
Pulau Pinang	0	0	0	0	0	0	0	0	0	0	0	0	0
Sabah	0	2	1	0	3	14	41	9	17	4	5	5	101
Sarawak	0	0	5	12	30	37	172	21	36	20	9	1	343
Selangor	3	4	0	0	2	3	9	3	1	2	1	1	29
Terengganu	0	1	5	2	0	0	6	1	3	8	0	2	28
W.P. Kuala Lumpur/ Putrajaya	0	0	0	0	0	0	0	0	0	0	0	0	0
W.P. Labuan	0	0	0	0	0	0	0	0	0	0	0	0	0
Jumlah / Total	**5**	**32**	**38**	**24**	**42**	**73**	**266**	**61**	**66**	**50**	**19**	**12**	**688**
JUMLAH KESELURUHAN / TOTAL: 688													

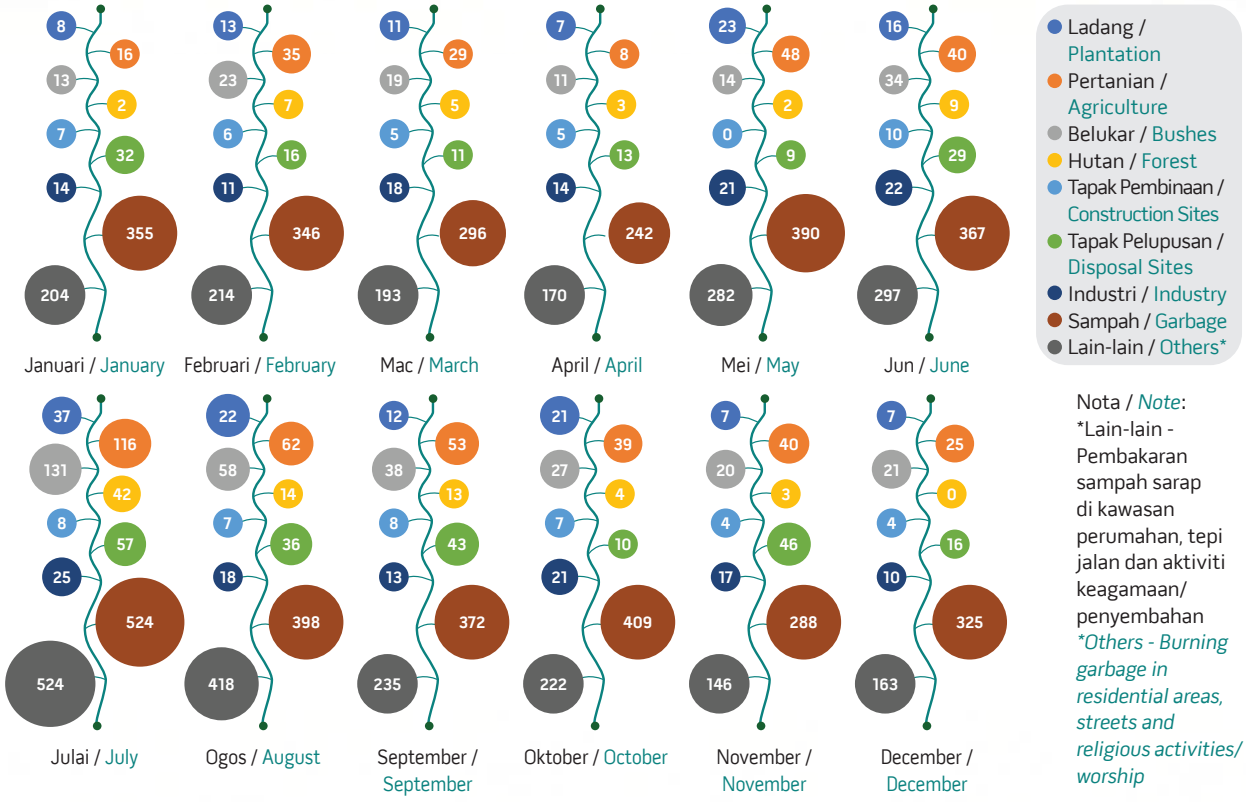
Jadual 3.11: Bilangan Kes Pembakaran Terbuka mengikut Negeri, 2025
Table 3.11: Number of Open Burning Cases by States, 2025

NEGERI / STATE	LADANG / PLANTATION	PERTANIAN/ AGRICULTURE	BELUKAR/ BUSHES	HUTAN / FOREST	TAPAK PEMBINAAN / CONSTRUCTION SITES	TAPAK PELUPUSAN/ DISPOSAL SITES	INDUSTRI/ INDUSTRY	SAMPAH / GARBAGE	LAIN-LAIN / OTHERS*	JUMLAH / TOTAL
Johor	19	48	25	3	11	28	49	269	788	1240
Kedah	17	18	30	0	5	6	10	242	128	456
Kelantan	3	9	10	5	1	1	0	54	92	175
Melaka	11	31	14	0	6	11	19	153	359	604
Negeri Sembilan	9	11	12	0	2	2	9	315	91	451
Pahang	14	23	27	34	5	3	5	83	150	344
Perak	9	20	8	3	8	43	7	407	223	728
Perlis	3	7	12	0	4	0	1	10	18	55
Pulau Pinang	13	30	8	18	3	7	3	637	0	719
Sabah	1	108	5	2	0	1	0	149	40	306
Sarawak	64	68	175	34	5	4	25	197	66	638
Selangor	20	91	69	5	15	211	71	1,218	874	2574
Terengganu	1	4	11	0	1	1	4	68	148	238
W.P. Kuala Lumpur / Putrajaya	0	43	3	0	5	0	1	509	79	640
W.P. Labuan	0	0	0	0	0	0	0	1	12	13
Jumlah / Total	**184**	**511**	**409**	**104**	**71**	**318**	**204**	**4312**	**3068**	**9181**
JUMLAH KESELURUHAN / TOTAL: 9,181										

Nota / *Note* :
*Lain-lain - Pembakaran sampah sarap di kawasan perumahan, tepi jalan dan aktiviti keagamaan/penyembahan
**Others - Burning garbage in residential areas, streets and religious activities / worship*

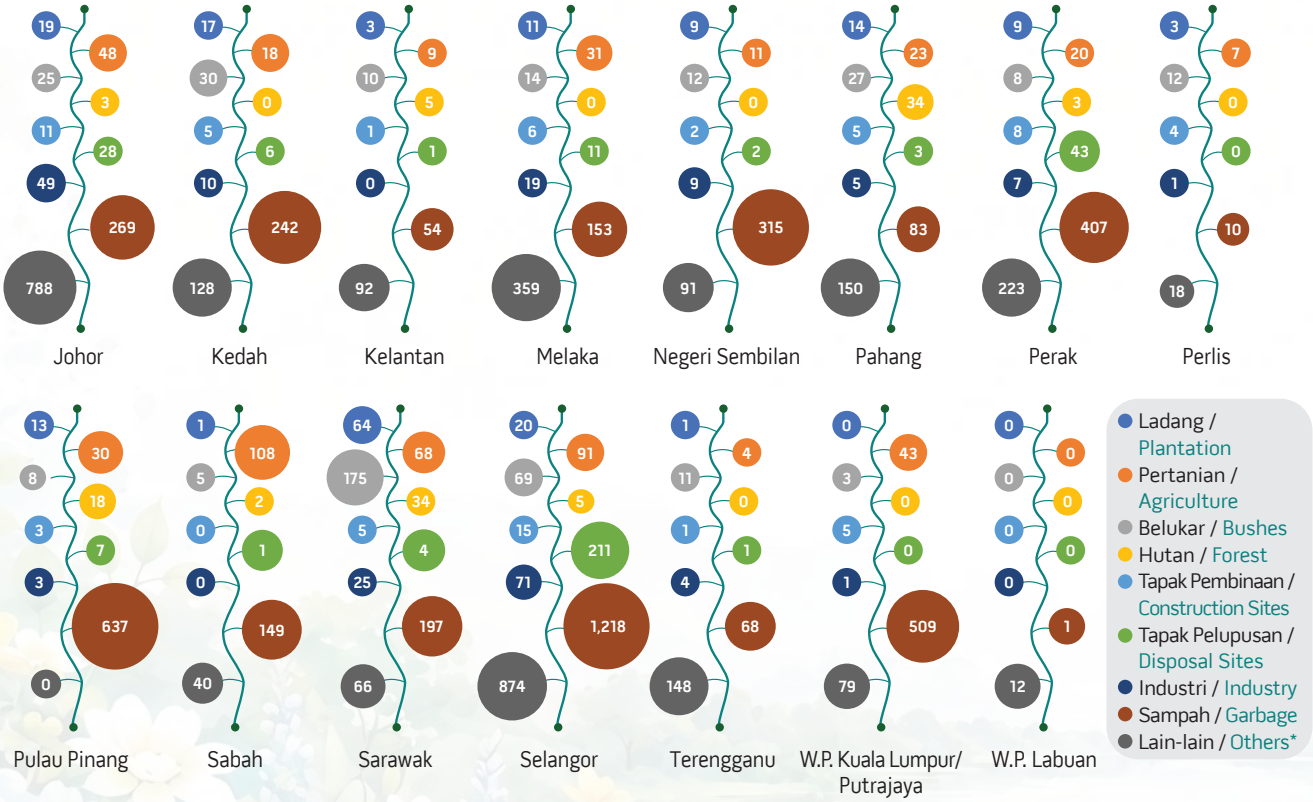
Jadual 3.12: Bilangan Kes Pembakaran Terbuka Bulanan, 2025
Table 3.12: Number of Open Burning Cases by Month, 2025

NEGERI / STATE	LADANG / PLANTATION	PERTANIAN/ AGRICULTURE	BELUKAR/ BUSHES	HUTAN / FOREST	TAPAK PEMBINAAN / CONSTRUCTION SITES	TAPAK PELUPUSAN/ DISPOSAL SITES	INDUSTRI/ INDUSTRY	SAMPAH / GARBAGE	LAIN-LAIN / OTHERS*	JUMLAH / TOTAL
Januari / January	8	16	13	2	7	32	14	355	204	651
Februari / February	13	35	23	7	6	16	11	346	214	671
Mac / March	11	29	19	5	5	11	18	296	193	587
April / April	7	8	11	3	5	13	14	242	170	473
Mei / May	23	48	14	2	0	9	21	390	282	789
Jun / June	16	40	34	9	10	29	22	367	297	824
Julai / July	37	116	131	42	8	57	25	524	524	1464
Ogos / August	22	62	58	14	7	36	18	398	418	1033
September / September	12	53	38	13	8	43	13	372	235	787
Oktober / October	21	39	27	4	7	10	21	409	222	760
November / November	7	40	20	3	4	46	17	288	146	571
December / December	7	25	21	0	4	16	10	325	163	571
Jumlah / Total	**184**	**511**	**409**	**104**	**71**	**318**	**204**	**4312**	**3068**	**9181**
JUMLAH KESELURUHAN / TOTAL: 9,181										



Nota / *Note*:
*Lain-lain - Pembakaran sampah sarap di kawasan perumahan, tepi jalan dan aktiviti keagamaan/ penyembahan
**Others - Burning garbage in residential areas, streets and religious activities/ worship*

Rajah 3.2: Bilangan Kes Pembakaran Terbuka Bulanan, 2025
Figure 3.2: Number of Open Burning Cases by Month, 2025



Rajah 3.3: Bilangan Kes Pembakaran Terbuka mengikut Negeri, 2025
Figure 3.3: Number of Open Burning Cases by States, 2025

PROTOKOL MONTREAL DAN PERLINDUNGAN LAPISAN OZON

LATAR BELAKANG

Malaysia telah meratifikasikan Konvensyen Vienna bagi Perlindungan Lapisan Ozon dan Protokol Montreal mengenai Bahan-bahan Pemusnah Lapisan Ozon pada 29 Ogos 1989. Sebagai negara Parti kepada Protokol Montreal, Malaysia telah memenuhi obligasi untuk menghentikan pengimportan klorofluorokarbon (CFC), halon dan karbon tetraklorida (CTC) mulai 1 Januari 2010. Manakala bahan pemusnah ozon seperti Metil Bromida telah dikawal pengimportan mulai 1 Januari 2015 untuk tujuan kegunaan kuarantin dan pra penghantaran melalui kapal.

Pelan Pengurusan Penghapusan HCFC (HPMP) Peringkat I yang bermula pada tahun 2012 telah selesai dilaksanakan pada tahun 2016. Pelaksanaan HPMP Peringkat I berjaya menghapuskan penggunaan HCFC sebanyak 111.85 ODPT. Peringkat II HPMP bermula pada tahun 2017 dan telah selesai dilaksanakan pada tahun 2024. Pelaksanaan HPMP Peringkat II berjaya menghapuskan penggunaan HCFC sebanyak 153.62 ODPT. Penghapusan penggunaan HCFC akan diteruskan dalam HPMP Peringkat III yang telah dilaksanakan pada Oktober 2024 sehingga tahun 2030. Pengimportan HCFC akan dilarang secara mutlak pada tahun 2040.

Dalam Mesyuarat Parti kepada Protokol Montreal Ke-28 di Kigali, Rwanda pada 15 Oktober 2016, Pindaan Kigali (KA) untuk mengurangkan penggunaan dan pengeluaran HFC secara berperingkat telah mendapat persetujuan oleh semua parti. Pindaan Kigali telah mula berkuat kuasa pada 1 Januari 2019. Bahan HFC telah ditambah sebagai bahan kawalan di bawah Protokol Montreal dan jadual pengurangan HFC telah diwujudkan bagi semua negara parti. Malaysia telah meratifikasi Pindaan ini pada 21 Oktober 2020.

PENGLIBATAN JABATAN ALAM SEKITAR MALAYSIA DALAM PROTOKOL MONTREAL

Pada 7 - 11 Julai 2025, delegasi Malaysia diketuai oleh Encik Ryan Ooi Chean Weai, Ketua Seksyen Perlindungan Ozon bersama dua (2) pegawai JAS telah menghadiri Mesyuarat ke-47 Open-Ended Working Group (OEWG47) di United Nations Conference Centre (UNCC) Bangkok, Thailand.

Mesyuarat ini merupakan mesyuarat tahunan peringkat kumpulan kerja bagi membincangkan isu-isu terkini mengenai pengurusan dan pemantauan penggunaan

MONTREAL PROTOCOL AND PROTECTION OF THE OZONE LAYER

BACKGROUND

Malaysia ratified the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer on 29 August 1989. As a Party to the Montreal Protocol, Malaysia has complied to the obligation to stop importing chlorofluorocarbon (CFC), halon, and carbon tetrachloride (CTC) by 1 January 2010. Other ozone depleting substances such as methyl bromide will only be allowed for quarantine and pre-shipment activities from 1 January 2015.

The Stage I HCFC Phase-out Management Plan (HPMP), initiated in 2012, was successfully concluded in 2016. Through the implementation of Stage I HPMP, the consumption of HCFCs has been effectively phased out, resulting in a reduction of 111.85 ODPT. The Stage II HCFC Phase-out initiated in 2017, was successfully concluded in 2024. Through the implementation of Stage II HPMP, the consumption of HCFCs has been effectively phased out, resulting in a reduction of 153.62 ODPT. HCFC use elimination will continue in HPMP Stage III, starting on October 2024 until 2030. The importation of HCFCs will be completely banned by 2040.

During the 28th Meeting of Parties to the Montreal Protocol in Kigali, Rwanda on 15 October 2016, the parties agreed on the Kigali Amendment (KA) to gradually reduce the consumption and production of HFCs. This agreement became effective on 1 January 2019, adding HFCs as controlled substances under the Montreal Protocol and establishing a phasedown plan for HFC reduction. Malaysia ratified the Amendment on 21 October 2020.

INVOLVEMENT OF DEPARTMENT OF ENVIRONMENT MALAYSIA IN MONTREAL PROTOCOL

From 7 - 11 July 2025, the Malaysian delegation led by Mr. Ryan Ooi Chean Weai, Head of the Ozone Protection Section, together with two (2) officers from DOE, attended the 47th Meeting of the Open-Ended Working Group (OEWG47) held at the United Nations Conference Centre (UNCC), Bangkok, Thailand.

This meeting is an annual working group meeting aimed at discussing current issues related to the management and monitoring of the use and production

serta pengeluaran bahan-bahan pemusnah lapisan ozon. Delegasi Malaysia mengambil peluang untuk mengadakan sesi bilateral dengan beberapa pihak bagi membincangkan isu – isu berbangkit, perkongsian maklumat dan teknologi baharu untuk membantu Malaysia dalam pelaksanaan Protokol Montreal.

Selain itu, Mesyuarat ke-37 The Parties (MOP37) to the Montreal Protocol on Substances that Deplete the Ozone Layer telah diadakan di Pejabat United Nation, Nairobi, Kenya pada 3 - 5 November 2025 untuk Segmen Persediaan (Prepatory Segment) dan 6-7 November untuk Segmen Peringkat Tertinggi (High Level Segment). Delegasi Malaysia ke mesyuarat kali ini telah diketuai oleh YBrs. Dr. Norhazni binti Mat Sari, Timbalan Ketua Pengarah (Operasi), Jabatan Alam Sekitar (JAS), dan diiringi oleh Puan Nor Aziah binti Jaafar, Pengarah Bahagian Udara, serta pegawai-pegawai daripada Bahagian Pengurusan Alam Sekitar (BPAS), Kementerian Sumber Asli dan Kelestarian Alam (NRES) dan Seksyen Perlindungan Ozon, JAS.

Ketua delegasi telah membentangkan pencapaian Malaysia dalam pengurusan Pelan Penghapusan Hidroklorofluorokarbon (HCFC), dan perkembangan terkini pelaksanaan Pindaan Kigali bagi pengurangan penggunaan HFC. Kenyataan negara turut menekankan pendekatan seimbang antara pematuhan dan tindakan iklim, serta keperluan kerjasama antarabangsa dan sokongan kewangan selaras dengan aspirasi Net Zero 2050 dan Pelan Peralihan Tenaga Negara.

Dalam Mesyuarat MOP37, Malaysia juga telah dilantik sebagai Pengerusi Bersama (Co-Chair) bersama Jerman dalam mesyuarat Jawatankuasa Penetapan Belanjawan bagi pelaksanaan Protokol Montreal bagi tahun 2026 dan 2027, yang telah dipengerusikan bersama oleh Encik Ryan Ooi Chean Weai, mewakili Malaysia dan Encik Sebastian Schnatz, dari Jerman.

Penyertaan Malaysia dalam MOP37 mencerminkan komitmen berterusan negara terhadap pemeliharaan lapisan ozon dan usaha mitigasi perubahan iklim selaras dengan tanggungjawab di bawah Protokol Montreal serta aspirasi Malaysia menuju masa depan yang mampan dan sejahtera.

of ozone-depleting substances. The Malaysian delegation also took the opportunity to hold bilateral sessions with several parties to discuss arising issues, share information, and explore new technologies to assist Malaysia in the implementation of the Montreal Protocol.

In addition, the 37th Meeting of the Parties (MOP37) to the Montreal Protocol on Substances that Deplete the Ozone Layer was held at the United Nations Office in Nairobi, Kenya from 3 - 5 November 2025 for the Preparatory Segment and from 6 - 7 November 2025 for the High-Level Segment. The Malaysian delegation to this meeting was led by YBrs. Dr. Norhazni binti Mat Sari, Deputy Director General (Operations) of the Department of Environment (DOE), accompanied by Puan Nor Aziah binti Jaafar, Director of the Air Division, as well as officers from the Environmental Management Division (BPAS), Ministry of Natural Resources and Environmental Sustainability (NRES), and the Ozone Protection Section, DOE.

The head of delegation delivered Malaysia's achievements in the management of the Hydrochlorofluorocarbon (HCFC) Phase-Out Plan and the latest progress in the implementation of the Kigali Amendment for the reduction of HFC consumption. The country statement also emphasized a balanced approach between compliance and climate action, as well as the need for international cooperation and financial support in line with the Net Zero 2050 aspiration and the National Energy Transition Roadmap.

During MOP37, Malaysia was also appointed as Co-Chair together with Germany for the Budget Committee meeting for the implementation of the Montreal Protocol for the years 2026 and 2027. The meeting was co-chaired by Mr. Ryan Ooi Chean Weai, representing Malaysia, and Mr. Sebastian Schnatz from Germany.

Malaysia's participation in MOP37 reflects the country's continued commitment to the protection of the ozone layer and climate change mitigation efforts in line with its obligations under the Montreal Protocol, as well as Malaysia's aspiration towards a sustainable and prosperous future.



Delegasi Malaysia ke Mesyuarat ke-47 *Open-Ended Working Group* (OEWG47) di *United Nation Conference Centre* (UNCC), Bangkok, Thailand / Malaysia delegation to the 47th Meeting of the Open-Ended Working Group (OEWG47) at the United Nation Conference Centre (UNCC), Bangkok, Thailand



Ketua Delegasi Membentangkan Pendirian Negara dalam Mesyuarat ke-47 *Open-Ended Working Group* (OEWG47) / Head of Delegation presented the Country's Position in the 47th Meeting of the Open-Ended Working Group (OEWG47)



Delegasi Malaysia di Kawasan Pameran sempena Mesyuarat ke-47 *Open-Ended Working Group* (OEWG47)
Malaysian Delegation at Booth Area during 47th Meeting of the Open-Ended Working Group (OEWG47)



Delegasi Malaysia ke *Thirty-Seventh Meeting of the Parties to the Montreal Protocol Substances* (MOP37) di United Nation Office of Nairobi (UNON) / Malaysia Delegations to the Thirty-Seventh Meeting of the Parties to the Montreal Protocol Substances (MOP37) at United Nation Office of Nairobi (UNON)



Wakil Malaysia sebagai Pengerusi Bersama (*Co-Chair*) bersama Jerman dalam Mesyuarat Jawatankuasa Penetapan Belanjawan bagi Pelaksanaan Protokol Montreal bagi Tahun 2026 dan 2027 /
Malaysian Delegate was appointed as Co-Chair, together with Germany, for the Budget Committee Meeting for the Implementation of the Montreal Protocol for 2026 and 2027



Ketua Delegasi Menyampaikan Pendirian Negara dalam *Thirty-Seventh Meeting of the Parties to the Montreal Protocol Substances* (MOP37) / The Head of Delegation Delivers the Country's Position in the Thirty-Seventh Meeting of the Parties to the Montreal Protocol Substances (MOP37)

PEMATUHAN TERHADAP PROTOKOL MONTREAL DAN PELAKSANAAN PELAN PENGURUSAN PENGHAPUSAN HCFC (HPMP)

Sebagai negara Parti kepada Protokol Montreal, Malaysia wajib menghapuskan penggunaan HCFC secara berperingkat bermula pada tahun 2013. Bagi mencapai sasaran ini, Pelan Pengurusan Penghapusan HCFC (HPMP) telah dibangunkan bagi menggariskan polisi dan strategi untuk menghapuskan penggunaan HCFC mulai tahun 2012 hingga 2040. **Jadual 3.13** menunjukkan polisi dan strategi perundangan dalam pelaksanaan HPMP.

Pada tahun 2024, jumlah penggunaan bahan HCFC di Malaysia adalah sebanyak 3,332 metrik tan atau bersamaan dengan 184.35 ODPT (Ozone Depleting Potential Tonne). Jumlah ini dibandingkan dengan garis dasar penggunaan HCFC yang ditetapkan pada tahun 2013 iaitu 515.76 ODPT, Malaysia telah mencapai pengurangan penggunaan HCFC sebanyak 64.25%. **Rajah 3.4** menunjukkan pencapaian Malaysia dalam penghapusan HCFC.

Sejak tahun 2013, JAS mewujudkan sistem Permit Kelulusan (AP) bagi mengawal dan mengagih kuota import HCFC berdasarkan garis dasar yang ditetapkan. Permohonan AP dan pemprosesan kelulusan dilaksanakan melalui sistem dalam talian, e-Permit, yang melibatkan jaringan di antara pengimport/ pengeksport HCFC berdaftar dengan Jabatan Alam Sekitar dan Sistem Maklumat Kastam (SMK), Jabatan Kastam Diraja Malaysia (JKDM). Pada tahun 2025, sebanyak 116 permohonan untuk mengimport HCFC telah diterima daripada 88 pengimport berdaftar dan tiada permohonan untuk mengeksport HCFC diterima seperti yang ditunjukkan di **Rajah 3.5**.

COMPLIANCE WITH THE MONTREAL PROTOCOL AND IMPLEMENTATION OF HCFC PHASE-OUT MANAGEMENT PLAN (HPMP)

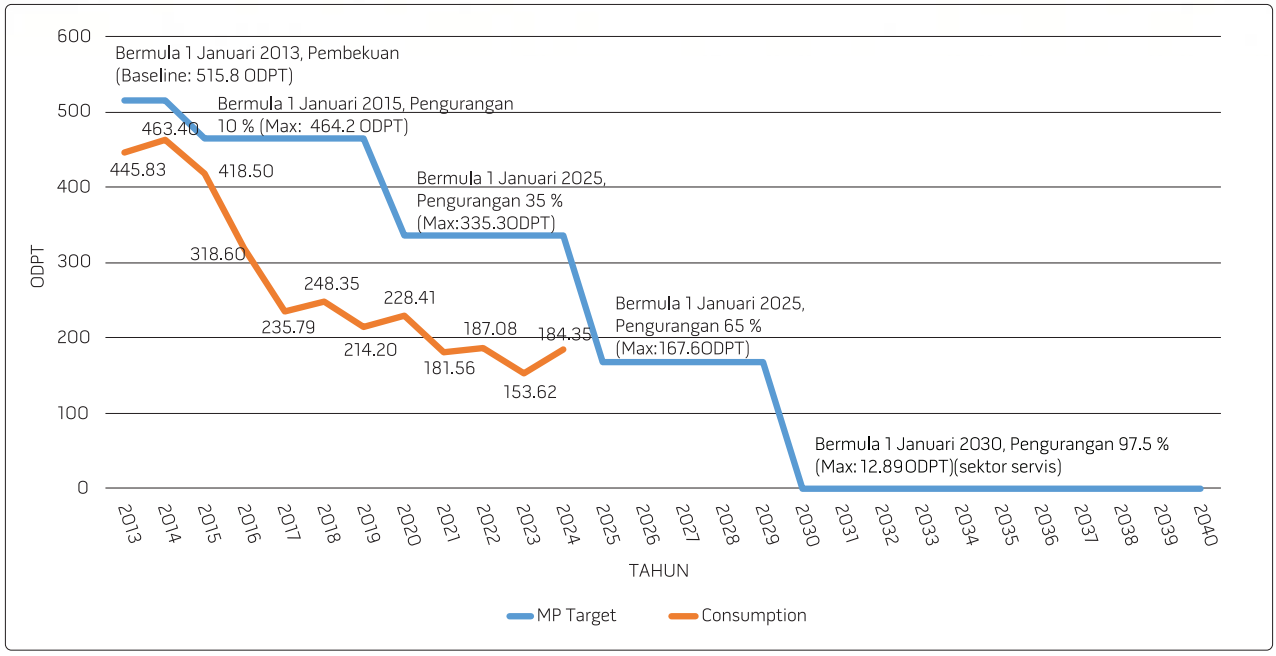
As a member Party to the Montreal Protocol, Malaysia is obligated to phase out HCFCs in stages starting from 2013. To achieve this goal, Malaysia formulated the HCFC Phase-out Management Plan (HPMP), outlining policies and strategies for the phase-out process from 2012 to 2040. **Table 3.13** presents the policies and regulatory strategies of HPMP.

In 2024, Malaysia's consumption of HCFC materials amounted to 3,332 metric tons, equivalent to 184.35 ODPT (Ozone Depleting Potential Tonne). In comparison to the HCFC consumption baseline set in 2013, which stood at 515.76 ODPT, Malaysia had successfully achieved a significant 64.25% reduction in HCFC consumption. **Figure 3.4** shows Malaysia's achievement of HCFC phase-out.

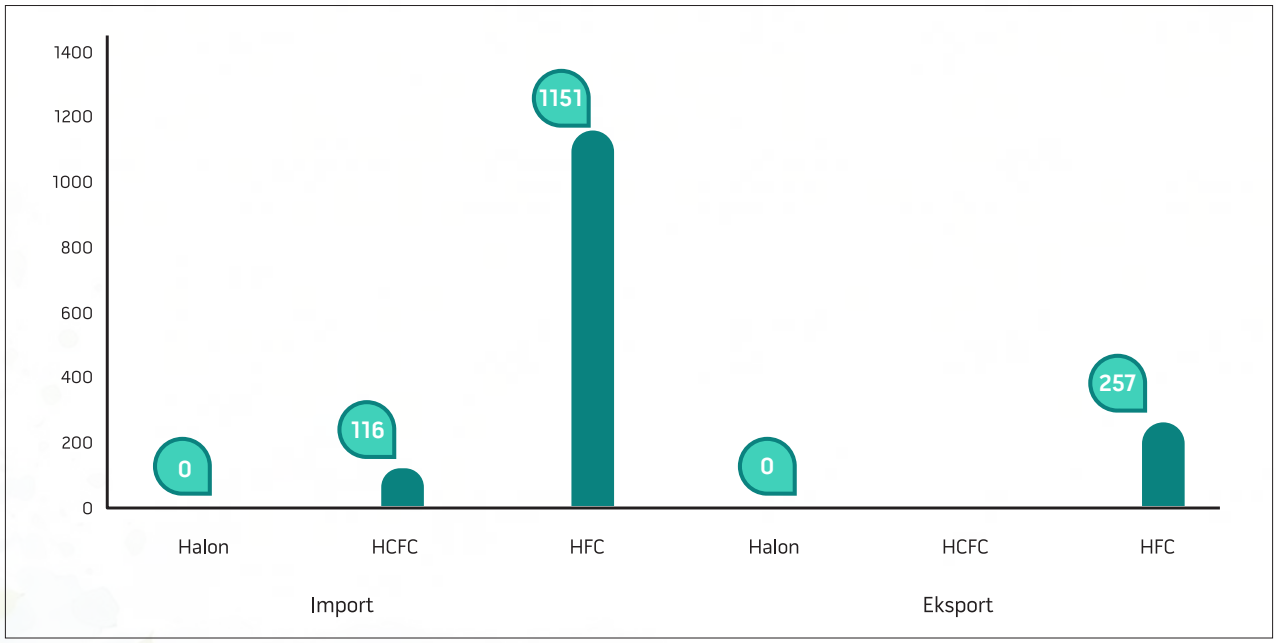
Since 2013, DOE had established Approved Permit (AP) system to regulate and allocate HCFC import quotas based on the prescribed baseline. AP applications and approvals are processed through the online system known as e-Permit, which facilitates communication and coordination among HCFC importers or exporters registered with the Department of Environment and Customs Information System (SMK), under the jurisdiction of the Royal Malaysian Customs Department (JKDM). In 2025, 116 import applications were received from 88 registered importers, and no applications to export HCFC were submitted through e-Permit as shown in **Figure 3.5**.

Jadual 3.13: Polisi dan Strategi Perundangan bagi Pelan Pengurusan Penghapusan HCFC (HPMP) (2012-2040).
Table 3.13: Policies and Regulatory Strategies for HCFC Phase Out Management Plan (HPMP) (2012-2040).

TAHUN YEAR	POLISI DAN RANGKA KERJA PERUNDANGAN POLICY AND REGULATORY FRAMEWORK
2012	Mewujudkan sistem AP bagi pengagihan kuota import HCFC berdasarkan garis dasar atau purata import 2009/2010 Establish AP system for HCFC import quota based on the baseline or the average imports for 2009/2010.
	Meminda perundangan sedia ada untuk mengawal penggunaan, import, pembuatan, pemasangan produk dan peralatan yang menggunakan HCFC Amend existing legislation for control on the use, import, manufacture, assembly or installation of products and equipment using HCFCs
2013	Mewujudkan sistem perlesenan untuk mengeksport semula gas HCFC Establish a licensing system for the re-export of HCFC gases
	Pelaksanaan sistem AP pada 1 Januari 2013 mengikut Jadual Pembekuan Protokol Montreal Implement Approved Permit (AP) system on 1 January 2013 in accordance with the Montreal Protocol Freeze Schedule
	Larangan menambah (expansion) atau membina fasiliti pembuatan baru menggunakan HCFC Prohibit expansion or establishment of new manufacturing facilities using HCFC.
	Promosi menggunakan bahan alternatif melalui pemberian insentif Promote the use of alternatives through incentives
	Latihan dan Pensijilan bagi pekerja yang mengendalikan HCFC Training and Certification of workers handling HCFCs
2015	Larangan bagi membuat, memasang dan mengimport peralatan penyaman udara menggunakan HCFC yang berkuasa 2.5hp dan ke bawah (untuk penggunaan dalam Malaysia) Prohibit the manufacture, assembly, and import of HCFC-based air-conditioner of 2.5hp and below (for use in Malaysia)
	Mewartakan HCFC sebagai bahan terkawal Gazettement of HCFCs as controlled substance
	Larangan ke atas pengimportan polyol yang mengandungi HCFC Prohibit the importation of polyols containing HCFC
2020	Larangan membuat, memasang dan mengimport semua barangan dan peralatan yang menggunakan HCFC kecuali bagi penggunaan khas (*essential use*) Prohibit the manufacture, assembly, and import of all products and equipment using HCFCs (except for essential use)
	Larangan menggunakan HCFC 141b sebagai agen pengembang Prohibit the use of HCFC 141b as blowing agent
	Larangan pembuatan dan pemasangan baru sistem pemadam api yang menggunakan HCFC Prohibit the manufacturing and installation of new fire extinguishing systems using HCFC
2025	Larangan pemasangan baru semua barangan dan peralatan yang menggunakan HCFC Prohibit the installation of new products and equipment using HCFC
2030	Pemberian AP terhad kepada 2.5% daripada jumlah baseline dan hanya untuk sektor servis sahaja Issuance of Approved Permits (AP) is limited to 2.5% of the total baseline and only for the servicing sector
2040	Larangan mutlak pengimportan HCFC mulai 1 Januari 2040 Total prohibition on the import of HCFC starting 1 January 2040



Rajah 3.4: Pencapaian Penghapusan HCFC di Malaysia
Figure 3.4: HCFC Phase-out Achievement in Malaysia



Rajah 3.5: Bilangan Permohonan Permit Kelulusan Import dan Eksport HCFC, HFC dan Halon di Malaysia pada 2025
Figure 3.5: Number of Application for Importation and Exportation of Approval Permit for HCFC, HFC and Halon in Malaysia in 2025

Seterusnya, selaras dengan pelaksanaan Pelan Pengurusan Penghapusan HCFC (HPMP) Peringkat III, JAS terus komited dalam menyokong peralihan negara kepada penggunaan refrigeran alternatif yang mesra alam. Sehubungan itu, satu delegasi yang terdiri daripada 3 pegawai JAS dan 3 wakil *United Nations Development Programme* (UNDP) telah menyertai Mesyuarat Teknikal Penambahbaikan Latihan Pensijilan Juruteknik Penyejukbekuan dan Penyamanan Udara (CSTP) di Batam, Indonesia pada 7 - 10 Oktober 2025.

Mesyuarat ini bertujuan untuk menambah baik pelaksanaan program pensijilan juruteknik RAC di Malaysia melalui penerapan teknologi latihan moden, sistem simulasi digital (AR/VR) dan pendekatan pembelajaran berasaskan kemahiran (TVET). Ia turut menjadi platform penting bagi membincangkan keperluan latihan, penilaian teknikal dan standard keselamatan dalam menyokong peralihan Malaysia kepada penggunaan refrigerant alternatif yang mesra lapisan ozon dan rendah atau kosong potensi pemanasan global (GWP).

Furthermore, in line with the implementation of the HCFC Phase-out Management Plan (HPMP) Stage III, DOE remains committed to supporting the nation's transition towards the use of eco-friendly alternative refrigerants. In this regard, a delegation consisting of 3 DOE officers and 3 representatives from the United Nations Development Programme (UNDP) participated in the Technical Meeting on Enhancing the Refrigeration and Air Conditioning (RAC) Technician Certification (CSTP) in Batam, Indonesia, from 7 - 10 October 2025.

The meeting aimed to improve the implementation of the RAC technician certification program in Malaysia through the application of modern training technologies, digital simulation systems (AR/VR), and skills-based learning approaches (TVET). It also served as a vital platform to discuss training requirements, technical assessments, and safety standards in supporting Malaysia's transition to alternative refrigerants that are ozone-friendly and possess low or zero Global Warming Potential (GWP).



Mesyuarat Teknikal Jabatan Alam Sekitar bagi Penambahbaikan Latihan Pensijilan Juruteknik RAC di bawah HPMP III di Batam, Indonesia / Department of Environment Technical Meeting on the Enhancement of RAC Technician Certification Training under the HPMP Stage III at Batam, Indonesia

Seksyen Perlindungan Ozon, Bahagian Udara turut mengadakan Lawatan Pembangunan Kapasiti ke Jakarta, Indonesia bermula 20 - 24 Oktober 2025. Program ini merupakan gabungan strategik antara agensi, yang terdiri daripada 4 orang pegawai JAS dan 5 orang pegawai daripada Jabatan Pembangunan Kemahiran (JPK), Kementerian Sumber Manusia.

Objektif utama lawatan ini adalah untuk memperkasakan kompetensi pegawai melalui perkongsian amalan terbaik dan pengalaman teknikal berkaitan program pentauliahan juruteknik servis dalam sektor Penyejukan dan Penyamanan Udara (RAC).

The Ozone Protection Section, Air Division also conducted a Capacity Building Visit to Jakarta, Indonesia, from 20 - 24 October 2025. This programme represented a strategic inter-agency collaboration, comprising 4 officers from the DOE and 5 officers from the Department of Skills Development, Ministry of Human Resources.

The primary objective of this visit was to enhance officers' competency through the exchange of best practices and technical expertise regarding service technician accreditation programmes within the Refrigeration and Air Conditioning (RAC) sector.



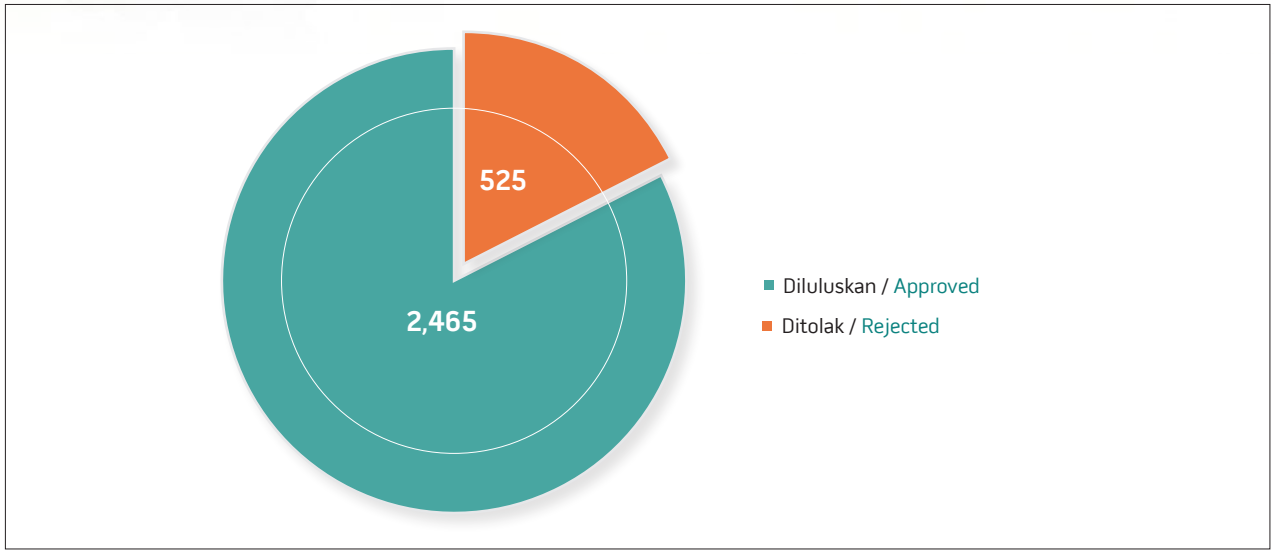
Lawatan Pembangunan Kapasiti bagi Program Pentauliahan Juruteknik Servis (CSTP) Jabatan Alam Sekitar pada 20-24 Oktober 2025 di Jakarta, Indonesia / Capacity Building Visit for Service Technician Certification Programme (CSTP), Department of Environment on 20-24 October 2025 at Jakarta, Indonesia

Selaras dengan obligasi di bawah Protokol Montreal, Malaysia telah mula mengawal pengimportan, pengilangan atau pemasangan kelengkapan penyejukbekuan dan penyaman udara yang berasaskan HCFC pada 1 Disember 2022. Dalam prosedur baharu ini, JAS mengeluarkan surat kelulusan sebagai pra-syarat kepada pengimport atau pengilang untuk memperolehi Certificate of Approval (COA) atau Release Letter (RL) daripada Suruhanjaya Tenaga (ST).

Sistem e-Permit (JAS) dinaik taraf untuk berintegrasi dengan sistem e-Kelengkapan (ST) bagi memudahkan proses permohonan secara atas talian oleh pengimport dan pengilang peralatan. Pada tahun 2025, sebanyak 2,992 permohonan surat kelulusan telah diterima daripada pengilang dan pengimport melalui sistem tersebut. Berdasarkan permohonan - permohonan tersebut, sebanyak 525 permohonan telah ditolak dan 2,465 permohonan telah diluluskan seperti di **Rajah 3.6**.

In line with obligations under the Montreal Protocol, Malaysia commenced controlling the importation, manufacturing, and installation of HCFC-based refrigeration and air conditioning equipment on 1 December 2022. Under this new procedure, DOE issues an approval letter as pre-requisite for importers or manufacturers to obtain Certificate of Approval (COA) or Release Letter (RL) from the Energy Commission (ST).

The e-Permit system (DOE) was upgraded to integrate with the e-Kelengkapan system (ST) to facilitate the online application process for equipment importers and manufacturers. In 2025, a total of 2,992 applications for approval letters were received from manufacturers and importers via the system. Of these applications, 525 were rejected and 2,465 were approved as of **Figure 3.6**.



Rajah 3.6: Permohonan *Approval Letter* bagi Peralatan yang menggunakan Refrigeran pada tahun 2025
Figure 3.6: Application for Approval Letters for Equipment using Refrigerants in 2025

PELAN PELAKSANAAN KIGALI (KIP) DI BAWAH PROTOKOL MONTREAL

Pada 21 Oktober 2020, Malaysia telah meratifikasikan Pindaan Kigali yang bertujuan untuk mengurangkan penggunaan Hidrofluorokarbon (HFC) yang memiliki Potensi Pemanasan Global (GWP) yang sangat tinggi dan digunakan sebagai bahan alternatif kepada bahan pemusnah ozon.

Berdasarkan jadual pengurangan di bawah Pindaan Kigali, Malaysia yang diklasifikasikan sebagai negara parti Artikel 5 (Kumpulan 1) perlu membekukan penggunaan HFC pada garis dasar bermula 1 Januari 2024 dan mengurangkan penggunaan HFC secara berperingkat sebanyak 80% menjelang tahun 2045. Pengiraan garis dasar penggunaan HFC adalah berdasarkan kepada purata penggunaan HFC bagi tahun 2020 hingga 2022 dan bertambah dengan 65% daripada garis dasar penggunaan HCFC.

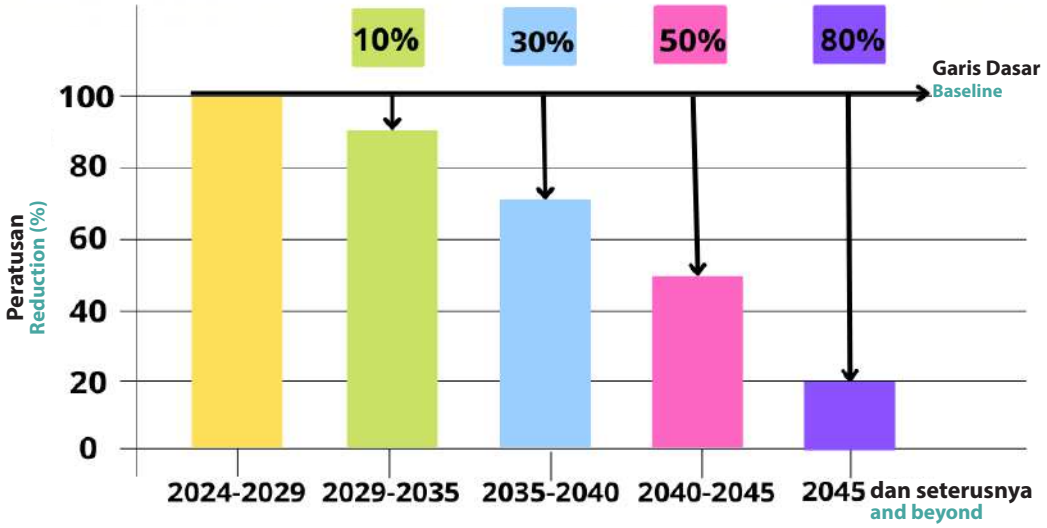
Bermula 1 Januari 2024, penggunaan HFC di dalam negara dibekukan selaras dengan garis dasar yang telah ditetapkan. **Rajah 3.7** menunjukkan Obligasi Pengurangan Penggunaan HFC di bawah Protokol Montreal dan **Jadual 3.14** menunjukkan polisi dan perancangan perundangan bagi Pelan Pelaksanaan Kigali (KIP) Peringkat I (2024-2030). Pelan Pelaksanaan Kigali bagi pengurangan penggunaan HFC di Malaysia telah dipersetujui melalui mesyuarat Jemaah Menteri pada 30 Januari 2024.

KIGALI IMPLEMENTATION PLAN (KIP) UNDER THE MONTREAL PROTOCOL

On 21 October 2020, Malaysia ratified the Kigali Amendment, which aims to reduce the use of hydrofluorocarbons (HFCs) that have very high global warming potential (GWP) and are used as substitutes for ozone-depleting substances.

Based on the phase-down schedule under the Kigali Amendment, Malaysia is classified as an Article 5 (Group 1) party country and is obligated to freeze the HFC consumption on baseline starting 1 January 2024 and reduce HFC consumption by 80% from the baseline by 2045. The baseline is determined by the average HFC consumption from 2020 to 2022, plus 65% of the HCFC baseline.

Effective from 1 January 2024, Malaysia implemented a freeze on HFC consumption at the baseline level. **Figure 3.7** shows the HFC Consumption Phase-down Schedule Under the Montreal Protocol Obligations and **Table 3.14** presents the policy and legal planning for the Kigali Implementation Plan (KIP) Phase I (2024-2030). Malaysia's KIP for the reduction of HFC consumption was approved through the Cabinet Meeting on 30 January 2024.



Rajah 3.7: Obligasi Pengurangan Penggunaan HFC di bawah Protokol Montreal
Figure 3.7: HFC Consumption Phase-down Schedule under the Montreal Protocol Obligations

Jadual 3.14: Polisi dan Perancangan Perundangan bagi Pelan Pelaksanaan Kigali (KIP) Peringkat 1 Bagi Pengurangan HFC (2024-2030)
Table3.14: Policies and Regulatory Strategies for Kigali Implementation Plan (KIP) Stage I for HFC Reduction (2024-2030)

KLASIFIKASI CLASSIFICATION	LANGKAH-LANGKAH DAN PIHAK BERKEPENTINGAN YANG DISASARKAN * LANGKAH-LANGKAH DAN PIHAK BERKEPENTINGAN YANG DISASARKAN	JANGKAAN TARIKH PELAKSANAAN EXPECTED IMPLEMENTATION DATE
Kawalan Import Import Control	Mengeluarkan kuota import HFC setiap tahun bermula tahun 2024 (pengimport & pengilang) Issue quotas on HFC importation annually starting from 2024 (importers & manufacturers)	1 Jan 2024
Kawalan Import Import Control	Pengurangan melalui sistem kuota dengan mengurangkan import HFC yang mempunyai nilai GWP tinggi (pengimport & pengilang) Reduction through a quota system by decreasing the import of HFCs with high GWP values (importers and manufacturers).	2024
Kawalan Penggunaan Consumption Control	Larangan mengilang dan mengimport peralatan penyejukbekuan komerisal berasaskan HFC (pengedar & pengilang) Prohibition on the manufacturing and importation of commercial refrigeration equipment based on HFC (dealers & manufacturers)	2029
Kecekapan Tenaga Energy Efficiency	Menyediakan garis panduan prestasi tenaga minimum untuk penyejukbekuan komersial jenis *stand-alone* (MEPS diambil kira) (pengedar & pengilang) Develop guidelines on minimum energy performance standards for stand-alone commercial refrigeration equipment (taking MEPS into account) (dealers & manufacturers)	2029
Kawalan Penggunaan Consumption Control	Larangan mengilang dan mengimport peti sejuk domestik berasaskan HFC (pengedar & pengilang) Prohibition on manufacturing and import of HFC-based domestic refrigerators (dealers & manufacturers)	2029

Jadual 3.14: Polisi dan Perancangan Perundangan bagi Pelan Pelaksanaan Kigali (KIP) Peringkat 1 Bagi Pengurangan HFC (2024-2030)

Table3.14: Policies and Regulatory Strategies for Kigali Implementation Plan (KIP) Stage 1 for HFC Reduction (2024-2030)

KLASIFIKASI CLASSIFICATION	LANGKAH-LANGKAH DAN PIHAK BERKEPENTINGAN YANG DISASARKAN * LANGKAH-LANGKAH DAN PIHAK BERKEPENTINGAN YANG DISASARKAN	JANGKAAN TARIKH PELAKSANAAN EXPECTED IMPLEMENTATION DATE
Kawalan Penggunaan Consumption Control	Larangan mengilang dan mengimport komponen penyejukan berasaskan R452A, R404A, R134a untuk trak, lori dan pengangkutan penyejukan yang lain (pengeluar, pemasang, pengimport) Prohibition on manufacturing and import of R-452A, R-404A, R-134a-based refrigerated components for trucks, lorries, and other refrigerated transport (manufacturers, assemblers, importers)	2029
Kawalan Penggunaan Consumption Control	Larangan pemasangan chiller berasaskan R407C (kontraktor) Prohibition on the installation of R-407C based chillers (contractors)	2029
Kawalan Penggunaan Consumption Control	Larangan mengilang dan mengimport penyaman udara jenis split-type berasaskan R407C (pengedar, kontraktor, pengilang) / Prohibition on manufacturing and imports of R-407C split-type AC (dealers, contractors, manufacturers)	2029
Kawalan Penggunaan Consumption Control	Larangan mengilang dan mengimport pam haba berasaskan R407C (pengedar, kontraktor, pengilang) / Prohibition on manufacturing and imports of R-407C heat pumps (dealers, contractors & manufacturers)	2029
Consumption Control	Larangan pemasangan sistem pemadaman api baru berasaskan HFC-23 dan HFC-125 (pengedar, kontraktor, pengilang) / Prohibition on the installation of new fire suppression systems based on HFC-23 and HFC-125 (suppliers, contractors & manufacturers)	2026
Perolehan Produk Hijau Green Public Procurement	Produk dan peralatan GWP yang lebih rendah akan diambil kira dan dimasukkan dalam "Garis Panduan Perolehan Hijau" berdasarkan kajian teknikal / Products and equipment with lower GWP will be considered and incorporated into the Green Procurement Guidelines based on technical studies	2026
Green Public Procurement	Semak semula spesifikasi untuk perolehan baru kereta api dan bas pengangkutan awam untuk menggunakan sistem penyaman udara yang rendah GWP Revise specifications for new procurement of public transportation rail and buses to apply low-GWP refrigerants in air-conditioning systems	2026
Dasar Fiskal Fiscal Policy	Sebarang penambahbaikan dalam langkah fiscal untuk menggalakkan pengimportan alternatif, teknologi dan peralatan GWP rendah akan dinilai Any improvements in fiscal measures to encourage importation of low-GWP alternatives, technologies and equipment will be evaluated	2026
Kawalan Penggunaan dan Pelepasan Emissions and Consumption Control	Pindaan kepada Peraturan Kualiti Alam Sekitar yang berkaitan untuk mengawal penggunaan HFC Amendment to related Environmental Quality Regulations to control the consumption of HFCs	2029

Susulan daripada kelulusan Kabinet bagi pelaksanaan KIP dan juga kelulusan dana daripada MLF, satu perjanjian antara Malaysia dan MLF melalui Bank Dunia perlu ditandatangani bagi membolehkan dana berjumlah USD10,190,804 disalurkan ke negara dalam Akaun Amanah di bawah Projek-projek Montreal dan Inventori Gas Rumah Kaca Sektor Sisa Buangan iaitu no. Akaun Amanah 887824 (L855).

Following Cabinet approval for the implementation of the KIP and the approval of funding from the Multilateral Fund (MLF), an agreement between Malaysia and the MLF, administered through the World Bank, was required to enable the disbursement of USD10,190,804 into the country. The funds were channeled into the Trust Account under the Montreal Projects and Greenhouse Gas Inventory for the Waste Sector, namely Trust Account No. 887824 (L855).

Sesi rundingan di antara Kerajaan Malaysia dan Bank Dunia telah diadakan pada 1 - 2 Julai 2025 di Hotel Pulse Grande, Putrajaya. Delegasi Malaysia telah diketuai oleh Dr. Salahudin bin Dato' Hidayat Shariff, Penasihat Undang-Undang (PUU) Kementerian Sumber Asli dan Kelestarian Alam (NRES) manakala delegasi dari Bank Dunia pula diketuai oleh Puan Judith Green, *Country Manager* di Malaysia.

Sebagai Tuan Rumah bagi sesi rundingan tersebut, JAS telah diketuai oleh Dr. Norhazni binti Mat Sari, Timbalan Ketua Pengarah (Operasi), Pn. Nor Aziah binti Jaafar, Pengarah Bahagian Udara dan wakil pegawai Seksyen Perlindungan Ozon (SPO) dan pegawai Bahagian Pentadbiran dan Kewangan JAS turut menyertai sesi rundingan tersebut. Selain itu, wakil-wakil dari Kementerian dan agensi yang terdiri dari Pejabat Penasihat Undang-Undang dan wakil Bahagian Pengurusan Alam Sekitar (BPAS) NRES, Kementerian Kewangan *(MOF),* Kementerian Ekonomi (KE) dan Jabatan Peguam Negara *(AGC)* juga menghadiri sesi rundingan tersebut.

Consultation sessions between the Government of Malaysia and the World Bank were held from 1 - 2 July 2025 at Pulse Grande Hotel, Putrajaya. The Malaysian delegation was led by Dr. Salahudin bin Dato' Hidayat Shariff, Legal Adviser, Ministry of Natural Resources and Environmental Sustainability (NRES), while the World Bank delegation was led by Ms. Judith Green, Country Manager in Malaysia.

As the host of the consultation sessions, the Department of Environment (DOE) delegation was led by Dr. Norhazni binti Mat Sari, Deputy Director General (Operations), together with Ms. Nor Aziah binti Jaafar, Director of the Air Division. Officers from the Ozone Protection Section and the DOE Administration and Finance Division also participated in the sessions. In addition, representatives from relevant ministries and agencies, including Legal Adviser's Office and Environmental Management Division (BPAS) of NRES, Ministry of Finance (MOF), Ministry of Economy (MOE), and Attorney General's Chambers (AGC), attended the consultation sessions.



Sesi Rundingan bagi Perjanjian Geran Dana Pelbagai Hala (MLF) bagi Pelan Pelaksanaan Kigali (KIP) Peringkat I di bawah Protokol Montreal antara Kerajaan Malaysia dan Bank Dunia /
Negotiation Session for the Multilateral Fund (MLF) Grant Agreement for the Kigali Implementation Plan (KIP) Stage I under the Montreal Protocol between the Government of Malaysia and the World Bank

Melalui sesi rundingan tersebut, kedua-dua pihak telah mencapai kesepakatan dan bersetuju dengan deraf perjanjian geran yang disediakan dengan pindaan. Minit Mesyuarat Rundingan telah ditandatangani oleh Ketua Delegasi Malaysia selaku wakil negara dan Puan Mary Ellen yang mewakili pihak Bank Dunia.

Through the consultation session, both parties reached a mutual understanding and agreed to the draft grant agreement with amendments. The Minutes of the Consultation Meeting were signed by the Head of the Malaysian Delegation, representing the country, and Ms. Mary Ellen, representing the World Bank.



Majlis Menandatangani Minit Mesyuarat bagi Sesi Rundingan antara Kerajaan Malaysia dan Bank Dunia pada 1 - 2 Julai 2025 / Signing of the Minutes of Negotiation between Government of Malaysia and World Bank on 1 - 2 July 2025

NRES dan JAS, selaku agensi pelaksana, telah menyediakan Memorandum Jemaah Menteri (MJM) yang telah diluluskan pada 17 September 2025 bagi mendapatkan kelulusan Kabinet untuk menandatangani Perjanjian Geran (GA). Mandat (instrument of full power) daripada Kementerian Luar Negeri (KLN) yang memberi kuasa kepada YBhg. Datuk Dr. KSU NRES, sebagai Pegawai Pengawal Akaun Amanah untuk menandatangani GA KIP juga telah diterima.

Majlis menandatangani Perjanjian Geran (GA) antara YBhg. Datuk Dr. Ching Thoo a/l Kim, Ketua Setiausaha NRES dan Dr. Apurva Sanghi dari Bank Dunia, yang disaksikan oleh YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Ketua Pengarah JAS telah diadakan pada 16 Oktober 2025. Majlis ini menandakan pencapaian penting di bawah Protokol Montreal dan Pindaan Kigali, memperkukuh komitmen Malaysia terhadap perlindungan ozon dan mitigasi perubahan iklim, serta membolehkan pelaksanaan pelan tindakan KIP.

NRES and DOE, as the implementing agency, prepared a Ministerial Cabinet Memorandum (MJM) which was approved on 17 September 2025 securing Cabinet approval for the signing of the Grant Agreement (GA). The instrument of full power from the Ministry of Foreign Affairs (MOFA) authorizing YBhg. Datuk Dr. Sec. Gen. of NRES as the Trust Account Controller to sign the KIP GA was also received.

The signing ceremony of the Grant Agreement (GA) between YBhg. Datuk Dr. Ching Thoo a/l Kim, Secretary-General of NRES, and Dr. Apurva Sanghi of the World Bank, witnessed by YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Director General of DOE, was held on 16 October 2025, marking a key milestone under the Montreal Protocol and Kigali Amendment, strengthening Malaysia's commitment to ozone protection and climate mitigation, and enabling the implementation of the KIP action plan.



Majlis Menandatangani Perjanjian Geran Bantuan Dana Pelbagai Hala bagi Pelan Pelaksanaan Kigali Peringkat I di bawah Protokol Montreal antara Kerajaan Malaysia dan Bank Dunia di KL Convention Centre pada 16 Oktober 2025 / Signing Ceremony of the Multilateral Fund Grant Agreement for Stage I of the Kigali Implementation Plan under the Montreal Protocol between the Government of Malaysia and the World Bank at KL Convention Centre on 16 October 2025

PEMBANGUNAN KAPASITI PEGAWAI PENGUATKUASA

Di bawah komponen pengurusan, koordinasi dan kerjasama, JAS telah bekerjasama dengan Jabatan Kastam Diraja Malaysia (JKDM) untuk mengadakan Kursus Kawalan Bahan Pemusnah Ozon bagi tujuan untuk perkongsian maklumat baharu dan kesedaran kepada penguatkuasa JKDM dan JAS berkaitan pelaksanaan dan pematuhan terhadap Protokol Montreal, peruntukkan undang-undang untuk mengawal dan mengawasi pengimportan serta pengeksportan bahan pemusnah ozon.

Pada tahun 2025, JAS bersama JKDM telah menganjurkan 2 siri Kursus Kawalan Bahan Pemusnah Ozon. Siri Pertama telah diadakan pada 13 - 17 Mei 2025 di Crystal Crown Hotel, Johor Bharu, Johor dan seramai 31 peserta yang terdiri daripada pegawai penguatkuasa JKDM dan JAS telah menyertai kursus ini.

CAPACITY BUILDING OF ENFORCEMENT OFFICERS

As part of the management, coordination, and cooperation initiative, DOE has collaborated with the Royal Malaysian Customs Department (JKDM) to hold an Ozone Depleting Substances Control Course for the purpose of sharing new information and awareness to JKDM and DOE enforcement officers related to the implementation and compliance with the Montreal Protocol. The course specifically focuses on the regulations and related legislation to control and monitor the import and export of ODS.

In 2025, DOE in collaboration with the JKDM, successfully organized 2 series of Ozone Depleting Substances Control Courses. The 1st Series was conducted at the Crystal Crown Hotel, Johor Bharu, Johor from 13 - 17 May 2025, a total of 31 participants, comprising enforcement officers from JKDM and the DOE attended this course.



Kursus Kawalan Bahan Pemusnah Ozon Siri 1/2025
Ozone Depleting Substances Control Course Series 1/2025



Kursus Kawalan Bahan Pemusnah Ozon Siri 2/2025
Ozone Depleting Substances Control Course Series 2/2025



Sesi Demonstrasi Mengenal Pasti Bahan Pemusnah Ozon Menggunakan Alat *Refrigerant Identifier* / Demonstration Session on Identifying Ozone Depleting Substances Using Refrigerant Identifier

Siri Ke-2 telah diadakan di KSL Esplanade Hotel, Klang, Selangor dari 3 - 7 November 2025 di mana seramai 27 peserta telah menyertai kursus ini.

Bagi memperkukuh mekanisme kawalan dan pemantauan Bahan Pemusnah Ozon (BPO), Seksyen Perlindungan Ozon, Bahagian Udara telah menganjurkan Program Latihan Praktikal dan Teori Persampelan BPO dengan kerjasama Jabatan Kimia Malaysia (KIMIA Malaysia). Program ini telah diadakan pada 24 - 26 Jun 2025 bertempat di Hotel Wyndham Grand, Kuala Lumpur. Program ini telah dihadiri oleh 25 orang peserta yang terdiri daripada 10 orang pegawai KIMIA Malaysia dan 15 orang pegawai JAS. Para peserta telah didedahkan dengan sesi praktikal yang intensif bagi memastikan kompetensi teknikal berada pada tahap optimum.

Latihan ini merupakan susulan daripada lawatan teknikal ke China, bertujuan untuk memantapkan pengetahuan dan kemahiran pegawai dalam aspek penganalisaan, persampelan serta kaedah penguatkuasaan BPO.

The 2nd Series of Ozone Depleting Substances Control Course was conducted at the KSL Esplanade Hotel, Klang, Selangor from 3 - 7 November 2025. A total of 27 participants participated in this series.

To strengthen the control and monitoring mechanism of Ozone Depleting Substances (ODS), the Ozone Protection Section, Air Division organized a Practical and Theoretical Training Programme on ODS Sampling in collaboration with the Department of Chemistry Malaysia (KIMIA Malaysia). The programme was held from 24 - 26 June 2025 at the Wyndham Grand Hotel, Kuala Lumpur. It was attended by 25 participants, comprising 10 KIMIA Malaysia officers and 15 Department of Environment (DOE) officers. Participants were exposed to intensive practical sessions to ensure technical competency remains at an optimum level.

This training served as a follow-up to a technical visit to China, aiming to strengthen the officers' knowledge and skills in analysis, sampling, and ODS enforcement methods.



Program Latihan Praktikal dan Teori Persampelan BPO pada 24 - 26 Jun 2025 /
Practical and Theoretical Training Programme on ODS Sampling on 24 - 26 June 2025

Lawatan Pembangunan Kapasiti bagi Program Pentauliahan Juruteknik Servis (CSTP)

Jabatan Alam Sekitar (JAS) telah menganjurkan Lawatan Pembangunan Kapasiti bagi Program CSTP ke Jakarta, Indonesia pada 20 - 24 Oktober 2025. Kehadiran delegasi JAS adalah seramai 4 orang pegawai manakala 5 orang pegawai daripada Jabatan Pembangunan Kemahiran (JPK), Kementerian Sumber Manusia.

Capacity Building Visit for the Certification of Service Technician Programme (CSTP)

The Department of Environment (DOE) successfully organized a Capacity Development Visit under the Certification of Service Technician Programme (CSTP) to Jakarta, Indonesia, from 20 - 24 October 2025. The DOE delegation comprised four officers, accompanied by five officers from Department of Skills Development (JPK), Ministry of Human Resources.



Sesi Perbincangan bersama Kementerian Lingkungan Hidup dan Kehutanan dan Kementerian Ketenagakerjaan Indonesia berkenaan Pelaksanaan Pentauliahan Juruteknik Servis / Discussion Session with the Indonesian Ministry of Environment and Forestry and the Ministry of Manpower regarding the Implementation of Service Technician Accreditation



Lawatan ke Pusat Latihan Juruteknik Servis di Balai Besar Pelatihan dan Produktiviti di Bekasi, Indonesia
Visit to the Service Technician Training Center at the Training and Productivity Center in Bekasi, Indonesia

Lawatan ini berhasil untuk meningkatkan kapasiti pegawai melalui sesi perkongsian maklumat dan pengalaman mengenai program pentauliahan juruteknik servis dalam bidang penyejukan dan penyaman udara (RAC).

This visit proved instrumental in enhancing the capacity of participating officers through comprehensive information-sharing sessions and the exchange of experiences related to the certification programme for service technicians in the refrigeration and air-conditioning (RAC) sector.

Mesyuarat Rangkaian Pegawai Ozon Kebangsaan Asia Tenggara & Pegawai Ozon Negara Berkembar - Bengkel Kastam mengenai Pengukuhan Penguatkuasaan Kawalan Perdagangan Bahan Kawalan di bawah Protokol Montreal

Network Meeting of Southeast Asia National Ozone Officers & Twinning National Ozone Officer - Customs Workshop on Strengthening Enforcement of Trade Control of Controlled Substances under the Montreal Protocol

United Nations Environment Programme (UNEP) telah menganjurkan Mesyuarat Rangkaian Pegawai Ozon Kebangsaan Asia Tenggara yang mengumpulkan kesemua pegawai ozon kebangsaan Asia Tenggara bagi membincangkan pelaksanaan Protokol Montreal di peringkat serantau pada 16 - 17 Disember 2025. Mesyuarat tersebut telah diadakan secara berturutan dengan Bengkel Pengukuhan Penguatkuasaan Kawalan Perdagangan Bahan Terkawal di bawah Protokol Montreal pada 18 - 19 Disember 2025 yang turut dihadiri oleh pegawai-pegawai kastam Asia Tenggara bagi membincangkan pengukuhan penguatkuasaan terhadap bahan terkawal di bawah Protokol Montreal.

The United Nations Environment Programme (UNEP) organized the Network Meeting of Southeast Asia National Ozone Officers, which brought together national ozone officers from across Southeast Asia to discuss the regional implementation of the Montreal Protocol from 16 - 17 December 2025. The meeting was held consecutively with the Workshop on Strengthening Enforcement of Trade Control of Controlled Substances under the Montreal Protocol from 18 - 19 December 2025, which was also attended by Customs officers from Southeast Asia to discuss enhanced enforcement measures for controlled substances under the Montreal Protocol.

Resolusi daripada mesyuarat dan bengkel ini antaranya ialah keperluan tindakan serantau bagi Pengurusan Kitaran Hayat Bahan Penyejuk (LRM) dan pembangunan Inventori Nasional Bank Bahan Terkawal Terpakai/Tidak Dikehendaki dan kerjasama yang perlu ditingkatkan dengan Kastam bagi pemantauan import dan eksport bahan terkawal di bawah Protokol

Key resolutions arising from the meeting and workshop included the need for regional action on Life-cycle Refrigerant Management (LRM), the development of a National Inventory of Banks of Used/ Unwanted Controlled Substances and strengthened collaboration with Customs for monitoring the import and export of controlled substances under the Montreal Protocol.

Montreal. Malaysia turut diberi penghormatan untuk membentangkan pelan tindakan bagi pengurangan HFC di bawah sektor Mobile Air Conditioning (MAC) yang sedang dijalankan di bawah Pelan Pelaksanaan Kigali Peringkat I.

Malaysia was also honoured with the opportunity to present its action plan for the reduction of HFCs in the Mobile Air Conditioning (MAC) sector, currently being implemented under the Kigali Implementation Plan Stage I.



Mesyuarat Rangkaian Pegawai Ozon Kebangsaan Asia Tenggara & Pegawai Ozon Negara Berkembar - Bengkel Kastam mengenai Pengukuhan Penguatkuasaan Kawalan Perdagangan Bahan Kawalan di bawah Protokol Montreal
Network Meeting of Southeast Asia National Ozone Officers & Twinning National Ozone Officer - Customs Workshop on Strengthening Enforcement of Trade Control of Controlled Substances under the Montreal Protocol



Delegasi Malaysia daripada Jabatan Alam Sekitar, Jabatan Kastam Diraja Malaysia dan Kementerian Sumber Asli dan Kelestarian Alam
Malaysian Delegation from the Department of Environment, Royal Malaysian Customs Department, and Ministry of Natural Resources and Environmental Sustainability

Program Pentauliahan Juruteknik Servis (CSTP) Bagi Sektor Penyejukbekuan dan Penyaman Udara (RACs)

Program CSTP dilaksanakan bagi memberi latihan kepada juruteknik servis mengenai amalan terbaik dalam penyelenggaraan sistem penyejukbekuan dan penyaman udara.

Pada tahun 2025, sebanyak 247 siri latihan pensijilan telah dianjurkan oleh Pusat Latihan Bertauliah (ATC) untuk melatih dan mentauliahkan seramai 1,546 juruteknik dalam sektor RAC. Sepanjang tahun 2025, sebanyak 61 kali pengauditan telah dilaksanakan oleh pegawai JAS di ATC semasa latihan pensijilan dijalankan. Ini adalah untuk memastikan latihan dilaksanakan mengikut manual latihan dan Prosedur Operasi Standard (SOP) yang ditetapkan oleh JAS.

Sehingga tahun 2025, secara kumulatif sebanyak 33,020 Juruteknik Servis RAC dan 344 Master Trainer telah ditauliahkan oleh JAS.

Certification of Service Technician Programme (CSTP) for Refrigeration and Air-Conditioning Sectors (RACs)

The CSTP programme is implemented to provide training for the service technician on the best practices in the servicing and maintenance of refrigeration and air conditioning systems.

In 2025, a total of 247 series of training were organized by the ATCs to train and certify a total of 1,546 technicians in the RAC sector. Throughout 2025, a total of 61 audits were carried out by the DOE's officer at ATC during certification training was conducted. The purpose of the surveillance audits on selected ATCs is to ensure that the training was conducted in accordance with the training manual and Standard Operating Procedure (SOP) as determined by DOE.

Until 2025, cumulatively DOE certified a total number of 33,020 RAC Service Technicians, and 344 Master Trainers.

CERTIFIED SERVICE TECHNICIAN PROGRAMME (CSTP)

Jadual 3.15: Statistik Program CSTP Bagi Tahun 2025
Table 3.15: Statistic of CSTP Program for Year 2025

STATUS / STATUS	BILANGAN / NUMBER
Bilangan kursus dilaksanakan bagi tahun 2025 Number of courses conducted for the year 2025	247
Bilangan ATC (kumulatif) Number of ATC (cumulative)	67
Bilangan Master Trainer Bertauliah (kumulatif) Number of Certified Master Trainer (cumulative)	344
Bilangan Juruteknik Bertauliah (kumulatif) Number of Certified Technician (cumulative)	33,020



Peperiksaan Amali CSTP
CSTP Practical Examination



Peperiksaan Teori CSTP
CSTP Theory Examination

WORLD REFRIGERATION DAY 2025

ASHRAE Malaysia Chapter (MASHRAE) dan Universiti Kuala Lumpur - Malaysia France Institute (UniKL MFI) dengan kerjasama Jabatan Alam Sekitar telah menganjurkan seminar sempena sambutan *World Refrigeration Day 2025* di Universiti Kuala Lumpur-Malaysia France Institute (UniKL MFI) pada 11 Jun 2025. Sambutan ini telah dirasmikan oleh Encik Ryan Ooi Chean Weai yang mewakili Pengarah Bahagian Udara, Jabatan Alam Sekitar.

Tema sambutan pada tahun ini iaitu "Cool Skills" memberi tumpuan kepada para profesional yang mana kepakaran mereka menjadi tunjang kepada sistem penyejukbekuan, penyaman udara, pam haba dan teknologi penyejukan rendah karbon yang lain. Adalah diharapkan sambutan ini dapat meningkatkan

WORLD REFRIGERATION DAY 2025

The ASHRAE Malaysia Chapter (MASHRAE) and Universiti Kuala Lumpur – Malaysia France Institute (UniKL MFI), in collaboration with the Department of Environment (DOE), organised a seminar in conjunction with World Refrigeration Day 2025 at Universiti Kuala Lumpur–Malaysia France Institute (UniKL MFI) on 11 June 2025. The event was officiated by Mr Ryan Ooi Chean Weai, representing the Director of the Air Division, Department of Environment.

The theme of this year's celebration, "Cool Skills," focuses on professionals whose expertise forms the backbone of refrigeration, air conditioning, heat pump systems, and other low-carbon cooling technologies. It is hoped that this celebration will raise awareness of current challenges in the sustainable refrigeration and heating

kesedaran tentang cabaran semasa di dalam sektor penyejukbekuan dan pemanasan yang lestari di samping meraikan tenaga kerja yang mendorong inovasi dan kemajuan dalam industri ini.

Pelbagai perkongsian mengenai peraturan dan pematuhan alam sekitar, pertukaran kepada refrigeran alternatif rendah potensi pemanasan global (GWP), pengendalian refrigeran mudah terbakar, kecekapan tenaga dan langkah pencegahan kebocoran refrigeran dalam sistem RAC telah disampaikan oleh wakil Jabatan serta pakar-pakar dari MASHRAE dan IKBN. Disamping itu, pelbagai aktiviti lain seperti kempen kesedaran, pameran dan lawatan terbuka ke fasiliti bengkel di kampus telah dijalankan.

sector, while also recognising the workforce that drives innovation and progress within the industry.

Various presentations were delivered covering environmental regulations and compliance, transitioning alternative refrigerants with low Global Warming Potential (GWP), handling of flammable refrigerants, energy efficiency, and measures to prevent refrigerant leakage in RAC systems. These sessions were presented by representatives from the Department as well as experts from MASHRAE and IKBN. In addition, several other activities such as awareness campaigns, exhibitions, and open visits to workshop facilities on campus were also carried out.



Majlis Pembukaan World Refrigeration Day 2025
Opening Ceremony of World Refrigeration Day 2025



Kehadiran Peserta daripada Pelbagai Agensi, khususnya dalam Bidang RAC / Participants from Various Agencies, particularly in the field of RAC



Penceramah Ts. Ng Wen Bin Menyampaikan Ucapan / Speaker Ts. Ng Wen Bin Delivered a Speech



Lawatan ke Peralatan RAC di UniKL-MFI, Bangi, Selangor
Visit to RAC Equipment at UniKL-MFI, Bangi, Selangor

PENYERTAAN LAWATAN/ BENGKEL/ SEMINAR/ KURSUS ANTARABANGSA

Malaysia telah terpilih menjadi tuan rumah kepada Bengkel Serantau Asia Timur dan Pasifik ke-17 bagi Pelaksanaan Protokol Montreal anjuran bersama Bank Dunia pada 25 Februari 2025. Bengkel ini telah dirasmikan oleh YBrs. Dr. Norhazni binti Mat Sari, Timbalan Ketua Pengarah (Operasi) Jabatan Alam Sekitar manakala sesi pembukaan telah disempurnakan oleh wakil Bank Dunia, Encik Jiang Ru.

Bengkel ini disertai oleh wakil Bank Dunia, pakar-pakar bagi pelaksanaan Protokol Montreal dan Pelan Pelaksanaan Kigali (KIP), wakil daripada agensi kerajaan Malaysia, Vietnam, Thailand dan Indonesia, serta wakil daripada pihak industri selaras dengan komitmen Malaysia dan negara-negara serantau dalam usaha melindungi lapisan ozon seterusnya membantu mengurangkan kesan perubahan iklim.

Selain itu, Jabatan Alam Sekitar Malaysia dengan kerjasama United Nations Environment Programme (UNEP) OzonAction menganjurkan *Network Meeting of the Southeast Asia National Ozone Officers – Options for Technically and Commercially Viable Low-GWP and Energy Efficient Alternatives to HCFCs/ HFCs* pada 22 - 25 April 2025 di Pulau Pinang, Malaysia.

Mesyuarat serantau ini menghimpunkan pegawai-pegawai ozon kebangsaan dari 11 negara Asia Tenggara, wakil organisasi antarabangsa, agensi pelaksana UNEP, UNIDO, UNDP dan Bank Dunia serta pihak industri untuk membincangkan alternatif mampan kepada bahan kawalan di bawah Protokol Montreal iaitu HCFC dan HFC yang digunakan secara meluas dalam sektor penyejukan dan penyaman udara.

Bahan ini boleh memberi kesan negatif kepada lapisan ozon dan perubahan iklim sekiranya tiada kawalan ke atas penggunaannya.

Jabatan Alam Sekitar telah mengadakan lawatan kerja teknikal atas jemputan daripada Overseas Environmental Cooperation Centre Japan (OECC) dengan kerjasama pihak Daikin Malaysia Sdn. Bhd. bagi sesi perkongsian maklumat berkaitan pengurusan kitaran hayat refrigeran serta sisa buangan elektrik dan elektronik isi rumah pada 14 - 17 Januari 2025 di Osaka, Jepun.

PARTICIPATION IN INTERNATIONAL VISITS/ WORKSHOPS/ SEMINARS/ COURSES

Malaysia was selected as the host for the 17th East Asia and Pacific Regional Workshop on the Implementation of the Montreal Protocol, jointly organized with World Bank on 25 February 2025. The workshop was officiated by YBrs. Dr. Norhazni binti Mat Sari, Deputy Director General (Operations) Department of Environment, while the opening session was delivered by the World Bank representative, Mr. Jiang Ru.

