

CADANGAN KEMUDAHAN PEMULIHAN LUAR TAPAK UNTUK BUANGAN TERJADUAL (SW 103, SW 104, SW 110 & SW 422) & PENGELUARAN GARAM INORGANIK DI LOT 10700, JALAN PERMATA 1, ARAB MALAYSIAN INDUSTRIAL PARK, 71800 NILAI, NEGERI SEMBILAN DARUL KHUSUS

JADUAL PERTAMA PENILAIAN KESAN KEPADA ALAM SEKELILING (EIA)

RINGKASAN EKSEKUTIF

PENDAHULUAN

Ini adalah Laporan Penilaian Impak Alam Sekitar (EIA) yang disediakan untuk DY New Energy Sdn Bhd (DYNE) untuk diserahkan kepada Jabatan Alam Sekitar (JAS) Negeri Sembilan untuk kelulusan. Projek EIA ini disebut sebagai “**CADANGAN KEMUDAHAN PEMULIHAN LUAR TAPAK UNTUK BUANGAN TERJADUAL (SW 103, SW 104, SW 110 & SW 422) & PENGELUARAN GARAM INORGANIK DI LOT 10700, JALAN PERMATA 1, ARAB MALAYSIAN INDUSTRIAL PARK, 71800 NILAI, NEGERI SEMBILAN DARUL KHUSUS**”. Selepas ini, ia akan dikenali sebagai 'Projek'.

PENGERAK PROJEK DAN ORANG YANG BERKELAYAKAN



PENGERAK PROJEK

DY NEW ENERGY SDN BHD (DYNE)

Alamat: Lot 10700, Jalan Permata 1,
Arab Malaysian Industrial Park, 71800 Nilai,
Negeri Sembilan Darul Khusus

Orang yang Dihubungi: Goh Chin San

Nombor Telefon: 013-9818932

E-mel: dynewenergy2024@gmail.com



JURURUNDING EIA



KESPRO CONSULTANTS SDN BHD

Alamat: No. A-07-09, Level 7, Block A, Sunway Geo Avenue,
Jalan Lagoon Selatan, Sunway South Quay, Bandar
Sunway, 47500 Subang Jaya, Selangor Darul Ehsan

Orang yang Dihubungi: Chong Shiau Iun @ Abraham (Ketua Pasukan EIA)
(Jururunding EIA: CEP-CS0111)

Nombor Telefon: 019-8201820

E-mel: chongsi@hotmail.com

PENGERAKA PROJEK DAN ORANG YANG BERKELAYAKAN



AHLI PASUKAN EIA

Ketua Pasukan EIA

1. Chong Shiau Iun @ Abraham
Jururunding EIA (CEP-CS0111)
Pengurusan Air Sisa; Kualiti Air; Pengurusan Sisa; Penilaian Risiko Kuantitatif; Keselamatan dan Kesihatan Pekerjaan

Ahli Pasukan EIA

1. ChM. Tang Ching Ching
Jururunding EIA (CEP-C0073)
Pemantauan Dasar Kualiti Air, Udara dan Bunyi
2. Loh Tong Loy
Jururunding EIA & Pakar Subjek (CEP-CS0009)
Kualiti Udara
3. Datuk Dr. Ts. Sivakumar A/L Chinnasamy
Jururunding EIA (CEP-C0369)
Kualiti Bunyi
4. Ir. Linda Tan Pei Sze
Jururunding EIA & Pakar Subjek (CEP-CS0006)
Proses Kimia
5. Muhd Asrul Affendee bin Sudin
Pakar Subjek (CEP-SS0747)
Kajian Sosioekonomi

Ahli Pasukan Penyokong EIA

1. Haimon A/L Franklin
Koordinator Projek EIA; Persekitaran Sedia Ada;
Penilaian Pencemaran Bunyi
2. Cheah Jin Xun
Pembantu Jururunding EIA (CEP-AC0771)
Penilaian Pencemaran Air
3. Tan Jia Boh
Penilaian Pencemaran Udara
4. Suzana Antasila binti Kamalludin
Penilaian Sosioekonomi
5. Freddy Lee
Pemetaan GIS

KEPERLUAN UNDANG-UNDANG

Projek ini adalah tertakluk kepada Perintah Kualiti Alam Sekeliling (Aktiviti yang Ditetapkan) (Penilaian Kesan kepada Alam Sekeliling) 2015:

- Jadual Pertama, Aktiviti 14(a) Sisa Terjadual (i) Pembinaan loji pulih guna (luar tapak)



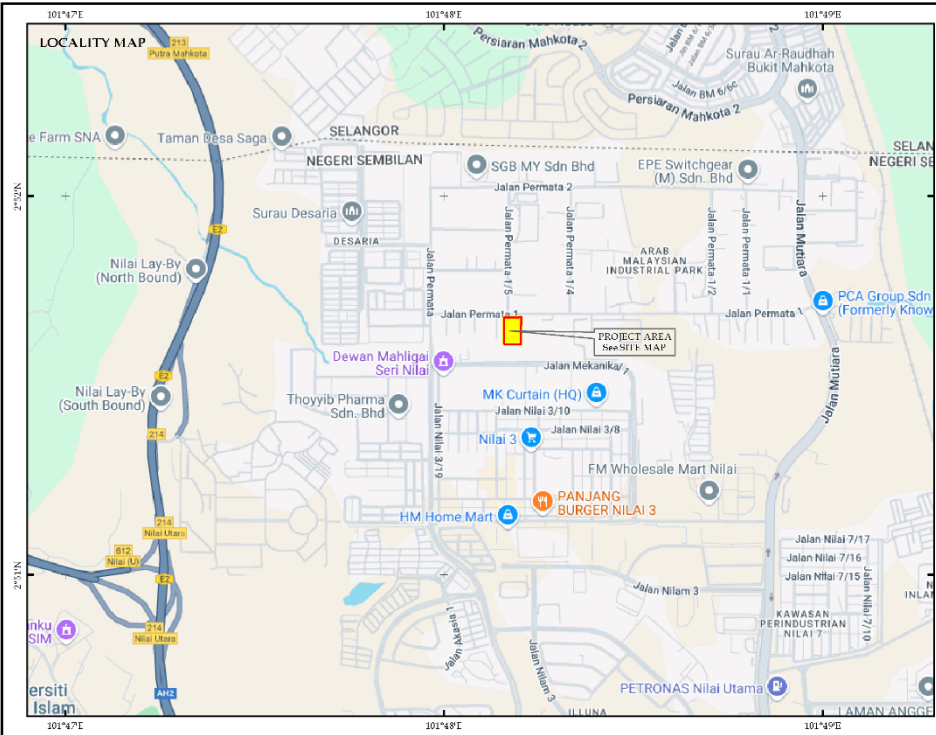
PENYATAAN KEPERLUAN

- Kemudahan pemerolehan kembali luar tapak akan memperkenalkan dimensi baharu untuk ekonomi pengurusan sisa terjadual, terutamanya di Arab Malaysian Industrial Park selain mencegah pelupusan sisa terjadual, terutamanya sisa bateri litium secara haram dan tidak beretika.
- Kegiatan ekonomi yang terlibat secara langsung: pengumpulan, pengangkutan, dan pemerolehan kembali dari sisa serta penjualan produk yang dipulihkan. Perkhidmatan tidak langsung yang terlibat merangkumi perkhidmatan perundingan alam sekitar, penilaian impak, pengurusan dan pemantauan oleh profesional.
- Kegiatan dan faedah ekonomi ini berupaya dijana oleh Projek ini adalah hasil kesedaran and pengetahuan terhadap pemuliharaan alam sekeliling dan pengkalan sumber serta tanggungjawab semua penjana sisa dalam putaran ekonomi.
- Keperluan Projek ini adalah berasas daripada sudut pandangan alam sekeliling dan kemampuan di samping membawa kepada kebaikan ekonomi, peluang perniagaan dan pekerjaan.

LOKASI PROJEK



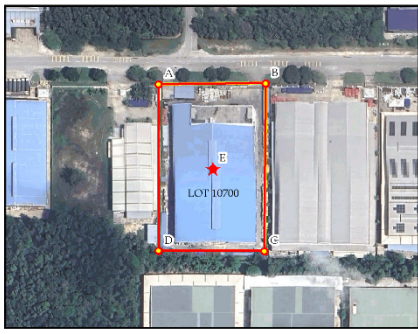
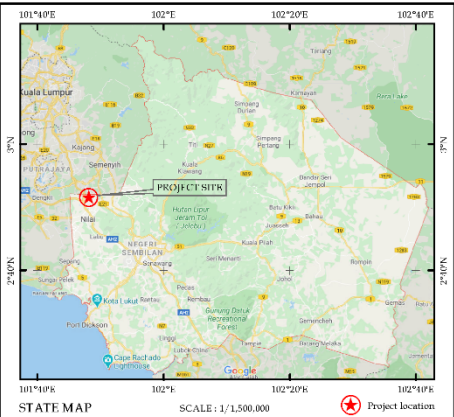
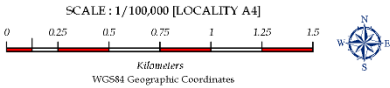
PETA LOKALITI



LEGEND

- Project Site/Location
- Boundary point
- Project Area

Project Proponent: DY NEW ENERGY SDN BHD
Sources:
1. Proponent's Project Information
2. Bing Maps 2004
3. GoogleMaps 2004
MAP NO:adn-11-locality DATE: 22-11-2024

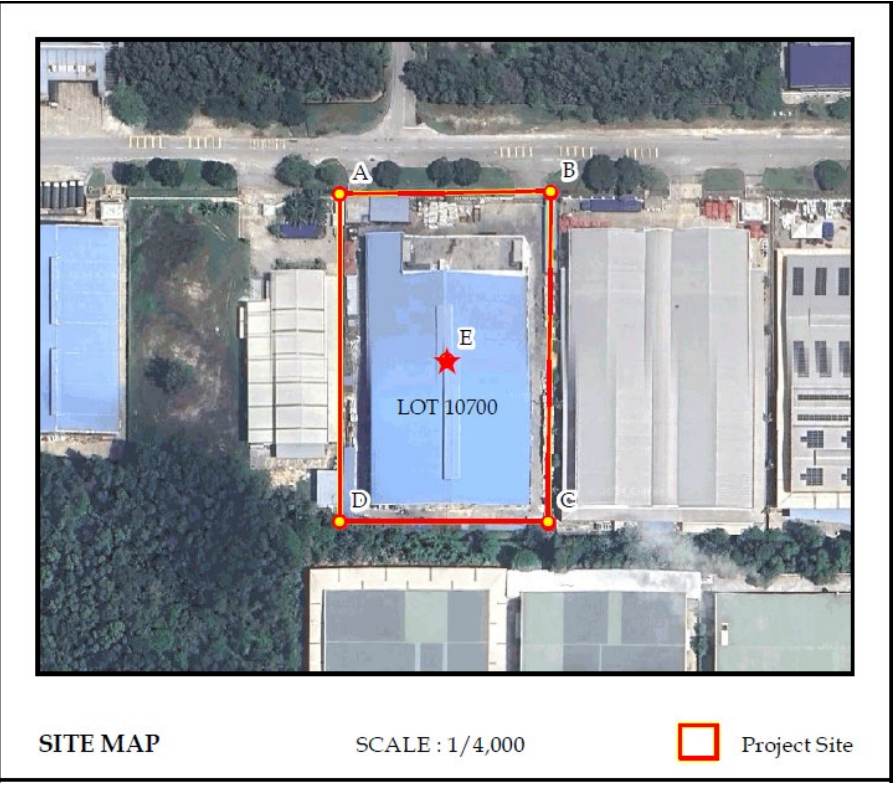


SITE MAP SCALE: 1/4,000 Project Site

BOUNDARY COORDINATES		BOUNDARY COORDINATES	
PT LONGITUDE	LATITUDE	PT LONGITUDE	LATITUDE
A 101° 48' 09.47" E	02° 51' 40.73" N	D 101° 48' 09.47" E	02° 51' 36.51" N
B 101° 48' 12.19" E	02° 51' 40.76" N	E 101° 48' 10.86" E	02° 51' 38.60" N
C 101° 48' 12.15" E	02° 51' 36.51" N		



PETA TAPAK (SITE MAP)



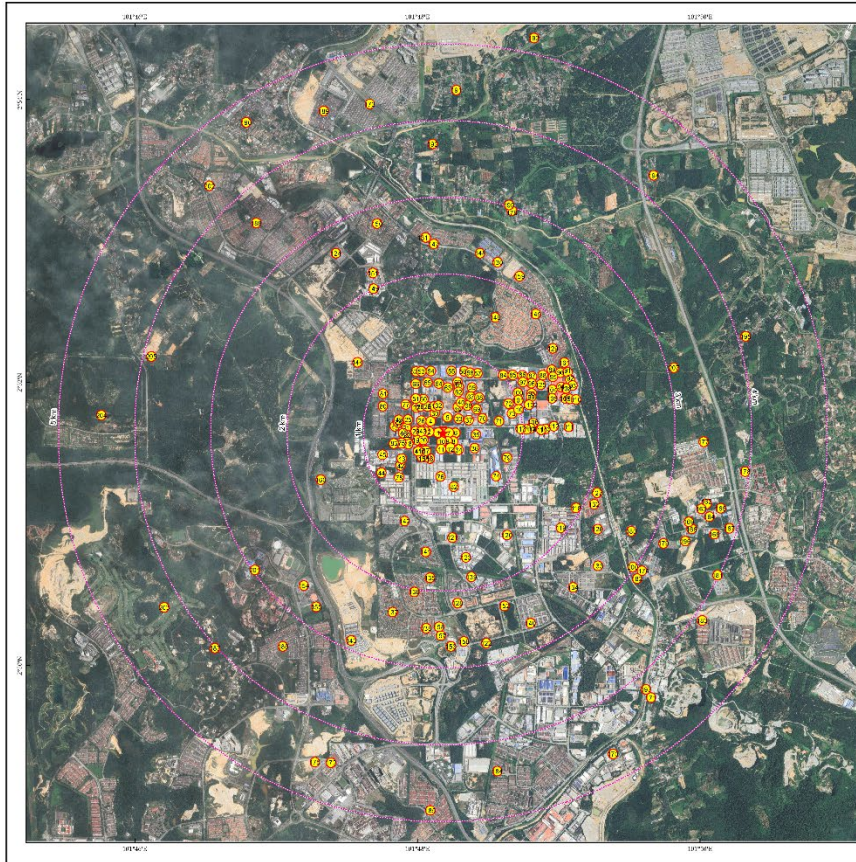
SITE MAP SCALE: 1/4,000 Project Site

Titik	Utaraan	Timuran
A	2°51'40.74"N	101°48'09.48"E
B	2°51'40.76"N	101°48'12.19"E
C	2°51'36.51"N	101°48'12.15"E
D	2°51'36.52"N	101°48'09.47"E
E	2°51'38.60"N	101°48'10.86"E

