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Assessment of the application and possible development of community legislation for the control of waste incineration and co-incineration

Final Report ANNEX

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Content

1. Annex 1

1.1. Member States questionnaire

1. General Information about co-incineration and incineration plants

Country:	
Name of authority:	
Contact person(s):	
E-Mail(s) :	
Phone number(s) (please include country code):	

			New co-incineration plants		Existing co-incineration plants	
	Please indicate the number of new and existing co-incineration plants per sector which are present in your country and the number of permits in place that are compliant with the Waste Incineration Directive :		total number of plants	total number of permitted plants	total number of plants	total number of permitted plants
1.		a) Energy industries (Combustion plants)				
		b) Ferrous metal industry				
		c) Non-Ferrous metal industry				
		d) Other sectors (please add):				
		e) Sum				
	f) How many of the co-incineration plants indicated under 1e) are falling under the Waste Incineration- **and** IPPC-Directive?					

2.	**Level of implementation of the Waste Incineration Directive**	
	a) How were existing incineration and co-incineration plants to which the Waste Incineration Directive had to be applied identified?	

		b) How was the requirement for plants to obtain permits by the due dates enforced?	
3.	**Application of the Waste Incineration Directive**		
		a) If existing in your country, please describe the approach taken to application of the Waste Incineration Directive concerning: - small waste oil burners (e.g. used in motor garages) - thermal cleaning of equipment or soil - the use of waste in ceramic kilns (e.g. paper sludge, waste wood)	
		b) Do the emission limit values (ELV's) for co-incineration plants (in particular from plants like under 3a) always apply or only during those periods when waste is co-incinerated?	
4.	**Impact assessment of the Waste Incineration Directive**		
		a) Please describe any problems experienced in the implementation of the Directive (e.g. uncertainties in interpretation, technical difficulties), and how you overcame these problems.	
		b) Please describe any areas in which you suggest that amendment of the Directive should be considered, giving the reason and data behind your suggestions.	
5.	**Waste Incineration Directive / IPPC-Directive**		
		a) Have stricter permit conditions according to the IPPC-Directive been imposed? If yes, for how many plants and which parameters?	
		b) Please provide examples of any such stricter permits conditions	

2. Co-incineration plants (without the cement & lime industry)

Country:	
Name of authority:	
Administrative level of authority (e.g.county, community, municipality)	
Contact person(s):	
E-Mail(s):	
Phone number(s) (please include country code):	

1.	**Operating conditions (Article 6)**		
		a) Please indicate the number of permits for which, in accordance with Article 6(4) of the Directive, conditions different to the standard requirements for the temperature and duration of combustion have been authorised for co-incineration plants.	.
		b) Please describe the exemptions and the reasons for them.	

2.	Implementation of the exemptions for the emission limit values (ELVs) set down in Annex II 2.1. for combustion plants concerning NOx and SO2		
		a) How many exemptions have been granted?	
		b) Please describe or give examples of the exemptions and the reasons for them.	

3.	**Usage of Article 7(5).** Air emission limit values for PAH's and other pollutants.		
		a) How many permits include ELVs for PAHs and other pollutants?	
		b) What emission limit values (or ranges of values) have been set? Please give the substances, units and reference periods.	

		c) Please describe the monitoring requirements (continuous/discontinuous monitoring, applied standards, etc.).	
4.	**Usage of Article 8(8).** Emission limit values for waste water from exhaust gas cleaning for PAH's and other pollutants.		
		a) How many permits include ELVs for PAHs and other pollutants?	
		b) What emission limit values (or ranges of values) have been set? Please give the substances, units and reference periods.	
		c) Please describe the monitoring requirements (continuous/discontinuous monitoring, applied standards, etc.).	
5.	Water discharges from the cleaning of exhaust gases		
		a) Have specific provisions been set out according to Article 8(3) of the Waste Incineration Directive? If yes, please describe those provisions and in particular the permitted ELV's	
		b) Have any exemptions for ELVs for total suspended solids according to Annex IV been granted? If yes, please indicate the number of exemptions and the reasons for them.	
6.	Implementation of the exemptions for the monitoring requirements of **HCl, HF and SO2** according to Article 11(6)		
		a) How many exemptions have been granted?	
		b) For which type of installations have these exemptions been issued?	
		c) Please describe or give examples of the exemptions and the reasons for them.	
7.	Implementation of the exemptions for the monitoring requirements of **dioxins and furans** according to Article 11(7)		
		a) How many exemptions have been granted?	
		b) For which type of installations have these exemptions been issued?	