The workshop was attended by representatives from the World Bank, experts involved in the implementation of the Montreal Protocol and the Kigali Implementation Plan (KIP), representatives from government agencies of Malaysia, Vietnam, Thailand, and Indonesia, as well as representatives from the industry. The workshop reflected the commitment of Malaysia and regional countries in their efforts to protect the ozone layer and contribute to climate change mitigation.

In addition, the Department of Environment Malaysia, in collaboration with the United Nations Environment Programme (UNEP) OzonAction, organized the Network Meeting of the Southeast Asia National Ozone Officers – Options for Technically and Commercially Viable Low-GWP and Energy Efficient Alternatives to HCFCs/HFCs from 22 - 25 April 2025 in Penang, Malaysia.

This regional meeting brought together National Ozone Officers from 11 Southeast Asian countries, representatives from international organizations, implementing agencies including UNEP, UNIDO, UNDP, and World Bank, as well as industry representatives to discuss sustainable alternatives to controlled substances under the Montreal Protocol, namely HCFCs and HFCs, which are widely used in the refrigeration and air-conditioning sector.

These substances may have negative impacts on the ozone layer and climate change if their use is not properly controlled.

The Department of Environment conducted a technical working visit upon the invitation of the Overseas Environmental Cooperation Center, Japan (OECC), in collaboration with Daikin Malaysia Sdn. Bhd. to participate in information-sharing session on refrigerant lifecycle management and household electrical and electronic waste (e-waste) management from 14 to 17 January 2025 in Osaka, Japan.



Bengkel Serantau Asia Timur dan Pasifik ke-17 bagi Pelaksanaan Protokol Montreal anjuran bersama Bank Dunia
17th East Asia and Pacific Regional Workshop on the Implementation of the Montreal Protocol, jointly organized with the World Bank



Mesyuarat Rangkaian Southeast Asia National Ozone Officers – Options for Technically and Commercially Viable Low-GWP and Energy Efficient Alternatives to HCFCs/ HFCs pada 22 – 25 April 2025 di Pulau Pinang, Malaysia
Network Meeting of the Southeast Asia National Ozone Officers – Options for Technically and Commercially Viable Low-GWP and Energy Efficient Alternatives to HCFCs/HFCs from 22 - 25 April 2025 in Penang, Malaysia

Delegasi JAS diketuai oleh Tuan Haji Rosli bin Zul, Pengarah Bahagian Udara, diiringi oleh Encik Ryan Ooi, Ketua Penolong Pengarah Kanan, Bahagian Udara, Puan Thahirah Kamarulzaman, Ketua Penolong Pengarah Kanan, Bahagian Bahan Berbahaya dan dua lagi pegawai JAS.

Tujuan utama program ialah untuk berkongsi maklumat berhubung polisi dan pengurusan kitaran hayat refrigeran (*lifecycle refrigerant management*) dan mekanisma pengurusan buangan elektrik dan elektronik dari isi rumah (household e-waste) di negara Jepun dan Malaysia.

Dalam rangka kerja rasmi tersebut, delegasi JAS turut mengadakan beberapa sesi perbincangan dan lawatan teknikal ke Bilik Pameran Daikin Fu-Ha Osaka, Panasonic Eco Technology Centre (PETEC) dan Daikin Yodogawa *Reclamation Factory* bagi meneliti proses pengumpulan dan kitar semula buangan elektrik dan elektronik dari isi rumah terutamanya buangan penghawa dingin serta proses pemerolehan kembali refrigeran.

PROGRAM DAN KEMPEN KESEDARAN

Majlis Perasmian Sambutan Hari Ozon Sedunia 2025 Peringkat Kebangsaan telah berlangsung pada 4 Oktober 2025 di Alamanda Shopping Centre, Putrajaya dan disempurnakan oleh YB Dato' Sri Huang Tiong Sii, Timbalan Menteri Sumber Asli dan Kelestarian Alam. Tema sambutan pada tahun ini, "*From Science to Global Action*" menekankan kepentingan sains dan

The delegation was led by Tuan Haji Rosli bin Zul, Director of the Air Division, accompanied by Mr. Ryan Ooi, Senior Assistant Director, Air Division, Puan Thahirah Kamarulzaman, Senior Assistant Director, Hazardous Substances Division, and two other DOE officers.

The main objective of the programme was to exchange information on policies and practices related to lifecycle refrigerant management and the management mechanisms for household electrical and electronic waste (household e-waste) in Japan and Malaysia.

As part of the official programme, the DOE delegation also held several discussion sessions and conducted technical visits to the Daikin Fu-Ha Osaka Showroom, Panasonic Eco Technology Centre (PETEC), and the Daikin Yodogawa Reclamation Factory to observe the processes for the collection and recycling of household electrical and electronic waste, particularly air-conditioning units, as well as the refrigerant recovery process.

AWARENESS PROGRAMMES AND CAMPAIGNS

The World Ozone Day 2025 National Level celebration held on 4 October 2025 was officiated by YB Dato' Sri Huang Tiong Sii, Deputy Minister of Natural Resources and Environment at Alamanda Shopping Centre, Putrajaya. The theme for World Ozone Day 2025 is "From Science to Global Action," emphasizes the importance of science and scientific evidence under



Delegasi Jabatan Alam Sekitar di Pusat Teknologi dan Inovasi Daikin, Jepun / Delegation of Department of Environment to Daikin Technology and Innovation Center, Japan



Delegasi Jabatan Alam Sekitar bersama pegawai-pegawai dari Jepun / Delegation of Department of Environment with Japan officers

bukti saintifik di bawah Konvensyen Vienna, Protokol Montreal serta Pindaan Kigali sebagai pemangkin kepada kerjasama global dalam memulihkan lapisan ozon serta menangani cabaran perubahan iklim.

Pelbagai aktiviti telah diadakan bagi mendekatkan mesej pemeliharaan alam sekitar kepada masyarakat, antaranya pertandingan mewarna, sesi pocket talk, kuiz alam sekitar, sembang santai berinformasi, demonstrasi oleh Petrosains, edutainment interaktif, seni persembahan serta reruai pameran oleh rakan strategik dari persatuan dan industri. Sepanjang sambutan ini, dianggarkan seramai 2,000 pengunjung telah hadir dan menyertai pelbagai aktiviti yang disediakan pada 4 dan 5 Oktober 2025.

JAS telah menganjurkan Seminar "Ozone to Climate" bersempena dengan Sambutan Hari Ozon Sedunia 2025 di Kuala Lumpur Convention Centre yang dirasmikan oleh YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Ketua Pengarah Jabatan Alam Sekitar. Seminar ini merupakan satu platform perkongsian kejayaan Malaysia dalam melaksanakan pelan-pelan penghapusan penggunaan bahan pemusnah ozon di bawah Protokol Montreal bersama-sama dengan pihak berkepentingan dari agensi kerajaan, agensi swasta, industri dan institusi akademik.

Turut dijemput hadir ialah Dr. Viraj Vithoontien, Pakar Perunding Protokol Montreal dari Kumpulan Bank Dunia, yang menyampaikan perkongsian mengenai

the Vienna Convention, Montreal Protocol, and the Kigali Amendment as catalysts for global cooperation in restoring the ozone layer and addressing the challenges of climate change.

Various activities were organized to bring the message of environmental protection closer to the community, including colouring competition, pocket talk sessions, environmental quizzes, informative casual talks, demonstrations by Petrosains, interactive edutainment activities, performing arts, as well as exhibition booths by strategic partners from associations and industry players. Throughout the celebration, approximately 2,000 visitors attended and participated in the various activities held on 4 and 5 October 2025.

DOE organized the "Ozone to Climate" Seminar in conjunction with World Ozone Day 2025 at the Kuala Lumpur Convention Centre which was officiated by YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Director General of the Department of Environment. The seminar served as a platform to share Malaysia's achievements in implementing the phase-out plans for ozone-depleting substances under the Montreal Protocol with stakeholders from government agencies, private sector, industry, and academic institutions.

Also invited was Dr. Viraj Vithoontien, Montreal Protocol Expert Consultant from the World Bank Group, who shared insights on the roles and actions required to

peranan dan tindakan dalam memperkukuh usaha global melindungi lapisan ozon serta menangani perubahan iklim di bawah Protokol Montreal dan Pindaan Kigali 2016.

Hari Ozon Sedunia yang diraikan pada tahun 2025 bukan hanya dilaksanakan di peringkat kebangsaan, malahan pejabat-pejabat JAS Negeri turut sama menjayakan pelbagai program kesedaran perlindungan lapisan ozon antaranya seperti pertandingan larian, pertandingan pengumpulan e-waste, Program Kembara Ozon, seminar penipisan lapisan ozon, pertandingan video pendek, kuiz lindungi lapisan ozon, program tanaman pokok serta pameran alam sekitar bersama agensi-agensi seperti Institut Pengajian Tinggi Awam, pertubuhan bukan kerajaan dan pihak swasta.

strengthen global efforts in protecting the ozone layer and addressing climate change under the Montreal Protocol and the 2016 Kigali Amendment.

The World Ozone Day 2025 celebration was not only held at national level, but also actively supported by DOE State Offices through various ozone layer protection awareness programmes. These included activities such as running competitions, e-waste collection competitions, Ozone Exploration Programme, seminars on ozone layer depletion, short video competitions, ozone protection quizzes, tree planting programmes, and environmental exhibitions conducted in collaboration with agencies such as public higher education institutions, non-governmental organizations, and private sectors.



Perasmian Sambutan Hari Ozon Sedunia 2025 Peringkat Kebangsaan oleh YB Timbalan Menteri Sumber Asli dan Kelestarian Alam / Launching Ceremony of World Ozone Day 2025 National Level by the YB Deputy Minister of Natural Resources and Environment Sustainability



Sambutan Hari Ozon Sedunia 2025 Peringkat Kebangsaan di Alamanda / World Ozone Day 2025 National Level Celebration at Alamanda



Sesi Pocket Talk sempena Sambutan Hari Ozon Sedunia 2025 Peringkat Kebangsaan / Pocket Talk Session during World Ozone Day 2025 National Level



Pertunjukan Sains oleh Petronsains sempena Sambutan Hari Ozon Sedunia 2025 Peringkat Kebangsaan /Science Show by Petrosains during World Ozone Day 2025 National Level



Aktiviti Pameran sempena Sambutan Hari Ozon Sedunia 2025 Peringkat Kebangsaan / Exhibition during World Ozone Day 2025 National Level



Pengunjung di Kawasan Pameran sempena Sambutan Hari Ozon 2025 / Visitors at the Exhibition Area during World Ozone Day 2025



Sesi Bergambar bersama Pelajar – pelajar Sekolah yang Membuat Persembahan sempena Sambutan Hari Ozon 2025 Peringkat Kebangsaan / Photo Sessions with Students that Performed during World Ozone Day 2025 National Level



Penganjuran Seminar "Ozone to Climate" di Kuala Lumpur Convention Centre / Organization of the "Ozone to Climate" Seminar at the Kuala Lumpur Convention Centre



Sesi Penyerahan Sijil Penghargaan kepada Projek Inisiatif Kelestarian Hijau oleh Syarikat Free The Seed Sdn. Bhd. / Presentation Session of Certificate of Appreciation for the Green Sustainability Initiative Project by Free The Seed Sdn. Bhd.



Sesi Soal Jawab oleh Panel - panel Pembentang di Seminar "Ozone to Climate" / Question and Answer Session by the Panel of Presenters at the "Ozone to Climate" Seminar



Tetamu Jemputan di Seminar "Ozone to Climate" / Invited Guests at the "Ozone to Climate" Seminar



Sambutan Hari Ozon Sedunia 2025 Anjuran Jabatan Alam Sekitar Kuala Lumpur / Celebration of World Ozone Day 2025 Organized by Department of Environment Kuala Lumpur



Sambutan Hari Ozon Sedunia 2025 Anjuran Jabatan Alam Sekitar Negeri Selangor / Celebration of World Ozone Day 2025 Organized by Department of Environment Selangor



Sambutan Hari Ozon Sedunia 2025 Anjuran Jabatan Alam Sekitar Negeri Perlis / Celebration of World Ozone Day 2025 Organized by Department of Environment Perlis



Sambutan Hari Ozon Sedunia 2025 Anjuran Jabatan Alam Sekitar Negeri Kedah / Celebration of World Ozone Day 2025 Organized by Department of Environment Kedah



Sambutan Hari Ozon Sedunia 2025 Anjuran Jabatan Alam Sekitar Negeri Terengganu / Celebration of World Ozone Day 2025 Organized by Department of Environment Terengganu



Sambutan Hari Ozon Sedunia 2025 Anjuran Jabatan Alam Sekitar Negeri Sembilan
Celebration of World Ozone Day 2025 Organized by Department of Environment Negeri Sembilan



Sambutan Hari Ozon Sedunia 2025 Anjuran Jabatan Alam Sekitar Negeri Johor / Celebration of World Ozone Day 2025 Organized by Department of Environment Johor



Sambutan Hari Ozon Sedunia 2025 Anjuran Jabatan Alam Sekitar Negeri Pahang / Celebration of World Ozone Day 2025 Organized by Department of Environment Pahang



Sambutan Hari Ozon Sedunia 2025 Anjuran Jabatan Alam Sekitar Negeri Melaka / Celebration of World Ozone Day 2025 Organized by Department of Environment Melaka



Sambutan Hari Ozon Sedunia 2025 Anjuran Jabatan Alam Sekitar Sarawak
Celebration of World Ozone Day 2025 Organized by Department of Environment Sawarak



Sambutan Hari Ozon Sedunia 2025 Anjuran Jabatan Alam Sekitar Sabah / Celebration of World Ozone Day 2025 Organized by Department of Environment Sabah

PENGURUSAN BUANGAN TERJADUAL

LESEN PREMIS YANG DITETAPKAN

Sejumlah 865 lesen telah dikeluarkan kepada kemudahan baru dan sedia ada pada tahun 2025 yang terdiri daripada 224 kemudahan pemerolehan kembali luar tapak bukan e-waste, 19 kemudahan pemerolehan kembali penuh luar tapak bagi e-waste, 108 kemudahan pemerolehan kembali separa luar tapak bagi e-waste, 27 kemudahan penunu buangan terjadual, 20 kemudahan pengolahan luar tapak, 9 kemudahan tapak pelupusan selamat, 52 kemudahan penstoran luar tapak dan sejumlah 398 lesen telah dikeluarkan kepada pembawa yang ditetapkan (**Rajah 3.8** dan **Jadual 3.16**).

Dalam usaha memastikan pematuhan premis terhadap Jadual Pematuhan lesen yang dikeluarkan oleh Jabatan, pengauditan syarat-syarat lesen dijalankan oleh Seksyen Pelesenan, Bahagian Bahan Berbahaya secara menyeluruh dan sistematik untuk menilai tahap pematuhan, keberkesanan serta kawalan/pemantauan dalam pengurusan buangan terjadual di Premis Yang Ditetapkan Buangan Terjadual (PYDT BT).

Kaedah audit yang dijalankan menjerumus kepada pemeriksaan dokumen seperti Laporan Impak Alam Sekitar (EIA), Jadual Pematuhan dan Kebenaran Bertulis, semakan terhadap Laporan Audit pihak ketiga bagi ambien udara, effluen dan bunyi bising, verifikasi maklumat inventori premis di dalam *Electronic Scheduled Waste Information System* (eSWIS) serta penelitian terhadap kawalan tindak balas kemalangan/kecemasan, kawasan penstoran buangan buangan terjadual dan pengangkut yang digunakan.

Pada tahun 2025, sebanyak 11 aktiviti audit telah dijalankan kepada 11 buah premis PYDT BT di seluruh negara. Aktviti tersebut telah dijalankan bersama kakitangan Jabatan Alam Sekitar Negeri dan Orang Yang Berwibawa bagi premis-premis yang terlibat. Penemuan-penemuan audit sepanjang tempoh pelaksanaan audit dikongsikan kepada PYDT BT bagi langkah-langkah pembetulan dan penambahbaikan.

SCHEDULED WASTE MANAGEMENT

LICENCES FOR PRESCRIBED PREMISES

A total number of 865 licences were issued for both existing and new facilities in the year 2025 which consists of 224 licences for off-site recovery (non e-waste), 19 licences for off-site full recovery plants (e-waste), 108 licences for off-site partial recovery plants (e-waste), 27 licences for scheduled wastes incinerators, 20 licences for off-site treatment facilities, 9 licences for secured landfills, 52 licences for off-site storage facilities, and a total of 398 licences were issued for prescribed conveyance (**Figure 3.8** and **Table 3.16**).

To ensure premises comply with the License Compliance Schedule issued by the Department, the Licensing Section of the Hazardous Materials Division conducts comprehensive and systematic audits of licensing conditions. These audits assess compliance levels, operational effectiveness, and the adequacy of control and monitoring systems for scheduled waste management at Prescribed Premises (PYDT BT).

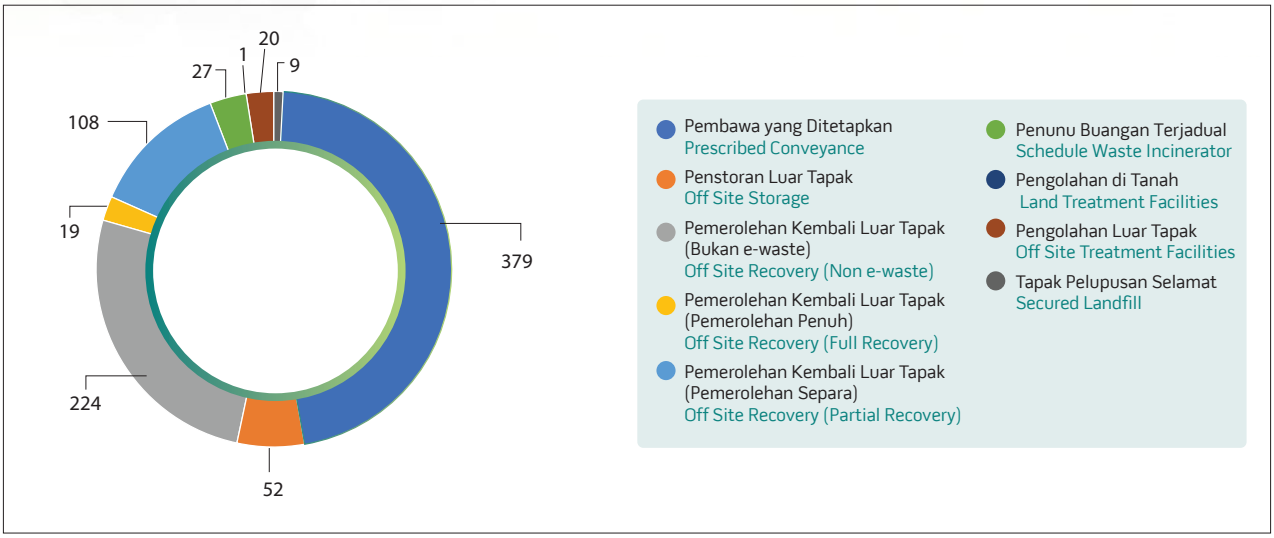
Audit scope include inspection of key documents such as the Environmental Impact Assessment (EIA), Compliance Schedule, and Written Consent, review of third-party audit reports covering ambient air, effluent, and noise, verification of premises inventory data within the Electronic Scheduled Waste Information System (eSWIS), and evaluation of accident and emergency response measures, scheduled waste storage facilities, and appointed transporters.

In 2025, a total of 11 audits were conducted across 11 Prescribed Premises (PYDT BT) nationwide. These audits were carried out in collaboration with State Department of Environment officers and appointed Competent Person of the respective premises. Audit findings were communicated to the PYDT BT operators throughout the audit period to facilitate timely corrective actions and continuous improvement.

Jadual 3.16: Lesen-Lesen yang Dikeluarkan bagi Kemudahan Pemerolehan Kembali, Pengolahan & Pelupusan Buangan Terjadual yang Diluluskan oleh Jabatan Alam Sekitar, 2025

Table 3.16: Licences Issued for Recovery Facilities Processing Hazardous Waste Disposal Approved by the Department of Environment, 2025

KEMUDAHAN FACILITIES	JUMLAH LESEN DIKELUARKAN MENGIKUT NEGERI BAGI TAHUN 2025/ NUMBER OF LICENCES ISSUED BY STATE YEAR 2025															
	Johor	Kedah	Kelantan	Melaka	N. Sembilan	Pahang	Perak	Perlis	Pulau Pinang	Sabah	Sarawak	Selangor	Terengganu	WPKL	Labuan	Jumlah Total
Pembawa Yang Ditetapkan (Precribed Conveyors)	65	26	4	24	22	7	38	3	61	10	33	86	8	5	6	398
Penstoran Luar Tapak (Off-site Storage)	1	1	1	3	1	2	3	0	1	6	24	3	1	0	5	52
Pemerolehan Kembali Luar Tapak (Bukan e-waste) (Off-site Recovery of Non e-waste)	37	13	1	15	17	8	31	1	29	3	5	58	4	0	2	224
Pemerolehan Kembali Luar Tapak (Pemerolehan Kembali Penuh e-waste) (Off-site Full Recovery e-waste)	1	1	0	0	2	0	1	0	9	0	0	5	0	0	0	19
Pemerolehan Kembali Luar Tapak (Pemerolehan Kembali Separa e-waste) (Partial Recovery e-waste)	23	9	3	7	6	0	3	2	21	1	5	20	3	5	0	108
Penunu Buangan Terjadual (Scheduled Waste Incinerator)	7	0	0	0	2	2	2	0	1	0	4	6	2	0	1	27
Pengolahan di Tanah (Land Treatment Facilities)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Pengolahan Luar Tapak (Off-site Treatment)	1	1	0	1	5	0	5	0	0	1	3	2	0	0	1	20
Tapak Pelupusan Selamat (Secured Landfill)	2	1	0	0	1	1	0	0	0	0	2	1	1	0	0	9
Bil. Lesen (No. of License)	139	53	9	50	56	20	83	6	122	24	77	181	19	10	16	865
Bil. Premis (No. of Premise)	68	27	4	25	27	14	45	3	60	12	35	90	11	5	8	434



*Sumber: Sistem Elektronik Kawalan Alam Sekitar (E-KAS)

Rajah 3.8: Jumlah Lesen Dikeluarkan
Figure 3.8: Number of Licences Issued



Kompilasi Gambar Semasa Pelaksanaan Audit di Premis Yang Ditetapkan Buangan Terjadual (PYDT BT) /
Compilation of Photos during Audit Activities in Prescribed Premises (PYDT BT)

PROGRAM LATIHAN BERSEPADU MENANGANI TUMPAHAN BAHAN KIMIA DI SEMPADAN MALAYSIA - SINGAPURA

Tarikh : 23 Julai 2025
Tempat : Lebuhraya Linkedua Malaysia–Singapura, Johor Bahru

Latihan Tindak Balas Kecemasan Bahan Kimia Malaysia-Singapura kali ke-14 telah berjaya dilaksanakan pada 23 Julai 2025 bertempat di Lebuhraya Linkedua, Johor. Program ini merupakan inisiatif kerjasama dua hala di bawah Malaysia–Singapore *Joint Committee on the Environment* (MSJCE) yang bertujuan untuk meningkatkan kesiapsiagaan kedua-dua negara dalam menghadapi insiden kimia rentas sempadan.

Objektif utama latihan ini adalah untuk:

i. meningkatkan tahap kesiapsiagaan, kecekapan dan keberkesanan agensi-agensi berkaitan dari Malaysia dan Singapura;
ii. menguji keberkesanan Pelan Tindak Balas Kecemasan Bersama bagi insiden kimia rentas sempadan; dan
iii. memperkukuh komunikasi dan kerjasama antara agensi dari kedua-dua negara.

Setiap tahun, dianggarkan lebih 150,000 tan bahan kimia berbahaya diangkut melalui Laluan Kedua Malaysia–Singapura. Justeru itu, satu pelan tindakan bersama telah dibangunkan dan diuji secara berkala menerusi latihan dwitahunan yang melibatkan pelbagai agensi kerajaan dan pihak industri dari kedua-dua negara.

Untuk tahun 2025, senario latihan telah disimulasikan kepada satu insiden kemalangan yang melibatkan beberapa kenderaan awam yang menyebabkan berlakunya tumpahan bahan kimia di lokasi kejadian. Simulasi berkenaan melibatkan sebuah lori yang membawa tong natrium hidroksida pekat yang hilang kawalan dan melanggar sebuah tangki ISO yang membawa ammonia tanpa air dari Singapura ke Pasir Gudang, Malaysia. Sebuah kereta turut terlibat dalam kemalangan apabila melanggar lori tersebut.

Latihan ini telah melibatkan penyertaan sebanyak 15 agensi dan syarikat utama dari kedua-dua negara. Penyertaan ini mencerminkan komitmen bersama dalam memperkukuh kesiapsiagaan menghadapi insiden bahan kimia merentasi sempadan.

INTEGRATED TRAINING PROGRAMME ON CHEMICAL SPILL RESPONSE AT THE MALAYSIA–SINGAPORE BORDER

Date : 23 July 2025
Venue : Malaysia–Singapore Second Link Highway, Johor Bahru

The 14th Malaysia–Singapore Joint Chemical Emergency Response Exercise was successfully conducted on 23 July 2025 at the Malaysia–Singapore Second Link Highway in Johor Bahru. The exercise was a bilateral initiative under the Malaysia–Singapore Joint Committee on the Environment (MSJCE), aimed at enhancing the preparedness of both countries in responding to cross-border chemical incidents.

The main objectives of the exercise were to:

i. enhance the level of preparedness, competency, and effectiveness of relevant agencies from Malaysia and Singapore;
ii. test the effectiveness of the Joint Emergency Response Plan for cross-border chemical incidents; and
iii. strengthen communication and cooperation between agencies of both countries.

Each year, an estimated 150,000 tonnes of hazardous chemicals are transported through the Malaysia–Singapore Second Link. In view of this, a joint action plan has been developed and periodically tested through biennial exercises involving multiple government agencies and industry stakeholders from both countries.

For the 2025 exercise, the scenario simulated a traffic accident involving several civilian vehicles, resulting in a chemical spill at the incident site. The simulation involved a lorry transporting drums of concentrated sodium hydroxide that lost control and collided with an ISO tank carrying anhydrous ammonia from Singapore to Pasir Gudang, Malaysia. A passenger vehicle was also involved in the collision.

The exercise involved the participation of 15 key agencies and companies from both Malaysia and Singapore, reflecting a strong joint commitment to strengthening preparedness for cross-border chemical incidents.

Agensi dan syarikat dari Malaysia yang terlibat termasuk:

i. Jabatan Alam Sekitar (JAS)
ii. Jabatan Bomba dan Penyelamat Malaysia (JBPM)
iii. Kementerian Kesihatan Malaysia (KKM)
iv. Polis Diraja Malaysia (PDRM)
v. Jabatan Kastam Diraja Malaysia (JKDM)
vi. Agensi Kawalan dan Perlindungan Sempadan Malaysia (AKPS)
vii. Majlis Keselamatan Negara (MKN)
viii. Lembaga Lebuhraya Malaysia (LLM)
ix. Kementerian Dalam Negeri (KDN)
x. PLUS Malaysia Berhad
xi. Edgenta Infrastructure Services (EIS)
xii. Sapura Research Berhad

Manakala dari Singapura, agensi yang terlibat ialah:
i. *National Environment Agency* (NEA)
ii. *Immigration & Checkpoints Authority* (ICA)
iii. *Singapore Civil Defence Force* (SCDF)

Encik Wong Kang Jet, Ketua Eksekutif NEA, menyatakan "Singapura dan Malaysia perlu terus memperkukuh kerjasama melalui latihan seperti ini yang melibatkan senario dan bahan kimia yang berbeza. Latihan hari ini berjaya kerana hubungan dua hala yang kukuh dan lama terjalin."

Dato' Wan Abdul Latiff bin Wan Jaffar, Ketua Pengarah JAS, berkata "saya percaya kepada komitmen dan kerjasama erat antara agensi kedua-dua negara dalam memastikan kejayaan latihan ini. Pewartaan kuasa kepada 13 agensi di Malaysia pada 7 Julai 2025 membolehkan pelaksanaan tugas yang lebih bersepadu dan berkesan, selaras dengan usaha memperkukuh keyakinan awam terhadap sistem pengawalseliaan alam sekitar negara."

Latihan ini membuktikan bahawa pendekatan bersama antara Malaysia dan Singapura dalam menangani ancaman kimia rentas sempadan adalah berkesan, responsif dan strategik. Malaysia–Singapore *Joint Committee on the Environment* (MSJCE) terus komited untuk memperkukuh kerjasama teknikal dan operasi demi keselamatan awam serta perlindungan alam sekitar serantau.

Participating Malaysian agencies and companies included:

i. Department of Environment (DOE),
ii. Fire and Rescue Department of Malaysia (FRDM),
iii. Ministry of Health Malaysia (MOH),
iv. Royal Malaysia Police (RMP),
v. Royal Malaysian Customs Department (RMCD),
vi. Malaysian Border Control and Protection Agency (AKPS),
vii. National Security Council (NSC),
viii. Malaysian Highway Authority (MHA),
ix. Ministry of Home Affairs (MOHA),
x. PLUS Malaysia Berhad,
xi. Edgenta Infrastructure Services (EIS), and
xii. Sapura Research Berhad.

Participating agencies from Singapore were
i. National Environment Agency (NEA),
ii. Immigration & Checkpoints Authority (ICA),
iii. Singapore Civil Defence Force (SCDF)

Mr. Wong Kang Jet, Chief Executive Officer of NEA, stated that *"Singapore and Malaysia must continue to strengthen cooperation through exercises such as this, involving different scenarios and chemical substances. Today's exercise was successful due to the strong and longstanding bilateral relationship between both countries."*

Dato' Wan Abdul Latiff bin Wan Jaffar, Director General of the DOE, said that *"the strong commitment and close cooperation between agencies from both countries were key to the success of this exercise. The gazettement of enforcement powers to 13 agencies in Malaysia on 7 July 2025 enables more integrated and effective implementation, in line with efforts to strengthen public confidence in the nation's environmental regulatory system."*

The exercise demonstrated that a joint Malaysia–Singapore approach in addressing cross-border chemical threats is effective, responsive, and strategic. The Malaysia–Singapore Joint Committee on the Environment (MSJCE) remains committed to strengthening technical and operational cooperation to ensure public safety and regional environmental protection.










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PERSIDANGAN NEGARA-NEGARA ANGGOTA KE -12 (COP-12) BAGI KONVENSYEN ROTTERDAM TAHUN 2025

Persidangan Negara-Negara Anggota Ke-12 (COP-12) Konvensyen Rotterdam telah diadakan di Geneva dari 28 April hingga 9 Mei 2025, secara serentak dengan mesyuarat Konvensyen Basel dan Konvensyen Stockholm di bawah kerangka Sinergi BRS 2025. Penganjuran bersama ini bertujuan memperkukuh penyelarasan dasar, perkongsian maklumat serta pelaksanaan bersepadu dalam pengurusan bahan kimia dan sisa berbahaya di peringkat antarabangsa. Persidangan ini berlangsung di bawah tema ***"Make Visible the Invisible: Sound Management of Chemicals and Wastes"***, yang menekankan keperluan mendesak untuk menangani krisis planet tiga serangkai melibatkan perubahan iklim, pencemaran serta kehilangan biodiversiti.

Dalam aspek kawal selia bahan kimia, persidangan telah mencapai konsensus untuk menyenaraikan dua bahan kimia di bawah Annex III Konvensyen Rotterdam, iaitu Carbosulfan dan Fenthion (formulasi isipadu ultra rendah), yang seterusnya tertakluk kepada prosedur Persetujuan Awal Dimaklumkan (Prior Informed Consent, PIC) bagi perdagangan antarabangsa. Walau bagaimanapun, ketiadaan konsensus telah menyebabkan pertimbangan terhadap beberapa bahan kimia lain, termasuk methyl bromide, merkuri, paraquat, paraquat dichloride, chlorpyrifos, iprodione, acetochlor dan chrysotile asbestos, ditangguhkan ke COP-13 yang dijadualkan pada tahun 2027.

Persidangan turut memberi tumpuan kepada peningkatan keberkesanan pelaksanaan Konvensyen Rotterdam, khususnya berkaitan cabaran berterusan dalam proses penyenaraian bahan kimia. Melalui perbincangan dalam kumpulan kerja, beberapa pendekatan telah dipersetujui bagi menambah baik pelaksanaan Konvensyen, termasuk penggunaan mekanisme sedia ada. Isu berkaitan tatacara mesyuarat turut dibincangkan, dengan cadangan pindaan kepada Artikel 16, yang melibatkan bantuan teknikal dan sokongan pelaksanaan kepada Negara-Negara Pihak, ditangguhkan untuk pertimbangan lanjut.

Dari sudut pelaksanaan dan pematuhan, Jawatankuasa Pematuhan telah membentangkan laporan kemajuan berkaitan penyelesaian kes dan isu sistemik, dan program kerjanya bagi tempoh dwitahunan 2026–2027 telah diluluskan. Persidangan juga meluluskan

THE TWELVE MEETING OF THE CONFERENCE OF THE PARTIES (COP-12) TO THE ROTTERDAM CONVENTION 2025

The Twelfth Meeting of the Conference of the Parties (COP-12) to the Rotterdam Convention was held in Geneva from 28 April - 9 May 2025, concurrently with the meetings of the Basel Convention and the Stockholm Convention under the framework of the BRS Synergies 2025. This joint convening aimed to strengthen policy coordination, information sharing, and integrated implementation in the international management of chemicals and hazardous wastes. The Conference was held under the theme **"Make Visible the Invisible: Sound Management of Chemicals and Wastes"**, highlighting the urgent need to address the triple planetary crisis of climate change, pollution, and biodiversity loss.

In terms of chemicals regulation, the Conference reached consensus to list two chemicals under Annex III of the Rotterdam Convention, namely Carbosulfan and Fenthion (ultra-low volume formulations), thereby subjecting them to the Prior Informed Consent (PIC) procedure for international trade. However, due to the absence of consensus, consideration of several other chemicals, including methyl bromide, mercury, paraquat, paraquat dichloride, chlorpyrifos, iprodione, acetochlor, and chrysotile asbestos, was deferred to COP-13, scheduled for 2027.

The Conference also focused on enhancing the effectiveness of the implementation of the Rotterdam Convention, particularly in addressing persistent challenges in the chemical listing process. Through discussions held within a contact group, several approaches were agreed upon to improve the implementation of the Convention, including the use of existing mechanisms. Issues related to the rules of procedure were also discussed, with proposed amendments to Article 16: concerning technical assistance and support for Parties in implementing the Convention, deferred for further consideration.

From an implementation and compliance perspective, the Compliance Committee presented its progress report on the resolution of specific cases and identified systemic issues, and its programme of work for the 2026–2027 biennium was approved. The Conference

program kerja dan bajet Konvensyen bagi tempoh yang sama, serta menerima pakai keputusan untuk membangunkan strategi mobilisasi sumber dengan penekanan khusus kepada sokongan kepada negara-negara membangun di rantau Afrika serta Amerika Latin dan Caribbean.

Selain itu, persidangan menegaskan kepentingan sinergi dan kerjasama antara konvensyen serta badan antarabangsa lain. Keputusan telah diterima pakai bagi memperkukuh kerjasama dengan Konvensyen Minamata berkaitan Merkuri, meningkatkan usaha bersama dalam mencegah dan membanteras perdagangan haram bahan kimia dan sisa berbahaya, serta meluluskan pelan kerja baharu Mekanisme Pusat Maklumat (*Clearing-house Mechanism*) bagi tempoh 2026–2027. Pelan Tindakan Gender 2025–2035 turut diambil maklum, dengan permintaan agar laporan pelaksanaannya dibentangkan pada tahun 2027.

Secara keseluruhannya, COP-12 Konvensyen Rotterdam di bawah Sinergi BRS 2025 telah memperkukuh komitmen antarabangsa terhadap pengurusan bahan kimia dan sisa berbahaya secara mampan. Keputusan yang dicapai mencerminkan usaha berterusan Negara-Negara Pihak untuk meningkatkan perlindungan kesihatan manusia dan alam sekitar, memperkukuh mekanisme pelaksanaan serta menggalakkan kerjasama global dalam menangani cabaran pencemaran yang semakin kompleks. Hasil persidangan ini dijangka menjadi asas penting dalam mempertingkatkan keberkesanan pelaksanaan Konvensyen Rotterdam di peringkat nasional dan antarabangsa, selaras dengan matlamat pembangunan mampan dan perlindungan alam sekitar jangka panjang.

also approved the programme of work and budget of the Convention for the same period and adopted a decision to develop a resource mobilization strategy with particular emphasis on supporting developing countries in Africa and Latin America and the Caribbean.

Furthermore, the Conference underscored the importance of synergies and cooperation among the conventions and with other international bodies. Decisions were adopted to strengthen cooperation with the Minamata Convention on Mercury, enhance joint efforts to prevent and combat illegal trade in chemicals and hazardous wastes, and approve a new work plan for the Clearing-house Mechanism for the 2026–2027 period. The Gender Action Plan 2025–2035 was also noted, with a request for a report on its implementation to be presented in 2027.

Overall, COP-12 of the Rotterdam Convention under the BRS Synergies 2025 reinforced international commitment to the sound management of chemicals and hazardous wastes. The outcomes reflect the continued efforts of the Parties to enhance the protection of human health and the environment, strengthen implementation mechanisms, and promote global cooperation in addressing increasingly complex pollution challenges. The results of this Conference are expected to serve as an important foundation for improving the effectiveness of the implementation of the Rotterdam Convention at both national and international levels, in line with sustainable development goals and long-term environmental protection objectives.



PERSIDANGAN NEGARA ANGGOTA KONVENSYEN BASEL KE – 17 (BC COP.17)

Persidangan Negara Anggota Konvensyen Basel merupakan platform global utama dalam mengawal selia pengurusan buangan berbahaya secara lestari. Persidangan Negara Anggota Konvensyen Basel Ke-17 (BC COP.17) telah diadakan secara serentak dengan Persidangan Negara Anggota Konvensyen Rotterdam Ke-12 (RC COP.12) dan Persidangan Negara Anggota Konvensyen Stockholm Ke-12 (SC COP.12) bermula pada 28 April - 9 Mei 2025 di CICG Convention Hall, Geneva, Switzerland. Objektif utama BC COP.17 adalah untuk membincangkan pindaan terhadap teks Konvensyen Basel, menyemak dan meluluskan garis panduan teknikal bagi pengurusan buangan contohnya bagi buangan tayar dan bateri, menilai keberkesanan pelaksanaan *Plastic Waste Amendment* dan memperkukuh kerjasama antarabangsa dalam menangani perdagangan buangan haram.

Tema persidangan kali ini adalah "*Make visible the invisible: sound management of chemicals and wastes*" yang menekankan kepentingan menguruskan bahan kimia dan buangan yang boleh memberikan impak besar kepada kesihatan manusia dan kelestarian alam sekitar.

BC COP.17, RC COP.12 dan SC COP.12 telah disertai oleh lebih 2000 perwakilan daripada 182 negara dan 205 organisasi pemerhati (yang terdiri daripada pihak NGO, organisasi pemerhati, *regional centres* dan organisasi di bawah United Nation) manakala wakil Malaysia terdiri daripada Kementerian Sumber Asli dan Kelestarian Alam (NRES), Kementerian Luar Negeri, Jabatan Alam Sekitar, Jabatan Pengurusan Sisa Pepejal Negara, Lembaga Sumber Asli dan Alam Sekitar Sarawak, Jabatan Perlindungan Alam Sekitar Sabah, SIRIM QAS International Sdn. Bhd. termasuklah YB Nik Nazmi bin Nik Ahmad, mantan Menteri NRES yang juga telah menyertai *High-Level Segment of the Meetings of the Conferences of the Parties to the Basel, Rotterdam, and Stockholm Conventions* pada 30 April - 1 Mei 2025.

Antara isu-isu yang telah dibincangkan dalam BC COP.17 adalah seperti berikut:-

i. Pelantikan YBrs. Dr. Norhazni binti Mat Sari, Timbalan Ketua Pengarah (Operasi), Jabatan Alam Sekitar sebagai Pengerusi Bersama *Open-ended Working Group Basel Convention.*

17TH MEETING OF THE CONFERENCE OF THE PARTIES TO THE BASEL CONVENTION (BC COP.17)

The Conference of the Parties to the Basel Convention is a primary global platform for regulating the sustainable management of hazardous waste. The 17th Meeting of the Conference of the Parties to the Basel Convention (BC COP.17) was held concurrently with the 12th Meeting of the Conference of the Parties to the Rotterdam Convention (RC COP.12) and the 12th Meeting of the Conference of the Parties to the Stockholm Convention (SC COP.12) from April 28 - May 9, 2025, at CICG Convention Hall, Geneva, Switzerland. The main objectives of BC COP.17 were to discuss amendments to the text of the Basel Convention, review and approve technical guidelines for waste management (such as for waste tires and batteries), evaluate the effectiveness of the implementation of the Plastic Waste Amendment, and strengthen international cooperation in addressing illegal waste trade.

The theme for this conference was "Make visible the invisible: sound management of chemicals and wastes," which emphasizes the importance of managing chemicals and waste that can have significant impacts on human health and environmental sustainability.

BC COP.17, RC COP.12, and SC COP.12 were attended by over 2,000 delegates from 182 countries and 205 observer organizations (comprising NGOs, observer organizations, regional centers, and organizations under the United Nations). The Malaysian delegation consisted of representatives from Ministry of Natural Resources and Environmental Sustainability (NRES), Ministry of Foreign Affairs, Department of Environment (DOE), National Solid Waste Management Department, Natural Resources and Environment Board Sarawak, Environment Protection Department Sabah, and SIRIM QAS International Sdn. Bhd. Additionally, YB Nik Nazmi bin Nik Ahmad, former Minister of NRES, participated in the High-Level Segment of the Meetings of the Conferences of the Parties to the Basel, Rotterdam, and Stockholm Conventions from April 30 - May 1, 2025.

Among the key issues discussed during BC COP.17 were as follows:

i. The appointment of YBrs. Dr. Norhazni binti Mat Sari, Deputy Director General (Operations) of the Department of Environment, as the Co-Chair of the Basel Convention Open-ended Working Group.

ii. *Technical Guidelines on the Environmentally Sound Management of Used and waste pneumatic tyres, Waste Batteries other than Waste Lead-Acid Batteries and Waste Lead-Acid Batteries*.
iii. Pindaan senarai *disposal operations* dalam Annex IV, Konvensyen Basel.
iv. Ulasan mengenai *Plastic Waste Amendment* pada Konvensyen Basel, khususnya berkaitan pelaksanaan, cabaran serta impak pelaksanaan.

ii. Technical Guidelines on the Environmentally Sound Management of Used and Waste Pneumatic Tyres, Waste Batteries other than Waste Lead-Acid Batteries, and Waste Lead-Acid Batteries.
iii. Amendments to the list of disposal operations in Annex IV of the Basel Convention.
iv. A review of the Plastic Waste Amendment to the Basel Convention, specifically regarding its implementation, challenges, and the impact of its execution.












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Lessons from the Frontlines


Welcome to the meeting of the conferences of the Parties to the Basel, Rotterdam and Stockholm conventions
BASEL ROTTERDAM STOCKHOLM COPs
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PERSEDIAAN KE ARAH PELAKSANAAN MEKANISME PENGURUSAN BUANGAN ELEKTRIK DAN ELEKTRONIK (E-WASTE) DI MALAYSIA

Buangan elektrik dan elektronik (e-waste) merupakan bahan berbahaya atau dikenali sebagai buangan terjadual di Malaysia disebabkan oleh kandungan bahan berbahaya yang boleh memberi kesan kepada kesihatan manusia dan alam sekitar. Pengurusan e-waste juga telah menjadi perhatian dan agenda utama di seluruh dunia berikutan peningkatan kuantiti penjanaannya, perkembangan teknologi dan kebergantungan pengguna terhadap peralatan elektrik dan elektronik serta peningkatan populasi, taraf hidup dan urbanisasi.

Di Malaysia, e-waste dijana daripada dua punca di mana pengurusan dan pelupusannya perlu dilaksanakan secara mesra alam menggunakan Environmentally Sound Management (ESM). Punca e-waste adalah seperti berikut:

i. **E-waste yang dijana daripada proses perindustrian**
E-waste daripada proses perindustrian dikategorikan sebagai buangan terjadual kod SW 110 dan dikawal oleh JAS melalui Peraturan-Peraturan Kualiti Alam Sekeliling (Buangan Terjadual) 2005, Akta Kualiti Alam Sekeliling 1974 dari mula ianya dihasilkan sehingga dilupuskan.

ii. **E-Waste yang dijana daripada isi rumah**
Pengurusan dan pengendalian e-waste dari pengguna tidak dikawal secara langsung di bawah mana-mana undang-undang yang khusus.

PEMBANGUNAN MEKANISME PENGURUSAN BUANGAN ELEKTRIK DAN ELEKTRONIK (E-WASTE) DI MALAYSIA

Sebagai agensi yang bertanggungjawab ke atas pengurusan buangan terjadual di Malaysia, Jabatan Alam Sekitar (JAS) telah membangunkan Mekanisme Pengurusan E-waste di Malaysia. Mekanisme ini mengetengahkan prinsip ekonomi kitaran (Circular Economy) dan konsep tanggungjawab pengeluar diperluaskan (Extended Producer Responsibility, EPR) di mana pihak pengeluar bertanggungjawab untuk memastikan pengurusan peralatan elektrik dan elektronik secara mesra alam selepas ianya mencapai jangka hayatnya. Mekanisme ini juga menerapkan konsep perkongsian tanggungjawab (shared responsibility) di kalangan pihak berkepentingan.

PREPARATION TOWARDS IMPLEMENTATION OF ELECTRICAL AND ELECTRONIC WASTE (E-WASTE) MANAGEMENT MECHANISM IN MALAYSIA

Electrical and electronic waste (e-waste) is a hazardous waste or known as scheduled waste in Malaysia due to its hazardous substances that may pose harmful effects to human health and the environment. E-waste management has become a global agenda and concern due to the increase in quantity of e-waste generation following the advancement of technology, user dependency on electrical and electronic equipment as well as increase in population, standard of living, and urbanization.

In Malaysia, e-waste is generated from two main sources, whereby its management and disposal must be carried out in an environmentally sound manner in accordance with Environmentally Sound Management (ESM). The sources of e-waste are as follows:

i. **E-waste generated from industrial processes**
E-waste generated from industrial processes is classified as scheduled waste under code SW 110 and is regulated by the Department of Environment (DOE) under the Environmental Quality (Scheduled Wastes) Regulations 2005, Environmental Quality Act 1974, from the point it is generated until its final disposal.

ii. **E-waste generated from households**
The management and handling of e-waste from consumers are not directly regulated under any specific legislation.

DEVELOPMENT OF ELECTRICAL AND ELECTRONIC WASTE (E-WASTE) MANAGEMENT MECHANISM IN MALAYSIA

As the agency responsible for the scheduled waste management in Malaysia, Department of Environment (DOE) has established an E-waste Management Mechanism. This mechanism highlights the principle of circular economy (CE) and Extended Producer Responsibility (EPR) concept where the producer is responsible to ensure environmentally sound management of its electrical and electronic product after it becomes an end of life. This mechanism also applies to the concept of shared responsibility among its stakeholders.



Rajah 3.9: Kerangka Mekanisme Pengurusan E-Waste di Malaysia
Figure 3.9: E-Waste Management Mechanism Framework in Malaysia

Terdapat enam (6) jenis e-waste yang akan dikawal di bawah mekanisme ini iaitu televisyen, peti sejuk, pendingin hawa, mesin basuh, komputer/ komputer peribadi dan telefon bimbit. Di bawah mekanisme ini, kerangka perundangan sedang digubal bertujuan untuk mengawal selia pengurusan, pengendalian dan pelupusan peralatan elektrik dan elektronik bermula daripada peringkat penghasilan produk sehingga ianya dilupuskan sebagai e-waste.

There are six (6) types of e-waste that will be controlled under this mechanism, namely televisions, refrigerators, air conditioners, washing machines, computers/ laptops, and mobile phones. Under this mechanism, legislation framework is currently being drafted to regulate the management, operation, and disposal of electrical and electronic equipment from production until it is disposed as e-waste.

KERJASAMA TEKNIKAL (TC) DENGAN *JAPAN INTERNATIONAL CORPORATION AGENCY* (JICA)

Kerjasama teknikal bersama *Japan International Cooperation Agency* (JICA) bagi Projek E-Waste Fasa 3 (TC3) telah tamat pada bulan September 2024. Walau bagaimanapun, usaha ke arah pelaksanaan Mekanisme Pengurusan E-Waste di Malaysia masih diteruskan oleh Jabatan Alam Sekitar (JAS) melalui pengukuhan kerangka sedia ada serta susulan kepada dapatan dan syor yang telah dibangunkan di bawah projek tersebut. Sehubungan itu, Bahagian Bahan Berbahaya telah mengemukakan permohonan untuk meneruskan kajian berkaitan di bawah Projek Rancangan Malaysia Ketiga Belas (RMKe-13) bagi memastikan kesinambungan pelaksanaan mekanisme ini secara lebih komprehensif, berstruktur dan selaras dengan keperluan semasa pengurusan e-waste di Malaysia.

TECHNICAL COOPERATION (TC) WITH JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

The technical cooperation with the Japan International Cooperation Agency (JICA) for the E-Waste Project Phase 3 (TC3) was completed in September 2024. Nevertheless, efforts towards the implementation of the E-Waste Management Mechanism in Malaysia are being continuously pursued by Department of Environment (DOE) through the strengthening of the existing framework as well as follow-up actions based on the findings and recommendations developed under the project. In this regard, the Hazardous Substances Division has submitted an application to continue the related study under the Thirteenth Malaysia Plan (13MP) to ensure the continuity of the mechanism's implementation in a more comprehensive, structured, and responsive manner in line with current e-waste management needs in Malaysia.



Penyerahan Laporan Penyiapan Projek E-Waste TC3 oleh JICA
Submission of the Project Completion Report of the E-Waste TC3 Project by JICA

PENYERAHAN LAPORAN PENYIAPAN PROJEK E-WASTE TC3 OLEH JICA

Pada bulan Oktober 2025, Laporan Penyiapan Projek bagi Projek Kerjasama Teknikal E-Waste Fasa 3 (TC3) telah diserahkan secara rasmi oleh wakil *Japan International Cooperation Agency* (JICA) kepada Jabatan Alam Sekitar (JAS) Malaysia. Penyerahan tersebut disertakan bersama surat iringan rasmi dan telah disampaikan kepada Timbalan Pengarah Operasi, Dr. Norhazni binti Mat Sari, serta Pengarah Bahagian Bahan Berbahaya, Ts. Azlan bin Ahmad.

Penyerahan laporan ini menandakan penyempurnaan tempoh pelaksanaan projek TC3 serta mencerminkan kesinambungan kerjasama strategik antara JICA dan JAS Malaysia dalam memperkukuh kerangka pengurusan buangan elektrik dan elektronik (e-waste) menggunakan *Environmental Sound Management* (ESM) di peringkat nasional. Laporan penyiapan tersebut merangkumi dokumentasi menyeluruh berhubung hasil pelaksanaan projek termasuk inisiatif pembangunan kapasiti, pengukuhan institusi, cadangan penambahbaikan dasar dan perundangan, serta hala tuju strategik bagi mempertingkatkan mekanisme pengurusan e-waste di Malaysia.

Selain itu, penyerahan laporan ini turut menjadi rujukan penting dalam usaha penilaian semula dasar, penambahbaikan mekanisme sedia ada serta pertimbangan pelaksanaan elemen *Extended Producer Responsibility* (EPR) dalam konteks Malaysia. Laporan ini juga dijangka dapat menyokong usaha berterusan JAS dalam meningkatkan penyelarasan antara pihak berkepentingan, memperkukuh sistem pengurusan data, serta memperluaskan infrastruktur pengumpulan dan kemudahan pemerolehan kembali e-waste secara formal di seluruh negara.

SUBMISSION OF THE PROJECT COMPLETION REPORT OF THE E-WASTE TC3 PROJECT BY JICA

In October 2025, the Project Completion Report for the E-Waste Technical Cooperation Project Phase 3 (TC3) was formally submitted by the representative of the Japan International Cooperation Agency (JICA) to the Department of Environment (DOE) Malaysia. The submission was accompanied by an official cover letter and was presented to the Deputy Director of Operations, Dr. Norhazni binti Mat Sari, as well as the Director of the Hazardous Substances Division, Ts. Azlan bin Ahmad.

This submission marked the official conclusion of the TC3 project implementation period and symbolised the continued collaboration between JICA and DOE Malaysia in strengthening the national framework for environmentally sound management (ESM) of electrical and electronic waste (e-waste). The completion report provides comprehensive documentation on the project outcomes, including capacity building initiatives, institutional strengthening, policy and regulatory recommendations, and proposed strategic directions to enhance Malaysia's e-waste management mechanism.

The handover of the report also serves as an important reference for future policy review, mechanism improvement, and potential implementation of extended producer responsibility (EPR) elements within the Malaysian context. Furthermore, the report is expected to support ongoing efforts by DOE in improving coordination among stakeholders, enhancing data management systems, and expanding formal e-waste collection and recovery infrastructure nationwide.



Mesyuarat bersama JACTIM pada 21 Ogos 2025
Meeting with JACTIM on 21 August 2025

MESYUARAT BERKAITAN E-WASTE DAN PELAKSANAAN MAMPAN *EXTENDED PRODUCER RESPONSIBILITY* (EPR) DARI PERSPEKTIF PENGELUAR BERSAMA JACTIM PADA 21 OGOS 2025

Satu sesi perbincangan antara Jabatan Alam Sekitar (JAS) Malaysia dan wakil daripada Japanese Chamber of Trade & Industry Malaysia (JACTIM) telah diadakan pada 21 Ogos 2025 di Ibu Pejabat JAS, Putrajaya. Mesyuarat ini memberi tumpuan kepada perkembangan penggubalan perundangan e-waste di Malaysia serta pelaksanaan *Extended Producer Responsibility* (EPR) secara mampan daripada perspektif pihak pengeluar.

Dalam sesi tersebut, JACTIM telah membentangkan beberapa agenda utama untuk perbincangan. Pertama, kemas kini dan trend semasa berkaitan pembangunan perundangan e-waste di Malaysia telah diketengahkan, termasuk status penyediaan draf, jangka masa pelaksanaan perundangan, serta anggaran tempoh bagi proses *Task Force* (TF) dan penerbitan perundangan. JACTIM turut menekankan kepentingan kejelasan dasar dan tempoh peralihan yang mencukupi bagi membolehkan pengeluar serta pemain industri membuat persediaan pematuhan yang sewajarnya.

Seterusnya, JACTIM telah membuat pembentangan berhubung cabaran umum dalam pelaksanaan mekanisme EPR, disertakan dengan kertas perbincangan yang mencadangkan langkah-langkah mitigasi dan penyelesaian. Antara isu yang dibangkitkan termasuk mekanisme perkongsian kos, tahap kesiapsiagaan infrastruktur pengumpulan dan kitar semula, ketelusan data, penyelarasan antara pihak berkepentingan, serta keperluan penetapan peranan yang jelas antara pengeluar, pengitar semula dan pihak

MEETING ON E-WASTE AND SUSTAINABLE IMPLEMENTATION OF EXTENDED PRODUCER RESPONSIBILITY (EPR) FROM MANUFACTURERS' PERSPECTIVE WITH JACTIM ON 21 AUGUST 2025

A discussion session between the Department of Environment (DOE) Malaysia and representatives from the Japanese Chamber of Trade & Industry Malaysia (JACTIM) was held on 21 August 2025 at DOE Headquarters, Putrajaya. The meeting focused on the development of e-waste legislation in Malaysia and the sustainable implementation of Extended Producer Responsibility (EPR) from the perspective of manufacturers.

During the session, JACTIM presented several key agendas for discussion. Firstly, updates and emerging trends relating to the development of e-waste legislation in Malaysia were highlighted, including the current status of draft preparation, the expected legislative timeline, and the anticipated timeframe for the Task Force (TF) process and publication of the legislation. JACTIM emphasised the importance of regulatory clarity and sufficient transition periods to enable manufacturers and industry players to prepare for future compliance requirements.

Secondly, JACTIM delivered a presentation outlining general challenges in implementing EPR mechanisms, accompanied by a discussion paper proposing practical countermeasures. Among the issues raised were cost-sharing mechanisms, operational readiness of collection and recycling infrastructure, data transparency, stakeholder coordination, and the need for clear roles and responsibilities among producers, recyclers, and regulators. Constructive dialogue took place between both parties on potential approaches to ensure that

pengawal selia. Perbincangan dua hala yang konstruktif telah diadakan bagi mengenal pasti pendekatan yang praktikal dan berkesan dalam memastikan pelaksanaan EPR di Malaysia dapat dilaksanakan secara realistik, inklusif industri dan mesra alam.

EPR implementation in Malaysia remains practical, industry-inclusive and environmentally sound.

Di samping itu, bahagian perniagaan kitar semula Panasonic Corporation turut diperkenalkan sebagai model rujukan, yang mempamerkan amalan industri berkaitan sistem pengambilan semula produk, teknologi kitar semula serta inisiatif pemulihan sumber yang dilaksanakan di beberapa negara lain. Perkongsian ini memberikan gambaran berguna tentang peranan proaktif pengeluar dalam memperkukuh amalan ekonomi kitaran serta meningkatkan kecekapan pengurusan e-waste.

In addition, Panasonic Corporation's recycling business division was introduced as a reference model, showcasing industry practices in product take-back systems, recycling technology, and resource recovery initiatives implemented in other jurisdictions. The sharing session provided useful insights into how manufacturers can play a proactive role in strengthening circular economy practices and improving e-waste management efficiency.

Dari sudut pandangan JAS, perundangan e-waste masih berada di peringkat penyediaan draf dan memerlukan penelitian lanjut bagi memasukkan pelbagai faktor penting. Ini termasuk proses konsultasi antara agensi, penyelarasan dasar, semakan perundangan serta pertimbangan di peringkat Parlimen sebelum sebarang penerbitan rasmi dapat dilaksanakan. JAS menegaskan komitmennya untuk membangunkan kerangka perundangan yang seimbang dan berkesan, dengan mengambil kira keperluan perlindungan alam sekitar, kebolehlaksanaan industri serta kesiapsiagaan institusi di peringkat nasional.

From the DOE's perspective, it was clarified that the e-waste legislation is currently still at the drafting stage and requires further refinement to incorporate multiple critical considerations. These include inter-agency consultations, policy alignment, legal review processes, and eventual deliberation at the parliamentary level prior to publication. DOE emphasised its commitment to developing a balanced and effective legislative framework that takes into account environmental protection objectives, industry feasibility, and national institutional readiness.

JAS turut merakamkan penghargaan atas pandangan serta maklum balas teknikal yang dikemukakan oleh pihak JACTIM. Jabatan mengalu-alukan kerjasama berterusan dan perbincangan lanjut bersama pihak industri bagi memastikan rangka kerja EPR e-waste di Malaysia dapat dilaksanakan secara lestari, praktikal dan selaras dengan amalan terbaik antarabangsa.

DOE also expressed its appreciation for the valuable feedback and technical perspectives shared by JACTIM representatives. The Department welcomed continued engagement and future dialogue with industry stakeholders to ensure that the eventual EPR framework for e-waste in Malaysia is sustainable, implementable, and aligned with international best practices aspects of e-waste management in Malaysia.



Slot Temu Bual Malaysia Hari Ini (MHI) di TV3 pada 31 Oktober 2025
Interview during Malaysia Hari Ini (MHI) at TV3 on 31 October 2025



Program dan Aktiviti sepanjang Karnival Jom E-Waste 2025 di AEON Mall Bukit Raja, Bandar Baru Klang, Selangor
Programs and Activities throughout Jom E-Waste Carnival 2025 at AEON Mall Bukit Raja, Bandar Baru Klang, Selangor

KARNIVAL JOM E-WASTE 2025

Karnival Jom E-Waste 2025 yang telah dianjurkan pada 1 November 2025 di AEON Mall Bukit Raja, Bandar Baru Klang, Selangor telah membuktikan keberkesanannya sebagai platform kesedaran awam dalam memupuk pemahaman masyarakat mengenai kepentingan pengurusan e-waste secara mampan dan berkesan di Malaysia. Penganjuran karnival ini berjaya menarik kehadiran pelbagai lapisan masyarakat dengan pelbagai aktiviti interaktif dan pendidikan seperti sesi pocket talk, kuiz Kahoot, persembahan pentas, serta pelancaran maskot e-waste "E-Cha" yang menjadi simbolik kepada mesej pendidikan alam sekitar yang ingin disampaikan.

Majlis perasmian yang disempurnakan oleh Ketua Pengarah Alam Sekitar serta kehadiran Timbalan Ketua Pengarah (Operasi), Timbalan Ketua Pengarah (Pembangunan), Pengarah Institut Alam Sekitar Malaysia (EiMAS) dan Pengarah Bahagian Bahan Berbahaya turut menunjukkan komitmen tinggi kerajaan dalam menyokong inisiatif pendidikan dan pelaksanaan pengurusan e-waste secara menyeluruh. Karnival ini turut mengetengahkan peranan aktif Jabatan Alam Sekitar (JAS) dalam memberikan

JOM E-WASTE CARNIVAL 2025

The Jom E-Waste Carnival 2025, held on 1 November 2025 at AEON Mall Bukit Raja, Bandar Baru Klang, Selangor proved to be an effective platform in fostering public awareness on sustainable and responsible e-waste management in Malaysia. The event successfully attracted a wide range of community participation through interactive and educational activities such as pocket talk sessions, Kahoot quizzes, stage performances, and the symbolic launch of the e-waste mascot "E-Cha," which helped amplify environmental education messages.

The opening ceremony, officiated by the Director General of the Department of Environment (DOE), attended by the Deputy Director General (Operation), Deputy Director General (Development), Director of Environment Institute of Malaysia (EiMAS) and Director of Hazardous Substances Division demonstrated the government's strong commitment in supporting awareness and regulatory initiatives towards better e-waste governance. The event highlighted the active role of the Department of Environment in raising

pendedahan kepada masyarakat tentang cara pelupusan e-waste yang sah dan bertanggungjawab selaras dengan Peraturan-Peraturan Kualiti Alam Sekeliling (Buangan Terjadual) 2005.

Secara keseluruhan, program ini bukan sahaja menyumbang kepada peningkatan kesedaran alam sekitar dalam kalangan masyarakat, malah membuktikan keberkesanan pendekatan bersepadu JAS bersama rakan strategik dalam mendidik orang awam serta menyokong pelaksanaan mekanisme pengurusan e-waste di Malaysia secara lebih sistematik dan lestari.

i. Program Pengumpulan E-Waste Mengikut Jabatan Alam Sekitar Negeri

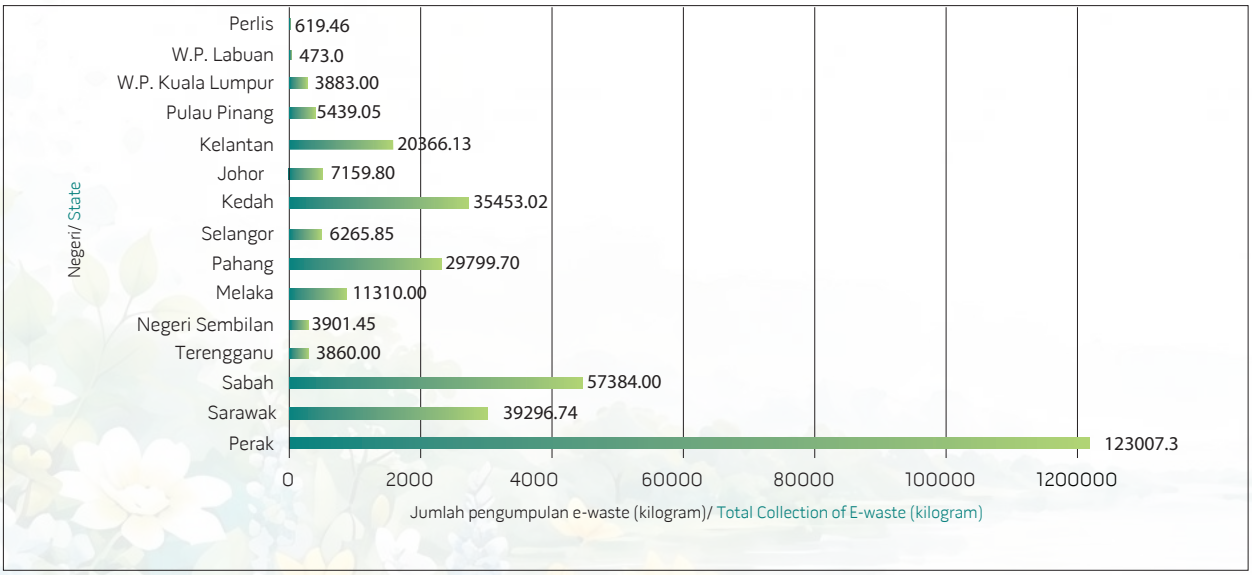
Selaras dengan inisiatif yang telah diperkenalkan oleh Kerajaan iaitu Sabtu terakhir setiap bulan sebagai Hari Pengumpulan E-Waste dan penetapan sasaran pengumpulan e-waste sebanyak 1000 tan metrik bagi tahun 2025, sebanyak 783 aktiviti pengumpulan e-waste telah dijalankan oleh semua JAS Negeri pada tahun ini. Daripada aktiviti pengumpulan tersebut, sebanyak 348,218.50 kg (348.22 tan metrik) e-waste telah berjaya dikumpul. Analisis jumlah pengumpulan e-waste setiap negeri adalah seperti di **Rajah 3.10**. Terdapat penurunan sebanyak 33.55% jumlah kutipan e-waste berbanding tahun 2024. Ini menunjukkan bahawa tahap kesedaran orang awam adalah masih rendah dan kempen kesedaran berkaitan e-waste terutamanya kepada masyarakat luar bandar masih perlu dipergiat lagi bagi meningkatkan kadar pengumpulan e-waste. Berdasarkan rekod pengumpulan e-waste bagi tahun 2025, JAS Negeri Perak telah mencatatkan jumlah pengumpulan e-waste tertinggi sebanyak 123,007.30 kg (123 tan metrik) dan jumlah kempen pengumpulan e-waste tertinggi sebanyak 460 program (**Rajah 3.11**).

public awareness regarding proper and lawful disposal of e-waste in line with the Environmental Quality (Scheduled Wastes) Regulations 2005.

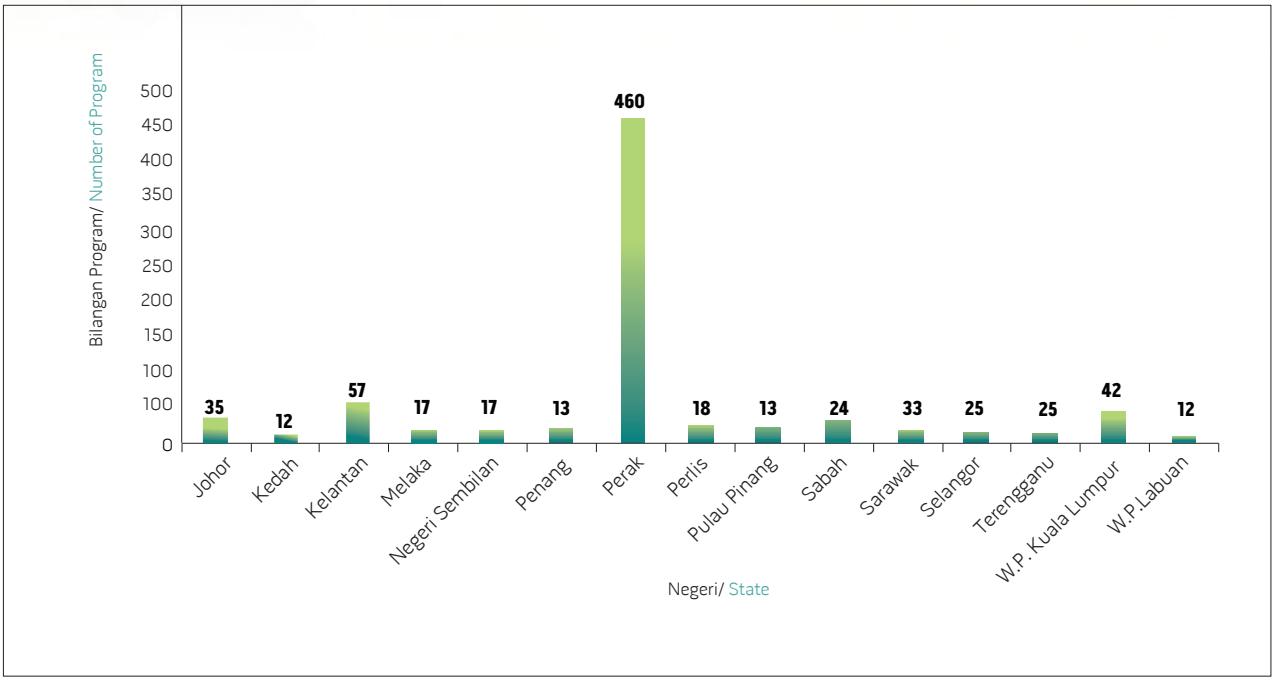
Overall, the carnival not only contributed to increasing environmental awareness among the public but also reflected the effectiveness of DOE's collaborative approach with strategic partners to educate the community and support the implementation of a systematic and sustainable e-waste management mechanism in Malaysia.

i. E-Waste Collection Program by Department of Environment State

Based on the initiative introduced by the Government which is last Saturday of the month as E-Waste Collection Day and e-waste collection target of 1000 metric tons for the year 2025, 783 e-waste collection activities have been recorded to be carried out by all DOE State this year. From the collection activities, a total of 348,218.50 kg (348.22 metric tons) of e-waste has been successfully collected. The analysis on amount of e-waste collected by DOE State is shown in **Figure 3.10**. There is a decrease of 33.55% in the amount of e-waste collected compared to 2024. This shows that the level of public awareness is still low and awareness campaigns related to e-waste, especially to rural communities, need to be intensified to increase the e-waste collection rate. Based on the record of e-waste collection for the year 2025, DOE State Perak has recorded the highest total e-waste collection of 123,007.30 kg (123 metric tons) and the highest total e-waste collection campaign of 460 programs (**Figure 3.11**).



Rajah 3.10: Data Pengumpulan E-Waste mengikut Negeri Tahun 2025
Figure 3.10: E-Waste Collection Data by State in 2025



Rajah 3.11: Bilangan Program Pengumpulan E-Waste yang dijalankan oleh JAS Negeri Tahun 2025
Figure 3.11: E-Waste Collection Programs Conducted by DOE State in 2025

ii. Pengumpulan E-Waste Isi Rumah bagi tahun 2025 di Bawah Mekanisme Pengurusan E-Waste Di Malaysia

Sebanyak **2,319.75** tan metrik e-waste isi rumah telah berjaya dikumpulkan sepanjang tahun 2025 melalui pelaksanaan menyeluruh Mekanisme Pengurusan E-Waste yang melibatkan rangkaian pusat pengumpulan, kemudahan pemerolehan kembali (separa) serta kemudahan pemerolehan kembali (penuh) yang berdaftar di bawah Jabatan Alam Sekitar (JAS). Jumlah ini mencatatkan peningkatan sebanyak **9.63%** berbanding tahun 2024, yang merekodkan sebanyak 2,116.02 tan metrik.

Peningkatan ini menunjukkan perkembangan positif dalam usaha memperkukuh sistem pengurusan e-waste isi rumah di Malaysia. Ia turut mencerminkan peningkatan tahap kesedaran masyarakat serta keberkesanan pelaksanaan mekanisme pengurusan e-waste yang diperkenalkan oleh pihak Jabatan. Walau bagaimanapun, jumlah e-waste yang dikumpulkan masih berpotensi untuk dipertingkatkan memandangkan kadar penggunaan peralatan elektrik dan elektronik dalam kalangan masyarakat terus meningkat dari tahun ke tahun.

Sehubungan dengan itu, usaha pengukuhan mekanisme sedia ada perlu diteruskan melalui pendekatan yang lebih menyeluruh dan bersepadu.

ii. E-Waste Collection Program under E-Waste Management Mechanism (E-Waste) in Malaysia 2025

A total of **2,319.75** metric tonnes of household e-waste were successfully collected in 2025 through the comprehensive implementation of the E-Waste Management Mechanism, which involves a network of registered collection centres, partial recovery facilities, and full recovery facilities under the Department of Environment (DOE), Malaysia. This amount represents an increase of **9.63%** compared to 2024, which recorded 2,116.02 metric tonnes.

This increase reflects a positive development in strengthening the household e-waste management system in Malaysia. It also indicates an improvement in public awareness and participation in environmentally sound e-waste management practices, as well as the effectiveness of the mechanism implemented by the Department. Nevertheless, the amount of e-waste collected still has significant potential to be further increased, considering the continuous growth in the consumption of electrical and electronic equipment among the public.

In this regard, efforts to strengthen the existing mechanism should continue through a more comprehensive and integrated approach. This

Antaranya termasuklah memperluaskan rangkaian pusat pengumpulan e-waste, meningkatkan kerjasama strategik dengan pihak berkuasa tempatan (PBT), institusi pendidikan, badan bukan kerajaan (NGO) dan sektor swasta, serta memperhebatkan program kesedaran awam berkaitan pengurusan e-waste yang betul.

Selain itu, pelaksanaan program berbentuk pendidikan interaktif, kempen hebahan massa, serta inisiatif insentif komuniti juga boleh diperluaskan bagi menggalakkan penglibatan masyarakat secara lebih aktif. Pendekatan ini bukan sahaja dapat meningkatkan kadar pengumpulan e-waste isi rumah, malah dapat memastikan pengurusan e-waste dilaksanakan secara *Environmental Sound Management* (ESM) selaras dengan dasar dan komitmen Malaysia terhadap perlindungan alam sekitar.

Pada masa yang sama, pengukuhan sistem pemantauan dan pelaporan melalui platform digital serta peningkatan kerjasama dengan kemudahan pemerolehan kembali yang berlesen juga dapat membantu memastikan setiap e-waste yang dikumpulkan diuruskan dengan cekap, telus dan mengikut peraturan yang ditetapkan.

includes expanding the network of registered e-waste collection centres, enhancing strategic collaboration with local authorities, educational institutions, non-governmental organizations (NGOs), and the private sector, as well as intensifying public awareness programmes related to proper e-waste management.

Furthermore, initiatives such as interactive educational programmes, mass media outreach, and community-based incentive programmes can play a crucial role in encouraging greater public participation. These approaches will not only increase the overall collection rate of household e-waste but also ensure that e-waste is managed in accordance with Environmental Sound Management (ESM) practices, in line with Malaysia's environmental protection commitments.

At the same time, strengthening monitoring and reporting systems through digital platforms, as well as enhancing collaboration with licensed recovery facilities, will help ensure that all collected e-waste is properly tracked, treated, and managed in compliance with environmental regulations.