LOKASI PROJEK



PETA GUNA TANAH – 5 KM



LEGEND

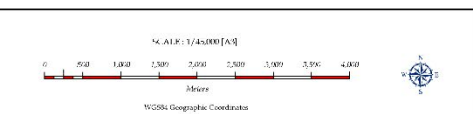
Project Feature

★ Project site/area

— Buffer extent 1 km

Places

1. Bina Plastic Industries Sdn Bhd	10. Negeri Sembilan	20. Negeri Sembilan
2. Bina Plastic Industries Sdn Bhd	11. Negeri Sembilan	21. Negeri Sembilan
3. Bina Plastic Industries Sdn Bhd	12. Negeri Sembilan	22. Negeri Sembilan
4. Bina Plastic Industries Sdn Bhd	13. Negeri Sembilan	23. Negeri Sembilan
5. Bina Plastic Industries Sdn Bhd	14. Negeri Sembilan	24. Negeri Sembilan
6. Bina Plastic Industries Sdn Bhd	15. Negeri Sembilan	25. Negeri Sembilan
7. Bina Plastic Industries Sdn Bhd	16. Negeri Sembilan	26. Negeri Sembilan
8. Bina Plastic Industries Sdn Bhd	17. Negeri Sembilan	27. Negeri Sembilan
9. Bina Plastic Industries Sdn Bhd	18. Negeri Sembilan	28. Negeri Sembilan
10. Bina Plastic Industries Sdn Bhd	19. Negeri Sembilan	29. Negeri Sembilan
11. Bina Plastic Industries Sdn Bhd	20. Negeri Sembilan	30. Negeri Sembilan
12. Bina Plastic Industries Sdn Bhd	21. Negeri Sembilan	31. Negeri Sembilan
13. Bina Plastic Industries Sdn Bhd	22. Negeri Sembilan	32. Negeri Sembilan
14. Bina Plastic Industries Sdn Bhd	23. Negeri Sembilan	33. Negeri Sembilan
15. Bina Plastic Industries Sdn Bhd	24. Negeri Sembilan	34. Negeri Sembilan
16. Bina Plastic Industries Sdn Bhd	25. Negeri Sembilan	35. Negeri Sembilan
17. Bina Plastic Industries Sdn Bhd	26. Negeri Sembilan	36. Negeri Sembilan
18. Bina Plastic Industries Sdn Bhd	27. Negeri Sembilan	37. Negeri Sembilan
19. Bina Plastic Industries Sdn Bhd	28. Negeri Sembilan	38. Negeri Sembilan
20. Bina Plastic Industries Sdn Bhd	29. Negeri Sembilan	39. Negeri Sembilan
21. Bina Plastic Industries Sdn Bhd	30. Negeri Sembilan	40. Negeri Sembilan
22. Bina Plastic Industries Sdn Bhd	31. Negeri Sembilan	41. Negeri Sembilan
23. Bina Plastic Industries Sdn Bhd	32. Negeri Sembilan	42. Negeri Sembilan
24. Bina Plastic Industries Sdn Bhd	33. Negeri Sembilan	43. Negeri Sembilan
25. Bina Plastic Industries Sdn Bhd	34. Negeri Sembilan	44. Negeri Sembilan
26. Bina Plastic Industries Sdn Bhd	35. Negeri Sembilan	45. Negeri Sembilan
27. Bina Plastic Industries Sdn Bhd	36. Negeri Sembilan	46. Negeri Sembilan
28. Bina Plastic Industries Sdn Bhd	37. Negeri Sembilan	47. Negeri Sembilan
29. Bina Plastic Industries Sdn Bhd	38. Negeri Sembilan	48. Negeri Sembilan
30. Bina Plastic Industries Sdn Bhd	39. Negeri Sembilan	49. Negeri Sembilan
31. Bina Plastic Industries Sdn Bhd	40. Negeri Sembilan	50. Negeri Sembilan



Project Preparation: UTM NAD 1983/2011 SRS (11)

Scale: 1:4,000

MAP: Negeri Sembilan

Date: 13/08/2024



PENERIMA SENSITIF



Bina Plastic Industries Sdn Bhd



Corrugated Offset Packaging (M) Sdn Bhd



Eng Kah Enterprise (KL) Sdn Bhd



KJM Aluminium Can Sdn Bhd



Taman Desaria



Taman Desa Seringin

DESKRIPSI PROJEK

Penggerak Projek (PP) bercadang untuk mengendalikan kemudahan pemulihan buangan terjadual di fasiliti luar tapak and pengeluaran garam inorganik.

Aktiviti pemulihan buangan terjadual melibatkan bahan-bahan mentah berikut:

- (i) Sisa Bateri Litium 32650 (SW 103) – 13 TPM
- (ii) Sisa Bateri Litium 18650 (SW 103) – 13 TPM
- (iii) Sanga Kuprum yang Mengandungi Litium dan Kobalt (SW 104) – 13 TPM
- (iv) Sisa Elektrik and Elektronik (SW 110) – 26 TPM
- (v) Sisa Logam Campuran (SW 422) – 32 TPM
- (vi) Jasad Hitam (*Black Mass*) daripada Bahan Bateri Litium Ferum Fosfat – 233.49 TPM
- (vii) Jasad Hitam (*Black Mass*) daripada Bahan Bateri Ternari – 250 TPM

Aktiviti pemulihan buangan terjadual juga melibatkan produk perantaraan berikut:

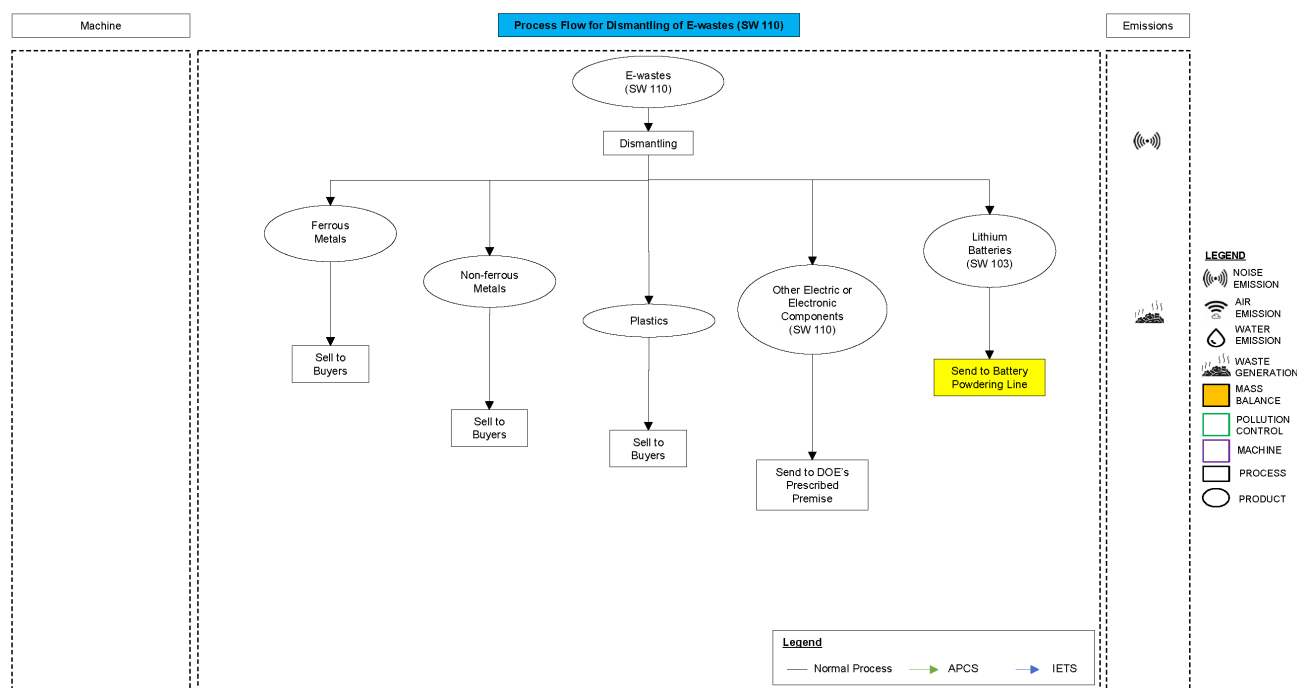
- (i) Sisa Bateri Litium (SW 103) daripada Sisa SW 110 dan SW 422 – 5.20 TPM
- (ii) Jasad Hitam (*Black Mass*) daripada Penghancuran Sisa Bateri Litium – 16.51 TPM

Aktiviti pemulihan buangan terjadual bertujuan untuk pengeluaran bahan-bahan tersebut:

- (i) Litium Karbonat (Garam Inorganik) – 107.94 TPM
- (ii) Litium Fosfat (Garam Inorganik) – 74.7 TPM
- (iii) Nikel Kobalt Hidroksida (Garam Inorganik) – 295.15 TPM
- (iv) Kalsium Fosfat (Garam Inorganik) – 9.03 TPM
- (v) Konsentrat Kuprum – 32.8 TPM
- (vi) Serbuk Kuprum – 2.236 TPM
- (vii) Serbuk Aluminium – 1.17 TPM
- (viii) Pelapik Keluli (*Steel Shells*) – 1.17 TPM
- (ix) Diafragma Bateri yang Diuli – 2.496 TPM
- (x) Plastik – 9.802 TPM
- (xi) Logam Bukan Ferum – 16.9 TPM
- (xii) Logam Ferum – 16.406 TPM
- (xiii) Natrium Sulfat (Garam Inorganik) – 758.37 TPM

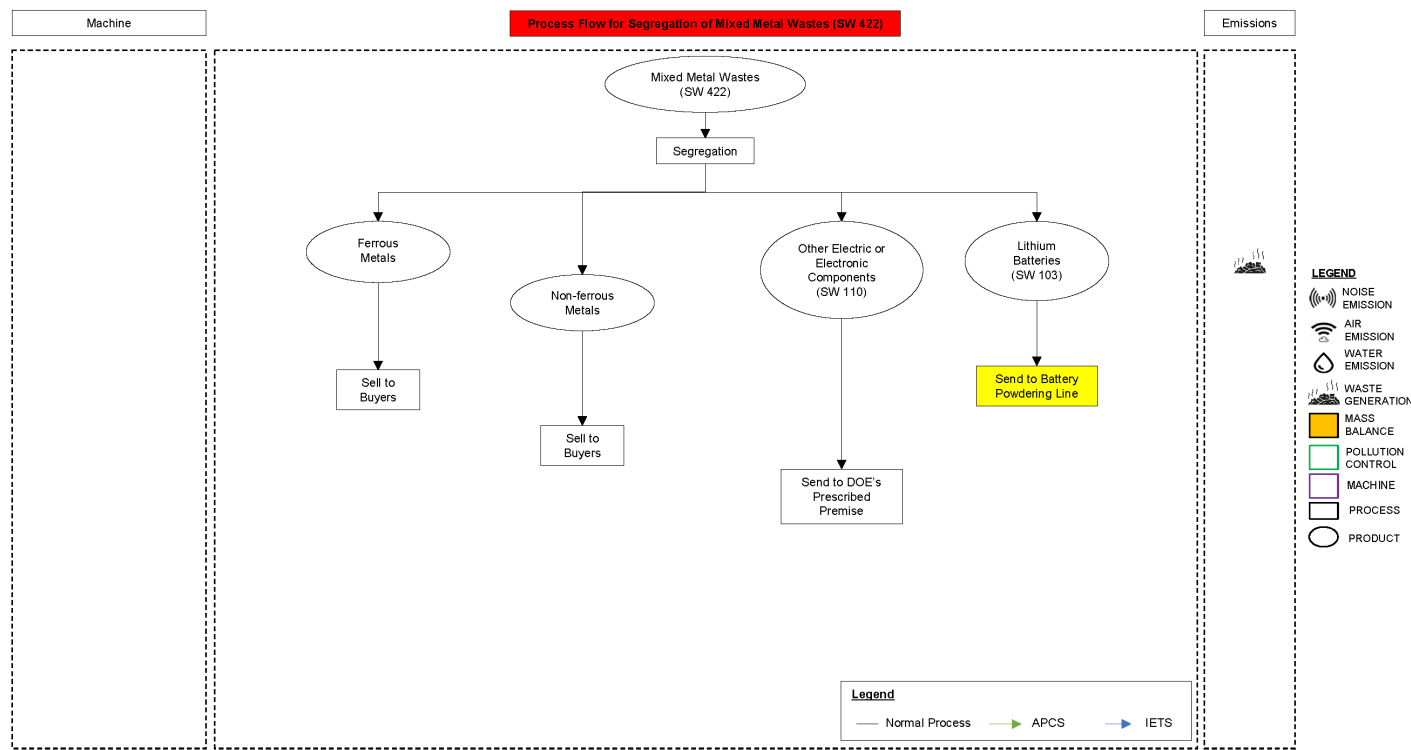
***TPM: Tan per Bulan**

Proses-proses pemulihan yang akan dilaksanakan di dalam fasiliti luar tapak ditunjukkan dalam rajah-rajah di bawah:

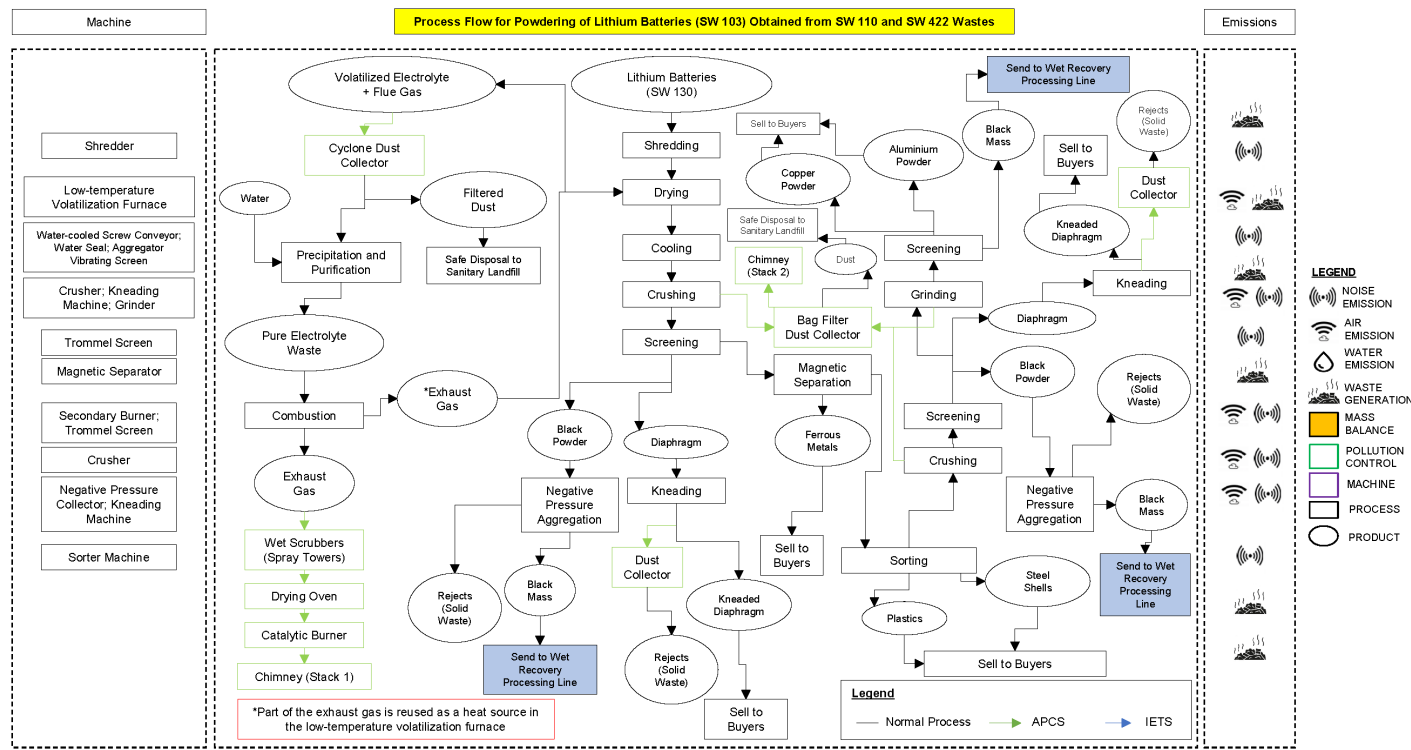


Rajah 1: Proses Pemisahan Sisa Elektrik dan Elektronik (SW 110)

DESKRIPSI PROJEK



Rajah 2: Proses Pengasingan Sisa Logam Campuran (SW 422)



Rajah 3: Proses Penghancuran Bateri Litium (SW 103) yang Diperoleh daripada Sisa SW 110 dan SW 422

Machine

- Shredder
- Low-temperature Volatilization Furnace
- Water-cooled Screw Conveyor; Water Seal; Aggregator Vibrating Screen
- Crusher: Kneading Machine; Grinder
- Trommel Screen
- Magnetic Separator
- Secondary Burner; Trommel Screen
- Crusher
- Negative Pressure Collector; Kneading Machine
- Sorter Machine

Process Flow for Powdering of 32650 Lithium Batteries (SW 103)

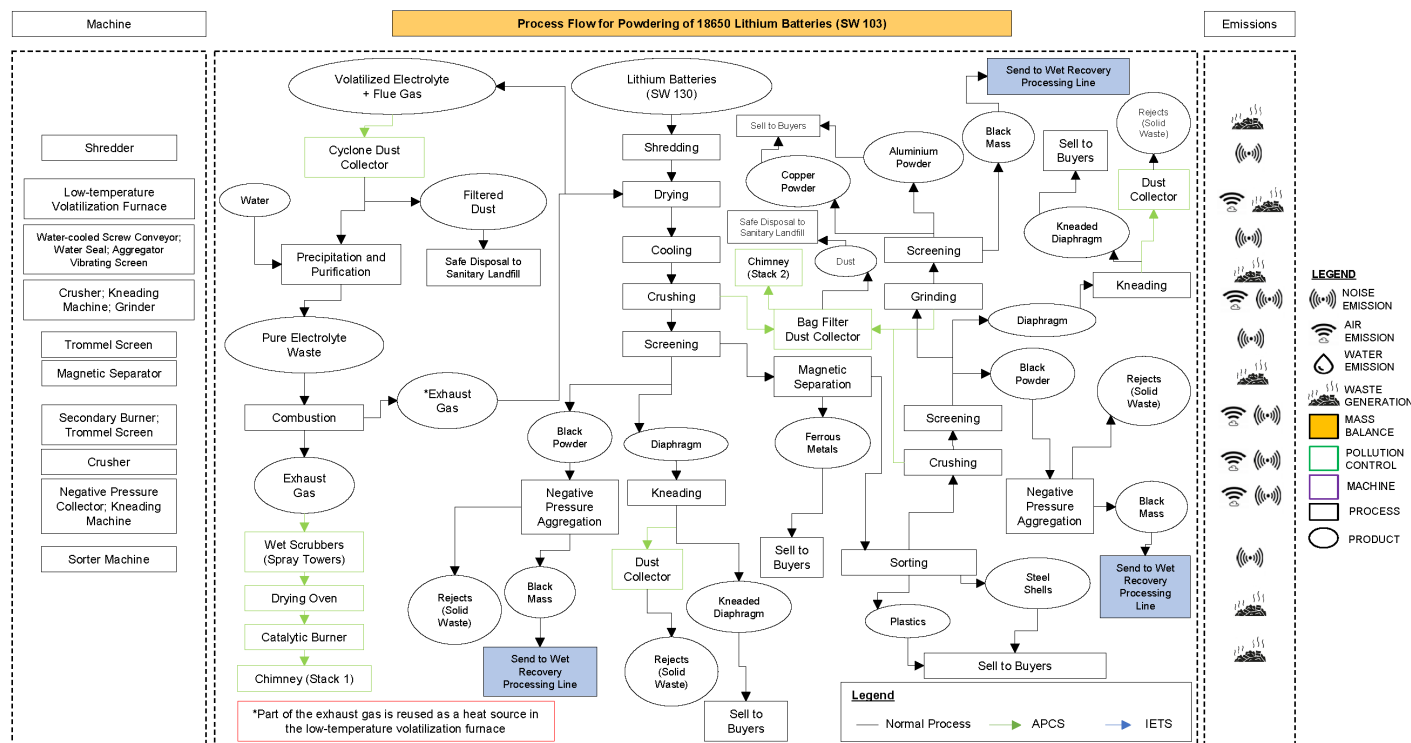
Legend

- Normal Process (Black line)
- APCS (Green arrow)
- IETS (Blue arrow)

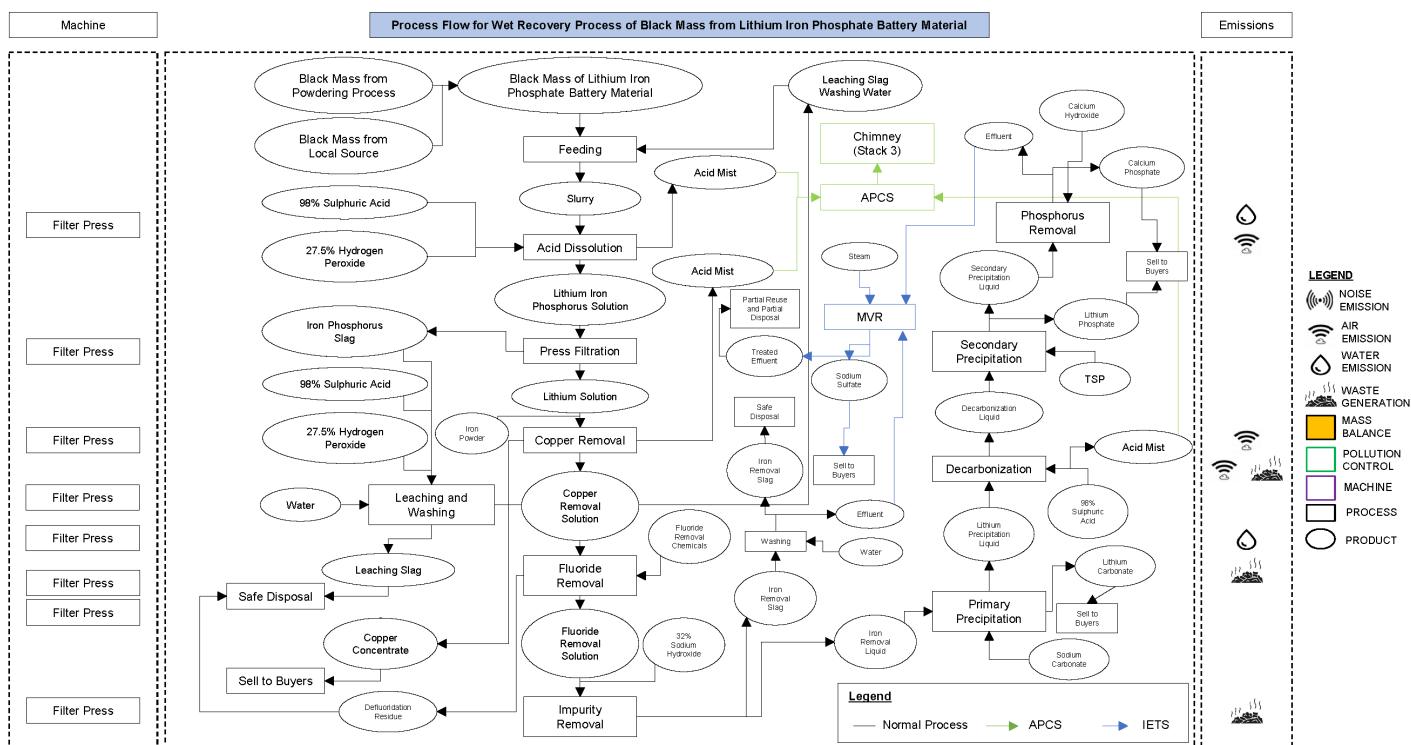
Emissions

- Noise Emission (Speaker icon)
- Air Emission (Smokestack icon)
- Water Emission (Water drop icon)
- Waste Generation (Trash can icon)
- Mass Balance (Orange box)
- Pollution Control (Green box)
- Machine (Grey box)
- Process (White box)
- Product (Oval icon)

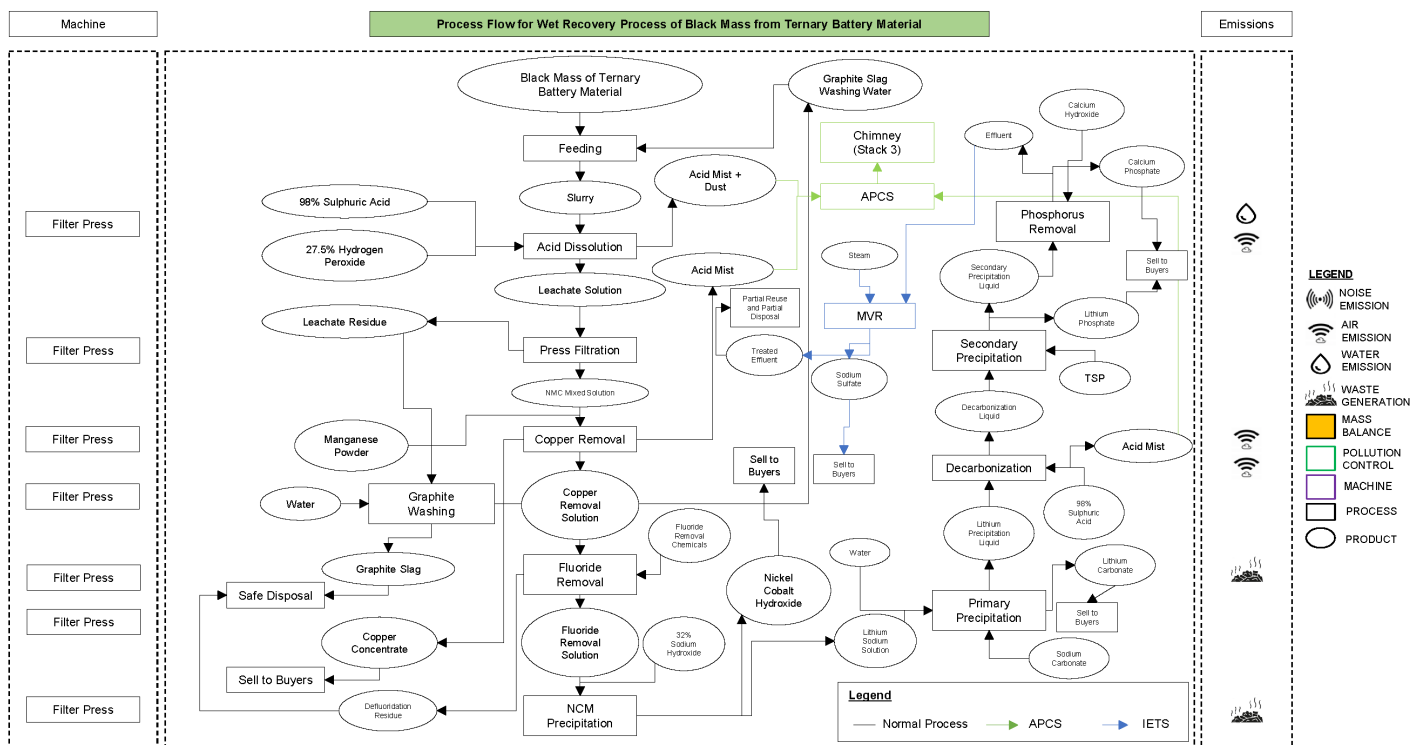
Rajah 4: Proses Penghancuran Bateri Litium 32650 (SW 103)