		c) Please describe or give examples of the exemptions and the reasons for them.		
8.	Implementation of the exemptions for the monitoring requirements of **heavy metals** according to Article 11(7)			
		a) How many exemptions have been granted?		
		b) For which type of installations have these exemptions been issued?		
		c) Please describe or give examples of the exemptions and the reasons for them		
9.	Continuous measurement of heavy metals in air emissions according to Article 11(13) of the Waste Incineration Directive.			
		Are heavy metals continuously measured in some plants and if yes in how many?		
10.	Please indicate the annual average permitted capacity for burning wastes (in tonnes).			
11.	Please indicate the type of waste burned according to the nomenclature of the European list of waste (e. g. 13 02 05* mineral-based non-chlorinated engine, gear and lubricating oils)			
		Waste 1		
		Waste 2		
		Waste 3		
		Waste 4		
		Waste 5		
		Waste 6		
		etc.		

3. List of co-incinerations plants (except cement & lime industry) falling under Article 12(2) of the Waste Incineration Directive

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	

1.2. Data requirements regarding dedicated waste incineration plants

Scope of this data collection: Dedicated waste incineration plants in EU25 + Romania and Bulgaria

This includes all types of dedicated waste incinerators like “municipal waste incinerator”, “hazardous waste incinerator”, “clinical waste incinerator”, “sewage sludge incinerator”.

General Information

1. Number of “existing” plants (Article 3 (6) WID)

	Municipal waste incinerator	Hazardous waste incinerator	Clinical waste incinerator	Sewage sludge incinerator	Other type of waste incinerator
Austria					
Belgium					
Czech Republic					
Denmark					
Estonia					
Finland					
France					
Germany					
Greece					
Hungary					
Ireland					
Italy					
Latvia					
Lithuania					
Luxembourg					
Malta					
Spain					
Netherlands					
Poland					
Portugal					
Slovakia					
Slovenia					
Sweden					
United Kingdom					
Bulgaria					
Romania					

2. Number of "new" plants (those plants that are not defined as "existing" plants)

	Municipal waste incinerator	Hazardous waste incinerator	Clinical waste incinerator	Sewage sludge incinerator	Other type of waste incinerator
Austria					
Belgium					
Czech Republic					
Denmark					
Estonia					
Finland					
France					
Germany					
Greece					
Hungary					
Ireland					
Italy					
Latvia					
Lithuania					
Luxembourg					
Malta					
Spain					
Netherlands					
Poland					
Portugal					
Slovakia					
Slovenia					
Sweden					
United Kingdom					
Bulgaria					
Romania					

Input

3. Input capacities (t/y)

	Municipal waste incinerator	Hazardous waste incinerator	Clinical waste incinerator	Sewage sludge incinerator	Other type of waste incinerator
Austria					
Belgium					
Czech Republic					
Denmark					
Estonia					
Finland					
France					
Germany					
Greece					
Hungary					
Ireland					
Italy					
Latvia					
Lithuania					
Luxembourg					
Malta					
Spain					
Netherlands					
Poland					
Portugal					
Slovakia					
Slovenia					
Sweden					
United Kingdom					
Bulgaria					
Romania					

Emission monitoring

4. Please indicate the monitored emissions into air

Please mark as follows:

for continuous monitoring "c" + number of plants

for discontinuous monitoring "dc" + number of plants + number of measurements per year

If not monitored, please leave the field blank.

	Total dust	**HCl**	**HF**	**NOx**	**Cd +Tl**	**Hg**	**Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V**	**PCDD/F**	**SO2**	**TOC**	**CO**	**PAH**	**Others**
Austria													
Belgium													
Czech Republic													
Denmark													
Estonia													
Finland													
France													
Germany													
Greece													
Hungary													
Ireland													
Italy													
Latvia													
Lithuania													
Luxembourg													
Malta													
Spain													
Netherlands													
Poland													
Portugal													
Slovakia													
Slovenia													
Sweden													
United Kingdom													
Bulgaria													
Romania													

5. Please indicate the monitored emissions into water via waste water from wet flue gas treatment

Please mark as follows:
for continuous monitoring "c" + number of plants
for discontinuous monitoring "dc" + number of plants + number of measurements per year

If not monitored, please leave the field blank.