SENARAI PROGRAM BAHAGIAN BAHAN BERBAHAYA SEPANJANG 2025

BIL	NAMA PROGRAM	OBJEKTIF PROGRAM	PENGANJUR	TEMPAT	TARIKH (MULA-AKHIR)	BAHAGIAN/ AGENSI	SEKSYEN / UNIT TERLIBAT	HASIL / IMPAK UTAMA
1.	Latihan kawalan tumpahan bahan kimia: *Joint Emergency Response Plan for Chemical Spill in East Johor Strait*	Memperkukuh komunikasi dan kerjasama antara agensi dari kedua-dua negara	National Environment Agency, Singapore	Linkedua, Johor	23 Julai 2025	Bahagian BB/ Bomba/ Polis/KKM/ AKPS/ NEA	Seksyen EHS	
2.	Program lawatan ke kilang Petronas Chemical Group Sdn. Bhd.	Untuk mendapatkan maklumat dan kefahaman lebih lanjut mengenai operasi kilang serta pematuhan terhadap keperluan pengurusan bahan berbahaya EHS yang ditetapkan oleh pihak berkuasa selaras dengan Konvensyen Rotterdam	JAS	Petronas	9 Oktober 2025	Bahagian BB/ JAS Negeri Pahang/ Petronas	Seksyen EHS	
3.	Sesi libat urus mengenai pengetahuan pengurusan alam sekitar bagi *Persistent Organic Pollutans* (POPs) di dalam sektor e-waste		JAS	Hotel Pulse Grande	15 Mei 2025	Bahagian BB/ JAS Negeri/ NRES	Seksyen EHS/ SEW	
4.	*Asian Network for Prevention of Illegal Transboundary Movement of Hazardous Wastes Workshop 2025*	Meningkatkan kemahiran dan keupayaan negara-negara yang terlibat dalam pelaksanaan Konvensyen Basel dan untuk memudahkan pertukaran dan penyebaran maklumat mengenai pencegahan pergerakan rentas sempadan haram buangan berbahaya	*Ministry of the Environment, Japan (MOEJ); Directorate of Hazardous Waste and Non-Hazardous Waste Management, Ministry of Environment, Indonesia; dan BCRC-SEA & SCRC Indonesia*	Surabaya, Indonesia	9 – 11 Disember 2025	Bahagian BB dan KS	Seksyen Konvensyen, BBB Seksyen Penerbitan, BKS	Memperoleh pengetahuan dan pengalaman negara lain dalam menangani isu pengurusan buangan berbahaya
5.	Mesyuarat kedua *Small Intersessional Working Group on Improving the (Prior Informed Consent) PIC Procedure Second Meeting of the Small Intersessional Working Group on Improving the (Prior Informed Consent) PIC Procedure*	(i) Membincangkan usaha menambah baik pelaksanaan Prosedur PIC, iaitu mekanisme utama di bawah Konvensyen Basel bagi memastikan maklumat dan persetujuan negara terlibat diperolehi sebelum pengeksportan bahan berbahaya	Sekretariat Konvensyen Basel	Geneva, Switzerland	27–29 November 2025	Bahagian BB	Seksyen Konvensyen, BBB	Memberi input berkenaan penambahan Prosedur PIC

SENARAI PROGRAM BAHAGIAN BAHAN BERBAHAYA SEPANJANG 2025

BIL	NAMA PROGRAM	OBJEKTIF PROGRAM	PENGANJUR	TEMPAT	TARIKH (MULA-AKHIR)	BAHAGIAN/ AGENSI	SEKSYEN / UNIT TERLIBAT	HASIL / IMPAK UTAMA
		(ii) Memberi ruang kepada ahli *small intersessional working group* untuk berkongsi pandangan, pengalaman serta cadangan teknikal bagi memperkukuh keberkesanan sistem PIC (iii) Menyediakan input awal yang akan menjadi asas rujukan dalam mesyuarat badan induk Konvensyen Basel yang seterusnya						
6.	*International Exchange Initiative on Regulating E-Waste and Engaging Tech Companies*	(i) Membincangkan cabaran serta penyelesaian berkaitan pelaksanaan sistem Extended Producer Responsibillity (EPR), penglibatan sektor tidak formal, strategi pengumpulan dan pengitaran semula e-waste serta penglibatan dan kesedaran pengguna (ii) Memperkukuh jaringan kerjasama di peringkat global dalam usaha mempertingkat pengurusan e-waste negara secara mampan	*International Telecommuication Unit* (ITU)	Bogotaa, Colombia	6 - 10 Oktober 2025	Bahagian BB	Seksyen Konvensyen, BBB	
7.	*Information Exchange Session* bagi Pengurusan Kitaran Hidup Refrigeran (*Lifecycle Refrigerant Management*)	(i) Berkongsi maklumat mengenai polisi dalam pengurusan kitaran hayat refrigeran (*Lifecycle Refrigerant Management* - LRM)	*Overseas Environmental Cooperation Centre* (Japan) dan Daikin Malaysia Sdn. Bhd.	Osaka, Japan	14-17 Januari 2025	Bahagian BB dan U	Seksyen Konvensyen, BBB	

SENARAI PROGRAM BAHAGIAN BAHAN BERBAHAYA SEPANJANG 2025

BIL	NAMA PROGRAM	OBJEKTIF PROGRAM	PENGANJUR	TEMPAT	TARIKH (MULA-AKHIR)	BAHAGIAN/ AGENSI	SEKSYEN / UNIT TERLIBAT	HASIL / IMPAK UTAMA
		(ii) Memahami dengan lebih mendalam amalan baik dalam kutipan semula (*recovery*) dan pulih guna (*reclamation*) bahan e-waste, khususnya alat pendingin udara yang lama						
8.	(i) *Meetings of the Conferences of the Parties to the Basel, Rotterdam and Stockholm Conventions* (ii) *High - level Segment of the Meetings of the Conferences of the Parties to the Basel, Rotterdam and Stockholm Conventions*	(i)	Sekretariat Konvensyen Basel	Geneva, Switzerland	27 April - 09 Mei 2025 30 April - 01 Mei 2025	Bahagian BB, NRES	Seksyen Konvensyen, BBB	
9.	(i) *The Asia - Pacific Regional Meeting in Preparation for the 2025 Meetings of the Conferences of the Parties to the Basel, Rotterdam and Stockholm Conventions* (ii) *Back-to-back Assistance Workshop*	Memberi ruang kepada negara - negara untuk berbincang dan berunding sebelum *Meetings of the Conferences of the Parties to the Basel, Rotterdam and Stockholm Conventions* (COPs BRS) Membincangkan mengenai *National Implementation Plans* (NIP) di bawah Konvensyen Stockholm	Sekretariat Konvensyen Basel		4 - 6 April 2025 3 April 2025	Bahagian BB, NRES	Seksyen Konvensyen, BBB	
	14th Analysis and Laboratory Training of POPs Chemical in East Asian Country, Korea	Memberi bimbingan mengenai pengurusan dan pensampelan POPs di negara-negara Asia Timur, terutama negara yang masih belum meratifikasi Konvensyen Stockholm	*National Institute of Environmental Research (NIER), Ministry of Environment*, Korea	Incheon, Korea	11 - 13 September 2025	Bahagian BB	Seksyen Konvensyen, BBB	

SENARAI PROGRAM BAHAGIAN BAHAN BERBAHAYA SEPANJANG 2025

BIL	NAMA PROGRAM	OBJEKTIF PROGRAM	PENGANJUR	TEMPAT	TARIKH (MULA-AKHIR)	BAHAGIAN/ AGENSI	SEKSYEN / UNIT TERLIBAT	HASIL / IMPAK UTAMA
		Latihan ini juga dapat meningkatkan usahasama negara Asia dalam pengurusan POPs Peserta latihan akan mempelajari kaedah analisis bahan kimia POPs di makmal, termasuk pensampelan di lokasi, analisis berinstrumentasi, serta kuantifikasi sepanjang latihan ini berlansung						
	The Regional Workshop on Good Legislative and Regulatory Practices for the Environmentally Sound Management of E-waste in ASEAN Member States, Bangkok, Thailand	Menyediakan sebuah platform yang memudahkan pertukaran amalan perundangan dan pengawalseliaan yang berkesan, serta mengenal pasti cabaran dan kekurangan yang sama dalam pengurusan sisa elektronik secara lestari	*United States Environmental Programme* (UNEP) dan *Secretariat of the Basel, Rotterdam and Stockholm Conventions*	Bangkok, Thailand	11 - 12 November 2025	Bahagian BB	Seksyen Konvensyen & SEW, Seksyen Perlesenan dan Unit Undang-Undang	

PENGUATKUASAAN KE ATAS PREMIS

KAWALAN KE ATAS PREMIS YANG DITETAPKAN

Di bawah Akta Kualiti Alam Sekeliling (AKAS) 1974, premis yang ditetapkan adalah ditakrifkan sebagai premis yang dilesenkan sebagaimana ditetapkan oleh Menteri di bawah Seksyen 18, AKAS 1974. Premis yang ditetapkan tersebut adalah kilang getah asli mentah, kilang minyak kelapa sawit mentah dan kilang atau kemudahan pengolahan atau pelupusan buangan terjadual seperti dinyatakan di bawah Perintah Kualiti Alam Sekeliling (Premis Yang Ditetapkan) (Getah Asli Mentah) 1978, Perintah Kualiti Alam Sekeliling (Premis Yang Ditetapkan) (Minyak Kelapa Sawit Mentah) 1977 atau Perintah Kualiti Alam Sekeliling (Premis Yang Ditetapkan) (Kemudahan Pengolahan dan Pelupusan Buangan Terjadual) 1989. Operasi premis-premis ini adalah tertakluk kepada keperluan Seksyen 18, AKAS 1974 di mana pemilik premis ini perlu mempunyai lesen daripada Jabatan Alam Sekitar (JAS) bagi menduduki dan/atau menggunakan premis.

Kilang Getah Asli Mentah

Pada tahun 2025, sejumlah 41 buah kilang getah asli mentah telah dilesenkan dan tertakluk kepada Peraturan-Peraturan Kualiti Alam Sekeliling (Premis Yang Ditetapkan) (Getah Asli Mentah), 1978. Daripada jumlah ini, 21 buah kilang telah dilesenkan bagi melepaskan efluen yang telah diolah ke alur air, satu (1) ke atas tanah manakala 19 buah kilang lagi dibenarkan untuk mengitar semula efluen. **Rajah 3.12** menunjukkan bilangan kilang getah asli mentah mengikut negeri.

Pada tahun 2025 JAS telah menjalankan sejumlah 148 pemeriksaan ke atas 41 buah kilang getah asli mentah yang telah dilesenkan. Tindakan penguatkuasaan diambil ke atas kilang yang gagal mematuhi AKAS 1974 dan Peraturan-peraturan di bawahnya. Dalam hal ini, sejumlah 11 Notis Arahan telah dikeluarkan pada tahun 2025 untuk tindakan penambahbaikan bagi mematuhi keperluan perundangan. Di samping itu, dua (2) kompaun turut dikeluarkan kepada kilang-kilang yang telah gagal mematuhi AKAS 1974 dan Peraturan-Peraturan di bawahnya. Selain itu, dua (2) buah kilang telah dikenakan Penahanan Operasi Kelengkapan dan dua (2) buah kilang telah dikenakan tindakan mahkamah atas kegagalan mematuhi syarat-syarat lesen yang dikeluarkan. Tindakan susulan penguatkuasaan yang diambil adalah seperti yang ditunjukkan dalam **Rajah 3.12**.

ENFORCEMENT ON THE PREMISES

CONTROL OF PRESCRIBED PREMISES

Under the Environmental Quality Act (EqA) 1974, prescribed premise is defined as licensed premises as prescribed by the Minister under Section 18, EqA 1974. The prescribed premises are raw natural rubber factory, crude palm oil mills, and factories or facilities for the treatment or disposal of scheduled wastes as stated under the Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Order 1978, Environmental Quality (Prescribed Premises) (Crude Palm Oil) Order 1977 or the Environmental Quality (Prescribed Premises) (Scheduled Wastes Treatment and Disposal Facilities) Order 1989. The operation of these premises is subject to the requirements of Section 18, EqA 1974 whereby the owner of the premises is required to obtain license from the Department of Environment (DOE) to occupy and/or use the premises.

Raw Natural Rubber Factories

In 2025, a total of 41 raw natural rubber factories were licensed and subjected to Environmental Quality 1978. Of these, 21 factories were licensed to discharge treated effluent into the waterways, one (1) factory to practice land disposal and the remaining 19 factories were allowed to recycle their effluent. **Figure 3.12** displays the number of raw natural rubber factories by state.

In 2025, a total of 148 inspections on 41 licensed natural rubber factories were conducted by DOE. Enforcement actions were taken on the factories that failed to comply with the EQA 1974 and its regulations thereunder. A total of 11 Directive Notices were issued for remedial action in order to comply with legal requirements. Apart from that, a total of two (2) compounds were issued to factories that failed to comply with the EQA1974 and the Regulations thereunder. Other than that, two (2) mills were issued the Detention of Operation Equipment, and two (2) mills were prosecuted for failing to comply with the conditions of the license issued. The enforcement follow-up actions taken are as shown in **Figure 3.12.**



Rajah 3.12: Bilangan Kilang Getah Asli Mentah yang Dilesenkan dan Tindakan Undang-Undang Terhadap Kilang Getah Asli Mentah, 2025

Figure 3.12: Number of Licensed Raw Natural Rubber Factories and Legal Actions Against Raw Natural Rubber Factories, 2025

- **Status Pematuhan terhadap Peraturan-peraturan Kualiti Alam Sekeliling (Premis Yang Ditetapkan) (Getah Asli Mentah) 1978**
  Pada tahun 2025, pencapaian pematuhan kilang getah asli mentah kepada Peraturan-Peraturan Kualiti Alam Sekeliling (Premis Yang Ditetapkan) (Getah Asli Mentah) 1978 adalah 93%.
- **Status Pematuhan terhadap Peraturan-peraturan Kualiti Alam Sekeliling (Udara Bersih) 2014**
  Kilang getah asli mentah tertakluk kepada Peraturan- Peraturan Kualiti Alam Sekeliling (Udara Bersih) 2015. Pada tahun 2025, pencapaian pematuhan keseluruhan oleh kilang getah asli mentah kepada peraturan tersebut adalah 93%.
- **Status Pematuhan terhadap Peraturan-peraturan Kualiti Alam Sekeliling (Buangan Terjadual) 2005**
  Pada tahun 2025, pencapaian pematuhan keseluruhan oleh kilang getah asli mentah kepada

- **Status of Compliance to the Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Regulations 1978**
  For 2025, the compliance of the raw natural rubber factories to the Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Regulations 1978 was 93%.
- **Status of Compliance to the Environmental Quality (Clean Air) Regulations 2014**
  Raw natural rubber factories are subject to the Environmental Quality (Clean Air) Regulations 2014. In 2025, the overall compliance achieved by raw natural rubber factories to the regulations was 93%.
- **Status of Compliance to the Environmental Quality (Scheduled Wastes) Regulations 2005**
  In 2025, the overall compliance by raw natural rubber factories to the Environmental Quality

Peraturan-Peraturan Kualiti Alam Sekeliling (Buangan Terjadual) 2005 adalah 95%.

- **Status Pematuhan terhadap Syarat-syarat Lesen**
  Pematuhan premis kilang getah asli mentah terhadap syarat-syarat lesen yang ditetapkan pada tahun 2025 adalah 87%.

(Scheduled Wastes) Regulations 2005 was 95%.

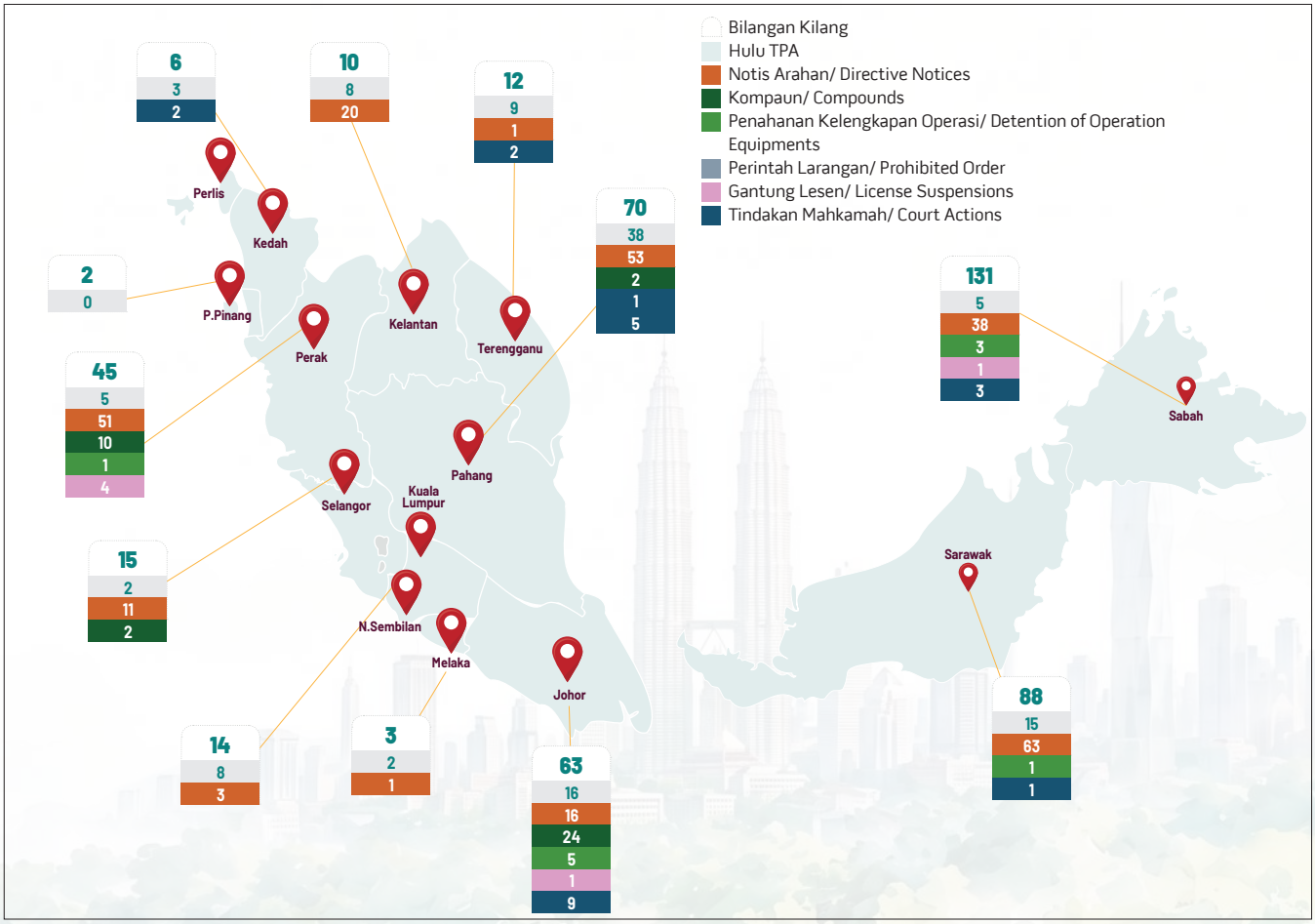
Status of Compliance of Licence Conditions
The compliance of raw natural rubber factories with the license conditions in 2025 was 87%.

Kilang Minyak Kelapa Sawit Mentah

459 buah kilang minyak kelapa sawit mentah telah dilesenkan pada tahun 2025 dan tertakluk kepada Peraturan-peraturan Kualiti Alam Sekeliling (Premis Yang Ditetapkan) (Minyak Kelapa Sawit Mentah) 1977. Daripada jumlah ini, 359 buah kilang telah dibenarkan melepaskan efluen terolah ke dalam alur air, 92 buah kilang melupuskan efluen ke atas tanah, empat (4) buah kilang dilesenkan tanpa pelepasan dan empat (4) buah kilang melupuskan efluen dengan menggunakan gabungan kaedah alur air dan atas tanah. **Rajah 3.13** menunjukkan taburan bilangan kilang minyak kelapa sawit mentah di Malaysia mengikut negeri.

Crude Palm Oil Mills

459 palm oil mills were licensed in 2025 and these mills are subject to the Environmental Quality (Prescribed Premises) (Crude Palm Oil Mill) Regulations 1977. Of this number, a total of 359 were allowed to discharge treated effluent into inland watercourse, 92 to practice land disposal, four (4) were licensed without discharge dan four (4) to discharge effluent by a combination of inland watercourse and land. **Figure 3.13** shows the distribution of crude palm oil mills in Malaysia by states.



Rajah 3.13: Bilangan Kilang Minyak Kelapa Sawit Mentah yang Dilesenkan dan Tindakan Undang-Undang Terhadap Kilang Minyak Kelapa Sawit Mentah, 2025
Figure 3.13: Number of Licensed Crude Palm Oil Mills Factories and Legal Actions Against Crude Palm Oil Mills, 2025

Pada tahun 2025, JAS telah menjalankan sejumlah 1,544 pemeriksaan ke atas 459 buah kilang minyak kelapa sawit mentah yang telah dilesenkan. Sejumlah 257 Notis Arahan telah dikeluarkan pada tahun 2025 untuk tindakan penambahbaikan bagi mematuhi keperluan perundangan. Di samping itu, sejumlah 38 kompaun turut dikeluarkan kepada kilang-kilang yang telah gagal mematuhi AKAS 1974 dan Peraturan-Peraturan di bawahnya. Selain itu, 11 buah kilang telah dikenakan Penahanan Operasi Kelengkapan, enam (6) buah kilang digantung lesen dan 23 buah kilang telah dikenakan tindakan mahkamah atas kegagalan mematuhi syarat-syarat lesen yang dikeluarkan. Tindakan susulan penguatkuasaan yang diambil adalah seperti yang ditunjukkan dalam **Rajah 3.13**.

- **Status Pematuhan terhadap Peraturan-peraturan Kualiti Alam Sekeliling (Premis Yang Ditetapkan) (Minyak Kelapa Sawit Mentah) 1977**
  Pada tahun 2025, pencapaian pematuhan kilang minyak kelapa sawit mentah kepada Peraturan-Peraturan Kualiti Alam Sekeliling (Premis Yang Ditetapkan) (Minyak Kelapa Sawit Mentah) 1977 adalah 88%.
- **Status Pematuhan terhadap Peraturan-peraturan Kualiti Alam Sekeliling (Udara Bersih) 2014**
  Kilang minyak kelapa sawit mentah juga tertakluk kepada Peraturan-Peraturan Kualiti Alam Sekeliling (Udara Bersih) 2014. Pencapaian pematuhan keseluruhan oleh kilang minyak kelapa sawit mentah bagi tahun 2025 adalah 91%.
- **Status Pematuhan terhadap Peraturan-peraturan Kualiti Alam Sekeliling (Buangan Terjadual) 2005**
  Pada tahun 2025, pencapaian pematuhan keseluruhan kilang minyak kelapa sawit mentah kepada Peraturan-Peraturan Kualiti Alam Sekeliling (Buangan Terjadual) 2005 adalah 97%.
- **Status Pematuhan terhadap Syarat-syarat Lesen**
  Pematuhan kilang minyak kelapa sawit mentah terhadap syarat-syarat lesen yang ditetapkan pada tahun 2025 adalah 83%.

In 2025, DOE conducted a total of 1,544 inspections on 459 licensed crued palm oil mills. A total of 257 Directive Notices were issued in 2025 for remedial action to comply with legal requirements. Apart from that, a total of 38 compounds were issued to factories that failed to comply with the EQA1974 and the Regulations thereunder. Other than that, 11 mills were issued the Detention of Equipment, six (6) mills were suspended, and 23 mills were prosecuted for failing to comply with the conditions of the license issued. The enforcement follow-up actions taken are as shown in **Figure 3.13**.

- **Status of Compliance to the Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations 1977**
  In 2025, the compliance achieved by the crude palm oil mills to the Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations 1977 was 88%.
- **Status of Compliance to the Environmental Quality (Clean Air) Regulations 2014**
  Crude palm oil mills are also subject to the Environmental Quality (Clean Air) Regulations 2014. In 2025, the overall compliance achieved by crude palm oil mills was 91%.
- **Status of Compliance to the Environmental Quality (Scheduled Wastes) Regulations 2005**
  In 2025, the overall compliance of Environmental Quality (Scheduled Wastes) Regulations 2005 achieved by the crude palm oil mills was 97%.
- **Status of Compliance of Licence Conditions**
  The compliance of crude palm oil mills with the license conditions in 2025 was 83%.



Pemeriksaan di Kilang Getah Asli Mentah dan Kilang Minyak Kelapa Sawit Mentah
Inspection at Raw Natural Rubber Factories and Crude Palm Oil Mills

Kemudahan Pengolahan dan Pelupusan Buangan Terjadual

Sejumlah 467 buah premis telah dilesenkan oleh JAS di bawah Seksyen 18(1), AKAS 1974 untuk menguruskan buangan terjadual pada tahun 2025. **Rajah 3.14** menunjukkan bilangan premis yang dilesenkan mengikut negeri.

Pada tahun 2025, JAS telah menjalankan sejumlah 1,463 pemeriksaan ke atas 467 premis yang beroperasi untuk mengolah atau melupuskan buangan terjadual. Tindakan susulan penguatkuasaan yang diambil ke atas premis-premis yang gagal mematuhi AKAS 1974 dan peraturan-peraturan di bawahnya adalah seperti yang ditunjukkan dalam **Rajah 3.14** dan **Rajah 3.15**.

Scheduled Wastes Treatment and Disposal Facilities

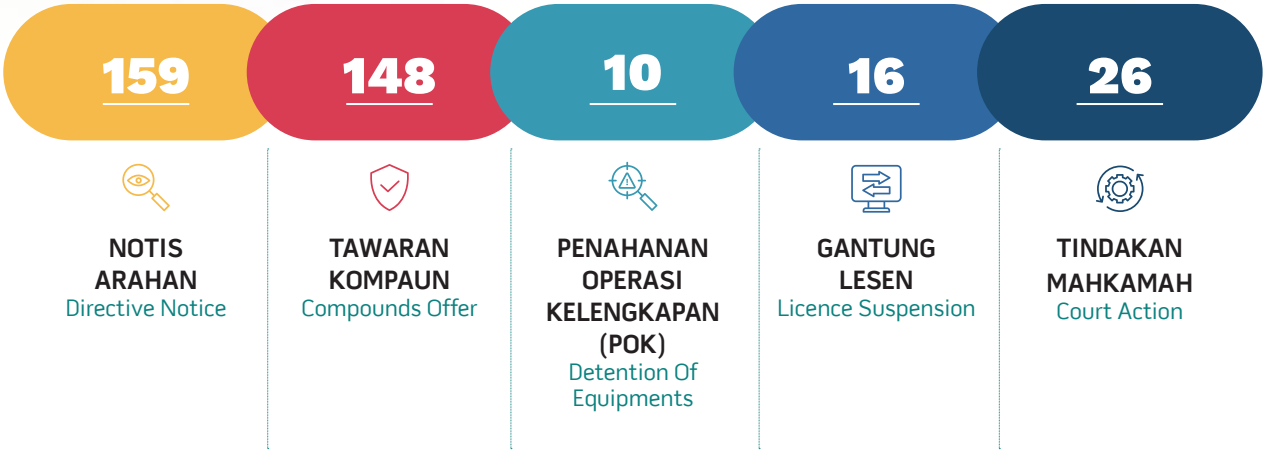
A total of 467 premises were licensed by DOE under Section 18 (1), of the EQA 1974 to manage scheduled wastes in 2025. **Figure 3.14** shows the number of premises licensed by states.

In 2025, DOE conducted a total of 1,463 inspections on these 467 premises that operate to treat and dispose scheduled wastes. The enforcement action taken on premises that failed to comply with the EQA 1974 and the Regulations thereunder by state is as shown in **Figure 3.14** and **Figure 3.15**.

The Scheduled Waste Treatment and Disposal Facilities



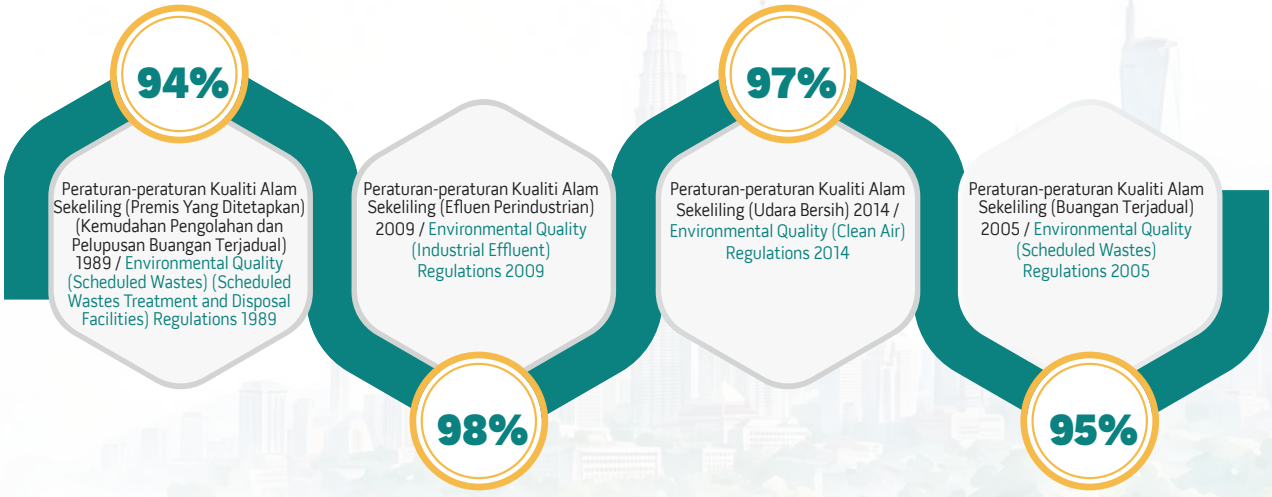
Rajah 3.14: Bilangan Kemudahan Pengolahan dan Pelupusan Buangan Terjadual dan Tindakan Undang-Undang terhadap Kemudahan Pengolahan dan Pelupusan Buangan Terjadual, 2025
Figure 3.14: Number and Legal Actions Againsts Facilities for the Treatment and Disposal Facilities of Scheduled Wastes, 2025



Rajah 3.15: Tindakan Penguatkuasaan terhadap Kemudahan Pengolahan dan Pelupusan Buangan Terjadual, 2025
Figure 3.15: Enforcement Actions Against Facilities for the Treatment and Disposal Facilities of Scheduled Wastes, 2025

Kemudahan Pengolahan dan Pelupusan Buangan Terjadual adalah tertakluk di bawah Peraturan-peraturan Kualiti Alam Sekeliling (Premis Yang Ditetapkan) (Kemudahan Pengolahan dan Pelupusan Buangan Terjadual) 1989, Peraturan-peraturan Kualiti Alam Sekeliling (Efluen Perindustrian) 2009, Peraturan-peraturan Kualiti Alam Sekeliling (Udara Bersih) 2014 dan Peraturan-peraturan Kualiti Alam Sekeliling (Buangan Terjadual) 2005. Rumusan status pematuhan terhadap peraturan-peraturan tersebut adalah seperti **Rajah 3.16**.

are subject to Environmental Quality (Scheduled Wastes) (Scheduled Wastes Treatment and Disposal Facilities) Regulations 1989, Environmental Quality (Industrial Effluent) Regulations 2009, Environmental Quality (Clean Air) Regulations 2014, and Environmental Quality (Scheduled Wastes) Regulations 2005. A summary of the compliance status with these regulations is shown in **Figure 3.16**.



Rajah 3.16: Status Pematuhan terhadap Peraturan AKAS 1974, 2025
Figure 3.16: Compliance Status with regulations under EQA 1974, 2025

KAWALAN KE ATAS PREMIS YANG BUKAN DITETAPKAN

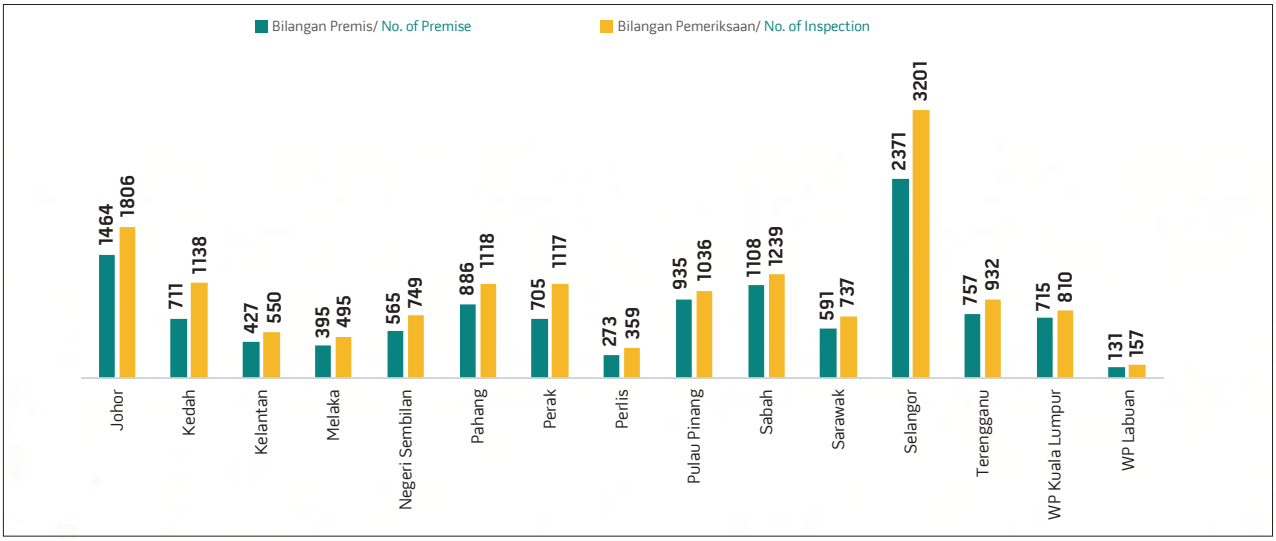
Premis yang bukan ditetapkan adalah merujuk kepada premis selain dari premis yang dilesenkan di bawah Seksyen 18, AKAS 1974 iaitu selain daripada kilang getah asli mentah, kilang minyak kelapa sawit mentah dan premis yang menjalankan pengolahan dan pelupusan buangan terjadual. Premis-premis ini merangkumi kilang-kilang dari pelbagai sektor industri pembuatan dan pengilangan, sistem pengolahan kumbahan, tapak pelupusan sisa pepejal, loji rawatan air dan sebagainya.

JAS pada tahun 2025 telah menjalankan 15,444 pemeriksaan ke atas 12,034 premis yang bukan ditetapkan di seluruh negara bagi membanteras pencemaran alam sekitar. Perincian berkaitan bilangan premis dan pemeriksaan premis mengikut negeri adalah seperti **Rajah 3.17**.

CONTROL ON NON-PRESCRIBED PREMISES

Non-prescribed premises refers to premises other than those licensed under Section 18, EQA 1974, which are those other than raw natural rubber factories, crude palm oil mills, and premises for the treatment and disposal of scheduled waste. These include factories from various manufacturing industries, sewage treatment system, solid waste landfills, water treatment plant, and others.

DOE in 2025 has conducted 15,444 inspection on 12,034 non-prescribed premises throughout the country in order to combat environmental pollution. The details regarding the number of premises and inspections by state are as shown in **Figure 3.17**.



Rajah 3.17 Bilangan Premis yang Bukan Ditetapkan Diperiksa dan Pemeriksaan yang Dilaksanakan, 2025
Figure 3.17: Number of Non-prescribed Premises Inspected and Inspection Conducted, 2025

Dalam hal ini, JAS turut menyasarkan untuk meningkatkan pematuhan AKAS 1974 bagi lapan (8) sektor industri yang dikenal pasti mempunyai pematuhan yang rendah, iaitu;

i) Pembuatan produk logam, kecuali mesin dan kelengkapan
ii) Pembuatan kertas dan produk kertas
iii) Pembuatan logam asas
iv) Pembuatan produk getah dan plastik
v) Pembuatan produk galian bukan logam lain
vi) Pembuatan produk makanan
vii) Pembuatan kimia dan produk kimia
viii) Pembuatan kok dan produk petroleum bertapis.

In this case, DOE also targeted to improve EQA 1974's compliance for eight (8) industrial sectors that has been identified to have low compliance, which are;

i) Manufacture of fabricated metal products, except machinery and equipment
ii) Manufacture of paper and paper products
iii) Manufacture of basic metals
iv) Manufacture of rubber and plastic products
v) Manufacture of other non-metallic mineral products
vi) Manufacture of food products
vii) Manufacture of chemicals and chemicals products;
viii) Manufacture of coke and refined petroleum products.

Selain itu, pemantauan ke atas premis-premis melalui program rondaan dan pengawasan udara menggunakan dron di kawasan tumpuan pencemaran pada waktu pejabat dan di luar waktu pejabat turut dilaksanakan oleh JAS sepanjang tahun bagi mencegah kes-kes pencemaran alam sekitar.

In addition, DOE has also carried out patrols programme and aerial surveillance using drones in pollution hotspot areas, both during and outside office hours throughout the year to prevent environmental pollution cases.

Premis-premis yang bukan ditetapkan yang menghasilkan dan melepaskan efluen perindustrian adalah tertakluk kepada Peraturan-peraturan Kualiti Alam Sekeliling (Efluen Perindustrian) 2009. Terdapat 9 kategori industri yang merekodkan pematuhan 100% pada tahun 2025 seperti yang ditunjukkan dalam **Rajah 3.19**.

The non-prescribed premises that generate and discharge industrial effluents are subject to the Environmental Quality (Industrial Effluent) Regulations, 2009. In 2025, There were 9 categories of industries that recorded 100% compliance in 2025 as shown in **Figure 3.19**.

Premis-premis yang bukan ditetapkan yang melepaskan bahan pencemar ke udara adalah tertakluk kepada Peraturan-peraturan Kualiti Alam Sekeliling (Udara Bersih) 2014. Terdapat 12 kategori industri yang berjaya mencapai pematuhan 100% pada tahun 2025 seperti yang ditunjukkan dalam **Rajah 3.20**.

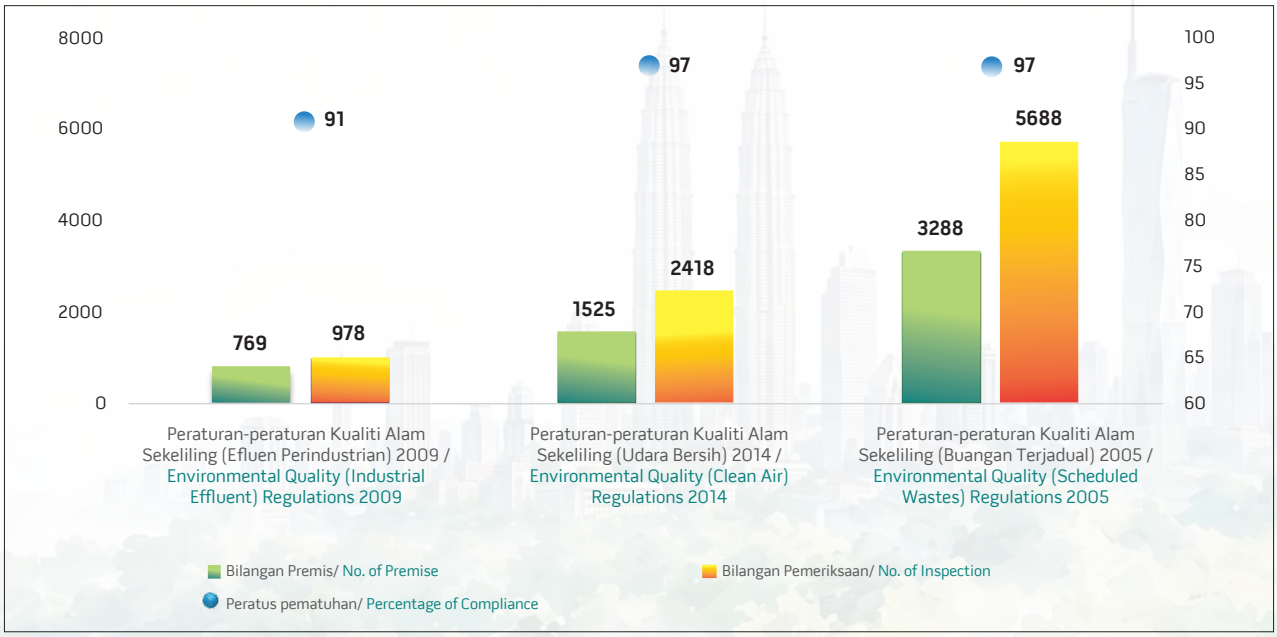
The non-prescribed premises which releases pollutants into the air are subject to the Environmental Quality (Clean Air) Regulations 2014. A total of 12 categories of industries have managed to achieve 100% compliance in 2025 as shown in **Figure 3.20**.

Premis-premis yang bukan ditetapkan yang menghasilkan buangan terjadual tertakluk kepada kawalan di bawah Peraturan-peraturan Kualiti Alam Sekeliling (Buangan Terjadual) 2005. Terdapat 17 kategori industri yang berjaya mencapai pematuhan 100% terhadap Peraturan-peraturan Kualiti Alam Sekeliling (Buangan Terjadual) 2005 seperti yang ditunjukkan dalam **Rajah 3.21**.

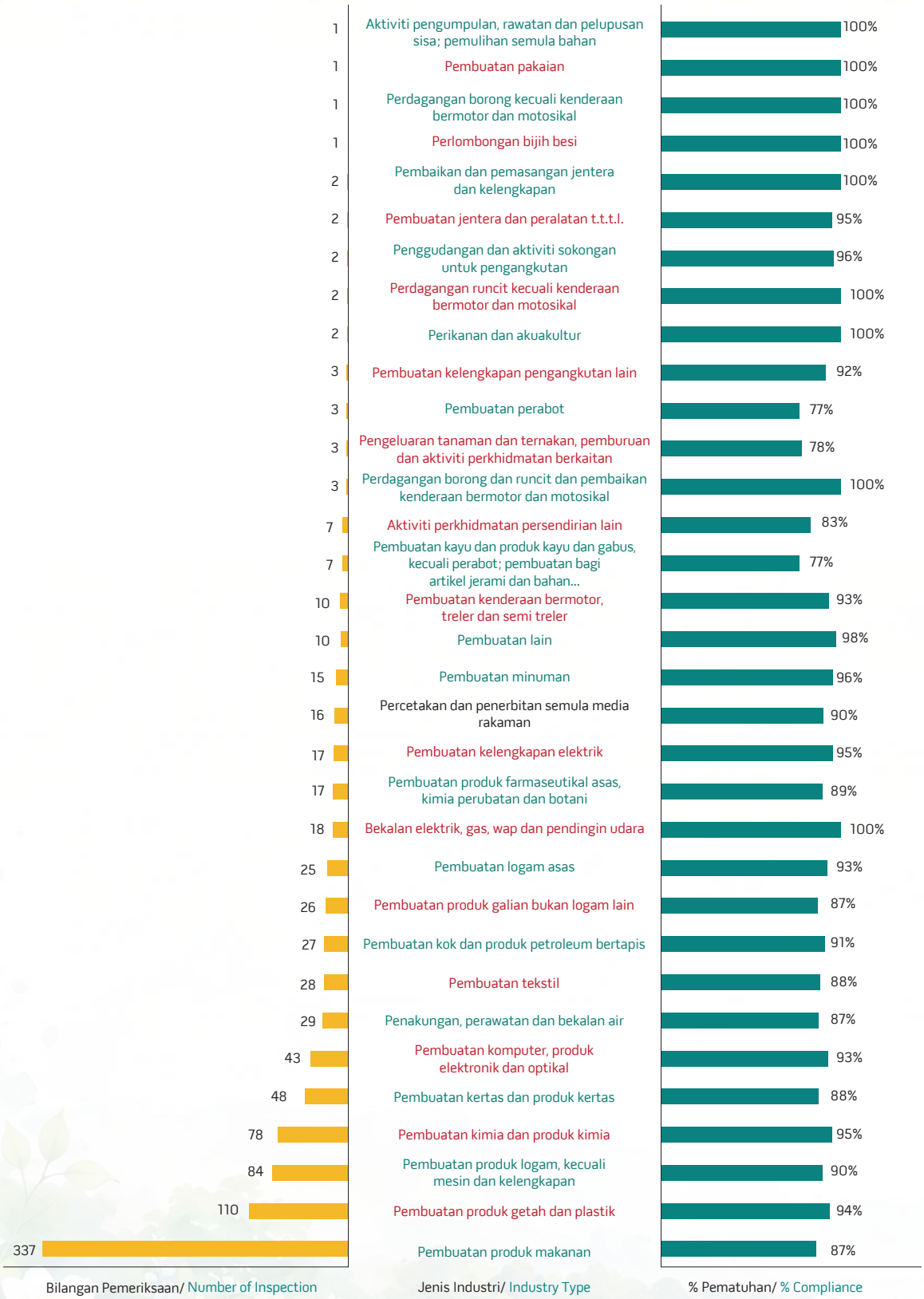
The non-prescribed premises that generate scheduled wastes are subject to the Environmental Quality (Scheduled Wastes) Regulations 2005. In 2025, 17 categories of industries subject to the Environmental quality (Scheduled Wastes) Regulations 2005 managed to achieve 100% compliance as shown in **Figure 3.21**.

Perincian berkaitan bilangan premis, pemeriksaan dan pematuhan premis yang bukan ditetapkan mengikut peraturan di atas pada tahun 2025 adalah seperti **Rajah 3.18**.

The details regarding the number of premises, inspections and compliances according to the above mentioned regulations are as shown in **Figure 3.18.**

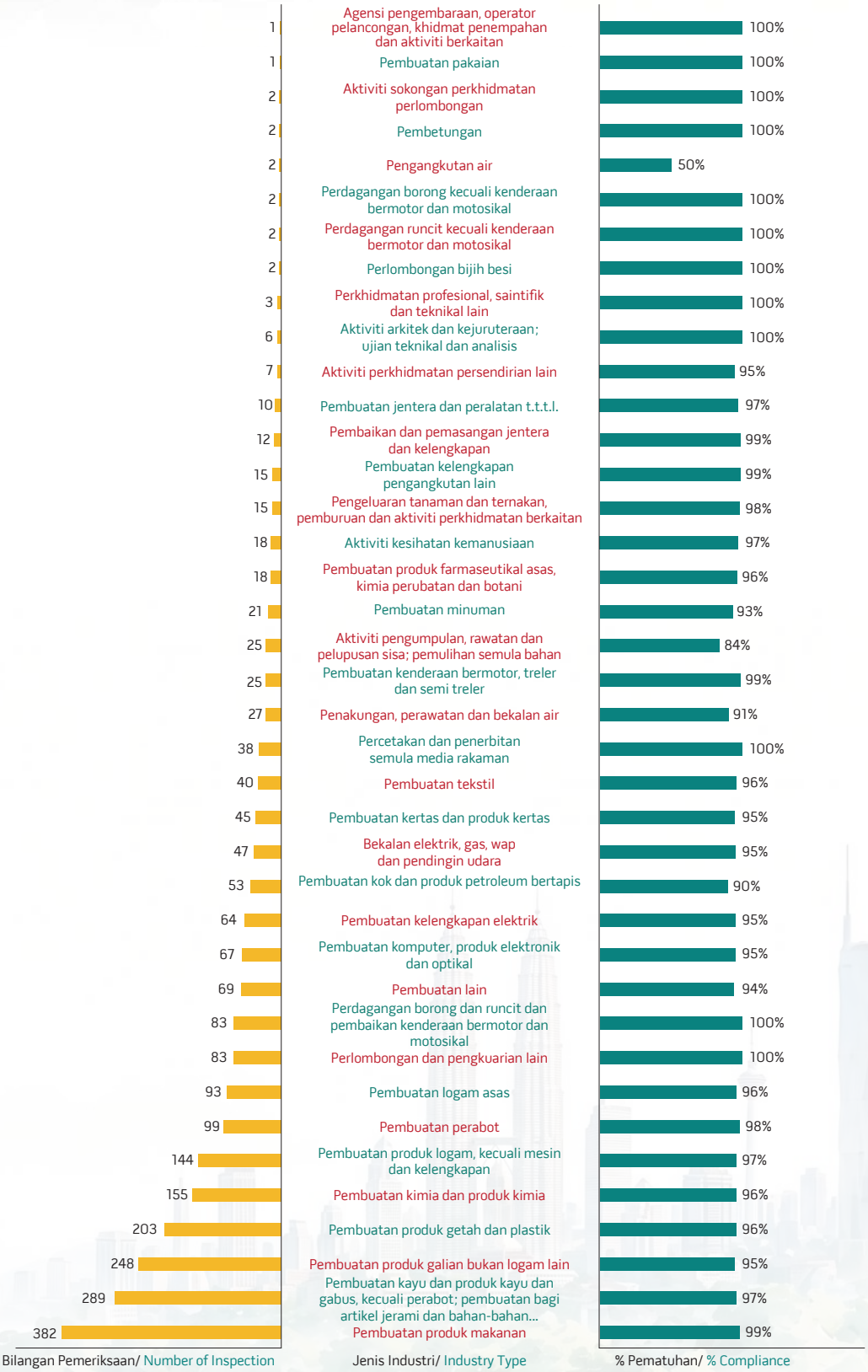


Rajah 3.18 Bilangan Premis, Pemeriksaan dan Peratus Pematuhan Premis Yang Bukan Ditetapkan, 2025
Figure 3.18: Number Of Premises, Inspections, and Compliance Percentage of Non-Prescribed Premises, 2025



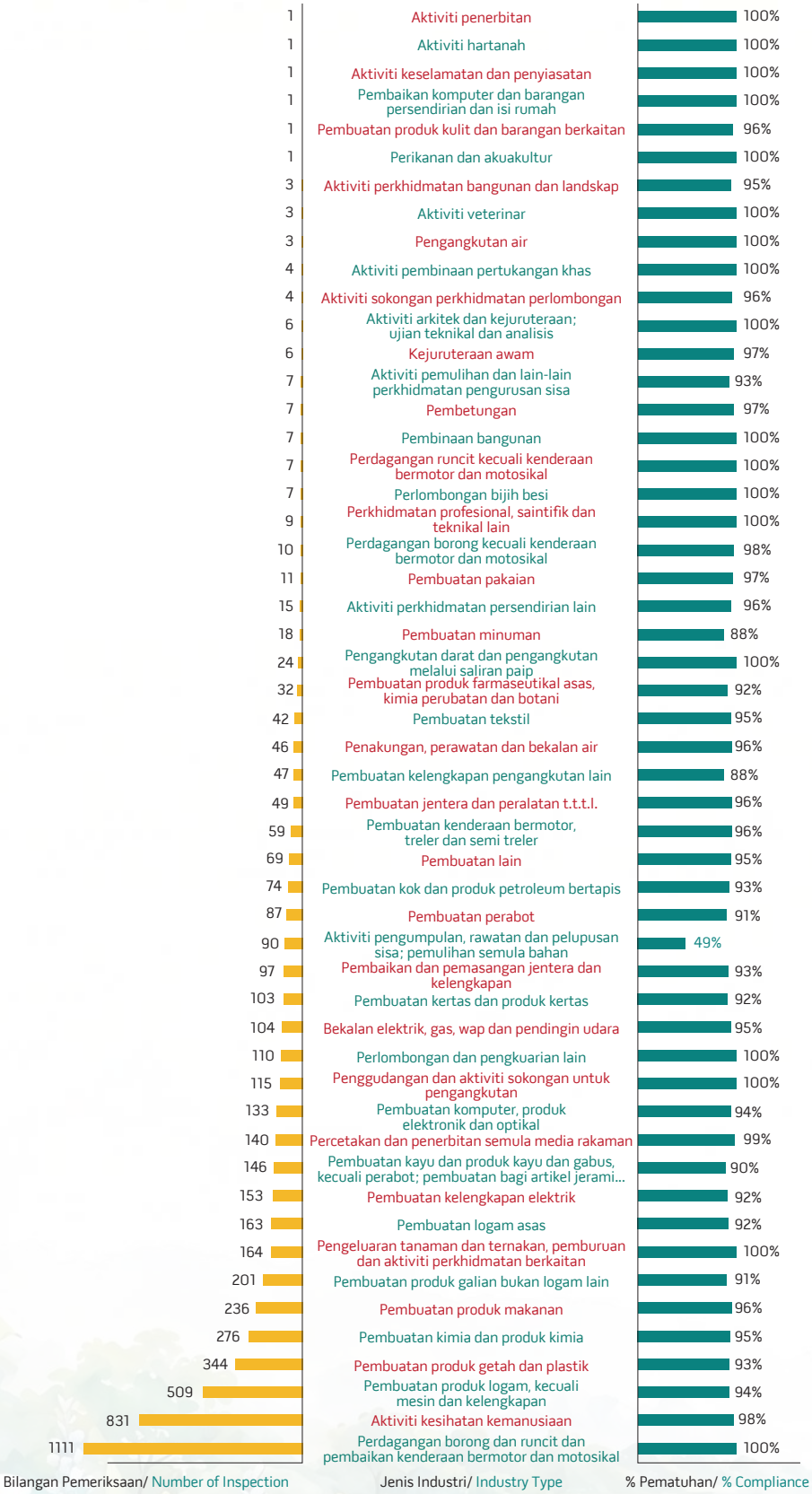
Rajah 3.19: Status Pematuhan Industri terhadap Peraturan-peraturan Kualiti Alam Sekeliling (Efluen Perindustrian) 2009, 2025

Figure 3.19: Compliance Status to the Environmental Quality (Industrial Effluent) Regulations 2009, 2025



Rajah 3.20: Status Pematuhan Industri terhadap Peraturan-peraturan Kualiti Alam Sekeliling (Udara Bersih) 2014, 2025

Figure 3.20: Compliance Status to the Environmental Quality (Clean Air) Regulations 2014, 2025



Rajah 3.21: Status Pematuhan Industri terhadap Peraturan-peraturan Kualiti Alam Sekeliling (Buangan Terjadual) 2005, 2025

Figure 3.21: Compliance Status to the Environmental Quality (Scheduled Wastes) Regulations 2005, 2025

Tindakan Penguatkuasaan ke Atas Premis

Pada tahun 2025, sejumlah 1543 kertas siasatan telah dibuka bagi tujuan izin kompaun atau izin dakwa ke atas premis-premis yang didapati melakukan kesalahan di bawah AKAS. Selain itu, tindakan-tindakan penguatkuasaan lain yang telah diambil ke atas premis yang didapati melakukan kesalahan di bawah AKAS 1974 adalah seperti di **Rajah 3.22**.

Pihak industri hendaklah sentiasa memastikan premis masing-masing dilengkapi dengan sistem kawalan pencemaran yang sesuai dan berkesan bagi memastikan operasi premis tidak menyebabkan pencemaran alam sekitar. Selain itu, konsep amalan pengeluaran bersih juga boleh diterapkan dan pendekatan pematuhan kendiri melalui pelaksanaan tujuh (7) alat pengarusperdanaan alam sekitar yang digariskan oleh JAS boleh diterapkan dalam organisasi sebagai usaha ke arah pematuhan 100% kepada AKAS 1974.

Enforcement Action on Premises

In 2025, a total of 1,543 investigation papers were opened for the purpose of obtaining approval for compounds or prosecution against premises found to have committed offences under the Environmental Quality Act (EQA). In addition, other enforcement actions taken against premises found to have committed offences under the EQA 1974 are as shown in **Figure 3.22**.

The industries are obliged to implement suitable and efficient pollution control system to ensure that the operation of their premis does not cause environmental pollution. In addition, the concept of cleaner production practices can also be applied and the approach of self-compliance through the implementation of seven (7) environmental mainstreaming tools outlined by DOE can be inculcated within the organization as an effort toward 100% compliance of EQA 1974.



Rajah 3.22: Tindakan Penguatkuasaan yang telah Diambil ke atas Premis, 2025
Figure 3.22: Enforcement Actions taken on Premises, 2025

Pelaksanaan Operasi Gempur (Ops Gempur)

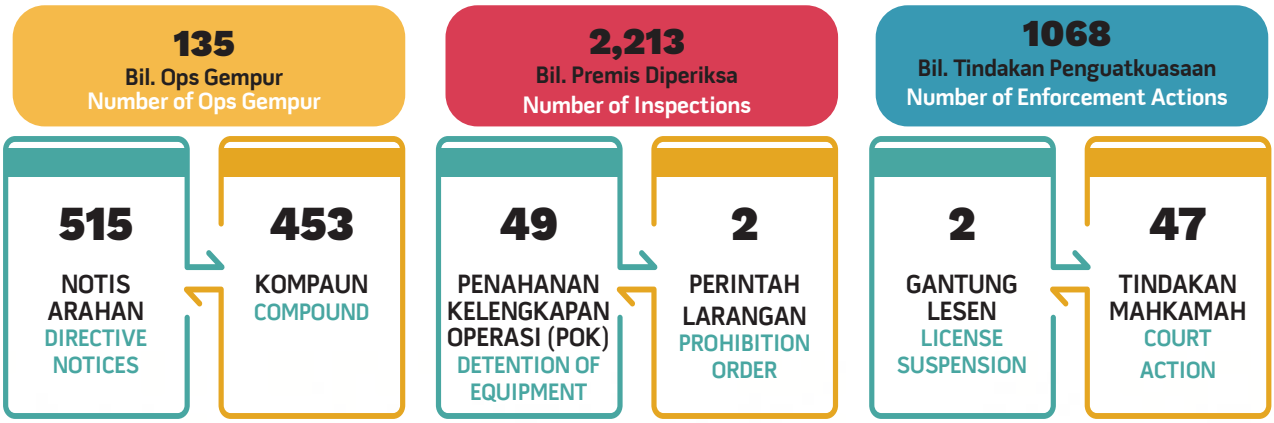
Operasi penguatkuasaan bersasar dalam skala besar melalui inisiatif Ops Gempur secara berkala di seluruh Negara telah dilaksanakan oleh JAS sejak tahun 2020. Ops Gempur ini menyasarkan premis-premis yang terletak di hulu takat pengambilan air, operasi premis yang mendapat aduan yang kerap, premis yang menghasilkan beban pencemar yang tinggi, sering dikenakan tindakan penguatkuasaan, premis menghasilkan buangan terjadual dalam kuantiti yang tinggi, premis yang terletak di kawasan yang mempunyai isu alam sekitar dan premis yang terletak di lembangan sungai yang tercemar. Beberapa siri Ops Gempur yang dijalankan di peringkat negeri juga turut dilaksanakan secara bersepadu dengan

Implementation of Operasi Gempur (Ops Gempur)

Ops Gempur, a large-scale enforcement activities that were carried out on periodic basis throughout the Nation has been initiated by DOE since 2020. The implementation of Ops Gempur targeted premises located at the upstream of the water intake, premises where public complaints have been recorded, premises that produce high pollutant loads, or repeated offences frequently, premises generating high quantity of scheduled wastes or located in areas that have environmental issues or in polluted river basins. A few series of the Ops Gempur conducted at the state level were also carried out with cooperation from other enforcement agencies such as the Local

agensi-agensi penguatkuasa lain seperti Pihak Berkuasa Tempatan, Polis Diraja Malaysia (PDRM), Jabatan Imigresen Malaysia (JIM), Jabatan Mineral dan Geosains Malaysia (JMG), Suruhanjaya Perkhidmatan Air Negara (SPAN), Badan Kawal Selia Air Negeri, Indah Water Konsortium Sdn. Bhd. (IWK), Operator Loji Rawatan Air dan lain-lain agensi bagi membolehkan tindakan penguatkuasaan yang lebih tegas dapat diambil terhadap kesalahan yang dilakukan mengikut bidang kuasa agensi masing-masing.

Authority, Royal Malaysia Police (PDRM), Immigration Department of Malaysia (JIM), Department of Mineral and Geoscience Malaysia (JMG), National Water Services Commission (SPAN), State Water Regulatory Authorities, Indah Water Konsortium Sdn. Bhd. (IWK), Water Treatment Plants Operators, and other agencies to allow stricter enforcement action taken by the authorities of respective agencies against offences committed.



Rajah 3.23: Tindakan Penguatkuasaan melalui Ops Gempur yang telah Diambil oleh JAS pada Tahun 2025
Figure 3.23: Summary of Enforcement Actions Taken through Ops Gempur by DOE in 2025

Bagi tempoh 1 Januari 2025 sehingga 31 Disember 2025, JAS telah menjalankan 135 Ops Gempur di seluruh negara yang melibatkan pemeriksaan ke atas 2,213 premis yang terdiri dari pelbagai kategori industri. Sebanyak 1,068 tindakan penguatkuasaan di bawah AKAS 1974 telah diambil ke atas premis yang gagal mematuhi peruntukan Akta tersebut. Rumusan tindakan penguatkuasaan melalui Ops Gempur yang telah diambil oleh JAS pada tahun 2025 adalah seperti **Rajah 3.23**.

For the period of 1 January 2025 to 31 December 2025, DOE has conducted 135 Ops Gempur nationwide involving inspections of 2,213 premises from various categories of industries. A total of 1,068 enforcement actions under the EQA 1974 were taken against premises that failed to comply with the legislation. A summary of enforcement actions taken during 2025 is as shown in **Figure 3.23**.

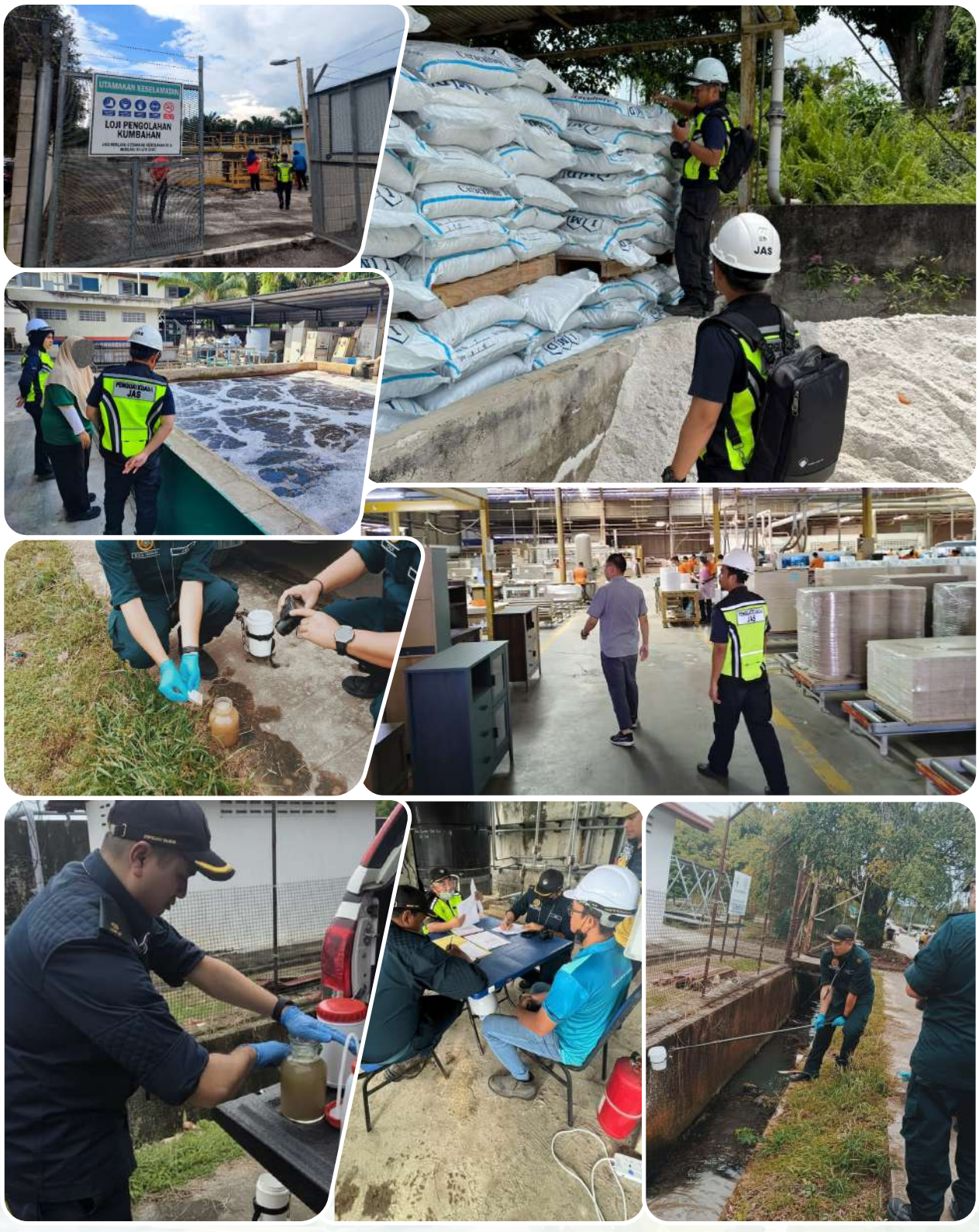
Semua pihak yang tertakluk kepada perundangan alam sekitar perlu mengambil langkah proaktif yang sewajarnya agar operasi premis tidak akan menyumbang kepada pencemaran alam sekitar dan menjejaskan kesejahteraan masyarakat.

All parties that are subjected to the environmental legislation must take appropriate proactive measures so that the operation of the premises will not contribute to environmental pollution and affect the well-being of the community.

"Alam Sekitar Tanggungjawab Bersama". Setiap tindakan dan keputusan yang diambil hendaklah sentiasa mengambil kira elemen kelestarian alam sekitar bagi memastikan kepesatan aktiviti pembangunan dan perindustrian tidak menjejaskan kualiti alam sekitar.

"Environment, Our Shared Responsibility". The element of environmental sustainability should be considered in every action and decision taken to ensure that the quality of the environment will not be affected despite the rapid industrial and development activities.

AKTIVITI PENGUATKUASAAN SEMASA PEMERIKSAAN PREMIS
ENFORCEMENT ACTIVITIES DURING PREMISE INSPECTION

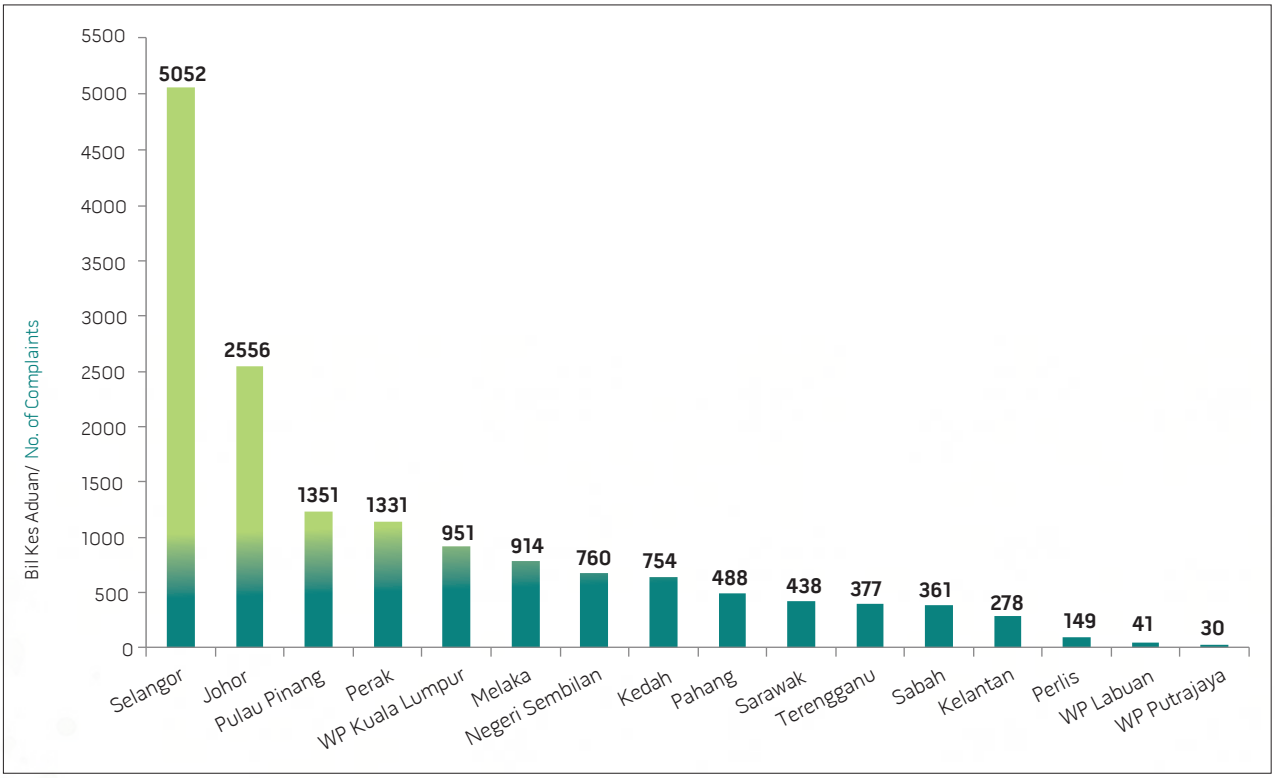


MAKLUM BALAS TERHADAP PENGADUAN AWAM

Pada tahun 2025, sejumlah 15,831 aduan pencemaran alam sekitar telah diterima oleh Jabatan Alam Sekitar. 12,248 kes aduan telah diambil tindakan di bawah peruntukan Akta Kualiti Alam Sekeliling (AKAS) 1974 dan peraturan-peraturan di bawahnya oleh pejabat JAS Negeri, manakala 3,583 kes aduan adalah di luar bidang kuasa JAS dan telah dirujuk kepada agensi lain yang berkaitan untuk diambil tindakan.(**Rajah 3.24**).

RESPONSE TO PUBLIC COMPLAINTS

The Department of Environment received 15,831 environmental pollution complaints in the year of 2025. Out of these, 12,248 were under the Environmental quality Act, 1974 and investigated by the State DOE Offices, while the remaining 3,583 cases were outside the jurisdiction of DOE and were referred to other relevant agencies.(**Figure 3.24**).



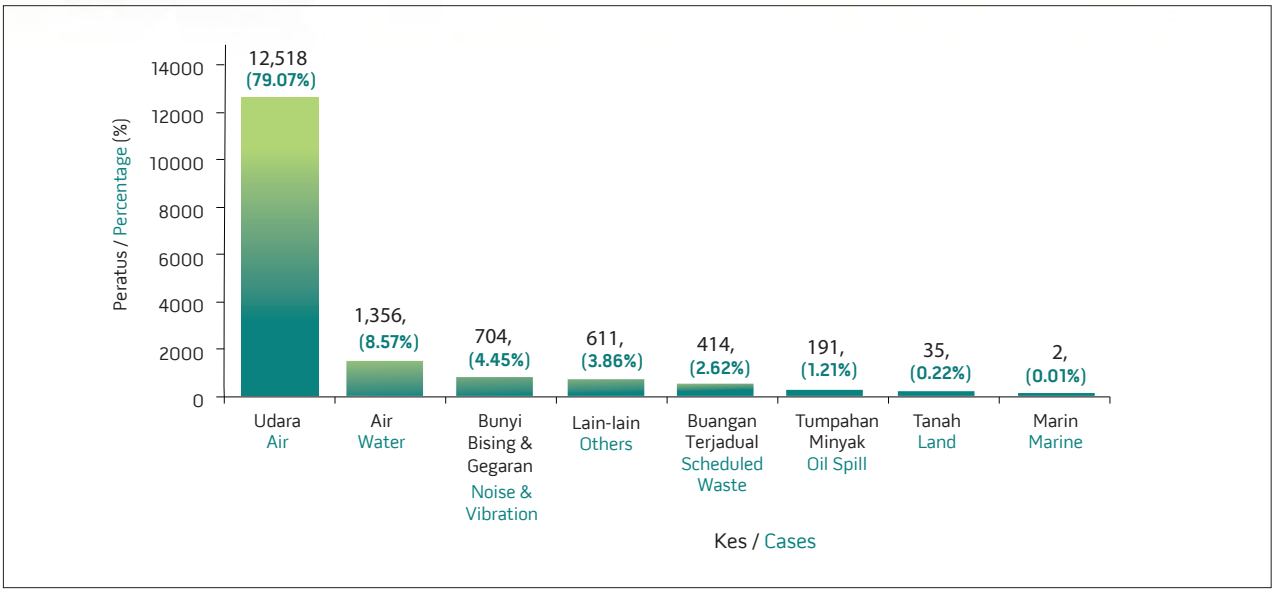
Rajah 3.24: Bilangan Aduan mengikut Negeri, 2025
Figure 3.24: Number of Complaints by State, 2025

Pada tahun 2025, Selangor menerima aduan yang tertinggi iaitu sebanyak 5,052 kes (31.91%), diikuti oleh Johor sebanyak 2,556 kes (16.15%) dan Perak sebanyak 1,351 kes (8.53%). Wilayah Persekutuan Putrajaya menerima aduan yang paling rendah iaitu sebanyak 30 kes (0.19%) dan diikuti dengan Wilayah Persekutuan Labuan iaitu sebanyak 41 kes (0.26%)

Seperti tahun-tahun yang sebelumnya, bilangan aduan pencemaran yang tertinggi adalah berkaitan dengan pencemaran udara iaitu 12,518 kes (79.07%), 1,356 kes (8.57%) berkaitan pencemaran air, 704 kes (4.45%) berkaitan pencemaran bunyi dan gegaran, 414 kes (2.62%) berkaitan buangan terjadual, 191 kes (1.21%) berkaitan tumpahan minyak, 2 kes (0.01%) berkaitan marin, 35 kes (0.22%) berkaitan pencemaran tanah dan 611 kes (3.86%) adalah lain-lain aduan (**Rajah 3.25**).

In the year 2025, Selangor recorded the highest number of complaints received at 5,052 (31.91%) cases, followed by Johor 2,556 (16.15%) and Perak 1,351 (8.53%). Federal Territory of Putrajaya recorded the least number of complaints received with 30 (0.19%) complaints and followed by Federal Territory of Labuan 41 cases (0.26%).

As in the previous years, most of the complaints received were related to air pollution 12,518 (79.07%), followed by 1,356 (8.57%) water pollution, 704 (4.45%) noise pollution and vibration, 414 (2.62%) on illegal dumping of scheduled or toxic wastes, 191 (1.21%) oil spillage, 2 (0.01%) marine, 35 (0.22%) land pollution and 611 (3.86%) of other complaints (**Figure 3.25**).



Rajah 3.25: Bilangan Kes Aduan mengikut Jenis, 2025
Figure 3.25: Number of Complaint Cases by Types, 2025



TINDAKAN UNDANG-UNDANG

PENDAKWAAN

Pada tahun 2025, sejumlah 320 kesalahan di bawah Akta Kualiti Alam Sekeliling 1974 (AKAS 1974) telah didakwa di mahkamah dan telah disabitkan kesalahan dengan denda terkumpul yang dikenakan berjumlah **RM8,578,400.00** manakala jumlah penjara yang dikenakan adalah selama 487 hari.

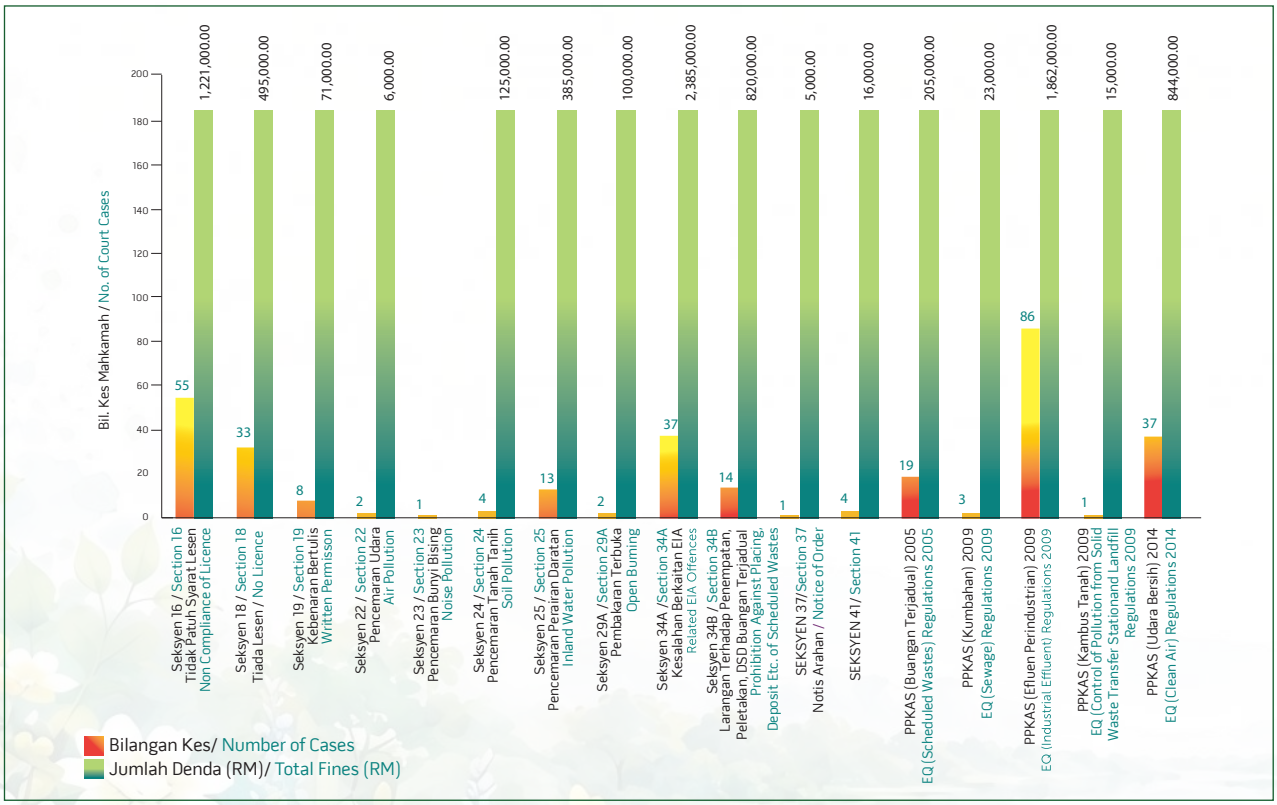
Daripada jumlah keseluruhan kes tersebut, sebanyak 86 (26.9%) kes mahkamah melibatkan kesalahan di bawah Peraturan-Peraturan Kualiti Alam Sekeliling (Efluen Perindustrian) 2009 dengan jumlah denda sebanyak RM1,862,000.00 iaitu kesalahan melibatkan ketidakpatuhan terhadap peraturan yang mengawal pelepasan air sisa industri atau efluen daripada industri. Sebanyak 55 (17%) kes mahkamah melibatkan kesalahan di bawah Seksyen 16, AKAS 1974 dengan jumlah denda sebanyak RM1,221,000.00 iaitu melibatkan kesalahan pelanggaran syarat-syarat lesen. Manakala baki 179 (56%) kes pula melibatkan kesalahan-kesalahan lain di bawah AKAS 1974 seperti ketidakpatuhan syarat kelulusan Laporan Penilaian Kesan Kepada Alam Sekeliling (EIA) dan kesalahan berkaitan dengan kawalan pencemaran udara (**Rajah 3.26** dan **Rajah 3.27**).

LEGAL ACTION

PROSECUTION

In 2025, a total of 320 offences under the Environmental Quality Act 1974 (EQA 1974) were prosecuted in court and were convicted with a total fine of **RM8,578,400.00** while the total imprisonment imposed amounted to 487 days.

Out of this total, 86 (26.9%) court cases involved offences under Environmental Quality (Industrial Effluent) Regulations 2009 with a total fine of RM1,862,000.00 which is offenses involved non-compliance with regulations governing the discharge of wastewater or effluent from industry. There were 55 (17%) court cases involved offences under Section Seksyen 16, EQA 1974 with a total fine of RM1,221,000.00, relating to breaches of licensing conditions. The remaining 179 cases (56%) concerned other offenses under the EQA 1974, including non-compliance with conditions for approval of Environmental Impact Assessment (EIA) reports, as well as offenses related to air pollution control (**Figure 3.26** and **Figure 3.27**).