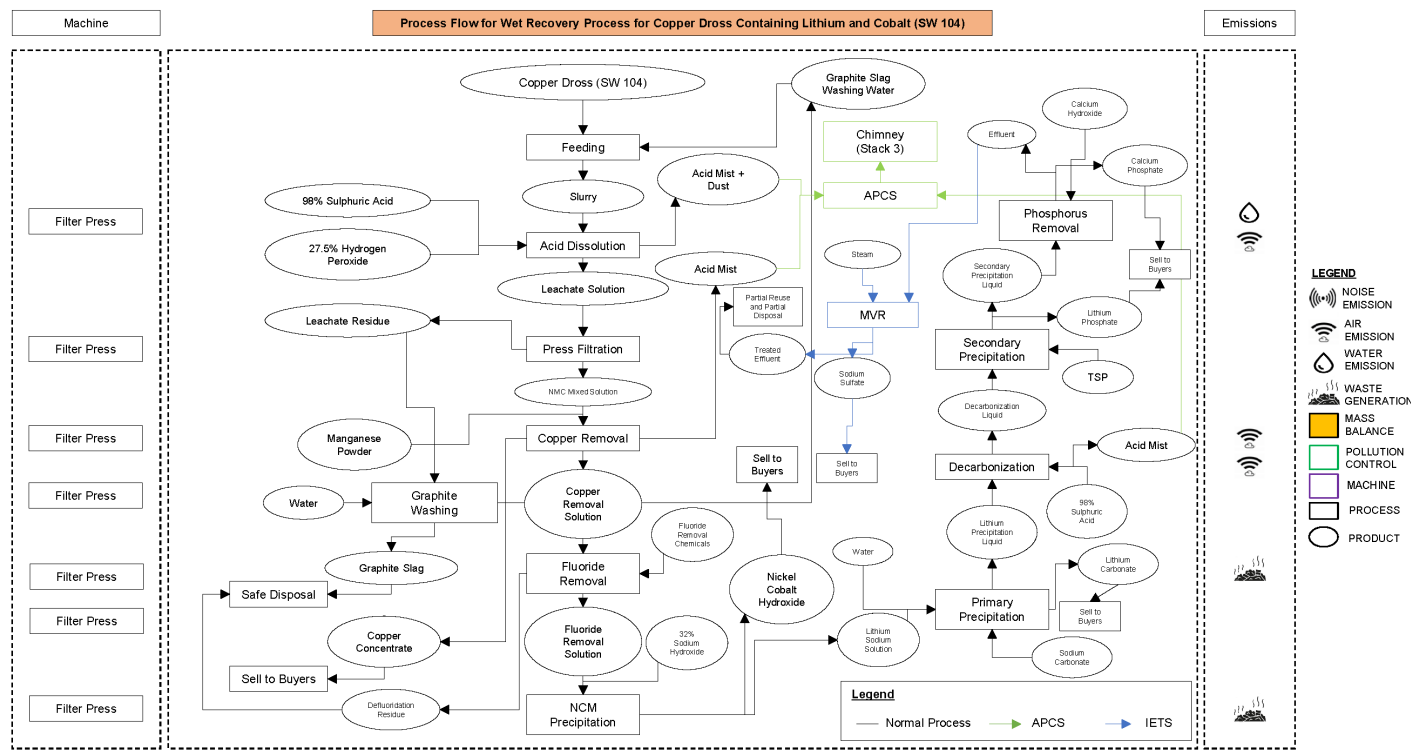
DESKRIPSI PROJEK



Rajah 6: Proses Pemulihan Lembap Jasad Hitam daripada Bahan Bateri Litium Ferum Fosfat



Rajah 7: Proses Pemulihan Lembap Jasad Hitam daripada Bahan Bateri Ternari



Rajah 8: Proses Pemulihan Lembap Sanga Kuprum yang Mengandungi Litium dan Kobalt (SW 104)



FASA OPERASI

- Pemasangan dan pengoperasian kesemua peralatan dan mesin.
- Pemerolehan kembali sisa-sisa terjadual (SW 103, SW 104, SW 110 & SW 422) dan pengeluaran garam inorganik.
- Penyelenggaraan bangunan, kemudahan dan utiliti.

PERSEKITARAN SEDIA ADA



GEOLOGI

Formasi Devonian. Terdiri daripada pelbagai batuan sedimen termasuk batu kapur, batu syal, batu cert dan batu dolomit.



TOPOGRAFI

Projek ini akan dilaksanakan di atas sebidang tanah rata (kawasan tanah pamah) di Arab Malaysian Industrial Park.



TANAH

Siri Tanah Munchong - Seremban.



IKLIM

Data Iklim kecuali *Wind Rose* (2004 - 2023): Stesen KLIA Sepang

Data Iklim untuk *Wind Rose* (2014 - 2022): Stesen KLIA Sepang

Purata suhu 24 jam: 27.6 °C

Purata 24-jam kelembapan relatif: 79.3%

Angin permukaan sering bertiup dari Timur Laut (15.6%), diikuti Utara dan Selatan (14.7%).



GUNA TANAH

Dalam tapak Projek:

- Tapak Projek terletak di Arab Malaysian Industrial Park – sebuah kawasan perindustrian di Nilai, Negeri Sembilan Darul Khusus.
- Lot berdekatan tapak Projek ialah TenAsia Corporation Sdn Bhd dan Eng Kah Enterprise (KL) Sdn Bhd.

Dalam lingkungan 3-km jejari dari sempadan tapak Projek:

- Penggunaan tanah dalam jejari 1 km hingga 3 km dari sempadan tapak Projek terdiri daripada kawasan industri, kediaman, institusi, kemudahan sedia ada / awam dan tempat-tempat ibadat.

PENILAIAN IMPAK DAN LANGKAH-LANGKAH MITIGASI

Impak	Punca Impak	Tahap Impak	P2M2 Disyorkan	Rujukan dalam Laporan EIA
Fasa Operasi				
Pencemaran air/tanah akibat pengendalian	Tumpahan dan pelepasan tidak sengaja	Boleh signifikan	- Penyimpanan dan pengendalian buangan terjadual yang selamat - Gunakan beg jumbo dan palet untuk pembendungan - Simpan semua bahan mentah dengan mematuhi garis panduan amalan baik - Semak bahan mentah yang masuk untuk memastikan penerimaan berdasarkan kriteria penerimaan sisa	Seksyen 8.2.1
Pencemaran air/tanah akibat pengangkutan	Tumpahan atau pembuangan secara tidak sengaja bahan mentah dan bahan siap semasa pengangkutan	Boleh signifikan	<u>Pengangkutan Buangan Terjadual</u> - Sediakan pelan logistik dan laluan pengangkutan - Semua kenderaan hendaklah dilengkapi dengan kemudahan pembersihan - Periksa keadaan trak sebelum digunakan <u>Tumpahan atau Pelepasan Secara Tidak Sengaja</u> - Gunakan peralatan perlindungan kakitangan (PPE) yang sesuai untuk memberi perlindungan kepada pekerja dalam mengendalikan sebarang tumpahan yang tidak disengajakan - Kontraktor/PP hendaklah membendung, membersihkan dan mengurangkan sebarang tumpahan atau pembuangan sisa yang tidak disengajakan secepat mungkin - Laluan pengangkutan hendaklah mengelakkan kawasan berpenduduk padat, kawasan tadahan air dan kawasan sensitif alam sekitar yang lain	Seksyen 8.2.2

PENILAIAN IMPAK DAN LANGKAH-LANGKAH MITIGASI

Impak	Punca Impak	Tahap Impak	P2M2 Disyorkan	Rujukan dalam Laporan EIA
Fasa Operasi				
Bahaya kebakaran di loji	- Pencucuhan pada mesin secara tidak sengaja - Letupan bahan mentah	Boleh signifikan	- Mempunyai ERP yang telah dilatih dengan baik yang boleh dilaksanakan dalam masa yang singkat - Sistem pemadam kebakaran dengan siren akan dipasang - Sistem yang perlu diperiksa dan diselenggara secara berkala - Dilarang merokok dan larangan mancis, pemetik api dan alat penyalan lain di loji - Anggota bomba, apabila perlu, memakai peralatan perlindungan yang betul dan alat pernafasan serba lengkap - Menghubungi balai bomba apabila diperlukan - Semua bilik tertutup hendaklah dipasang dengan pintu berkadar api sekurang-kurangnya satu jam - Alat pemadam api perlu diletakkan di pelbagai lokasi strategik untuk memudahkan akses	Seksyen 8.2.6
Buangan terjadual / sisa-sisa / enap cemar	- Bahan ditolak daripada proses pemerolehan sisa terjadual - Sisa yang terhasil semasa proses pemerolehan kembali - IETS	Boleh signifikan	- Buangan terjadual yang dihasilkan daripada operasi pulih guna hendaklah disimpan dalam tempat yang sesuai, dilabel dan kemudian dilupuskan di Kualiti Alam Sdn Bhd - Buangan yang terhasil daripada proses pulih guna sisa hendaklah disimpan dalam bekas yang sesuai dan kemudian dilupuskan di tapak pelupusan sampah yang diluluskan untuk sisa tidak terjadual - Kawasan penyimpanan mesti berbumbung untuk mengelakkan kemasukan air hujan dan mesti mempunyai pengudaraan yang mencukupi	Seksyen 8.2.8
Sisa pepejal	Sisa domestik	Tidak signifikan	Sisa domestik akan diuruskan oleh pihak berkuasa tempatan dan dilupuskan di tapak pelupusan sampah yang ditetapkan	Seksyen 8.2.8

PENILAIAN IMPAK DAN LANGKAH-LANGKAH MITIGASI

Impak	Punca Impak	Tahap Impak	P2M2 Disyorkan	Rujukan dalam Laporan EIA
Fasa Operasi				
Pencemaran bunyi	- Kenderaan pengangkutan semasa operasi - Operasi pam, kipas ekzos dan lain-lain mesin pulih guna buangan terjadual	Boleh signifikan	- Pastikan semua peralatan operasi mempunyai sistem ekzos yang berfungsi baik - Kipas ekzos hendaklah berfungsi dengan baik sepanjang operasi proses, dengan servis dan penyelenggaraan yang kerap	Seksyen 8.2.4
Pencemaran udara	Pembebasan zarahhan terampai daripada sistem kawalan pencemaran udara (APCS)	Boleh signifikan	- Habuk fugitif boleh dikawal dengan membasahkan skraps (bahan bersaiz besar) jika perlu - Penyelenggaraan semua peralatan kawalan pencemaran udara di loji - Pemantauan prestasi pelepasan pencemaran udara dengan menjalankan pemantauan berkala	Seksyen 8.2.3
Bahaya kesihatan dan keselamatan	Semasa operasi	Tidak signifikan	- Menerima pakai prosedur keselamatan industri yang diberikan dalam Peraturan OSHA 1994 - Helaian Data Keselamatan hendaklah disimpan di tapak untuk pemeriksaan - Prosedur kecemasan, pelan tindakan dan latihan tetap akan dilaksanakan - Dilarang merokok di dalam loji - Pekerja hendaklah memakai sarung tangan pelindung, cermin mata keselamatan dan pakaian pelindung lain apabila diperlukan - Latihan kepada pekerja tertentu perlu disediakan seperti kursus pertolongan cemas. Peti pertolongan cemas perlu disediakan serta mudah untuk diakses - Latihan intensif mengenai prosedur keselamatan perlu disediakan untuk semua kakitangan	Seksyen 8.2.10

PENILAIAN IMPAK DAN LANGKAH-LANGKAH MITIGASI

Impak	Punca Impak	Tahap Impak	P2M2 Disyorkan	Rujukan dalam Laporan EIA
Fasa Operasi				
Sosio-ekonomi	• Pekerjaan • Estetika persekitaran • Kebajikan awam	Tidak signifikan	• Peluang pekerjaan akan diberi keutamaan kepada orang tempatan dalam proses pengambilan • Landskap dan penanaman semula dengan tumbuhan dan pokok renek yang sesuai • Pekerja asing perlu diperiksa untuk status kesihatannya bagi mengelakkan kemungkinan penularan wabak dalam kalangan pekerja	Seksyen 8.2.11

PROGRAM PEMANTAUAN PRESTASI (PM)

Pemantauan Prestasi untuk SKPU (Wet Scrubber)

No.	Parameters	Location	Method of Monitoring
1	Pressure Drop	- Scrubber Body - Packing - Mist Eliminator	Differential Pressure Meter
2	Temperature	- Inlet - Outlet	Thermometer
3	Liquid Flow Rate	- Feed - Make-up	Flowmeter
4	pH	- Feed - Recycle	pH Meter
5	Stack Emission Condition	- Chimney	Visual
6	Air Flow Rate	- Overall	Flowmeter

Pemantauan Prestasi untuk SKPU (Bag Filter Dust Collector)

Parameter berikut harus dipantau dan direkodkan:

1. Filter pressure drop (4 – 6-inch water)
2. Flow rate (2.0 – 5.2 m³/s)
3. Opacity or stack emission condition (clear and without dark smoke)
4. Discharge hopper condition (no leakage and signs of damage)
5. Temperature (< 120 °C)
6. Compressed air pressure (1.5 – 3.0 bar)

Pemantauan Prestasi untuk SPE

Parameters	Control Range	Method of Monitoring	Frequency of Monitoring
Raw Effluent (Equalization Tank)			
pH	11 – 12	pH Meter	Daily
COD	50 – 1,000	Hach DR900	Daily
MVR Unit			
pH	7 – 9	pH Meter	Daily
COD	< 200 mg/L	Hach DR900	Daily
Treated Effluent Tank			
pH	6 – 9	pH Meter	Daily
COD	< 200 mg/L	Hach DR900	Daily
Color	< 200 ADMI	Hach DR900	Daily

PROGRAM PEMANTAUAN PERSEKITARAN

PROGRAM PEMANTAUAN PEMATUHAN (CM)

