

## Dutch experience with integrated approaches/covenants with industry

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The Dutch chemical industry covers a broad spectrum of activities carried out by national as well as multinational companies. At approximate 150 sites around 80.000 staff are employed. In 1996 total production amounted to \$ 30 billion of which 75% was exported.

		Perc. of industry
Employment	78.600	10
Production	b.Dfl 49,4	15
Export	b.Dfl 35	20
Investment	b.Dfl 3,1	25
R & D	b.Dfl 1,9	30

Roughly 60% of the turnover is based on the manufacture of petrochemicals. Comparing it to the size of the US chemical industry the Dutch chemical industry represents roughly 10% of the US industry's turnover.

The member companies of the Association of the Dutch Chemical Industry (VNCI) cover over 98% of the total turnover of the chemical industry.

Out of the range of instruments for environmental policy until the end of the 1980's legislation was virtually the only instrument used to realize environmental objectives in The Netherlands.

Instruments for environmental policy

- Legislation
- Fiscal instruments
- Non-fiscal instrument
  - > economic
  - > managerial

At the end of the 80's the Dutch Government developed the National Environmental Policy Plan aiming to achieve sustainable development in one generation. Before completion of the National Environmental Policy Plan industry was asked what position it would take. There were two options for industry i.e.:

- being unable to accept the policy aims as long as there was uncertainty about its organizational, technical and financial consequences (i.e. opposition):
- accept the aims on condition that industry were involved in implementing them and only if it was felt that they were feasible in practice (i.e. voluntary cooperation).

The last option was chosen and a new instrument for implementation of environmental policy developed.

Government, authorities and industry embarked on a route for environmental management. Basically we are moving away from a command and control approach by authorities and a defensive, reactive attitude by companies towards a pro-active industry and positive, cooperative and trusting position of government and authorities.

By this cooperative approach internalization of environmental issues is being fostered and thereby integrated as a normal business issue in company management.

In Holland we have over 100 negotiated agreements in operation for a wide variety of environmental issues and most of them produce the required results.

The main elements in the negotiated agreements can be summarized as follows:

- quantified objectives
- staged targets
- obligations of parties
- monitoring
- reporting
- verification

Participation by industry is on a voluntary basis but once the agreement is signed companies are expected to honor their obligations like a business contract. The agreement also specifies that non-participating companies -free riders- will have their operating license reviewed and adjusted by the authorities.

The major agreement for the chemical industry is the one related to the execution of the National Environmental Policy Plan with emission reductions as main element.

The agreement contains a wide variety of environmental objectives upto 2010. It basically calls for emission reductions for the entire sector, between 50 and 70% for the period 1985-2000 and reductions between 70 and 90% for the period 1985-2010.

DIFFUSION TO AIR		
REDUCTION TARGETS* (PERC.)		
	2000	2010
SO <sub>2</sub>	77	90
NO <sub>x</sub>	60	90
VOC	58	80
1985 = 100		

Participating individual companies will have to draw up a 4 year site environmental plan stating the measures they will implement or consider to implement on the basis of best available technologies not entailing excessive costs (BATNEEC).

#### Commitments

##### *Industry association*

- promote participation
- facilitate execution
- environmental diplomacy

##### *Individual company*

- 4-year site environmental plan
- annual progress report

The plan is negotiated with the permit issuing authorities and upon approval used as the basis for permit application.

### Commitments

#### *Authorities*

- review environmental plan
- approve plan
- approved plan basis permit
- consistent policies
- international harmonization

Over 90% of the Dutch chemical industries have signed the agreement, the remaining companies participate as if they have signed.

STATUS COVENANT SEPTEMBER 1996			
	Locations	Site env.plan	Progress report 1995
VNCI-members	108	101	103
Others	17	11	11
Total	125	112	114