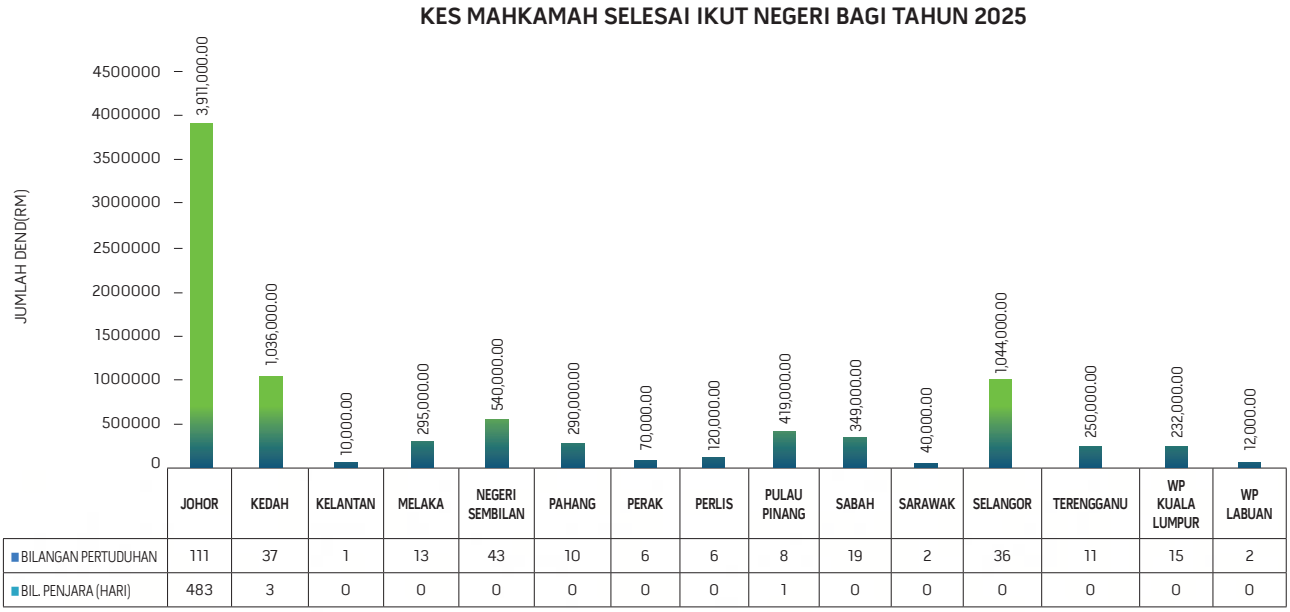
Rajah 3.26: Bilangan Kes Mahkamah dan Denda mengikut Jenis Kesalahan, 2025
Figure 3.27: Number of Court Cases and Fines, 2025

KOMPAUN

Sejumlah 4,360 kompaun telah dikeluarkan sepanjang tahun 2025 kepada premis dan individu untuk pelbagai kesalahan di bawah Akta Kualiti Alam Sekeliling 1974 (AKAS 1974). Pecahan mengikut kesalahan adalah seperti di **Rajah 3.28**.

COMPOUNDS

A total of 4,360 compounds were issued in 2025 against premises and individual for various offences under the Environmental Quality Act 1974 (EQA 1974). Fraction by offences is shown in **Figure 3.28**.



	JOHOR	KEDAH	KELANTAN	MELAKA	NEGERI SEMBILAN	PAHANG	PERAK	PERLIS	PULAU PINANG	SABAH	SARAWAK	SELANGOR	TERENGGANU	WP KUALA LUMPUR	WP LABUAN
BILANGAN PERTUDUHAN	111	37	1	13	43	10	6	6	8	19	2	36	11	15	2
BIL. PENJARA (HARI)	483	3	0	0	0	0	0	0	1	0	0	0	0	0	0

Rajah 3.27: Bilangan Kes Mahkamah dan Denda mengikut Negeri, 2025
Figure 3.27: Number of Court Cases and Fines by State, 2025

		Bilangan Kompaun Keluar Bilangan Kompaun Keluar	Peratus (%) Percentage (%)	Jumlah Kutipan (RM) Total Collection (%)
1	Seksyen 29A, AKAS 1974 / Section 29A, EQA 1974	165	3.78	180,500.00
2	PPKAS (Buangan Terjadual) 2005 Environmental Quality (Schduled Wastes) Regulations 2005	2464	56.51	2,737,000.00
3	PPKAS (Bunyi Bising Kenderaan Bermotor) 1987 Environmental Quality (Motor Vehicle Noise) Regulations 1987	603	13.83	126,250.00
4	PPKAS (Kawalan Pelepasan Dari Enjin Diesel) 1996 Enviromental Quality (Control of Emission from Diesel Engines) Regulations 1996	539	12.36	363,850.00
5	PPKAS (Efluen Perindustrian) 2009 / Environmental Quality (Industrial Effluen) Regulations 2009	392	8.99	544,500.00
6	PPKAS (Kawalan Pelepasan Daripada Motosikal) 2003 / Environmental Quality (Control PF Emissions from Motocycle) Regulations 2003	3	0.07	1,200.00
7	PPKAS (Kambus Tanah) 2009 / Environmental Quality (Control of Pollution From Solid Waste Transfer Station And Landfill) Regulations 2009	53	1.22	52,200.00
8	PPKAS (Kumbahan) 2009 / Environmental Quality (Sewage) Regulations 2009	118	2.71	141,500.00
9	PPKAS (Kawalan Pelepasan dari Enjin Petrol) 1996 Enviromental Quality (Control of Emission from Petrol Engines) Regulations 1996	16	0.37	4,000.00
10	PPKAS (Kemudahan Pengolahan dan Pelupusan Buangan Terjadual) 1989 / Enviromental Quality (Precribed Premises)(Scheduled Waste Treatment and Disposal Facilities) Regulations 1989	7	0.16	12,000.00
	Jumlah/ Total	**4360**	**100.00**	**4,163,000.00**

Rajah 3.28: Bilangan Kompaun mengikut Kesalahan, 2025
Figure 3.28: Number of Compound according to Offence, 2025

PEWARTAAN WARTA KERAJAAN

LEMBAGA RAYUAN

Lembaga Rayuan Kualiti Alam Sekeliling di bawah Seksyen 36, Akta Kualiti Alam Sekeliling 1974 (AKAS 1974) telah ditubuhkan sejak tahun 1974 semasa pembentukan Akta Kualiti Alam Sekeliling 1974. Lembaga Rayuan ini ditubuhkan bertujuan untuk mendengar dan membuat keputusan berhubung dengan kes-kes rayuan terhadap keputusan Ketua Pengarah Kualiti Alam Sekeliling sepertimana yang ditetapkan di bawah Seksyen 35, AKAS 1974.

Pelantikan Pengerusi, Timbalan Pengerusi dan Ahli Panel bagi tempoh 15 Januari 2025 sehingga 15 Januari 2028 telah diwartakan pada 15 Januari 2025 melalui P.U.(B) 14. Senarai Pengerusi, Timbalan Pengerusi dan Ahli Panel adalah seperti di **Jadual 3.17**.

Perintah Kualiti Alam Sekeliling (Pewakilan Kuasa kepada Jabatan Kerajaan, Pihak Berkuasa Tempatan dan Perbadanan) 2025

Perintah Kualiti Alam Sekeliling (Pewakilan Kuasa kepada Jabatan Kerajaan, Pihak Berkuasa Tempatan dan Perbadanan) 2025 telah diwartakan pada 7 Julai 2025 melalui P.U.(A) 207 dan mula berkuatkuasa pada 8 Julai 2025. Sebanyak empat belas (14) agensi telah diwakilkan kuasa melalui seksyen 49(1) Akta Kualiti Alam Sekeliling 1974 seperti di **Jadual 3.18**.

PUBLICATION OF GOVERNMENT GAZETTE

APPEAL BOARD

The Environmental Quality Appeal Board under Section 36, Environmental Quality Act 1974 (AKAS 1974) has been established since 1974 during the formation of the Environmental Quality Act 1974. The Appeal Board was established to hear and decide on appeal cases against decisions made by the Director General of Environmental Quality as prescribed under Section 35, AKAS 1974.

The appointment of the Chairman, Deputy Chairman, and Members of the Panel for the period from 15 January 2025 to 15 January 2028 was gazetted on 15 January 2025 vide P.U. (B) 14. The list of the Chairman, Deputy Chairman, and Members of the Panel is shown in **Table 3.17.**

Environmental Quality (Delegation of Powers to Government Department, Local Authority, and Corporation) Order 2025

The Environmental Quality (Delegation of Powers to Government Department, Local Authority, and Corporation) Order 2025 was gazetted on 7 July 2025 vide P.U. (A) 207 and came into force on 8 July 2025. Under this Order, a total of fourteen (14) agencies were delegated powers pursuant to section 49(1) of the Environmental Quality Act 1974 as shown in **Table 3.18.**

Jadual 3.17 : Senarai Pengerusi, Timbalan Pengerusi dan Ahli Panel
Table 3.17 : List of Chairman, Deputy Chairman, and Panel Members

BIL./ NO.	JAWATAN / POST	NAMA / NAME
1.	Pengerusi / Chairman	Rasyihah binti Ghazali
2.	Timbalan Pengerusi / Deputy Chairman	Azrul bin Darus
3.	Ahli Panel / Panel Member	Prof. Emeritus Dato' ChM. Dr. Mazlin bin Mokhtar
4.	Ahli Panel / Panel Member	Prof. Dato' Dr. Nor Ghani bin Md Nor
5.	Ahli Panel / Panel Member	Dato' Dr. Gurdial Singh Nijar
6.	Ahli Panel / Panel Member	Prof. Madya Dr. Ramdzani bin Abdullah
7.	Ahli Panel / Panel Member	Prof. Ts. Dr. Aeslina binti Abdul Kadir
8.	Ahli Panel / Panel Member	Prof. Dr. Ahmad Zaharin bin Aris
9.	Ahli Panel / Panel Member	Prof. Dr. Mohd Azlan Jayasilan bin Abdul Gulam Azad

Jadual 3.18 : Senarai Agensi yang Diwakilkan Kuasa
Table 3.18 : List of Agencies Delegated with Powers

BIL./ NO.	AGENSI/ AGENCIES	JAWATAN / POST	PERUNTUKAN
1.	Polis Diraja Malaysia / Royal Malaysian Police	Pegawai polis sebagaimana yang ditakrifkan dalam Seksyen 2 Akta Polis 1967 [Akta 344] Police officer as defined in Section 2 of the Police Act 1967 [Act 344]	Subseksyen 27(2), 29(2), 29A(5) dan 34B(4) Subsection 27(2), 29(2), 29A(5) and 34B(4)
2.	Angkatan Tentera Malaysia / Malaysian Armed Force	Pegawai sebagaimana yang ditakrifkan dalam Seksyen 2 Akta Angkatan Tentera 1972 [Akta 77] dalam angkatan tetap Tentera Laut Diraja Malaysia Officer as defined in Section 2 of the Armed Forces Act 1972 [Act 77] in regular forces of the Royal Malaysian Navy	Subseksyen 27(2) dan 29(2) Subsection 27(2) and 29(2)
3.	Kementerian Kesihatan Malaysia / Ministry of Health Malaysia	Pengarah Kesihatan Negeri, Timbalan Pengarah Kesihatan Negeri (Kesihatan Awam), Pegawai Kesihatan Daerah, Pegawai Kesihatan Persekitaran dan Penolong Pegawai Kesihatan Persekitaran State Health Director, Deputy State Health Director (Public Health), District Health Officer, Environmental Health Officer, and Assistant Environmental Health Officer	Subseksyen 29A(5) Subsection 29A(5)
4.	Jabatan Laut Malaysia / Malaysia Marine Department	Pegawai Pelabuhan yang dilantik di bawah Ordinan Perkapalan Saudagar 1952 [Ord. No. 70 Tahun 1952] Port Officer appointed under the Merchant Shipping Ordinance 1952 [Ord. No. 70 of 1952] Pegawai Pelabuhan yang dilantik di bawah Ordinan Perkapalan Saudagar (Sabah) 1960 [Ord. No. 11 Tahun 1960] Port Officer appointed under the Merchant Shipping Ordinance (Sabah) 1960 [Ord. No. 11 of 1960] Pegawai Pelabuhan yang dilantik di bawah Ordinan Perkapalan Saudagar (Sarawak) 1960 [Ord. No. 2 Tahun 1960] Port Officer appointed under Merchant Shipping Ordinance (Sarawak) 1960 [Ord. No. 2 of 1960]	Subseksyen 27(2) dan 29(2) Subsection 27(2) and 29(2)
5.	Jabatan Perikanan Malaysia / Department of Fisheries Malaysia	Pegawai perikanan sebagaimana yang ditakrifkan dalam Seksyen 2 Akta Perikanan 1985 [Akta 317] Fisheries Officer as defined in Section 2 of the Fisheries Act 1985 [Act 317]	Subseksyen 27(2) dan 29(2) Subsection 27(2) and 29(2)
6.	Jabatan Bomba dan Penyelamat Malaysia / Fire and Rescue Department of Malaysia	Penguasa Kanan Bomba I, Penguasa Kanan Bomba II, Penguasa Bomba, Penolong Kanan Penguasa Bomba, Penolong Penguasa Bomba, Pegawai Bomba Gred I, Pegawai Bomba Gred II dan Pegawai Bomba Gred III Senior Fire Superintendent I, Senior Fire Superintendent II, Fire Superintendent, Senior Assistant Fire Superintendent, Assistant Fire Superintendent, Fire Officer Grade I, Fire Officer Grade II, and Fire Officer Grade III	Subseksyen 29A(5) dan peraturan 4, 5, 6, 7, 8, 9, 12, 13, 14, 15 dan 16 Peraturan-Peraturan Kualiti Alam Sekeliling (Pengurusan Halon) 1999 [P.U. (A) 452/1999] Subsection 29A(5) dan regulations 4, 5, 6, 7, 8, 9, 12, 13, 14 and 16 of Environmental Quality (Halon Management) Regulations 1999 [P.U. (A) 452/1999]
7.	Jabatan Pengairan dan Saliran/ Department of Irrigation and Drainage	Juruteknik, Penolong Jurutera dan Jurutera Technician, Assistant Engineer, and Engineer	Subseksyen 34A(8) Subsection 34A(8)

Jadual 3.18 : Senarai Agensi yang Diwakilkan Kuasa
Table 3.18 : List of Agencies Delegated with Powers

BIL./ NO.	AGENSI/ AGENCIES	JAWATAN / POST	PERUNTUKAN
8.	Jabatan Perhutanan Sabah / Sabah Forestry Department	Pegawai hutan sebagaimana yang ditakrikan dalam Seksyen 2 Enakmen Hutan 1968 [Sabah No. 2 Tahun 1968] Forest Officer as defined in Section 2 of the Forest Enactment 1968 [Sabah No. 2 of 1968]	Subseksyen 29A(5) Subsection 29A(5)
9.	Jabatan Perlindungan Hidupan Liar dan Taman Negara (PERHILITAN) Semenanjung Malaysia / Department of Wildlife and National Parks (DWNP) Peninsular Malaysia	Pegawai sebagaimana yang takrifkan dalam Seksyen 3 Akta Pemuliharaan Hidupan Liar 2010 [Akta 716] Officer as defined in Section 3 of the Wildlife Conservation Act 2010 [Act 716]	Subseksyen 34A(8) Subsection 34A(8)
10.	Jabatan Pengurusan Sisa Pepejal Negara / National Solid Waste Management Department	Ketua Pegarah Pengurusan Sisa Pepejal dan Pembersihan Awam, Timbalan Ketua Pengarah Pengurusan Sisa Pepejal dan Pembersihan Awam, Pengarah, Timbalan Pengarah, Penolong Pengarah dan pegawai lain yang dilantik di bawah Seksyen 5 Akta Pengurusan Sisa Pepejal dan Pembersihan Awam 2007 [Akta 672] Director General of Solid Waste and Public Cleansing Management, Deputy Director General of Solid Waste and Public Cleansing Management, Director, Deputy Director, Assistant Director, and other officers appointed under Section 5 of the Solid Waste and Public Cleansing Management Act 2007 [Act 672]	Subseksyen 22(3) & 25(3) Subsection 22(3) & 25(3)
11.	Perbadanan Labuan / Labuan Corporation	Ketua Pegawai Eksekutif yang dilantik di bawah Seksyen 10, dan pegawai dan pekhidmat yang dilantik di bawah Seksyen 11 Akta Perbadanan Labuan 2001 [Akta 609] yang memegang jawatan sebagai Penguasa Penguatkuasa, Ketua Inspektor Penguatkuasa, Inspektor Penguatkuasa, Penolong Pegawai Kesihatan Persekitaran (Kanan) dan Penolong Pegawai Kesihatan Persekitaran Chief Executive Officer appointed under Section 10, and officers and servants appointed under Section 11 of the Labuan Corporation Act 2001 [Act 609], holding the office as the Enforcement Supervisor, Chief Enforcement Inspector, Enforcement Inspector, Assistant Environmental Health Officer (Senior), and Assistant Environmental Health Officer	Subseksyen 29A(5) Subsection 29A(5)
12.	Perbadanan Pengurusan Sisa Pepejal dan Pembersihan Awam / Solid Waste and Public Cleansing Management Corporation	Ketua Pegawai Eksekutif yang dilantik di bawah Seksyen 21 dan mana-mana pegawai yang dilantik di bawah Seksyen 23 Akta Perbadanan Pengurusan Sisa Pepejal dan Pembersihan Awam 2007 [Akta 673] Chief Executive Officer appointed under Section 21 and any officer appointed under Section 23 of the Solid Waste and Public Cleansing Management Corporation Act 2007 [Act 673]	Subseksyen 34B(4) Subsection 34B(4)

Jadual 3.18 : Senarai Agensi yang Diwakilkan Kuasa
Table 3.18 : List of Agencies Delegated with Powers

BIL./ NO.	AGENSI/ AGENCIES	JAWATAN / POST	PERUNTUKAN
13.	Dewan Bandaraya Kuala Lumpur, Majlis Bandaraya, Majlis Perbandaran dan Majlis Daerah / Kuala Lumpur City Hall, City Council, Municipal Council, and District Council	a) Pegawai Kesihatan, Pegawai Alam Sekitar, Pegawai Penguat Kuasa, Penolong Pegawai Kesihatan, Penolong Pegawai Penguat Kuasa, Pembantu Kesihatan Awam, Penyelia Kebersihan, Pegawai Bandaraya, Pegawai Perbandaran dan Penolong Penguatkuasa mana-mana Majlis Bandaraya, Majlis Perbandaran atau Majlis Daerah Health Officer, Environment Officer, Enforcement Officer, Assistant Public Health Officer, Assistant Enforcement Officer, Public Health Assistant, Cleansing Supervisor, City Officer, Municipal Officer, and Assistant Enforcement of any City Council, Municipal Council or District Council b) Pengarah, Timbalan Pengarah, Timbalan Pengarah II, Penolong Kanan Pengarah, Penolong Pengarah, Pegawai Perubatan dan Kesihatan, Pegawai Kesihatan, Pegawai Alam Sekitar, Pegawai Kesihatan Persekitaran, Penguasa Pembersihan Bandaraya, Penguasa, Timbalan Penguasa, Ketua Inspektor, Inspektor, Penolong Inspektor Juruukur Bangunan, Jurutera, Juruteknik Kanan, Juruteknik, Pembantu Juruteknik Kanan dan Penolong Juruteknik Dewan Bandaraya Kuala Lumpur Director, Deputy Director, Deputy Director II, Senior Assistant Director, Assistant Director, Medical and Health Officer, Health Officer, Environmental Control Officer, Environmental Health Officer, City Cleansing Superintendent, Superintendent, Deputy Superintendent, Chief Inspector, Inspector, Assistant Inspector, Building Surveyor, Engineer, Senior Technicians, Senior Assistant Technician, and Assistant Technician of the Kuala Lumpur City Hall c) Timbalan Setiausaha 1, Pegawai Majlis Perbandaran, Penolong Pegawai Penguatkuasa dan Penolong Penguatkuasa Majlis Perbandaran Labuan Deputy Secretary I, Municipal Council, Assistant Enforcement Officer, and Assistant Enforcement of the Labuan Municipal Council	Subseksyen 29A(5) Subsection 29A(5)

PEMERIKSAAN PELEPASAN DARIPADA KENDERAAN BERMOTOR

Sepanjang tahun 2025, sebanyak 1,629,375 buah kenderaan baharu telah didaftarkan di Malaysia. Pecahan keseluruhan kenderaan bermotor yang berdaftar mengikut jenis kenderaan adalah seperti yang tertera pada **Rajah 3.29**. Secara kumulatif sehingga tahun 2025, sebanyak 39,539,061 buah kenderaan bermotor telah didaftarkan di Malaysia.

Daripada 1,629,375 buah kenderaan baharu yang didaftarkan dalam tahun 2025, kategori kereta merupakan yang tertinggi iaitu 861,333 unit (52.86%), diikuti motosikal sebanyak 704,229 unit (43.22%), dan sebanyak 63,813 unit (3.92%) adalah dari lain-lain jenis kenderaan termasuk lori, bas, van dan sebagainya.

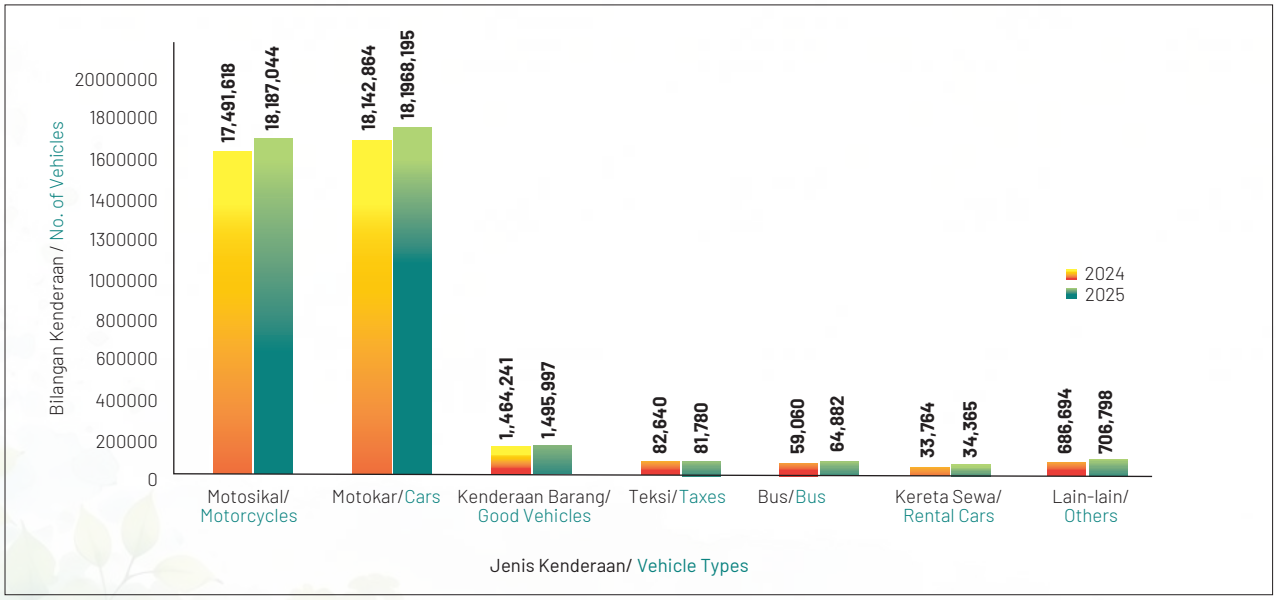
Taburan bilangan kenderaan bermotor di Malaysia mengikut negeri adalah seperti di **Rajah 3.30**. Wilayah Persekutuan (termasuk Kuala Lumpur, Putrajaya dan Labuan) mendahului negeri-negeri lain dengan mempunyai bilangan kenderaan yang tertinggi iaitu sebanyak 7,063,740 unit (17.87%) daripada keseluruhan bilangan kenderaan yang berdaftar di negara ini, diikuti oleh Johor, Selangor, Pulau Pinang dan Perak.

ENFORCEMENT ON MOTOR VEHICLES EMISSION

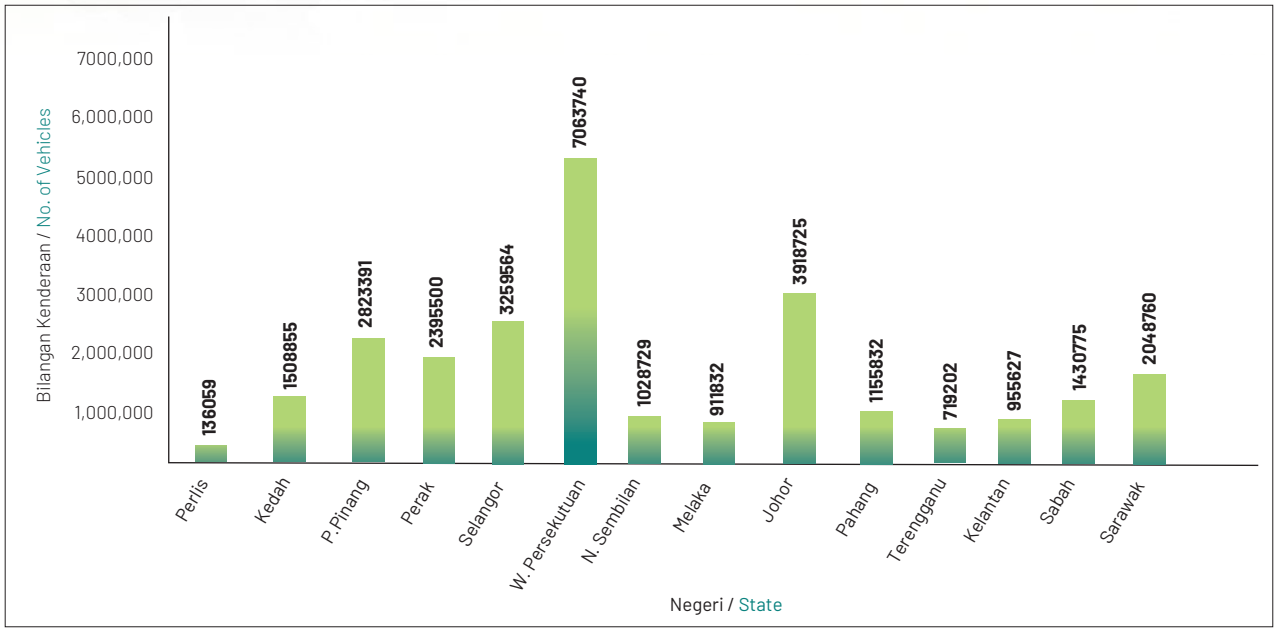
Throughout the year of 2025, 1,629,375 new vehicles were registered in Malaysia. The breakdown of the total registered vehicles according to vehicle type is shown in **Figure 3.29**. Cumulatively, as of 2025, 39,539,061 motor vehicles were registered in Malaysia.

Out of 1,629,375 new vehicles registered in 2025, cars made up the highest number with 861,333 units (52.86%), followed by motorcycles with 704,229 units (43.22%), while 63,813 units (3.92%) were other vehicle types which include lorries, buses, vans, and others.

The distribution of registered vehicles in Malaysia according to states is given in **Figure 3.30**. The Federal Territories (including Kuala Lumpur, Putrajaya, and Labuan) recorded the highest number of registered vehicles with 7,063,740 units (17.87%) followed by Johor, Selangor, Penang, and Perak.



Rajah 3.29: Pecahan Keseluruhan Kenderaan Bermotor yang Berdaftar mengikut Jenis Kenderaan (Sumber: Jabatan Pengangkutan Jalan, 2025)
Figure 3.29: Total Registered Vehicles according to Vehicle Type (Source: Road Transport Department, 2025)



Rajah 3.30: Taburan Bilangan Kenderaan Bermotor di Malaysia mengikut Negeri, 2025
Figure 3.30: The Distribution of Registered Vehicles According to States, 2025

KAWALAN PELEPASAN PENCEMAR DARIPADA KENDERAAN BERMOTOR

Kawalan pelepasan pencemar daripada kenderaan bermotor melibatkan dua (2) peringkat pematuhan iaitu kawalan ke atas pelepasan kenderaan baharu (pematuhan oleh pengeluar kenderaan) dan juga kawalan ke atas pelepasan kenderaan dalam penggunaan (pematuhan oleh pemilik kenderaan). Penguatkuasaan dan pemantauan membabitkan tiga (3) kategori kenderaan iaitu kenderaan berenjin diesel, kenderaan berenjin petrol dan juga motosikal.

KAWALAN PELEPASAN PENCEMAR KENDERAAN BAHARU

KELULUSAN JENIS KENDERAAN (VEHICLE TYPE APPROVALS, VTA)

Mana-mana kenderaan baharu yang akan dipasang dan didaftarkan di Malaysia perlu melalui prosedur Kelulusan Jenis Kenderaan (VTA) yang mana semakan dan pemeriksaan ke atas kenderaan akan dijalankan oleh agensi-agensi berkaitan mengikut skop masing-masing. VTA diselaraskan oleh Jabatan Pengangkutan Jalan (JPJ) selaku agensi utama.

Bagi Jabatan Alam Sekitar (JAS), skop pemeriksaan adalah melibatkan standard pelepasan gas pencemar bagi enjin dan juga standard pelepasan bunyi bising berdasarkan standard terkini yang dilaksanakan di Malaysia. Kenderaan-kenderaan baharu yang hendak dipasang dan didaftarkan di Malaysia perlu menjalankan ujian pelepasan gas pencemar bagi enjin dan juga ujian pelepasan bunyi bising di makmal

POLLUTANTS EMISSION CONTROL FROM MOTOR VEHICLES

Emission control from motor vehicles involves two (2) levels of compliance, which are control over emissions from new vehicles (compliance by vehicle manufacturers) and also control over emissions from vehicles in use (compliance by vehicle owners). Enforcement and monitoring involves three (3) categories of vehicles which are diesel engine vehicles, petrol engine vehicles, and motorcycles.

NEW VEHICLE POLLUTANTS EMISSION CONTROL

VEHICLE TYPE APPROVALS, VTA

Any new vehicle that will be assembled and registered in Malaysia must go through the Vehicle Type Approval (VTA) procedure, where the review and inspection of the vehicle will be carried out by the relevant agencies according to their respective scopes. VTA is coordinated by the Road Transport Department (JPJ) as the main agency.

For the Department of Environment (DOE), the scope of inspection involves the emission standards for engine pollutants and the noise emission standards based on the latest standards implemented in Malaysia. New vehicles that are to be installed and registered in Malaysia must undergo exhaust gas emission tests for the engine and noise emission tests at an accredited laboratory and obtain the Gas Emission

bertauliah serta memperoleh Sijil Kelulusan Pelepasan Gas dan Sijil Kelulusan Pelepasan Bunyi Bising dari JAS terlebih dahulu sebelum dibenarkan untuk didaftarkan di Jabatan Pengangkutan Jalan.

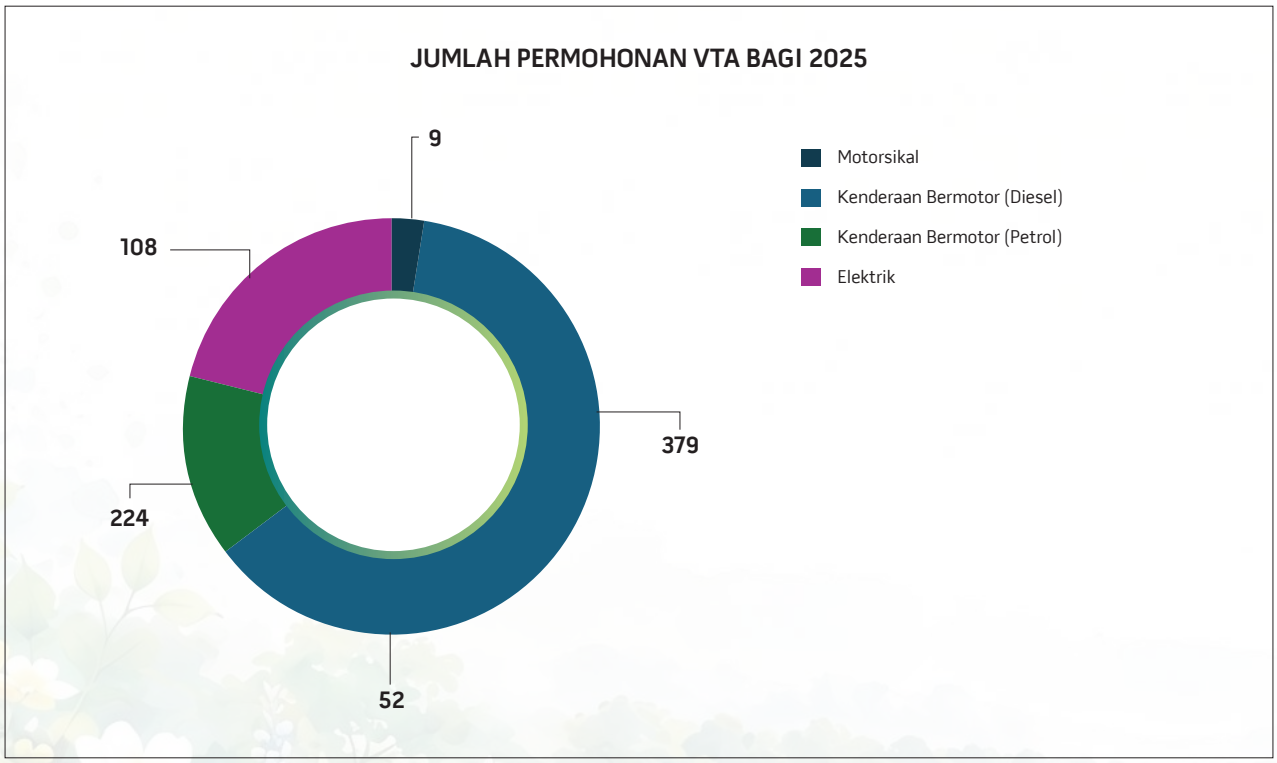
Pengeluar kenderaan yang berhasrat untuk mendaftarkan kenderaan mereka perlu mengemukakan permohonan melalui sistem VTA Online JAS berserta dokumen-dokumen berkaitan untuk semakan dan pengesahan pegawai JAS sebelum Sijil Kelulusan Pelepasan Gas dan Sijil Kelulusan Pelepasan Bunyi Bising dikeluarkan. **Rajah 3.32**.

Permohonan VTA yang diterima oleh pihak JAS dari pihak pengeluar kenderaan bermotor melibatkan kenderaan bagi ketiga-tiga kategori iaitu kenderaan berenjin petrol, kenderaan berenjin diesel dan juga motosikal. Selain itu bermula tahun 2025, pihak JAS juga menerima permohonan VTA bagi kenderaan elektrik (EV) yang hanya melibatkan skop kelulusan bagi pelepasan bunyi bising. Kenderaan EV tidak melibatkan skop kelulusan bagi pelepasan gas memandangkan ianya digerakkan oleh mekanisme bateri yang tidak menghasilkan pelepasan gas seperti enjin konvensional.

Approval Certificate and Noise Emission Approval Certificate according to the DOE VTA procedure before being allowed to be registered with the Road Transport Department.

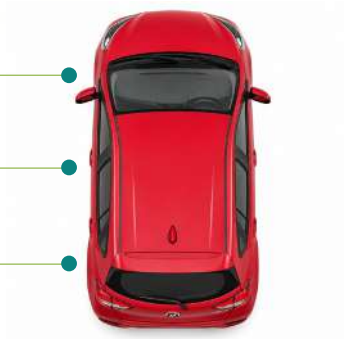
Vehicle manufacturers who wish to register their vehicles must apply via the DOE's VTA Online system along with relevant documents for review and verification by DOE officers before the Gas Emission Approval Certificate and Noise Emission Approval Certificate are issued. **Figure 3.32**.

VTA applications received by DOE from motor vehicle manufacturers involve vehicles in all three categories, namely petrol engine vehicles, diesel engine vehicles, and motorcycles. In addition, starting in 2025, DOE also received VTA applications for electric vehicles (EV) which only involve the scope of approval for noise emissions. EV vehicles do not involve the scope of approval for gas emissions since they are powered by a battery mechanism that does not produce gas emissions like conventional engines.



Rajah 3.31: Jumlah Permohonan VTA Bagi Tahun 2025.
Figure 3.31: Total VTA's Application for Year 2025.

37 EURO 4
8 EURO 5
9 EURO 6



PETROL

54

JUMLAH PERMOHONAN VTA

3 EURO 4
34 EURO 5
- EURO 6



DIESEL

37

JUMLAH PERMOHONAN VTA

73 EURO 4
87 EURO 5
- EURO 6



MOTOSIKAL

160

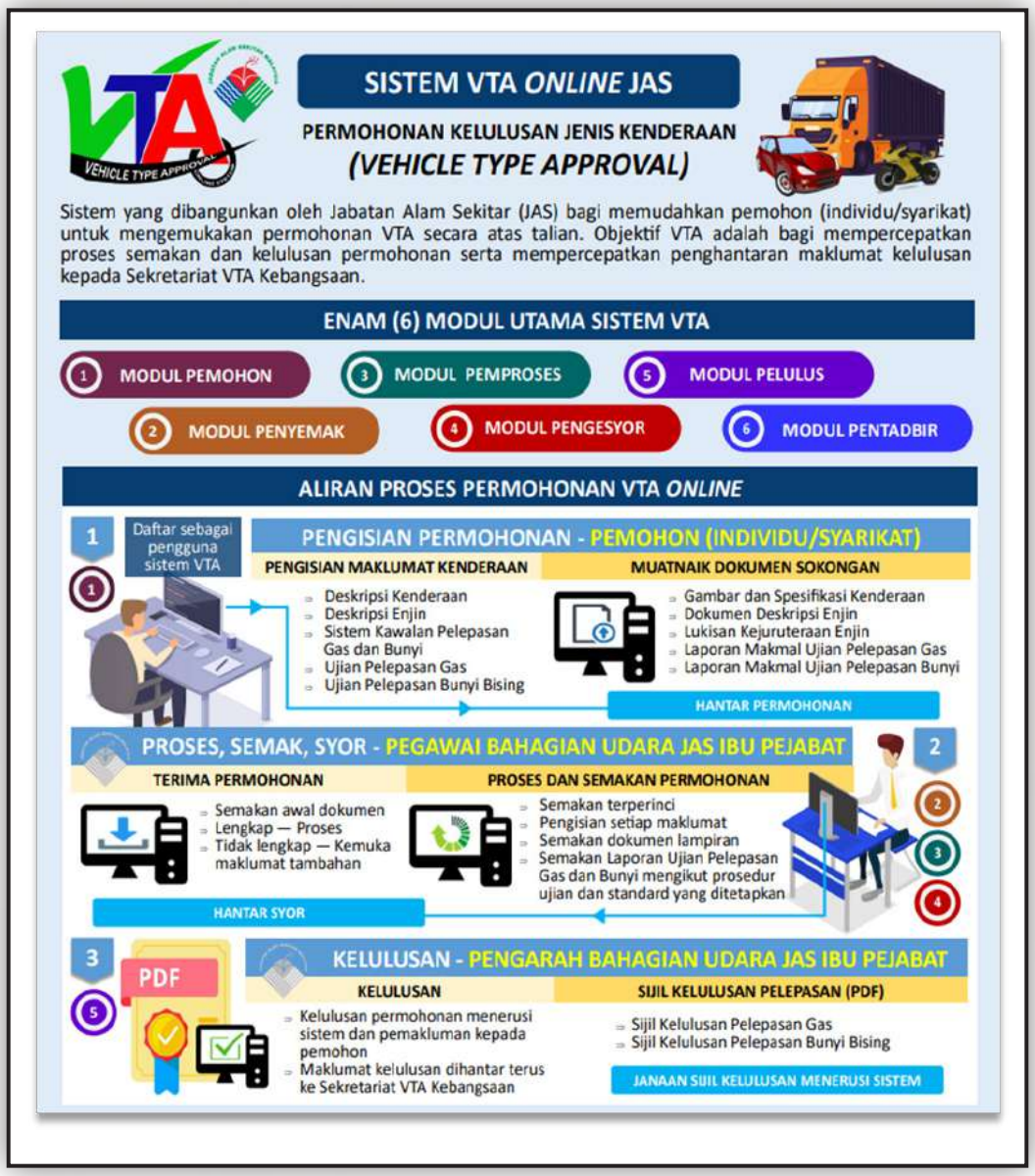
JUMLAH PERMOHONAN VTA



KENDERAAN ELEKTRIK (EV)

7

JUMLAH PERMOHONAN VTA



Rajah 3.32: Arkitektur Sistem Atas Talian Kelulusan Jenis Kenderaan
Figure 3.32: Vehicle Type Approval (VTA) Online System Architecture



Rajah 3.33: Bilangan Keseluruhan Permohonan VTA diterima Tahun 2025
Figure 3.33: Total Numbers of VTA Application Received in 2025



EURO 4
KENDERAAN BERENJIN PETROL MODEL BAHARU
1 JULAI 2020

PARAMETER	CO (G/KM)	NO (G/KM)	HC (G/KM)
EURO 4	1.0	0.08	0.10

Rajah 3.35: Standard Pelepasan Pencemar bagi Kenderaan Berenjin Petrol Baharu
Figure 3.35: New Petrol Engine Vehicle Emission Standard

Standard Pelepasan Pencemar bagi Kenderaan Berenjin Petrol Baharu

Malaysia menerusi Jabatan Alam Sekitar (JAS) dari semasa ke semasa telah melaksanakan peningkatan standard pelepasan gas pencemar bagi kenderaan berenjin petrol dengan keterlibatan pemegang taruh yang terdiri dari pengeluar kenderaan dan agensi teknikal berkaitan. Pelaksanaan peningkatan standard pelepasan enjin petrol ini mengambil kira ketersediaan fasiliti pihak pengeluar kenderaan yang terdiri dari pengeluar tempatan dan juga luar negara. Sesi libat urus bersama pemegang taruh dijalankan secara berkala bagi mendapatkan persetujuan bersama dan membantu pihak JAS dalam menetapkan standard terkini yang akan dilaksanakan di Malaysia.

Pelaksanaan semasa standard pelepasan gas pencemar bagi kenderaan berenjin petrol di Malaysia adalah pada peringkat Euro 4 bermula 1 Julai 2020.

Permohonan VTA Kenderaan Berenjin Petrol Baharu

Pada tahun 2025, sebanyak 54 permohonan VTA bagi model baharu kenderaan berenjin petrol telah dikemukakan ke JAS untuk kelulusan dan kesemua permohonan telah disemak dan diperakukan dengan Sijil Kelulusan Pelepasan Gas. Daripada jumlah 54 permohonan tersebut, sebanyak 37 permohonan melibatkan standard pelepasan Euro 4, 8 permohonan dengan standard pelepasan Euro 5 dan 9 permohonan dengan standard pelepasan Euro 6.

New Petrol Engine Vehicle Emission Standard

Malaysia, through the Department of Environment (DOE), has periodically implemented stricter emission standards for petrol-engine vehicles with the involvement of stakeholders, which include vehicle manufacturers and relevant technical agencies. The implementation of the enhanced petrol engine emission standards considers the availability of facilities from vehicle manufacturers, both local and foreign. Stakeholder engagement sessions are conducted periodically to reach a mutual agreement and assist DOE in setting the latest standards to be implemented in Malaysia.

The current implementation of the pollutant gas emission standards for petrol engine vehicles in Malaysia is at Euro 4 level starting from 1 July 1 2020.

New Petrol Engine Vehicle VTA Applications

In 2025, a total of 54 VTA applications for new models of petrol engine vehicles were submitted to the DOE for approval and all applications were reviewed and certified with a Gas Emission Approval Certificate. Of the total 54 applications, 37 applications with Euro 4, 8 applications with Euro 5 emission standards, and 9 applications involved petrol engines with Euro 6 emission standards.

EURO 4
KENDERAAN BERENJIN DIESEL MODEL BAHARU
1 OKTOBER 2020



PARAMETER	CO (G/KM)	NO (G/KM)	HC (G/KM)	PM (G/KM)
EURO 4	1.5	3.5	0.46	0.02

Rajah 3.36: Standard Pelepasan Pencemar bagi Kenderaan Berenjin Diesel Baharu
Figure 3.34: New Diesel Engine Vehicle Emission Standard

Standard Pelepasan Pencemar bagi Kenderaan Berenjin Diesel Baharu

Seperti mana pelaksanaan standard pelepasan gas pencemar bagi kenderaan berenjin petrol, peningkatan standard pelepasan gas pencemar bagi kenderaan berenjin diesel juga dilaksanakan dari semasa ke semasa dengan keterlibatan pemegang taruh yang terdiri dari pengeluar kenderaan dan agensi teknikal berkaitan. Pelaksanaan peningkatan standard pelepasan enjin diesel ini juga mengambil kira ketersediaan fasiliti pihak pengeluar kenderaan. Sesi libat urus bersama pemegang taruh turut dijalankan secara berkala bagi mendapatkan persetujuan bersama dan membantu pihak JAS dalam menetapkan standard terkini yang akan dilaksanakan di Malaysia.

Pelaksanaan semasa bagi standard pelepasan gas pencemar kenderaan berenjin diesel di Malaysia adalah pada peringkat Euro 4 bermula 1 Oktober 2022.

Permohonan VTA Kenderaan Berenjin Diesel Baharu

Pada tahun 2025, sebanyak 37 permohonan VTA bagi model baharu kenderaan berenjin diesel telah dikemukakan ke JAS untuk kelulusan dan kesemua permohonan telah disemak dan diperakukan dengan Sijil Kelulusan Pelepasan Gas. Daripada jumlah 37 permohonan tersebut, sebanyak 3 permohonan adalah melibatkan enjin diesel dengan standard pelepasan Euro 4 dan 34 permohonan melibatkan enjin diesel dengan standard pelepasan Euro 5.

New Diesel Engine Vehicle Emission Standard

Just like the implementation of emission standards for petrol engine vehicles, the enhancement of emission standards for diesel engine vehicles is also carried out from time to time with the involvement of stakeholders, which include vehicle manufacturers and relevant technical agencies. The implementation of the increased diesel engine emission standards also considers the availability of manufacturer facilities. Engagement sessions with stakeholders are also conducted periodically to obtain mutual agreement and assist DOE in setting the latest standards to be implemented in Malaysia.

The current implementation of diesel vehicle pollutant emission standards in Malaysia is at Euro 4 starting from 1 October 2022.

New Diesel Engine Vehicle VTA Applications

In 2025, a total of 37 VTA applications for new models of diesel engine vehicles were submitted to the DOE for approval and all applications were reviewed and certified with a Gas Emission Approval Certificate. Of the total 37 applications, 3 applications involved diesel engines with Euro 4 emission standards, and 34 applications involved diesel engines with Euro 5 emission standards.

EURO 4
MOTOSIKAL
MODEL BAHARU
1 OKTOBER 2020



PARAMETER	CO (G/KM)	NO (G/KM)	HC (G/KM)
EURO 4	1.14	0.09	0.17

Rajah 3.37: Standard Pelepasan Pencemar bagi Motosikal Baharu
Figure 3.37: New Motorcycle Emission Standard

Standard Pelepasan Pencemar Bagi Motosikal Baharu

Peningkatan standard pelepasan gas pencemar bagi motosikal juga dilaksanakan dari semasa ke semasa dengan keterlibatan pemegang taruh yang terdiri dari pengeluar motosikal dan agensi teknikal berkaitan. Pelaksanaan peningkatan standard pelepasan motosikal ini juga mengambil kira ketersediaan fasiliti pihak pengeluar motosikal yang terdiri daripada pengeluar tempatan dan luar negara. Sesi libat urus bersama pemegang taruh turut dijalankan secara berkala bagi mendapatkan persetujuan bersama dan membantu pihak JAS dalam menetapkan standard terkini yang akan dilaksanakan di Malaysia.

Pelaksanaan semasa standard pelepasan gas pencemar bagi motosikal adalah pada peringkat Euro 4 bermula dari 1 Januari 2020.

Permohonan VTA Motosikal Baharu

Pada tahun 2025, sebanyak 160 permohonan VTA bagi model baharu motosikal telah dikemukakan ke JAS untuk kelulusan dan kesemua permohonan telah disemak dan diperakukan dengan Sijil Kelulusan Pelepasan Gas Motosikal. Daripada jumlah 160 permohonan tersebut, sebanyak 73 permohonan adalah melibatkan motosikal dengan standard pelepasan Euro 4 dan 87 permohonan melibatkan motosikal dengan standard pelepasan Euro 5.

KAWALAN PELEPASAN PENCEMAR KENDERAAN DALAM PENGGUNAAN

Kawalan Pelepasan Asap Hitam dari Kenderaan Diesel

Kawalan pelepasan asap hitam berlebihan dari ekzos kenderaan diesel dipantau melalui operasi statik secara

New Motorcycles Emission Standard

The standard enhancement for motorcycle pollutant gas emissions is also implemented from time to time with the involvement of stakeholders, which include motorcycle manufacturers and relevant technical agencies. The implementation of the enhanced motorcycle emission standards also considers the availability of facilities from motorcycle manufacturers, both local and foreign. Engagement sessions with stakeholders are also conducted periodically to obtain mutual agreement and assist the JAS in setting the latest standards to be implemented in Malaysia.

The current implementation of the pollutant emission standard for motorcycles is at Euro 4 level starting from 1 January 2020.

New Motorcycles VTA Applications

In 2025, a total of 160 VTA applications for new models of motorcycles were submitted to the DOE for approval and all applications were reviewed and certified with a Motorcycle Gas Emission Approval Certificate. Of the total 160 applications, 73 applications involved motorcycles engines with Euro 4 emission standards, and 87 applications involved motorcycles engines with Euro 5 emission standards.

IN-USE VEHICLES POLLUTANTS EMISSION CONTROL

Control Of Black Smoke Emission from Diesel Vehicles

The control of black smoke emission from diesel vehicle exhausts is monitored through curbside operation with

bersepadu dengan agensi penguatkuasa lain (JPJ & Trafik Polis - PDRM) dan operasi pemerhatian melalui video kamera.

Tindakan kompaun akan diambil kepada pemandu dan tuan punya kenderaan yang didapati gagal mematuhi had pelepasan asap 50% kelegapan. Kompaun serta perintah larangan (larangan mengunakan kenderaan) akan dikeluarkan sekiranya kenderaan didapati melepaskan asap melebihi 70% kelegapan.

Pada tahun 2025, sebanyak 6,310 pemeriksaan penguatkuasaan telah dilaksanakan di seluruh negara. Sejumlah 378,736 buah kenderaan diesel telah diperiksa dan sebanyak 648 buah kenderaan telah dikompaun kerana gagal mematuhi had pelepasan asap hitam sebanyak 50% kelegapan. Manakala 101 kenderaan telah dikenakan perintah larangan beroperasi sehingga lulus ujian asap semula oleh JAS. Pada keseluruhannya, peratus pematuhan oleh kenderaan diesel adalah 97.66%. Ini mencatatkan penurunan 0.48% berbanding dengan tahun 2024.

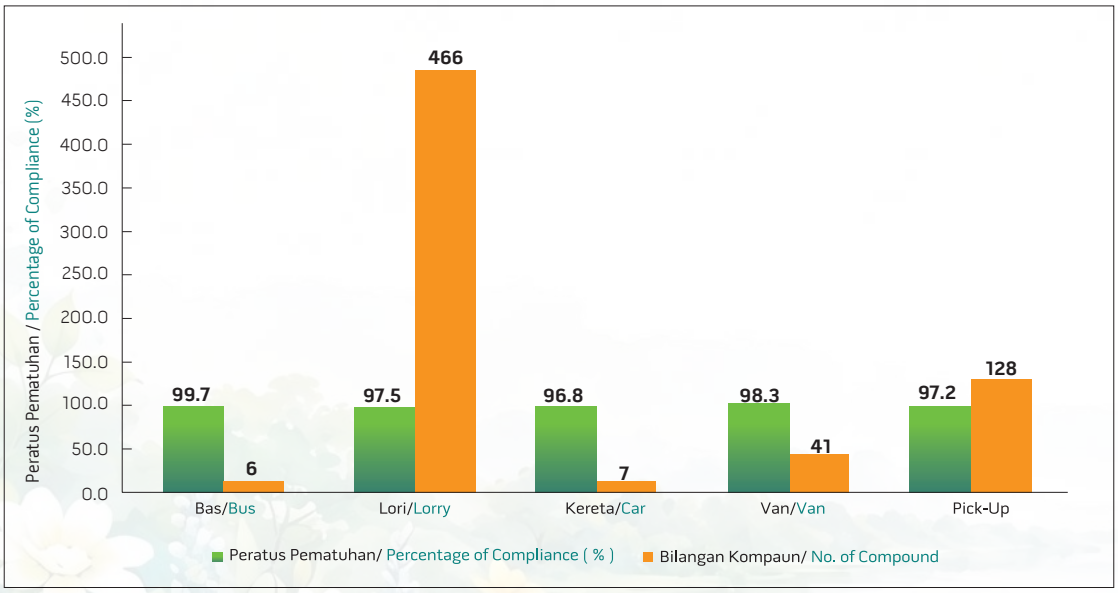
Bilangan kenderaan diesel yang dikompaun dan peratus pematuhan mengikut jenis kenderaan adalah seperti di **Rajah 3.38. Rajah 3.39** pula menunjukkan bilangan kenderaan dikompaun, pengeluaran perintah larangan serta peratus pematuhan mengikut negeri. Tindakan mahkamah juga telah diambil ke atas lima (5) pemandu serta pemilik kenderaan kerana gagal menjelaskan kompaun yang telah dikenakan. Sejumlah 1030 kenderaan diesel juga telah diarahkan untuk menjalankan ujian semula di PUSPAKOM.

other enforcement agencies (RTD & Royal Malaysia Police Traffic) and camera video surveillance.

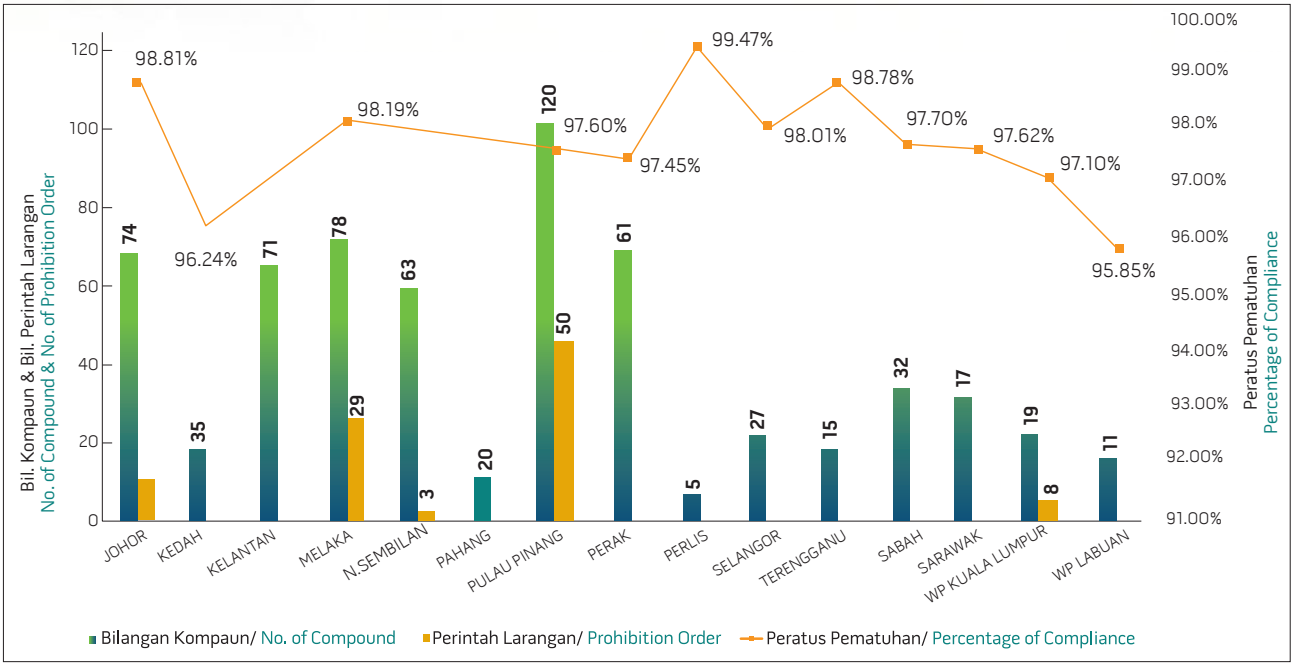
Compounds were issued to drivers and vehicle owners who failed to comply with the stipulated smoke limit of 50% opacity. Compounds and prohibition orders (prohibiting vehicle use) would be issued if smoke emitted by the vehicles exceeded 70% opacity.

In 2024, 6,310 enforcement inspections were conducted throughout the country. A total of 378,736 diesel vehicles were visually inspected. Out of these, 648 were compounded for failing to comply with the 50% opacity smoke limit, while 101 vehicles were issued with prohibition order. These vehicles will need to be sent for service and smoke retest by DOE. The percentage of compliance of diesel vehicles to the standard stipulated in the regulations was 97.66%. This is a decrease of 0.48% compared to 2024.

The number of compounds issued to diesel vehicles and their percentage of compliance according to vehicle type are shown in **Figure 3.38**. **Figure 3.39** shows the number of vehicles compounded, number of prohibition orders issued, and the percentage of compliance according to states. Court actions were also taken against five (5) drivers and vehicle owners for failing to pay the compound issued. A total of 1,030 diesel vehicles were also instructed to undergo retest at PUSPAKOM.



Rajah 3.38: Bilangan Kenderaan Diesel yang Dikompaun dan Peratus Pematuhan mengikut Jenis Kenderaan, 2025
Figure 3.38: The Number of Compounds Issued to Diesel Vehicles and Percentage of Compliance According to Vehicle Type, 2025



Rajah 3.39: Bilangan kenderaan Diesel Dikompaun, Perintah Larangan yang dikeluarkan & Peratus Pematuhan mengikut Negeri, 2024

Figure 3.39: Number of Diesel Vehicles Compounded, Number of Prohibition Orders Issued & Percentage of Compliance by States, 2024

OPERASI KAWALAN PELEPASAN ASAP HITAM DARI KENDERAAN DIESEL YANG TELAH DIJALANKAN DI SELURUH NEGARA PADA TAHUN 2025

BLACK SMOKE EMISSIONS CONTROL FROM DIESEL VEHICLES OPERATIONS CONDUCTED THROUGHOUT THE NATION IN 2025



Kawalan Pelepasan Gas CO dan HC daripada Kenderaan Petrol

Sepanjang tahun 2025, sejumlah 1631 buah kenderaan berenjin petrol telah diuji pelepasan CO dan HC dengan menggunakan meter gas CO-HC Analyzer melalui kaedah ujian melahu (idling) di jalan raya. Dari jumlah ini, sebanyak 28 buah kenderaan telah dikompaun kerana gagal mematuhi had pelepasan yang ditetapkan. Peratus pematuhan keseluruhannya adalah 98.28% iaitu peningkatan sebanyak 1.59% berbanding dengan tahun 2024. Surat amaran juga telah dikeluarkan kepada pemandu-pemandu kenderaan yang gagal mematuhi had-had pelepasan CO dan HC supaya segera menyelenggara kenderaan bagi memastikan kenderaan sentiasa mematuhi had pelepasan yang ditetapkan oleh undang-undang.

Control of CO and HC Gas Emissions from Petrol Vehicles

Throughout the year of 2025, a total of 1631 petrol engine vehicles were inspected at the roadside for CO and HC emissions using the CO-HC Analyzer Gas Meter with idling test method. 28 vehicles were compounded for failing to comply with the CO and HC standards stipulated under the regulations. The overall percentage of compliance was 98.28%, which is a increase of 2.59% as compared to 2023. Warning letters were issued to drivers instructing them to send their vehicles for immediate servicing so that the vehicles will not continue to emit gaseous above the standards stipulated by the law.

Kawalan Pelepasan Bunyi Bising Motosikal

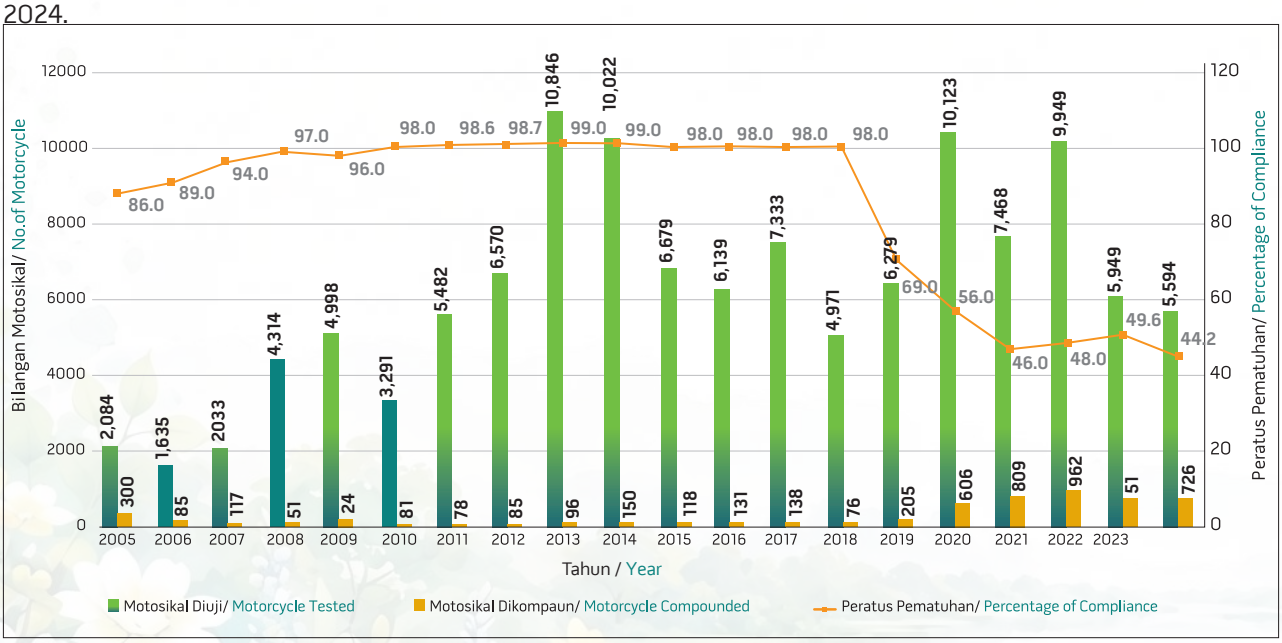
Pelepasan bunyi bising daripada kenderaan bermotor dikawal di bawah Peraturan-peraturan Kualiti Alam Sekeliling (Bunyi Bising Kenderaan Motor) 1987.

Operasi penguatkuasaan bagi mengawal pelepasan bunyi bising daripada motosikal telah dilaksanakan oleh pejabat-pejabat JAS Negeri dengan kerjasama Trafik Polis, Polis Diraja Malaysia (PDRM). Pada 2025, sejumlah 5,594 buah motosikal telah ditahan bagi menjalani ujian pelepasan bunyi bising. Daripada jumlah ini, 726 penunggang motosikal telah dikompaun kerana melanggar had bunyi bising yang dibenarkan. Peratus pematuhan secara keseluruhannya ialah 44.15% (**Rajah 3.40**). Ini adalah penurunan sebanyak 5.48% berbanding dengan 2024.

Control of Noise Emissions From Motorcycles

The emission of noise from motor vehicles is enforced under the Environmental Quality (Motor Vehicle Noise) Regulations 1987.

Enforcement operations to control noise from motorcycles were conducted by DOE State with cooperation from Traffic Branch, Royal Malaysia Police (PDRM). In 2025, a total of 5,594 motorcycles were inspected for noise emission level. Out of this, 726 motorcyclists were compounded for emitting noise above the stipulated standards. The overall percentage of compliance is 44.15% (**Figure 3.40**) a decrease of 5.48% compared to 2024.



Rajah 3.40: Peratus Pematuhan Bilangan Motosikal Diuji Tahap Bunyi Bising dan Bilangan Kompaun bagi Tempoh 2006 sehingga 2025

Figure 3.40: Percentage of Compliance of Motorcycles Tested for Noise Emission and Compounds Issued from Year 2006 to 2025

OPERASI KAWALAN PELEPASAN GAS COHC DARI KENDERAAN PETROL & KAWALAN PELEPASAN BUNYI BISING MOTOSIKAL YANG TELAH DIJALANKAN DI SELURUH NEGARA PADA TAHUN 2025

COHC GASEOUS EMISSIONS CONTROL FROM PETROL VEHICLES & NOISE EMISSIONS FROM MOTOCYCLES OPERATIONS CONDUCTED THROUGHOUT THE NATION IN 2025



Kemudahan Yang Diluluskan (KYDL)

JAS telah memberi pengiktirafan kepada bengkel-bengkel kenderaan yang memenuhi kriteria-kriteria yang telah ditetapkan bagi memudahkan orang awam menghantar kenderaan mereka untuk menjalani ujian pelepasan asap dan gas. Kemudahan ini boleh bertindak sebagai pengujian segera di mana kenderaan yang tidak patuh diperbaiki di pusat-pusat yang dilesenkan ini supaya dapat memastikan kenderaan sentiasa mematuhi had pelepasan asap. Sehingga akhir tahun 2025, sejumlah 55 sijil pengiktirafan telah dikeluarkan kepada bengkel serta pusat-pusat pemeriksaan kenderaan di seluruh negara sebagai KYDL oleh JAS.

PUSPAKOM merupakan pusat pengujian pelepasan kenderaan yang bertauliah dan mempunyai pensijilan KYDL. Sepanjang Tahun 2025, 9 lawatan

Approved Testing Facilities (KYDL)

DOE has given accreditation to workshops which fulfilled criteria as "Approved Testing Facilities" to assist public in sending their vehicles for emission testing. These facilities also provide testing and repair services for the non-complying vehicles, to ensure that they are always in compliance with the emission limits stipulated in the regulations. By the end of 2025, a total of 55 certificates of accreditation were issued to the workshops and vehicle testing centers throughout the country as "Approved Testing Facilities" by DOE.

PUSPAKOM is a certified vehicle emissions testing center and holds KYDL certification. Throughout 2025, audit visit to PUSPAKOM was conducted by the

audit PUSPAKOM telah dilaksanakan di cawangan PUSPAKOM Mak Mandin, Batu Maung, Gopeng, Teluk Intan, Banting, Seremban, Temerloh, Seremban dan cawangan bergerak.

Department of Environment (DOE) at 9 PUSPAKOM branches in Mak Mandin, Batu Maung, Gopeng, Teluk Intan, Banting, Seremban, Temerloh, Seremban, and mobile unit.



Lawatan Audit PUSPAKOM yang telah Dijalankan pada Tahun 2025
PUSPAKOM Audit Visit Conducted in 2025

Pelaksanaan Operasi Gerak (Ops Gerak)

Pada tahun 2025, Jabatan telah melaksanakan Ops Gerak di seluruh negara bagi meningkatkan lagi pemeriksaan ke atas pelepasan daripada kenderaan bermotor. Sebanyak 447 operasi telah dilakukan ke atas 24,027 kenderaan. Susulan penguatkuasaan Ops Gerak tersebut, 1,306 tindakan tawaran kompaun dan 86 tindakan perintah larangan telah dikeluarkan.

Ops Gerak meliputi Operasi Statik dan Operasi AWASI. Operasi Statik dijalankan secara bersepadu oleh pegawai JAS bersama-sama pihak agensi penguatkuasa lain seperti Jabatan Pengangkutan Jalan (JPJ), Polis Diraja Malaysia (PDRM), Agensi Antidadah Kebangsaan (AADK) dan sebagainya. Operasi AWASI (Area Watch and Sanction Inspection) ialah operasi di mana pasukan JAS menjalankan rondaan dan pemantauan bagi kenderaan-kenderaan yang melepaskan asap hitam atau gas berlebihan. Kenderaan yang dikenal pasti ditahan dan diuji pelepasan daripada ekzos.

Enforcement Through 'Operasi Gerak' (Ops Gerak)

In the year 2025, DOE has carried out Ops Gerak to enhance its enforcement strategies and actions against incompliant emissions from motor vehicles. A total of 447 operations were conducted involving 24,027 motor vehicles. Following the enforcement of Ops Gerak, 1,306 compounds and 86 prohibition orders were issued.

Ops Gerak consists of Static Operations and AWASI Operations. Static Operations are carried out in collaboration with other agencies such as the Road Transport Department (JPJ), the Royal Malaysia Police (PDRM), the National Anti-Drugs Agency (AADK), and others. AWASI Operations (Area Watch and Sanction Inspection) involve JAS patrol and monitoring towards vehicles that emit excessive black smoke or gases. Identified vehicles are stopped and tested for exhaust emissions.



Operasi Gerak yang telah Dijalankan pada Tahun 2025
Operasi Gerak Conducted in 2025

Ops Gerak Bersepadu Peringkat Kebangsaan

Pada 4 Disember 2025, Operasi Gerak Bersepadu Kenderaan Bermotor Peringkat Kebangsaan Sempena Sambutan Hari Ozon Sedunia 2025 telah dilancarkan secara serentak oleh Jabatan Alam Sekitar (JAS) di seluruh negara. Majlis perasmian Ops Gerak ini telah dirasmikan oleh Yang Berbahagia Dato' Wan Abdul Latiff bin Wan Jaffar, Ketua Pengarah JAS di Kuching, Sarawak.

Ops Gerak Peringkat Kebangsaan ini telah diadakan dari 4 - 16 Disember 2025 dan telah dilaksanakan oleh semua JAS Negeri dengan kerjasama agensi-agensi berkaitan. Majlis Penutup Ops Gerak telah disempurnakan oleh Yang Berusaha Dr. Norhazni binti Mat Sari, Timbalan Ketua Pengarah (Operasi) JAS di Hentian Rehat dan Rawat (R&R) Mambau, Lebuhraya Seremban-Port Dickson, Negeri Sembilan.

Sepanjang Ops Gerak, sebanyak 9269 buah kenderaan telah diperiksa di mana sebanyak 208 tawaran kompaun telah dikeluarkan atas kesalahan pelepasan bahan pencemar melebihi standard. Ops Gerak Kebangsaan ini melibatkan kerjasama empat agensi penguatkuasa iaitu Jabatan Alam Sekitar, Polis Diraja Malaysia (PDRM), Jabatan Pengangkutan Jalan (JPJ) dan Agensi Anti Dadah Kebangsaan (AADK).

National Integrated Enforcement Operation

On 4 December 2025, the National Integrated Motor Vehicle Enforcement Operation in conjunction with the World Ozone Day 2025 Celebration was held simultaneously by the Department of Environment (DOE) nationwide. The opening ceremony of Ops Gerak was officiated by Yang Berbahagia Dato' Wan Abdul Latiff bin Wan Jaffar, Director General of DOE, at Kuching, Sarawak.

The National Integrated Motor Vehicle Enforcement Operation was held from 4 - 16 December 2025 and was carried out by all DOE State in collaboration with related agencies. The closing ceremony was officiated by Dr. Norhazni binti Mat Sari, Deputy Director General (Operation) of DOE at the Hentian Rehat dan Rawat (R&R) Mambau, Lebuhraya Seremban-Port Dickson, Negeri Sembilan.

During the Ops Gerak, a total of 9269 vehicles were inspected with a total of 208 compound offers issued for the offence of emitting pollutants exceeding the standard. The National Mobility Ops involves the cooperation of four enforcement agencies, namely the Department of Environment (DOE), Royal Malaysian Police (PDRM), Road Transport Department (JPJ), and


MAJLIS PELANCARAN
MINGGU
OPERASI GERAK KENDERAAN MOTOR
PERINGKAT KEBANGSAAN



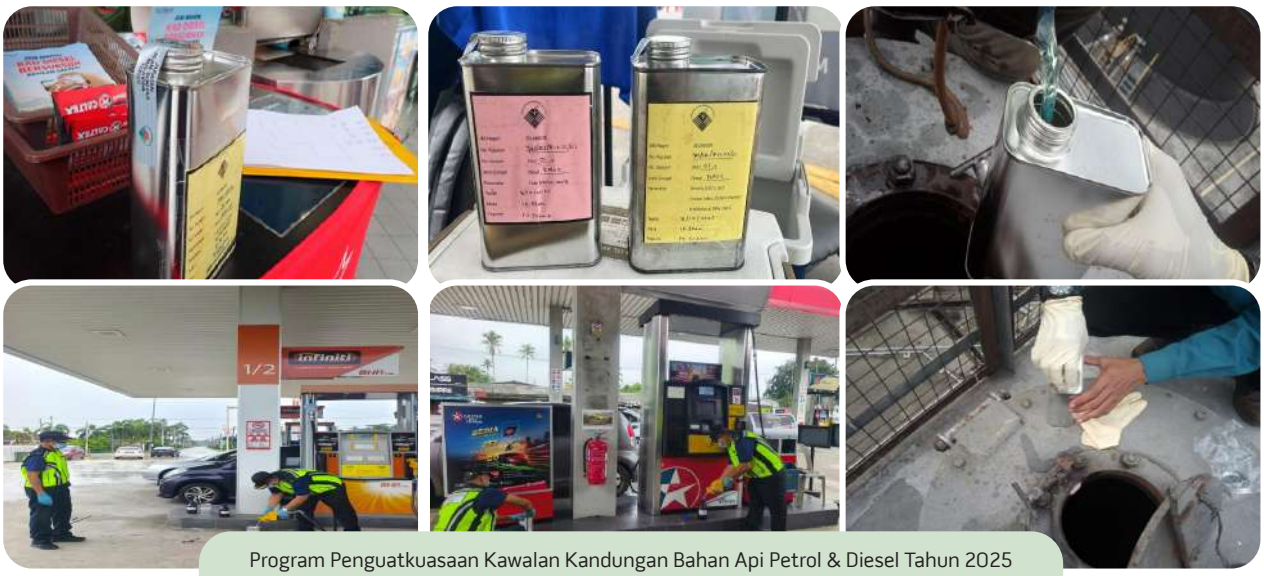
Operasi Gerak Bersepadu Peringkat Kebangsaan Tahun 2025
National Integrated Enforcement Operation 2025

PROGRAM PENGUATKUASAAN KAWALAN KANDUNGAN BAHAN API PETROL DAN DIESEL

Jabatan Alam Sekitar juga menjalankan penguatkuasaan ke atas kandungan bahan api petrol dan diesel mengikut kehendak Peraturan-Peraturan Kualiti Alam Sekeliling (Kawalan Kandungan Petrol dan Diesel) 2007. Penguatkuasaan ini dijalankan di terminal minyak, depoh simpanan dan stesen-stesen minyak.

CONTROL OF PETROL AND DIESEL FUEL PROPERTIES ENFORCEMENT PROGRAMME

Department of Environment also enforces regulation on the properties of petrol dan diesel fuel in accordance with the Environmental Quality (Control of Petrol and Diesel Properties) Regulations 2007. This enforcement is carried out at oil terminals, storage depots, and petrol stations.



Program Penguatkuasaan Kawalan Kandungan Bahan Api Petrol & Diesel Tahun 2025
Control of Petrol & Diesel Fuel Properties Enforcement Programme 2025

Mesyuarat Penyelarasan Penguatkuasaan Kawalan Pelepasan Kenderaan Bermotor 2025

Mesyuarat Penyelarasan Penguatkuasaan Kawalan Pelepasan Kenderaan Bermotor 2025 telah diadakan pada 3 - 6 Jun 2025 di Manjung, Perak Darul Ridzuan. Mesyuarat telah dipengerusikan secara bersama oleh Yang Berusaha Puan Nor Aziah binti Jaafar, Pengarah Bahagian Udara dan Yang Berusaha Tuan Haji Rosli bin Zul, Pengarah Bahagian Penguatkuasa. Mesyuarat telah membincangkan isu-isu penguatkuasaan pelepasan dari kenderaan bermotor serta hala tuju penguatkuasaan di Malaysia. Demontrasi peralatan pengukuran gas Karbon Monoksida dan Hidrokarbon untuk kenderaan berenjin petrol juga telah dijalankan. Mesyuarat dihadiri oleh pasukan Unit Kenderaan Bermotor dari semua JAS Negeri dan Bahagian-Bahagian terlibat.

The Coordination Meeting on the Enforcement of Motor Vehicle Emission Control

The Coordination Meeting 2025 on the Enforcement of Motor Vehicle Emission Control was held from 3 - 6 June 2025 at Manjung, Perak Darul Ridzuan. The meeting was co-chaired by Yang Berusaha Puan Nor Aziah binti Jaafar, Director of Air Division and Yang Berusaha Tuan Haji Rosli bin Zul, Director of Enforcement Division. The meeting discussed issues related to the enforcement of emissions from motor vehicles as well as the future direction of enforcement efforts in Malaysia. A demonstration of Carbon Monoxide and Hydrocarbon gas measurement equipment for petrol-powered vehicles was also conducted. The meeting was attended by the Motor Vehicle Unit teams from all State Departments of Environment (DOE) and the relevant Divisions.









Mesyuarat Penyelarasan Penguatkuasaan Kawalan Pelepasan Kenderaan Bermotor 2025
Coordination Meeting on the Enforcement of Motor Vehicle Emission Control 2025

LIBAT URUS BERSAMA PEMEGANG TARUH INDUSTRI KENDERAAN MOTOR

Libat Urus bersama Persatuan Automotif Malaysia (Malaysia Automotive Association, MAA)

Libat urus telah diadakan pada 15 Oktober 2025 di Ibu Pejabat JAS Putrajaya. Tujuan diadakan sesi libat urus adalah bagi membincangkan perkara-perkara yang berkaitan dengan pelaksanaan standard pelepasan kenderaan bermotor baharu yang sedang dan yang akan dilaksanakan. Sesi libat urus ini telah dipengerusikan oleh Pengarah Bahagian Udara dan telah dihadiri oleh pegawai-pegawai dari Seksyen Kenderaan Bermotor Bahagian Udara, JAS Ibu Pejabat serta ahli-ahli persatuan MAA yang terdiri dari syarikat-syarikat pengeluar dan pengimport kenderaan bermotor yang utama di Malaysia. Turut hadir ke sesi libat urus tersebut adalah wakil bukan ahli MAA yang terdiri dari wakil Proton dan Perodua. Sesi libat urus antara JAS dengan pihak MAA merupakan program yang dijalankan secara berterusan dari semasa ke semasa bagi membincangkan serta mendapatkan persetujuan bersama antara JAS dan pemegang taruh (stakeholders) industri kenderaan motor terhadap pelaksanaan standard pelepasan kenderaan bermotor terkini.