Pemantauan Pematuhan untuk SKPU

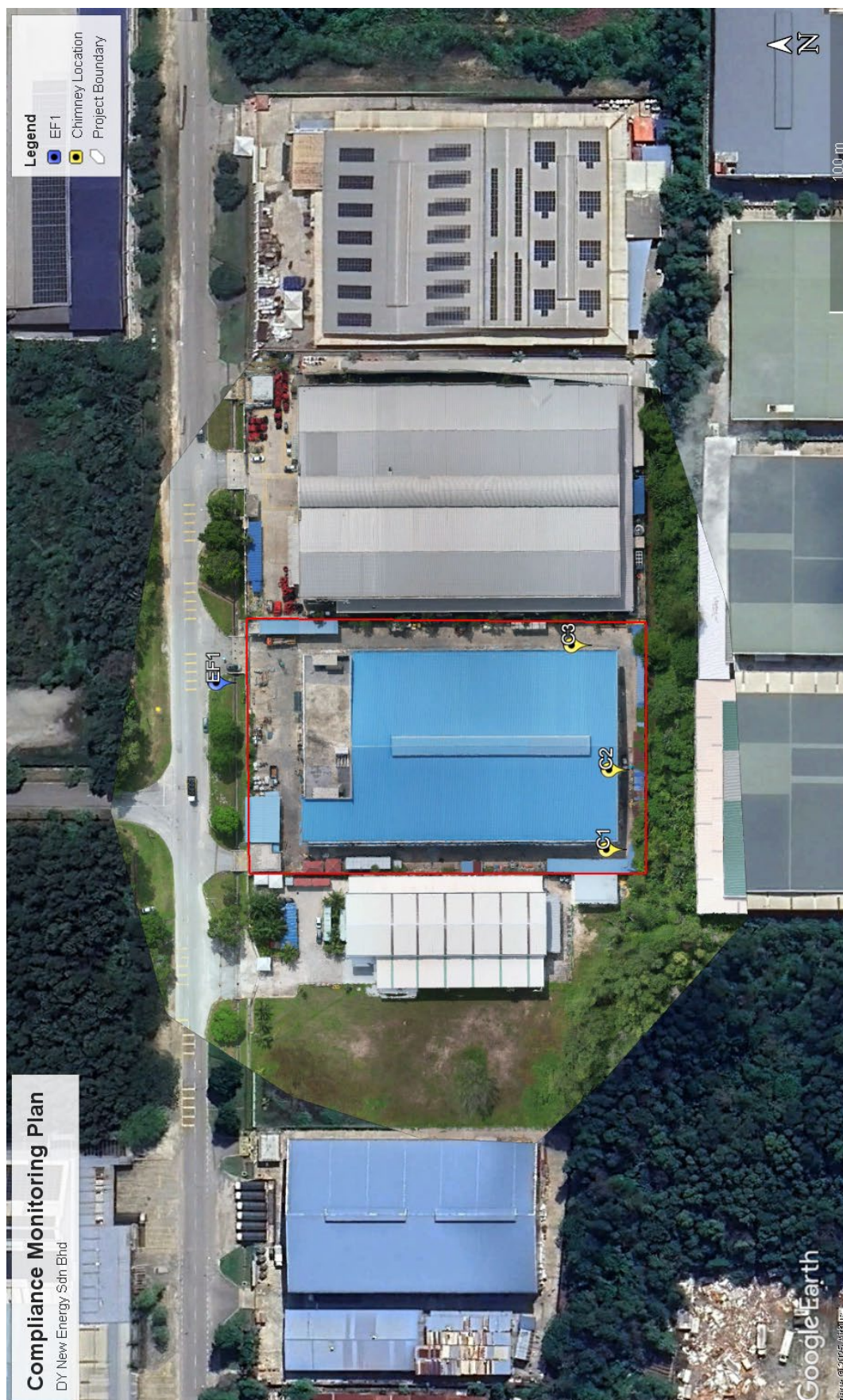
Stack ID.	Monitoring Coordinates	APCS System	Parameters (Limit)	Monitoring Type	Reference CAR 2014
Stack 1 (C1); Stack 2 (C2); Stack 3 (C3)	2°51'36.72"N, 101°48'09.73"E; 2°51'36.69"N, 101°48'10.58"E; 2°51'37.09"N, 101°48'11.91"E	System 1; System 2; System 3	NMVOC as total organic carbon (20 mg/m³)	Periodic	Second Schedule – Part (II)
			Sum of NO and NO ₂ , expressed as NO ₂ (700 mg/m³)		Third Schedule – Part I
			Sum of SO ₂ and SO ₃ expressed as SO ₂ (100 mg/m³)		
			Total PM (50 mg/m³)		

Pemantauan Pematuhan untuk SPE

Effluent Outlet ID.	Monitoring Coordinates	Parameters (Limit)	Monitoring Frequency
EF1	2°51'40.88"N, 101°48'11.51"E	Standard B of Environmental Quality (Industrial Effluent) Regulations 2009: - pH Value (5.5 – 9.0) - COD (200.0 mg/L) - Color (200.0 ADMI)	Monthly

PROGRAM PEMANTAUAN PEMATUHAN (CM)

Lokasi Pemantauan Pematuhan untuk SKPU and SPE



PROGRAM PEMANTAUAN PERSEKITARAN

PROGRAM PEMANTAUAN KESAN (IM)

Program pemantauan kesan alam sekitar (IM) adalah untuk mengenalpasti perubahan kepada alam sekitar yang diramalkan dan tidak dijangka disebabkan oleh cadangan Projek akan dijalankan seperti yang dinyatakan di bawah. Laporan Pemantauan Kualiti Alam Sekitar suku tahunan adalah disyorkan untuk dikemukakan kepada Jabatan Alam Sekitar berdasarkan data pemantauan yang diambil tiga bulan sekali, atau setiap tahun. Lokasi dan kekerapan pemantauan adalah ditunjukkan di dalam jadual di bawah.



STESEN PENSAMPELAN UNTUK KUALITI AIR



Lokasi	Deskripsi	Koordinat	
		Latitud	Longitud
W1	Bahagian Hulu Terdekat dari Tapak Projek (Longkang)	2°51'40.90"N	101°48'12.25"E
W2	Bahagian Hilir Terdekat dari Tapak Projek (Longkang)	2°51'40.87"N	101°48'09.39"E
W3	Bahagian Hilir dari Tapak Projek (Longkang)	2°51'37.39"N	101°47'58.42"E
W4	Bahagian Hilir dari Tapak Projek (Longkang)	2°51'31.63"N	101°47'48.42"E
W5	Anak Sungai untuk Sungai Langat	2°51'36.13"N	101°47'38.94"E

PROGRAM PEMANTAUAN PERSEKITARAN



PROGRAM PEMANTAUAN KESAN (IM)

STESEN PENSAMPELAN UNTUK KUALITI UDARA



Lokasi	Deskripsi	Koordinat	
		Latitud	Longitud
A1	Sempadan Projek	2°51'40.89"N	101°48'11.83"E
A2	Wealth View Industries Sdn Bhd	2°51'52.34"N	101°48'20.46"E
A3	Taman Desaria	2°51'46.50"N	101°47'53.30"E

PROGRAM PEMANTAUAN PERSEKITARAN



PROGRAM PEMANTAUAN KESAN (IM)

STESEN PENSAMPELAN UNTUK KUALITI BUNYI



Lokasi	Deskripsi	Koordinat	
		Latitud	Longitud
N1	Sempadan Projek	2°51'40.89"N	101°48'11.83"E
N2	Wealth View Industries Sdn Bhd	2°51'52.34"N	101°48'20.46"E
N3	Taman Desaria	2°51'46.50"N	101°47'53.30"E

EXECUTIVE SUMMARY

PROPOSED OFF-SITE RECOVERY FACILITIES FOR SCHEDULED WASTES (SW 103, SW 104, SW 110 & SW 422) & INORGANIC SALTS MANUFACTURING AT LOT 10700, JALAN PERMATA 1, ARAB MALAYSIAN INDUSTRIAL PARK, 71800 NILAI, NEGERI SEMBILAN DARUL KHUSUS

FIRST SCHEDULE ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

EXECUTIVE SUMMARY

INTRODUCTION

This is an Environmental Impact Assessment (EIA) report prepared for DY New Energy Sdn Bhd (DYNE), to be submitted to the Department of Environment (DOE) Negeri Sembilan for approval. This EIA Project is herewith referred to as the “**PROPOSED OFF-SITE RECOVERY FACILITIES FOR SCHEDULED WASTES (SW 103, SW 104, SW 110 & SW 422) & INORGANIC SALTS MANUFACTURING AT LOT 10700, JALAN PERMATA 1, ARAB MALAYSIAN INDUSTRIAL PARK, 71800 NILAI, NEGERI SEMBILAN DARUL KHUSUS**”. Hereafter, it will be known as the Project.

PROJECT PROPONENT AND QUALIFIED PERSON



PROJECT PROPONENT

DY NEW ENERGY SDN BHD (DYNE)

Address:	Lot 10700, Jalan Permata 1, Arab Malaysian Industrial Park, 71800 Nilai, Negeri Sembilan Darul Khusus
Contact Person:	Goh Chin San
Telephone No.:	013-9818932
Email:	dynewenergy2024@gmail.com



EIA CONSULTANT



KESPRO CONSULTANTS SDN BHD

Address:	No. A-07-09, Block A, Sunway Geo Avenue, Jalan Lagoon Selatan, Sunway South Quay, Bandar Sunway, 47500 Subang Jaya, Selangor Darul Ehsan
Contact Person:	Chong Shiau Iun @ Abraham (EIA Team Leader) (EIA Consultant: CEP-CS0111)
Telephone No.:	019-8201820
Email:	chongsi@hotmail.com

PROJECT PROPONENT AND QUALIFIED PERSON



EIA STUDY TEAM MEMBER

EIA Study Team Leader

1. Chong Shiau lun @ Abraham
EIA Consultant (CEP-CS0111)
Wastewater Management; Water Quality; Waste Management; Quantitative Risk Assessment; Occupational Safety & Health

EIA Study Team Member

1. ChM. Tang Ching Ching
EIA Consultant (CEP-C0073)
Baseline Monitoring for Water, Air & Noise Quality
2. Loh Tong Loy
EIA Consultant & Subject Specialist (CEP-CS0009)
Air Quality
3. Datuk Dr. Ts. Sivakumar A/L Chinnasamy
EIA Consultant (CEP-C0369)
Noise Quality
4. Ir. Linda Tan Pei Sze
EIA Consultant & Subject Specialist (CEP-CS0006)
Chemical Process
5. Muhd Asrul Affendee bin Sudin
Subject Specialist (CEP-SS0746)
Socio-economic Study

EIA Assistant Study Team Member

1. Haimon A/L Franklin
EIA Project Coordinator; General Environment;
Noise Pollution Assessment
2. Cheah Jin Xun
Assistant EIA Consultant (CEP-AC0771)
Water Pollution Assessment
3. Tan Jia Boh
Air Pollution Assessment
4. Suzana Antasila binti Kamalludin
Socio-economic Assessment
5. Freddy Lee
GIS Mapping

LEGISLATIVE REQUIREMENTS

This Project which falls under First Schedule, Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order, 2015:

- First Schedule, Activity 14(a) Scheduled Waste (i) Construction of recovery plant (off-site)



STATEMENT OF NEED

- The new recovery facility will introduce a new dimension to the economics of the scheduled wastes recovery sector in Arab Malaysian Industrial Park, particularly for lithium battery wastes.
- Scheduled wastes can be managed in an environmentally friendly manner while curbing illegal dumping and pollution of natural resources.
- The economic activities directly created include collection and transportation of raw materials and sales of manufactured products. Indirect services created include environmental consultancy, impact assessment, management and monitoring services by professionals.
- These economic activities and benefits are derived from environmental awareness, consciousness in conservation of resources and responsibility of all waste generators in circular economy.
- The need for this Project is therefore justified from environmental and sustainability point of view besides offering economic benefits, business and job opportunities.

PROJECT LOCATION

LOCALITY MAP



LEGEND

- ★ Project Site/Location
- Boundary point
- Project Area

Project Proponent: DY NEW ENERGY SDN BHD

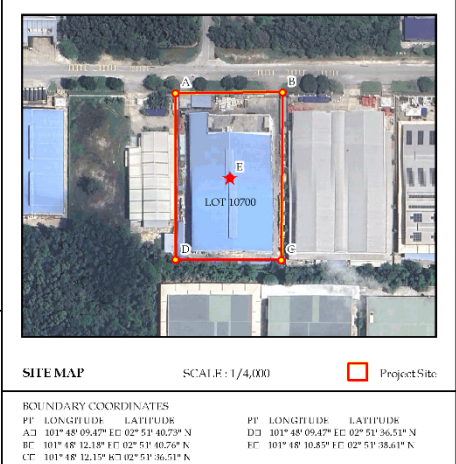
Sources:
1. Proponent's Project Information
2. Bing Maps 2001
3. GoogleMaps 2001

MAP NO: dne-fl-locality DATE: 22-11-2024

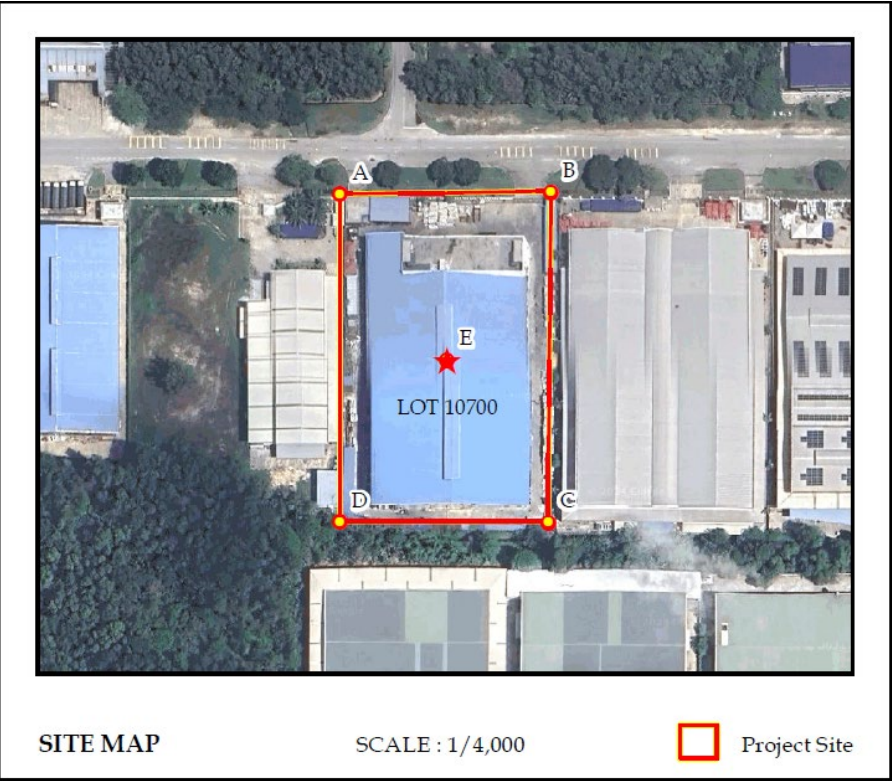
SCALE : 1/100,000 [LOCALITY A4]

0 0.25 0.5 0.75 1 1.25 1.5 Kilometers

WGS84 Geographic Coordinates



SITE MAP



Pt.*	Northing	Easting
A	2°51'40.74"N	101°48'09.48"E
B	2°51'40.76"N	101°48'12.19"E
C	2°51'36.51"N	101°48'12.15"E
D	2°51'36.52"N	101°48'09.47"E
E	2°51'38.60"N	101°48'10.86"E

*Point

ES-4

PROJECT DESCRIPTION

The Project Proponent (PP) intends to operate scheduled wastes recovery activities and inorganic salts manufacturing at an off-site facility.