	TSS	Hg	Cd	Tl	As	Pb	Cr	Cu	Ni	Zn	PCDD/F	PAH	Others
Austria													
Belgium													
Czech Republic													
Denmark													
Estonia													
Finland													
France													
Germany													
Greece													
Hungary													
Ireland													
Italy													
Latvia													
Lithuania													
Luxembourg													
Malta													
Spain													
Netherlands													
Poland													
Portugal													
Slovakia													
Slovenia													
Sweden													
United Kingdom													
Bulgaria													
Romania													

6. In how many plants are emission limit values set for PAH ? In how many plants are emissions of PAH monitored? In how many plants are additional emission values set according to Article 7 (5) of the WID?

	ELV PAH	Monitoring	Other ELV
Austria			
Belgium			
Czech Republic			
Denmark			
Estonia			
Finland			
France			
Germany			
Greece			
Hungary			
Ireland			
Italy			
Latvia			
Lithuania			
Luxembourg			
Malta			
Spain			
Netherlands			
Poland			
Portugal			
Slovakia			
Slovenia			
Sweden			
United Kingdom			
Bulgaria			
Romania			

7. Does the permit include granted exemptions regarding the following operation conditions (Article 6 WID) (per plant + per type of incinerator)

If so, please indicate the number per country.

	the gas resulting from the process is raised to a temperature of 850 °C for two seconds	for hazardous wastes with >1 % halogenated organic substances: 1.100 °C for at least two seconds	Use of specific fuels during start-up and shut-down or when the temperature falls below 850 °C or 1 100 °C	Automatic system to prevent waste feed: at start-up, until the temperature of 850 °C or 1 100 °C	Automatic system to prevent waste feed: whenever the temperature of 850 °C or 1 100 °C
Austria					
Belgium					
Czech Republic					
Denmark					
Estonia					
Finland					
France					
Germany					
Greece					
Hungary					
Ireland					
Italy					
Latvia					
Lithuania					
Luxembourg					
Malta					
Spain					
Netherlands					
Poland					
Portugal					
Slovakia					
Slovenia					
Sweden					
United Kingdom					
Bulgaria					
Romania					

8. Does the permit include granted exemptions regarding the following:

(If so please indicate the number per country)

	Daily average values			Half hourly values		CO	
	Total dust **10 mg/m3**	Nitrogen monoxide (NO) and nitrogen dioxide (NO2) expressed as nitrogen dioxide for existing incineration plants with a nominal capacity exceeding 6 tonnes per hour or new incineration plants **200 mg/m3**	Nitrogen monoxide (NO) and nitrogen dioxide (NO2), expressed as nitrogen dioxide for existing incineration plants with a nominal capacity of 6 tonnes per hour or less **400 mg/m3**	Nitrogen monoxide (NO) and nitrogen dioxide (NO2), expressed as nitrogen dioxide for existing incineration plants with a nominal capacity exceeding 6 tonnes per hour or new incineration plants			
				(100 %) A	**400 mg/m3**	daily average	**50 mg/m3**
				(97 %) B	**200 mg/m3**	95% of all 10min averages or	**150 mg/m3**
						95% of all 1/2hourly values per 24h period	**100 mg/m3**
Austria							
Belgium							
Czech Republic							
Denmark							
Estonia							
Finland							
France							
Germany							
Greece							
Hungary							
Ireland							
Italy							

Latvia							
Lithuania							
Luxembourg							
Malta							
Spain							
Netherlands							
Poland							
Portugal							
Slovakia							
Slovenia							
Sweden							
United Kingdom							
Bulgaria							
Romania							

9. **Which of the following BAT is realised (**Please fill in the number of plants per country in the table on the following page (see number in the last column of the table below).

