

# EGTEI

Preparation of the review of the Annexes IV, V and VIII of the 1999 Gothenburg Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution to abate acidification, eutrophication and ground-level ozone

# Convention work plan for EGTEI

- ◆ Make data available for future consideration of revision of technical annexes to Protocols in particular concerning the evaluation of emission limit values for new and existing boilers and process heaters with a rated thermal input larger than 50 MW and new heavy duty vehicles, according to article 3, paragraph 4 of the Protocol with a view to amending annexes IV, V and VIII of the Gothenburg Protocol

# Gothenburg Protocol : article 3, paragraph 4

- ◆ Limit values for new and existing boilers and process heaters with a rated thermal input larger than 50 MW and new heavy duty vehicles shall be evaluated by the Parties at a session of the Executive Body with a view to amending annexes IV, V and VIII of the Gothenburg Protocol no later than two years after the date of entry into force of the Protocol.

# Gothenburg Protocol

## ◆ Annexe IV: Limit values for emissions of sulphur from stationary sources

∅ Boilers and process heaters with a rated thermal input exceeding 50 MW: ELV

∅ Limit values for the sulphur content of gas-oil

∅ Claus plant producing more than 50 t of S per day: minimum sulphur recovery efficiency

∅ Titanium dioxide production: maximum SO<sub>2</sub> emission per ton of TiO<sub>2</sub> produced

# Gothenburg Protocol

## ◆ Annexe V: Limit values for emissions of nitrogen oxides from stationary sources

- ∅ Boilers and process heaters with a rated thermal input exceeding 50 MW: ELV
- ∅ Combustion turbines with a rated thermal input exceeding 50 MW: ELV
- ∅ Cement production producing more than 500 t/d of clinker in rotary kilns or 50 t/d in other furnaces: ELV
- ∅ Stationary engines : spark ignition engines 4 strokes > 1 MW and compression ignition engines > 5 MW: ELV

# Gothenburg Protocol

## ◆ Annexe V : limit values for emissions of nitrogen oxides from stationary sources

Ø Production and processing of metal :  
metal ore roasting or sintering  
installations , installations for production  
of pig iron and steel (capacity > 2,5 t/h),  
hot rolling mills >20 t/h of crude steel:  
ELV

Ø Nitric acid production: ELV

# Gothenburg Protocol

## ◆ Annexe VIII : Limit values for fuels and new mobile sources

Ø Passenger cars and light duty vehicles

Ø Heavy duty vehicles

Ø Motorcycles and mopeds

Ø Non-road vehicles and machines

Ø Fuel quality

# Annexe IV: Limit values for emissions of sulphur from stationary sources

- ◆ Boilers and process heaters with a rated thermal input exceeding 50 MW:

ELV of annexe IV equivalent to ELV of Directive 2001/80/CE of 23 October 2001

- ◆ Sulphur content of gas-oil:

Sulphur content same as in Directive 1999/32/EC

- ◆ Claus plant producing more than 50 t of S per day:

Covered by the IPPC Directive. Efficiency from 99 to 99.9% considered by EGTEI compared to 97 % for existing plant and 99.9% for new plants in annexe IV

- ◆ Titanium dioxide production:

Covered by the IPPC Directive. Not considered in EGTEI

# Annexe V : Limit values for emissions of nitrogen oxides from stationary sources

- ◆ Boilers and process heaters with a rated thermal input exceeding 50 MW:

ELV of annexe V equivalent to ELV of Directive 2001/80/CE of 23 October 2001

- ◆ Combustion turbines:

No ELV for existing turbines in annexe V compared to Directive 2001/80/CE

- ◆ Cement plant producing more than 500 t of clinker/d in rotary kilns or 50 t/d of clinker in other furnaces:

Sector covered by the IPPC Directive.

1050 mg/Nm<sup>3</sup> for primary measures and 400 mg/Nm<sup>3</sup> for combined primary and secondary measures considered by EGTEI, compared to 500 mg/Nm<sup>3</sup> for dry new kilns and 800 for other new kilns in annexe V of the Protocol

# Annexe V : Limit values for emissions of nitrogen oxides from stationary sources

## ◆ Stationary engines:

No EU Directive – Not considered by EGTEI for the time being

## ◆ Processing of metals:

Covered by the IPPC Directive.