The scheduled wastes recovery activities involves the following raw material:

- (i) 32650 Lithium Battery Wastes (SW 103) – 13 TPM
- (ii) 18650 Lithium Battery Wastes (SW 103) – 13 TPM
- (iii) Copper Dross Containing Lithium and Cobalt (SW 104) – 13 TPM
- (iv) E-wastes (SW 110) – 26 TPM
- (v) Mixed Metal Wastes (SW 422) – 32 TPM
- (vi) Black Mass from Lithium Iron Phosphate Battery Material – 233.49 TPM
- (vii) Black Mass from Ternary Battery Material – 250 TPM

The scheduled wastes recovery activities also involves the following intermediate products:

- (i) Lithium Battery Wastes (SW 103) from SW 110 and SW 422 – 5.20 TPM
- (ii) Black Mass from Powdering of Lithium Batteries – 16.51 TPM

The purpose of the scheduled wastes recovery activities is to obtain the following materials:

- (i) Lithium Carbonate (Inorganic Salt) – 107.94 TPM
- (ii) Lithium Phosphate (Inorganic Salt) – 74.7 TPM
- (iii) Nickel Cobalt Hydroxide (Inorganic Salt) – 295.15 TPM
- (iv) Calcium Phosphate (Inorganic Salt) – 9.03 TPM
- (v) Copper Concentrate – 32.8 TPM
- (vi) Copper Powder – 2.236 TPM
- (vii) Aluminium Powder – 1.17 TPM
- (viii) Steel Shells – 1.17 TPM
- (ix) Kneaded Battery Diaphragm – 2.496 TPM
- (x) Plastics – 9.802 TPM
- (xi) Non-ferrous Metals – 16.9 TPM
- (xii) Ferrous Metals – 16.406 TPM
- (xiii) Sodium Sulphate (Inorganic Salt) – 758.37 TPM

***TPM: Tonnes per Month**

The recovery processes which will be carried out in the off-site facility are shown in the figures below:

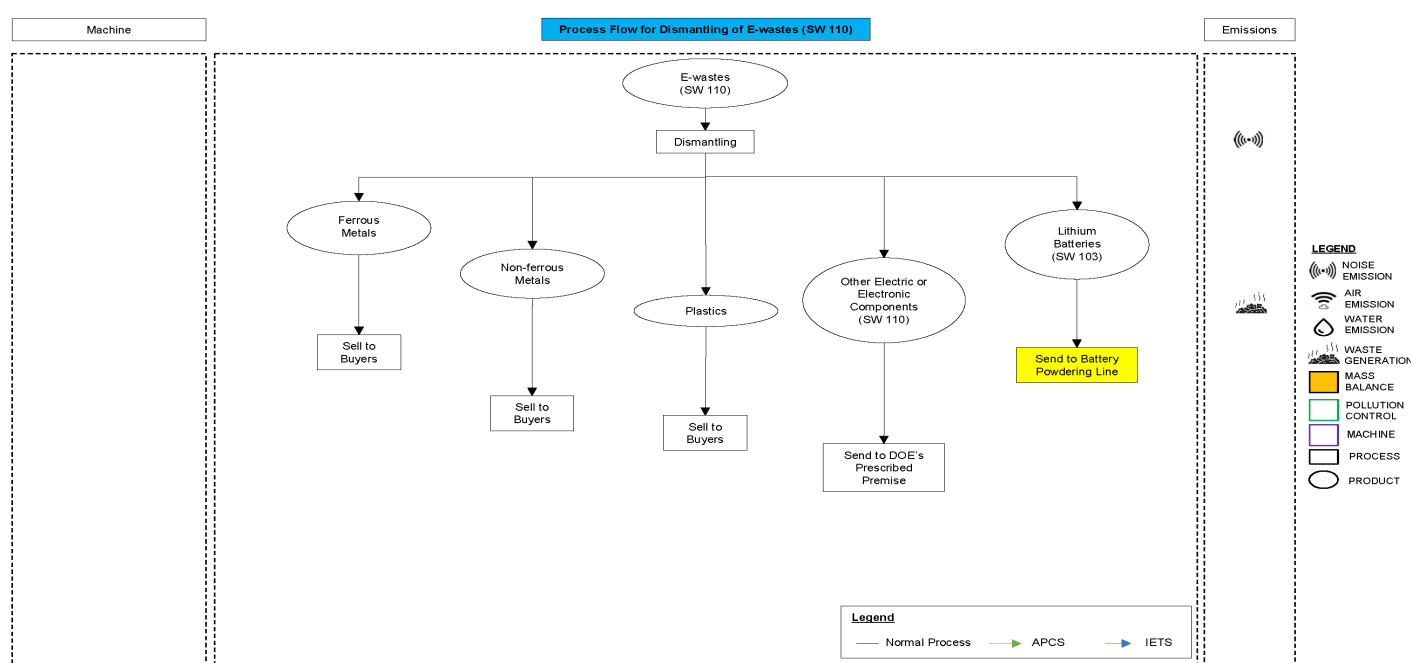


Figure 1: Dismantling Process of E-wastes (SW 110)

PROJECT DESCRIPTION

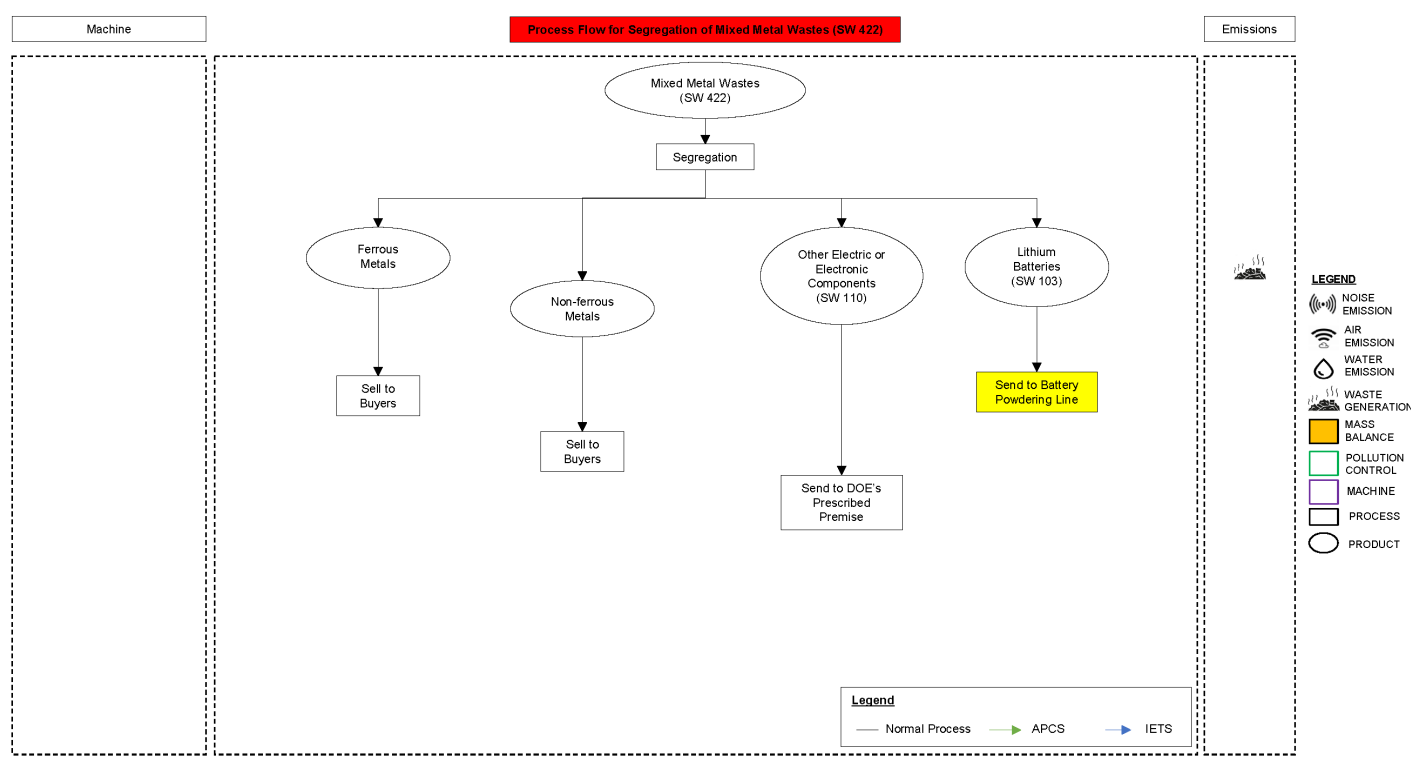


Figure 2: Segregation of Mixed Metal Wastes (SW 422)

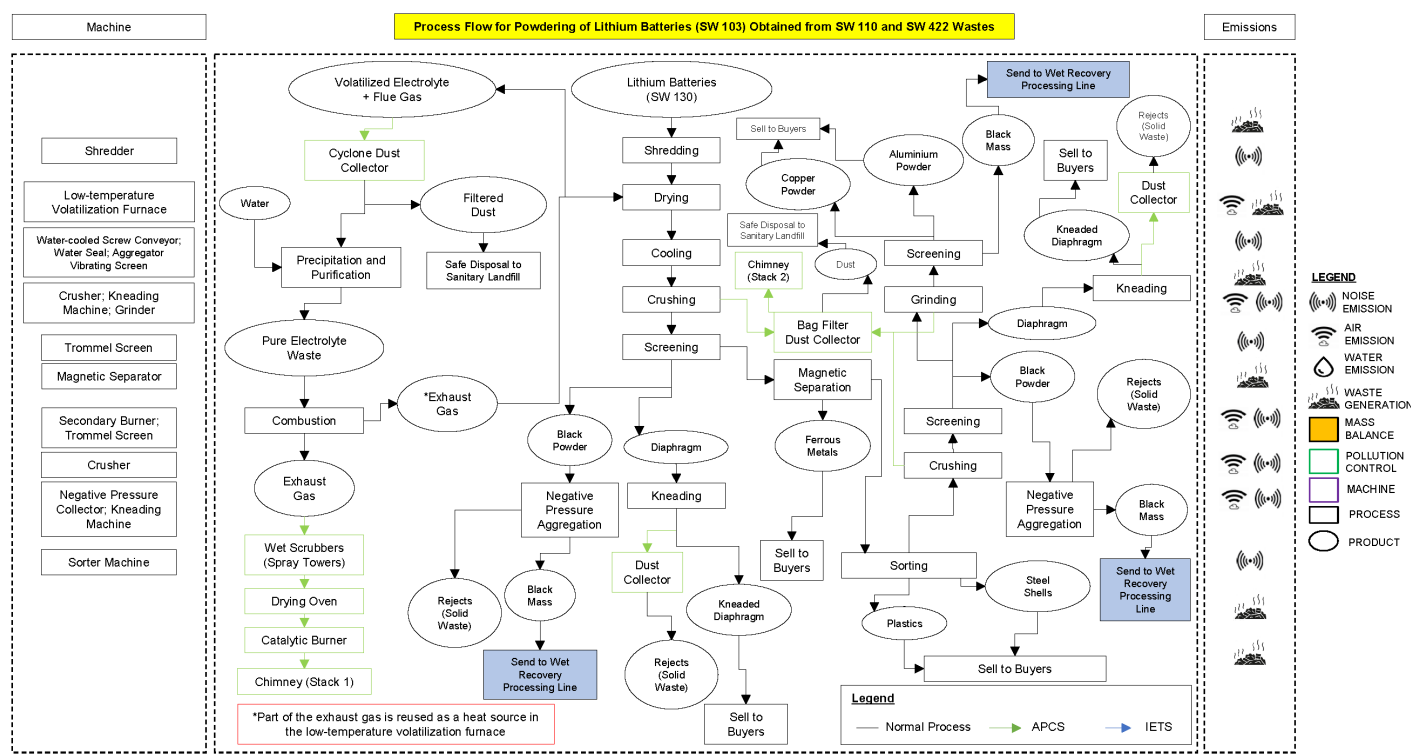


Figure 3: Powdering Process of Lithium Batteries (SW 103) Obtained from SW 110 and SW 422 Wastes

PROJECT DESCRIPTION

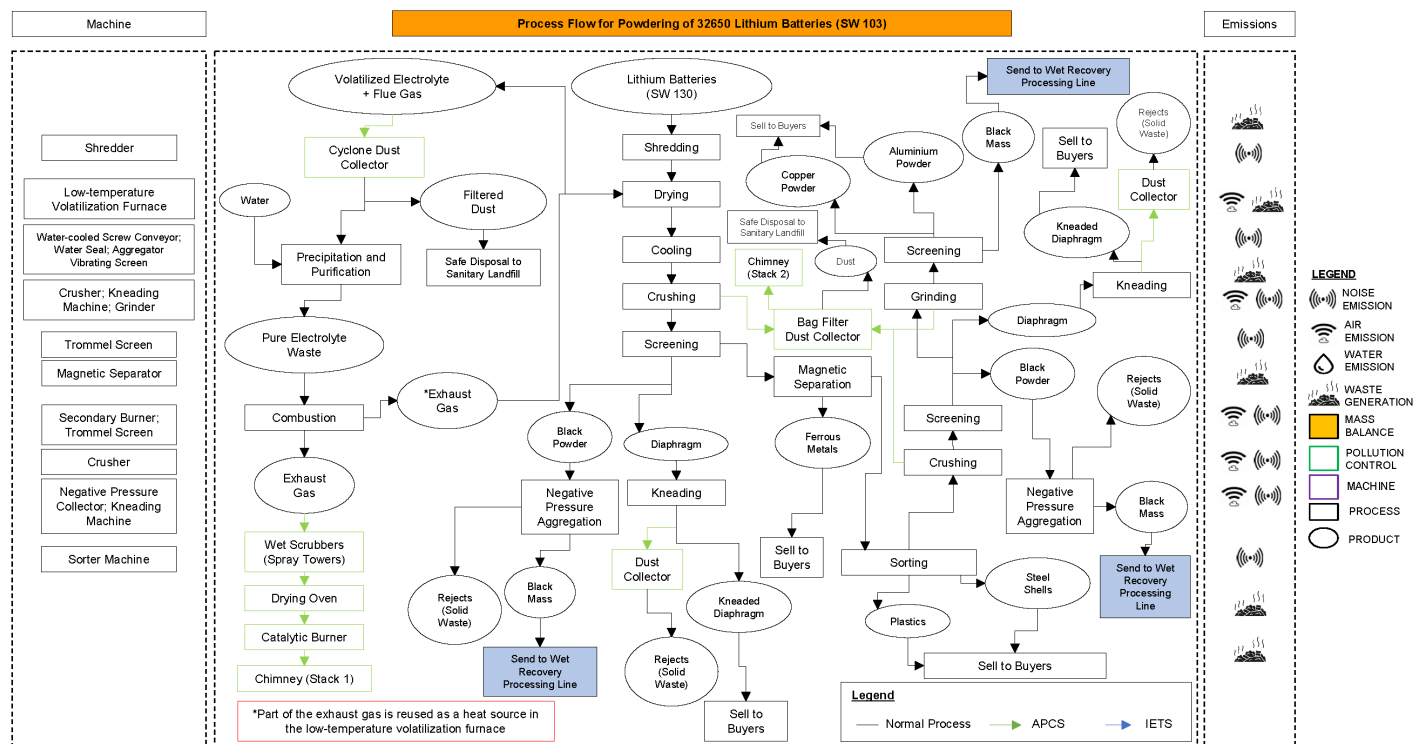


Figure 4: Powdering Process of 32650 Lithium Batteries (SW 103)