Technique			**No.**
The use of auxiliary burner(s) for start-up and shut-down and for maintaining the required operational combustion temperatures (according to the waste concerned) at all times when unburned waste is in the combustion chamber,			1
The use of primary (combustion related) NO_X reduction measures to reduce NO_X production, together with either SCR or SNCR			2
For the reduction of overall PCDD/F emissions to all environmental media, the use of:	The use of installation designs and operational controls that avoid those conditions that may give rise to PCDD/F reformation or generation, in particular to avoid the abatement of dust in the temperature range of 250 – 400 C		3
	The use of a suitable combination of one or more of the following additional PCDD/F abatement measures	Adsorption by the injection of activated carbon or other reagents with bag filtration, or	4
		Adsorption using fixed beds, or	5
		Multi layer SCR, adequately sized to provide for PCDD/F control, or	6
		The use of catalytic bag filters,	7
If re-burn of FGT residues is applied, then suitable measures should be taken to avoid the re-circulation and accumulation of Hg in the installation			8
For the control of Hg emissions where wet scrubbers are applied as the only or main effective means of total Hg emission control:		Activated carbon injection, or	9
	The use of a low pH first stage with the addition of specific reagents for ionic Hg removal, in combination with the following additional measures for the abatement of metallic (elemental) Hg	Activated carbon or coke filters.	10
For the control of Hg emissions where semi-wet and dry FGT systems are applied, the use of activated carbon or other effective adsorptive reagents for the adsorption of PCDD/F and Hg, with the reagent dose rate controlled			11
Where wet flue-gas treatment is used:	The use of on-site physico/chemical treatment of the scrubber effluents prior to their discharge from the site,		12
	The separate treatment of the acid and alkaline waste water streams arising from the scrubber stages, when there are particular drivers for the additional reduction of releases to water that result, and/or where HCl and/or gypsum recovery is to be carried out		13
	The re-circulation of wet scrubber effluent within the scrubber system, and the use of the electrical conductivity of the re-circulated water as a control measure, so as to reduce scrubber water consumption by replacing scrubber feed-water		14
	The use of sulphides (e.g. M-trimercaptotriazine) or other Hg binders to reduce Hg (and other heavy metals) in the final effluent,		15
	When SNCR is used with wet scrubbing the ammonia levels in the effluent discharge may be reduced using ammonia stripping, and the recovered ammonia re-circulated for use as a NO_X reduction reagent		16
The use of a suitable combination of the techniques and principles for improving waste burnout to the extent that is required so as to achieve a TOC value in the ash residues of below 3 wt % and typically between 1 and 2 wt %			17

	Technique (number according to last column of the table on the previous page)																	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
Austria																		
Belgium																		
Czech Republic																		
Denmark																		
Estonia																		
Finland																		
France																		
Germany																		
Greece																		
Hungary																		
Ireland																		
Italy																		
Latvia																		
Lithuania																		
Luxembourg																		
Malta																		
Spain																		
Netherlands																		
Poland																		
Portugal																		
Slovakia																		
Slovenia																		

Sweden																		
United Kingdom																		
Bulgaria																		
Romania																		

10. In how many plants are the following BAT associated operational emission levels realised (air emissions)?

Substance(s)	HCl	HF	SO_2	NO and NO_2 as NO_2 for installations using SCR	NO and NO_2 as NO_2 for installations not using SCR	Gaseous and vaporous org. substances, as TOC	CO	Hg	Cd and Tl	other metal	Dioxins and furans (ng TEQ/Nm^3)	Ammonia (NH_3)
Non-continuous samples								<0.05	0.005 - 0.05	0.005 - 0.5	0.01 – 0.1	<10
½ hour average	1 – 50	<2	1 – 150	40 – 300	30 – 350	1 – 20	5 – 100	0.001 – 0.03				1 – 10
24 hour average	1 – 8	<1	1 – 40	40 – 100	120 – 180	1 – 10	5 – 30	0.001 - 0.02				<10
Austria												
Belgium												
Czech Republic												
Denmark												
Estonia												
Finland												
France												
Germany												
Greece												
Hungary												
Ireland												
Italy												
Latvia												
Lithuania												
Luxembourg												
Spain												
Malta												

Netherlands												
Poland												
Portugal												
Slovakia												
Slovenia												
Sweden												
United Kingdom												
Bulgaria												
Romania												

11. In how many plants are the following BAT associated operational emission levels for discharges of waste water from effluent treatment plant receiving FGT scrubber effluent realised?

Parameter	TSS		COD	pH	Hg	Cd	Tl	As	Pb	Cr	Cu	Ni	Zn	Sb	Co	Mn	V	Sn	PCDD/F (TEQ)
BAT range in mg/l (unless stated)	10 – 30 (95 %)	10 – 45 (100 %)	50 – 250	pH 6.5 – pH 11	0.001 – 0.03	0.01 – 0.05	0.01 – 0.05	0.01 – 0.15	0.01 – 0.1	0.01 – 0.5	0.01 – 0.5	0.01 – 0.5	0.01 – 1.0	0.005 – 0.85	0.005 – 0.05	0.02 – 0.2	0.03 – 0.5	0.02 – 0.5	0.01 – 0.1 ng TEQ/l
Austria																			
Belgium																			
Czech Republic																			
Denmark																			
Estonia																			
Finland																			
France																			
Germany																			
Greece																			
Hungary																			
Ireland																			
Italy																			
Latvia																			
Lithuania																			
Luxembourg																			
Malta																			
Spain																			
Netherlands																			
Poland																			
Portugal																			
Slovakia																			
Slovenia																			
Sweden																			
United Kingdom																			
Bulgaria																			
Romania																			