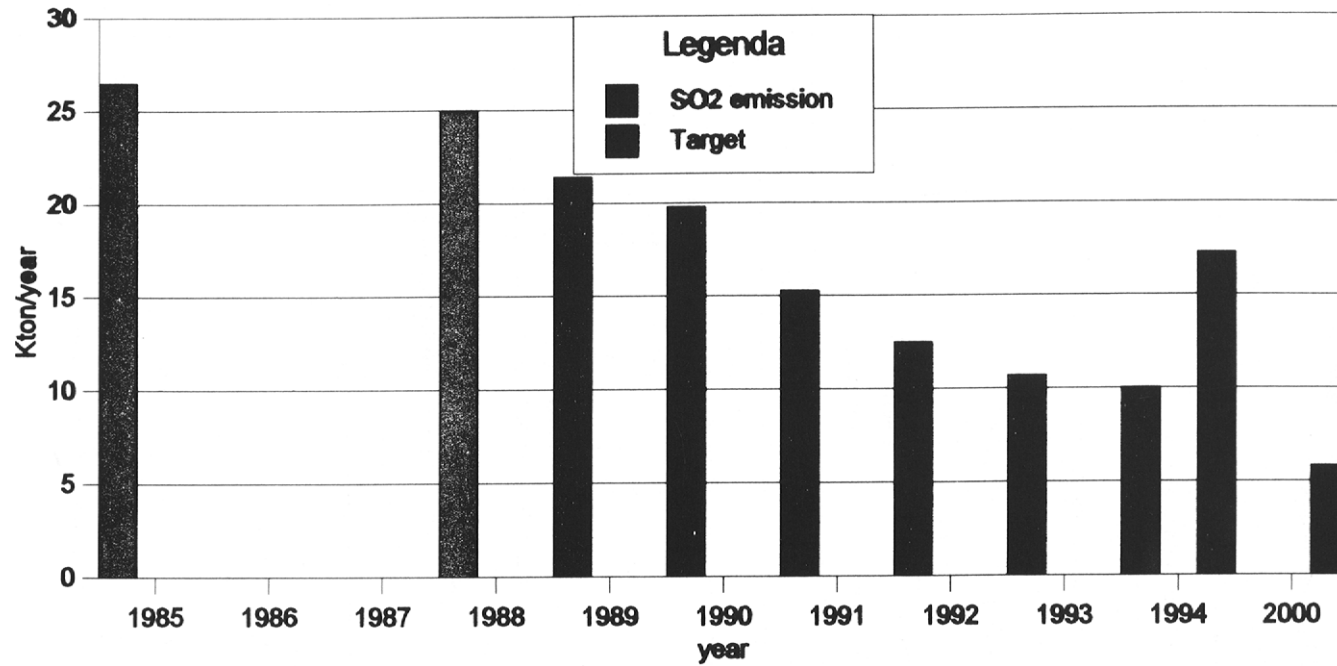
The chemical industry envisages a number of potential advantages in undertaking the agreement i.e.:

- certainty about long term environmental targets;
- attuning environmental/normal investments;
- international harmonization environmental policies;
- integrated approach air/water/waste;
- level playing field for industry;
- consistent government policies;
- consultation platform industry/authorities.

Results obtained over 1995 demonstrate that most of the objectives will be achieved including a 20% energy efficiency improvement over the period 1990-2000.

# SO2 emission

## Dutch Chemical Industry



For one target which is likely not to be met (NO<sub>x</sub>) installation of BAT rather than BATNEEC measures may be required. We are now studying with the government and environmental NGO's whether a system of tradeable emission rights for our sector could offer an attractive cost-effective way to resolve the shortfall.

Non-achieved targets

COMPONENT	TARGET REDUCTION 2000	CHECK SECTOR	NUMBER COMPANIES
NO <sub>x</sub> - combustion	55%	46%	81
<b>DISPERSION TO AIR</b>			
Vinylchloride	90%	77%	7
Carbonmonoxide	50%	30%-	39
Fluorides	95%	61%	12
Cadmium	70%	43%	7
Chromium	50%	31%	8
Mercury	70%	49%	5
Copper	50%	39%	8
Dioxins/Furans	70%	63%	5
<b>DISPERSION TO WATER</b>			
Phthalate esters	50%	0%	2
Trichlorobenzene	50%	0%	1
Hexachlorobenzene	85	0%	1
Hexachlorobutadiene	599%	0%	1
Dioxins/Furans	50%	38%	2
<b>WASTE</b>			
Gypsum			p.m.
Halogenated HC			p.m.
Polymers			p.m.

Non-achieved targets

<ul style="list-style-type: none"> <li>• SECTOR</li> </ul>	<ul style="list-style-type: none"> <li>&gt; NO<sub>x</sub></li> <li>&gt; VINYLCHLORIDE</li> <li>&gt; CARBONMONOXIDE</li> </ul>
<ul style="list-style-type: none"> <li>• INDIVIDUAL</li> <li>• COMPANIES</li> </ul>	<ul style="list-style-type: none"> <li>BALANCE</li> <li>SITE</li> <li>ENVIRONMENTAL</li> <li>PLAN 1997</li> </ul>

Companies participating in the execution of the negotiated agreement and having an adequate environmental management system (ISO 14001 or EMAS-level) can opt for a simplified permit application and an adjusted inspection regime.

Industry experience so far is in general positive, for many small/medium sized companies it was the first time that an integral environmental plan -a strategic document- was produced. Execution of the agreement perfectly fits within the chemical industry Responsible Care program. Furthermore these efforts have contributed to an improved environmental image of the chemical industry.

For the next site environmental plan (start mid 1997) the emphasis is likely to shift from end of pipe to in process measures, more attention to the economic situation of the company with respect to the possibility for environmental investments and cost effectiveness of emission reductions. Furthermore companies are being asked to pay attention to the utilization of feedstocks and energy as well as to their products in the light of sustainable development.

In our view the use of negotiated agreements in the chemical industry has demonstrated to offer an attractive alternative to conventional command and control. No complex legislation is required and agreed environmental improvements can be realized in a shorter time frame in a more cost effective manner.

**CONCLUSIONS**

- > Learning process
- > Positive experience
- > Business contract
- > Management tool
- > Improved efficiency