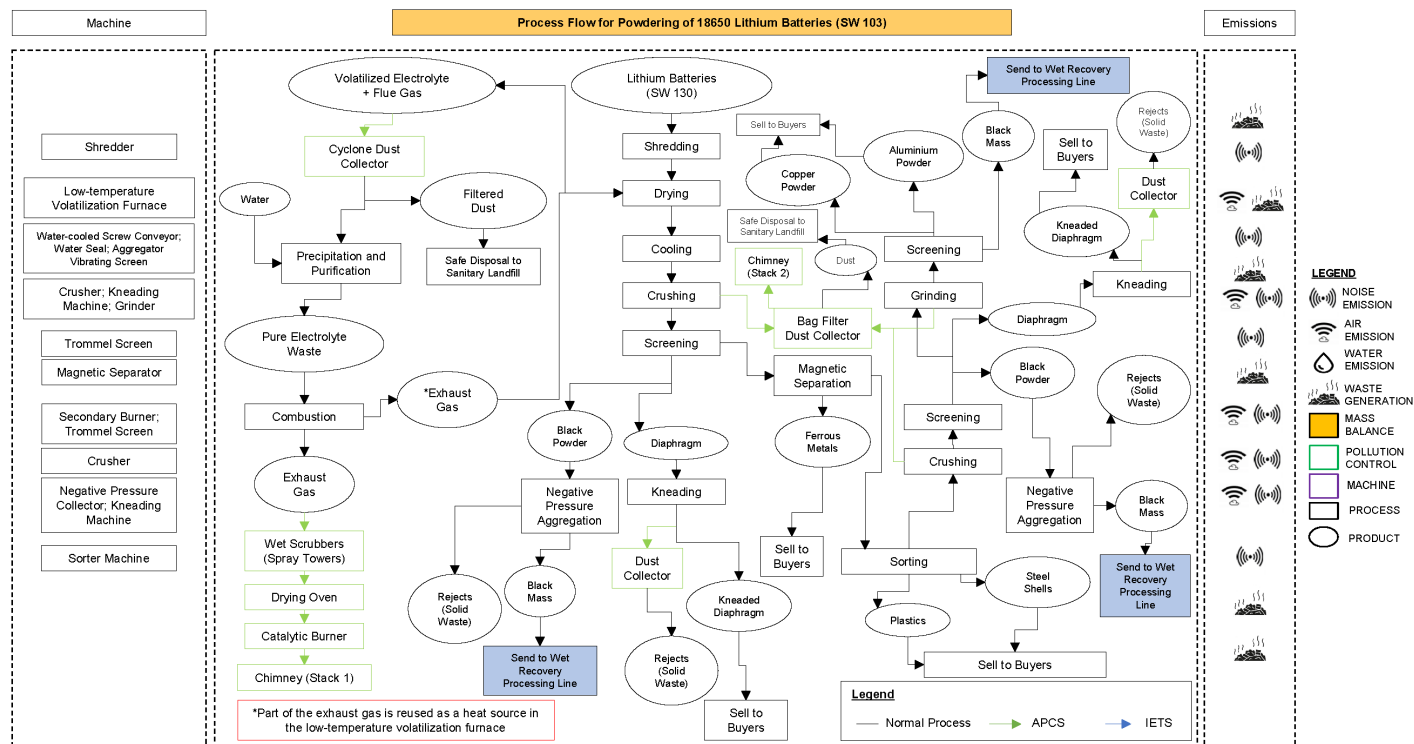


Figure 5: Powdering Process of 18650 Lithium Batteries (SW 103)

PROJECT DESCRIPTION

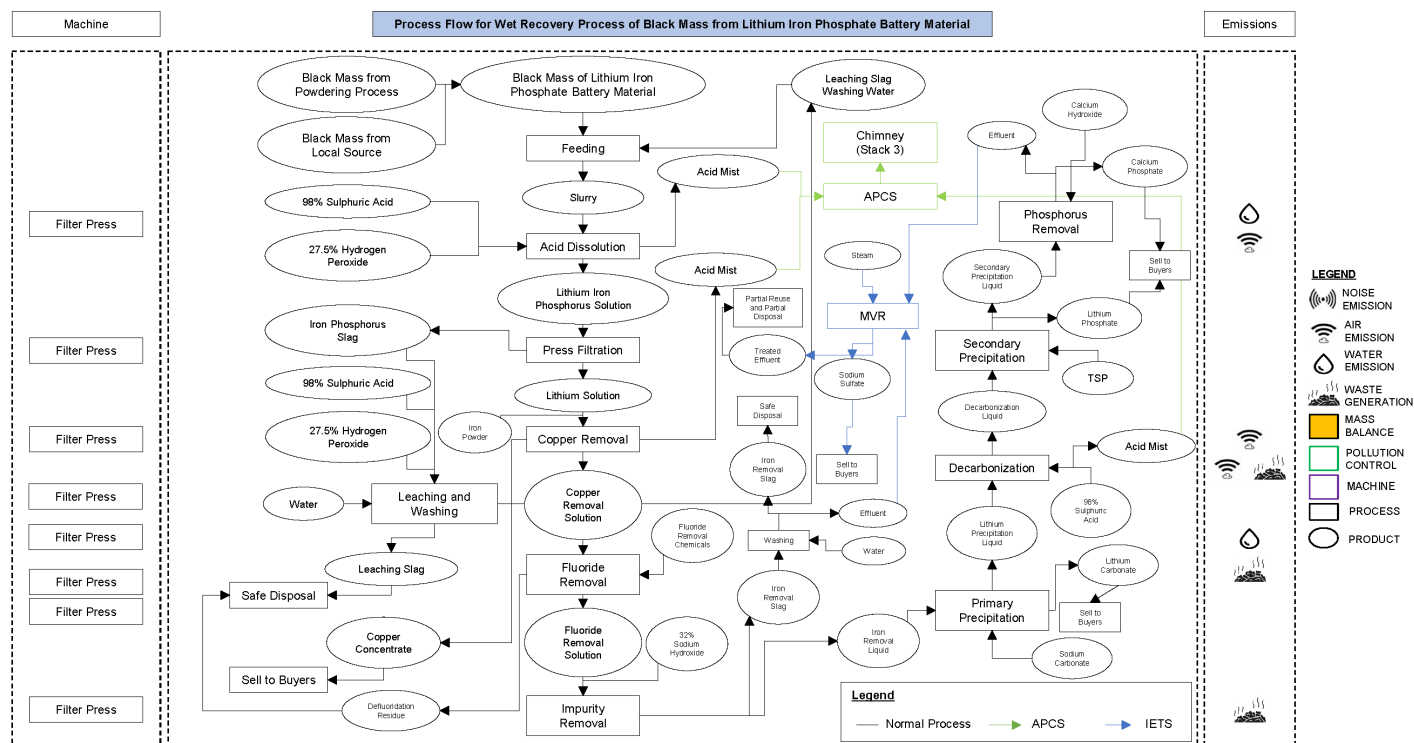


Figure 6: Wet Recovery Process of Black Mass from Lithium Iron Phosphate Battery Material

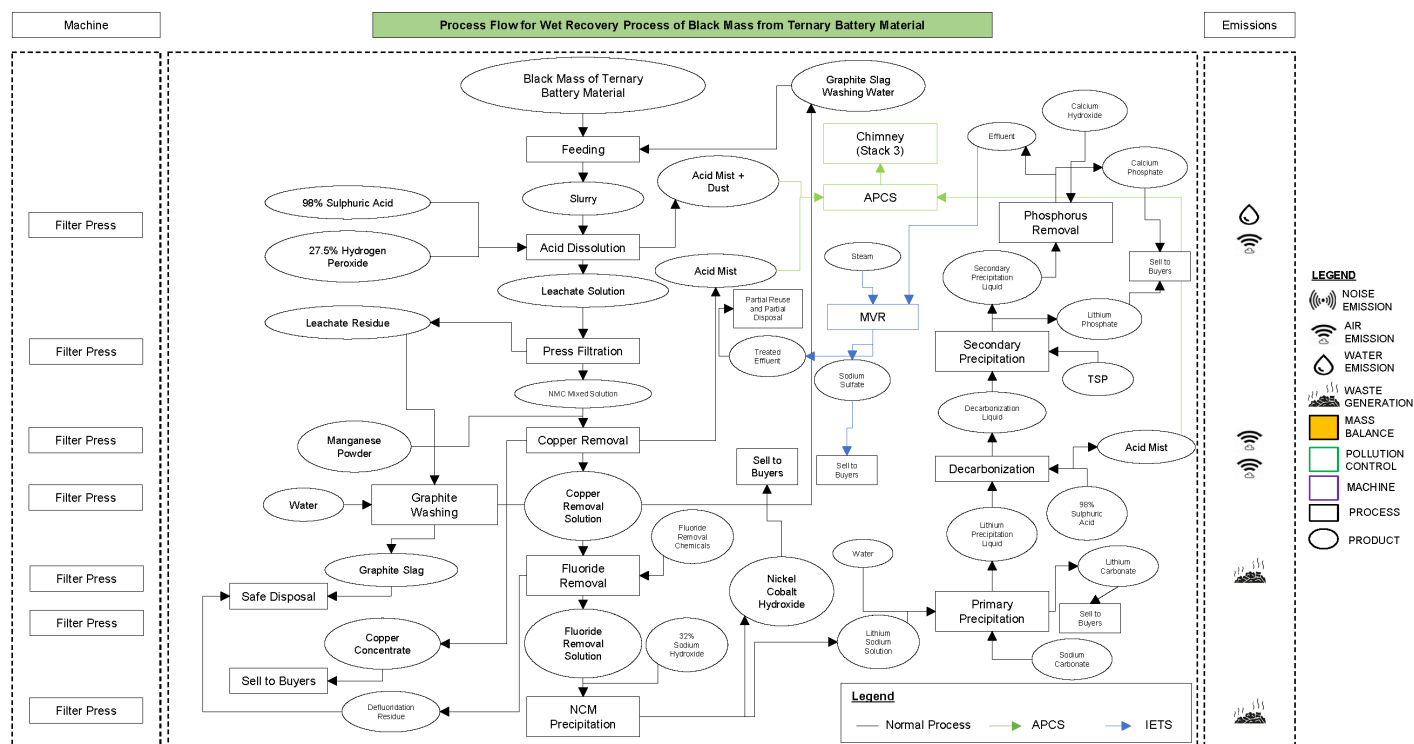


Figure 7: Wet Recovery Process of Black Mass from Ternary Battery Material

PROJECT DESCRIPTION

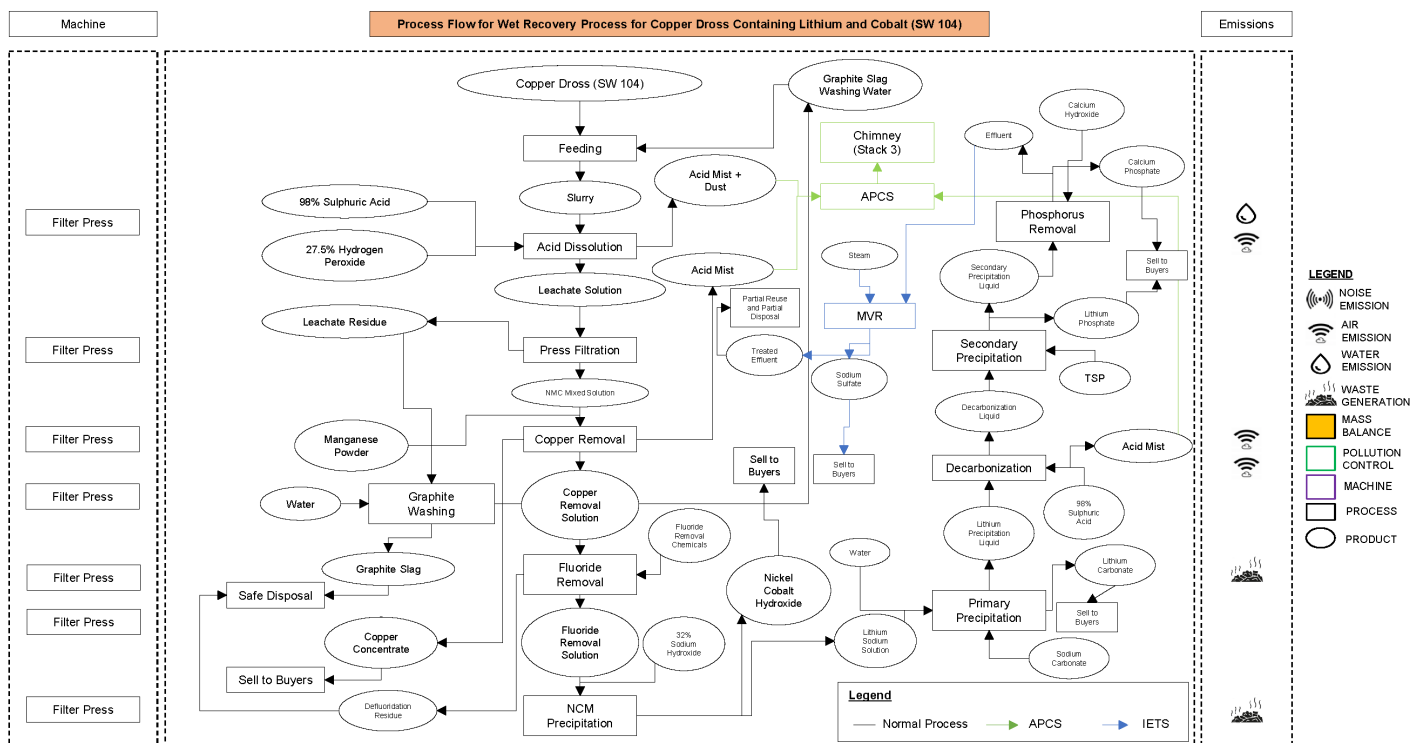


Figure 8: Wet Recovery Process for Copper Dross Containing Lithium and Cobalt (SW 104)



OPERATION PHASE

- Installation and commissioning of equipment and machineries.
- Operation of off-site scheduled waste recovery facility and inorganic salts manufacturing.
- Maintenance of building, facilities and utilities.