1.3. Data requirements regarding non-ferrous metal plants

Scope of this data collection: Non-ferrous metal plants in European Member States plus Romania and Bulgaria

Reference year: 2005

General Information

1. Number of plants

	"New" Article 3 (6) WID	"Existing" Article 3 (6) WID	Plants that are covered by WID and IPPC at the same time
Austria			
Belgium			
Czech Republic			
Denmark			
Estonia			
Finland			
France			
Germany			
Greece			
Hungary			
Ireland			
Italy			
Latvia			
Lithuania			
Luxembourg			
Malta			
Netherlands			
Poland			
Portugal			
Slovakia			
Slovenia			
Spain			
Sweden			
United Kingdom			
Bulgaria			
Romania			

Input -2. Secondary fuels

	Number of plants using secondary fuels	Type of waste (wastes according to European Waste List)	Permitted capacities for secondary fuels (range + average) (t/y)	Amount of secondary fuels actually used (range + average) (t/y)	% of resulting heat release range + average per country	
					Hazardous wastes	Non hazardous wastes
Austria						
Belgium						
Czech Republic						
Denmark						
Estonia						
Finland						
France						
Germany						
Greece						
Hungary						
Ireland						
Italy						
Latvia						
Lithuania						
Luxembourg						
Malta						
Netherlands						
Poland						
Portugal						
Slovakia						
Slovenia						
Spain						
Sweden						
United Kingdom						
Bulgaria						
Romania						

Emission monitoring - 3. Please indicate the monitored emissions into air

Please mark as follows:
for continuous monitoring "c" + number of plants, for discontinuous monitoring "dc" + number of plants + number of measurements per year. If not monitored, please leave the field blank.

	Total dust	**HCl**	**HF**	**NOx**	**Cd +Tl**	**Hg**	**Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V**	**PCDD/F**	**SO2**	**TOC**	**CO**	**PAH**	**Others**
Austria													
Belgium													
Czech Republic													
Denmark													
Estonia													
Finland													
France													
Germany													
Greece													
Hungary													
Ireland													
Italy													
Latvia													
Lithuania													
Luxembourg													
Malta													
Netherlands													
Poland													
Portugal													
Slovakia													
Slovenia													
Spain													
Sweden													
United Kingdom													
Bulgaria													
Romania													

Emission monitoring - 4. In case that emissions in waste water from exhaust gas treatment are monitored. Please mark as follows:
for continuous monitoring "c" + number of plants, for discontinuous monitoring "dc" + number of plants + number of measurements per year. If not monitored, please leave the field blank.

	Total suspended solids	Hg	Cd	Tl	As	Pb	Cr	Cu	Ni	Zn	PCDD/F	PAH's	Others
Austria													
Belgium													
Czech Republic													
Denmark													
Estonia													
Finland													
France													
Germany													
Greece													
Hungary													
Ireland													
Italy													
Latvia													
Lithuania													
Luxembourg													
Malta													
Netherlands													
Poland													
Portugal													
Slovakia													
Slovenia													
Spain													
Sweden													
United Kingdom													
Bulgaria													
Romania													

5. Please indicate according to which standards the emissions are monitored (e.g EN 14181 or similar):

6. Emission of PAH / other emissions? In how many plants are emissions of PAH monitored? In how many plants are additional emission values set according to Article 7 (5) of the WID?

	Number of plants with ELV for PAH + ELV(mg/m^3)	**Number of plants with Monitoring of PAH emissions**	**Number of plants with ELV for other substances** **Substance + number + ELV(mg/m^3)**
Austria			
Belgium			
Czech Republic			
Denmark			
Estonia			
Finland			
France			
Germany			
Greece			
Hungary			
Ireland			
Italy			
Latvia			
Lithuania			
Luxembourg			
Malta			
Netherlands			
Poland			
Portugal			
Slovakia			
Slovenia			
Spain			
Sweden			
United Kingdom			
Bulgaria			
Romania			

7. Does the permit include granted exemptions regarding the following operation conditions (Article 6 WID) (number of plants)

If so, please indicate the number per country.

	the gas resulting from the process is raised to a temperature of 850 °C for two seconds	**for hazardous wastes with >1 % halogenated organic substances: 1.100 °C for at least two seconds**
Austria		
Belgium		
Czech Republic		
Denmark		
Estonia		
Finland		
France		
Germany		
Greece		
Hungary		
Ireland		
Italy		
Latvia		
Lithuania		
Luxembourg		
Malta		
Netherlands		
Poland		
Portugal		
Slovakia		
Slovenia		
Spain		
Sweden		
United Kingdom		
Bulgaria		
Romania		