Sector not finalised in EGTEI

## ◆ Nitric acid production:

Covered by the IPPC Directive.

Comparison with EGTEI data to be done

# Limit values for emissions of PM from stationary sources : annexe to be prepared?

◆ No annexe related to PM in the Gothenburg Protocol

∅ Annexe to be added ?

∅ For what activities ?

At least combustion plants.

## To continue the preparation of the review

- ◆ Questionnaire to be sent to national experts to collect ELV (SO<sub>2</sub>, NO<sub>x</sub> and PM) implemented in different Parties for selected activities
- ◆ Activities concerned could be at least those already considered in the Protocol

# Annex VIII :

## limit values for fuels and new mobile sources

### 1. Passenger Cars and Light Duty Vehicles (table 1)

Limit values correspond to EU Euro 4 standards. As Euro 5 European standards are still under discussion, **this table is still valid.**

However, future developments of the European regulation should be closely followed

Emission limit values (mg/km)	Diesel PC and LDV		Gasoline PC and LDV	
	PM	NOx	HC	NOx
Euro 3 (2000-2004)	50	500	200	150
Euro 4 (from 01/01/05 onwards)	25	250	100	80
Euro 5 (EC proposition COM(2005) 683 final)	5	200	75	60

### 2. Heavy-duty-vehicles (table 2)

Limit values are in line with Euro III to Euro V standards. No further emission reduction is envisaged for the moment.

# Annex VIII :

## limit values for fuels and new mobile sources

### 3.1 Diesel engines for non-road mobile machines (tables 4 and 5)

Only stage I and II are considered (as in Directives 97/68/EC and 2000/25/EC). New stages have been adopted in Europe: stages IIIA, IIIB and IV limit values for these additional stages are defined in Directives ...

- 2004/26/EC relating to measures against the emission of gaseous and particulate pollutants from IC engines to be installed on non-road machinery

 inland waterways (only stage IIIA) and trains (only stages IIA and IIIB) are also considered in this Directive

- 2005/13/EC concerning the emission of gaseous and particulate pollutants by engines intended to power agricultural or forestry tractors

# Annex VIII :

## limit values for fuels and new mobile sources

### 3.2 Diesel engines for non-road mobile machines

UN	EC	Comments
Stage I	Stage I	UN: agricultural and forestry tractors???
Stage II	Stage II	UN: agricultural and forestry tractors???
-	Stage IIIA	EC: 31/12/2005 – 31/12/2006
-	Stage IIIB	EC: 31/12/2009 – 31/12/2011 (TSP)
-	Stage IV	EC: 31/12/2012 – 31/12/2013 (NOx)
-	Inland waterways	UN: not yet considered in the Protocol
-	Trains	UN: not yet considered in the Protocol

## Annex VIII : limit values for fuels and new mobile sources

### 4. Motorcycles and mopeds (tables 6 and 7)

*Motorcycles 2 and 4-stroke:* only stage I is considered. New stages have been adopted in Europe: stages II and III defined in Directive 2002/51/EC.

*Mopeds:* stages I and II are considered with the same dates of implementation (1999 and 2002) as defined in the Directive 97/24/EC. Stage III??? (Directive 2002/51/EC specifies that the Commission shall consider a new set of limit values (stage III) for moped, including PM emissions, to be applied from 2006)

 it should be closely followed

# Annex VIII :

## limit values for fuels and new mobile sources

### 5. Engines not yet considered in the UN Protocol

UN	EC	Comments
-	Recreational crafts: 2, 4-stroke and CI engines	Directive 2003/44/EC
-	Small 2 and 4-stroke SI engines rated < 19 kW	Directive 2002/88/EC

# Annex VIII :

## limit values for fuels and new mobile sources

### 6. Sulphur content of diesel and petrol fuels

UN	EC	Comments
50 ppm	50 ppm	Directive 1998/70/EC : 01/01/2005
-	10 ppm	Directive 2003/17/EC : 01/01/2009