ENGAGEMENT WITH MOTOR VEHICLES INDUSTRY STAKEHOLDERS

Engagement with Malaysia Automotive Association, MAA

The engagement session was held on 15 October 2025 at the DOE Headquarters in Putrajaya. The purpose of the engagement session was to discuss matters related to the implementation of new motor vehicle emission standards that are currently being implemented and will be implemented. The engagement session was chaired by Director of Air Division and was attended by officers from the Motor Vehicle Section, Air Division, DOE Headquarters as well as members of the MAA association consisting of the main motor vehicle manufacturing and importing companies in Malaysia. Also present at the engagement session were non-MAA members representatives from Proton and Perodua. The engagement session between DOE and MAA is a programme that is carried out continuously from time to time to discuss and obtain mutual agreement between DOE and stakeholders in the motor vehicle industry on the implementation of the latest motor vehicle emission standards.







Sesi Libat Urus bersama MAA pada 15 Oktober 2025
Engagement Session with MAA on 15 October 2025

Libat Urus Bersama Persatuan Pemasang dan Pengedar Motosikal & Skuter Malaysia (Motorcycle & Scooter Assemblers and Distributors Association of Malaysia, MASAAM)

Libat urus telah diadakan pada 21 Mac 2025 di Ibu Pejabat JAS Putrajaya. Tujuan diadakan sesi libat urus adalah bagi membincangkan perkara-perkara yang berkaitan dengan pelaksanaan standard pelepasan motosikal baharu yang sedang dan yang akan dilaksanakan. Sesi libat urus ini telah dipengerusikan oleh Pengarah Bahagian Udara dan telah dihadiri oleh pegawai-pegawai dari Seksyen Kenderaan Bermotor Bahagian Udara, JAS Ibu Pejabat serta ahli-ahli persatuan MASAAM yang terdiri dari syarikat-syarikat pengeluar dan pengimport motosikal yang utama di Malaysia. Sesi libat urus antara JAS dengan pihak MASAAM merupakan program yang dijalankan secara berterusan dari semasa ke semasa bagi membincangkan serta mendapatkan persetujuan bersama antara JAS dan pemegang taruh (stakeholders) industri motosikal terhadap pelaksanaan standard pelepasan motosikal terkini.

Engagement With Motorcycle & Scooter Assemblers and Distributors Association of Malaysia, MASAAM

The engagement session was held on 21 March 2025 at the DOE Headquarters in Putrajaya. The purpose of the engagement session was to discuss matters related to the implementation of new motorcycle emission standards that are currently being implemented and will be implemented. The engagement session was chaired by Director of Air Division and was attended by officers from the Motor Vehicle Section, Air Division, DOE Headquarters as well as members of the MASAAM association consisting of the main motorcycle manufacturing and importing companies in Malaysia. The engagement session between DOE and MASAAM is a programme that is carried out continuously from time to time to discuss and obtain mutual agreement between DOE and stakeholders in the motorcycle industry on the implementation of the latest motorcycle emission standards.



Sesi Libat Urus bersama MASAAM pada 21 Mac 2025
Engagement Session with MASAAM on 21 March 2025

PENGURUSAN LOGISTIK DAN KEUPAYAAN PENGUATKUASAAN

Aktiviti penguatkuasaan adalah tugas atau fungsi utama Jabatan Alam Sekitar (JAS) dalam mentadbir Akta 127. Di bawah Rancangan Malaysia Kedua Belas (RMKe-12), untuk tempoh lima (5) tahun bermula dari tahun 2021 hingga tahun 2025, sebanyak RM10 juta diperuntukkan untuk memperkasa pasukan-pasukan penguatkuasa dengan peralatan-peralatan terkini yang terdapat dipasaran.

Permohonan bajet yang dibuat untuk RMKe-12 adalah berdasarkan kepada pencapaian dan kekangan yang dihadapi pada RMKe-11. Bagi memastikan JAS sentiasa dalam keadaan siapsiaga untuk menjalankan tugas pada bila-bila masa, maka setiap pegawai penguatkuasa perlu dibekalkan dengan alat pelindung diri yang lengkap dan mencukupi.

Sebanyak RM1,100,000.00 juta peruntukan diluluskan bagi perolehan untuk tahun 2025. Jumlah perbelanjaan adalah sebanyak RM 1,100,000.00 (100%). Senarai peralatan yang telah dilaksanakan perolehan adalah seperti jadual di bawah.

Untuk Peruntukan Pelaksanaan Inisiatif Belanjawan, B11 sebanyak RM 3,000,000.00 telah diperuntukan dan jumlah perbelanjaan adalah sebanyak RM 2,661,056.00 (88.7%) bagi penyediaan pakaian seragam dan kelengkapan pegawai JAS. Senarai perolehan yang telah dilaksanakan adalah seperti jadual di bawah.

LOGISTICS MANAGEMENT AND ENFORCEMENT CAPABILITIES

Enforcement activities are the main duties or functions of the Department of Environment (DOE) in implementing the provisions under Act 127. Under the Twelfth Malaysia Plan (12MP), for a period of five (5) years starting from 2021 to 2025, a total of RM10 million had been allocated to empower the enforcement teams with the latest equipment available in the market.

The budget applications made for the 12MP were based on the achievements and constraints faced in the 11MP. To ensure that DOE is always in a state of readiness to carry out duties at any time, each enforcement officer must be provided with complete and adequate personal protective equipment.

An allocation of RM 1,100,000.00 was approved for procurement in the year 2025. Total expenditure amounted to RM 1,100,000.00 (100%). The list of equipment for which procurement has been completed is as shown in the table below.

For the Budget Initiative Implementation Progress (B11), an allocation of RM 3,000,000.00 was provided, with total expenditure amounting to RM 2,661,056.00 (88.7%) for the provision of uniforms and equipment for Department of Environment (DOE) officers. The list of procurement activities carried out is shown in the table below.



Jadual 3.19: Perolehan (RMK12)
Table 3.19: Procurement (RMKe-12)

BIL	PROCUREMENT (RMK12)	
1.	2 Unit Kenderaan Pacuan Empat Roda (CKD) untuk Jabatan Alam Sekitar (JAS) Zon Tengah Tahun 2025 2 Units of Four-Wheel Drive Vehicles (CKD) for the Department of Environment (DOE) Central Zone, Year 2025	 
2.	2 Unit Kenderaan Pacuan Empat Roda (CKD) untuk Jabatan Alam Sekitar (JAS) Zon Utara Tahun 2025 2 Units of Four-Wheel Drive Vehicles (CKD) for the Department of Environment (DOE) Northern Zone, Year 2025	 
3.	2 Unit Kenderaan Pacuan Empat Roda (CKD) untuk Jabatan Alam Sekitar (JAS) Zon Selatan Tahun 2025 2 Units of Four-Wheel Drive Vehicles (CKD) for the Department of Environment (DOE) Southern Zone, Year 2025	 
4.	Penyaluran ke JAS Kedah (Pembelian Kasut Keselamatan) Fund Disbursement to DOE Kedah (Purchase of Safety Shoes)	
5.	Penyaluran ke JAS Sarawak (Pembelian Stok Teknikal Fund Disbursement to DOE Sarawak (Purchase of Technical Stock)	

Jadual 3.20: Peruntukan Pelaksanaan Inisiatif Belanjawan, B11
Table 3.20: Budget Initiative Implementation Allocation, B11

BIL	PEROLEHAN (B11)
1.	Perkhidmatan Menjahit, Membungkus dan Menghantar Pakaian Seragam untuk Jabatan Alam Sekitar, Tahun 2025 Tailoring, Packaging, and Delivery Services for Department of Environment (DOE) Uniforms, Year 2025
2.	Membekal Kain untuk Pakaian Seragam, Tahun 2025 Supply of Fabric for Uniforms, Year 2025
3.	Membekal Aksesori Kelengkapan Pakaian Seragam (Kasut), Tahun 2025 Supply of Uniform Accessories and Equipment (Shoes), Year 2025
4.	Membekal Epolet dan Tanda Pangkat, Tahun 2025 Supply of Epaulettes and Rank Insignia, Year 2025
5.	Sebutharga Membekal Aksesori Pakaian (Tali Pinggang, Inner, Sarung Kad Kuasa dan Stokin), Tahun 2025 Supply of Clothing Accessories (Belts, Innerwear, Authority Card Holders, and Socks), Year 2025























Jadual 3.20: Peruntukan Pelaksanaan Inisiatif Belanjawan, B11
Table 3.20: Budget Initiative Implementation Allocation, B11

BIL	PEROLEHAN (B11)	
6.	Membekal Topi Pakaian Seragam (Bowler Head dan Peak Cap), Tahun 2025 Supply of Uniform Headwear (Bowler Hats and Peaked Caps), Year 2025	
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BAB
CHAPTER

04

MENGARUSPERDANA AMALAN INDUSTRI HIJAU

MAINSTREAMING GREEN INDUSTRY PRACTICES

PEMANTAPAN AMALAN INDUSTRI HIJAU DI KALANGAN INDUSTRI MELALUI KONSEP PENCEGAHAN PENCEMARAN

Mainstreaming Green Industry Practices Among Industries Through The Concept Of Pollution Prevention

PEMANTAPAN AMALAN INDUSTRI HIJAU DALAM KALANGAN INDUSTRI MELALUI KONSEP PENCEGAHAN PENCEMARAN

Jabatan Alam Sekitar (JAS) terus komited dalam melaksanakan Amalan Industri Hijau (AIH). Pada tahun 2025, usaha ini diteruskan dengan memperkasakan inisiatif untuk mempromosikan amalan ini dalam kalangan industri dengan menyediakan rangka kerja sokongan dan insentif yang dapat membantu peralihan kepada amalan pengeluaran bersih. Langkah ini bukan hanya untuk mengurangkan pencemaran, tetapi juga untuk meningkatkan daya saing industri melalui inovasi dan peningkatan produktiviti.

Di bawah peruntukan **Rolling Plan ke 5 (RP5), RMKe-12**, JAS telah menggariskan beberapa skop kajian yang selari dengan Pelan Strategik JAS 2020-2030. Antara projek kajian yang diberi perhatian ialah **Kajian Pembentukan Indeks Industri Hijau Kebangsaan** dan juga **Kajian Cadangan Insentif Kepada Premis Industri sebagai Galakan dalam Mengaplikasikan Amalan Industri Hijau Melalui Konsep Pengeluaran Bersih di Malaysia**. Kedua-dua kajian ini merupakan usaha strategik Jabatan dalam memperkukuh pelaksanaan Amalan Industri Hijau dalam kalangan industri di Malaysia.

Berikut merupakan program dan aktiviti yang telah dilaksanakan sepanjang tahun 2025.

Kajian Pembentukan Indeks Industri Hijau Kebangsaan

Kajian Pembentukan Indeks Industri Hijau Kebangsaan (IIHK) adalah berasaskan Matlamat Pembangunan Lestari (Sustainable Development Goals) prinsip Alam Sekitar, Sosial dan Tadbir Urus (ESG) serta yang utama adalah pematuhan terhadap Akta Kualiti Alam sekeliling 1974.

STRENGTHENING GREEN INDUSTRY PRACTICES AMONG INDUSTRY THROUGH THE CONCEPT OF POLLUTION PREVENTION

Department of Environment (DOE) remains committed to implementing **Green Industry Practices (GIP)**. In 2025, this effort continued through the strengthening of initiatives aimed at promoting these practices among industries by providing supportive frameworks and incentives to facilitate the transition towards cleaner production practices. This initiative not only aimed to reduce pollution but also to enhance industrial competitiveness through innovation and productivity improvements.

Under the **Rolling Plan 5 (RP5) of the Twelfth Malaysia Plan (12MP)**, DOE had outlined several study scopes aligned with the **DOE Strategic Plan 2020–2030**. Among the key studies undertaken are the **National Green Industry Index Development Study** and the **Study on Proposed Incentives for Industrial Premises to Encourage the Adoption of Green Industry Practices through Cleaner Production in Malaysia**. These studies represent strategic initiatives by the Department to strengthen the implementation of Green Industry Practices among industries in Malaysia.

The following are programmes and activities implemented throughout 2025.

National Green Industry Index Development Study

The National Green Industry Index (NGII) study is based on the Sustainable Development Goals (SDGs), Environmental, Social and Governance (ESG) principles, and most importantly compliance with the Environmental Quality Act 1974.

Kajian ini bertujuan membangunkan Indeks Industri Hijau Kebangsaan (IIHK) sebagai satu sistem penilaian kelestarian industri yang komprehensif dan sejajar dengan SDG, prinsip ESG, serta Akta Kualiti Alam Sekeliling 1974. IIHK dicadangkan untuk menyokong industri Malaysia menilai, memperbaiki dan melaporkan prestasi kelestarian mereka secara sistematik dan telus, berlandaskan bukti dan piawaian antarabangsa.

Struktur IIHK dicadangkan merangkumi empat fasa utama iaitu :

- Pendaftaran ke **Sistem Pengurusan dan Pemantauan Industri Hijau (SPPIH)**
- Pengumpulan dan penilaian data
- Audit pengesahan maklumat
- Pengiraan serta pemarkahan indeks

Selain itu kajian ini juga mencadangkan menyepadukan **kod warna risiko (Hijau, Kuning dan Merah)** sebagai pendekatan visual dalam pengelasan prestasi.

Analisis turut dibuat terhadap indeks antarabangsa dan telah menyumbang kepada pembangunan struktur indikator IIHK yang relevan serta merangkumi dimensi ESG. Kajian ini juga merujuk kepada Garis Panduan Pengeluaran Bersih (Cleaner Production CP) oleh JAS, serta anugerah kelestarian tempatan seperti Anugerah Industri Hijau (AIH) dan Prime Minister's Hibiscus Award (PMHA) sebagai rujukan pelaksanaan dan mekanisme pengiktirafan. Ringkasan kajian adalah seperti **Rajah 4.1**.

Bagi memastikan pelaksanaan IIHK yang berkesan, beberapa langkah strategik dicadangkan seperti :

- Menaik taraf **platform digital SPPIH** sedia ada bagi pelaporan prestasi industri
- Pelaksanaan program kesedaran dan latihan kepada industri
- Pengukuhan kerjasama strategik dengan agensi kerajaan, institusi kewangan dan pemain industri
- Pengintegrasian indikator IIHK dengan **pelaporan ESG di peringkat industri** di dalam sistem SPPIH pada masa akan datang.

This study aims to develop the National Green Industry Index (NGII) as a comprehensive industrial sustainability assessment system aligned with the SDGs, ESG principles, and the Environmental Quality Act 1974. The NGII is proposed to support Malaysian industries in assessing, improving, and reporting their sustainability performance in a systematic and transparent manner, based on evidence and international standards.

The proposed NGII structure consists of four main phases :

- Registration into the **Green Industry Management and Monitoring System (SPPIH)**
- Data collection and evaluation
- Information verification audit
- Index calculation and scoring

The study also proposes integrating a risk-based **colour coding system (Green, Yellow, and Red)** as a visual approach to classify performance levels.

The study also analysed several international indices as references contributed to the development of relevant NGII indicator structures covering ESG dimensions. The study also referred to the DOE Cleaner Production (CP) Guidelines, as well as local sustainability recognition mechanisms such as the Green Industry Award (AIH) and the Prime Minister's Hibiscus Award (PMHA) as references for implementation and recognition mechanisms. The summary of the research is shown in **Figure 4.1.**

To ensure effective implementation of the NGII, several strategic measures are proposed :

- Upgrade the existing SPPIH digital platform for industry performance reporting
- Implement awareness and training programmes for industries
- Strengthen strategic collaboration with government agencies, financial institutions, and industry players
- Integrate NGII indicators with ESG reporting at the industry level within the SPPIH system in the future.

RINGKASAN EKSEKUTIF INDEKS INDUSTRI HIJAU KEBANGSAAN

UPUM SDN. BHD. (1143617-T)

Jabatan Alam Sekitar

Pengenalan

Projek ini dilaksanakan bagi **Kajian Pembentukan Indeks Industri Hijau Kebangsaan (IIHK)** yang berasaskan *Sustainable Development Goals* (SDG), *Environmental, Social and Governance* (ESG) dan yang utamanya pematuhan terhadap Akta Kualiti Alam Sekeliling, 1974 (AKAS 1974) oleh pihak berkepentingan yang berkaitan.

Objektif

01 Mengenalpasti keperluan bagi membangunkan IIHK serta kepentingannya

02 Membangunkan IIHK

03 Mengenalpasti mekanisma pelaksanaan IIHK

04 Menjadikan IIHK sebagai petunjuk ESG bagi industri di dalam negara

Output

01 Laporan Lengkap Kerangka Kerja bagi Kajian Pembangunan Indeks IIHK

02 Indeks Industri Hijau Kebangsaan

03 Garis Panduan dan Manual Pelaksanaan Indeks IIHK

04 Kerangka Pelaporan ESG Jabatan Alam Sekitar

Metodologi

KAJIAN LITERATUR

Membandingkan **konsep, struktur, halangan** dan **kejayaan pelaksanaan** IIHK di negara-negara maju dan negara-negara membangun melalui:

- Sumber-sumber relevan yang telah berdasarkan skop dan tema yang telah dikenalpasti

ANALISA JURANG

Membangunkan IIHK melalui analisa maklumat **kejayaan dan halangan** di negara-negara maju.

HORIZON SCANNING

Menilai dan mengenal pasti **perkembangan baru, arah aliran dan halatuju, peluang, implikasi** dan **kesediaan** untuk pembentukan IIHK di Malaysia.

- Mengenalpasti jurang antara amalan industri semasa dan keadaan yang ditakrifkan oleh IIHK yang dicadangkan

SESI LIBAT URUS

Mendapat **maklumbalas** dari pihak berkepentingan dan ahli-ahli yang akan dikenalpasti bagi mendapatkan input berkaitan pelaksanaan IIHK dan penambahbaikan.

BORANG SOAL SELIDIK

Mengumpul **maklum balas** dari pihak berkepentingan utama melalui borang soal selidik yang diedarkan, untuk mendapatkan pandangan mengenai kesedaran, cabaran, dan keperluan dalam pelaksanaan IIHK.

KAJIAN RINTIS

Menilai **kebolehlaksaan dan keberkesanan** pengoperasian IIHK terutamanya dalam aspek kriteria-kriteria yang dicadangkan sebagai penentukur prestasi industri hijau industri yang dinilai

Cadangan Struktur IIHK

1. **FASA 1: PENDAFTARAN KE SISTEM SPPIH**
Syarikat mendaftar ke dalam sistem SPPIH menggunakan maklumat sedia ada dan melantik wakil untuk mengurus data amalan hijau. Pihak JAS akan menyemak pendaftaran dan mengesahkannya melalui e-mel.

2. **FASA 2: PENGUMPULAN DAN PENILAIAN DATA**
Syarikat mengumpul data berdasarkan garis panduan kelestarian dan memasukkannya ke dalam sistem IIHK mengikut elemen ESG (Alam Sekitar, Sosial, Tadbir Urus). Data ini dipecahkan kepada indikator dan sub-indikator untuk penilaian menyeluruh.

3. **FASA 3: AUDIT PENGESAHAN MAKLUMAT**
Audit dijalankan di premis syarikat untuk mengesahkan data yang telah disahkan. Markah keseluruhan memberi gambaran tahap kelestarian syarikat dan panduan bagi penambahbaikan melalui scorecard yang disediakan.

4. **FASA 4: PENGIRAAN DAN PERMARKAHAN**
Sistem IIHK mengira skor untuk setiap indikator utama berdasarkan data yang telah disahkan. Markah keseluruhan memberi gambaran tahap kelestarian syarikat dan panduan bagi penambahbaikan melalui scorecard yang disediakan.

Indikator & Pemberat

Indikator	Sub-indikator	Pemberat bagi Sub-indikator	Pemberat bagi Indikator
Alam Sekitar	Penggunaan Air yang Efisien	14	40
	Emisi Karbon	30	
	Penggunaan Tenaga yang Efisien	14	
	Pengurusan Sisa	14	
	Penggunaan Bahan Api	14	
	Penjanaan Air Sisa	14	
Sosial	Pengurusan Tenaga Kerja	25	30
	Kesihatan dan Keselamatan	25	
	Diversity, equity, and inclusion (DEI)	25	
	Corporate Social Responsibility	25	
Tadbir Urus	Tadbir Urus Korporat	20	30
	Etika Perniagaan	20	
	Pematuhan kepada Etika Alam Sekitar	20	
	Isu *Housekeeping* and Organisasi	20	
	Keselamatan dan Privasi Data	20	
		JUMLAH	100

Indikator & Pemberat

Setiap sub-indikator dinilai menggunakan skala standard dari **0** hingga **5**

Weighted score akan dikira melalui formula berikut:

$$Skor\ Dicapai \times Pemberat$$

Markah akhir akan dikira menggunakan formula berikut:

$$(E \times 0.4) + (S \times 0.3) + (G \times 0.3)$$



Dokumen Lampiran

Garis Panduan IIHK

Gambaran umum pembentukan dan pelaksanaan IIHK kepada semua pihak berkepentingan

Manual Penggunaan IIHK

Panduan terperinci kepada pemain industri dan pegawai JAS, serta proses kerja semakan dan interaksi

Kerangka Perlaporan ESG JAS

Pandangan awal untuk persetujuan/komen bagi penyediaan Laporan ESG JAS.

Rajah 4.1 : Ringkasan Eksekutif Kajian Indeks Industri Hijau Kebangsaan

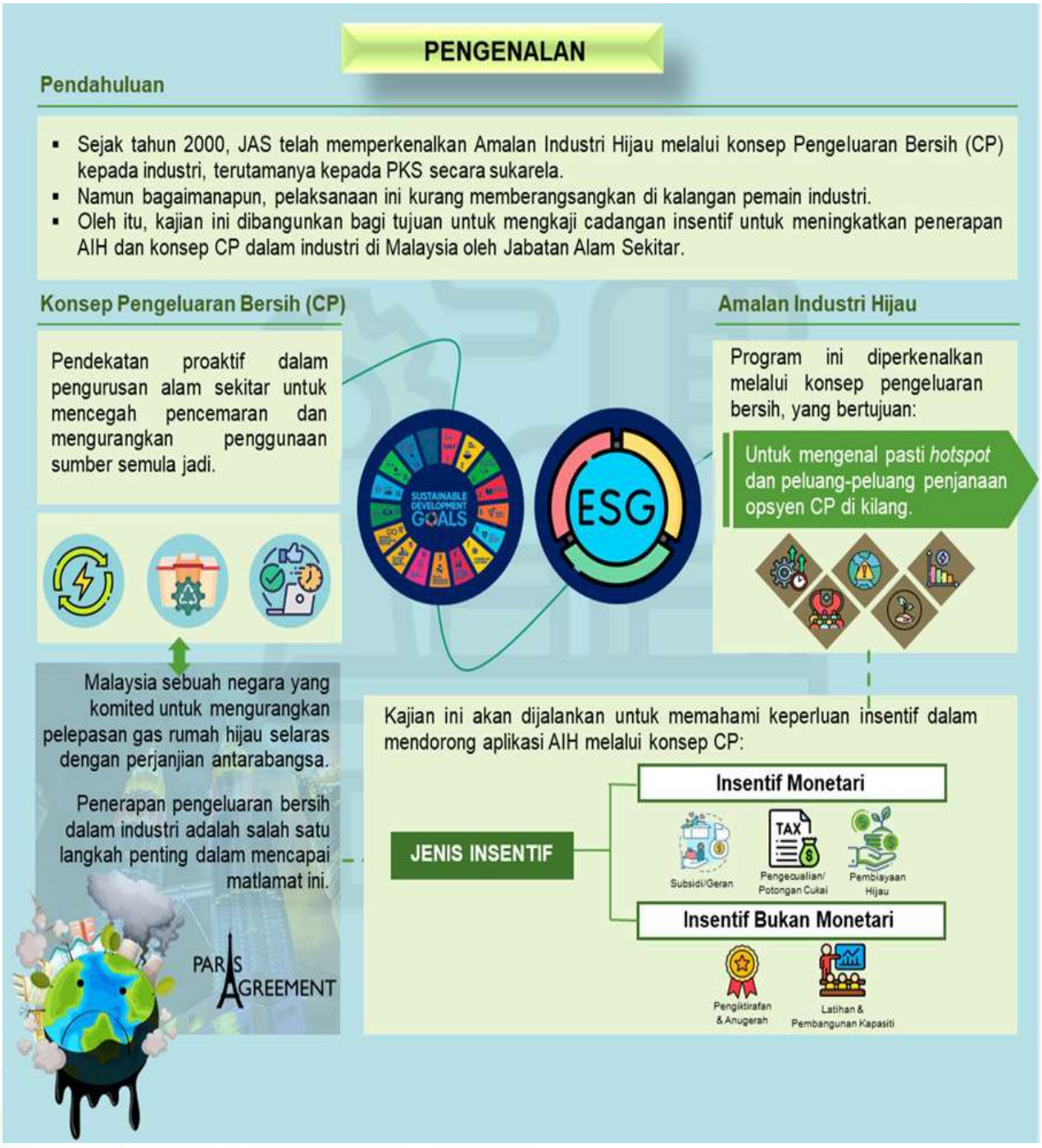
Figure 4.1 : Executive Summary of Kajian Indeks Industri Hijau Kebangsaan

Kajian Cadangan Insentif Kepada Premis Industri sebagai Galakan dalam mengaplikasikan Amalan Industri Hijau Melalui Konsep Pengeluaran Bersih di Malaysia

Kajian ini dilaksanakan bagi membentuk cadangan insentif dari aspek perundangan berdasarkan Akta Kualiti Alam Sekeliling 1974, termasuk cadangan pindaan atau pelengkapannya jika perlu, bagi memperkukuh pelaksanaan AIH secara menyeluruh. Kajian ini juga bertujuan untuk mengkaji jenis insentif sedia ada yang ditawarkan oleh agensi atau organisasi lain di dalam dan luar negara. Di samping itu, kajian ini bertujuan untuk membangunkan kepakaran pegawai JAS melalui aspek latihan dalam mengguna pakai Pelan Tindakan Insentif AIH dan akan membangunkan Pelan Tindakan Insentif AIH bagi industri yang mengaplikasikan konsep Pengeluaran Bersih. Ringkasan kajian adalah seperti **Rajah 4.2** dan **Rajah 4.3**.

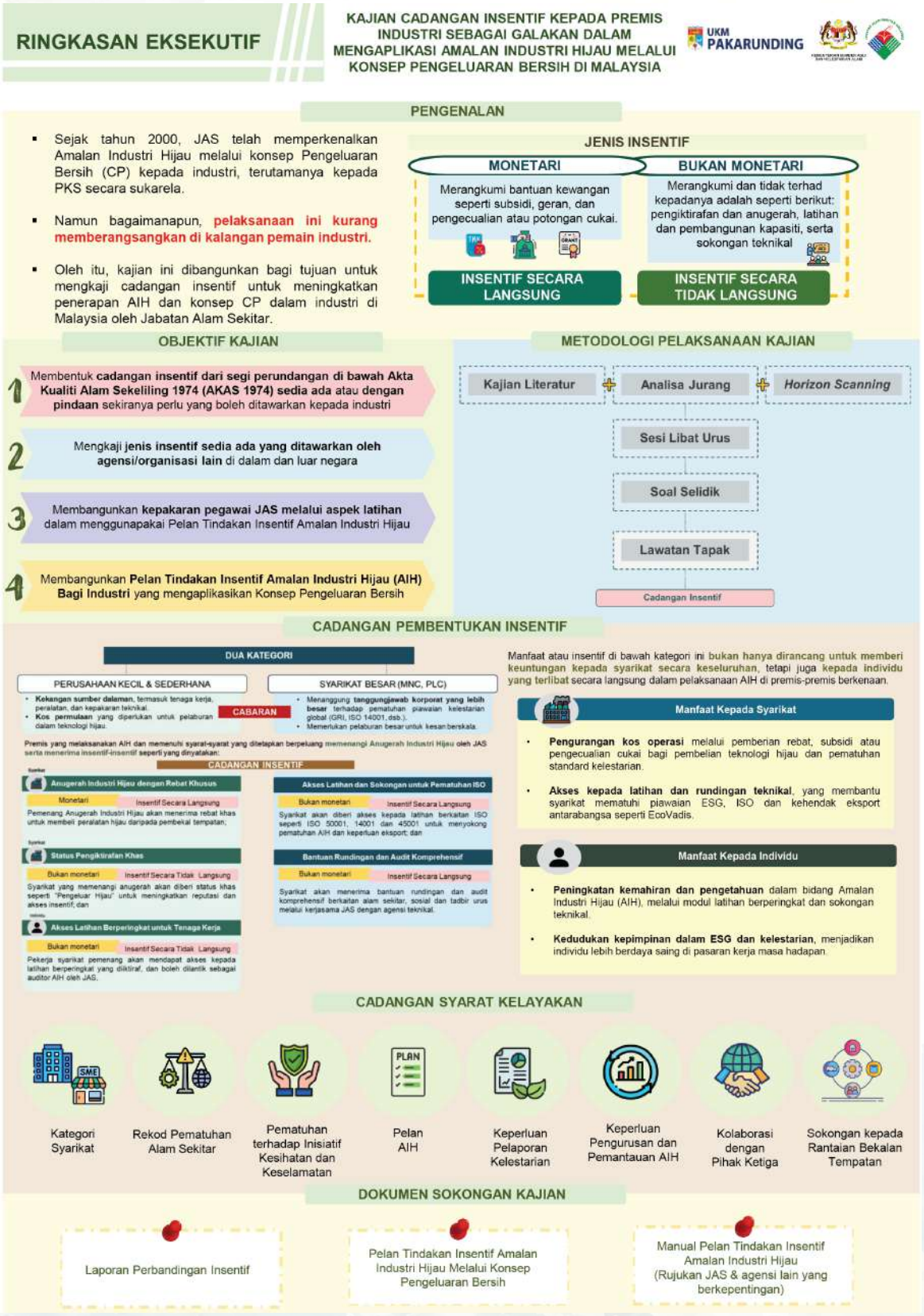
Study on Proposed Incentives for Industrial Premises to Encourage the Adoption of Green Industry Practices through Cleaner Production in Malaysia

This study was conducted to formulate incentive proposals from a regulatory perspective, based on the Environmental Quality Act 1974, including recommendations for amendments or complementary mechanisms where necessary to strengthen the implementation of Green Industry Practices. The study also aims to examine the types of incentives currently offered by agencies and organisations both locally and internationally. In addition, the study aims to develop the expertise of DOE officers through training related to the implementation of the Green Industry Incentive Action Plan, and to develop the action plan specifically for industries adopting Cleaner Production (CP) practices. The summary of the study is as shown in **Figure 4.2** and **Figure 4.3**.



Rajah 4.2 : Ringkasan Latar Belakang Projek Kajian Cadangan Insentif kepada Premis Industri sebagai Galakan dalam Mengaplikasikan Amalan Industri Hijau melalui Konsep Pengeluaran Bersih di Malaysia

Figure 4.2 : Summary of Background of Kajian Cadangan Insentif kepada Premis Industri sebagai Galakan dalam Mengaplikasikan Amalan Industri Hijau melalui Konsep Pengeluaran Bersih di Malaysia



Rajah 4.3 : Ringkasan Eksekutif Kajian Cadangan Insentif kepada Premis Industri sebagai Galakan dalam Mengaplikasikan Amalan Industri Hijau melalui Konsep Pengeluaran Bersih di Malaysia

Figure 4.3 : Executive Summary of Kajian Cadangan Insentif kepada Premis Industri sebagai Galakan dalam Mengaplikasikan Amalan Industri Hijau melalui Konsep Pengeluaran Bersih di Malaysia

MEMPERKUKUHKAN MEKANISMA INSTITUSI INDUSTRI HIJAU

Program Pemeriksaan Penguatkuasaan Prosedur Tetap Operasi Pengeluaran Bersih (PTOCP)

Bagi memastikan penambahbaikan yang berterusan, Seksyen Industri Hijau (SIH) melaksanakan tinjauan lapangan bagi program PTOCP yang dijalankan oleh Jabatan Alam Sekitar (JAS) Negeri. Pelaksanaan inisiatif ini bertujuan untuk memperkasa keupayaan JAS Negeri dalam menjalankan program PTOCP dengan lebih berkesan. Antara premis yang telah menjalani pemeriksaan bersama JAS Negeri adalah :

1) Kilang Kelapa Sawit Tai Tak
2) Kilang Kelapa Sawit Sungai Dingin
3) Aik Cheong Coffee Roaster Sdn. Bhd.
4) Shan Poornam Green Tech Sdn. Bhd.
5) Radicare (M) Sdn. Bhd.
6) Cenviro Recycling & Recovery Sdn. Bhd.
7) Sage Promaster Sdn. Bhd.
8) Malaysia Aluminium and Alloy Sdn. Bhd.

Bagi tahun 2025, JAS telah menetapkan sasaran sebanyak 75 premis untuk diperiksa di bawah program PTOCP, iaitu bersamaan lima (5) pemeriksaan setahun bagi setiap JAS Negeri. Pemeriksaan ini meliputi tiga (3) kategori utama aktiviti industri, iaitu Premis Yang Bukan Ditetapkan (PYBDT) dengan sasaran sebanyak 32 pemeriksaan, Premis Yang Ditetapkan (PYDT) bagi Kilang Getah (KG) sebanyak tiga (3) pemeriksaan, serta Premis Yang Ditetapkan (PYDT) bagi Kilang Kelapa Sawit (KKS) dengan sasaran sebanyak 40 pemeriksaan.

Sebanyak 70 pemeriksaan telah dilaksanakan dengan kadar pencapaian keseluruhan sebanyak 93.3%. Sasaran bagi PYDT KKS dan PYDT KG telah dicapai sepenuhnya (100%) dengan masing-masing mencatatkan 40 dan 3 pemeriksaan. Manakala bagi kategori PYBDT, sebanyak 27 pemeriksaan telah dijalankan, mencapai 84.4% daripada sasaran asal.

Beberapa strategi strategik telah dirancang bagi mempertingkatkan keberkesanan program pada tahun 2026, antaranya :

- Sasaran Premis : Menumpukan kepada premis multinasional di Malaysia atau premis yang bersedia menerapkan amalan industri hijau

STRENGTHENING GREEN INDUSTRY INSTITUTIONAL MECHANISMS

Cleaner Production Standard Operating Procedure (PTOCP) Enforcement Inspection Programme

To ensure continuous improvement, the Green Industry Section (SIH) conducts field inspections for the PTOCP program organized by Department of Environment (DOE) State branches. The implementation of this initiative aims to empower DOE State capabilities in executing the PTOCP program more effectively. Among the premises that underwent joint inspections with the State DOE are :

1) Tai Tak Palm Oil Mill
2) Sungai Dingin Palm Oil Mill
3) Aik Cheong Coffee Roaster Sdn. Bhd.
4) Shan Poornam Green Tech Sdn. Bhd.
5) Radicare (M) Sdn. Bhd.
6) Cenviro Recycling & Recovery Sdn. Bhd.
7) Sage Promaster Sdn. Bhd.
8) Malaysia Aluminium and Alloy Sdn. Bhd.

For the year 2025, DOE has set a target of 75 premises to be inspected under the PTOCP programme, which is equivalent to five (5) inspections per year for each State DOE. These inspections cover three (3) main categories of industrial activities, namely Non-Prescribed Premises (NPP) with a target of 32 inspections, Prescribed Premises (PP) for Rubber Factories (RF) with a target of three (3) inspections, and Prescribed Premises (PP) for Palm Oil Mills (POM) with a target of 40 inspections.

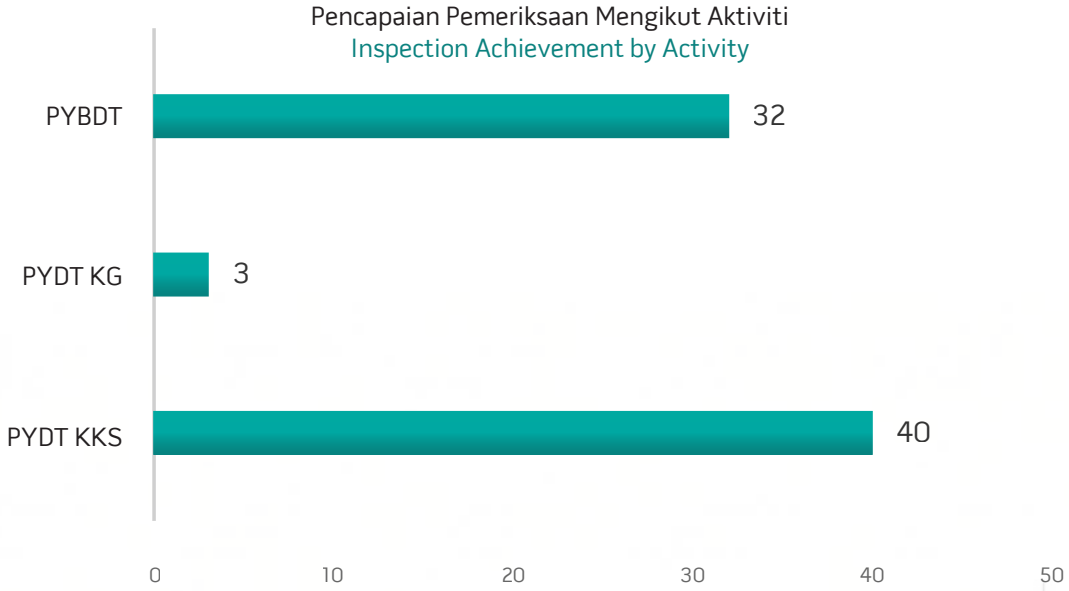
70 inspections have been conducted, achieving an overall completion rate of 93.3%. The targets for PYDT KKS and PYDT KG were fully achieved (100%) with 40 and 3 inspections recorded, respectively. For the PYBDT category, 27 inspections were carried out, reaching 84.4% of the original target.

Several strategic measures have been planned to enhance programme effectiveness in 2026, including :

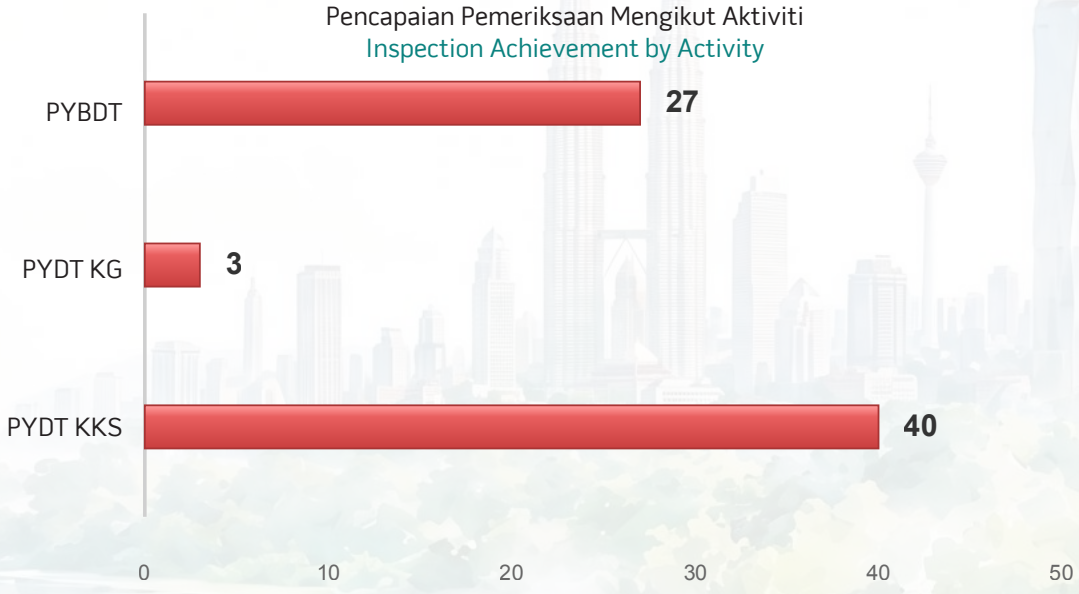
- Targeted Premises : Focus on multinational corporations in Malaysia or premises ready to adopt green industry practices

- Sokongan Industri : SIH akan menambah baik dan menyediakan senarai semak cadangan opsyen Cleaner Production (CP) bagi membantu pihak industri melaksanakan amalan tersebut
- Pemantauan : Melaksanakan tindakan susulan terhadap Pelan Tindakan Pelaksanaan Amalan CP oleh pihak industri
- Peningkatan Kompetensi : Menganjurkan Kursus Kompetensi Pengeluaran Bersih bagi pegawai penguatkuasa JAS untuk meningkatkan kualiti dan keberkesanan pemeriksaan di lapangan

- Industry Support : SIH will improve and provide a checklist of suggested Cleaner Production (CP) options to assist the industry in implementing these practices
- Monitoring : Conduct follow-up actions on CP Practice Implementation Action Plans by the industry
- Competency Building : Organise Cleaner Production Competency Courses for DOE enforcement officers to improve the quality and effectiveness of field inspections



Rajah 4.4 : Graf Sasaran Pemeriksaan mengikut Aktiviti bagi Tahun 2025
Figure 4.4 : Graph of Inspection Targets by Activity for the Year 2025



Rajah 4.5 : Graf Pencapaian Pemeriksaan mengikut Aktiviti bagi Tahun 2025.
Figure 4.5 : Graph of Inspection Achievements by Activity for the Year 2025.

Program Khidmat Nasihat Amalan Industri Hijau kepada Industri

Program khidmat nasihat kepada industri diteruskan pada tahun 2025. Program khidmat nasihat ini merupakan program latihan secara terus (hands on) kepada industri yang telah dikenal pasti. Fokus program khidmat nasihat industri hijau pada tahun 2025 adalah kepada Premis Yang Ditetapkan Buangan Terjadual (PYDTBT).

Program ini adalah program bersama pihak perunding yang telah dilantik oleh JAS menggunakan peruntukan RMKe-12. Objektif program adalah untuk memberi pendedahan tentang Amalan Industri Hijau bagi mencapai pematuhan terhadap AKAS 1974.

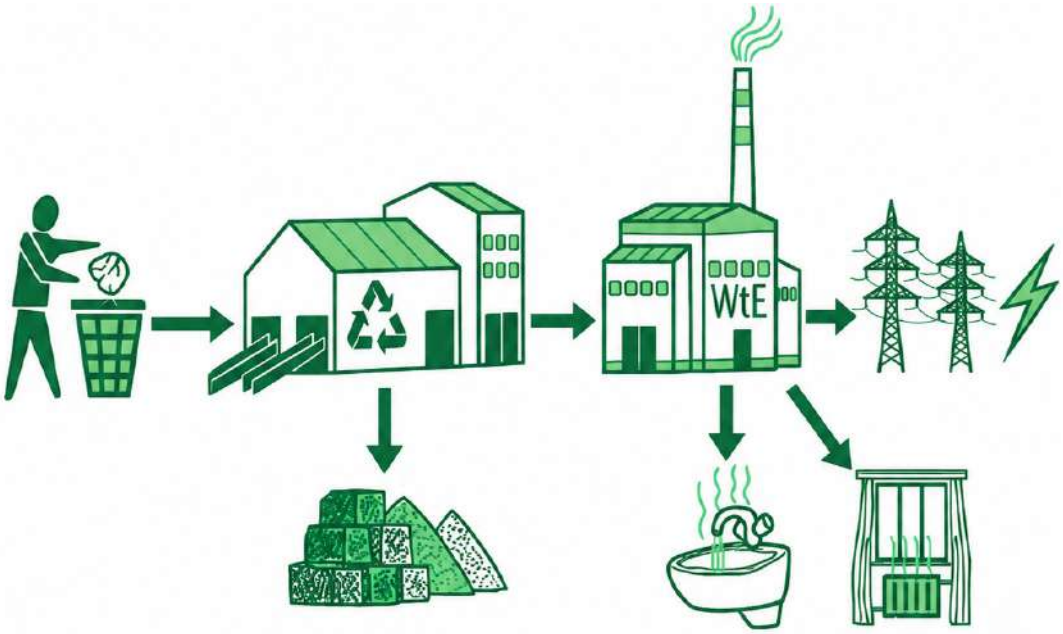
Sebanyak lima (5) premis yang telah dikenal pasti iaitu :

Green Industry Advisory Programme for Industries

The Industry Advisory Programme continued to be implemented in 2025. This programme provides direct hands-on training to identified industries. The focus of the Green Industry advisory programme in 2025 was on Prescribed Premises for Scheduled Waste Recovery Facilities (PYDTBT).

This programme was implemented in collaboration with consultants appointed by DOE under the 12MP allocation. The objective of the programme is to provide exposure to Green Industry Practices in achieving compliance with the Environmental Quality Act 1974.

A total of five (5) premises were identified :



Rajah 4.6 : Sektor Pemerolehan Kembali Buangan Terjadual
Figure 4.6 : Scheduled Waste Recovery Sector

i. Shan Poornam Green Tech Sdn. Bhd
ii. Radicare (M) Sdn. Bhd
iii. Cenviro Recycling & Recovery Sdn. Bhd
iv. Sage Promaster Sdn. Bhd
v. Malaysia Aluminium and Alloy Sdn. Bhd

Hasil daripada program khidmat nasihat ini, satu(1) draf Garis Panduan Pelaksanaan Amalan Industri Hijau Bagi Sektor Industri PYDT BT telah dibangunkan seperti di **Rajah 4.7**. Garis panduan ini sesuai untuk Perusahaan Kecil dan Sederhana (PKS) dalam sektor tersebut, namun prinsip-prinsipnya turut relevan bagi syarikat besar. Ia berfokus kepada langkah-langkah praktikal

i. Shan Poornam Green Tech Sdn. Bhd.
ii. Radicare (M) Sdn. Bhd.
iii. Cenviro Recycling & Recovery Sdn. Bhd.
iv. Sage Promaster Sdn. Bhd.
v. Malaysia Aluminium and Alloy Sdn. Bhd.

As an outcome of this advisory programme, one (1) guideline draft titled "Guidelines for the Implementation of Green Industry Practices for the Scheduled Waste Recovery Industry Sector" was developed as shown in **Figure 4.7**. The guideline is particularly suitable for Small and Medium Enterprises (SMEs) in the sector, although its principles are also

yang boleh dilaksanakan secara berperingkat untuk meningkatkan prestasi alam sekitar premis tanpa menjejaskan produktiviti. Selain aspek teknikal proses pemulihan, garis panduan ini juga meliputi elemen pengurusan, dokumentasi dan pelaporan berkaitan amalan hijau.

Hebahan dan Perkongsian

Bagi meningkatkan kesedaran dan pemahaman berkaitan Amalan Industri Hijau, JAS turut melaksanakan pelbagai program hebahan dan perkongsian bersama pemegang taruh yang melibatkan agensi kerajaan, pemain industri, institusi akademik serta pihak berkepentingan yang lain.

Program ini bertujuan memperkukuh kefahaman mengenai kepentingan pelaksanaan Amalan Industri Hijau serta menggalakkan industri untuk mengintegrasikan prinsip kelestarian dalam operasi perniagaan mereka.

Melalui pendekatan perkongsian ilmu dan pengalaman ini, industri dapat memahami dengan lebih jelas manfaat pelaksanaan Amalan Industri Hijau daripada aspek pematuhan perundangan, kecekapan operasi serta peningkatan daya saing di peringkat global.

Antara program yang telah dilaksanakan pada tahun 2025 adalah :

- Sesi libat urus Amalan Industri Hijau bersama agensi kerajaan dan industri bagi membentangkan output kajian. Sesi libat urus ini melibatkan lebih daripada 150 industri daripada pelbagai sektor.
- Bengkel Kumpulan Fokus (Focus Group Discussion) berkaitan Kajian Pembentukan Indeks Industri Hijau Kebangsaan.
- Perkongsian oleh pihak Fakulti Bioteknologi dan Sains Biomolekul, Universiti Putra Malaysia (UPM) bertajuk 'Projek Penyelidikan Biochar melalui Kaedah Penghasilan Mesra Alam'. Kajian tersebut memfokuskan kepada penghasilan produk biochar daripada sumber biomass atau sisa pertanian melalui proses pengkarbonan (carbonization) di dalam reaktor. Produk biochar yang dihasilkan mempunyai potensi aplikasi yang luas, khususnya dalam rawatan sisa air serta pemulihan tanah. Secara keseluruhan, inisiatif ini mendukung aspirasi ekonomi kitaran bio (circular bioeconomy) yang berpaksikan keseimbangan antara Keuntungan (Profit), Masyarakat (People) dan Alam Sekitar (Planet)."

relevant for larger companies. It focuses on practical steps that can be implemented progressively to improve the environmental performance of premises without affecting productivity. In addition to technical aspects of recovery processes, the guideline also covers management elements, documentation, and reporting related to green practices.

Outreach and Knowledge Sharing

To enhance awareness and understanding of Green Industry Practices, DOE also implemented various outreach and knowledge-sharing programmes involving stakeholders including government agencies, industry players, academic institutions, and other relevant stakeholders.

These programmes aim to strengthen understanding of the importance of implementing Green Industry Practices and to encourage industries to integrate sustainability principles into their business operations.

Through the sharing of knowledge and experience, industries can better understand the benefits of implementing Green Industry Practices in terms of regulatory compliance, operational efficiency, and enhanced global competitiveness.

Among the programmes implemented in 2025 were :

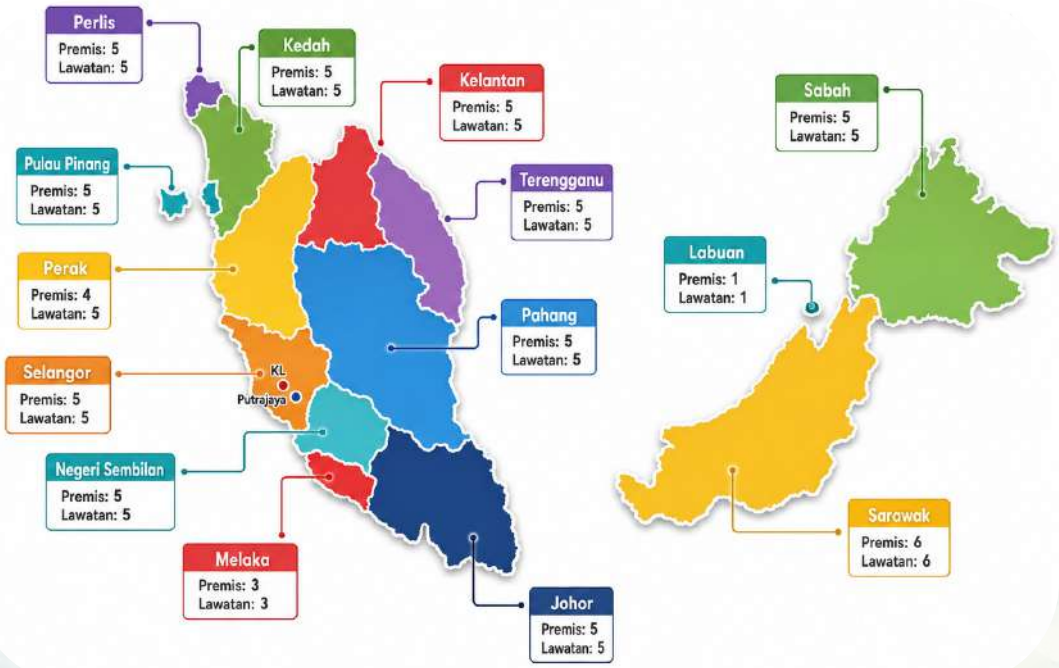
- Green Industry engagement sessions with government agencies and industries. This engagement session involved more than 150 industries from various sectors.
- Focus Group Discussion (FGD) workshops on the National Green Industry Index Development Study.
- Industry sharing sessions on the latest technologies by the Faculty of Biotechnology and Biomolecular Sciences, UPM, regarding the 'Biochar Research Project via Environmentally Friendly Production Methods.' The research emphasizes the conversion of agricultural biomass into biochar through specialized carbonization techniques. Beyond its utility in wastewater treatment and land restoration, the study advances the circular bioeconomy model, ensuring sustainable outcomes for Profit, People, and the Planet.



Rajah 4.7 : Buku Garis Panduan Pelaksanaan Amalan Industri Hijau
Figure 4.7 : Guideline of Green Industry Practice



Rajah 4.8 : Kategori Pemerolehan Buangan Terjadual yang Terlibat
Figure 4.8 : Category of Schedule Waste Involved



Rajah 4.9 : Pencapaian PTOCP oleh JAS Negeri
Figure 4.9 : Achievements of PTOCP by DOE State



Gambar Foto bagi Program Khidmat Nasihat kepada Industri PYDT BT
Photo of the Advisory Services Program for Prescribed Premises (PYDT) – Scheduled Wastes (BT)







Gambar Foto Sesi Libat Urus Amalan Industri Hijau kepada Industri
Photo of the Engagement Session on Green Industry Practices for Industry Players



Gambar foto Bengkel Kajian Pembentukan Indeks Industri Hijau Kebangsaan dan Kajian Cadangan Insentif kepada Premis Industri sebagai Galakan dalam mengaplikasikan Amalan Industri Hijau melalui Konsep Pengeluaran Bersih di Malaysia
Photo of Workshop on the Study for the Establishment of the National Green Industry Index and the Proposed Incentives for Industrial Premises to Promote the Adoption of Green Industry Practices Through Cleaner Production Concepts in Malaysia





Gambar Foto Program PTOCP bersama JAS Negeri
Photo of the PTOCP Program with DOE State



BAB
CHAPTER

05

HAL EHWAL ALAM SEKITAR ANTARABANGSA

INTERNATIONAL ENVIRONMENTAL AFFAIR

Hal Ehwal Alam Sekitar Antarabangsa
International Environmental Affairs

KUNJUNGAN HORMAT DELEGASI DARIPADA KEDUTAAN PERANCIS KE JABATAN ALAM SEKITAR, PUTRAJAYA

19 Februari 2025 – Jabatan Alam Sekitar (JAS) Putrajaya telah menerima kunjungan hormat daripada JAS delegasi Kedutaan Perancis yang terdiri daripada En. Firdaus bin Norazmar, Pengurus Hubungan Institusi, Encik Jean-Michel Dumaz, Pakar Perlindungan Awam Serantau (Singapura dan Negara-Negara ASEAN) dan Cik Camille Valencienne, Pegawai Perkhidmatan Perlindungan Awam Serantau.

Tujuan utama kunjungan hormat ini adalah bagi mengenal pasti potensi kerjasama di bawah bidang kuasa JAS berhubung pembangunan keupayaan keselamatan pelabuhan serta pengurusan insiden dan juga pembentangan berkaitan Global Port Safety (GPS) iaitu Projek Serantau bagi Pembangunan Keupayaan Keselamatan di Pelabuhan.

COURTESY VISIT DELEGATION FROM EMBASSY OF FRANCE TO DEPARTMENT OF ENVIRONMENT, PUTRAJAYA

19 February 2025 – The Department of Environment (DOE) Putrajaya received a courtesy visit from a delegation DOE of the Embassy of France comprising Mr. Firdaus bin Norazmar, Institutional Relations Manager, Mr. Jean-Michel Dumaz, Regional Civil Protection Expert (Singapore and ASEAN Countries), and Ms. Camille Valencienne, Regional Civil Protection Service Officer.

The main objective of the courtesy visit was to identify potential cooperation within the jurisdiction of the DOE in relation to capacity building for port safety and incident management, as well as a presentation on Global Port Safety (GPS), a regional project on port safety capacity development.







YBrs. Dr. Norhazni binti Mat Sari, Timbalan Ketua Pengarah (Operasi) telah mempengerusikan mesyuarat yang turut dihadiri oleh YBrs. Tn. Hj. Shafe'ee, Timbalan Ketua Pengarah (Pembangunan) serta wakil - wakil Bahagian Ibu Pejabat JAS
YBrs. Dr. Norhazni binti Mat Sari, Deputy Director General (Operation) chaired the meeting also attended by YBrs. Tn. Haji Shafe'ee, Deputy Director General (Development) and representatives from the DOE HQ Division

ASEAN WORKING GROUP ON ENVIRONMENTAL EDUCATION (AWGEE) KE-17, PADA 2-3 JULAI 2025

2 - 3 Julai 2025 - ASEAN Working Group on Environmental Education (AWGEE) berperanan menyelaras dasar dan inisiatif pendidikan alam sekitar dalam kalangan Negara-negara Anggota ASEAN (AMS) serta Rakan ASEAN. AWGEE menyokong aspirasi ASEAN Senior Officials on Environment (ASOEN) melalui pelaksanaan pelan tindakan serantau, perkongsian amalan terbaik dan kerjasama dalam meningkatkan kesedaran alam sekitar sejajar dengan matlamat pembangunan lestari ASEAN.

Mesyuarat AWGEE Ke-17 telah berlangsung dari 2 - 3 Julai 2025 di Filipina, selaku Tuan Rumah, dan dipengerusikan oleh Kemboja. Mesyuarat ini dihadiri oleh AMS, Rakan ASEAN serta Sekretariat ASEAN (ASEC). Delegasi Malaysia ke mesyuarat tersebut diketuai oleh Puan Hajah Azuri Azizah binti Haji Saedon, Pengarah Bahagian Komunikasi Strategik, Jabatan Alam Sekitar (JAS).

17TH ASEAN WORKING GROUP ON ENVIRONMENTAL EDUCATION (AWGEE) ON 2-3 JULY 2025

2 - 3 July 2025 - The ASEAN Working Group on Environmental Education (AWGEE) plays a key role in coordinating environmental education policies and initiatives among ASEAN Member States (AMS) and ASEAN Dialogue Partners. AWGEE supports the aspirations of the ASEAN Senior Officials on the Environment (ASOEN) through the implementation of regional action plans, sharing of best practices, and collaborative efforts to enhance environmental awareness in line with ASEAN's sustainable development goals.

The 17th AWGEE Meeting was held from 2 - 3 July 2025 - The ASEAN in the Philippines as the host country and was chaired by Cambodia. The meeting was attended by AMS, ASEAN Dialogue Partners and the ASEAN Secretariat (ASEC). The Malaysian delegation was led by Ms. Hajah Azuri Azizah binti Haji Saedon, Director of the Strategic Communication Division, Department of Environment (DOE).







Delegasi Malaysia telah diketuai oleh Puan Hajah Azuri Azizah binti Haji Saedon, Pengarah Bahagian Komunikasi Strategik, JAS / Malaysian delegation was led by Ms. Hajah Azuri Azizah binti Haji Saedon, Director of the Strategic Communication Division, DOE

MESYUARAT KE-36 PEGAWAI-PEGAWAI KANAN ASEAN MENGENAI ALAM SEKITAR (ASOEN)

28 – 31 Julai 2025 – Mesyuarat Ke-36 Pegawai-Pegawai Kanan ASEAN mengenai Alam Sekitar (ASOEN) telah berlangsung secara rasmi pada 29 Julai 2025 di Kedah, Malaysia. Sebagai negara tuan rumah, Malaysia telah diwakili oleh Timbalan Ketua Setiausaha (Kelestarian Alam Sekitar), Kementerian Sumber Asli dan Kelestarian Alam Sekitar, Datuk Nor Yahati Awang, yang telah menyampaikan ucapan pembukaan selaku Timbalan Pengerusi mesyuarat tersebut. Delegasi Jabatan Alam Sekitar (JAS) diketuai oleh Puan Hajah Azuri Azizah binti Haji Saedon, Pengarah Bahagian Komunikasi Strategik, JAS.

Antara hasil utama mesyuarat tersebut adalah kemajuan dalam penyediaan Kenyataan Bersama ASEAN sebagai persediaan bagi Persidangan Ke-30 Pihak-Pihak kepada Konvensyen Rangka Kerja Pertubuhan Bangsa-Bangsa Bersatu mengenai Perubahan Iklim (UNFCCC COP30) pada November 2025. Mesyuarat tersebut turut memberi tumpuan kepada pengukuhan kerjasama serantau dalam menangani isu-isu alam sekitar serta memajukan pelaksanaan perjanjian alam sekitar pelbagai hala yang berkaitan dengan ASEAN, termasuk Perjanjian Paris dan Kerangka Kerja Biodiversiti Global Kunming-Montreal (KMGBF).

THE 36TH MEETING OF ASEAN SENIOR OFFICIALS ON THE ENVIRONMENT (ASOEN)

28 – 31 July 2025 – The 36th Meeting of ASEAN Senior Officials on the Environment (ASOEN) officially commenced on 29 July 2025 in Kedah, Malaysia. As the host country, Malaysia was represented by the Deputy Secretary-General (Environmental Sustainability) of the Ministry of Natural Resources and Environmental Sustainability, Datuk Nor Yahati Awang, who delivered the opening remarks in her capacity as the Deputy Chair of the meeting. The Department of Environment (DOE) delegation was led by Ms. Hajah Azuri Azizah binti Haji Saedon, Director of the Strategic Communication Division, DOE.

Among the key outcomes of the meeting was progress on the ASEAN Joint Statement in preparation for the 30th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP30) in November 2025. The meeting also focused on strengthening regional cooperation on environmental issues and advancing the implementation of multilateral environmental agreements relevant to ASEAN, including the Paris Agreement and the Kunming-Montreal Global Biodiversity Framework (KMGBF).



Delegasi JAS telah diketuai oleh Puan Hajah Azuri Azizah binti Haji Saedon, Pengarah Bahagian Komunikasi Strategik, Jabatan Alam Sekitar
DOE's delegation was led by Ms. Hajah Azuri Azizah binti Haji Saedon, Director of the Strategic Communication Division, Department of Environment

KUNJUNGAN HORMAT DELEGASI DARIPADA SUZHOU ENVIRONMENTAL PROTECTION INDUSTRY ASSOCIATION KE JABATAN ALAM SEKITAR, PUTRAJAYA

18 Ogos 2025 - Jabatan Alam Sekitar (JAS) Putrajaya telah menerima kunjungan hormat daripada JAS delegasi Suzhou Environmental Protection Industry Association yang diketuai oleh Encik Ji Ma sebagai Presiden bagi Suzhou Environmental Protection Industry Association.

Tujuan kunjungan hormat ini adalah untuk mendapatkan pemahaman yang lebih mendalam berkenaan dengan perundangan, polisi serta dasar yang berkaitan dengan pengurusan kualiti udara dan kawalan pencemaran udara di Malaysia. Delegasi dari China yang terdiri daripada syarikat dan pakar dalam bidang perlindungan alam sekitar dengan beberapa objektif, antaranya adalah untuk menjalin pertukaran maklumat dan pandangan dengan agensi-agensi berkaitan mengenai aspek pemulihan ekologi, rawatan air, kitar semula sisa pepejal, serta perancangan taman industri yang lestari.

COURTESY VISIT FROM SUZHOU ENVIRONMENTAL PROTECTION INDUSTRY ASSOCIATION TO DEPARTMENT OF ENVIRONMENT, PUTRAJAYA

18 August 2025—The Department of Environment (DOE) Putrajaya received a courtesy visit from a delegation DOE of the Suzhou Environmental Protection Industry Association, led by Mr. Ji Ma, President of the Suzhou Environmental Protection Industry Association.

The purpose of the courtesy visit was to gain a deeper understanding of the legislation, policies, and regulatory frameworks related to air quality management and air pollution control in Malaysia. The delegation from China, comprising companies and experts in the field of environmental protection, also sought to foster the exchange of information and views with relevant agencies on aspects of ecological restoration, water treatment, solid waste recycling, and eco-industrial park planning.







YBrs. Dr. Norhazni binti Mat Sari, Timbalan Ketua Pengarah (Operasi) telah mempengerusikan mesyuarat tersebut yang turut dihadiri oleh wakil-wakil Bahagian Ibu Pejabat JAS
YBrs. Dr. Norhazni binti Mat Sari, Deputy Director General (Operation) Chaired the Meeting with Representatives from the DOE HQ Division

BENGKEL ASEAN MENGENAI PENAMBAHBAIKAN ASEAN GUIDELINES ON ECO-SCHOOLS AND THE ENHANCEMENT OF ECO-SCHOOL PROGRAMMES THROUGH PARTNERSHIP WITH ENVIRONMENTAL SUSTAINABILITY CITIES (ESC)

23 – 24 September 2025 – Bengkel ASEAN mengenai Penambahbaikan ASEAN Guidelines on Eco-Schools and the Enhancement of Eco-School Programmes through Partnership with ESC telah diadakan di Kuala Lumpur. Bengkel ini dianjurkan oleh Malaysia dengan kerjasama rakan kongsi ASEAN, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, dan diketuai oleh YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Ketua Pengarah Jabatan Alam Sekitar (JAS), bersama-sama Puan Hajah Azuri Azizah binti Haji Saedon, Timbalan Ketua Pengarah (Pembangunan).

Bengkel ini telah dihadiri oleh wakil daripada lapan Negara Anggota ASEAN di bawah inisiatif AWGEE dan memberi tumpuan kepada semakan dan penambahbaikan ASEAN Eco-School Guidelines secara kolaboratif. Hasil bengkel ini akan dibentangkan pada Mesyuarat AWGEE Ke-18 yang akan diadakan di Singapura pada tahun 2026, dengan penekanan terhadap pendidikan kelestarian dan pengukuhan kerjasama dengan ESC.

THE ASEAN WORKSHOP ON IMPROVING ASEAN GUIDELINES ON ECO-SCHOOLS AND THE ENHANCEMENT OF ECO-SCHOOL PROGRAMMES THROUGH PARTNERSHIP WITH ENVIRONMENTAL SUSTAINABILITY CITIES (ESC)

23 – 24 September 2025 – The ASEAN Workshop on Improving ASEAN Guidelines on Eco-Schools and the Enhancement of Eco-School Programmes through Partnership with ESC was held in Kuala Lumpur. Hosted by Malaysia in partnership with ASEAN partner Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, the event was led by YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Director General of the Department of Environment (DOE), accompanied by Ms. Hajah Azuri Azizah binti Haji Saedon, Deputy Director General (Development).

The workshop was attended by representatives from eight ASEAN Member States under the AWGEE initiative and focused on the collaborative review and enhancement of the ASEAN Eco-School Guidelines. The outcomes of the workshop will be presented at the 18th AWGEE Meeting, to be held in Singapore in 2026, with an emphasis on sustainability education and strengthening partnerships with ESC.



Delegasi JAS telah diketuai oleh YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Ketua Pengarah JAS dan turut diiringi oleh Puan Hajah Azuri Azizah binti Haji Saedon, Timbalan Ketua Pengarah (Pembangunan)
DOE's delegation led by YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Director General of the DOE accompanied by Ms. Hajah Azuri Azizah binti Haji Saedon, Deputy Director General (Development)

MESYUARAT MALAYSIA-SINGAPORE JOINT COMMITTEE ON THE ENVIRONMENT EXPERT GROUP (MSJCE EG) (SOJ RELATED ACTIVITIES)

Mesyuarat MSJCE EG (SOJ Related Activities) merupakan platform tahunan antara Malaysia dan Singapura bagi membincangkan isu-isu alam sekitar yang berkepentingan bersama di Selat Johor.

Bagi tahun 2025, mesyuarat ini telah dianjurkan oleh Singapura sebagai tuan rumah melalui National Environment Agency (NEA) pada 20 Mei 2025. Mesyuarat telah dipengerusikan bersama oleh Dr. Norhazni binti Mat Sari, Timbalan Ketua Pengarah (Operasi), JAS, Malaysia dan Puan Tan Li Yen, Pengarah Kumpulan, Clean Environment Group, NEA, Singapura.

Delegasi Malaysia terdiri daripada pegawai-pegawai JAS Ibu Pejabat, EiMAS, JAS Negeri Johor serta wakil agensi-agensi berkaitan. Manakala delegasi Singapura pula merangkumi wakil dari NEA, Ministry of Sustainability and the Environment (MSE), Singapore Environment Institute (SEI), Singapore Civil Defence Force, serta Maritime and Port Authority of Singapore.

Mesyuarat ini mencerminkan komitmen kedua-dua negara untuk terus bekerjasama dalam memelihara alam sekitar di Selat Johor secara berterusan dan mampan.

THE MALAYSIA-SINGAPORE JOINT COMMITTEE ON THE ENVIRONMENT EXPERT GROUP (MSJCE EG) (SOJ RELATED ACTIVITIES) MEETING

The MSJCE EG (SOJ Related Activities) Meeting serves as an annual platform between Malaysia and Singapore to discuss environmental issues of mutual concern in the Straits of Johor.

For the year 2025, the meeting was hosted by Singapore through the National Environment Agency (NEA) on 20 May 2025. It was co-chaired by Dr. Norhazni binti Mat Sari, Deputy Director General (Operation), DOE, Malaysia, and Ms. Tan Li Yen, Group Director, Clean Environment Group, NEA, Singapore.

The Malaysian delegation comprised officers from the DOE Headquarters, EiMAS, DOE State of Johor, as well as representatives from related agencies. The Singapore delegation included representatives from NEA, the Ministry of Sustainability and the Environment (MSE), the Singapore Environment Institute (SEI), the Singapore Civil Defence Force, and the Maritime and Port Authority of Singapore.

This meeting reflects the continued commitment of both countries to work together in preserving the environment in the Straits of Johor in a sustainable and consistent manner.



Mesyuarat MSJCE EG (SOJ Related Activities) - Telah dipengerusikan bersama oleh Dr. Norhazni dan Puan Tan Li Yen
MSJCE EG (SOJ Related Activities) Meeting - Co-chaired by Dr. Norhazni and Ms. Tan Li Yen



Mesyuarat MSJCE EG (SOJ Related Activities) - Telah Dipengerusikan bersama oleh Dr. Norhazni dan Puan Tan Li Yen
MSJCE EG (SOJ Related Activities) Meeting - Co-chaired by Dr. Norhazni and Ms. Tan Li Yen

MESYUARAT MALAYSIA-SINGAPORE JOINT COMMITTEE ON THE ENVIRONMENT EXPERT GROUP ON VEHICULAR EMISSIONS

Mesyuarat MSJCE EG (VE) telah dianjurkan oleh Singapura sebagai tuan rumah melalui National Environment Agency (NEA) pada 21 Mei 2025. Mesyuarat ini telah dipengerusikan bersama oleh Dr. Norhazni binti Mat Sari, Timbalan Ketua Pengarah (Operasi), JAS, Malaysia dan Puan Tan Li Yen, Pengarah Kumpulan, Clean Environment Group, NEA, Singapura.

Delegasi JAS Malaysia telah disertai oleh wakil-wakil daripada Bahagian Penguatkuasa, Bahagian Air dan Marin, Bahagian Udara, Bahagian Bahan Berbahaya, Bahagian Komunikasi Strategik, Institut Alam Sekitar Malaysia (EiMAS), serta JAS Negeri Johor. Manakala delegasi Singapura pula terdiri daripada pegawai-pegawai daripada NEA dan Ministry of Sustainability and the Environment (MSE).

Sebagai sebahagian daripada program MSJCE EG (VE), lawatan kerja telah diadakan pada 21 - 22 Mei 2025. Antara lokasi lawatan termasuklah Woodlands Checkpoint bagi menyaksikan Demonstrasi Ujian Pelepasan Ekzos, Sengkang Bus Depot, serta Hyundai Motor Group Innovation Center Singapore (HMGICS).

Melalui platform MSJCE EG (VE), kerjasama erat ini diharap dapat memperkukuh perkongsian kepakaran, pemindahan teknologi serta strategi penguatkuasaan antara kedua-dua negara dalam usaha melindungi alam sekitar dan mempromosikan kesejahteraan bersama antara Malaysia dan Singapura.

THE MALAYSIA-SINGAPORE JOINT COMMITTEE ON THE ENVIRONMENT EXPERT GROUP ON VEHICULAR EMISSIONS MEETING

The MSJCE EG (VE) Meeting was hosted by Singapore through the National Environment Agency (NEA) on 21 May 2025. The meeting was co-chaired by Dr. Norhazni binti Mat Sari, Deputy Director General (Operation), DOE, Malaysia, and Ms. Tan Li Yen, Group Director, Clean Environment Group, NEA, Singapore.

The Malaysian DOE delegation comprised representatives from the Enforcement Division, Water and Marine Division, Air Division, Hazardous Substances Division, Strategic Communication Division, Environment Institute of Malaysia (EiMAS), as well as DOE State of Johor. The Singapore delegation included officers from NEA and the Ministry of Sustainability and the Environment (MSE).

As part of the MSJCE EG (VE) programme, a working visit was held from 21 - 22 May 2025. The visit included a demonstration of the Vehicle Emission Test at Woodlands Checkpoint, as well as site visits to Sengkang Bus Depot and the Hyundai Motor Group Innovation Center Singapore (HMGICS).

Through the MSJCE EG (VE) platform, this ongoing cooperation is hoped to strengthen the exchange of expertise, technology transfer, and enforcement strategies between both countries in the shared effort to protect the environment and promote the well-being of both Malaysia and Singapore.



Dr. Norhazni dan Puan Tan Li Yen - Telah Dipengerusikan bersama Mesyuarat MSJCE EG (VE)
Dr. Norhazni and Ms. Tan Li Yen - Co-chaired the MSJCE EG (VE) Meeting



Delegasi Malaysia dan Singapura ketika Mesyuarat MSJCE EG (VE)
Delegations from Malaysia and Singapore during the MSJCE EG (VE) Meeting





Lawatan Kerja Delegasi ke Sengkang Bus Depot
Delegation's Working Visit to Sengkang Bus Depot





Lawatan Kerja Delegasi ke Hyundai Motor Group Innovation Center Singapore (HMGICS)
Delegation's Working Visit to Hyundai Motor Group Innovation Center Singapore (HMGICS)

MESYUARAT KUMPULAN KERJA JAWATANKUASA BERSAMA MALAYSIA-SINGAPURA MENGENAI ALAM SEKITAR (MSJCE WG)

Mesyuarat MSJCE WG Ke-21 telah dianjurkan oleh Singapura sebagai tuan rumah melalui National Environment Agency (NEA) dari 9 - 11 September 2025. Mesyuarat ini dipengerusikan bersama oleh YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Ketua Pengarah Alam Sekitar, Malaysia dan Encik Wong Kang Jet, Ketua Pegawai Eksekutif, NEA, Singapura.

Mesyuarat telah dihadiri oleh delegasi Malaysia dari JAS, Kementerian Sumber Asli dan Kelestarian Alam, serta agensi-agensi lain termasuk Jabatan Peguam Negara, Kementerian Luar Negeri, Majlis Keselamatan Negara, Jabatan Laut Malaysia, Lembaga Pelabuhan Johor, Pusat Hidrografi Nasional, Agensi Angkasa Malaysia, Jabatan Perikanan Malaysia, Jabatan Ukur dan Pemetaan Malaysia dan Bahagian Perancang Ekonomi Negeri Johor. Delegasi Singapura pula terdiri daripada NEA, Ministry of Sustainability and the Environment, Ministry of Foreign Affairs, Attorney-General's Chambers, Ministry of National Development, Maritime and Port Authority, Public Utilities Board, Housing and Development Board, National Parks Board dan Jurong Town Council.

Antara perkara utama yang dibincangkan termasuk kawalan pencemaran dan pemantauan kualiti alam sekitar, khususnya melibatkan pelepasan daripada kenderaan (vehicular emissions), pemantauan air laut secara bersama, latihan bersama dan kerjasama dalam menguruskan insiden tumpahan bahan kimia dan minyak, serta perancangan bengkel pembangunan kapasiti antara EiMAS dan SEI yang dijadualkan pada Oktober 2025 di Malaysia. Kedua-dua negara turut berkongsi maklumat mengenai program pemuliharaan ekologi di Selat Johor sebagai usaha berterusan ke arah kelestarian alam sekitar.

Delegasi juga berkesempatan melawat Mandai Bird Paradise, sebuah destinasi mesra alam yang menampilkan pelbagai inisiatif lestari.

Mesyuarat menekankan kepentingan meneruskan kerjasama erat antara Malaysia dan Singapura, sejajar dengan perkembangan positif yang dapat dibincangkan dalam Mesyuarat MSJCE peringkat seterusnya.

THE MALAYSIA-SINGAPORE JOINT COMMITTEE ON THE ENVIRONMENT WORKING GROUP MEETING (MSJCE WG)

The 21st MSJCE WG Meeting was hosted by Singapore through the National Environment Agency (NEA) from 9 - 11 September 2025. The meeting was co-chaired by YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Director General of Environment, Malaysia, and Mr. Wong Kang Jet, Chief Executive Officer of NEA, Singapore.

The meeting was attended by Malaysian delegations from DOE, Ministry of Natural Resources and Environmental Sustainability, and other agencies including the Attorney-General's Chambers, Ministry of Foreign Affairs, National Security Council, Malaysia Marine Department, Johor Port Authority, National Hydrographic Centre, Malaysian Space Agency, Department of Fisheries, Department of Survey and Mapping, and the Johor State Economic Planning Unit. The Singapore delegation comprised representatives from NEA, Ministry of Sustainability and the Environment, Ministry of Foreign Affairs, Attorney-General's Chambers, Ministry of National Development, Maritime and Port Authority, Public Utilities Board, Housing and Development Board, National Parks Board, and Jurong Town Council.

Key discussion points included pollution control and environmental quality monitoring, particularly involving vehicular emissions, joint seawater monitoring, joint exercise and cooperation in managing chemical and oil spill incidents, as well as the planning of a capacity-building workshop between EiMAS and SEI scheduled for October 2025 in Malaysia. Both countries also shared information on ecological conservation programmes in the Straits of Johor as an ongoing effort toward environmental sustainability.