8. Does the permit include granted exemptions from the emission limit values of the WID?

	Parameter + No of plants	Granted ELV per parameter + Number of plants
Austria		
Belgium		
Czech Republic		
Denmark		
Estonia		
Finland		
France		
Germany		
Greece		
Hungary		
Ireland		
Italy		
Latvia		
Lithuania		
Luxembourg		
Malta		
Netherlands		
Poland		
Portugal		
Slovakia		
Slovenia		
Spain		
Sweden		
United Kingdom		
Bulgaria		
Romania		

1.4. Data needs regarding waste co-incineration in the paper industry

Scope of this data collection: Waste co-incineration in EU-27

This includes co-incineration in any type of plant within the scope of the Waste Incineration Directive (see foot note [1] for excluded waste fractions)

12.Country name

13.Number of plants permitted as "existing" plants according to Waste Incineration Directive WID (see footnote [2])

Please indicate the number of plants which provide a permit according to WID as well as to WID and IPPC.

Size of plant	< 50 MW		50 – 100 MW		> 100 – 300 MW		> 300 MW	
Type of permit	WID	WID+IPPC	WID	WID+IPPC	WID	WID+IPPC	WID	WID+IPPC
Co-incineration in auxiliary boilers								
Co-incineration in recovery boiler								
Co-incineration in sludge burner								
Co-incineration in lime rotary kiln								
Others:								

[1] **Plants treating only the following wastes are excluded from the scope of the Directive:**
(i) vegetable waste from **agriculture and forestry**, (ii) **vegetable waste from the food processing** industry, if the heat generated is recovered, (iii) **fibrous vegetable waste from virgin pulp production** and from production of paper from pulp, if it is co-incinerated at the place of production and the heat generated is recovered, (iv) **wood waste with the exception of wood waste which may contain halogenated organic compounds or heavy metals** as a result of treatment with wood-preservatives or coating, and which includes in particular such wood waste originating from construction and demolition waste, (v) **cork waste**

[2] **Article 3 (6): "Existing co-incineration or co-incineration plant" means an incineration or co-incineration plant**
(a) which is in operation and has a permit in accordance with existing Community legislation before 28.12.2002, or,
(b) which is authorised or registered for incineration or co-incineration and has a permit issued before 28.12.2002 in accordance with existing Community legislation, provided that the plant is put into operation not later than 28.12.2003, or
(c) which, in the view of the competent authority, is the subject of a full request for a permit, before 28.12.2002, provided that the plant is put into operation not later than 28.12.2004

Size of plant	< 50 MW		50 – 100 MW		> 100 – 300 MW		> 300 MW	
Total								

14. Number of plants permitted as "new" plants according to the Waste Incineration Directive

Please indicate the number of plants which provide a permit according to WID as well as to WID and IPPC.

Type of plant	< 50 MW		50 – 100 MW		> 100 – 300 MW		> 300 MW	
Type of permit	**WID**	**WID+IPPC**	**WID**	**WID+IPPC**	**WID**	**WID+IPPC**	**WID**	**WID+IPPC**
Co-incineration in auxiliary boilers								
Co-incineration in recovery boiler								
Co-incineration in sludge burner								
Co-incineration in lime rotary kiln								
Others:								
Total								

15. Waste fuels

Types of waste (preferably stated according to European Waste List)	Number of plants using waste fuels	Permitted capacities for waste fuels (range + average) (t/y)	Amount of waste fuels actually used (range + average) (t/y)	% of resulting heat release (range + average)	
				Non hazardous waste fuels	Hazardous waste fuels

16. Please indicate the current requirements on emission monitoring according to the following parameters on <u>emissions into air</u>

Please mark as follows:

for **continuous** monitoring "**c**" / **number of plants**
for **discontinuous** monitoring "**dc**" / **number of plants / number of measurements per year**

If not monitored, please leave the field blank.

Total dust	HCl	HF	NOx	SO2	CO	TOC	Cd+Tl	Hg	Sb/As/Pb/Cr/Co/Cu/Mn/Ni/V	PCDD/F	PAH	Others

17. Please indicate the monitored <u>emissions into water</u> via waste water from wet flue gas treatment

Please mark as follows:

for **continuous** monitoring "**c**" / **number of plants**
for **discontinuous** monitoring "**dc**" / **number of plants / number of measurements per year**

If not monitored, please leave the field blank.