EXISTING ENVIRONMENT



GEOLOGY

Devonian Formation. Consist of sedimentary rocks including limestone, shale, chert and dolomite.



TOPOGRAPHY

This Project will be sited on a piece of flat land area (lowland area) within Arab Malaysian Industrial Park



SOIL

Munchong – Seremban Soil Series



CLIMATE

Climate Data except Wind Rose (2004 - 2023): KLIA Sepang Station

Climate Data for Wind Rose (2014 - 2022): KLIA Sepang Station

24-hr mean temperature: 27.6 °C

24-hr mean relative humidity: 79.3%

Surface winds often blow from Northeast (15.6%), followed by North and South (14.7%)



LAND USE

Within the Project site:

- The Project site is located within Arab Malaysian Industrial Park – an industrial area in Negeri Sembilan.
- The immediate neighboring lots of the Project site are TenAsia Corporation Sdn Bhd and Eng Kah Enterprise (KL) Sdn Bhd.

Within 3-km Radius from the Boundary of the Project site:

- Land use within 1 km to 3 km radius from the boundary of the Project site area made up of industry, residential areas, institutions, amenities and places of worship.

IMPACT ASSESSMENT AND MITIGATION MEASURES

Impact	Sources of Impact	Degree of Impact	Proposed P2M2	Reference in EIA Report
Operation Phase				
Water/Soil pollution due to handling	Spillage and accidental discharge	Can be significant	• Safe Storage and handling of scheduled wastes • Use durable drums, boxes or jumbo bags for containment. • Store all raw materials in compliance with good practice guidelines. • Check incoming feedstock to ensure acceptance based on waste acceptance criteria.	Section 8.2.1
Water/ Soil pollution due to transportation	Spillage or accidental discharge of raw materials and finished goods during transportation	Insignificant	<u>Transport of Scheduled Wastes</u> • Prepare a logistic and routing plan. • All vehicles to be equipped with cleaning up facilities • Check condition of the trucks before use. <u>Accidental Spillage or Discharge</u> • Use appropriate personnel protective equipment (PPE) to provide protection for workers in handling any accidental spillage. • The contractor/PP to contain, clean and abate any accidental spillage or discharge of the waste as soon as possible. • Transport route to avoid densely populated areas, water catchment areas and other environmentally sensitive areas.	Section 8.2.2

IMPACT ASSESSMENT AND MITIGATION MEASURES

Impact	Sources of Impact	Degree of Impact	Proposed P2M2	Reference in EIA Report
Operation Phase				
Fire hazard in the plant	- Accidental fire episode from machineries - Explosion of raw materials	Can Be significant	- Have a well-rehearsed ERP that can be put into effect at short notice. - A central automatic fire-fighting system with sirens to be installed. - The system to be regularly inspected and maintained. - No smoking and prohibition of matches, lighters and other ignition devices in the Plant. - To call the fire stations when needed firefighters, when required, to wear proper protective equipment and self-contained breathing apparatus. - All enclosed rooms should be fitted with fire rated doors of at least one hour. - Fire extinguishers should be placed at various strategic locations for easy access.	Section 8.2.6
Scheduled waste/ residual waste	- Rejects from recovery process - Waste from recovery process - IETS	Can be Significant	- Scheduled wastes generated from the storage and recovery operation shall be stored in suitable contained, labelled and then disposed at Kualiti Alam Sdn Bhd - Rejects/Residues from waste recycling process shall be stored in suitable container and then disposed at approved landfill for non-scheduled wastes - The storage area must be roofed to prevent entry of rainwater and must be ventilated adequately.	Section 8.2.8

IMPACT ASSESSMENT AND MITIGATION MEASURES

Impact	Sources of Impact	Degree of Impact	Proposed P2M2	Reference in EIA Report
Operation Phase				
Solid waste	Domestic waste	Insignificant	Domestic waste will be collected and disposed at the approved landfill site by Local Authority.	Section 8.2.8
Noise pollution	- Caused by transport vehicles during the operation - Reactor, pumps and exhaust fan operations	Can be significant	- Ensure that all operation equipment has functional exhaust systems. - Exhaust fan shall function adequately throughout the pyrolysis process operation, with regular service and maintenance.	Section 8.2.4
Air pollution	Emission of hazardous gases and particulate matters from chimney (APCS)	Can be significant	- Maintenance of all air pollution control equipment in the Plant - Performance monitoring of the air pollution emissions by conducting periodic monitoring, as well as CEMS (continuous emission monitoring system) for important parameters	Section 8.2.3
Health and safety hazards	During operation	Insignificant	- To adopt industrial safety procedures given in the OSHA Regulation 1994. - Safety Data Sheets to be kept on site for inspection. - Emergency procedures, action plans and regular drills to be executed. - No smoking allowed within the Plant. - Workers, when necessary, to wear protective gloves, safety goggles and other protective clothing. - Train certain workers to provide first aid and have available easily accessible first aid kits. - Intensive training on safety procedures should be provided for all personnel.	Section 8.2.10

IMPACT ASSESSMENT AND MITIGATION MEASURES

Impact	Sources of Impact	Degree of Impact	Proposed P2M2	Reference in EIA Report
Operation Phase				
Socio-Economy	Employment; Environmental Aesthetics; Public Welfare	Insignificant	- Local to given priority in recruitment process - Landscaping and replanting with suitable plants and shrubs - Foreign workers need to be checked for health status to avoid possible spread of epidemics among workers	Section 8.2.11

PERFORMANCE MONITORING PROGRAM (PM)

Performance Monitoring for APCS (Wet Scrubber)

No.	Parameters	Location	Method of Monitoring
1	Pressure Drop	- Scrubber Body - Packing - Mist Eliminator	Differential Pressure Meter
2	Temperature	- Inlet - Outlet	Thermometer
3	Liquid Flow Rate	- Feed - Make-up	Flowmeter
4	pH	- Feed - Recycle	pH Meter
5	Stack Emission Condition	- Chimney	Visual
6	Air Flow Rate	- Overall	Flowmeter

Performance Monitoring for APCS (Bag Filter Dust Collector)

The parameters below must be monitored and recorded:

1. Filter pressure drop (4 – 6-inch water)
2. Flow rate (2.0 – 5.2 m³/s)
3. Opacity or stack emission condition (clear and without dark smoke)
4. Discharge hopper condition (no leakage and signs of damage)
5. Temperature (< 120 °C)
6. Compressed air pressure (1.5 – 3.0 bar)

Performance Monitoring for IETS

Parameters	Control Range	Method of Monitoring	Frequency of Monitoring
Raw Effluent (Equalization Tank)			
pH	11 – 12	pH Meter	Daily
COD	50 – 1,000	Hach DR900	Daily
MVR Unit			
pH	7 – 9	pH Meter	Daily
COD	< 200 mg/L	Hach DR900	Daily
Treated Effluent Tank			
pH	6 – 9	pH Meter	Daily
COD	< 200 mg/L	Hach DR900	Daily
Color	< 200 ADMI	Hach DR900	Daily

ENVIRONMENTAL MONITORING PROGRAM

COMPLIANCE MONITORING PROGRAM (CM)

Compliance Monitoring for APCS

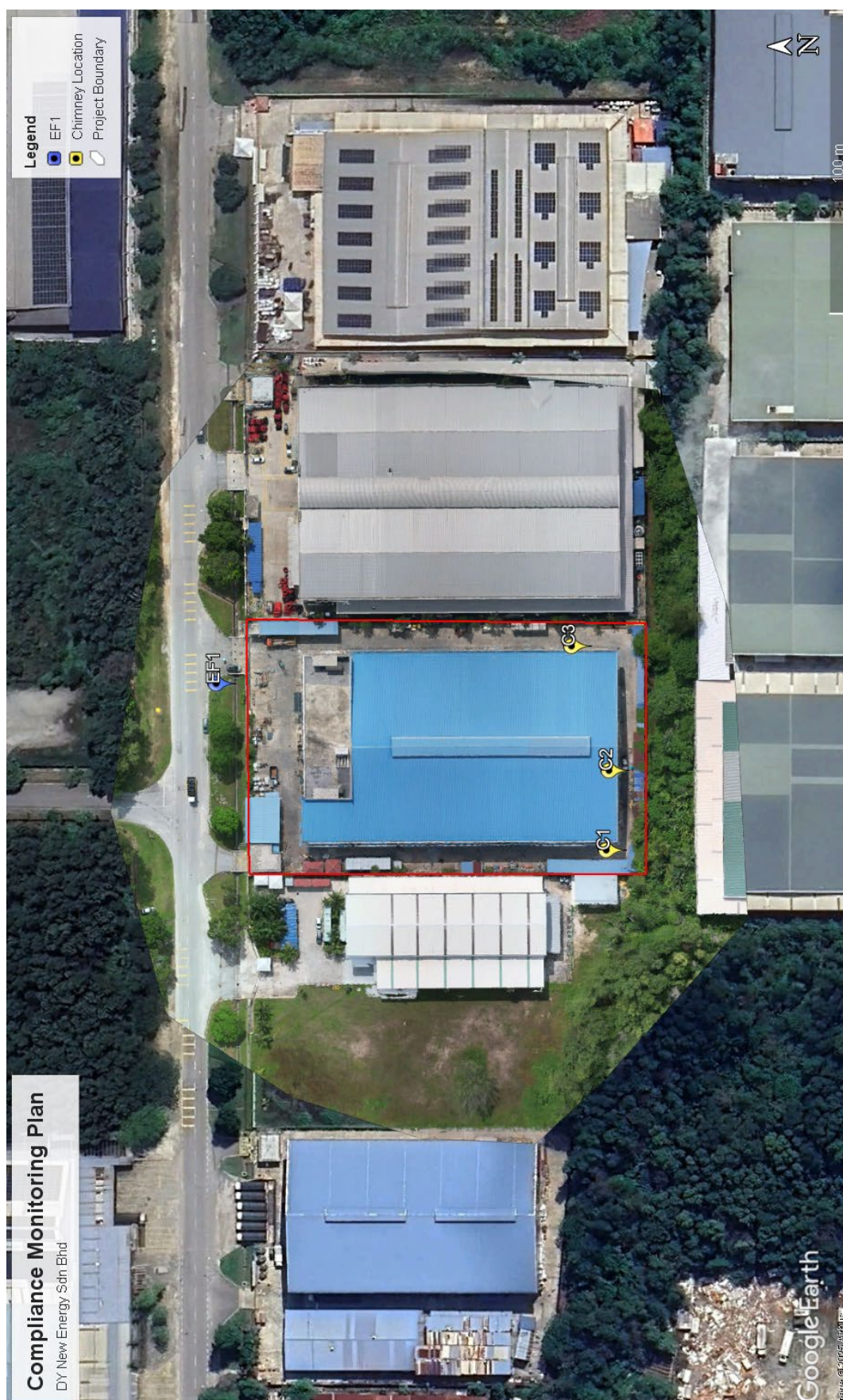
Stack ID.	Monitoring Coordinates	APCS System	Parameters (Limit)	Monitoring Type	Reference CAR 2014
Stack 1 (C1); Stack 2 (C2); Stack 3 (C3)	2°51'36.72"N, 101°48'09.73"E; 2°51'36.69"N, 101°48'10.58"E; 2°51'37.09"N, 101°48'11.91"E	System 1; System 2; System 3	NMVOC as total organic carbon (20 mg/m³)	Periodic	Second Schedule – Part (II)
			Sum of NO and NO ₂ , expressed as NO ₂ (700 mg/m³)		Third Schedule – Part I
			Sum of SO ₂ and SO ₃ expressed as SO ₂ (100 mg/m³)		
			Total PM (50 mg/m³)		

Compliance Monitoring for IETS

Effluent Outlet ID.	Monitoring Coordinates	Parameters (Limit)	Monitoring Frequency
EF1	2°51'40.88"N, 101°48'11.51"E	Standard B of Environmental Quality (Industrial Effluent) Regulations 2009: - pH Value (5.5 – 9.0) - COD (200.0 mg/L) - Color (200.0 ADMI)	Monthly

COMPLIANCE MONITORING PROGRAM (CM)

Location of Performance Monitoring for APCS and IETS



IMPACT MONITORING (IM) PROGRAM

An environmental impact monitoring (IM) program to identify the predicted and unanticipated changes to the environment brought about by the proposed Project will be carried out as stated below. A quarterly Environmental Quality Monitoring Report is recommended for submission to DOE based upon monitoring data collected monthly, quarterly or annually. The locations and frequencies of monitoring are shown in the table below.



SAMPLING LOCATIONS FOR WATER MONITORING



Location	Description	Coordinates	
		Latitude	Longitude
W1	Immediate Upstream of Project Site (Drains)	2°51'40.90"N	101°48'12.25"E
W2	Immediate Downstream of Project Site (Drains)	2°51'40.87"N	101°48'09.39"E
W3	Downstream of Project Site (Drains)	2°51'37.39"N	101°47'58.42"E
W4	Downstream of Project Site (Drains)	2°51'31.63"N	101°47'48.42"E
W5	Tributary of Sungai Langat	2°51'36.13"N	101°47'38.94"E

ENVIRONMENTAL MONITORING PROGRAM



IMPACT MONITORING (IM) PROGRAM

SAMPLING LOCATION FOR AIR QUALITY



Location	Description	Coordinates	
		Latitude	Longitude
A1	Project Boundary	2°51'40.89"N	101°48'11.83"E
A2	Wealth View Industries Sdn Bhd	2°51'52.34"N	101°48'20.46"E
A3	Taman Desaria	2°51'46.50"N	101°47'53.30"E



IMPACT MONITORING (IM) PROGRAM

SAMPLING LOCATION FOR NOISE QUALITY



Location	Description	Coordinates	
		Latitude	Longitude
N1	Project Boundary	2°51'40.89"N	101°48'11.83"E
N2	Wealth View Industries Sdn Bhd	2°51'52.34"N	101°48'20.46"E
N3	Taman Desaria	2°51'46.50"N	101°47'53.30"E