The delegation also had the opportunity to visit Mandai Bird Paradise, an eco-friendly destination showcasing various sustainable initiatives.

The meeting emphasized the importance of continuing close cooperation between Malaysia and Singapore, in line with the positive progress that can be discussed in the upcoming MSJCE meetings.



YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar dan Encik Wong Kang Jet - Pengerusi Bersama Mesyuarat WG MSJCE Ke-21
YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar and Mr. Wong Kang Jet - Co-Chairs of the 21st MSJCE WG Meeting



Perbincangan Kepentingan Bersama di bawah Agenda Mesyuarat MSJCE WG Ke-21
Discussions on Shared Interests under the Agenda of the 21st MSJCE WG Meeting



Pengurusan Tertinggi Malaysia dan Singapura ketika Mesyuarat MSJCE WG Ke-21
Top Management of Malaysia and Singapore during the 21st MSJCE WG Meeting



Delegasi Malaysia dan Singapura ketika Mesyuarat MSJCE WG Ke-21
Malaysia and Singapore Delegations during the 21st MSJCE WG Meeting



Delegasi Malaysia dan Singapura ketika Lawatan Ke Mandai Bird Paradise
Malaysian and Singaporean Delegations during the Visit to Mandai Bird Paradise

Senarai Mesyuarat/ Program Jabatan Alam Sekitar di Peringkat Antarabangsa bagi Tahun 2025:
List of International Meetings / Programs of the Department of Environment for the Year 2025:

01	02	03	04	05
Bilateral and Multilateral Meeting	Capacity Building Workshop	Conferences and Seminar	Study Tour	Online Consultation Meeting
14	20	6	5	3

QR code for "The International Highlights recap 2025"



BAB
CHAPTER

06

PROGRAM-PROGRAM PROMOSI DAN KESEDARAN

PROMOTIONAL AND AWARENESS PROGRAMMES

Program-Program Promosi Dan Kesedaran
Promotional And Awareness Programmes

PROGRAM PEMANTAPAN PERKHIDMATAN BAHAGIAN KOMUNIKASI STRATEGIK 2025

Sebagai usaha berterusan untuk memperkasakan kecemerlangan organisasi, Seksyen Penerbitan dan Perpustakaan, Bahagian Komunikasi Strategik telah berjaya menganjurkan Program Pemantapan Perkhidmatan Bahagian Komunikasi Strategik (BKS) 2025. Program yang berlangsung selama dua hari ini telah diadakan pada 12-13 Februari 2025 bertempat di Glamping @ Wetland, Putrajaya.

Objektif utama penganjuran program ini adalah untuk meningkatkan kualiti penyampaian perkhidmatan Bahagian Komunikasi Strategik, di samping memperkasa semangat berpasukan dan kerjasama yang erat di kalangan staf. Kehadiran ke program ini adalah diwajibkan bagi memastikan matlamat jabatan dapat dihayati oleh setiap peringkat pegawai.

Program ini telah menghimpunkan seramai 35 orang warga kerja BKS yang terdiri daripada pelbagai peringkat perjawatan termasuk kumpulan pengurusan tertinggi, pengurusan dan profesional, serta kumpulan pelaksana. Penglibatan menyeluruh ini amat penting bagi mewujudkan kesepakatan dan penyelarasan gerak kerja yang lebih harmoni dalam bahagian ini.

Sepanjang dua hari tersebut, jadual program telah dipadatkan dengan pelbagai modul yang komprehensif. Pada hari pertama, penekanan diberikan kepada Modul Pembentukan Peribadi dan Jati Diri, diikuti dengan Modul Kepentingan Kerjasama Kumpulan pada sebelah petang.

Seterusnya pada hari kedua, elemen kemahiran insaniah terus diperkukuhkan melalui Modul Konsep Komunikasi Berkesan dan Modul Pengendalian Stres. Latihan-latihan ini bukan sahaja membantu staf menguruskan tekanan kerja dengan lebih baik, malah melengkapkan mereka dengan kemahiran komunikasi yang kritikal untuk berurusan dengan pemegang taruh jabatan.

Secara keseluruhannya, Program Pemantapan Perkhidmatan Bahagian Komunikasi Strategik 2025 ini telah berjalan dengan lancar dan jayanya. Melalui

STRATEGIC COMMUNICATIONS DIVISION SERVICE ENHANCEMENT PROGRAM 2025

As part of ongoing efforts to enhance organizational excellence, the Publications and Library Section of the Strategic Communications Division (BKS) successfully organized the Strategic Communications Division Service Enhancement Program 2025. The two-day program was held on 12-13 February 2025 at Glamping @ Wetland, Putrajaya.

The main objective of this program was to improve the quality of service delivery within the Strategic Communications Division, while also strengthening team spirit and close collaboration among staff. Attendance was mandatory to ensure that the department's goals were understood and embraced at every level.

The program brought together 35 staff members of BKS, comprising of various job levels, including senior management, management and professional staff, as well as operational staff. This comprehensive participation was crucial in fostering consensus and achieving better coordination of workflows within the division.

Over the two days, the program schedule was packed with a variety of comprehensive modules. On the first day, the focus was on the Personal Development and Self-Identity Module, followed by the Importance of Teamwork Module in the afternoon.

On the second day, soft skills were further reinforced through the Effective Communication Concepts Module and the Stress Management Module. These trainings not only helped staff better manage work-related stress but also equipped them with critical communication skills necessary for engaging with the department's stakeholders.

Overall, the Strategic Communications Division Service Enhancement Program 2025 was conducted smoothly and successfully. With exposure to these

pendedahan modul-modul yang berimpak tinggi ini, kualiti penyampaian perkhidmatan Bahagian Komunikasi Strategik dijangka akan terus meningkat. Prestasi kerja yang lebih cemerlang dan semangat kolaboratif ini pastinya akan memberikan impak positif kepada masyarakat, selari dengan aspirasi "Malaysia Madani" dan komitmen JAS untuk "Berkhidmat Untuk Negara".

high-impact modules, the quality of service delivery within the division is expected to continue improving. Enhanced work performance and collaborative spirit will undoubtedly have a positive impact on the public, in line with the "Malaysia Madani" vision and DOE's commitment to *"Berkhidmat Untuk Negara"*.



Sesi Teori Penggunaan Peta dan Kompas
Theory Session on Map and Compass Usage



Sesi Latihan Praktikal dan Orientering
Practical Training and Orienteering Session



Aktiviti Hari Pertama
First Day Activity



Aktiviti High Elements
High Elements Activity



Aktiviti ATV
ATV Activity



Aktiviti ATV Merentasi Laluan Berbukit dan Mencabar
ATV Activity Across Hilly and Challenging Trails

MESYUARAT PENYELARASAN KANDUNGAN LAPORAN KUALITI ALAM SEKELILING (EQR), LAPORAN TAHUNAN (AR) DAN BUKU KOMPENDIUM JAS TAHUN 2025

Mesyuarat Penyelarasan Kandungan Laporan Kualiti Alam Sekeliling (EQR), Laporan Tahunan (AR) dan Buku Kompendium JAS 2025 telah berlangsung pada 28 November 2025 di Bilik Mesyuarat Melur, JAS Ibu Pejabat. Mesyuarat ini telah dipengerusikan oleh YBrs. Puan Hajah Azuri Azizah binti Haji Saedon, Timbalan Ketua Pengarah (Pembangunan) TKP(P), dengan kehadiran Person in Charge (PIC) daripada semua bahagian di Ibu Pejabat.

Dalam ucapan aluan, beliau merakamkan penghargaan atas komitmen semua bahagian yang terlibat bagi menjayakan percetakan Laporan EQR 2024 lebih awal daripada jadual, iaitu pada awal Ogos. Pencapaian ini dilihat sebagai bukti kerjasama kukuh antara pasukan teknikal dan Bahagian Komunikasi Strategik, seterusnya meletakkan penanda aras positif bagi penerbitan tahun berikutnya.

Menurut YBrs. Puan TKP(P), Laporan Kualiti Alam Sekeliling merupakan dokumen rasmi negara yang mencerminkan status sebenar alam sekitar Malaysia. Ketepatan data amat kritikal kerana laporan ini tertakluk kepada kehendak Akta Kualiti Alam Sekeliling 1974 dan menjadi rujukan utama kepada pembuat dasar, agensi kerajaan, industri, serta masyarakat umum.

Beliau menegaskan bahawa sebarang kesilapan dalam data atau naratif bukan sahaja menjejaskan kredibiliti jabatan tetapi juga boleh memberi implikasi terhadap persepsi awam. Oleh itu, setiap pegawai diminta memastikan data yang dihantar adalah sahih, diverifikasi dan disahkan pada setiap peringkat semakan.

Melalui mesyuarat ini, Bahagian Komunikasi Strategik turut membentangkan cadangan penambahbaikan terhadap proses kerja penerbitan serta keperluan memastikan tiada kesilapan teknikal berulang. YBrs. Puan TKP(P) menyatakan keyakinan bahawa dengan semangat kolaboratif antara semua PIC, reputasi JAS dalam aspek integriti data dan profesionalisme pelaporan dapat terus diperkukuh.

COORDINATION MEETING ON THE CONTENT OF THE ENVIRONMENTAL QUALITY REPORT (EQR), ANNUAL REPORT (AR), AND DOE COMPENDIUM BOOK FOR 2025

The Coordination Meeting on the Content of the Environmental Quality Report (EQR), Annual Report (AR), and DOE Compendium Book 2025 was held on 28 November 2025 at the Melur Meeting Room, DOE Headquarters. The meeting was chaired by YBrs. Puan Hajah Azuri Azizah binti Haji Saedon, Deputy Director General (Development) TKP(P), with the attendance of the Person in Charge (PIC) from all divisions at Headquarters.

In her welcoming speech, she expressed appreciation for the commitment of all divisions involved for the successful publication of the EQR 2024 ahead of schedule, in early August. This achievement is seen as evidence of strong cooperation between the technical teams and the Strategic Communication Division, setting a positive benchmark for the following year's publications.

According to YBrs. Puan TKP(P), the Environmental Quality Report is a national official document reflecting the actual status of Malaysia's environmental quality. Data accuracy is critical, as the report is subject to the requirements of the Environmental Quality Act 1974 and serves as a primary reference for policymakers, government agencies, industry, and the general public.

She emphasized that any errors in data or narrative not only undermine the credibility of the department but may also affect public perception. Therefore, all officers are requested to ensure that the submitted data is authentic, verified, and validated at every review stage.

During the meeting, the Strategic Communication Division also presented proposed improvements to the publication workflow and highlighted the need to prevent recurring technical errors. YBrs. Puan TKP(P) expressed confidence that, with the collaborative spirit among all PICs, DOE's reputation in terms of data integrity and reporting professionalism can continue to be strengthened.



Mesyuarat Penyelarasan bersama wakil Bahagian JAS Ibu Pejabat dan EiMAS
Coordination Meeting with Representatives of DOE Headquarters Divisions and EiMAS



YBrs. Puan Hajah Azuri Azizah binti Haji Saedon Mempengerusikan Perbincangan untuk Memastikan Ketepatan Data dan Kualiti Laporan
YBrs. Puan Hajah Azuri Azizah binti Haji Saedon Chaired a Discussion to Ensure Data Accuracy and Report Quality



Pembentangan daripada Urus Setia Unit Penerbitan, Seksyen Penerbitan dan Perpustakaan
Presentation by the Secretariat of the Publication Unit, Publication and Library Section



PIC dari semua Bahagian JAS Berbincang dan Menyelaraskan Kandungan Laporan EQR, AR dan Buku Kompendium 2025
PICs from All DOE Divisions Discuss and Coordinate Content for the 2025 EQR, AR, and Compendium Book

PEMERKASAAN PENERBITAN ILMIAH: PENERBITAN BUKU "SAFEGUARDING WATER QUALITY FOR A SUSTAINABLE MALAYSIA"

Dalam merealisasikan matlamat untuk mempelbagaikan sumber rujukan ilmiah berkaitan pengurusan alam sekitar, Jabatan Alam Sekitar (JAS) meneruskan komitmen proaktifnya pada tahun 2025 melalui usaha penerbitan buku terbaharu yang bertajuk Safeguarding Water Quality for A Sustainable Malaysia. Usaha ini merupakan salah satu inisiatif strategik Jabatan yang dilaksanakan di bawah peruntukan Rancangan Malaysia Kedua Belas (RMKe-12), Rolling Plan Ke-5 bagi tahun 2025.

Bagi memastikan kualiti dan ketepatan fakta dalam penerbitan ini, JAS telah mengadakan beberapa siri mesyuarat dan bengkel seperti berikut:

i. Mesyuarat kerjasama penerbitan buku ilmiah antara Jabatan Alam Sekitar dan Pakar Scieno TW Sdn. Bhd. (PSTW) pada 3 Disember 2024 di JAS Ibu Pejabat;

STRENGTHENING SCIENTIFIC PUBLICATION: PUBLICATION OF THE BOOK "SAFEGUARDING WATER QUALITY FOR A SUSTAINABLE MALAYSIA"

In line with its objective to diversify scientific reference materials on environmental management, the Department of Environment (DOE) continues its proactive commitment in 2025 through the publication of its latest book, Safeguarding Water Quality for a Sustainable Malaysia. This effort is one of the Department's strategic initiatives implemented under the Twelfth Malaysia Plan (12MP), Rolling Plan 5 for the year 2025.

To ensure the quality and factual accuracy of this publication, DOE has conducted a series of meetings and workshops as follows:

i. Meeting on collaboration for the publication of a scientific book between the Department of Environment and Pakar Scieno TW Sdn. Bhd. (PSTW) on 3 December 2024 at DOE Headquarters;

ii. Bengkel Pemurnian Manuskrip pada 16 Januari 2025 di Pakar Scieno TW Sdn. Bhd. (PSTW), Temasya Industrial Park, Shah Alam; dan

iii. Bengkel editorial bagi memuktamadkan draf akhir buku pada 26 Mac 2025 di Ibu Pejabat JAS.

Bengkel Pemurnian Manuskrip yang telah dirancang sejak akhir tahun 2024 ini telah berjaya menghimpunkan barisan penulis dan pakar bidang, termasuk tokoh akademik dari Jaringan Penyelesaian Pembangunan Lestari (SDSN) Asia, Sunway University, serta pihak pengurusan PSTW bagi memurnikan kandungan manuskrip tersebut.

Inisiatif ini juga menandakan kesinambungan jalinan kerjasama yang kukuh antara JAS dan syarikat PSTW dalam bidang penerbitan bahan ilmiah. Sebagai rekod, kolaborasi mantap antara kedua-dua pihak pada tahun 2022 telah membuahkan hasil menerusi penerbitan buku Together, Protecting the Environment: Synergizing Stewardship and Commitments. Karya tersebut telah pun dilancarkan secara rasmi semasa Simposium Pematuhan Akta Kualiti Alam Sekeliling 1974 & Pemerkasaan Pemantauan Kualiti Alam Sekitar pada 15 Mac 2023 bertempat di Sepang, Selangor.

Buku Safeguarding Water Quality for A Sustainable Malaysia ini direka khusus untuk menjadi bahan rujukan berautoriti dan komprehensif bagi pelbagai lapisan pemegang taruh. Kumpulan sasar utama rujukan ini merangkumi sektor industri, Pihak Berkuasa Tempatan (PBT), agensi-agensi Kerajaan, ahli akademik, para pelajar di Institusi Pengajian Tinggi (IPT), serta badan bukan kerajaan (NGO).

Komitmen JAS dalam memperkasakan literasi dan rujukan alam sekitar akan terus dipacu pada masa hadapan. JAS amat menghargai usaha murni dan gandingan semua pihak yang terlibat dalam menyiapkan manuskrip ini dan berharap kerjasama seumpamanya dapat diteruskan demi pemeliharaan alam sekitar negara.

ii. Workshop on the refinement of the manuscript on 16 January 2025 at Pakar Scieno TW Sdn. Bhd. (PSTW), Temasya Industrial Park, Shah Alam; and

iii. Editorial workshop to finalise the book draft on 26 March 2025 at DOE Headquarters.

The Manuscript Refinement Workshop, planned since late 2024, successfully brought together a team of writers and subject-matter experts, including academic leader from the Sustainable Development Solutions Network (SDSN) Asia, Sunway University, as well as management representatives from PSTW to enhance the manuscript's content.

This initiative also reflects the continuity of a strong collaborative partnership between DOE and PSTW in scientific publication. Notably, the successful collaboration in 2022 produced the book Together, Protecting the Environment: Synergizing Stewardship and Commitments, which was officially launched during the Environmental Quality Act 1974 Compliance & Environmental Quality Monitoring Empowerment Symposium on 15 March 2023 in Sepang, Selangor.

Safeguarding Water Quality for a Sustainable Malaysia is specifically designed to serve as an authoritative and comprehensive reference for a wide range of stakeholders. The primary target audience includes the industrial sector, Local Authorities (PBT), government agencies, academics, students in Institutions of Higher Learning (IPT), and non-governmental organisations (NGOs).

The Department of Environment's (DOE) commitment to strengthening environmental literacy and reference resources will continue to be driven forward in the future. The Department deeply appreciates the dedication and collaboration of all parties involved in preparing this manuscript and hopes that similar partnerships will continue to advance the conservation of Malaysia's environment.



Mesyuarat Kerjasama Penerbitan Buku Ilmiah antara Jabatan Alam Sekitar dan Pakar Scieno TW Sdn. Bhd. pada 3 Disember 2024 di JAS Ibu Pejabat /
Meeting on the Collaboration for the Scientific Book Publication between the Department of Environment and Pakar Scieno TW Sdn. Bhd. on 3 December 2024 at DOE Headquarters



Bengkel Pemurnian Manuskrip Akhir pada 16 Januari 2025/
Workshop on the Refinement of the Final Manuscript on 16 January 2025



Bengkel Editorial bagi Memuktamadkan Draf Akhir Buku pada 26 Mac 2025 /
Editorial Workshop on the Final Draft of the Book on 26 March 2025

PELANCARAN BUKU "SAFEGUARDING WATER QUALITY FOR A SUSTAINABLE MALAYSIA" TERBITAN JABATAN ALAM SEKITAR

Jabatan Alam Sekitar (JAS) telah melakar satu lagi pencapaian bermakna dengan penganjuran Majlis Pelancaran Buku "Safeguarding Water Quality for a Sustainable Malaysia" pada 15 Oktober 2025. Majlis yang penuh bersejarah ini telah diadakan di Hall 1, Kuala Lumpur Convention Centre (KLCC), bersempena dengan penganjuran International Greentech & Eco Products Exhibition & Conference Malaysia (IGEM) 2025.

Acara gilang-gemilang ini telah dirasmikan oleh Yang Berhormat Dato' Sri Huang Tiong Sii, Timbalan Menteri Sumber Asli dan Kelestarian Alam (NRES). Majlis ini turut diserikan dengan kehadiran barisan pengurusan tertinggi, termasuk Ketua Setiausaha NRES - Datuk Dr. Ching Thoo a/l Kim, Timbalan Ketua Setiausaha (Kelestarian Alam) NRES - Datuk Nor Yahati binti Awang, Ketua Pengarah Alam Sekitar - Dato' Wan Abdul Latiff bin Wan Jaffar, Timbalan Ketua Pengarah (Operasi) JAS - Dr. Norhazni binti Mat Sari dan Timbalan Ketua Pengarah (Pembangunan) JAS - Puan Hajah Azuri Azizah binti Haji Saedon.

Penerbitan buku ilmiah ini merupakan hasil inisiatif dan kerjasama strategik antara JAS dan Syarikat Pakar Scieno TW Sdn. Bhd. Kejayaan merealisasikan penghasilan naskhah ini dari peringkat awal sehinggalah ke pelancarannya merupakan hasil usaha keras dan dedikasi padu Unit Penerbitan, Seksyen Penerbitan dan Perpustakaan, Bahagian Komunikasi Strategik JAS.

Buku ini diterbitkan khusus untuk mendokumenkan pengetahuan, pengalaman, serta amalan terbaik dalam pengurusan kualiti air di Malaysia, di samping menjadi wadah perkongsian ilmu yang komprehensif antara pihak kerajaan, industri, ahli akademik dan masyarakat awam. Paling utama, inisiatif ini menterjemahkan komitmen teguh JAS dalam meningkatkan kesedaran awam untuk menyokong Matlamat Pembangunan Mampan (SDG) 6: Air Bersih dan Sanitasi untuk Semua.

Dalam ucapan perasmian, YB Dato' Sri Huang Tiong Sii menekankan bahawa walaupun air merupakan anugerah Tuhan yang tidak ternilai, sumber penting ini semakin terancam oleh isu pencemaran, sisa buangan, lambakan plastik dan kesan perubahan iklim

LAUNCH OF THE BOOK "SAFEGUARDING WATER QUALITY FOR A SUSTAINABLE MALAYSIA" PUBLISHED BY THE DEPARTMENT OF ENVIRONMENT

The Department of Environment (DOE) marked another significant milestone with the launch of the book "Safeguarding Water Quality for a Sustainable Malaysia" on 15 October 2025. The historic event was held at Hall 1, Kuala Lumpur Convention Centre (KLCC), in conjunction with the International Greentech & Eco Products Exhibition & Conference Malaysia (IGEM) 2025.

The prestigious ceremony was officiated by the Honourable Dato' Sri Huang Tiong Sii, Deputy Minister of Natural Resources and Environmental Sustainability (NRES). The event was also graced by the presence of senior government officials, including the Secretary-General of NRES - Datuk Dr. Ching Thoo a/l Kim, Deputy Secretary-General (Environmental Sustainability) of NRES - Datuk Nor Yahati Awang, Director General of Environment - Dato' Wan Abdul Latiff Wan Jaffar, Deputy Director General (Operations) of DOE - Dr. Norhazni Mat Sari, and Deputy Director General (Development) of DOE - Puan Hajah Azuri Azizah Haji Saedon.

The publication of this scholarly book is the result of a strategic collaboration between DOE and Pakar Scieno TW Sdn. Bhd. The successful realisation of this publication from its initial concept to its official launch reflects the strong commitment, dedication, and concerted efforts of the Publication Unit under the Publication and Library Section, Strategic Communication Division of DOE.

The book was published with the objective of documenting knowledge, experiences, and best practices in water quality management in Malaysia. It also serves as a comprehensive platform for knowledge sharing among government agencies, industry players, academia, and the public. Most importantly, the initiative reflects DOE's strong commitment to raising public awareness in support of the Sustainable Development Goal (SDG) 6: Clean Water and Sanitation for All.

In his officiating speech, the Honourable Deputy Minister emphasised that although water is a priceless gift from God, this vital resource is increasingly threatened by pollution, waste discharge, plastic pollution, and the growing impacts of climate change.

yang semakin ketara. Beliau mengingatkan bahawa cabaran ini boleh menjejaskan kesihatan rakyat dan mengancam keselamatan makanan (SDG 2 dan SDG 3), melemahkan daya tahan iklim (SDG 13), serta merosakkan ekosistem marin (SDG 14) yang menjadi khazanah bersama.

He highlighted that these challenges may affect public health and food security (SDG 2 and SDG 3), weaken climate resilience (SDG 13), and harm marine ecosystems (SDG 14), which are shared natural assets.

Beliau turut memuji penerbitan buku ini kerana ia sarat dengan penyelesaian inovatif masa hadapan.

He also commended the publication of the book, noting that it presents forward-looking and innovative solutions for future water management.

Antara yang dikupas di dalam buku ini termasuklah potensi menukar air sisa kepada sumber tenaga bersih, penggunaan aplikasi hidroinformatik, teknologi penderiaan jauh dan pemodelan air bersepadu. Buku ini juga memuatkan strategi di peringkat nasional seperti Total Maximum Daily Load (TMDL), di samping berkongsi pengalaman berharga pengurusan air di negeri Selangor, Sabah dan Sarawak, serta inisiatif komuniti yang mampu mencegah pencemaran.

Among the topics discussed in the book are the potential of transforming wastewater into a source of clean energy, the application of hydroinformatics, remote sensing technologies, and integrated water modelling. The publication also highlights national-level strategies such as the Total Maximum Daily Load (TMDL) approach, while sharing valuable experiences in water management practices in the states of Selangor, Sabah, and Sarawak, as well as community-based initiatives that contribute to pollution prevention.

Kemuncak majlis perasmian ini telah disempurnakan menerusi satu gimik pelancaran simbolik di mana YB Timbalan Menteri meletakkan tapak tangan di atas skrin interaktif. Seterusnya, majlis diserikan dengan sesi penyerahan buku oleh Dato' Ketua Pengarah Alam Sekitar kepada YB Timbalan Menteri, diikuti dengan sesi bergambar bersama dif-dif kehormat dan barisan penulis sambil memegang naskhah tersebut.

The highlight of the ceremony was the symbolic launch gimmick, where the Honourable Deputy Minister activated the book launch by placing his hand on an interactive screen. This was followed by a book presentation session, during which the Director General of Environment presented a copy of the book to the Deputy Minister. The ceremony concluded with a photography session involving the distinguished guests and contributing authors, each holding a copy of the publication.

Pelancaran naskhah ini membuktikan kesungguhan kerajaan dalam memperluaskan liputan pemantauan kualiti air, memperkukuh penguatkuasaan, serta mempertingkatkan kolaborasi pelbagai pihak demi kelestarian sumber air negara.

The launch of this publication demonstrates the Government's commitment to expanding water quality monitoring coverage, strengthening enforcement efforts, and enhancing multi-stakeholder collaboration in safeguarding the nation's water resources.

Buku ini diharapkan dapat dijadikan panduan serta inspirasi oleh penggubal dasar, pemimpin, pemain industri, ahli akademik dan masyarakat awam ke arah memastikan sumber air Malaysia kekal bersih, sihat dan berdaya tahan untuk diwariskan kepada generasi akan datang.

It is hoped that this book will serve as a valuable reference and source of inspiration for policymakers, leaders, industry players, academics, and the public in ensuring that Malaysia's water resources remain clean, healthy, and resilient for future generations.



Pengacara Majlis Mengalu-alukan Kehadiran Para Tetamu Sebelum Sesi Perasmian
Master of Ceremonies Welcoming Guests Prior to the Opening Session



Officiating Speech by The Honourable Dato' Sri Huang Tiong Sii, Deputy Minister of Natural Resources and Environmental Sustainability (NRES)

Ucapan Perasmian oleh Yang Berhormat Dato' Sri Huang Tiong Sii, Timbalan Menteri Sumber Asli dan Kelestarian Alam (NRES)
Officiating Speech by The Honourable Dato' Sri Huang Tiong Sii, Deputy Minister of Natural Resources and Environmental Sustainability (NRES)



Sesi Bergambar bersama Dif-dif Kehormat selepas Sesi Penyerahan Buku oleh Dato' Ketua Pengarah Alam Sekitar kepada YB Timbalan Menteri
Photo Session with VVIPs Following the Book Handover Session by the Director-General of Environment to the Deputy Minister



Sesi Bergambar bersama Dif-dif Kehormat dan Barisan Penulis sambil Memegang Senaskhah Buku
Photo Session with Dignitaries and Authors Holding a Copy of the Book



Pengurusan Tertinggi JAS bersama Ketua Setiausaha NRES, Datuk Dr. Ching Thoo a/l Kim
JAS Top Management with the Secretary General of NRES, Datuk Dr. Ching Thoo a/l Kim



Sesi Bergambar Pengurusan Tertinggi JAS bersama Barisan Penulis yang Hadir
Photo Session of DOE Top Management with the Attending Authors



Pengurusan Tertinggi JAS Bergambar bersama Sekretariat Komunikasi Strategik yang Terlibat bagi Penganjuran Majlis
Photo Session of DOE Top Management with the Strategic Communication Secretariat Involved in Organizing the Event



Ketua Setiausaha NRES, Datuk Dr. Ching Thoo a/l Kim Menurunkan Tandatangan ke atas Senaskhah Buku
Secretary General of NRES, Datuk Dr. Ching Thoo a/l Kim Signing a Copy of the Book

BENGKEL PENYELARASAN SEMULA PELAN STRATEGIK JABATAN ALAM SEKITAR 2021 – 2030

Bagi memastikan perancangan dan hala tuju Jabatan Alam Sekitar (JAS) kekal relevan dengan keadaan semasa, kemajuan teknologi, serta cabaran baharu pengurusan alam sekitar, Bengkel Penyelarasan Semula Pelan Strategik JAS 2021–2030 (juga dikenali sebagai Bengkel Penyelarasan Pelan Komunikasi, Pendidikan dan Kesedaran Alam Sekitar) telah dianjurkan. Bengkel yang berlangsung selama empat hari bermula dari 8 hingga 11 Julai 2025 ini telah diadakan di Hotel Mercure Kuala Lumpur Glenmarie, Shah Alam.

Bengkel telah dimulakan dengan ucapan alu-aluan oleh Puan Hajah Azuri Azizah binti Haji Saedon, Pengarah Bahagian Komunikasi Strategik. Unit Penerbitan di bawah Bahagian Komunikasi Strategik telah menggalas tanggungjawab besar sebagai urus setia bagi memastikan kelancaran bengkel ini.

Bengkel ini telah menghimpunkan seramai 35 orang peserta yang merupakan wakil Bahagian yang terdiri daripada pelbagai peringkat perjawatan. Ia terdiri daripada wakil Pengurusan, pegawai kumpulan Pengurusan dan Profesional (P&P), serta Kumpulan Pelaksana. Penglibatan komprehensif merentas Bahagian ini penting bagi memastikan perancangan yang dihasilkan bersifat inklusif dan merangkumi keseluruhan fungsi Jabatan dan bagi memastikan setiap pemegang taruh dalam JAS dapat menyumbang kepada pemurnian indikator prestasi jabatan.

Pengisian program yang berstruktur dan berfokus sepanjang empat (4) hari penganjurannya telah disusun secara intensif bagi mencapai objektif penilaian dan penyelarasan semula Pelan Strategik JAS. Pengisian program adalah seperti berikut:

- Hari Pertama: Perasmian, taklimat perjalanan bengkel dan sesi Pembentangan Pencapaian Pelan Strategik JAS sehingga Disember 2024 oleh setiap wakil Bahagian.

- Hari Kedua: Sesi penilaian prestasi pelaksanaan program bagi tahun 2021 hingga 2024, mengenal pasti ruang penambahbaikan, perbincangan kumpulan yang intensif bagi menyediakan draf perancangan dan strategi pelaksanaan program untuk tahun 2025 dan 2026.

REVIEW AND ALIGNMENT WORKSHOP OF THE DEPARTMENT OF ENVIRONMENT STRATEGIC PLAN 2021–2030

To ensure that the planning and strategic direction of the Department of Environment (DOE) remain relevant to current conditions, technological advancements, and emerging challenges in environmental management, the Review and Alignment Workshop of the DOE Strategic Plan 2021–2030 (also known as the Environmental Communication, Education and Awareness Plan Alignment Workshop) was successfully held. The four-day workshop, held from 8 to 11 July 2025, took place at Mercure Kuala Lumpur Glenmarie Hotel, Shah Alam.

The workshop commenced with a welcoming address by Puan Hajah Azuri Azizah binti Haji Saedon, Director of the Strategic Communication Division. The Publication Unit under the Strategic Communication Division carried a significant responsibility as the secretariat, ensuring the smooth implementation of the workshop.

The workshop brought together a total of 35 participants, comprising representatives from various divisions and levels of service. These included representatives from Management, officers from the Management and Professional Group (P&P), as well as the Implementing Group. This comprehensive cross-divisional participation was essential to ensure that the planning developed is inclusive and encompasses the full spectrum of the Department's functions, while also enabling all DOE stakeholders to contribute to refining the Department's key performance indicators.

The structured and focused programme over the four (4) days was intensively designed to achieve the objectives of evaluating and realigning the DOE Strategic Plan. The programme content was as follows:

- Day One: Opening ceremony, briefing on the workshop flow, and presentation sessions on the achievements of the DOE Strategic Plan up to December 2024 by representatives from each division.

- Day Two: Evaluation of programme implementation performance for the year 2021 to 2024, identification of areas for improvement, and intensive group discussions to prepare draft planning and implementation strategies for programmes in 2025 and 2026.

- Hari Ketiga: Perbincangan Penyediaan Kamus Pelan Tindakan Program/Inisiatif bagi tahun 2025 dan 2026.
- Hari Keempat: Pembentangan Program/Inisiatif 2025 dan 2026 yang telah dimurnikan oleh setiap bahagian, sesi rumusan dan penutup.

Melalui pengisian bengkel yang padat ini, JAS telah menetapkan transformasi penting di mana kriteria KPI baharu diwajibkan berteraskan konsep SMART (*Specific, Measurable, Achievable, Relevant, Time-bound*). Format baharu ini direka bentuk bagi peralihan kepada KPI berorientasikan hasil (*outcome-based*) bagi menyelesaikan isu-isu spesifik.

Komitmen padu daripada semua peserta sepanjang sesi bengkel telah membuahkan hasil yang sangat positif. Antara output utama bengkel ini termasuklah penyediaan senarai KPI yang telah ditambah baik, kerangka perancangan program 2025-2026, dan pembentukan satu (1) Kamus Pelan Tindakan yang komprehensif sebagai dokumen rujukan rasmi Jabatan. Bengkel ini juga mewujudkan format pelaporan pencapaian baharu yang berasaskan impak.

Bermula Januari 2026, pelaporan pencapaian setiap Bahagian dicadangkan dilaksanakan secara berkala sebanyak tiga kali setahun. Kesimpulannya, inisiatif penjajaran semula ini akan memastikan Pelan Strategik JAS 2021-2030 kekal menjadi instrumen yang relevan memandu warga JAS ke arah kecemerlangan pengurusan alam sekitar negara.

- Day Three: Discussions on the preparation of the Programme/ Initiative Action Plan Dictionary for 2025 and 2026.
- Day Four: Presentation of refined Programme/ Initiative plans for 2025 and 2026 by each division, followed by summary and closing sessions.

Through this comprehensive workshop, the DOE established a significant transformation whereby new KPI criteria are mandated based on the SMART concept (Specific, Measurable, Achievable, Relevant, Time-bound). This new format is designed to transition towards outcome-based KPIs aimed at addressing specific environmental issues.

The strong commitment demonstrated by all participants throughout the workshop sessions yielded highly positive outcomes. Key outputs of the workshop include the development of an improved list of KPIs, a programme planning framework for 2025–2026, and the establishment of a comprehensive Action Plan Dictionary as an official departmental reference document. The workshop also introduced a new impact-based performance reporting format.

Beginning January 2026, it is proposed that performance reporting by each division be conducted periodically, three times a year. In conclusion, this realignment initiative will ensure that the DOE Strategic Plan 2021–2030 remains as an instrument that continues to guide DOE personnel towards excellence in national environmental management.



Gambar Sepanjang Sesi Bengkel 8 – 11 Julai 2025 di Hotel Mercure Kuala Lumpur Glenmarie, Shah Alam
Photos Throughout the Workshop Session, 8–11 July 2025 at Mercure Kuala Lumpur Glenmarie Hotel, Shah Alam



Gambar Sepanjang Sesi Bengkel 8 – 11 Julai 2025 di Hotel Mercure Kuala Lumpur Glenmarie, Shah Alam
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KOLABORASI STRATEGIK PENYAMPAIAN MAKLUMAT IPU BERSAMA JABATAN METEOROLOGI MALAYSIA

Tahun 2025 menyaksikan kepelbagaian kaedah penyampaian maklumat Jabatan yang terus diperkasakan melalui pelbagai inisiatif berterusan serta kerjasama strategik bersama agensi dan jabatan berkaitan. Dalam usaha mempertingkat kecekapan komunikasi awam, Jabatan Alam Sekitar (JAS) meneruskan perancangan dan pelaksanaan inisiatif kolaboratif bersama Jabatan Meteorologi Malaysia (MetMalaysia) dalam penyampaian maklumat Indeks Pencemaran Udara (IPU).

Kerjasama strategik ini merupakan satu inisiatif penting dalam memperkukuh penyampaian perkhidmatan awam yang lebih cekap, bersepadu dan berimpak tinggi. Kolaborasi tersebut melibatkan perkongsian data meteorologi dan data alam sekitar secara sistematik dan tepat, sekali gus menyokong analisis kualiti udara yang lebih komprehensif serta berautoriti.

Penyelarasan maklumat antara kedua-dua agensi ini mencerminkan komitmen berterusan ke arah penambahbaikan sistem penyampaian maklumat IPU agar dapat disampaikan secara pantas, konsisten dan diyakini oleh masyarakat. Seiring dengan usaha tersebut, laporan IPU turut disiarkan secara berkala dua kali setiap hari bermula 16 Mei 2025 melalui saluran televisyen di platform Radio Televisyen Malaysia (RTM) sebagai medium komunikasi utama kepada rakyat.

Penyampaian maklumat secara langsung dan berterusan ini membolehkan masyarakat memperoleh maklumat kualiti udara dengan lebih cepat dan tepat. Pendekatan ini secara tidak langsung meningkatkan tahap kesiapsiagaan awam serta kesedaran terhadap kepentingan penjagaan kesihatan dan pemeliharaan alam sekitar.

Melalui pendekatan kolaboratif ini, usaha pendidikan dan pembudayaan pemeliharaan alam sekitar dapat diperkasakan secara lebih menyeluruh dan berkesan. Penyampaian maklumat yang jelas, mudah difahami dan tepat pada masanya membantu masyarakat memahami peranan serta tanggungjawab masing-masing dalam mengurangkan pencemaran dan mengamalkan gaya hidup lestari.

Kerjasama erat antara JAS dan MetMalaysia ini mencerminkan komitmen berterusan Kerajaan

STRATEGIC COLLABORATION ON AIR POLLUTANT INDEX (API) INFORMATION DISSEMINATION WITH THE MALAYSIAN METEOROLOGICAL DEPARTMENT

The year 2025 witnessed the continued diversification and strengthening of the Department's information dissemination approaches through sustained initiatives and strategic collaborations with relevant agencies and departments. In efforts to enhance the efficiency of public communication, the Department of Environment (DOE) continued the planning and implementation of collaborative initiatives with the Malaysian Meteorological Department (MetMalaysia) in disseminating information on the Air Pollutant Index (API).

This strategic collaboration represents a significant initiative in strengthening the delivery of public services that are more efficient, integrated, and high impact. The partnership involves the systematic and accurate sharing of meteorological and environmental data, thereby supporting more comprehensive and authoritative air quality analysis.

The coordination of information between the two agencies reflects a continuous commitment toward improving the API information delivery system to ensure that reports are communicated promptly, consistently, and reliably to the public. In line with this effort, API reports have been broadcast regularly twice daily beginning 16 May 2025 via television channels on the Radio Televisyen Malaysia (RTM) platform as a primary communication medium to the public.

The direct and continuous dissemination of information enables the public to obtain air quality updates more quickly and accurately. This approach indirectly enhances public preparedness and raises awareness of the importance of safeguarding health and protecting the environment.

Through this collaborative approach, environmental education and the cultivation of environmental stewardship can be strengthened in a more comprehensive and effective manner. The delivery of clear, easily understood, and timely information helps the public better understand their roles and responsibilities in reducing pollution and adopting sustainable lifestyles.

The close cooperation between DOE and MetMalaysia reflects the Government's ongoing commitment to

dalam memperkukuh tadbir urus alam sekitar melalui integrasi kepakaran antara agensi. Inisiatif ini bukan sahaja meningkatkan kecekapan operasi dalam penyampaian maklumat, malah turut menyumbang kepada pembentukan masyarakat yang lebih peka dan bertanggungjawab terhadap kualiti alam sekitar demi kesejahteraan generasi masa kini dan akan datang.

PEMERKASAAN PENYAMPAIAN MAKLUMAT DAN HUBUNGAN STRATEGIK MEDIA

Unit Komunikasi Korporat (UKK) terus memainkan peranan strategik sebagai penghubung utama antara Jabatan Alam Sekitar (JAS) dan masyarakat. UKK bertanggungjawab memastikan penyampaian maklumat yang tepat, berkesan dan berintegriti, di samping memperkukuh imej organisasi serta membina hubungan strategik yang mampan bersama media dan pemegang taruh.

Sepanjang tahun 2025, UKK menumpukan usaha kepada pemerkasaan penyampaian maklumat melalui pelbagai platform komunikasi, merangkumi media elektronik, media cetak, media digital, radio dan podcast. Pendekatan bersepadu ini memastikan mesej JAS dapat disampaikan secara menyeluruh kepada semua lapisan masyarakat, sekali gus meningkatkan kesedaran awam terhadap program, perkhidmatan dan inisiatif Jabatan.

Platform promosi dan publisiti melalui media mempunyai kelebihan yang signifikan dalam menjangkau khalayak yang luas, termasuk kemampuan menyampaikan mesej kepada jutaan penonton dalam satu-satu masa. Kaedah ini amat berkesan dalam memperluas kesedaran mengenai penyampaian perkhidmatan Jabatan. Liputan di saluran televisyen dan platform media yang berprestij turut meningkatkan kredibiliti serta membina keyakinan masyarakat terhadap profesionalisme JAS.

Di samping itu, penggunaan elemen visual dan audio yang berimpak tinggi mampu mempengaruhi persepsi, kesedaran dan tindakan masyarakat terhadap sesuatu isu alam sekitar. Pendekatan paparan berulang secara konsisten membantu memperkukuh ingatan dan pengenalan terhadap mesej utama Jabatan. Strategi pemetaan khalayak secara demografi juga dilaksanakan melalui pemilihan saluran dan program yang bersesuaian, membolehkan penyampaian mesej disasarkan mengikut minat, umur dan lokasi audiens.

strengthening environmental governance through the integration of inter-agency expertise. This initiative not only enhances operational efficiency in information dissemination but also contributes to fostering a more environmentally conscious and responsible society for the well-being of present and future generations.

STRENGTHENING INFORMATION DISSEMINATION AND STRATEGIC MEDIA RELATIONS

The Corporate Communications Unit (CCU) continues to play a strategic role as the primary liaison between the Department of Environment (DOE), and the public. The CCU is responsible for ensuring the delivery of accurate, effective, and credible information, while strengthening the Department's corporate image and fostering sustainable strategic relationships with the media and stakeholders.

Throughout 2025, the CCU focused on enhancing information dissemination through various communication platforms, including electronic media, print media, digital media, radio, and podcasts. This integrated approach ensured that DOE messages were delivered comprehensively to all segments of society, thereby increasing public awareness of the Department's programmes, services, and initiatives.

Media promotion and publicity platforms offer significant advantages in reaching wide audiences, including the ability to deliver messages to millions of viewers at any one time. This method is highly effective in expanding awareness of the Department's service delivery. Coverage on reputable television channels and established media platforms further enhances credibility and strengthens public confidence in DOE's professionalism.

In addition, the use of high-impact visual and audio elements can effectively influence public perception, awareness, and action regarding environmental issues. Consistent and repeated message exposure reinforces public recall and recognition of the Department's key messages. Audience demographic mapping strategies are also implemented through careful selection of appropriate channels and programmes, enabling targeted communication based on interests, age groups, and geographical locations.

IMPAK PEMERKASAAN PENYAMPAIAN MAKLUMAT

Peningkatan Capaian dan Kesedaran Awam

Penyampaian maklumat melalui pelbagai platform memastikan mesej JAS dapat dicapai oleh semua lapisan masyarakat, termasuk golongan muda serta komuniti luar bandar, sekali gus meningkatkan tahap kesedaran terhadap isu dan tanggungjawab alam sekitar.

Pengukuhan Hubungan Strategik Media

Kerjasama berterusan dengan rakan media seperti Astro Awani, TV3, Bernama, RTM, Harian Metro Podcast, Slot Radio Sharing is Caring dan Kool FM telah memperkukuh jaringan strategik antara JAS dan pengamal media. Kolaborasi ini menyumbang kepada liputan yang lebih meluas, tepat dan berkesan.

Kesinambungan Pendidikan Alam Sekitar

Penggunaan pelbagai platform komunikasi membolehkan program pendidikan serta advokasi alam sekitar dilaksanakan secara berulang dan konsisten. Pendekatan ini membantu masyarakat memahami isu alam sekitar dengan lebih jelas dan menyeluruh.

Liputan Media Bersepadu

Gabungan media cetak, elektronik, digital, radio dan podcast saling melengkapi antara satu sama lain dalam memastikan setiap program dan inisiatif JAS mendapat liputan yang komprehensif serta penyampaian maklumat yang tepat.

Sepanjang tahun 2025, UKK berjaya memperkukuh komunikasi strategik Jabatan Alam Sekitar melalui pemerkasaan penyampaian maklumat merentasi pelbagai platform, termasuk televisyen, agensi berita, radio dan podcast. Strategi komunikasi bersepadu ini bukan sahaja meningkatkan kesedaran awam terhadap isu alam sekitar serta Indeks Pencemaran Udara (IPU) malah memperkukuh hubungan strategik antara JAS, media dan komuniti.

Kejayaan ini mencerminkan komitmen berterusan Jabatan dalam mendidik masyarakat serta membudayakan pemeliharaan dan pemuliharaan alam sekitar secara sistematik, bersepadu dan berkesan.

IMPACT OF STRENGTHENED INFORMATION DISSEMINATION

Increased Reach and Public Awareness

The dissemination of information through multiple platforms ensures that DOE messages reach all segments of society, including youth and rural communities, thereby enhancing awareness of environmental issues and shared responsibilities.

Strengthened Strategic Media Relations

Ongoing collaboration with media partners such as Astro Awani, TV3, Bernama, Radio Televisyen Malaysia (RTM), Harian Metro Podcast, Radio Slot Sharing is Caring, and Kool FM has strengthened strategic networks between DOE and media practitioners. These collaborations contribute to broader, more accurate, and more effective media coverage.

Continuity of Environmental Education

The utilisation of diverse communication platforms enables environmental education and advocacy programmes to be implemented consistently and repeatedly. This approach supports clearer and more comprehensive public understanding of environmental issues.

Integrated Media Coverage

The integration of print, electronic, digital, radio, and podcast platforms ensures that every DOE programme and initiative receives comprehensive coverage and accurate information dissemination.

Throughout 2025, the CCU successfully strengthened the strategic communications of the Department of Environment Malaysia by enhancing information dissemination across various platforms, including television, news agencies, radio, and podcasts. This integrated communication strategy not only increased public awareness of environmental issues and the Air Pollutant Index (API), but also reinforced strategic relationships between DOE, media, and the community.

This achievement reflects the Department's continued commitment to educating the public and fostering a culture of environmental protection and conservation in a systematic, integrated, and effective manner.







Kolaborasi Strategik Penyampaian Maklumat IPU Bersama Jabatan Meteorologi Malaysia
Strategic Collaboration on Air Pollutant Index (API) Information Dissemination with the Malaysian Meteorological Department









Program-program Jabatan bersama Stesen Televisyen
DOE's Programmes in Collaboration with Television Stations







Program bersama Media
Engagement Programme with the Media





Program bersama Media/ Engagement Programme with the Media











Program-program Jabatan Bersama Stesen Radio di Malaysia/
DOE's Programmes Collaboration with Radio Stations in Malaysia.



Portal SLAAS
SLAAS Portal

PROGRAM PENDIDIKAN ALAM SEKITAR PERINGKAT SEKOLAH

Program Sekolah Lestari Anugerah Alam Sekitar (SLAAS) telah memasuki kitar kesepuluh bagi sesi 2025/2026. Sehingga kitar kesembilan, sebanyak 1,737 sekolah (merangkumi sekolah rendah dan menengah) telah menyertai program ini. Oleh itu bagi meningkatkan penyertaan sekolah-sekolah di seluruh negara, Jabatan Alam Sekitar (JAS) telah mengambil inisiatif membangunkan Sistem MySLAAS pada tahun 2023. Sistem ini telah dibangunkan dengan menggunakan peruntukan di bawah Rancangan Malaysia Kedua Belas (RMKe-12). Tujuan utama pembangunan MySLAAS adalah bagi memastikan pendaftaran, penilaian dan penyimpanan laporan dan data SLAAS yang lebih mudah dan sistematik.

PROMOSI SLAAS PERINGKAT KEBANGSAAN

Meneruskan legasi yang bermula pada tahun 2005, Program Sekolah Lestari Anugerah Alam Sekitar (SLAAS) kini berada dalam dekad kedua. Sekolah-sekolah boleh mendaftarkan penyertaan mereka untuk sesi 2025/2026 mulai 22 April 2025 hingga 28 Februari 2026.

Satu Bengkel Promosi dan Libat Urus SLAAS Sesi 2025/2026 telah dianjurkan pada 14-15 Julai 2025 oleh JAS sebagai platform strategik untuk memperluas hebahan dan meningkatkan kefahaman warga pendidikan terhadap matlamat serta pelaksanaan Program Sekolah Lestari Anugerah Alam Sekitar ke seluruh negara.

ENVIRONMENTAL EDUCATION PROGRAMME AT SCHOOL LEVEL

The Sustainable School Enviromental Award Programme (SLAAS) has entered the tenth cycle for the 2025/2026 session. As of the ninth cycle, a total of 1,737 schools (including primary and secondary schools) have participated in this programme. Therefore, to increase the participation of schools across the country, the Department of Environment (DOE) has taken the initiative to develop the MySLAAS system in 2023. This system has been developed using allocations under the Twelfth Malaysia Plan (12MP). The main purpose of developing MySLAAS is to facilitate easier and more systematic and systematic registration, assessment, and storage of SLAAS reports and data.

NATIONAL LEVEL SLAAS PROMOTION

Continuing the legacy that began in 2005, the Sustainable School Environmental Award Programme (SLAAS) is now in its second decade. Schools can register their participation for the 2025/2026 session from 22 April 2025 to 28 February 2026.

A Promotion and Engagement Workshop for the 2025/2026 SLAAS Session was organised on 14-15 July 2025 by the Department of Environment (DOE) as a strategic platform to expand outreach and enhance the understanding of the education community regarding the objectives and implementation of the the Sustainable School Environmental Award Programme (SLAAS) nationwide.

Bengkel ini telah berjaya menghimpunkan lebih 80 pegawai dari Jabatan Alam Sekitar (JAS), Kementerian Pendidikan Malaysia (KPM), Institut Alam Sekitar dan Pembangunan (LESTARI UKM), Jabatan Pendidikan Negeri (JPN), Pejabat Pendidikan Daerah (PPD) dari seluruh negara serta sekolah berhampiran.

SLAAS merupakan platform pengiktirafan kepada sekolah yang berjaya membudayakan amalan kelestarian alam sekitar secara menyeluruh melalui komponen pengurusan, kurikulum, kokurikulum, penghijauan dan elemen khas.

Menariknya, kitaran kesepuluh ini menyaksikan pelaksanaan penuh secara digital melalui sistem MySLAAS, selaras dengan keperluan semasa dan memperkukuh kecekapan penilaian.

Buat julung kalinya, Podcast: Hijau Dari Akar mengenai kisah kejayaan Sekolah Kebangsaan Bukit Mutiara, Johor iaitu penerima Anugerah Sekolah Lestari Peringkat Kebangsaan Sesi 2023/2024 dibawakan secara eksklusif dan disiarkan secara langsung melalui Facebook JAS.

The workshop successfully brought together more than 80 officers from the Department of Environment (DOE), Ministry of Education Malaysia (MOE), Institute for Environment and Development (LESTARI UKM), State Education Departments (JPN), District Education Offices (PPD) from across the country, as well as nearby schools.

SLAAS serves as a recognition platform for schools that successfully cultivate a comprehensive culture of environmental sustainability through the components of management, curriculum, co-curriculum, greening initiatives, and special elements.

Notably, the tenth cycle marks the full digital implementation through the MySLAAS system, in line with current needs and to strengthen assessment efficiency.

For the first time, the Podcast: Hijau Dari Akar, featuring the success story of Sekolah Kebangsaan Bukit Mutiara, Johor, recipient of the National-Level Sustainable School Award for the 2023/2024 session was presented exclusively and broadcast live on the DOE Facebook page.



Ucapan Perasmian Bengkel oleh Puan Hajah Azuri Azizah binti Haji Saedon, Pengarah Bahagian Komunikasi Strategik/
Opening Speech of Workshop by Madam Hajah Azuri Azizah binti Haji Saedon, Director of Strategic Communication Division



Sesi Podcast bersama Guru Besar dan Murid Sek. Keb. Bukit Mutiara, Johor/
Podcast Session with the Headmaster and Students of Sek. Keb. Bukit Mutiara, Johor



Bengkel Promosi dan Libat Urus SLAAS Sesi 2025/2026 di Port Dickson, Negeri Sembilan
SLAAS Promotion and Engagement Workshop for the 2025/2026 Session in Port Dickson, Negeri Sembilan

SEKOLAH ANGKAT MADANI (SAM) 2025 JAS: MEMACU KUALITI PENDIDIKAN LESTARI

Program Sekolah Angkat MADANI (SAM) merupakan salah satu inisiatif kerajaan yang diselaraskan oleh Kementerian Kewangan (MOF) dengan kerjasama Kementerian Pendidikan Malaysia (KPM) dalam meningkatkan kualiti penyampaian kerajaan dan manfaat kepada warga sekolah.

Bagi tahun 2025, Jabatan Alam Sekitar (JAS) telah memilih Sekolah Kebangsaan Kampung Tun Razak, Melaka sebagai Sekolah Angkat MADANI (SAM) berdasarkan komitmen cemerlang sekolah tersebut dalam mengaplikasikan amalan lestari, memanfaatkan infrastruktur mesra alam dan mengangkat aspirasi Program SLAAS ke peringkat komuniti. Pemilihan ini turut menjadi pengiktirafan atas pencapaian sekolah yang meraih Anugerah SLAAS Sesi 2023/2024 Peringkat Negeri Melaka.

Melalui inisiatif ini, sekolah telah menerima peruntukan RM100,000.00 bagi melaksanakan projek mengikut Garis Panduan Pelaksanaan SAM yang telah ditetapkan. Di bawah bimbingan JAS, Sekolah Kebangsaan Kampung Tun Razak telah berjaya melaksanakan dua projek berimpak tinggi, iaitu:

1. Projek Pembinaan Rumah Hijau (sayuran) dan Penternakan Ikan Air Tawar secara Akuaponik, dan
2. Projek Pendigitalan Pusat Sumber Sekolah.

Program ini, yang bermula pada Julai 2025 dan disiapkan sepenuhnya pada November 2025, menjadi simbol komitmen JAS dan pihak sekolah dalam memperkukuh pendidikan holistik serta kesejahteraan rakyat selaras agenda Malaysia MADANI.

Majlis Perasmian Program SAM ini telah disempurnakan oleh Dato' Wan Abdul Latiff bin Wan Jaffar, Ketua Pengarah Alam Sekitar pada 27 November 2025. Majlis turut dihadiri pegawai kanan KPM, Pejabat Pendidikan Daerah Melaka Tengah, LESTARI, Universiti Kebangsaan Malaysia (UKM), Persatuan Ibu Bapa dan Guru (PIBG) serta warga sekolah.

Dalam majlis yang sama, JAS turut **melancarkan Buku Garis Panduan Pelaksanaan dan Penilaian SLAAS Edisi Kedua 2025**, iaitu dokumen rujukan rasmi bagi kitar Ke-10 Program SLAAS sesi 2025/2026. Penerbitan edisi baharu ini amat signifikan memandangkan garis panduan terdahulu yang diterbitkan pada tahun 2004 perlu disemak semula agar selaras dengan keperluan

MADANI ADOPTED SCHOOL (SAM) 2025 JAS: DRIVING QUALITY SUSTAINABLE EDUCATION

The MADANI Adopted School (SAM) Programme is one of the key government initiatives coordinated by the Ministry of Finance (MOF) in collaboration with the Ministry of Education Malaysia (MOE) to enhance the quality of government service delivery and provide benefits to the school community.

For 2025, the Department of Environment (DOE) has selected Sekolah Kebangsaan Kampung Tun Razak, Melaka as its MADANI Adopted School (SAM) based on the school's excellent commitment to applying sustainable practices, utilising eco-friendly infrastructure, and uplifting the aspirations of the SLAAS Programme to the community level. This selection also serves as recognition of the school's achievement in winning the Melaka State-Level SLAAS Award for the 2023/2024 Session.

Through this initiative, the school has received an allocation of RM100,000.00 to implement projects according to the stipulated SAM Implementation Guidelines. Under the guidance of DOE, Sekolah Kebangsaan Kampung Tun Razak has successfully carried out two high-impact projects, namely:

1. Greenhouse (vegetables) and Freshwater Fish Aquaponics Farming Project, and
2. School Resource Centre Digitisation Project.

This programme, which commenced in July 2025 and was fully completed in November 2025, symbolises DOE's and the school's commitment to strengthening holistic education and public well-being in line with the Malaysia MADANI agenda.

The SAM Programme Official Launch Ceremony was officiated by Dato' Wan Abdul Latiff bin Wan Jaffar, Director General of Environment on 27 November 2025. The ceremony was also attended by senior officials from MOE, Melaka Tengah District Education Office, LESTARI, Universiti Kebangsaan Malaysia (UKM), Parent-Teacher Association (PIBG), and the school community.

In the same ceremony, DOE also launched **Second Edition 2025 of the SLAAS Implementation and Evaluation Guidelines Book Second Edition 2025** which is the official reference document for the 10th cycle of the SLAAS Programme for the 2025/2026 session. The publication of this new edition is highly significant given that the previous guidelines published in 2004

Pendidikan untuk Pembangunan Lestari (ESD) serta Matlamat Pembangunan Mampan (SDG). Edisi ini turut mengintegrasikan penggunaan sistem MySLAAS dan juga Modul Kelab Alam Sekitar Sekolah.

Penambahbaikan ini dijangka akan meningkatkan kecekapan pelaksanaan program SLAAS serta menyokong agenda kelestarian negara melalui pembentukan generasi yang bertanggungjawab terhadap alam sekitar.

needed to be revised to align with the requirements of Education for Sustainable Development (ESD) and the Sustainable Development Goals (SDG). This edition also integrates the use of the MySLAAS system and School Environmental Club Module.

These improvements are expected to increase the efficiency of the SLAAS programme implementation and support the national sustainability agenda through the formation of an environmentally responsible generation.



Ketua Pengarah Jabatan Alam Sekitar bersama Guru Besar Sek. Keb. Kg. Tun Razak, Melaka semasa Majlis Perasmian SAM 2025 /
Director-General of the Department of Environment with the Headmaster of Sek. Keb. Kg. Tun Razak, Melaka during the SAM 2025 Official Launch Ceremony



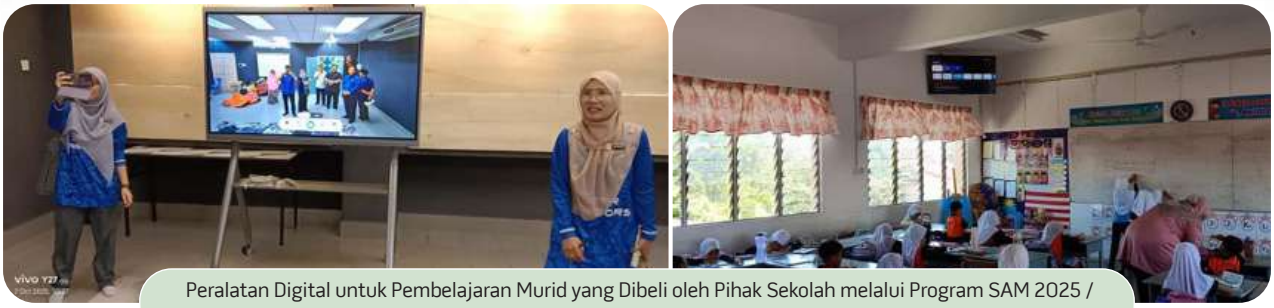
Sesi Foto Dif-dif Kehormat bagi Upacara Perasmian SAM 2025 dan Peluncuran Buku Garis Panduan Pelaksanaan dan Penilaian SLAAS Edisi Kedua 2025/
Photo Session of Distinguished Guests during the Official Launch of the 2025 SAM and SLAAS Implementation and Assessment Guidelines, Second Edition 2025



Ketua Pengarah Jabatan Alam Sekitar Memberi Makanan kepada ikan keli yang Diternak Pihak Sekolah melalui Program SAM 2025 /
Director General of the Department of Environment Fed Catfish Reared by the School through SAM 2025 Programme



Penerangan oleh Guru Besar Sek. Keb. Kg. Tun Razak, Melaka Tanaman Sayur di Rumah Hijau di Sekolah kepada Ketua Pengarah JAS /
Briefing by Headmaster of Sek. Keb. Kg. Tun Razak, Melaka, to Director General of DOE regarding Vegetables in the School's Greenhouse



Peralatan Digital untuk Pembelajaran Murid yang Dibeli oleh Pihak Sekolah melalui Program SAM 2025 / Digital Learning Tools for Student's Learning Purchased by the School through SAM 2025 Programme



Muka Hadapan Kulit Garis Panduan Pelaksanaan dan Penilaian SLAAS Edisi Kedua 2025 / Front Cover of the Second Edition 2025 SLAAS Implementation and Evaluation Guidelines

QR Code Buku Panduan Pelaksanaan dan Penilaian SLAAS Edisi Kedua 2025 / QR Code for the SLAAS Implementation and Assessment Guidelines, Second Edition 2025

PERTANDINGAN DEBAT ALAM SEKITAR ANTARA INSTITUSI PENDIDIKAN TINGGI KE-31 TAHUN 2025

Pertandingan Debat Alam Sekitar (DAS) antara Institusi Pendidikan Tinggi (IPT) Ke-31 Tahun 2025 menandakan pencapaian penting dalam sejarah pertandingan ini. Bermula sebagai satu inisiatif untuk mendidik dan meningkatkan kesedaran generasi muda mengenai isu alam sekitar, pertandingan ini telah berkembang menjadi satu platform utama bagi pelajar IPT di seluruh negara untuk mendebatkan topik-topik berkaitan kelestarian, perubahan iklim dan pengurusan sumber semula jadi.

Jabatan Alam Sekitar (JAS) dengan kerjasama Kementerian Pendidikan Tinggi (KPT), Majlis Debat Universiti Malaysia (MADUM), Dewan Bahasa dan Pustaka (DBP), Petroliam Nasional Berhad (PETRONAS) dan Universiti Teknologi PETRONAS (UTP) telah

THE 31ST INTER-HIGHER EDUCATION INSTITUTIONS ENVIRONMENTAL DEBATE COMPETITION 2025

The 31st Inter-Higher Education Institutions Environmental Debate Competition (DAS) 2025 marks a significant milestone in the history of this event. Initially established as an initiative to educate and raise awareness among the younger generation about environmental issues, it has since evolved into a premier platform for university students nationwide to debate topics related to sustainability, climate change, and natural resource management.

The Department of Environment (DOE), in collaboration with the Ministry of Higher Education (MOE), Malaysian University Debate Council (MADUM), Dewan Bahasa dan Pustaka (DBP), Petroliam Nasional Berhad (PETRONAS), and Universiti Teknologi PETRONAS

menganjurkan Pertandingan DAS antara IPT Ke-31 secara fizikal sepenuhnya. Pertandingan berlangsung dari 20 hingga 22 Jun 2025 di UTP bersempena sambutan Hari Alam Sekitar Sedunia 2025.

Objektif utama pertandingan adalah untuk meningkatkan kesedaran dan pengetahuan mahasiswa mengenai isu, dasar, serta polisi alam sekitar di peringkat nasional dan antarabangsa. Selain itu, ia bertujuan melatih kemahiran berhujah, berfikir secara kritis, serta membentuk kepimpinan masa depan yang cakna terhadap kelestarian alam sekitar.

Pertandingan DAS antara IPT merupakan program tahunan JAS sejak tahun 1991 dan menjadi legasi debat antara IPT di Malaysia yang paling lama bertahan, malah mengekalkan prestijnya sebagai kejuaraan yang menjadi idaman semua pendebat IPT. Pertandingan ini menggunakan format debat Ala–Parlimen dan terbuka, dengan sistem 'bracket power match'. Sebanyak lima pusingan awal diadakan sebelum saringan ke peringkat suku akhir, separuh akhir dan akhir. Senarai pasukan IPT yang menyertai pertandingan pada tahun 2025 adalah seperti di **Jadual 6.1.**

(UTP), has organized the 31st Inter-Higher Education Institutions Environmental Debate Competition in a fully physical format. The competition took place from 20 to 22 June 2025 at UTP in conjunction with the World Environment Day 2025 celebration.

The primary objective of the competition is to enhance students' awareness and knowledge of environmental issues, policies, and regulations at both national and international levels. Additionally, it aims to develop debating skills, critical thinking abilities, and cultivate future leaders who are environmentally conscious and committed to sustainability.

The Inter-Higher Education Institutions Environmental Debate Competition has been an annual DOE programme since 1991 and remains Malaysia's longest-running university debate competition, maintaining its prestige as a championship coveted by all university debaters. The competition follows a Parliamentary-style open debate format with a "bracket power match" system. It consists of five preliminary rounds before moving on to the quarterfinals, semifinals, and the grand final. The list of participating higher education institutions for the 2025 edition is as shown in **Table 6.1.**

Jadual 6.1: Senarai Pasukan Institusi Pendidikan Tinggi yang Menyertai Pertandingan
Table 6.1: List of Higher Education Institutions Teams Participating in the Competition

BIL. NO.	PASUKAN INSTITUSI PENDIDIKAN TINGGI HIGHER EDUCATION INSTITUTIONS TEAM
1	Universiti Teknologi PETRONAS (UTP)
2	Universiti Sultan Zainal Abidin (UniSZA)
3	Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA)
4	Universiti Malaysia Kelantan (UMK)
5	Universiti Utara Malaysia (UUM)
6	Universiti Islam Antarabangsa Malaysia (UIAM)
7	Universiti Sains Islam Malaysia (USIM)
8	Universiti Teknologi MARA (UiTM)
9	Universiti Pendidikan Sultan Idris (UPSI)
10	Universiti Malaya (UM)
11	Universiti Pertahanan Nasional Malaysia (UPNM)
12	Universiti Putra Malaysia (UPM)
13	Universiti Malaysia Perlis (UniMAP)
14	Universiti Kebangsaan Malaysia (UKM)
15	Universiti Tun Hussein Onn Malaysia (UTHM)
16	Universiti Malaysia Terengganu (UMT)
17	Universiti Sains Malaysia (USM)
18	Universiti Teknikal Malaysia Melaka (UTeM)

Jadual 6.1: Senarai Pasukan Institusi Pendidikan Tinggi yang Menyertai Pertandingan
Table 6.1: List of Higher Education Institutions Teams Participating in the Competition

BIL. NO.	PASUKAN INSTITUSI PENDIDIKAN TINGGI HIGHER EDUCATION INSTITUTIONS TEAM
19	Universiti Malaysia Sabah (UMS)
20	IPGM Kampus Kota Bharu (IPGKKB)
21	IPGM Kampus Dato' Razali Ismail (IPGMKDRI)
22	IPGM Kampus Ipoh
23	IPGM Kampus Tengku Ampuan Afzan (IPGKTAA)
24	IPGM Kampus Pendidikan Teknik (IPGKPT)
25	IPGM Kampus Bahasa Antarabangsa (IPGKBA)
26	IPGM Kampus Raja Melewar
27	Universiti Islam Antarabangsa Sultan Abdul Halim Mu'adzam Shah (UniSHAMS)
28	Universiti Kuala Lumpur (UniKL)
29	Universiti Tenaga Nasional (UNITEN)
30	Universiti Poly-Tech Malaysia (UPTM)

Pertandingan peringkat akhir yang diadakan pada 22 Jun 2025 telah berlangsung di Multi Purpose Hall (MPH), UTP di antara pasukan tuan rumah Universiti Teknologi PETRONAS (UTP) dan Universiti Malaya (UM) dengan usul perdebatan bertajuk "Mandat Pengurusan Alam Sekitar Wajar Diberikan kepada Agensi Tunggal Persekutuan". Majlis perasmian dan penyampaian hadiah telah disempurnakan oleh YBhg. Datuk Nor Yahati binti Awang, Timbalan Ketua Setiausaha (Kelestarian Alam), Kementerian Sumber Asli dan Kelestarian Alam (NRES). Senarai nama pemenang-pemenang adalah seperti yang tertera di **Jadual 6.2.**

The grand final, held on 22 June 2025, took place at the Multi Purpose Hall (MPH), UTP, featuring a debate between teams from Universiti Teknologi PETRONAS (UTP) and Universiti Malaya (UM). The motion for the final round was: "The Mandate for Environmental Management Should Be Entrusted to a Single Federal Agency". The opening ceremony and prize-giving session were officiated by YBhg. Datuk Nor Yahati binti Awang, Deputy Secretary-General (Environment Sustainability), Ministry of Natural Resources and Environmental Sustainability (NRES). The list of winners is as shown in **Table 6.2.**

Jadual 6.2: Senarai Pemenang Pertandingan Debat Alam Sekitar Antara IPT 2025
Table 6.2: List of Winners of the 31st Inter-Higher Education Institutions Environmental Debate Competition in 2025

KATEGORI CATEGORY	NAMA PESERTA DEBAT NAME OF DEBATERS	PASUKAN TEAM	HADIAH PRIZES
JOHAN WINNER	(1) Muhammad Amin bin Amir Hussein (2) Anas Safwan bin Harun (3) Nabilah Batrisya binti Alias (4) Dayangku Nur Uswatun Hasanah binti Ibrahim	UM	- RM12,000.00 (wang tunai) - Sijil penyertaan - Piala iringan - Piala Pusingan Menteri Sumber Asli dan Kelestarian Alam - *Gift card, voucher* Setel dan set hadiah korporat tajaan PETRONAS setiap seorang
NAIB JOHAN RUNNER UP	(1) Emmed Erwan Shah (2) Shakimi Haikal bin Shamsu Bakri (3) Ahmad Idzhad Hamzie bin Fazul Anuar (4) Amirul Irfan Haziq bin Mohd Suhaimi	UTP	- RM7,000.00 (wang tunai) - Sijil penyertaan - Piala iringan - *Gift card, voucher* Setel dan set hadiah korporat tajaan PETRONAS setiap seorang

Jadual 6.2: Senarai Pemenang Pertandingan Debat Alam Sekitar Antara IPT 2025
Table 6.2: The List of Winners of the 31st Inter-Higher Education Institutions Environmental Debate Competition in 2025

KATEGORI CATEGORY	NAMA PESERTA DEBAT NAME OF DEBATERS	PASUKAN TEAM	HADIAH PRIZES
SEPARUH AKHIR SEMIFINAL	(1) Faris Daniel Rizal bin Zainorizal (2) Muhammad Tirmizi bin Rabidin (3) Nadjween Hanie binti Mohd Mayan (4) Farah Auliya binti Ahmad Sanusi	UUM	- RM2,000.00 (wang tunai) - Sijil penyertaan - Piala iringan - *Gift card, voucher* Setel dan set hadiah korporat tajaan PETRONAS setiap seorang
SEPARUH AKHIR SEMIFINAL	(1) Nuqman Naufal bin Nor Azhari (2) Muhammad Faiz bin Ahmad Zaini (3) Ahmad Zaki Ayman bin Ali Rahman (4) Aaisyah Humairaa binti Muhammad Saifuddin	UPM	- RM2,000.00 (wang tunai) - Sijil penyertaan - Piala iringan - *Gift card, voucher* Setel dan set hadiah korporat tajaan PETRONAS setiap seorang
PENDEBAT TERBAIK AKHIR FINAL BEST DEBATER	Ahmad Idzhad Hamzie bin Fazul Anuar	UTP	- RM2,000.00 (wang tunai) - Sijil penyertaan - Piala iringan - *Gift card, voucher* Setel dan set hadiah korporat tajaan PETRONAS
PENDEBAT TERBAIK LIGA LEAGUE BEST DEBATER	Nurul Hanan Badariah binti Abd Mutalib	UIAM	- RM1,500.00 (wang tunai) - Sijil penyertaan - Piala iringan - *Gift card, voucher* Setel dan set hadiah korporat tajaan PETRONAS



Perarakan Masuk Piala Pusingan Debat Alam Sekitar antara Institusi Pendidikan Tinggi (IPT) Ke-31 / Entrance Procession of the 31st Inter-Higher Education Institutions Environmental Debate



Pertandingan Akhir Debat Alam Sekitar antara IPT di antara Pasukan Tuan Rumah Universiti Teknologi PETRONAS (UTP) dan Universiti Malaya (UM)/ The Final Round of the Inter-Higher Education Institutions Environmental Debate between Universiti Teknologi PETRONAS (UTP) and Universiti Malaya (UM)



Yang Dipertua dan Penjaga Masa Pertandingan Akhir Debat Alam Sekitar antara IPT/ Chairperson and Timekeeper of the Inter-Higher Education Institutions Environmental Debate



Johan Pertandingan Debat Alam Sekitar antara Institusi Pendidikan Tinggi (IPT) Ke–31/ Champion of the 31st Inter-Higher Education Institutions Environmental Debate Competition



Ucapan Perasmian Pertandingan Akhir Debat Alam Sekitar antara Institusi Pendidikan Tinggi (IPT) Ke–31/ Official Opening Speech of the 31st Inter-Higher Education Institutions Environmental Debate Grand Final



Para Penonton Pertandingan Akhir/
Audience of the Grand Final Competition

PROGRAM KAMPUS LESTARI ANUGERAH ALAM SEKITAR (KLAAS) KITARAN PERTAMA SESI 2025/2027

PELUNCURAN PROGRAM KLAAS

Majlis Peluncuran Program KLAAS telah dirasmikan oleh Datuk Dr. Ching Thoo a/l Kim, Ketua Setiausaha Kementerian Sumber Asli dan Kelestarian Alam (NRES) pada 29 Mei 2025 di Universiti Sains Malaysia (USM) bersempena Program Jelajah Kelestarian USM 2.0 dengan kerjasama agensi Yayasan Penyelidikan Antartika Sultan Mizan (YPASM) dan USM.

Majlis turut dihadiri oleh Dato' Wan Abdul Latiff bin Wan Jaffar, Ketua Pengarah JAS dan Haji Shafe'ee bin Yasin, Timbalan Ketua Pengarah (Pembangunan) JAS. Pihak USM turut memberikan perkongsian amalan kelestarian USM dalam majlis ini yang disampaikan oleh Dr. Normaliza binti Abdul Manaf, Penyelaras Unit Kampus Sejahtera, Bahagian Jaringan Komuniti dan Masyarakat, USM.

SUSTAINABLE CAMPUS ENVIRONMENTAL AWARD (KLAAS) PROGRAMME - FIRST CYCLE, 2025/2027 SESSION

KLAAS PROGRAMME LAUNCH

The KLAAS Programme Launch Ceremony was officiated by Datuk Dr. Ching Thoo a/l Kim, Secretary-General of the Ministry of Natural Resources and Environmental Sustainability (NRES) on 29 May 2025 at Universiti Sains Malaysia (USM), held in conjunction with the USM Sustainability Roadshow Programme 2.0, in collaboration with the Sultan Mizan Antarctic Research Foundation (YPASM) and USM.

The ceremony was also attended by Dato' Wan Abdul Latiff bin Wan Jaffar, Director-General of DOE, and Haji Shafe'ee bin Yasin, Deputy Director-General (Development) of DOE. During the event, USM shared its sustainability best practices through a presentation delivered by Dr. Normaliza binti Abdul Manaf, Coordinator of the Healthy Campus Unit, Division of Community and Societal Engagement, USM.

Dalam usaha memperluas hebahan KLAAS kepada masyarakat, JAS turut mempromosikan program ini menerusi rancangan AWANI Pagi, Astro Awani pada 30 Oktober 2025. Bertemakan "Dari Kampus Lestari ke Langit Bersih: Bersama Mencipta Generasi MADANI", sesi tersebut mengetengahkan aspirasi kampus lestari dan peranan IPT dalam membudayakan kelestarian alam sekitar.

Pihak NRES berharap agar KLAAS dapat menjadi satu penanda aras kepada gerakan kampus lestari di seluruh negara dan pada masa yang sama memupuk budaya tanggungjawab alam sekitar dalam kalangan warga IPT.

Program KLAAS melibatkan 5 kategori IPT iaitu Universiti Awam (UA), Institusi Pendidikan Tinggi Swasta (IPTS), Institut Pendidikan Guru Malaysia (IPGM), Politeknik dan Kolej Komuniti.

To broaden public outreach on KLAAS, DOE also promoted the programme through AWANI Pagi, Astro Awani, on 30 October 2025. Under the theme "From Sustainable Campuses to Clean Skies: Together in Shaping a MADANI Generation", the session highlighted the aspirations of sustainable campuses and the role of HEIs in fostering a culture of environmental sustainability.

NRES hopes that KLAAS will serve as a benchmark for the sustainable campus movement nationwide, while simultaneously fostering a culture of environmental responsibility among the HEI community.

The KLAAS Programme involves five categories of Higher Education Institutions (HEIs), namely Public Universities (UA), Private Higher Education Institutions (IPTS), Institute of Teacher Education Malaysia (IPGM), Polytechnics, and Community Colleges.



Majlis Peluncuran Program KLAAS di USM/
KLAAS Programme Launch Ceremony at USM



Peserta Majlis Peluncuran Program KLAAS/
Audience at the KLAAS Programme Launch Ceremony



Sesi Perkongsian Amalan Kelestarian di USM/ Sustainability Best Practices Sharing Session at USM



Poster promosi KLAAS menerusi rancangan Awani Pagi, Astro Awani / KLAAS promotional poster featured on Awani Pagi, Astro Awani



Sesi temubual Program KLAAS di studio Astro Awani sempena promosi KLAAS pada 30 Oktober 2025 / KLAAS Programme interview session at the Astro Awani studio as part of the KLAAS promotional outreach on 30 October 2025

LIBAT URUS PROMOSI KLAAS

JAS terus memperkukuhkan agenda kampus lestari dengan penganjuran Bengkel Libat Urus Promosi KLAAS bagi Zon Pantai Timur, Zon Selatan dan Zon Tengah pada 15-17 Julai 2025 di Lexis Port Dickson, seterusnya bagi Zon Borneo (Sarawak) pada 8-10 September 2025 di Legacy Hill Hotel, Kuching dan bagi Zon Borneo (Sabah) pada 10-12 September 2025 di Grandis Hotel dan Resorts, Kota Kinabalu.