TSS	Hg	Cd	Tl	As	Pb	Cr	Cu	Ni	Zn	PCDD/F	PAH	Others

18. In how many plants emission values are set for PAH and for others pollutants than mentioned above in No. 5 and 6?

Please mark as follows:

for **continuous** monitoring: "**c**" + number of plants

for **discontinuous** monitoring: "**dc**" + number of plants + number of measurements per year

Parameter	**# of plants with monitoring**	**Emission limit values [mg/m³] + type of limit value (conti.: ½ hour, 1 hour, daily; disconti.: # of measurements)**
PAH		
Other:		

19. Do permits include granted exemptions regarding the following operation conditions (Article 6 WID) (per plant + per type of incinerator)

If so, please indicate the number of permits

Standard condition	**# of plants with exemptions**
Plant designed, equipped, built up and operated in such a way that gas resulting from the process is raised to a temperature of **850 °C for two seconds**	
For hazardous wastes with >1 % halogenated organic substances: **1.100 °C for at least two seconds**	

20. Do permits include granted exemptions regarding the emission limit values of the WID?

If so, please indicate the number of permits

Parameter and # of plants with exemptions	**Granted emission limit value (per parameter) and # of plants (each emission limit value)**

Thank you for your contribution

1.5. Data needs regarding waste co-incineration plants

Scope of this data collection: Waste co-incineration in EU-27

This includes co-incineration in any type of plant within the scope of the Waste Incineration Directive (see foot note [3] for excluded waste fractions)

21. Country name

22. Number of plants permitted as "existing" plants according to Waste Incineration Directive WID (see footnote [4])

Please indicate the number of plants which provide a permit according to WID as well as to WID and IPPC.

Type of plant	< 50 MW		50 – 100 MW		> 100 – 300 MW		> 300 MW	
Type of permit	WID	WID+IPPC	WID	WID+IPPC	WID	WID+IPPC	WID	WID+IPPC
Hard Coal power plants								
Lignite power plants								
Liquid fuel power plants								
Biomass power plants								
Others:								

[3] **Plants treating only the following wastes are excluded from the scope of the Directive:**
(i) vegetable waste from **agriculture and forestry**, (ii) **vegetable waste from the food processing** industry, if the heat generated is recovered, (iii) **fibrous vegetable waste from virgin pulp production** and from production of paper from pulp, if it is co-incinerated at the place of production and the heat generated is recovered, (iv) **wood waste with the exception of wood waste which may contain halogenated organic compounds or heavy metals** as a result of treatment with wood-preservatives or coating, and which includes in particular such wood waste originating from construction and demolition waste, (v) **cork waste**

[4] **Article 3 (6): "Existing co-incineration or co-incineration plant" means an incineration or co-incineration plant**
(a) which is in operation and has a permit in accordance with existing Community legislation before 28.12.2002, or,
(b) which is authorised or registered for incineration or co-incineration and has a permit issued before 28.12.2002 in accordance with existing Community legislation, provided that the plant is put into operation not later than 28.12.2003, or
(c) which, in the view of the competent authority, is the subject of a full request for a permit, before 28.12.2002, provided that the plant is put into operation not later than 28.12.2004

Type of plant	< 50 MW		50 – 100 MW		> 100 – 300 MW		> 300 MW	
Total								

23. Number of plants permitted as "new" plants according to the Waste Incineration Directive

Please indicate the number of plants which provide a permit according to WID as well as to WID and IPPC.

Type of plant	< 50 MW		50 – 100 MW		> 100 – 300 MW		> 300 MW	
Type of permit	WID	WID+IPPC	WID	WID+IPPC	WID	WID+IPPC	WID	WID+IPPC
Hard Coal power plants								
Lignite power plants								
Liquid fuel power plants								
Biomass power plants								
Others:								
Total								

24. Secondary fuels

Number of plants using secondary fuels	Types of waste (wastes according to European Waste List)	Permitted capacities for secondary fuels (range + average) (t/y)	Amount of secondary fuels actually used (range + average) (t/y)	% of resulting heat release (range + average)	
				Hazardous wastes	Non hazardous wastes

25. Please indicate the current requirements on emission monitoring according to the following parameters on emissions into air

Please mark as follows:
for **continuous** monitoring "**c**" / **number of plants**
for **discontinuous** monitoring "**dc**" / **number of plants / number of measurements per year**

If not monitored, please leave the field blank.

To-tal dust	**HCl**	**HF**	**NOx**	**SO2**	**CO**	**TOC**	**Cd +Tl**	**Hg**	**Sb/As/Pb/ Cr/ Co/Cu/Mn/ Ni/V**	**PCDD/F**	**PAH**	**Others**

26. Please indicate the monitored <u>emissions into water</u> via waste water from wet flue gas treatment

Please mark as follows:

for **continuous** monitoring "**c**" / **number of plants**
for **discontinuous** monitoring "**dc**" / **number of plants / number of measurements per year**

If not monitored, please leave the field blank.