Bengkel ini menghimpunkan pegawai daripada Kementerian Pendidikan Tinggi (KPT), Kementerian Pendidikan Malaysia (KPM), LESTARI UKM, serta wakil daripada Institusi Pendidikan Tinggi (IPT) dari seluruh negara yang mewakili zon-zon tersebut. Libat urus promosi ini berjaya menarik minat warga IPT seluruh Malaysia bagi pelaksanaan KLAAS serta penyebaran maklumat berterusan mengenai pembudayaan kelestarian alam sekitar di kalangan pemegang taruh.

Sebagai pelengkap kepada sesi bengkel, peserta turut dibawa melawat Universiti Malaysia Sarawak (UNIMAS), Kuching dan Universiti Malaysia Sabah (UMS), Kota Kinabalu untuk melihat secara langsung amalan kelestarian yang telah diterapkan di universiti-universiti tersebut. Lawatan ini memberi peluang kepada peserta untuk memahami pendekatan holistik UNIMAS dan UMS dalam menerapkan konsep kampus

KLAAS PROMOTION ENGAGEMENT

DOE continues to strengthen sustainable campus agenda through the organisation of KLAAS Promotion Engagement Workshops for the East Coast, Southern and Central Zones from 15-17 July 2025 at Lexis Port Dickson, followed by workshops for the Borneo Zone (Sarawak) from 8-10 September 2025 at Legacy Hill Hotel, Kuching, and the Borneo Zone (Sabah) from 10-12 September 2025 at Grandis Hotel and Resorts, Kota Kinabalu.

These workshops brought together officers from Ministry of Higher Education (MOHE), Ministry of Education Malaysia (MOE), LESTARI UKM, as well as representatives from Higher Education Institutions across the country representing the respective zones. The promotion engagement sessions successfully garnered strong interest from the HEI community nationwide in the implementation of KLAAS, while also ensuring continuous dissemination of information on the cultivation of environmental sustainability among stakeholders.

As a complement to the workshop sessions, participants were also taken on site visits to Universiti Malaysia Sarawak (UNIMAS), Kuching, and Universiti Malaysia Sabah (UMS), Kota Kinabalu, to observe firsthand the sustainability practices implemented at these universities. These visits provided participants with opportunities to understand the holistic approaches adopted by UNIMAS and UMS in implementing

lestari, termasuk pengurusan tenaga, pengurangan sisa dan inisiatif hijau yang dilaksanakan. JAS amat menghargai kesudian pihak pengurusan UNIMAS dan UMS dalam berkongsi pengalaman serta memberikan inspirasi kepada IPT lain dalam usaha memperkukuh agenda kelestarian alam sekitar.

JAS melalui NRES menjalinkan kerjasama strategik bersama KPT dan KPM bagi memperkukuhkan peranan IPT sebagai pemangkin kelestarian alam sekitar negara. Diharapkan Program KLAAS menjadi pemacu perubahan dalam memperkasa budaya kelestarian IPT, sekali gus menyokong pencapaian matlamat pembangunan mampan (SDG).

the sustainable campus concept, including energy management, waste reduction, and green initiatives. DOE sincerely appreciates the willingness of the management of UNIMAS and UMS to share their experiences and provide inspiration to other HEIs in strengthening the environmental sustainability agenda.

DOE, through NRES, has established a strategic collaboration with MOHE and MOE to strengthen the role of Higher Education Institutions in Malaysia as catalysts for national environmental sustainability. It is hoped that the KLAAS Programme will serve as a driver of change in empowering a culture of sustainability within Higher Education Institutions, while simultaneously supporting the achievement of the Sustainable Development Goals (SDGs).



Sesi Lawatan dan Perkongsian di UMS/ Site Visit and Sharing Session at UMS



Gambar Foto Berkumpulan Para Peserta Sesi Libat Urus Promosi KLAAS bagi Zon Pantai Timur, Zon Selatan dan Zon Tengah/ Group Photograph of Participants of the KLAAS Promotion Engagement Session for the East Coast, Southern, and Central Zones



Para Peserta Sesi Libat Urus Promosi KLAAS bagi Zon Borneo (Sarawak)/ Participants of the KLAAS Promotion Engagement Session for the Borneo Zone (Sarawak)



Gambar Foto Berkumpulan Para Peserta Sesi Libat Urus Promosi KLAAS bagi Zon Borneo (Sarawak)/ Group Photograph of Participants of the KLAAS Promotion Engagement Session for the Borneo Zone (Sarawak)

GARIS PANDUAN PELAKSANAAN DAN KAEDAH PENILAIAN KLAAS

Setelah melalui beberapa siri penambahbaikan dan pemurnian, Garis Panduan Pelaksanaan dan Kaedah Penilaian KLAAS telah berjaya diterbitkan pada tahun 2025 dan kini telah tersedia dalam bentuk digital dan bercetak untuk rujukan semua IPT. Diharapkan dengan adanya garis panduan ini, penyertaan IPT terhadap program KLAAS akan lebih terpandu dan sistematik.

Kod QR bagi Salinan Digital Garis Panduan Pelaksanaan dan Kaedah Penilaian KLAAS/ QR Code for the Digital Copy of the KLAAS Implementation Guidelines and Assessment Methodology

PEMBUKAAN PENDAFTARAN PENYERTAAN PROGRAM KLAAS

Pendaftaran penyertaan KLAAS secara rasminya telah dibuka mulai 1 Disember 2025 hingga 31 Januari 2027 bagi Sesi 2025/2027. IPT yang berminat untuk menyertai KLAAS boleh membuat pendaftaran bagi mendapatkan Borang Penilaian Kendiri daripada Sekretariat KLAAS.

Bagi menyokong penyertaan, IPT digalakkan menubuhkan Pasukan Kampus Lestari sebagai penyelaras utama aktiviti kelestarian dan penyediaan dokumen penilaian berasaskan Garis Panduan Pelaksanaan dan Kaedah Penilaian KLAAS yang boleh diakses secara dalam talian.



Sesi Lawatan dan Perkongsian di UNIMAS/ Site Visit and Sharing Session at UNIMAS

KLAAS IMPLEMENTATION GUIDELINES AND ASSESSMENT METHODOLOGY

After undergoing several phases of enhancement and refinement, the KLAAS Implementation Guidelines and Assessment Methodology were successfully published in 2025 and are now available in both digital and printed formats for reference by all Higher Education Institutions. It is hoped that with the availability of these guidelines, the participation of Higher Education Institutions in the KLAAS programme will be more structured and systematic.



Muka Hadapan Garis Panduan Pelaksanaan dan Kaedah Penilaian KLAAS/ Front Cover of the KLAAS Implementation Guidelines and Assessment Methodology

OPENING OF KLAAS PROGRAMME PARTICIPATION REGISTRATION

Registration for participation in KLAAS officially opened on 1 December 2025 and will remain open until 31 January 2027 for the 2025/2027 Session. Higher Education Institutions interested in participating in KLAAS may register to obtain the Self-Assessment Form from the KLAAS Secretariat.

To support participation, HEIs are encouraged to establish a Sustainable Campus Team as the main coordinator for sustainability activities and the preparation of assessment documentation based on the KLAAS Implementation Guidelines and Assessment Methodology, which are accessible online.

SEKSYEN MEDIA, BAHAGIAN KOMUNIKASI STRATEGIK, JABATAN ALAM SEKITAR

Seksyen Media di bawah Bahagian Komunikasi Strategik menggalas mandat utama dalam menyebarluaskan agenda strategik, pelan pelaksanaan, serta naratif kejayaan Jabatan. Ini merangkumi publisiti program kesedaran, ketegasan penguatkuasaan, input pembangunan mapan, serta keberkesanan pemantauan kualiti alam sekitar secara menyeluruh. Antara fungsi dan tugas utama Seksyen ini adalah merangkumi perkara-perkara seperti berikut:-



MENYEDIAKAN BAHAN HEBAHAN:

Menyediakan bahan hebahan berbentuk poster, infografik, banner, bunting dan montaj bertujuan untuk menyampaikan maklumat berkaitan inisiatif dan program Jabatan yang bersesuaian dengan semua lapisan masyarakat.



MENGURUSKAN MEDIA SOSIAL JABATAN:

Menyelaras dan menguruskan akaun media sosial Jabatan iaitu Facebook, Instagram, Youtube dan X (Twitter). Seksyen ini menyelaras, menyedia dan memantau semua kandungan media sosial, berinteraksi dengan pengikut dan memantau maklum balas orang ramai terhadap Jabatan.



MENJAWAB PERTANYAAN MEDIA SOSIAL:

Menyelaras dan juga menjawab pertanyaan dan permintaan maklumat dari orang awam melalui media sosial dan sistem e-Aduan JAS.



MELAKSANAKAN PENILAIAN DAN ANALISIS:

Menilai keberkesanan dan menganalisis kandungan media sosial, maklum balas orang ramai dan prestasi media sosial untuk memperbaiki strategi dan menambah baik keberkesanan media sosial pada masa akan datang.

MEDIA SECTION, STRATEGIC COMMUNICATION DIVISION, DEPARTMENT OF ENVIRONMENT

Media Section under Communication Strategic Division is responsible for disseminating information regarding the Department's plans, initiatives, and achievements. These include activities related to awareness, enforcement, environmental input for development planning, and environmental monitoring. Its main functions and duties are as follows:



PROVIDING AWARENESS MATERIALS:

Creating promotional/ awareness materials in the form of posters, infographics, banners, buntings, and montage about the Department's initiatives and programmes that are suitable to all age levels of society.



MANAGEMENT OF DEPARTMENT'S SOCIAL MEDIA:

Managing the Department's social media accounts, including Facebook, Instagram, YouTube, and X (formerly Twitter). This involves coordinating, preparing, and monitoring content, engaging with followers, and monitoring public feedback.



SOCIAL MEDIA INQUIRIES:

Coordinating and responding to public inquiries and requests for information via social media and DOE e-Aduan system.



EVALUATION AND ANALYSIS:

Assessing the effectiveness of social media content, analyzing public feedback, and evaluating social media performance to improve future strategies and effectiveness of the media social content.



MENYEDIAKAN BANTUAN TEKNIKAL ACARA DAN PROGRAM:

Membantu Jabatan dalam menyediakan alatan dan kemahiran teknikal dalam acara dan program anjuran Jabatan dan Kementerian.



EVENT TECHNICAL ASSISTANCE:

Providing technical supports that include equipment and skills in organizing Department's/ Ministry's events and programmes.



MEMANTAU LIPUTAN MEDIA:

Memantau liputan media tentang Jabatan untuk mengetahui pendapat orang ramai dan bertindak balas jika diperlukan.

Pada tahun 2025, Seksyen Media telah menyiarkan 258 hebahan media sosial, menyediakan 307 grafik dan 39 siaran langsung di media sosial, aplikasi Zoom dan Google Meet.

Jabatan Alam Sekitar telah melaksanakan pelbagai aktiviti dan hebahan di media sosial pada tahun 2025, meningkatkan interaksi bersama orang awam dan meningkatkan kesedaran mengenai program dan matlamat Jabatan. Berikut adalah pencapaian media sosial Jabatan untuk tahun 2025:



MONITORING MEDIA COVERAGE:

Monitoring media coverage of the Department to gauge public opinion and respond as needed.

In 2025, the Media Section published 258 social media posts, created 307 graphics, and 39 live broadcasts on social media, Zoom, and Google Meet apps.

Department of Environment had implemented various social media activities and outreach efforts in 2025 to increase public engagement and raise awareness about its programmes and goals. These are the social media achievements for 2025:

Facebook	88,308	Pengikut
	2,599	Hebahan
Instagram	12,703	Pengikut
	295	Hebahan
X	12,100	Pengikut
	102	Hebahan
YouTube	3,012	Pengikut
	38	Hebahan

Secara keseluruhannya, keaktifan dan pelbagai inisiatif digital menerusi platform media sosial Jabatan Alam Sekitar sepanjang tahun 2025 telah berjaya memancarkan impak positif, sekali gus memperkukuh jalinan interaksi dan kesedaran alam sekitar dalam kalangan masyarakat awam.

Overall, the active presence and various digital initiatives across the Department of Environment's social media platforms throughout 2025 have successfully projected a positive impact, thereby strengthening engagement and environmental awareness among the general public.

PROGRAM RAKAN ALAM SEKITAR (RAS)

Program Rakan Alam Sekitar (RAS) terus dilaksanakan untuk membudayakan gaya hidup lestari dalam kehidupan seharian di kalangan ahli RAS bagi meningkatkan kesedaran dan komitmen mereka dalam melestarikan alam sekitar di Malaysia. Sehingga kini, seramai 215,992 individu telah menyatakan komitmen melestarikan alam sekitar dengan mendaftar sebagai ahli RAS. Pelaksanaan aktiviti kelestarian alam sekitar yang dilaksanakan sepanjang 2025 adalah pembersihan pantai, gotong-royong, pengumpulan e-waste, penanaman pokok dan program bersama komuniti.

FRIENDS OF THE ENVIRONMENT (RAS) PROGRAMME

The Friends of the Environment (RAS) Programme continues to be implemented to cultivate a sustainable lifestyle in daily life among RAS members to increase their awareness and commitment in preserving the environment in Malaysia. To date, a total of 215,992 individuals has expressed their commitment to preserving the environment by registering as RAS members. The implementation of environmental sustainability activities carried out throughout 2025 are beach cleaning, gotong-royong, e-waste collection, tree planting, and community-based programme.



Program Pembersihan Pantai Kelanang, Selangor dengan Kerjasama SMI Al-Amin Gombak /
Cleanup Programme at Kelanang Beach, Selangor in collaboration with SMI Al-Amin Gombak



Program Santuni MADANI di Balai Raya, Kampung Linggi, Negeri Sembilan bersama Komuniti /
Santuni MADANI Programme at Balai Raya, Kampung Linggi, Negeri Sembilan with the Community



Program Gotong-Royong Lestari bersama Komuniti MADANI / Gotong-Royong Lestari Programme with MADANI Community



Program Pengumpulan dan Pelupusan Al-Quran bersama Komuniti MADANI di Masjid Sheikh Jamaluddin Al-Linggi/
Quran Collection and Proper Disposal Programme with MADANI Community at Masjid Sheikh Jamaluddin Al-Linggi



Pengumpulan E-waste bersama komuniti MADANI Kampung Linggi/ E-waste Collection with MADANI Community of Kampung Linggi

PAMERAN ALAM SEKITAR

JAS terus komited dalam menyebar luas dan menyampaikan informasi kelestarian alam sekitar melalui pelbagai platform termasuk pameran alam sekitar. Sepanjang 2025, JAS Ibu Pejabat telah menyertai sebanyak 10 pameran alam sekitar yang dianjurkan oleh JAS serta jemputan yang diterima daripada rakan strategik dan agensi lain.

ENVIRONMENTAL EXHIBITIONS

DOE continues to be committed to disseminating and delivering environmental sustainability information through various platforms including environmental exhibitions. Throughout 2025, DOE Headquarters participated in 10 environmental exhibitions organized by DOE as well as invitations received from strategic partners and other agencies.

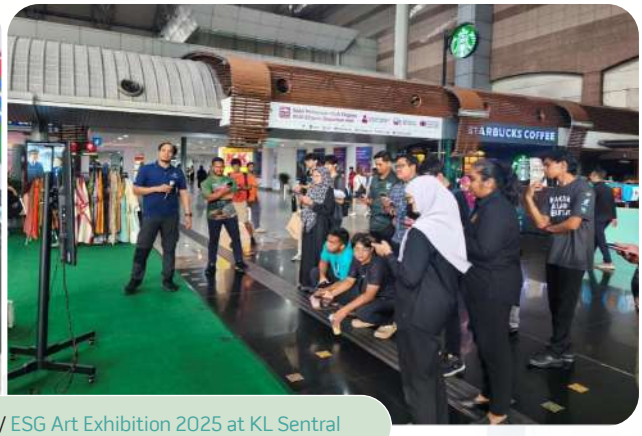



Pameran di Eaton International School, Kajang sempena Hari Air Sedunia/
Exhibition at Eaton International School, Kajang in conjunction with World Water Day





Pameran di Politeknik Sultan Idris Shah (PSIS) Kampus Hijau / Exhibition at Sultan Idris Shah Polytechnic (PSIS) Green Campus

Pameran Seni ESG 2025 di KL Sentral/ ESG Art Exhibition 2025 at KL Sentral



Pameran sempena Minggu Eko Royal Selangor 2025 /
Exhibition in conjunction with Royal Selangor's Eco Week 2025



Pameran di IGEM 2025 / Exhibition at IGEM 2025




Pameran Festival Budaya Malaysia 2025 di Taman Tasik Titiwangsa/ Malaysia Culture Festival Exhibition 2025 at Taman Tasik Titiwangsa





Pameran Minggu Ekonomi dan Kewangan Awam (MEKA) 2025 di INTAN Bukit Kiara/
Public Economics and Finance Week Exhibition (MEKA) 2025 at INTAN Bukit Kiara




Pameran Program Rancakkan MADANI bersama Malaysiaku 2025 di Putrajaya/
Exhibition of MADANI Revitalization Programme with My Malaysia 2025 at Putrajaya

KAMPUNG ANGKAT MADANI (KAM), JABATAN ALAM SEKITAR (JAS) 2025

JAS komited dalam menyokong inisiatif kerajaan dengan pelaksanaan Projek Kampung Angkat MADANI (KAM), Jabatan Alam Sekitar (JAS) 2025 di Kampung Linggi, Linggi, Negeri Sembilan. Sebanyak 22 projek dan program telah dilaksanakan dengan peruntukan berjumlah RM1juta. Pemasangan sistem solar, penyelenggaraan dan naik taraf fasiliti masyarakat

MADANI ADOPTED VILLAGE (KAM), DEPARTMENT OF ENVIRONMENT (DOE) 2025

DOE is committed to supporting the government's initiative with the implementation of the MADANI Adopted Village (KAM) Project, Department of Environment (DOE) 2025 in Kampung Linggi, Linggi, Negeri Sembilan. A total of 22 projects and programmes have been implemented with an allocation of RM1 million. Installation of solar systems, maintenance,

seperti masjid, dewan orang ramai, balai raya, sekolah serta program komuniti adalah projek yang telah dilaksanakan sepanjang 2025. Sebuah Pusat Advokasi Alam Sekitar turut diwujudkan dengan sasaran meningkatkan kesedaran dan komitmen masyarakat terhadap kelestarian alam sekitar.

and upgrading of community facilities such as mosques, community halls, public halls, schools, and community programmes are projects that have been implemented throughout 2025. An Environmental Advocacy Center was also established with the aim of increasing community awareness and commitment to environmental sustainability.



Gambar-gambar Pelaksanaan Program Kampung Angkat MADANI (KAM), Jabatan Alam Sekitar (JAS) 2025 di Kampung Linggi, Linggi, Negeri Sembilan/
Pictures of the Implementation of the MADANI Adopted Village Programme (KAM), Department of Environment (DOE) 2025 in Kampung Linggi, Linggi, Negeri Sembilan



Gambar-gambar Pelaksanaan Program Kampung Angkat MADANI (KAM), Jabatan Alam Sekitar (JAS) 2025 di Kampung Linggi, Linggi, Negeri Sembilan/
Pictures of the Implementation of the MADANI Adopted Village Programme (KAM), Department of Environment (DOE) 2025 in Kampung Linggi, Linggi, Negeri Sembilan

ANUGERAH LANGKAWI – KELESTARIAN ALAM SEKITAR

ALKAS adalah satu anugerah bagi memperingati Deklarasi Langkawi yang telah ditandatangani oleh Ketua-ketua Negara Komanwel pada tahun 1989 di Langkawi, Malaysia, sebagai komitmen untuk melindungi alam sekitar dan menangani isu seperti pencemaran dan perubahan iklim. Anugerah ini yang pada mulanya dikenali sebagai Anugerah Langkawi telah diperkenalkan pada tahun 1991 bagi menunjukkan komitmen rakyat amnya dan negara khususnya dalam mencapai matlamat pembangunan mapan sepertimana termaktub di dalam Deklarasi Langkawi.

ALKAS adalah penghargaan dan pengiktirafan tertinggi kerajaan melalui Jabatan Alam Sekitar (JAS) kepada individu dan organisasi di Malaysia yang telah memberikan sumbangan besar dan signifikan ke arah kelestarian alam sekitar. Penerima ALKAS akan memperolehi sijil pengiktirafan, plak penghargaan dan wang tunai.

LANGKAWI AWARD – ENVIRONMENTAL SUSTAINABILITY

ALKAS is an award established to commemorate the Langkawi Declaration, which was signed by Commonwealth Heads of Government in 1989 in Langkawi, Malaysia. This declaration represents a collective commitment to protecting the environment and addressing issues such as pollution and climate change. Initially known as the Langkawi Award, it was introduced in 1991 to showcase the commitment of the people and the nation towards achieving sustainable development goals as enshrined in the Langkawi Declaration.

ALKAS is the highest form of recognition and appreciation from the government, through the Department of Environment (DOE), awarded to individuals and organizations in Malaysia who have made significant and substantial contributions towards environmental sustainability. ALKAS recipients will receive certificates of recognition, commemorative plaques, and cash prizes.

Sepanjang tahun 2025, promosi ALKAS telah dijalankan melalui laman media sosial dan juga laman web rasmi JAS. Selain itu, pihak JAS juga telah menjemput Ketua Setiausaha Kementerian, Ketua Perkhidmatan dan Pihak Berkuasa Tempatan untuk mengemukakan pencalonan berdasarkan kriteria dan syarat yang telah ditetapkan. Pencalonan bagi ALKAS sesi 2025/2026 telah dibuka mulai 1 Januari 2026 hingga 31 Mei 2026. Calon-calon yang berkelayakan akan dinilai pada tahun 2026 dan Majlis Penganugerahan ALKAS akan diadakan sempena Hari Alam Sekitar Negara 2026.

Throughout 2025, ALKAS promotions were carried out via social media platforms and the official DOE website. Additionally, DOE has also invited Ministry Secretaries-General, Heads of Services, and Local Authorities to submit nominations based on established criteria and conditions. The ALKAS nominations for the 2025/2026 session are open from 1 January 2026 to 31 May 2026. Qualified candidates will be assessed in 2026 and the ALKAS awards ceremony will be held in conjunction with National Environment Day 2026.



Poster Promosi ALKAS Sesi 2025/2026/ ALKAS Promotional Poster for the 2025/2026 Session

SAMBUTAN BERTEMAKAN ALAM SEKITAR

Terdapat tiga (3) sambutan utama bertemakan alam sekitar yang disambut oleh Jabatan Alam Sekitar (JAS) iaitu Hari Bumi, Hari Alam Sekitar Sedunia dan Hari Alam Sekitar Negara (HASN). JAS menggunakan platform ketiga-tiga sambutan ini untuk mempromosi dan menganjurkan pelbagai program kesedaran dalam usaha melestarikan alam sekitar kepada orang awam. **Jadual 6.3** merupakan tarikh dan tema sambutan bertemakan alam sekitar pada tahun 2025.

Sambutan-sambutan ini bertujuan untuk meningkatkan dan mengukuhkan jalinan kerjasama antara Kementerian, JAS, Kerajaan Negeri dan

ENVIRONMENT-THEMED CELEBRATIONS

There are three (3) main environment-themed celebrations observed by the Department of Environment (DOE), namely Earth Day, World Environment Day, and National Environment Day (HASN). DOE utilizes the platforms of these three celebrations to promote and organize various awareness programmes aimed at environmental sustainability for the public. **Table 6.3** details the dates and themes of these environment-themed celebrations in 2025.

These celebrations aim to enhance and strengthen strategic partnerships between the Ministry, DOE, State Governments, and Strategic Partners in promoting

Rakan Strategik dalam mempromosi kesedaran dan kelestarian alam sekitar di samping pembudayaan gaya hidup lestari di kalangan rakyat Malaysia. Bermula tahun 2020, sambutan secara hibrid telah dilaksanakan iaitu program dijalankan secara atas talian dan fizikal. Pelaksanaan secara hibrid ini membantu penyebaran secara meluas infomasi dan aktiviti yang dijalankan melalui penggunaan platform media sosial JAS.

Antara program yang dijalankan sepanjang sambutan bertemakan alam sekitar adalah sesi ceramah berkaitan alam sekitar, kayuhan hijau, penanaman pokok, pembersihan pantai, kempen hindari plastik sekali guna, pemberian beg guna semula, pengumpulan buangan elektrikal dan elektronik (e-waste), enviro-hiking, kem kesedaran serta pelbagai lagi. Program-program yang telah dijalankan mengikut hari bertemakan alam sekitar adalah seperti di **Jadual 6.4**.

HASN merupakan sambutan yang utama bagi JAS dan seluruh rakyat Malaysia dalam menzahirkan kecintaan terhadap alam sekitar. Sambutan ini diraikan pada setiap 21 Oktober setiap tahun. Bagi tahun 2025, Negeri Kelantan Darul Naim telah dipilih untuk menjadi tuan rumah bagi sambutan HASN Peringkat Kebangsaan. HASN 2025 Peringkat Kebangsaan telah disambut di sekitar Kota Bharu pada 23-25 Oktober 2025 dan dirasmikan oleh YAB Dato' Panglima Perang Ustaz Dato' Haji Mohd Nasuruddin bin Haji Daud, Menteri Besar Kelantan.

Program-program sambutan pada tahun 2025 yang dikelola oleh JAS Ibu Pejabat turut melibatkan kerjasama beberapa Rakan Strategik Alam Sekitar seperti Matsuda (Malaysia) Sdn. Bhd., Universiti Putra Malaysia (UPM) dan Sekolah Kebangsaan Putrajaya Presint 18 (2). Penglibatan Rakan Strategik dalam program-program sambutan adalah penting kerana dapat menyebar luas mesej kesedaran serta dapat menarik lebih ramai orang awam melibatkan diri dalam program-program yang dianjurkan.

environmental awareness and sustainability, alongside fostering a sustainable lifestyle culture among Malaysians. Beginning in 2020, hybrid celebrations have been implemented, comprising both online and physical activities. This hybrid execution facilitates the widespread dissemination of information and activities through DOE's official social media platforms.

Among the programmes organized throughout these environment-themed celebrations are environmental talk sessions, green cycling initiatives, tree planting activities, beach cleanups, single-use plastic avoidance campaigns, distributions of reusable bags, electrical and electronic waste (e-waste) collection drives, enviro-hiking, awareness camps, and various other activities. The programmes conducted according to their respective environmental observances are outlined in **Table 6.4**.

HASN serves as the flagship celebration for DOE and all Malaysians to express their commitment to environmental stewardship. This event is observed annually on 21 October. For the year 2025, the State of Kelantan Darul Naim was selected to host the National-Level HASN Celebration. The 2025 National-Level HASN was celebrated around Kota Bharu from 23 to 25 October 2025 and was officially inaugurated by the Right Honourable Dato' Panglima Perang Ustaz Dato' Haji Mohd Nasuruddin bin Haji Daud, Chief Minister of Kelantan.

The 2025 celebratory programmes managed by DOE Headquarters also involved collaborations with several Environmental Strategic Partners, including Matsuda (Malaysia) Sdn. Bhd., Universiti Putra Malaysia (UPM), and Sekolah Kebangsaan Putrajaya Presint 18 (2). The involvement of Strategic Partners in these celebratory programmes is essential in broadening the reach of environmental messaging and attracting greater public participation in the organized initiatives.

Jadual 6.3: Tarikh dan Tema Sambutan Bertemakan Alam Sekitar 2025
Table 6.3: Dates and Themes of Environment-Themed Celebrations 2025

SAMBUTAN CELEBRATION	TARIKH DATE	TEMA THEME
Hari Bumi / Earth Day	22 April 2025	Our Power, Our Planet
Hari Alam Sekitar Sedunia / World Environment Day	5 Jun 2025	Ending Global Plastic Pollution
Hari Alam Sekitar Negara / National Environment Day	21 Oktober 2025	Alam Sekitar Tanggungjawab Bersama

Jadual 6.4: Program Sambutan Bertemakan Alam Sekitar 2025
Table 6.4: Environment-Themed Celebration Programmes 2025

SAMBUTAN CELEBRATION	PROGRAM PROGRAMME
Hari Bumi / Earth Day	i. Kempen Kesedaran 'Plastic Buster' di Bazar Ramadhan Putrajaya ii. Enviro-hiking di Bukit Broga iii. Hebahan poster Hari Bumi
Hari Alam Sekitar Sedunia / World Environment Day	i. Enviro-hiking di Bukit Sepang ii. Hebahan poster "Petikan Alam Sekitar"
Hari Alam Sekitar Negara / National Environment Day	i. Sesi Temu Bual di TV dan Radio ii. Enviro-cycling di Putrajaya iii. Enviro-hiking di Bukit Melati iv. Program Penanaman Pokok di Hutan Gambut Kuala Langat Utara, Dengkil v. Program Pembersihan Pantai di Pantai Batu Laut, Sepang vi. Kem Kesedaran Alam Sekitar bersama Sekolah Kebangsaan Putrajaya Presint 18 (2) di Ulu Selangor vii. Program-program Sisipan Sambutan HASN Peringkat Kebangsaan 2025 viii. Majlis Perasmian HASN 2025 Peringkat Kebangsaan

SAMBUTAN HARI BUMI / EARTH DAY CELEBRATION



Program Enviro-hiking di Bukit Broga, Selangor yang Disertai oleh Staf Jabatan Alam Sekitar Putrajaya, Rakan Alam Sekitar dan Orang Awam/
Enviro-Hiking Program at Broga Hill, Selangor Joined by Staff of the Putrajaya Department of Environment, Friends of the Environment, and the Public



Kempen Kesedaran 'Plastic Buster' di Bazar Ramadan Putrajaya/
'Plastic Buster' Awareness Campaign at the Putrajaya Ramadan Bazaar

SAMBUTAN HARI ALAM SEKITAR SEDUNIA

WORLD ENVIRONMENT DAY CELEBRATION





Program *Enviro-hiking* di Bukit Sepang, Selangor Disertai oleh Staf JAS Putrajaya, Rakan Alam Sekitar dan Orang Awam/
Enviro-Hiking Program at Sepang Hill, Selangor Joined by Putrajaya DOE Staff, Friends of the Environment, and the Public

SAMBUTAN HARI ALAM SEKITAR NEGARA

NATIONAL ENVIRONMENT DAY CELEBRATION



Enviro-hiking Mempromosikan HASN di Sekitar Putrajaya/
Enviro-Hiking Promoting HASN Around Putrajaya



Program Enviro-hiking di Bukit Melati, Nilai dengan Kerjasama Rakan Strategik, Matsuda (M) Sdn. Bhd. /
Matsuda (M) Sdn. Bhd. Enviro-Hiking Program at Melati Hill, Nilai in Collaboration with Strategic Partner, Matsuda (M) Sdn. Bhd.



Penanaman Semula Pokok di Hutan Gambut Kuala Langat Utara dengan Kerjasama Rakan Strategik, Universiti Putra Malaysia. Program turut Melibatkan Orang Asli Kuala Langat dan Jabatan Perhutanan/ Tree Replanting in Kuala Langat North Peat Swamp Forest in Collaboration with Strategic Partner, Universiti Putra Malaysia. The Program Also Involved the Kuala Langat Orang Asli and the Forestry Department



Pembersihan Pantai di Pantai Batu Laut, Sepang dengan Kerjasama Universiti Putra Malaysia /
Beach Cleanup at Batu Laut Beach, Sepang in Collaboration with Universiti Putra Malaysia



Kem Kesedaran Alam Sekitar bersama Sekolah Kebangsaan Putrajaya Presint 18 (2) di Ulu Selangor/
Environmental Awareness Camp with Sekolah Kebangsaan Putrajaya Presint 18 (2) in Ulu Selangor





Program Sisipan bagi Sambutan HASN Peringkat Kebangsaan di Kota Bharu, Kelantan/
Side Event for the National-Level HASN Celebration in Kota Bharu, Kelantan



Majlis Perasmian Sambutan HASN Peringkat Kebangsaan oleh YAB Dato' Panglima Perang Menteri Besar Kelantan di Kota Bharu, Kelantan/
Opening Ceremony of the National-Level HASN Celebration Officiated by The Right Honourable Dato' Panglima Perang, Chief Minister of Kelantan, in Kota Bharu, Kelantan



BAB
CHAPTER

07

PENGURUSAN TEKNOLOGI MAKLUMAT

INFORMATION TECHNOLOGY MANAGEMENT

Pengurusan Teknologi Maklumat
Information Technology Management

PEMBANGUNAN SISTEM iREMOTE

Continuous Emission Monitoring System (CEMS) merupakan kaedah yang digunakan Jabatan Alam Sekitar (JAS) bagi memantau pelepasan pencemar udara dari cerobong industri secara atas talian dan berterusan.

Melalui Sistem Integrated Remote Monitoring (iREMOTE), JAS memantau data pelepasan secara langsung. Pihak industri juga boleh memohon kelulusan pemasangan peralatan CEMS kepada JAS menerusi sistem ini.

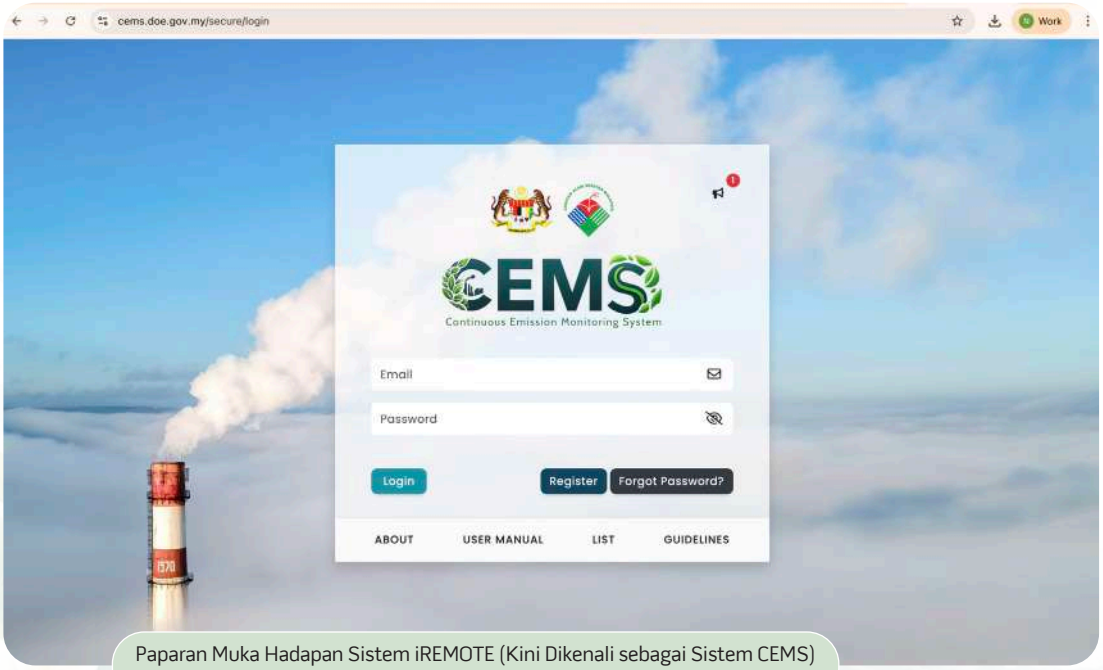
Pada tahun 2025, beberapa siri pengujian sistem telah dijalankan bagi memastikan sistem beroperasi mengikut spesifikasi yang ditetapkan. Kini, Sistem iREMOTE telah dijenamakan semula sebagai Sistem CEMS dan boleh dicapai melalui pautan https://cems.doe.gov.my/ bermula pada bulan Ogos 2025.

iREMOTE SYSTEM DEVELOPMENT

Continuous Emission Monitoring System (CEMS) is a method utilized by the Department of Environment (DOE) for the continuous, online monitoring of air pollutant emissions from industrial stacks.

The DOE monitors emission data in real-time through the Integrated Remote Monitoring (iREMOTE) System. Industries may also apply for CEMS equipment installation approval from the DOE via this system.

In 2025, a series of system tests were conducted to ensure the system operates according to established specifications. As of August 2025, the iREMOTE System had been rebranded as the CEMS System and can be accessed at https://cems.doe.gov.my/.



Paparan Muka Hadapan Sistem iREMOTE (Kini Dikenali sebagai Sistem CEMS)
iREMOTE System (now CEMS System) Landing Page

KUNJUNGAN HORMAT SEKSYEN GEOSPATIAL, BAHAGIAN TEKNOLOGI MAKLUMAT KE PEJABAT KETUA PENGARAH JABATAN UKUR DAN PEMETAAN MALAYSIA (JUPEM)

Pada 15 April 2025, Seksyen Geospatial, Bahagian Teknologi Maklumat telah mengadakan kunjungan hormat ke Pejabat Ketua Pengarah JUPEM. Delegasi ini diketuai oleh YBrs. Tuan Haji Shafe'ee bin Yasin, Timbalan Ketua Pengarah (Pembangunan) dan turut disertai oleh Puan Mukhtaroh binti Osman, Pengarah Bahagian Teknologi Maklumat, serta beberapa pegawai daripada Seksyen Geospatial. Intipati pertemuan strategik ini memfokuskan kepada permit penerbangan dron serta pemerkasaan data spatial yang menjadi komponen kritikal dalam memantapkan penguatkuasaan Akta Kualiti Alam Sekeliling 1974.

COURTESY VISIT BY THE GEOSPATIAL SECTION, INFORMATION TECHNOLOGY DIVISION TO DEPARTMENT OF SURVEY AND MAPPING MALAYSIA (JUPEM) DIRECTOR GENERAL'S OFFICE

On 15 April 2025, the Geospatial Section of the Information Technology Division paid a courtesy visit to the office of the Director General of JUPEM. The delegation was led by YBrs. Tuan Haji Shafe'ee bin Yasin, Deputy Director General (Development), accompanied by Puan Mukhtaroh binti Osman, Director of the Information Technology Division, along with several officers from the Geospatial Section. The strategic meeting focused on drone flight permits and the strengthening of spatial data, both of which are critical components in enhancing the enforcement of the Environmental Quality Act 1974.



Kunjungan Hormat ke Pejabat Ketua Pengarah JUPEM/ Courtesy Visit to JUPEM Director General's Office

PENGUATKUASAAN POLISI KESELAMATAN SIBER (PKS) JABATAN ALAM SEKITAR VERSI 2.0

Polisi Keselamatan Siber (PKS) Jabatan Alam Sekitar (JAS) Versi 2.0 telah diterbitkan oleh Unit Operasi, Rangkaian dan Pusat Data (UORPD), Bahagian Teknologi Maklumat (BTM) pada tahun 2025 bagi menggantikan PKS Versi 1.0 (bertarikh 19 Disember 2022) sejajar dengan keperluan piawaian antarabangsa melalui pensijilan ISMS ISO/IEC 27001:2022. Langkah proaktif ini diambil bagi menjamin ekosistem digital JAS kekal selamat melalui kerangka kawalan maklumat yang lebih holistik dan berdaya tahan terhadap cabaran keselamatan siber semasa. Inisiatif ini telah dilancarkan secara rasmi oleh YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Ketua Pengarah Alam Sekitar pada 20 November 2025.

ENFORCEMENT OF THE CYBER SECURITY POLICY (PKS) VERSION 2.0 DEPARTMENT OF ENVIRONMENT

The Department of Environment (DOE) Cybersecurity Policy (CSP) Version 2.0 was published by the Operations, Network and Data Centre Unit (UORPD) of the Information Technology Division (BTM) in 2025. It replaces CSP Version 1.0 (dated 19 December 2022) in alignment with international standards under the ISMS ISO/IEC 27001:2022 certification. This proactive measure was taken to ensure the DOE's digital ecosystem remains secure through a more holistic information control framework that is resilient against current cybersecurity challenges. This initiative was officially launched by YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Director General of Environment on 20 November 2025.

Kronologi pelaksanaan PKS Versi 2.0 adalah seperti berikut:
The chronology of the CSP Version 2.0 implementation is as follows:

21 Ogos 2025
21 August 2025

Mesyuarat Jawatankuasa Pemandu ICT JAS Bilangan 3 Tahun 2025 telah meluluskan pindaan kandungan PKS Versi 2.0.

The DOE ICT Steering Committee Meeting No. 3 of 2025 has officially endorsed the amendments to the CSP Version 2.0 content

8 Oktober 2025
8 October 2025

Kelulusan Arahan Pejabat Bilangan 22 Tahun 2025 oleh YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Ketua Pengarah Alam Sekitar (KPAS) bagi penguatkuasaan PKS Versi 2.0.

The endorsement of Office Directive No. 22 of 2025 by YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Director General of Environment for the implementation and enforcement of the CSP Version 2.0.

15 Oktober 2025
15 October 2025

Edaran Arahan Pejabat PKS Versi 2.0 kepada seluruh warga JAS melalui e-mel pengumuman rasmi untuk tindakan Surat Akuan Pematuhan.

Circulation of CSP Version 2.0 Office Directive to all DOE personnel through official email announcement to complete the Compliance Declaration Letter.

20 November 2025
20 November 2025

Pelancaran PKS Versi 2.0 kepada seluruh warga JAS oleh YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Ketua Pengarah Alam Sekitar. sempena Majlis Perhimpunan Bulanan Bilangan 6 Tahun 2025.

launched of CSP Version 2.0 to all DOE personnel by YBhg. Dato' Wan Abdul Latiff bin Wan Jaffar, Director General of Environment in conjunction with the DOE Monthly Assembly No. 6 of 2025.

Impak dan keberhasilan PKS Versi 2.0:

- Memastikan tadbir urus ICT JAS selaras dengan standard ISO/IEC 27001:2022.
- PKS Versi 1.0 dimansuhkan secara rasmi bagi mengelakkan kekeliruan punca kuasa dalam kawalan keselamatan ICT.
- PKS Versi 2.0 meningkatkan kesedaran warga JAS terhadap ancaman siber melalui latihan, kempen kesedaran dan garis panduan yang jelas.

Impact and outcome of CSP Version 2.0:

- Ensures DOE's ICT governance is aligned with the international ISO/IEC 27001:2022 standard.
- CSP Version 1.0 is officially repealed to prevent overlapping authority in ICT security controls.
- CSP Version 2.0 increases cybersecurity awareness among DOE personnel through training, awareness campaigns, and clear guidelines.

- Keberadaan polisi yang kukuh meningkatkan kepercayaan pelanggan, rakan strategik dan pihak berkuasa terhadap keupayaan organisasi melindungi aset digital.
- Polisi keselamatan yang mantap memberi asas kukuh untuk projek transformasi digital tanpa menjejaskan keselamatan data.
- Sehingga 31 Disember 2025, seramai 117 orang pegawai JAS telah melengkapkan dan menandatangani Surat Akuan Pematuhan PKS secara digital.

Pelaksanaan PKS Versi 2.0 merupakan inisiatif strategik BTM dalam memperkasakan sistem pertahanan siber jabatan. Komitmen jitu yang dizahirkan oleh warga JAS melalui tandatangan akuan pematuhan PKS 2.0 mencerminkan peningkatan tahap kesedaran dan tanggungjawab keselamatan ICT Jabatan secara holistik.

- The existence of a robust policy enhances the confidence of clients, strategic partners, and authorities in the organization's capability to protect digital assets.
- A solid security policy provides a firm basis for digital transformation projects without compromising data security.
- As of 31 December 2025, a total of 117 DOE officers had completed and digitally signed the CSP Letter of Compliance.

The implementation of CSP Version 2.0 is a strategic initiative by the Information Technology Division (BTM) to strengthen the department's cyber defence systems. The unwavering commitment shown by DOE staff through the signing of the CSP 2.0 compliance declaration reflects an increased level of awareness and a holistic sense of responsibility toward the Department's ICT security.



Pelancaran Polisi Keselamatan Siber Versi 2.0/ Launch of the Cybersecurity Policy Version 2.0

ANUGERAH DRON JABATAN ALAM SEKITAR

Sepanjang tahun 2025, Seksyen Geospatial, Bahagian Teknologi Maklumat telah melaksanakan pelbagai inisiatif merangkumi pengurusan data geospatial, penyelarasan dron dan pembangunan sistem GIS. Usaha ini merupakan sebahagian daripada input sokongan teknikal strategik kepada Jabatan.

Pada 25 Februari 2025, bertempat di WEIL Hotel, Ipoh, Perak telah berlangsungnya Majlis Anugerah Dron Jabatan Alam Sekitar (JAS) yang diadakan bersempena dengan Bengkel dan Mesyuarat Penyelarasan Dron. Anugerah dwi-tahunan ini diberikan kepada juruterbang dron Jabatan bagi menghargai kepakaran dan komitmen pegawai dalam cerapan data dron serta menunjukkan prestasi cemerlang dalam setiap tugasan yang diamanahkan.

DEPARTMENT OF ENVIRONMENT DRONE AWARDS

Throughout 2025, the Geospatial Section of the Information Technology Division implemented various initiatives encompassing geospatial data management, drone coordination, and GIS development. These efforts serve as a key component of the strategic technical support provided to the Department.

On 25 February 2025, the Department of Environment (DOE) Drone Awards was held at WEIL Hotel, Ipoh, Perak, in conjunction with the Drone Coordination Workshop and Meeting. This biennial award serves as a recognition of the Department's drone pilots who demonstrate exceptional expertise and unwavering commitment in drone data collection, as well as outstanding performance in fulfilling their entrusted duties.

Berikut adalah senarai penerima anugerah pada tahun ini:
This year's award recipients are as follows:

BIL. NO.	ANUGERAH AWARD	PENERIMA ANUGERAH AWARD RECIPIENT
1.	Juruterbang Dron Terbaik Best Drone Pilot	**Encik Hilmy bin Rusli** Penolong Pegawai Kawalan Alam Sekitar Kanan Jabatan Alam Sekitar Pulau Pinang Senior Assistant Environmental Control Officer Department of Environment Pulau Pinang
2.	Penyelaras Dron Terbaik Best Drone Coordinator	**Puan Aini Oriza binti Ramli** Pegawai Kawalan Alam Sekitar Kanan Jabatan Alam Sekitar Perak Senior Environmental Control Officer Department of Environment Perak
3.	Skuad Dron Terbaik Best Drone Squad	Skuad Dron Jabatan Alam Sekitar Kedah Department of Environment Kedah Drone Squad

Pengiktirafan ini bukan sahaja menghargai sumbangan pegawai, malah memperkasakan teknologi geospatial sebagai instrumen dalam operasi penguatkuasaan dan pengawasan alam sekitar yang lebih proaktif dan berkesan.

This recognition not only honors the officers' contributions but also empowers geospatial technology as a key instrument in achieving more proactive and effective environmental enforcement and surveillance operations.



Anugerah Dron Jabatan Alam Sekitar Tahun 2025/ Department of Environment Drone Awards 2025



Penerima Anugerah Dron bersama Pengarah Bahagian Teknologi Maklumat/ Award Recipients with the Director of the Information Technology Division

NAZIRAN ICT TAHUN 2025

Naziran ICT merupakan aktiviti pemantauan dan pengauditan berkala yang dilaksanakan oleh Unit Operasi, Rangkaian dan Pusat Data (UORPD), Bahagian Teknologi Maklumat. Program ini bertujuan memastikan tadbir urus aset ICT, keselamatan bilik pelayan dan perlindungan data di peringkat Ibu Pejabat, Negeri dan Cawangan mematuhi garis panduan yang ditetapkan Kerajaan. Pada tahun 2025, UORPD telah melaksanakan naziran di 13 lokasi termasuk Jabatan Alam Sekitar (JAS) Ibu Pejabat, JAS Negeri dan JAS Cawangan.

Objektif naziran adalah bagi:

1. Memastikan pengurusan aset ICT dilaksanakan dengan cekap, teratur dan selamat selaras dengan Dasar dan Garis Panduan ICT Sektor Awam.
2. Memantau tahap pematuhan terhadap Polisi Keselamatan Siber (PKS) JAS bagi melindungi data dan sistem daripada risiko insiden keselamatan.
3. Menilai keberkesanan penyelenggaraan peralatan ICT agar beroperasi pada tahap optimum.

Skop naziran yang dilaksanakan adalah:

1. Pemeriksaan bilik server, log akses dan persekitaran peralatan ICT.
2. Semakan konfigurasi kata laluan, kemas kini antivirus dan hak akses pengguna.
3. Semakan fizikal aset ICT.

ICT INSPECTION 2025

ICT Inspection is a periodic monitoring and auditing activity conducted by the Operations, Networking, and Data Centre Unit (UORPD) of the Information Technology Division. This programme is designed to ensure that ICT asset governance, server room security, and data protection at the Headquarters, State, and Branch levels comply with established Government guidelines. In 2025, UORPD successfully conducted inspections across 13 locations, including the Department of Environment (DOE) Headquarters, State, and Branch offices.

The objectives of the inspection are to:

1. Ensure that ICT asset management is implemented efficiently, systematically, and securely in accordance with Public Sector ICT Policies and Guidelines.
2. Monitor the level of compliance with the DOE Cyber Security Policy (CSP) to protect data and systems from security incident risks.
3. Evaluate the effectiveness of ICT equipment maintenance to ensure operations remain at an optimum level.

The scope of the inspection covers:

1. Inspection of server rooms, access logs, and the environment of ICT equipment.
2. Review of password configurations, antivirus updates, and user access rights.
3. Physical verification of ICT assets.

Naziran telah dilaksanakan di lokasi seperti berikut:
The inspections were conducted at the following locations:

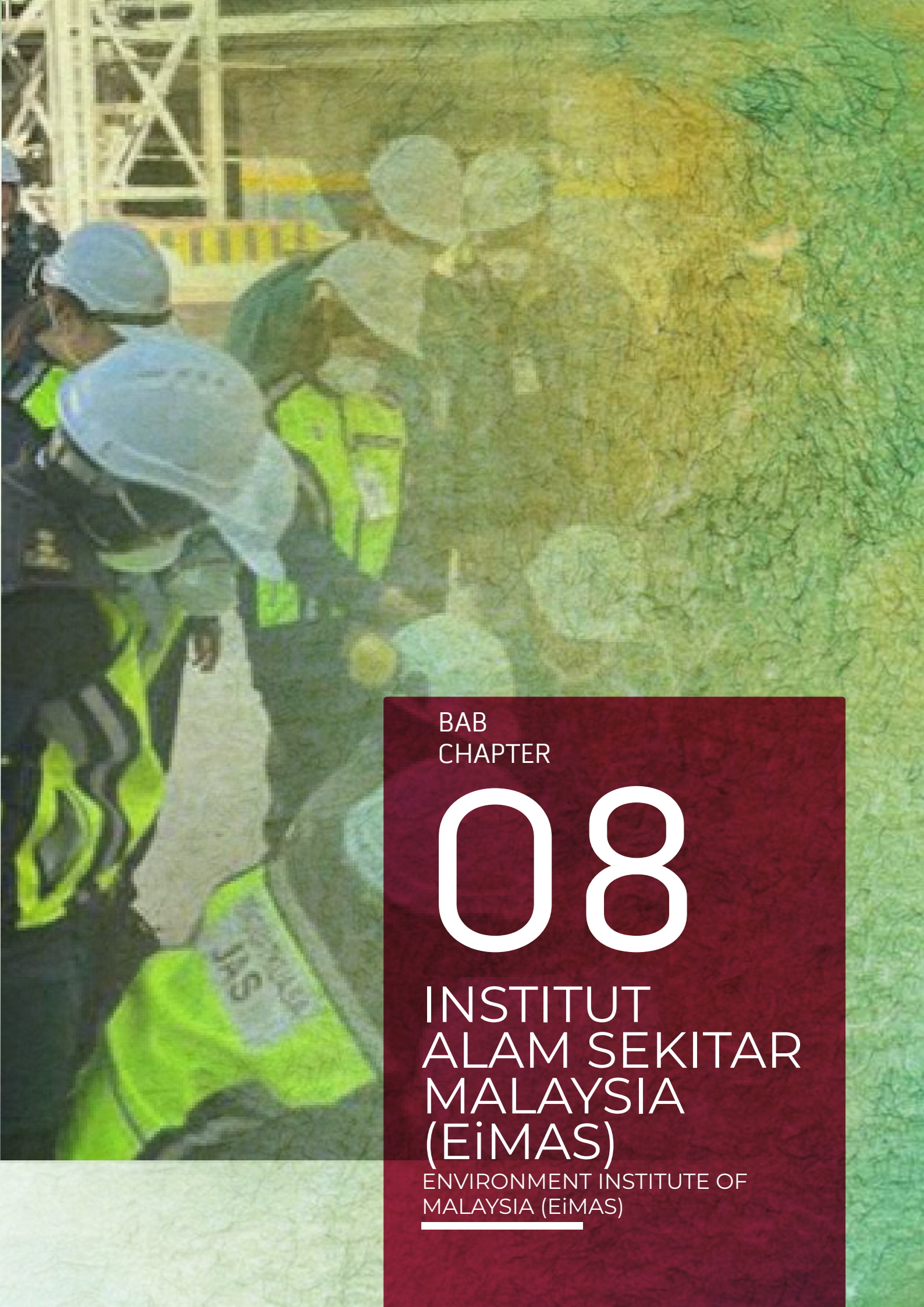
BIL/ NO	TARIKH/ DATE	LOKASI NAZIRAN/ INSPECTION LOCATION
1	10 Februari 2025/ 10 February 2025	JAS WP Labuan/ DOE WP Labuan
2	12 Februari 2025/ 12 February 2025	JAS Negeri Sarawak/ DOE Sarawak State
3	24 Februari 2025/ 24 February 2025	JAS Negeri Melaka & JAS Negeri Sembilan DOE Melaka State & DOE Negeri Sembilan State
4	25 Februari 2025/ 25 February 2025	JAS Negeri Johor/ DOE Johor State
5	16 Mac 2025/ 16 March 2025	JAS Negeri Kelantan/ DOE Kelantan State
6	17 Mac 2025/ 17 March 2025	JAS Negeri Terengganu/ DOE Terengganu State
7	16 April 2025/ 16 April 2025	JAS Negeri Perlis/ DOE Perlis State
8	17 April 2025/ 17 April 2025	JAS Negeri Kedah/ DOE Kedah State
9	21 April 2025/ 21 April 2025	JAS Negeri Sabah/ DOE Sabah State
10	18 Mei 2025/ 18 May 2025	JAS Cawangan Kemaman/ DOE Kemaman Branch
11	19 Mei 2025/ 19 May 2025	JAS Cawangan Gebeng/ DOE Gebeng Branch
12	25 Mei 2025/ 25 May 2025	JAS Cawangan Gua Musang/ DOE Gua Musang Branch
13	26 Mei 2025/ 26 May 2025	JAS Cawangan Cameron Highlands/ DOE Cameron Highlands Branch

Hasil dapatan naziran ini akan dijadikan asas bagi tindakan penambahbaikan berterusan bagi memastikan ekosistem ICT Jabatan sentiasa mampan, selamat dan selari dengan piawaian serta garis panduan Kerajaan.

The findings from this inspection will serve as the foundation for continuous improvement, ensuring the Department's ICT ecosystem remains sustainable, secure, and aligned with Government standards and guidelines.



Naziran ICT Tahun 2025/ ICT Inspection 2025



BAB
CHAPTER

08

INSTITUT ALAM SEKITAR MALAYSIA (EiMAS)

ENVIRONMENT INSTITUTE OF MALAYSIA (EiMAS)

Institut Alam Sekitar Malaysia (EiMAS)
Environment Institute of Malaysia (EiMAS)

Institut Alam Sekitar Malaysia (EiMAS) telah dibuka secara rasmi pada 2 April 2002. EiMAS ditubuhkan bagi pembangunan sumber manusia Jabatan Alam Sekitar selaras dalam menangani isu-isu pencemaran alam sekitar yang mencabar. Jabatan Alam Sekitar telah mengambil langkah penting dengan melengkapkan kakitangannya dengan pengetahuan dan kemahiran melalui kursus-kursus yang dilaksanakan oleh EiMAS.

The Environmental Institute of Malaysia (EiMAS) was officially established on 2 April 2002. EiMAS was founded for the purpose of developing human resources within the Department of Environment in line with efforts to address challenging environmental pollution issues. The Department of Environment has taken an important step to equip its personnel with knowledge and skills through courses conducted by EiMAS.

VISI
VISION

EIMAS berhasrat untuk menjadi Pusat Kecemerlangan Pengurusan Alam Sekitar di Malaysia

EiMAS aspires to be Malaysia's Centre of Excellence in Environmental Management

MISI
MISSION

EiMAS berdedikasi untuk mencapai kecemerlangan dalam usaha perlindungan alam sekitar melalui program pembangunan sumber manusia dan program lain yang akan menyumbang ke arah mencapai penyelesaian kepada masalah alam sekitar dalam konteks menyediakan persekitaran yang bersih dan sihat untuk kehidupan manusia

EiMAS is committed to strive for excellence in environmental protection initiatives by implementing human resource development programmes and other initiatives aimed at addressing environmental challenges . These efforts aim to create a clean and healthy environment that supports human well-being.

PROGRAM LATIHAN EiMAS KEPADA PEGAWAI DAN KAKITANGAN JAS 2025

EiMAS telah membangunkan program latihan dalam bidang pengurusan alam sekitar dan kawalan pencemaran. Perhatian telah diberikan kepada pembangunan modal insan yang dapat melindungi dan menguruskan alam sekitar secara menyeluruh seperti dalam **Jadual 8.1** Sebanyak **85 latihan/kursus telah dilaksanakan dengan jumlah kehadiran seramai 2385 peserta.**

EiMAS TRAINING PROGRAMME FOR DOE OFFICERS AND STAFF 2025

EiMAS has developed training modules in the development of human capital capable of controlling pollution and comprehensively safeguarding the environment as shown in **Table 8.1 A total of 85 trainings/courses were implemented with the attendance of 2385 participants.**

Jadual 8.1: Senarai Program Latihan EiMAS, 2025
Table 8.1: EiMAS Training Programmes List, 2025

BIL. NO.	PERUNDANGAN DAN PENGUATKUASAAN ENVIRONMENTAL LEGISLATION AND ENFORCEMENT	TARIKH DATE	PESERTA PARTICIPANTS
1	Kursus Atas Talian - Permohonan Reman & Pelupusan Buangan Terjadual Online Course - Course on Remand Application & Scheduled Waste Disposal	21 Januari 21 January	158
2	Latihan Pemantauan Pencemaran dan Pemeliharaan Alam Sekitar JAS-APM Training on Environmental Pollution Monitoring and Conservation (DOE–APM)	19-21 Januari 19-21 January	50
3	Kursus Atas Talian - Pernyataan dan Pemeriksaan Saksi di Mahkamah Online Course - Witness Statement and Examination in Court	13 Februari 13 February	179
4	Kursus Asas Pendakwaan Pegawai Pendakwa JAS (Kerjasama dengan EiMAS-ILKAP) Course on Basic Prosecution for DOE Prosecuting Officers (in Collaboration with EiMAS–ILKAP)	3-7 Februari 3-7 February	26
5	Kursus Lanjutan Pendakwaan Pegawai Pendakwa Kerjasama EiMAS-ILKAP Course on Advanced Prosecution for DOE Prosecuting Officers (in Collaboration with EiMAS–ILKAP)	17-24 Februari 17-24 February	16
6	Kursus Penyediaan Kertas Siasatan Course on Preparation of Investigation Paper	14-17 April 14-17 April	14
7	Kursus Penyiasatan Pembakaran Terbuka Course on Open Burning Investigation	20-22 Mei 20-22 May	16
8	Kursus Pemahaman Undang Undang Jenayah di Malaysia Course on Understanding Criminal Law in Malaysia	23-26 Jun 23-26 June	17
9	Kursus Pemerkasaan Auditor MS ISO 9001:2015 Course on Auditor Empowerment MS ISO 9001:2015	23-26 Jun 23-26 June	47
10	Kursus Pemahaman dan Kemahiran Tangkapan Course on Comprehension and Skill in Arrest	21-25 Ogos 21-25 August	18
11	Kursus Penguatkuasaan Marin Course on Marine Enforcement	22-25 Sept. 22-25 Sept.	15
12	Kursus Penguatkuasaan Praktikal Course on Practical Enforcement	3-6 Nov. 3-6 Nov.	17
	JUMLAH/TOTAL		573

BIL. NO.	PENGURUSAN KUALITI UDARA AIR QUALITY MANAGEMENT	TARIKH DATE	PESERTA PARTICIPANTS
1.	Kursus Pensijilan Penguji Ujian Pelepasan Asap Kenderaan Bermotor (Diesel, Petrol & Bunyi Bising) bagi Pegawai JAS Course on Motor Vehicle Smoke Emission Testing Certification (Diesel, Petrol & Noise) for DOE Officers	18-20 Februari 18-20 February	19
2.	Kursus Atas Talian Berkaitan Kawalan Pencemaran Udara Online Course Related to Air Pollution Control	11 Mac 11th March	160
3.	Kursus Pensijilan Penguji Ujian Pelepasan Asap Kenderaan (Diesel & Petrol) Untuk Kemudahan Yang Diluluskan dan Pengendali Berkumpulan Bil. 1/2025 Course on Vehicle Smoke Emission Testing Certification (Diesel & Petrol) for Approved Facilities and Fleet Operators No. 1/2025	8-10 April 8-10 April	36
4.	Kursus Peringkat Asas: Pengendalian Peralatan Teknikal dan Pengurusan Pangkalan Data bagi Komponen Sungai, Marin dan Udara di bawah Program EQMP – Semenanjung Basic-Level Course: Operation of Technical Equipment and Database Management for River, Marine, and Air Components under the EQMP Programme – Peninsular Malaysia	14-18 April 14-18 April	21

Jadual 8.1: Senarai Program Latihan EiMAS, 2025
Table 8.1: EiMAS Training Programmes List, 2025

BIL. NO.	PENGURUSAN KUALITI UDARA AIR QUALITY MANAGEMENT	TARIKH DATE	PESERTA PARTICIPANTS
5.	Kursus Sistem Pemantauan Pelepasan Secara Berterusan (CEMS) Course on Continuous Emission Monitoring System (CEMS)	9-12 Jun 9-12 Jun	14
6.	Kursus Peringkat Asas: Pengendalian Peralatan Teknikal dan Pengurusan Pengkalan Data bagi Komponen Sungai, Marin dan Udara di bawah Program EQMP – Sarawak Basic-Level Course: Operation of Technical Equipment and Database Management for River, Marine, and Air Components under the EQMP Programme – Sarawak, Malaysia	9-13 Jun 9-13 June	25
7.	Kursus Peringkat Asas: Pengendalian Peralatan Teknikal dan Pengurusan Pengkalan Data bagi Komponen Sungai, Marin dan Udara di bawah Program EQMP – Sabah Basic-Level Course: Operation of Technical Equipment and Database Management for River, Marine, and Air Components under the EQMP Programme – Sabah, Malaysia	16-20 Jun 16-20 June	25
8.	Kursus Penilaian Notifikasi Sistem Kawalan Pencemaran Udara Course on Notification Assessment of Air Pollution Control System	23-26 Jun 23-26 June	21
9.	Kursus Pensijilan Penguji Ujian Pelepasan Asap Kenderaan (Diesel & Petrol) Untuk Kemudahan Yang Diluluskan dan Pengendali Berkumpulan Bil. 2/2025 Course on Vehicle Smoke Emission Testing Certification (Diesel & Petrol) for Approved Facilities and Fleet Operators No. 2/2025	1-3 Julai 1-3 July	50
10.	Kursus Certified Environmental Professional in Bag Filter Inspection (CePBFI) Course on Certified Environmental Professional in Bag Filter Inspection (CePBFI)	14 -18 Julai 14 -18 July	18
11.	Bengkel Penyediaan FTR Kompetensi Udara CEPSI/CEPBFI Workshop on Preparation of FTR for Air Competency CEPSI/CEPBFI	28 Julai -1 Ogos 28 July -1 August	18
12.	Kursus Persampelan Pelepasan Pencemar dari Cerobong Course on Stack Emission Pollutant Sampling	19 -21 Ogos 19-21 August	12
13.	Kursus Certified Environmental Professional in Electrostatic Precipitator (ESP) Course on Certified Environmental Professional in Electrostatic Precipitator (ESP)	8-12 September 8-12 September	18
14.	Kursus Pensijilan Penguji Ujian Pelepasan Asap Kenderaan (Diesel & Petrol) Untuk Kemudahan Yang Diluluskan dan Pengendali Berkumpulan Bil. 3/2025 Course on Vehicle Smoke Emission Testing Certification (Diesel & Petrol) for Approved Facilities and Fleet Operators No. 3/2025	9-11 September 9-11 September	22
15.	Kursus Persekitaran Bunyi dan Getaran Course on Noise and Vibration Environment	22-26 September 22-26 September	8
16.	Kursus Peringkat Pertengahan: Pengendalian Peralatan Teknikal dan Pengurusan Pengkalan Data bagi Komponen Udara di bawah Program EQMP Intermediate Course on Technical Equipment Operation and Database Management for the Air Component under the EQMP Programme	6-12 Oktober 6-12 October	13
17	Program Pembangunan Kepakaran Pegawai JAS dalam Bidang Pengawasan Udara Professional Development Programme for DOE Officers in Air Quality Monitoring	27-31 Oktober 27-31 October	20
	JUMLAH/TOTAL		500

Jadual 8.1: Senarai Program Latihan EiMAS, 2025
Table 8.1: EiMAS Training Programmes List, 2025

BIL. NO.	PENGURUSAN BUANGAN TERJADUAL SCHEDULED WASTE MANAGEMENT	TARIKH DATE	PESERTA PARTICIPANTS
1.	Bengkel Penyediaan Field Training Report (FTR) CePSWI Siri 1 Workshop on Field Training Report (FTR) CePSWI Preparation Series	20-24 Januari 20-24 January	37
2.	Kursus Pensijilan Profesional Alam Sekitar dalam Pemeriksaan Buangan Terjadual (CePSWI) Siri 1 Course on Professional Environmental Certification in Scheduled Waste Inspection (CePSWI) Series 1	10-14 Februari 10-14 February	28
3.	Kursus Pengurusan Keselamatan dan Kesihatan Pekerjaan untuk Pegawai JAS Course on Occupational Safety and Health Management for DOE Officers	21-23 April 21-23 April	20
4.	Kursus Pensijilan Protokol Persampelan Buangan Terjadual (CePSWaSP) Course on Scheduled Waste Sampling Protocol Certification (CePSWaSP)	26-30 Mei 26-30 May	31
5.	Kursus Kawalan Import dan Eksport Buangan Terjadual Course on Scheduled Waste Import and Export Control	16-20 Jun 16-20 June	20
6.	Kursus Peringkat Pertengahan Statistik dan Analisis Data di bawah Program EQMP Intermediate Level Course of Statistics and Data Analysis under EQMP Programme	07-10 Julai 07-10 July	16
7.	Kursus Identifikasi dan Klasifikasi Buangan Terjadual Course on Identification and Classification of Scheduled Waste	28-31 Julai 28-31 July	19
8.	Amalan Pengurusan Terbaik untuk Sisa Terjadual Best Management Practices for Scheduled Waste	11-14 Ogos 11-14 August	12
9.	Kursus Latihan Keselamatan dalam Air (Asas Renang dan Menyelamat) di bawah Program EQMP Water Safety Training Course (Basic Swimming and Rescue) under the EQMP Programme	25-28 Ogos 25-28 August	18
10.	Bengkel Penyediaan Field Training Report (FTR) CePSWI Siri 2 Workshop on Field Training Report (FTR) CePSWI Preparation Series 2	22-26 September 22-26 September	24
11.	Kursus Pensijilan Profesional Alam Sekitar dalam Pemeriksaan Buangan Terjadual (CePSWI) Siri 2 Course on Professional Environmental Certification in Scheduled Waste Inspection (CePSWI) Series 2	13-17 Oktober 13-17 October	19
	JUMLAH/TOTAL		244

BIL. NO.	PENGURUSAN KUALITI AIR WATER QUALITY MANAGEMENT	TARIKH DATE	PESERTA PARTICIPANTS
1.	Bengkel Pembangunan Modul Bagi Kursus Certified Environmental Professional in Wastewater Treatment System Inspection (CePWATSI) (Siri I) Workshop on Module Development for Certified Environmental Professional in Wastewater Treatment System Inspection (CePWATSI) Course (Series 1)	24-28 Februari 24-28 February	13
2.	Bengkel Pembangunan Modul bagi Kursus Certified Environmental Professional in Industrial Effluent Treatment System Consultant (CePIETSC) Workshop on Module Development for Certified Environmental Professional in Industrial Effluent Treatment System Consultant (CePIETSC) Course	14-16 April 14-16 April	15
3.	Bengkel Pembangunan Modul bagi Kursus Certified Environmental Professional in Wastewater Treatment System Inspection (CePWATSI) (Siri 2) Workshop on Module Development for Certified Environmental Professional in Wastewater Treatment System Inspection (CePWATSI) Course (Series 2)	16-18 April 16-18 April	15
4.	Kursus Kompetensi Protokol Persampelan, Pengawetan dan Pengendalian Sampel Efluen bagi Tujuan Penguatkuasaan (Siri I) Course on Competency in the Protocol of Sampling, Preservation, and Handling of Effluent Samples for Enforcement Purposes (Series 1)	19-23 Mei 19-23 May	20

Jadual 8.1: Senarai Program Latihan EiMAS, 2025
Table 8.1: EiMAS Training Programmes List, 2025

BIL. NO.	PENGURUSAN KUALITI AIR WATER QUALITY MANAGEMENT	TARIKH DATE	PESERTA PARTICIPANTS
5.	Bengkel Penyediaan Field Training Report (FTR) bagi Kursus Kompetensi Bidang Kawalan Pencemaran Air Workshop on Field Training Report (FTR) Preparation for Water Pollution Control Competency Course	16-20 Jun 16-20 Jun	6
6.	Kursus Pensijilan Profesional Alam Sekitar dalam Pemeriksaan Sistem Pengolahan Efluen Perindustrian Course on Certified Environmental Professional in Industrial Effluent Treatment System Inspection (CePIETSI)	30 Jun - 9 Julai 30 June - 9 July	19
7.	Kursus Kompetensi Protokol Persampelan, Pengawetan dan Pengendalian Sampel Efluen bagi Tujuan Penguatkuasaan (Siri 2) Course on Competency in the Protocol of Sampling, Preservation, and Handling of Effluent Samples for Enforcement Purposes (Series 2)	30 Jun - 4 Julai 30 June - 4 July	31
8.	Program Pembangunan Kepakaran Pegawai JAS dalam Bidang Kawalan Pencemaran Air Expertise Development Programme in Water Pollution Control for DOE Officers	14-18 Julai 14-18 July	12
9.	Bengkel Pembangunan Modul bagi Kursus Certified Environmental Professional in Wastewater Treatment System Inspection (CePWATSI) (Siri 3) Workshop on Module Development for Certified Environmental Professional in Wastewater Treatment System Inspection (CePWATSI) Course (Series 3)	16-18 Julai 16-18 July	12
10.	Kursus Kompetensi Protokol Persampelan, Pengawetan dan Pengendalian Sampel Efluen bagi Tujuan Penguatkuasaan (Siri 3) Course on Competency in the Protocol of Sampling, Preservation, and Handling of Effluent Samples for Enforcement Purposes (Series 3)	28-31 Julai 28-31 July	11
11.	Kursus Peralatan Pengukuran Kualiti Air Course on Instruments for Water Quality Measurement	11-15 Ogos 11-15 August	16
12.	Kursus Pemantauan Prestasi bagi Sistem Kawalan Pencemaran Air Course on Performance Monitoring of Water Pollution Control System	8-12 September 8-12 September	14
13.	Kursus Troubleshooting Unit Proses Sistem Pengolahan Efluen Perindustrian (SPEP) Course on Troubleshooting of Industrial Effluent Treatment System (IETS) Unit Processes	6-10 Oktober 6-10 October	11
14.	Bengkel Pembangunan Modul bagi Kursus Certified Environmental Professional in Wastewater Treatment System Inspection (CePWATSI) (Siri 4) Workshop on Module Development for Certified Environmental Professional in Wastewater Treatment System Inspection (CePWATSI) Course (Series 4)	4-6 November 4-6 November	21
15.	Kursus Kalibrasi dan Verifikasi Alat Pengukuran Kualiti Air Course on Calibration and Verification of Water Quality Measurement Instruments	17-21 November 17-21st November	12
	JUMLAH/TOTAL		217

BIL. NO.	PENGURUSAN ALAM SEKITAR DAN KESAN KEPADA ALAM SEKITAR ENVIRONMENTAL MANAGEMENT AND ENVIRONMENTAL IMPACT ASSESSMENT	TARIKH DATE	PESERTA PARTICIPANTS
1.	Kursus Land Disturbing, Pollution Prevention, and Mitigation Measure (LDP2M2) Course on Land Disturbing, Pollution Prevention, and Mitigation Measure (LDP2M2)	12-14 Februari 12-14 February	12
2.	Kursus Certified Professional Environmental Officer in EIA Projects (CePEOEIA) - Pegawai JAS Course on Certified Professional Environmental Officer in EIA Projects (CePEOEIA) – DOE Officers	21-25 April 21-25 April	24
3.	Kursus Prosedur Penilaian Laporan EIA EIA Report Assessment Procedure Course	16-20 Jun 16-20 June	9

Jadual 8.1: Senarai Program Latihan EiMAS, 2025
Table 8.1: EiMAS Training Programmes List, 2025

BIL. NO.	PENGURUSAN ALAM SEKITAR DAN KESAN KEPADA ALAM SEKITAR ENVIRONMENTAL MANAGEMENT AND ENVIRONMENTAL IMPACT ASSESSMENT	TARIKH DATE	PESERTA PARTICIPANTS
4.	Kursus Pemodelan Alam Sekitar Environmental Modelling Course	21-25 Julai 21-25 July	8
5.	EQMP - Kursus Peringkat Pertengahan Pemodelan dan Ramalan Kualiti Air Sungai dan Marin Menggunakan Water Quality Analysis Simulation Program (WASP) EQMP – Intermediate Level Course on River and Marine Water Quality Modelling and Forecasting using the Water Quality Analysis Simulation Program (WASP)	30 Jun - 2 Julai 30 Jun - 2 July	21
6.	EQMP: Kursus Peringkat Pertengahan Pemodelan dan Ramalan Kualiti Udara Menggunakan Hybrid Single-Particle Lagrangian Integrated Trajectory (Hysplit) EQMP: Intermediate Level Course on Air Quality Modelling and Forecasting using Hybrid Single-Particle Lagrangian Integrated Trajectory (HYSPLIT)	3-7 November 3-7 November	13
7.	Kursus Certified Professional Environmental Officer in EIA Projects (CePEOEIA) – Industri Course on Certified Professional Environmental Officer in EIA Projects (CePEOEIA) - Industry	26-30 Mei 26-30 May	31
8.	Kursus Juruaudit Alam Sekitar Course for Environmental Auditor	7-11 Julai 7-11 July	29
9.	Kursus Certified Professional Environmental Officer in EIA Projects (CePEOEIA) – Industri Course on Certified Professional Environmental Officer in EIA Projects (CePEOEIA) - Industry	4-8 Ogos 4-8 August	32
10.	Kursus Jururunding EIA Course for EIA Consultant	5-9 Mei 5-9 May	34
11.	Kursus Jururunding EIA Course for EIA Consultant	25-29 Ogos 25-29 August	31
12.	Kursus Certified Professional Environmental Officer in EIA Projects (CePEOEIA) – Industri Course on Certified Professional Environmental Officer in EIA Projects (CePEOEIA) – Industry	6-10 Oktober 6-10 October	42
	JUMLAH/TOTAL		336

BIL. NO.	PENGURUSAN KUALITI QUALITY MANAGEMENT	TARIKH DATE	PESERTA PARTICIPANTS
1.	Kursus Asas Kawad Zon Timur Eastern Zone Basic Drill Course	17-22 Ogos 17-22 August	29
2.	Seminar Gear Up Resist Mindset (RESIST) - Kumpulan Pelaksana Gear Up Resist Mindset (RESIST) Seminar - Implementation Group	19-21 Ogos 19-21 August	24
3.	Kursus Asas Kawad Zon Selatan South Zone Basic Drill Course	21-26 September 21-26 September	25
4.	Kursus Pengenalan ESG kepada Pegawai JAS - Siri 1 Introduction to ESG Course for DOE Officers – Series 1	30 September 30 September	48
5.	Kursus Anjuran Bersama EiMAS - SEI 2025 Course Jointly Organized by EiMAS – SEI 2025	7-8 Oktober 7-8 Oktober	41
6.	Kursus Asas Kawad Zon Sabah dan Wilayah Persekutuan Labuan Basic Drill Course – Sabah Zone and Federal Territory of Labuan	2-7 November 2-7 November	32

Jadual 8.1: Senarai Program Latihan EiMAS, 2025
Table 8.1: EiMAS Training Programmes List, 2025

BIL. NO.	PENGURUSAN KUALITI QUALITY MANAGEMENT	TARIKH DATE	PESERTA PARTICIPANTS
7.	Bengkel POL EiMAS 2026 POL EiMAS Workshop 2026	12-14 November 12-14 November	23
8.	Kursus Pengenalan ESG kepada Pegawai JAS - Siri 2 Introduction to ESG Course for DOE Officers – Series 2	18 November 18 November	34
9.	Kursus Pengenalan ESG kepada Pegawai JAS - Siri 3 Introduction to ESG Course for DOE Officers – Series 3	19 November 19 November	35
	JUMLAH/TOTAL		291

BIL. NO.	TEKNOLOGI TECHNOLOGY	TARIKH DATE	PESERTA PARTICIPANTS
1.	Kursus Train-the-Trainer Sistem ePejabat Train-the-Trainer Programme for the ePejabat System	21-22 Januari 21-22 January	24
2.	Kursus Mircrosoft Excel Tahap Pertengahan hingga Lanjutan Intermediate to Advanced Microsoft Excel Course	27-28 Mei 27-28 May	22
3.	Kursus Misi Penerbangan Dron Zon Borneo Drone Flight Mission Training Borneo Zone	23-26 Jun 23-26 June	26
4.	Kursus Microsoft Power Point Tahap Pertengahan hingga Lanjutan Intermediate to Advanced Microsoft Power Point Course	5 -6 Ogos 5-6 August	24
5.	Kursus Aerial Surveillance, Mapping and Data Processing Aerial Surveillance, Mapping and Data Processing Course	26-28 Ogos 26-28 August	25
	JUMLAH/TOTAL		121

BIL. NO.	PERPUSTAKAAN DAN PENGURUSAN MAKLUMAT LIBRARY AND KNOWLEDGE MANAGEMENT	TARIKH DATE	PESERTA PARTICIPANTS
1.	Kursus Asas Fotografi menggunakan Telefon Pintar Basic Photography Course with Smartphone	29-30 Julai 29 -30 July	23
2.	Kursus Generative AI Generative AI Course	10-11 September 10-11 September	20
	JUMLAH/TOTAL		43



85
Bilangan Kursus
Number of Courses

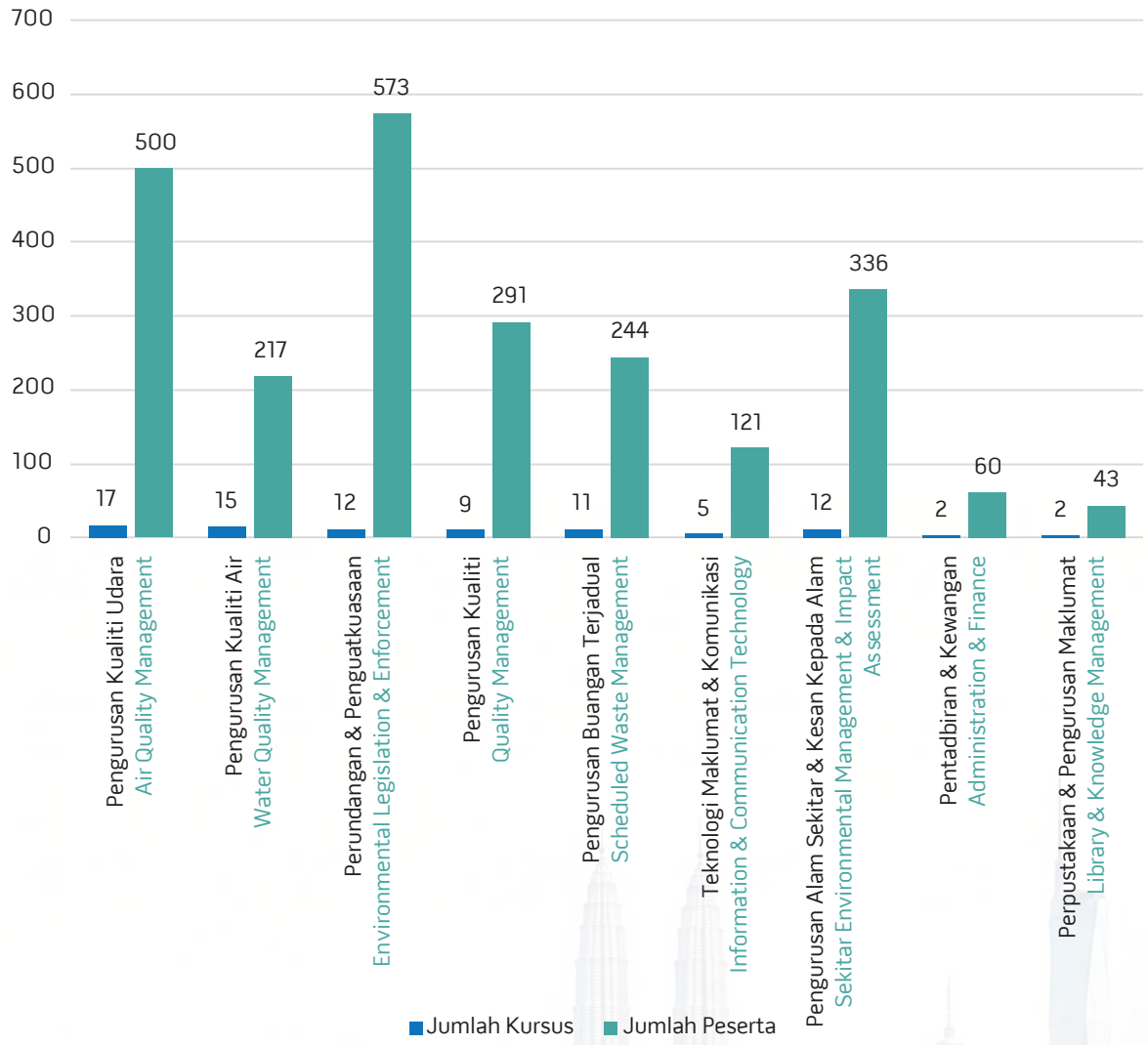


2385
Bilangan Peserta
Number of Participants

Rajah 8.1: Jumlah Kursus yang Dilaksanakan dan Pegawai JAS Dilatih bagi Tahun 2025
Figure 8.1: Number of Courses and DOE Officers Trained for 2025

Rajah 8.2 menunjukkan Program Latihan yang telah dilaksanakan oleh EiMAS mengikut kategori kursus kepada kakitangan JAS. Sebanyak 85 latihan/kursus telah dilaksanakan dengan jumlah kehadiran seramai 2385 peserta.

Figure 8.2 shows Training Programmes that have been conducted by EiMAS according to course category to DOE staff. A total of 85 trainings/courses were implemented with the attendance of 2385 participants.



Rajah 8.2: Bilangan Kursus dan Bilangan Pegawai JAS Dilatih Mengikut Kategori Kursus
Figure 8.2: Number of Courses and DOE Officers Trained by Course Category

Pusat Perundangan dan Penguatkuasaan, Institut Alam Sekitar Malaysia (EiMAS) pada tahun 2025 telah menjalankan sebelas (11) kursus berkaitan penguatkuasaan dan pendakwaan. Bilangan peserta yang hadir dalam kursus yang dianjurkan sepanjang tahun 2025 ini adalah sebanyak 573 orang.

The Legal and Enforcement Centre, Environment Institute of Malaysia (EiMAS) conducted eleven (11) courses related to enforcement and prosecution in 2025. A total of 573 participants attended the courses organised.

Kursus Penguatkuasaan Marin yang diadakan pada 22-25 September 2025 di Johor Bahru adalah merupakan

The Marine Enforcement Course held from 22-25 September 2025 in Johor Bahru was conducted for

kursus yang pertama kalinya diadakan dengan kerjasama Jabatan Laut Wilayah Selatan dan Institut Alam Sekitar Malaysia (EiMAS). Pembentukan modul kursus ini adalah berdasarkan kepada keperluan JAS Negeri bagi menjalankan siasatan ke atas pencemaran kapal di laut.

Kursus yang diadakan selama 4 hari ini meliputi program secara teori dan hands-on. Program secara hands-on diadakan selama satu (1) hari di atas kapal tangki minyak (tanker oil) yang berlabuh di Selat Melaka di bawah kebenaran dan pemantauan Jabatan Laut Malaysia. Program hands-on ini menekankan kepada keadaan sebenar peserta kursus dalam menjalankan penguatkuasaan kapal. Peserta dapat merasai kesukaran dalam menaiki kapal, mengenal pasti bahagian utama kapal, pemeriksaan dokumen, pemeriksaan aktiviti pencemaran dan mengenal pasti lokasi utama persampelan minyak dan buangan di bahagian kapal.

the first time in collaboration with the Southern Region Marine Department and the Environment Institute of Malaysia (EiMAS). The development of the course module was based on the needs of DOE State officers in carrying out investigations into vessel-related marine pollution.

This four-day course comprised both theoretical and hands-on programmes. The hands-on component was conducted for one (1) day on board of an oil tanker anchored in the Straits of Malacca, with the permission and supervision of the Malaysian Marine Department. This hands-on programme emphasised real-world conditions encountered by participants in vessel enforcement activities. Participants experienced the challenges of boarding vessels, identifying key parts of a ship, inspecting documentation, examining pollution-related activities, and identifying key locations for oil and waste sampling on board.



Peserta Kursus bersama Kru Kapal Jabatan Laut/
Participants with the Marine Department Vessel Crew



Proses Menaiki Kapal Tangki Minyak di Selat Melaka/
Boarding an Oil Tanker in the Straits of Malacca



Pemeriksaan di Bahagian Enjin Kapal/
Inspection at the Ship's Engine Room



Aktiviti Persampelan Tangki Minyak / Oil Tank Sampling Activity

KURSUS BERKAITAN PEMANTAUAN PELEPASAN DARI CEROBONG

COURSE RELATED TO EMISSION MONITORING ON STACK



Gambar Peserta Kursus dalam Sesi Hands-on Penggunaan Peralatan Stack Sampler/
Photo of Course Participants during a Hands-on Session on the Use of Stack Sampler Equipment



Gambar Peserta Kursus dalam Sesi Hands-on Peralatan CEMS / Photo of Course Participants during a Hands-on Session on CEMS Equipment

KURSUS KOMPETENSI KAWALAN PENCEMARAN UDARA BAGI PEGAWAI JAS

Pada tahun 2025, Pusat Kawalan dan Pengawasan Udara, EiMAS telah menganjurkan tiga (3) kursus pensijilan bagi pegawai JAS iaitu:-

i. Kursus Profesional Alam Sekitar dalam Pemeriksaan Beg Penapis Pengumpul Habuk (CePBFI) pada 14-18 Julai 2025

ii. Kursus Profesional Alam Sekitar dalam Pemeriksaan Pemendak Elektrostatik (CePESPI) pada 8-12 September 2025

iii. Kursus Pensijilan Penguji Ujian Pelepasan Asap Kenderaan Bermotor (Diesel, Petrol & Bunyi Bising) pada 18-20 Februari 2025

CERTIFIED COURSE ON AIR POLLUTION CONTROL FOR DOE OFFICER

In 2025, the Air Control and Surveillance Center, EiMAS organized three (3) special certification courses for DOE officers, namely:

i. Environmental Professional Course in Dust Collector Bag Filter Inspection (CePBFI) on 14-18 July 2025

ii. Environmental Professional Course in Electrostatic Precipitator (CePESPI) on 8-12 September 2025

iii. Certification Course for Vehicle Emissions Testing (Diesel, Petrol & Noise) on 18-20 February 2025

Kursus kompetensi ini dilaksanakan bagi memberikan pengetahuan dan pendedahan kepada pegawai-pegawai di lapangan berkaitan pemeriksaan pengoperasian peralatan kawalan pencemaran udara di dalam industri (Beg Penapis dan Pemendak Elektrostatik) dan pengendalian peralatan pengujian pelepasan asap dan bunyi bising dari kenderaan bermotor.

These courses were conducted to provide knowledge and exposure to field officers regarding the management and operation of air pollution control equipment in industries (Filter Bag and Electrostatic Precipitator) and operation of smoke and noise emission testing equipment for motor vehicles.

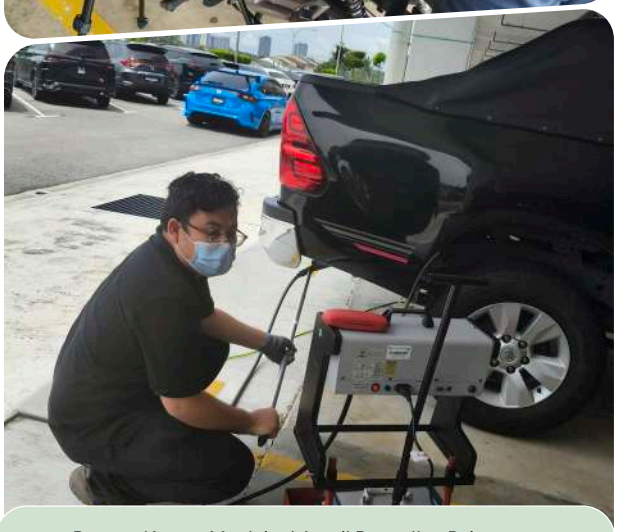


Gambar Peserta Kursus CePBFI/ Photo of CePBFI Course Participants



Peserta Kursus dalam Sesi Lawatan bagi Pembelajaran Pengoperasian Peralatan Kawalan ESP di Industri/
Course Participants Attending an Industrial Site Visit Session for Learning the Operation of Electrostatic Precipitator (ESP) Control Equipment





Peserta Kursus Menjalani Amali Pengujian Pelepasan Bunyi Bising dan Pelepasan Asap dari Kenderaan Bermotor/
Course Participants Carrying Out Practical Testing on Noise Emissions and Exhaust Smoke Emissions from Motor Vehicles

KURSUS PENSIJILAN PENGUJI UJIAN PELEPASAN KENDERAAN (DIESEL DAN PETROL) UNTUK KEMUDAHAN YANG DILULUSKAN DAN PENGENDALI BERKUMPULAN BAGI TAHUN 2025

VEHICLE EMISSIONS TESTER CERTIFICATION COURSE (DIESEL AND GASOLINE) FOR APPROVED FACILITIES AND FLEET OPERATOR FOR 2025



Gambar Peserta Kursus/ Photo of Course Participants



Peserta Menjalankan Ujian Asap bagi Kenderaan Petrol dan Diesel/ Participants Conducting Smoke Tests for Petrol and Diesel Vehicles

Kursus ini telah diadakan sebanyak tiga (3) siri sepanjang tahun 2025.

Kursus ini mendapat penyertaan yang menggalakkan iaitu seramai 108 peserta daripada pusat penguji kenderaan dan juga syarikat fleet operator.

Kursus ini merupakan kursus kompetensi merangkumi teori dan amali bagi memberi pengetahuan dan kemahiran pengendalian alat meter asap dan meter gas kenderaan bagi diesel dan petrol.

This course was conducted for three (3) series in year 2025.

The course received an encouraging participation, with a total of 108 participants, the majority of whom were from licensed vehicle testing centres and fleet operators.

These courses are competency-based programmes that include both theory and practical sessions to provide knowledge and skills in operating smoke meters and gas meters for diesel and petrol vehicles.

PROGRAM PEMBANGUNAN KEPAKARAN PEGAWAI JAS DALAM BIDANG PENGAWASAN UDARA

PROFESSIONAL DEVELOPMENT PROGRAMME FOR DOE OFFICERS IN AIR QUALITY MONITORING



Peserta di Premis Press Metal Bintulu/ Participants at Press Metal Bintulu's Premise



Peserta di Premis OCI TerraSus/ Participants at the OCI TerraSus Premise

Seramai 10 orang pegawai dari Jabatan Alam Sekitar (JAS) telah menyertai Program Pembangunan Kepakaran dalam bidang kawalan dan pengawasan udara yang telah dilaksanakan di Bintulu, Sarawak, Malaysia pada 27-31 Oktober 2025.

Program ini disertai oleh peserta dari kalangan pegawai JAS yang menjadi tenaga pengajar di EiMAS. Ia bertujuan memberi nilai tambah dan pengalaman kepada peserta dalam aspek kawalan dan pengawasan pencemaran udara.

Sesi latihan ini melibatkan sesi lawatan ke dua (2) buah premis industri iaitu Press Metal Bintulu dan OCI TerraSus. Lawatan ini bertujuan memberi pendedahan baharu terhadap pengoperasian dan teknologi sistem kawalan pencemaran udara dan sistem pemantauan pelepasan yang beroperasi di premis-premis ini.

A total of 10 officers from the Department of Environment (DOE) participated in the Expertise Development Program in the field of air pollution control and monitoring which was implemented in Bintulu, Sarawak, Malaysia from 27-31 October 2025.

This program was attended by DOE officers who serve as instructors at EiMAS. It aimed to provide added value and experience to participants in the aspect of air pollution control and monitoring.

This training session involved a visit to two (2) industrial premises, namely Press Metal Bintulu and OCI TerraSus. This visit aimed to provide new exposure to the operation and technology of air pollution control systems and emission monitoring systems operating at these premises.

PROGRAM PEMBANGUNAN KEPAKARAN PEGAWAI JAS DALAM BIDANG KAWALAN PENCEMARAN AIR PADA 14-18 JULAI 2025.

Program ini telah disertai oleh 12 orang Ahli Jawatankuasa Pembangunan Modul Kursus Kompetensi Pegawai JAS dalam Bidang Kawalan Pencemaran Air. Objektif program ini adalah untuk melaksanakan proses verifikasi kandungan modul dengan teknologi sistem pengolahan efluen di lapangan serta memperkasakan kepakaran ahli jawatankuasa yang dilantik khususnya dalam bidang kawalan pencemaran air. Program ini memberi fokus kepada pelaksanaan sistem Loji Efluen Industri Berpusat (LEIB) di PETRONAS Centralized Unit Facilities, Kerteh, Terengganu.

EXPERTISE DEVELOPMENT PROGRAMME IN WATER POLLUTION CONTROL FOR DOE OFFICER ON 14 - 18 JULY 2025.

This programme was attended by 12 members of the Module Development Committee for DOE Officers' Competency Course in the Field of Water Pollution Control. The objective of this programme is to verify the module content compared to the effluent treatment system technologies applied on site as well as empowering the expertise of the appointed committee members, especially in the field of water pollution control. The programme focused on the implementation of Centralized Industrial Effluent Plant system at PETRONAS Centralized Unit Facilities, Kerteh, Terengganu.



Program Pembangunan Kepakaran Pegawai JAS dalam Bidang Kawalan Pencemaran Air pada 14-18 Julai 2025/
Expertise Development Programme in Water Pollution Control for DOE Officers on 14-18 July 2025

PROGRAM LATIHAN KOMPETENSI EiMAS KEPADA PEGAWAI INDUSTRI 2025

EiMAS telah menawarkan kursus-kursus pensijilan industri dalam pengurusan alam sekitar mengikut keperluan Akta Kualiti Alam Sekeliling 1974. Pada tahun 2025, sebanyak sepuluh (10) jenis kursus pensijilan industri telah dilaksanakan dengan jumlah 221 siri kursus. Kursus-kursus tersebut telah ditunjukkan dalam **Jadual 8.2.**

Sepanjang tahun 2025 EiMAS telah berjaya melatih seramai 5,408 peserta industri.

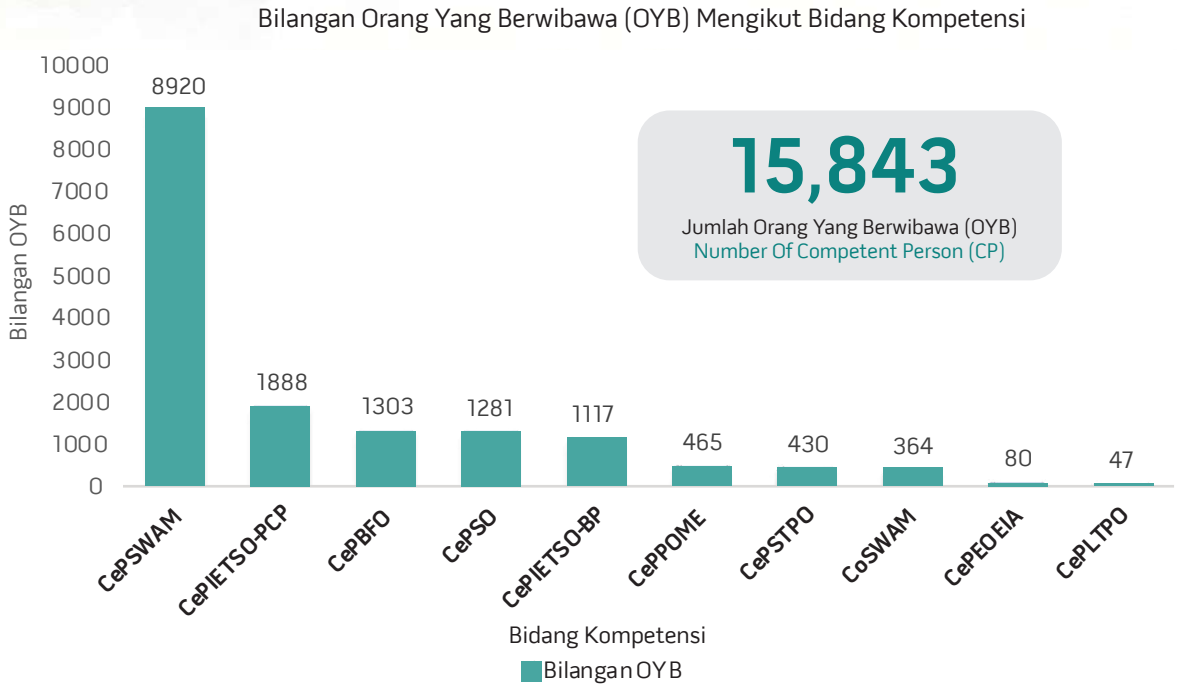
EiMAS COMPETENCY TRAINING PROGRAMME FOR INDUSTRY OFFICERS 2025

EiMAS has offered industry certification courses in environmental management in accordance with the requirements of the Environmental Quality Act 1974. In year 2025, ten (10) industrial certification courses were conducted with a total of 221 series of courses. The competency courses are shown in **Table 8.2.**

Throughout 2025, EiMAS has successfully trained 5,408 industry participants.

Jadual 8.2: Senarai Program Latihan Kompetensi EiMAS kepada Pegawai Industri
Table 8.2: EiMAS Competency Training Programmes for Industries Officers

BIL. NO.	PENGURUSAN ALAM SEKITAR DAN KESAN KEPADA ALAM SEKITAR / ENVIRONMENTAL MANAGEMENT AND IMPACT ASSESSMENT	BIL. PENGANJURAN KURSUS	PESERTA/ PARTICIPANTS
1.	(CePBFO) Kursus Profesional Alam Sekitar Bertauliah dalam Pengoperasian Penapis Beg Course for Certified Environmental Professional in Bag Filters Operation	28	527
2.	(CePSO) Kursus Profesional Alam Sekitar Bertauliah dalam Pengoperasian Pengahar Course for Certified Environmental Professional in Scrubbers' Operation	21	409
3.	(CePIETSO BP) Kursus Profesional Alam Sekitar Bertauliah dalam Pengoperasian Sistem Efluen Perindustrian (Proses Biologikal) Course on Certified Environmental Professional in the Operation of Industrial Effluent Treatment Systems (Biological Treatment Process)	16	331
4.	(CePLTPO) Kursus Profesional Alam Sekitar Bertauliah dalam Pengoperasian Loji Rawatan Larut Resap Course for Certified Environmental Professional in Leachate Treatment Plant Operation	2	26
5.	(CePIETSO – PCP) Kursus Profesional Alam Sekitar Bertauliah dalam Pengoperasian Sistem Efluen Perindustrian (Proses Kimia) Course for Certified Environmental Professional in the Operation of Industrial Effluent Treatment Systems (Physical Chemical Treatment Process)	30	620
6.	(CePSWaM) Kursus Profesional Alam Sekitar Bertauliah dalam Pengurusan Buangan Terjadual Course for Certified Environmental Professional in Scheduled Waste Management	95	2698
7.	(CePSTPO) Kursus Profesional Alam Sekitar Bertauliah dalam Pengoperasian Sistem Rawatan Kumbahan Course for Certified Environmental Professional in Sewage Treatment Plant Operation	9	201
8.	(CePPOME) Kursus Profesional Alam Sekitar Bertauliah dalam Pengoperasian Sistem Rawatan Efluen Kilang Kelapa Sawit Course for Certified Environmental Professional in the Treatment of Palm Oil Mill Effluent (Pond Processes)	5	99
9.	(CePEOEIA) Kursus Profesional Pegawai Alam Sekitar bagi Projek EIA Certified Professional Environmental Officer in EIA Project	3	105
10.	(COSWaM) Kursus Operator Bertauliah dalam Pengurusan Buangan Terjadual Course for Certified Operator in Scheduled Waste Management	12	392
	JUMLAH/TOTAL		5408



Rajah 8.3: Bilangan Orang Yang Berwibawa (OYB) Pegawai Industri di Malaysia mengikut Jenis Pensijilan pada 31 Disember 2025

Figure 8.3: Number of Competent Persons (CP) of Industry Personnel in Malaysia according to Type of Certification as of 31 December 2025

Rajah 8.3 menunjukkan sehingga 31 Disember 2025, EiMAS telah berjaya **mengiktiraf seramai 15,843 orang pegawai industri di Malaysia sebagai Orang Yang Berwibawa** selaras dengan kehendak Seksyen 49A, Akta Kualiti Alam Sekeliling 1974.

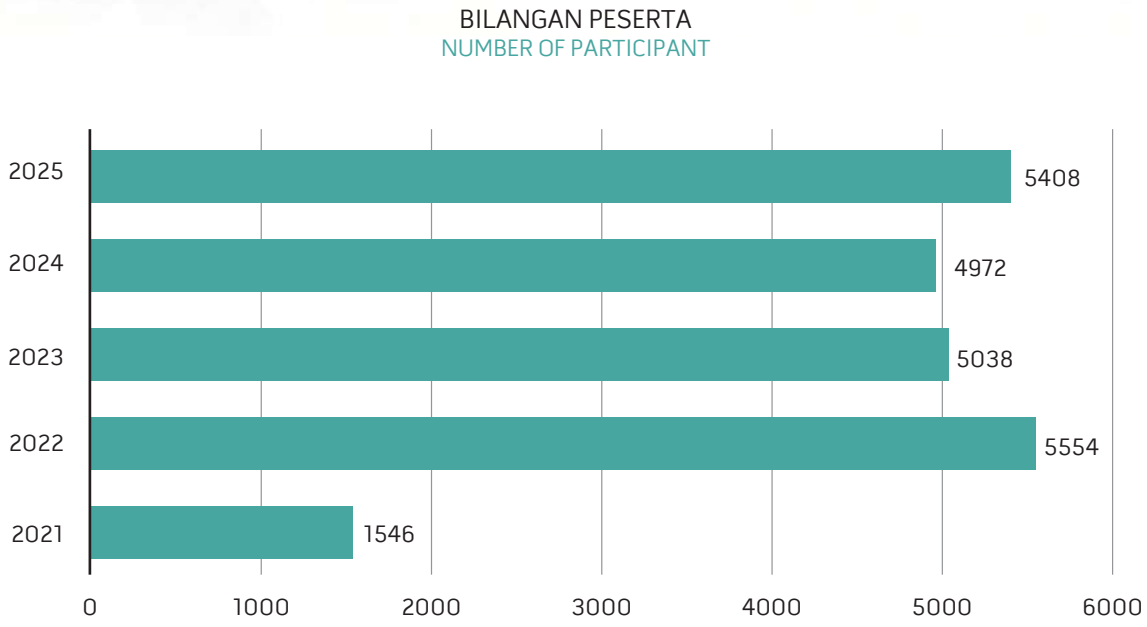
Figure 8.3 shows that as at 31 December 2025, EiMAS had **successfully certified a total of 15,843 industry personnel in Malaysia as Competent Persons** in accordance with the requirements of Section 49A of the Environmental Quality Act, 1974.



Rajah 8.4: Bilangan Kursus Pensijilan Industri yang Dianjurkan, 2025
Figure 8.4: Number of Industry Certification Courses Conducted, 2025

Sepanjang tahun 2025, sebanyak **10 jenis kursus pensijilan industri telah dilaksanakan dengan jumlah 221 siri kursus**, seperti yang ditunjukkan dalam **Rajah 8.4**. Program Certified Environmental Professional in Scheduled Waste Management (CePSWaM) telah mendapat sambutan yang baik daripada peserta industri dengan sebanyak 95 sesi ditawarkan pada tahun 2025.

Throughout 2025, a **total of 10 types of industrial certification courses were conducted with a total of 221 series of courses,** as shown in **Figure 8.4**. The Certified Environmental Professional in Scheduled Waste Management (CePSWaM) had been well received by the industry participants with 95 sessions offered in 2025.



Rajah 8.5: Bilangan Kehadiran Peserta Kursus Pegawai Industri bagi 5 Tahun Terkini (2021-2025)
Figure 8.5: Attendance of Industry Personnel as Course Participants for the Last 5 Years (2021-2025)

Bilangan kehadiran pegawai industri sebagai peserta bagi kursus pensijilan untuk 5 tahun terkini dari 2021 hingga 2025 ditunjukkan dalam **Rajah 8.5**. Kehadiran peserta bagi tahun 2025 menunjukkan penambahan sebanyak 8.7%, iaitu seramai 436 orang berbanding tahun sebelum.

The attendance of industry personnel as participants for industry certification courses in the last 5 years from 2021 to 2025 is as shown in **Figure 8.5**. Participant attendance in 2025 showed an increase of 8.7%, involving a total of 436 participants compared to the previous year.



Peserta Menduduki Peperiksaan CePSWaM/
Participants Sat for CePSWaM Exam



Peserta CePBFO Menjalani Ujian Praktikal/
CePBFO Participants Carried Out Practical Test

Bengkel Penyediaan Field Training Report (FTR) CePSWI Siri 1

Workshop on CePSWI Field Training Report Preparation Series 1



Bengkel Penyediaan FTR (CEPSWI) ini dianjurkan oleh Pusat Bahan Berbahaya EiMAS. Kursus ini dilaksanakan di Grand Continental Hotel, Kuching, Sarawak. Jumlah hari kursus adalah selama lima (5) hari bermula pada 20 Januari 2025 sehingga 24 Januari 2025. Kursus ini telah mendapat penyertaan penuh dari 37 orang peserta yang telah memohon. Objektif bengkel ini adalah bagi membantu Pegawai JAS dalam menyediakan laporan latihan lapangan (FTR) yang merupakan langkah terakhir yang perlu peserta kursus lalui untuk melengkapkan proses pensijilan.

This FTR Preparation Workshop (CEPSWI) was organized by Pusat Bahan Berbahaya EiMAS. This course was held at the Grand Continental Hotel, Kuching, Sarawak. The total course days were five (5) days starting from 20 January 2025 until 24 January 2025. This course received full participation from all 37 applicants. The objective of this workshop is to assist DOE officers in preparing the Field Training Report (FTR), which is the final step that candidates must go through to complete the certification process.



Kursus Pensijilan Profesional Alam Sekitar dalam Pemeriksaan Buangan Terjadual (CePSWI) Siri 1/
Certified Environmental Professional in Scheduled Waste Inspection (CePSWI) Course Series 1

Kursus Pensijilan Profesional Alam Sekitar dalam Pemeriksaan Buangan Terjadual (CEPSWI) Siri 1 ini dianjurkan oleh Pusat Bahan Berbahaya EiMAS. Kursus ini telah dilaksanakan di Hotel Sky, Kota Kinabalu Sabah. Jumlah hari kursus adalah selama lima (5) hari bermula pada 10 Februari 2025 sehingga 14 Februari 2025. Kursus ini telah dihadiri oleh 28 orang pegawai

The Certified Environmental Professional in Scheduled Wastes Inspection (CEPSWI) Course Series 1 was organized by the Pusat Bahan Berbahaya EiMAS. This course was held at Sky Hotel, Kota Kinabalu, Sabah. The total course days were five (5) days starting from 10 February 2025 until 14 February 2025. This course was attended by 28 officers from the DOE Sabah State

dari JAS Negeri Sabah dan Cawangan Sabah. Kesemua peserta telah berjaya melalui semua peringkat kursus dan menunjukkan kehadiran yang cemerlang. Objektif kursus ini adalah bagi membangunkan kemahiran pegawai JAS sebagai Orang Yang Berwibawa (OYB) dalam menjalankan pemeriksaan secara komprehensif ke atas premis yang menghasilkan Buangan Terjadual.

and the Sabah Branch. All participants successfully completed all stages of the course and demonstrated excellent attendance. The objective of this course is to develop the skills of DOE officers as competent person in conducting comprehensive inspections of premises that produce Scheduled Waste.

Kursus Pensijilan Protokol Persampelan Buangan Terjadual (CePSWaSP)



Kursus Kompetensi Protokol Persampelan Buangan Terjadual (CEPSWASP) ini dianjurkan oleh Pusat Bahan Berbahaya EiMAS telah berjalan dengan lancar. Kursus ini dilaksanakan di Bilik Kuliah Melur, EiMAS dan Ujian Praktikal dijalankan di Ruang Kafe EiMAS. Jumlah hari kursus adalah selama lima (5) hari. Kursus ini melibatkan pembelajaran di dalam kelas untuk sesi teori dan latihan lapangan di luar kelas untuk sesi praktikal. Kursus ini telah dihadiri seramai 31 orang peserta Kursus Asas Pegawai Baharu C9 JAS 2025. Semua peserta telah lulus ujian bertulis dan ujian praktikal persampelan buangan terjadual.

Objektif utama kursus ini adalah untuk memberi pendedahan komprehensif kepada peserta mengenai prosedur dan keperluan teknikal dalam menjalankan persampelan buangan terjadual selaras dengan peraturan dan garis panduan Jabatan Alam Sekitar. Kursus ini juga bertujuan untuk meningkatkan kemahiran praktikal peserta dalam menggunakan peralatan persampelan serta pengendalian eksibit dengan betul dan selamat. Selain itu, kursus ini turut dijalankan bagi memastikan peserta memahami aspek perundangan, dokumentasi dan kawalan mutu (QA/QC) berkaitan persampelan buangan terjadual. Kursus ini juga bertujuan untuk menyediakan peserta bagi melaksanakan tugas-tugas persampelan secara profesional, efisien dan mematuhi tatacara operasi piawai (SOP).

Certification Course in Scheduled Waste Sampling Protocol (CePSWaSP)



The Scheduled Waste Sampling Protocol Competency Course (CEPSWASP) organized by Pusat Bahan Berbahaya EiMAS was successfully conducted. This course was implemented in the Melur Lecture Room, EiMAS and the Practical Test was conducted in the EiMAS Cafe Room. The total course days were five (5) days. This course involved classroom learning for theoretical sessions and field training outside the classroom for practical sessions. The course was attended by 31 participants of the DOE C9 New Officer Basic Course 2025. All participants have passed the written test and practical test for scheduled waste sampling.

The main objective of this course is to provide comprehensive exposure to participants on the procedures and technical requirements in conducting scheduled waste sampling in accordance with the regulations and guidelines of the Department of Environment. It was also aimed at improving the participants' practical skills in using sampling equipment and handling exhibits correctly and safely. Apart from that, the course was also conducted to ensure that participants understand the legal documentation and quality control (QA/QC) aspects related to scheduled waste sampling. The course was also aimed at preparing participants to carry out sampling tasks professionally, efficiently, and in compliance with standard operating procedures (SOPs).

Kursus Pengenalan Kepada Fungsi Baharu Sistem MyEHS 2.0

Introduction Course on the New Functions of MyEHS 2.0 System



Kursus Kawalan Import dan Eksport Buangan Terjadual dianjurkan oleh Pusat Bahan Berbahaya EiMAS. Kursus ini dilaksanakan di Hotel Dorsett Grand Subang, Selangor. Jumlah hari kursus adalah selama lima (5) hari bermula pada 16 Jun 2025 sehingga 20 Jun 2025. Kursus ini telah mendapat penyertaan seramai 20 orang yang melibatkan pegawai JAS Negeri dan JAS Ibu Pejabat. Senarai peserta adalah seperti yang dilampirkan. Objektif utama kursus ini adalah bagi memberikan kefahaman mendalam tentang peranan dan tanggungjawab agensi penguatkuasa serta prosedur yang berkaitan dengan import dan eksport buangan terjadual. Selain itu, kursus ini bertujuan meningkatkan pengetahuan peserta mengenai pelaksanaan Konvensyen Basel, Perjanjian WTO serta aspek perundangan dan peraturan semasa berkaitan bahan buangan terjadual.

The Scheduled Waste Import and Export Control Course is organized by the Pusat Bahan Berbahaya EiMAS. This course was held at the Dorsett Grand Hotel Subang, Selangor. The total course days were five (5) days starting from 16 June 2025 until 20 June 2025. This course received participation from 20 people involving DOE State and DOE Headquarters officers. The list of participants is as attached. The main objective of this course is to provide an in-depth understanding of the roles and responsibilities of enforcement agencies as well as procedures related to the import and export of scheduled waste. The course also aimed to increase participants' knowledge on the implementation of the Basel Convention, the WTO Agreement, as well as current legal and regulatory aspects related to scheduled waste.

Kursus Peringkat Pertengahan Statistik dan Analisis Data di bawah Program EQMP

Intermediate Level Course of Statistics and Data Analysis under EQMP Programme



Kursus Peringkat Pertengahan Statistik dan Analisis Data ini dianjurkan oleh Pusat Bahan Berbahaya EiMAS di bawah projek Kursus Latihan Program Pengawasan Kualiti Alam Sekitar, EQMP yang merupakan satu komponen dalam perjanjian Konsesi di antara JAS dengan Pakar Scieno TW Sdn. Bhd. Kursus ini dilaksanakan di Hotel Capital, Kuala Lumpur. Jumlah hari kursus adalah selama empat (4) hari bermula pada 7 Julai 2025 sehingga 10 Julai 2025. Seramai 16 orang peserta telah hadir kursus ini.

Objektif utama kursus ini adalah bagi memperdalam pemahaman konsep statistik dan mengukuhkan pemahaman peserta terhadap konsep-konsep asas dan lanjutan dalam statistik inferensial, termasuk taburan pensampelan, anggaran parameter (titik dan selang) serta ujian hipotesis.

The Intermediate Level Statistics and Data Analysis Course is organized by the Pusat Bahan Berbahaya EiMAS under the Environmental Quality Monitoring Program Training Course, EQMP project which is a component of the Concession agreement between DOE and Pakar Scieno TW Sdn. Bhd. This course was implemented at Hotel Capital, Kuala Lumpur. The total course days were four (4) days starting from 7 July 2025 until 10 July 2025. A total of 16 participants attended this course.

The main objective of this course is to deepen the understanding of statistical concepts and strengthen participants' understanding of basic and advanced concepts in inferential statistics, including sampling distributions, parameter estimation (point and interval), and hypothesis testing.

Kursus Identifikasi dan Klasifikasi Buangan Terjadual

Course on Identification and Classification of Scheduled Waste



Kursus Kursus Identifikasi dan Klasifikasi Buangan Terjadual ini dianjurkan oleh Pusat Bahan Berbahaya EiMAS. Kursus ini dilaksanakan di Hotel Dorsett Grand, Subang. Jumlah hari kursus adalah selama empat (4) hari bermula pada 28 Julai 2025 sehingga 31 Julai 2025. Kursus ini telah mendapat penyertaan seramai 19 orang yang melibatkan pegawai JAS Negeri dan JAS Ibu Pejabat.

Objektif utama kursus ini adalah untuk memberikan pendedahan menyeluruh kepada peserta mengenai jenis-jenis buangan terjadual serta ciri-ciri fizikal dan kimia bahan buangan berbahaya dan meningkatkan kecekapan peserta dalam mengenal pasti, mengklasifikasi dan mencirikan buangan terjadual mengikut perundangan dan garis panduan sedia ada.

The Identification, Characterisation and Classification of Scheduled Wastes course is organized by the Pusat Bahan Berbahaya EiMAS. This course was implemented at the Dorsett Grand Hotel, Subang. The total course days were four (4) days starting from 28 July 2025 until 31 July 2025. This course received participation from 19 people involving DOE State and DOE Headquarters officers.

The main objective of this course is to provide comprehensive exposure to participants on the types of scheduled wastes as well as the physical and chemical characteristics of hazardous wastes and to improve the participants' efficiency in identifying, classifying, and characterizing scheduled wastes according to existing legislation and guidelines.

Amalan Pengurusan Terbaik Sisa Terjadual



Kursus Amalan Pengurusan Terbaik Sisa Terjadual ini dilaksanakan di Hotel Travelodge, Ipoh selama tiga (3) hari bermula pada 12 sehingga 14 Ogos 2025. Seramai 14 orang peserta termasuk urus setia dan penceramah telah mengikuti kursus ini. Objektif kursus ini adalah bagi memperkukuhkan bidang tugas dan memberi pendedahan kepada pegawai JAS mengenai prinsip amalan 4R (reduce, reuse, recycle, recovery) yang menggunakan kaedah Co-Processing dengan mengamalkan prinsip cradle to cradle dan memberi pendedahan mengenai bahan-bahan buangan terjadual yang boleh digunakan secara pro-aktif di samping pengetahuan zero waste future dengan mengurangkan kuantiti buangan ke tapak pelupusan.

Best Management Practices for Scheduled Waste

The Best Management Practices for Scheduled Waste course was held at the Travelodge Hotel, Ipoh for three (3) days starting from 12 to 14 August 2025. A total of 14 participants including the secretariat and speakers attended this course. The objective of this course is to strengthen the scope of work and provide exposure to DOE officers on the principles of 4R practices (reduce, reuse, recycle, recovery) which uses the Co-Processing method by practicing the cradle to cradle principle and provide exposure on scheduled waste materials that can be used pro-actively in addition to knowledge of zero wastes future by reducing the quantity of waste to landfill.

Kursus Latihan Keselamatan dalam Air (Asas Renang dan Menyelamat) di bawah Program EQMP

Water Safety Training Course (Basic Swimming and Rescue) under the EQMP Programme



Kursus Keselamatan dalam Air (Asas Renang dan Menyelamat) adalah merupakan sebuah aktiviti di bawah projek Kursus Latihan Program Pengawasan Kualiti Alam Sekitar, EQMP yang merupakan satu komponen dalam perjanjian Konsesi di antara JAS dengan Pakar Scieno TW Sdn. Bhd. Kursus ini dilaksanakan di Universiti Putra Malaysia, UPM Serdang. Jumlah hari kursus adalah selama empat (4) hari bermula pada 25 Ogos 2025 sehingga 28 Ogos 2025. Seramai 18 orang peserta dalam kalangan pegawai JAS menyertai kursus ini. Objektif kursus ini adalah bagi memperkenalkan peserta kepada kaedah pelaksanaan keselamatan dalam air secara terperinci dan menyediakan peserta dengan kemahiran menyelamat dalam air terutama semasa situasi berbahaya.

The Water Safety Course (Basic Swimming and Rescue) is an activity that comes under the Environmental Quality Monitoring Program Training Course project, EQMP which is a component of the Concession agreement between DOE and Pakar Scieno TW Sdn. Bhd. This course was implemented at Universiti Putra Malaysia, UPM Serdang. The total course days were four (4) days starting from 25 August 2025 until 28 August 2025. A total of 18 participants among DOE officers participated in this course. The objective of this course is to introduce participants to the methods of implementing water safety in detail and provide participants with water rescue skills especially during dangerous situations.

PENILAIAN KESAN KEPADA ALAM SEKITAR

ENVIRONMENTAL IMPACT ASSESSMENT



Peserta Kursus bersama Penceramah /
Course Participants with the Speaker

Pada tahun 2025, sebanyak 6 kursus kepada pegawai Jabatan Alam Sekitar dan 6 kursus kepada industri dan pengamal alam sekitar telah dilaksanakan. Kursus kepada industri dan pengamal alam sekitar merupakan keperluan di bawah perundangan Akta Kualiti Alam Sekeliling (AKAS) 1974 yang memerlukan Jururunding EIA dan Juruaudit Alam Sekitar berdaftar dengan Jabatan Alam Sekitar di bawah Skim Pendaftaran Jururunding EIA dan Skim Pendaftaran Juruaudit Alam dengan Jabatan Alam Sekitar serta keperluan Orang Yang Berwibawa di bawah Seksyen 49A AKAS 1974.

Kursus-kursus kepada pegawai Jabatan Alam Sekitar adalah bagi meningkatkan ilmu dalam melaksanakan tugas untuk penilaian laporan EIA dan juga menjalankan kerja-kerja penguatkuasaan pematuhan syarat-syarat kelulusan laporan EIA.

In 2025, a total of 6 courses for Department of Environment officers and 6 courses for industry and environmental practitioners have been implemented. Courses for industry and environmental practitioners is a requirement under the legislation of the Environmental Quality Act (EQA) 1974 which requires EIA Consultants and Environmental Auditors to be registered with the Department of Environment under the EIA Consultant Registration Scheme and the Environmental Auditor Registration Scheme as well as the requirements of Competent Person under Section 49A EQA 1974.

Courses for Department of Environment officers are aimed at enhancing knowledge in carrying out duties related to the assessment of EIA reports as well as enforcing compliance with the conditions of approval for EIA reports.



Peserta Kursus Jururunding EIA /
EIA Consultant Course Participants



Sesi Latihan Amali di Lapangan bagi Kursus CePEOEIA /
Practical Session for CePEOEIA Course



Peserta Kursus Menduduki Peperiksaan/
Course Participants Sitting for Examination

KURSUS ASAS KAWAD TAHUN 2025

BASIC DRILL COURSE 2025



Gambar Peserta Kursus Kawad/ Group Photo of the Drill Course Participants

Kursus Asas Kawad Tahun 2025 telah dilaksanakan sebanyak lima (5) siri, iaitu melibatkan Zon Tengah, Zon Utara, Zon Selatan, Zon Timur dan Zon Sabah & Wilayah Persekutuan Labuan.

Pelaksanaan kursus ini bertujuan untuk memperkukuh disiplin, meningkatkan kerjasama berpasukan, serta membentuk tahap profesionalisme pegawai Jabatan ini dalam melaksanakan tanggungjawab sebagai pasukan penguatkuasa. Menerusi kursus ini, penerapan asas pergerakan kawad dilaksanakan secara sistematik, di samping memupuk semangat berpasukan, nilai ketegasan dan kepatuhan terhadap arahan, ke arah melahirkan pegawai yang berdisiplin serta berintegriti tinggi.

Kursus ini dirancang untuk dilaksanakan secara berterusan sebagai inisiatif strategik jabatan bagi memastikan kualiti pelaksanaan, pemantapan disiplin serta pengukuhan jati diri pegawai terus dipelihara dan dipertingkatkan.

Basic Drill Course 2025 was conducted in five structured series, encompassing the Central, Northern, Southern, Eastern, and Sabah & Federal Territory of Labuan Zones.

The course was designed to strengthen discipline, enhance teamwork, and foster a high level of professionalism among departmental officers in the execution of their duties as an enforcement unit. Through a structured and systematic approach, the fundamentals of drill movements were instilled, while simultaneously cultivating team spirit, decisiveness, and strict adherence to operational instructions, with the aim of developing disciplined officers of high integrity.

The course is planned to be implemented on an ongoing and periodic basis as a strategic departmental initiative, to ensure the consistency of quality, sustained inculcation of discipline, and continuous strengthening of officers' professional identity and organisational values.





Gambar Peserta Kursus Kawad/ Group Photo of the Drill Course Participants

KURSUS ASAS PEGAWAI BAHARU JAS 2025

BASIC COURSE FOR NEW DOE OFFICERS 2025



Pegawai Baharu JAS 2025 Bersama Pengurusan Tertinggi/ New DOE Officer 2025 With Top Management

Kursus ini telah dijalankan selama 3 bulan iaitu pada 5 Mei 2025 hingga 25 Julai 2025 di Institut Alam Sekitar Malaysia (EiMAS) yang telah melibatkan seramai 32 orang Pegawai Baharu Jabatan Alam Sekitar (JAS) bagi Gred C9.

Di antara objektif kursus ini adalah memberi pengetahuan dan pendedahan kepada peserta kursus mengenai tanggungjawab dan bidang tugas pegawai di Jabatan Alam Sekitar (JAS). Fokus kursus ini juga adalah supaya setiap pegawai JAS mahir dalam penggunaan Akta Kualiti Alam Sekeliling (AKAS) 1974, Arahan Tetap Operasi Penguatkuasaan (ATOP), Prosedur Tindakan Operasi (PTO) dan polisi jabatan.

Pengisian kursus ini juga adalah melibatkan kursus pensijilan berkaitan operasi haluan di bawah pengurusan kualiti air, pengurusan kualiti udara dan pengurusan kualiti buangan terjadual.

Tahun ini elemen penguatkuasaan telah diketengahkan kepada pegawai-pegawai baru dalam mengadaptasi kaedah penguatkuasaan di lapangan di premis dan juga tapak projek tertakluk dibawah kelulusan Environmental Impact Assessment (EIA) secara kondusif.

The course was conducted over a three-month period, from 5 May 2025 to 25 July 2025, at the Malaysia Environmental Institute (EiMAS), with the participation of 32 newly appointed officers from the Department of Environment (DOE).

The primary objectives of the course were to enhance participants' understanding of the roles, responsibilities, and functional scope of officers within the Department of Environment (DOE). The programme was also designed to ensure that officers attain a high level of competency in the application of the Environmental Quality Act (EQA) 1974, the Enforcement Standing Operating Instructions (ATOP), Operational Action Procedures (PTO), and relevant departmental policies.

In addition, the course incorporated certification programmes related to core departmental operations, encompassing water quality management, air quality management, and scheduled waste management.

This year, particular emphasis was placed on enforcement components, with newly appointed officers being systematically exposed to practical enforcement approaches in the field, including at regulated premises and project sites subject to approval under the Environmental Impact Assessment (EIA) framework, implemented in a structured and conducive environment.



Pemeriksaan Perbarisan Kawad Peserta Kursus Asas oleh Pengurusan Tertinggi/
Basic Course Participants Drill Parade Inspection by Top Management



Sesi Lawatan ke Premis Industri/
Site Visit Session to the Industry Premise



Program Sukan Persahabatan antara
Peserta Kursus Asasdengan Kakitangan EiMAS /
Friendly Sports Programme between
Basic Course Participants with EiMAS Staff

KURSUS PENGENALAN ESG KEPADA PEGAWAI JAS 2025

Kursus ini telah dijalankan secara atas talian sebanyak tiga (3) siri iaitu pada:

Siri 1 : 30 September 2025;

Siri 2 : 14 Oktober 2025; dan

Siri 3 : 16 Oktober 2025

Kursus ini telah melibatkan seramai 117 orang Pegawai Jabatan Alam Sekitar (JAS) di peringkat pelaksana dan profesional secara atas talian.

Program ini bertujuan untuk memberi pendedahan asas kepada pegawai Jabatan Alam Sekitar (JAS) mengenai konsep, prinsip dan kepentingan ESG, memperkenalkan rangka kerja serta piawaian ESG di peringkat nasional dan antarabangsa, serta memperkukuh keupayaan pegawai dalam mengenal pasti isu ESG yang relevan kepada industri dan pihak berkepentingan.

Di samping itu, program ini menyokong pencapaian Matlamat Pembangunan Mampan (SDG) melalui pengintegrasian prinsip ESG dalam pelaksanaan tugas, sekali gus mengukuh sikap proaktif pegawai dalam mengaplikasikan pendekatan ESG sebagai nilai tambah strategik kepada operasi JAS.

KURSUS ASAS FOTOGRAFI TELEFON PINTAR

Pada 2025, Unit Perpustakaan telah menganjurkan dua (2) kursus yang melibatkan 43 orang peserta. Kursus Asas Fotografi Menggunakan Telefon Pintar telah diadakan pada 29 – 30 Julai 2025 di Institut Alam Sekitar Malaysia.

Kursus ini memberi fokus kepada etika dan tip fotografi professional, teknik penggambaran, komposisi, pencahayaan, penyuntingan dan beberapa fungsi dan aplikasi berkaitan selaras dengan keperluan professional dalam bidang multimedia dan komunikasi.

ESG INTRODUCTORY COURSE FOR DOE OFFICERS 2025

The ESG Introductory Course for DOE Officers 2025 was conducted in three series:

Series 1: 30 September 2025;

Series 2: 14 Oktober 2025; and

Series 3: 16 Oktober 2025

This course involved 117 officers from the Department of Environment (DOE) from both operational and professional level.

The programme was designed to strengthen officers' foundational understanding of ESG concepts and principles, enhance awareness of national and international ESG frameworks and standards, and build capacity in identifying ESG related issues relevant to industry and key stakeholders.

The course also supports the achievement of the Sustainable Development Goals (SDGs) through the integration of ESG principles into enforcement and monitoring functions, while fostering a proactive and value driven approach to ESG as a strategic enabler of DOE operations.

BASIC SMARTPHONE PHOTOGRAPHY COURSE

In 2025, the Library Unit organized two (2) courses involving 43 participants. The Basic Smartphone Photography Course was held from 29 – 30 July 2025 at the Institut Alam Sekitar Malaysia.

The course focused on ethics and professional photography tips, shooting techniques, composition, lighting, editing, as well as several related functions and applications in line with professional requirements in the fields of multimedia and communication.

Kursus ini juga menyediakan peluang kepada peserta untuk mempraktikkan teori yang dipelajari melalui aktiviti praktikal di dalam dan luar kelas.

The course also provided participants with the opportunity to practice the theories learned through practical activities conducted both inside and outside the classroom.



Peserta kursus merakam potret menggunakan telefon pintar sebagai sebahagian daripada aktiviti latihan praktikal./
Course participants capturing portrait photos using a smartphone as part of a practical training activity.



Gambar Kumpulan Peserta Kursus Asas Fotografi Menggunakan Telefon Pintar/
Group Photo of Basic Smartphone Photography Course Participants



BAB
CHAPTER

09

PERKHIDMATAN PERPUSTAKAAN

LIBRARY SERVICES

Perpustakaan Jabatan Alam Sekitar
Department Of Environment Library

PERANAN PERPUSTAKAAN / LIBRARY ROLE

Perpustakaan Jabatan Alam Sekitar merupakan pusat kecemerlangan literasi maklumat dan pusat penyimpanan maklumat berkaitan Jabatan Alam Sekitar

Department of Environment Library is a centre of excellence for information literacy and information storage related to the Department of Environment

Berperanan untuk membekalkan, memelihara dan menyalurkan maklumat dalam pelbagai bentuk dan medium kepada warga JAS

Serves as a platform for providing, nurturing, and channeling information in various forms and mediums to DOE officials

Menyediakan persekitaran pembacaan yang kondusif kepada warga JAS

Provides a conducive reading environment for DOE officials

PERKHIDMATAN PERPUSTAKAAN / LIBRARY SERVICES

Perkhidmatan Peminjaman Bahan Bacaan
Book Loan Services



Perkhidmatan Rujukan dan Perujukan
References Services



Perkhidmatan Pangkalan Data Dalam Talian
Online Database Service



Peminjaman antara Perpustakaan
Interlibrary Loan



Permohonan ISBN/ISSN
Application of ISBN/ISSN



LAIN-LAIN AKTIVITI PERPUSTAKAAN

Khidmat nasihat perpustakaan:

i. Bekerjasama dalam pelaksanaan program, latihan dan pengurusan perpustakaan

ii. Mempelbagaikan bahan digital yang berkualiti

iii. Menyelaras maklumat di 'Enviro Digital Library (EDL) menggantikan Enviro Knowledge Management Centre (EKMC), Enviro Museum (EMUSEUM), sistem pengurusan perpustakaan KOHA dan Media Sosial

iv. Lawatan kerja luar (Perpustakaan)

v. Menyediakan Pelaporan Statistik sistem repositori perpustakaan setiap bulan kepada semua Bahagian dan JAS Negeri.

PENGUNJUNG PERPUSTAKAAN

Sepanjang tahun 2025, Perpustakaan JAS telah merekodkan jumlah pengunjung secara fizikal seramai 4537 orang melalui program-program lawatan dari agensi luar, aktiviti-aktiviti anjuran kelab dan persatuan di JAS dan mesyuarat dan sesi perbincangan. Pecahan bilangan pengunjung adalah seperti **Rajah 9.1.**

OTHER LIBRARY ACTIVITIES

Advisory service:

i. Cooperate in training and programmes held for DOE

ii. Diversify quality digital content

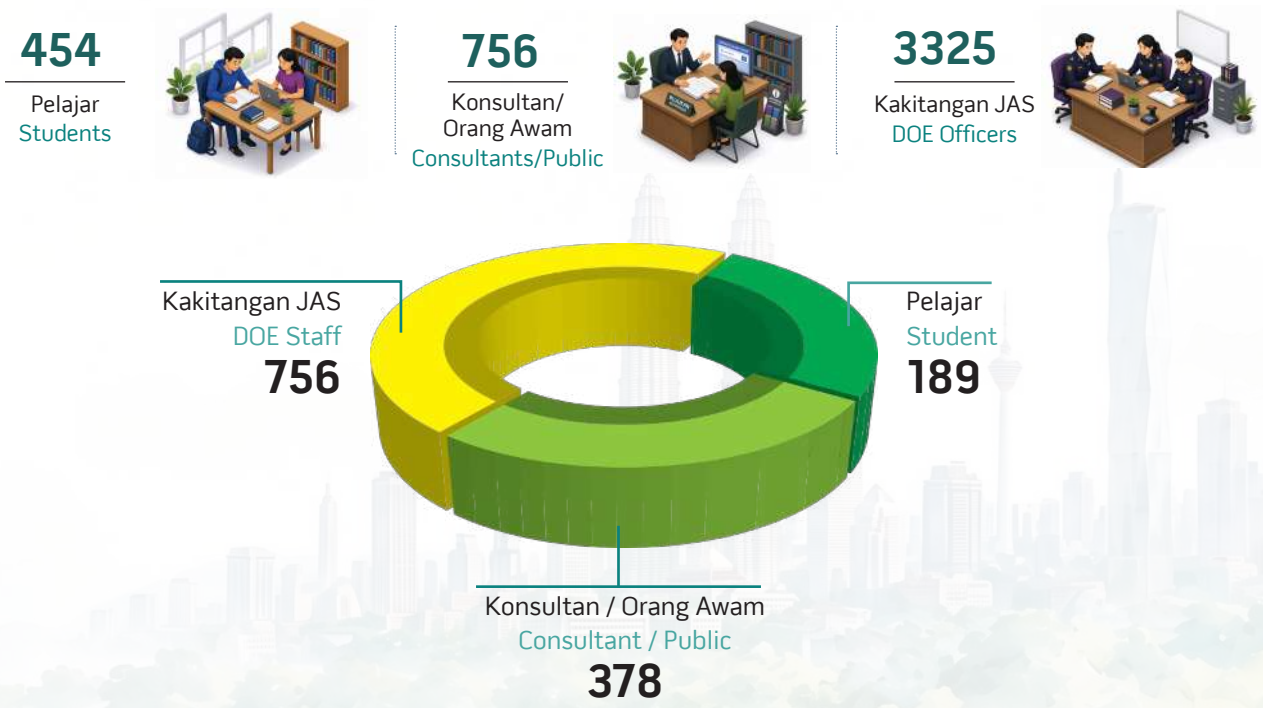
iii. Coordinate in gathering information for Enviro Digital Library (EDL) previously known as Enviro Knowledge Management Centre (EKMC), Enviro Museum (EMUSEUM), Library Management System (KOHA), and social media

iv. Conduct library visits

v. Prepared Statistical Report for all library repository once a month to DOE Divisions and States.

LIBRARY VISITORS

Throughout 2025, the DOE Library recorded a total of 4537 physical visitors through visiting programs from external agencies, activities organized by clubs and associations at DOE and meetings and discussion sessions. The breakdown of the number of visitors is as shown in **Figure 9.1.**



Rajah 9.1: Bilangan Pengunjung Perpustakaan
Figure 9.1: Number of Library Visitor

PEMBANGUNAN KOLEKSI

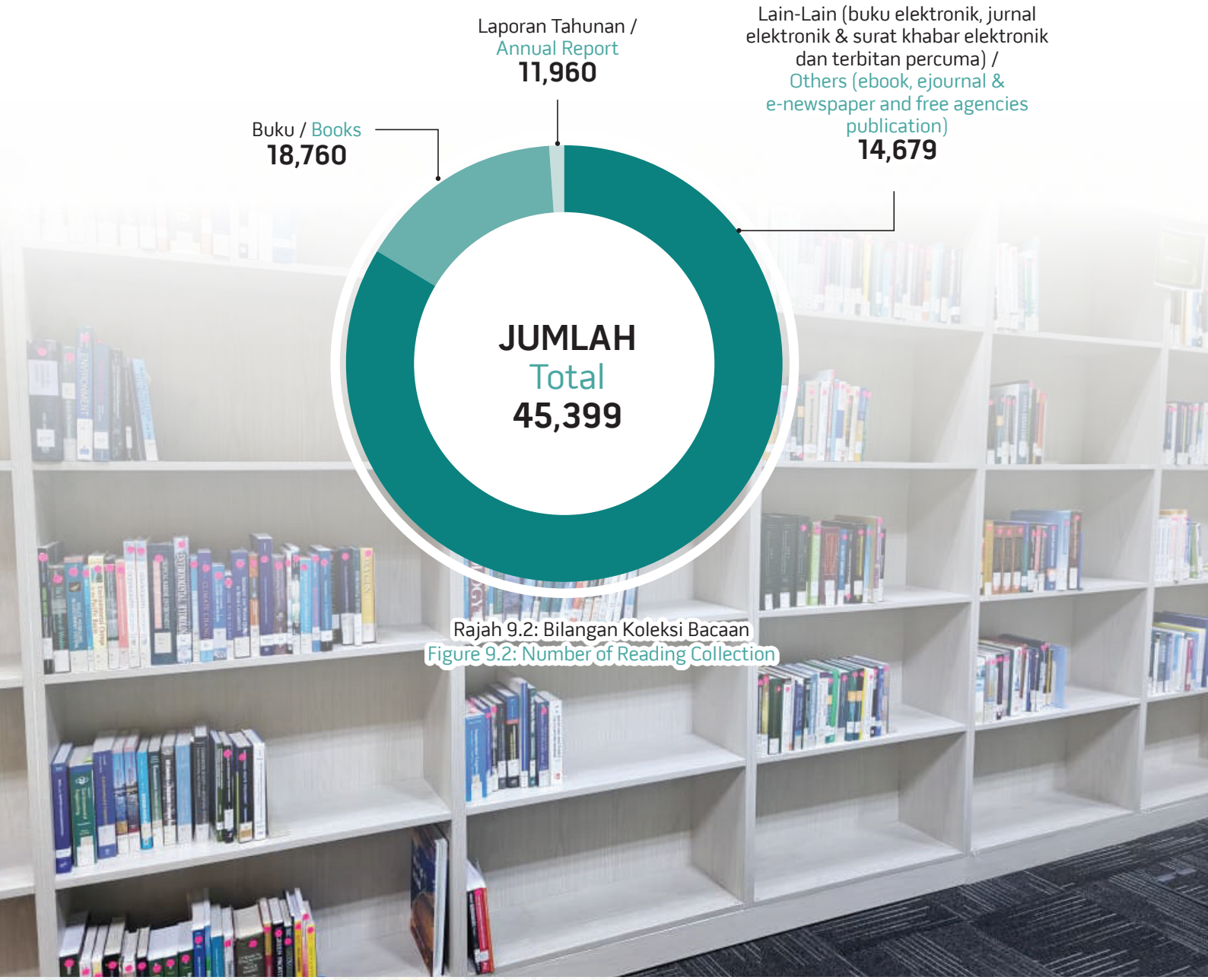
Pada tahun 2025, koleksi bahan rujukan perpustakaan adalah sebanyak 45,399 bahan rujukan bercetak dan elektronik melalui platform Proquest dan tiga (3) langganan jurnal elektronik iaitu *Journal of American Chemical Science* (ACS), Springer Nature dan langganan akhbar Pressreader.

Pada tahun semasa juga, tiada perolehan tambahan bahan rujukan dilaksanakan bagi melihat tahap penggunaan bahan elektronik yang disediakan dalam kalanganwarga JAS. Pecahan koleksi terkini adalah seperti di **Rajah 9.2.**

DEVELOPMENT OF LIBRARY MATERIAL

In 2025, the library's reference collection comprised a total of 45,399 materials, including both printed and electronic resources subscribed through the ProQuest platform, as well as three (3) electronic journal subscriptions, namely the Journal of the American Chemical Society (ACS), Springer Nature, and the PressReader newspaper subscription.

During the current year, no additional reference materials were acquired, as an evaluation was conducted to assess the level of usage of the electronic resources among JAS personnel. The breakdown of the current collection is illustrated in **Figure 9.2.**



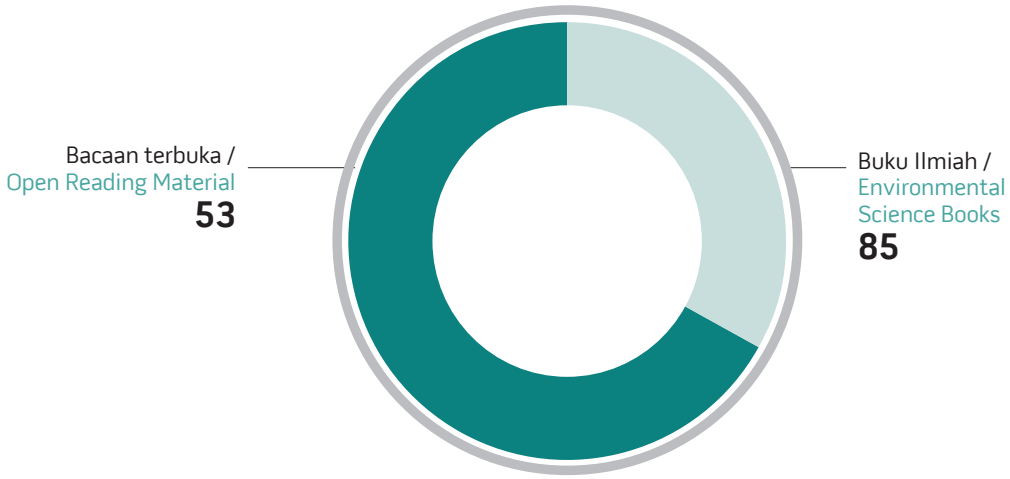
Rajah 9.2: Bilangan Koleksi Bacaan
Figure 9.2: Number of Reading Collection

PINJAMAN BAHAN PERPUSTAKAAN

Penggunaan perpustakaan terutamanya melibatkan transaksi pinjaman dan penggunaan bahan perpustakaan. Sepanjang tahun 2025, rekod pinjaman bahan adalah sebanyak 138 bahan seperti yang ditunjukkan di **Rajah 9.3.**

LIBRARY MATERIALS LOAN

Library usage primarily involves borrowing transactions and the utilisation of library materials. Throughout 2025, a total of 138 items were recorded as borrowed, as illustrated in **Figure 9.3.**



Rajah 9.3: Bilangan Pinjaman Bahan Bacaan
Figure 9.3: Number of Reading Material Loan

PINJAMAN ANTARA PERPUSTAKAAN

Perkhidmatan ini telah disediakan di JAS bagi membantu pegawai dan kakitangan mendapatkan bahan yang tidak tersedia di Jabatan. Transaksi Pinjaman antara Perpustakaan bagi tahun 2025 adalah sebanyak dua (2) kali melibatkan Perpustakaan Negara Malaysia dan Perpustakaan Muzium Negara sebanyak empat belas (14) naskhah.

Sebagai salah satu inisiatif galakan membaca dalam kalangan remaja dan kanak-kanak melalui bahan bacaan santai, perpustakaan telah meminjam sebanyak 300 buku koleksi pelbagai genre dari Perpustakaan Negara Malaysia.

PERKHIDMATAN ATAS TALIAN

Perpustakaan JAS juga menyediakan perkhidmatan dalam talian yang terdiri daripada platform repositori yang dibangunkan oleh JAS dan pangkalan data langganan serta akses percuma kepada pangkalan data U-Pustaka. Sehingga tahun 2025, perkhidmatan dalam talian merupakan platform pilihan bagi pencarian bahan dari pengguna perpustakaan. Pada tahun semasa, peningkatan pengguna melalui platform *Enviro Digital Library* (EDL) sebanyak 16.8% dengan jumlah penggunaan seramai 33,640 pengguna.

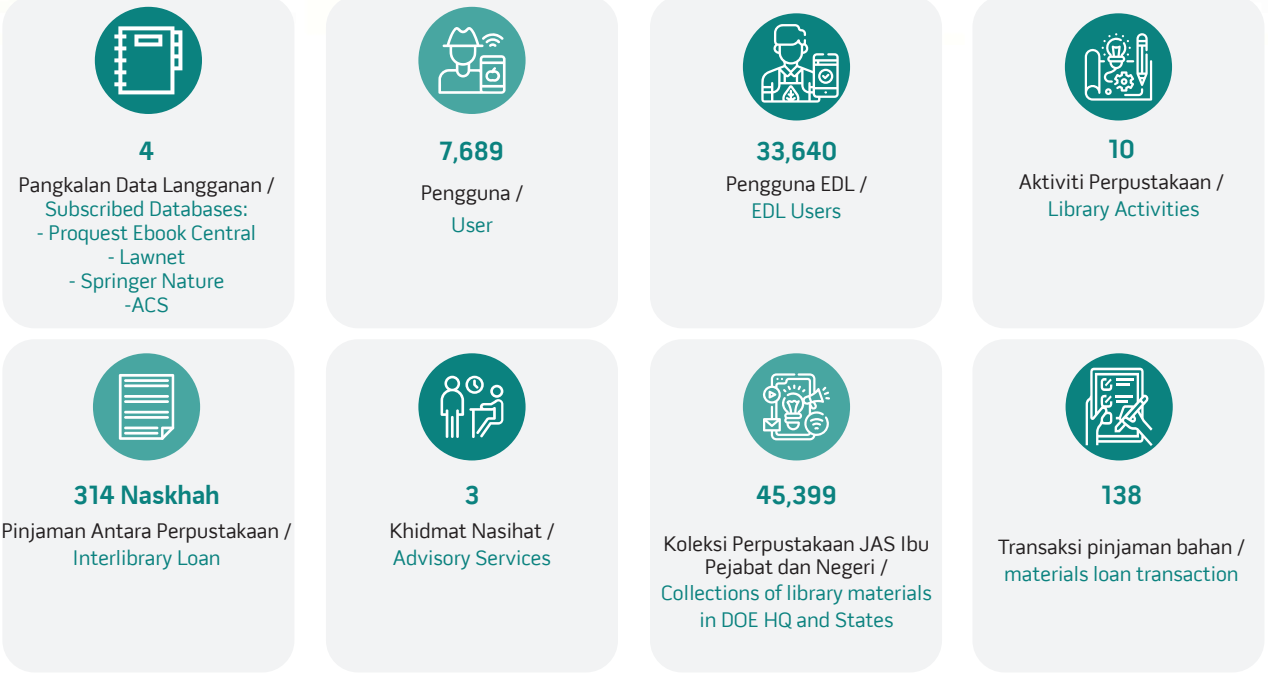
INTERLIBRARY LOAN

This service is provided at JAS to assist officers and staff in obtaining materials that are not available within the Department. In 2025, a total of two (2) Interlibrary Loan (ILL) transactions were recorded, involving the National Library of Malaysia and the National Museum Library, with a total of fourteen (14) items borrowed.

As one of the initiatives to encourage reading among teenagers and children through leisure reading materials, the library has borrowed 300 books from various genres from the National Library of Malaysia.

ONLINE SERVICE

DOE Library also provides online services, which include a repository platform developed by DOE, subscription-based databases, and free access to the U-Pustaka database. As of 2025, online services have become the preferred platform for library users in searching for information resources. In the current year, usage of the Enviro Digital Library (EDL) platform increased by 16.8%, with a total of 33,640 users.



Rajah 9.4: Perkhidmatan dan Koleksi Perpustakaan
Figure 9.4: Library Collections and Service

AKTIVITI GALAKAN MEMBACA 2025

Pada tahun 2025, sebanyak sepuluh (10) aktiviti telah dilaksanakan iaitu:

1) Program Cuti Sekolah: Lawatan Sambil Belajar Sempena Cuti Sekolah
2) Bengkel Hands-on Enviro Digital Library (EDL) Siri 1
3) Bengkel Hands-on Enviro Digital Library (EDL) Siri 2
4) Majlis Khatam Al-Quran dan Tazkirah Ramadhan sempena Sambutan World Quran Hour 2025
5) Program Bicara Bersama Penulis Buku: Ibu Tidak Keseorangan
6) Lawatan Pesta Buku Antarabangsa 2025
7) Pameran Sempena Bulan Kemerdekaan 2025
8) Tayangan Filem Takluk: Lahad Datu
9) Pameran Rahsia Keagungan Cap Mohor Manuskrip Melayu
10) Kuiz Manuskrip Melayu

LIBRARY PROGRAMS AND ACTIVITIES 2025

In 2025, a total of ten (10) activities were implemented as follows:

1) School Holiday Program: Educational Visit During the School Holidays
2) Hands-on Enviro Digital Library (EDL) Workshop Series 1
3) Hands-on Enviro Digital Library (EDL) Workshop Series 2
4) Khatam Al-Quran Ceremony and Ramadan Tazkirah in conjunction with World Quran Hour 2025
5) Talk with the Author: Ibu Tidak Keseorangan
6) Visit to the International Book Fair 2025
7) Exhibition in Conjunction with Independence Month 2025
8) Film Screening: Takluk: Lahad Datu
9) Exhibition: The Secrets of the Grandeur of Malay Manuscript Seals
10) Malay Manuscript Quiz



Lawatan Sambil Belajar ke Perpustakaan Raja Tun Uda, Shah Alam/
School Holiday Program: Educational Visit During the School Holidays





Kursus Hands-on Enviro Digital Library (EDL) Siri 1& 2/
Workshop on Hands-on Enviro Digital Library (EDL) Workshop Series 1&2









Majlis Khatam Quran dan Tazkirah Ramadhan Sempena World Quran Hour /
Khatam Al-Quran Ceremony and Ramadan Tazkirah in conjunction with World Quran Hour 2025





Program Bicara Bersama Penulis Buku: Ibu Tidak Keseorangan /
Talk with the Author Programme: Ibu Tidak Keseorangan







Program Bicara Bersama Penulis Buku: Ibu Tidak Keseorangan /
Talk with the Author Programme: Ibu Tidak Keseorangan





Lawatan ke Pesta Buku Antarabangsa /
Visit to the International Book Fair 2025



Lawatan ke Pesta Buku Antarabangsa /
Visit to the International Book Fair 2025



Pameran Sempena Bulan Kemerdekaan 2025 /
Exhibition in Conjunction with Independence Month 2025















Tayangan Filem Kemerdekaan Sempena Bulan Kemerdekaan 2025: Takluk: Lahad Datu /
Film Screening in Conjunction with Independence Month 2025: Takluk: Lahad Datu













Pameran Rahsia Keagungan Cap Mohor Manuskrip Melayu /
Exhibition: The Secrets of the Grandeur of Malay Manuscript Seals











Kuiz Manuskrip Melayu /
Malay Manuscript Quiz


Klik EDL
kenal, klik, kuasai
CARA-CARA MUAT TURUN BAHAN
PERPUSTAKAAN DIGITAL@JAS
SPRINGER NATURE
TAHUKAH ANDA ?
Jurnal Elektronik (Springer Nature) merupakan portal ejurnal yang menyediakan akses kepada keseluruhan jurnal elektronik yang diterbitkan oleh Springer. Jurnal Elektronik (Springer) menyediakan jurnal merangkumi empat (4) bidang iaitu ;
Springer Nature Climate Change
Springer Nature Geoscience
Springer Nature Sustainability
TAHUKAH ANDA?
pressreader
Magazines
Langkah - Langkah Untuk Log Masuk
RAK
SOLUSI PINTAR
KEEP CALM and Parent On
TIP MENDIDIK ANAK-ANAK
APA ITU MAKNA?
Makna = Hasil proses kognitif yang terbentuk dalam fikiran - diluahkan dalam bentuk bahasa
Jenis Makna:
Leksikal - Makna perkataan secara literal
Kontekstual - Makna berdasar-kan situasi
Konotatif - Makna tersirat
Komunikasi = Proses menyampaikan makna dari penutur → pendengar
Tanpa MAKNA, komunikasi tidak berlaku
Makna = Inti dalam proses komunikasi
Makna Konsep dan Komunikasi
HUBUNGAN KONSEP DAN KOMUNIKASI
Komunikasi = Proses menyampaikan makna dari penutur → pendengar
Tanpa makna, komunikasi tidak berlaku
MERANCKA STRATEGI KOMUNIKASI MENYELURUH
MELAKSANA STRATEGI KOMUNIKASI
STRATEGI KOMUNIKASI
PERANCANGAN KOMUNIKASI
STRATEGI SALURAN KOMUNIKASI
STRATEGI
Satu KLIK
SOLUSI PINTAR
Environmental Law and Pollution Control Enforcement
ENVIRONMENTAL LAW & POLLUTION CONTROL ENFORCEMENT
1970 — 1980s–2000s →
MAJOR EPA ACTS
SCAN ME
OUR CITIES, OUR HOMES
Pengenalan kepada Kehidupan Bandar
Rumah Sebagai Tempat Perlindungan
Pembangunan Bandar Lestari
E-BOOK TERPILIH
WATER ENERGY
Antara Kegunaan Tenaga Air
Manjana kuasa elektrik
Merupakan sumber yang boleh diperbaharui
Satu KLIK
SOLUSI PINTAR
MAIN TOPICS
Introduction to AI in Water Science
Hydrologic & Environmental Modeling
Sensor & Smart Monitoring Technology
Risk Management & Climate Change
Machine Learning & Prediction
Policy, Governance & AI Ethics
SCAN HERE

KEMENTERIAN SUMBER ASLI
DAN KELESTARIAN ALAM
JABATAN ALAM SEKITAR

Jabatan Alam Sekitar,
Kementerian Sumber Asli dan Kelestarian Alam
Aras 1 - 4, Podium 2 & 3,
Menara PETRA,
No.25, Persiaran Perdana, Presint 4
Pusat Pentadbiran Kerajaan Persekutuan
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