TSS	**Hg**	**Cd**	**Tl**	**As**	**Pb**	**Cr**	**Cu**	**Ni**	**Zn**	**PCDD/F**	**PAH**	**Others**

27. In how many plants emission values are set for PAH and for others pollutants than mentioned above in No. 5 and 6?

Please mark as follows:

for **continuous** monitoring: "**c**" + number of plants

for **discontinuous** monitoring: "**dc**" + number of plants + number of measurements per year

Parameter	**# of plants with monitoring**	**Emission limit values [mg/m³] + type of limit value (conti.: ½ hour, 1 hour, daily; disconti.: # of measurements)**
PAH		
Other:		

28. Do permits include granted exemptions regarding the following operation conditions (Article 6 WID) (per plant + per type of incinerator)

If so, please indicate the number of permits

Standard condition	**# of plants with exemptions**
Plant designed, equipped, built up and operated in such a way that gas resulting from the process is raised to a temperature of **850 °C for two seconds**	
For hazardous wastes with >1 % halogenated organic substances: **1.100 °C for at least two seconds**	

29. Do permits include granted exemptions regarding the emission limit values of the WID?

If so, please indicate the number of permits

Parameter and # of plants with exemptions	**Granted emission limit value (per parameter) and # of plants (each emission limit value)**

1.6. Data requirements regarding Expanded Clay Industry

Scope of this data collection: European Member States (EU 27)

Reference year: 2005

General Information

1. Number of plants

	"New" (Article 3 (6) WID	"Existing" (Article 3 (6) WID	Plants that are covered by WID and IPPC at the same time
Austria			
Belgium			
Czech Republic			
Denmark			
Estonia			
Finland			
France			
Germany			
Greece			
Hungary			
Ireland			
Italy			
Latvia			
Lithuania			
Luxembourg			
Malta			
Netherlands			
Poland			
Portugal			
Slovakia			
Slovenia			
Spain			
Sweden			
United Kingdom			
Bulgaria			
Romania			

Input -2. Secondary fuels

	Number of plants using secondary fuels	Type of waste (wastes according to European Waste List)	Permitted capacities for secondary fuels (range + average) (t/y)	Amount of secondary fuels actually used (range + average) (t/y)	% of resulting heat release range + average per country	
					Hazardous wastes	Non hazardous wastes
Austria						
Belgium						
Czech Republic						
Denmark						
Estonia						
Finland						
France						
Germany						
Greece						
Hungary						
Ireland						
Italy						
Latvia						
Lithuania						
Luxembourg						
Malta						
Netherlands						
Poland						
Portugal						
Slovakia						
Slovenia						
Spain						
Sweden						
United Kingdom						
Bulgaria						
Romania						

Emission monitoring - 3. Please indicate the monitored emissions into air.
Please mark as follows:
for continuous monitoring "c" + number of plants
for discontinuous monitoring "dc" + number of plants + number of measurements per year. If not monitored, please leave the field blank.

	To-tal dust	**HCl**	**HF**	**NOx**	**Cd +Tl**	**Hg**	**Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V**	**PCDD/F**	**SO2**	**TOC**	**CO**	**PAH**	**Oth-ers**
Austria													
Belgium													
Czech Repub-lic													
Denmark													
Estonia													
Finland													
France													
Germany													
Greece													
Hungary													
Ireland													
Italy													
Latvia													
Lithuania													
Luxembourg													
Malta													
Netherlands													
Poland													
Portugal													
Slovakia													
Slovenia													
Spain													
Sweden													
United King-dom													
Bulgaria													
Romania													

4. Emission of PAH / other emissions? In how many plants are emissions of PAH monitored? In how many plants are additional emission values set according to Article 7 (5) of the WID?

	Number of plants with ELV for PAH + ELV(mg/m^3)	**Number of plants with Monitoring of PAH emissions**	**Number of plants with ELV for other substances** **Substance + number + ELV(mg/m^3)**
Austria			
Belgium			
Czech Republic			
Denmark			
Estonia			
Finland			
France			
Germany			
Greece			
Hungary			
Ireland			
Italy			
Latvia			
Lithuania			
Luxem-bourg			
Malta			
Nether-lands			
Poland			
Portugal			
Slovakia			
Slovenia			
Spain			
Sweden			
United Kingdom			
Bulgaria			
Romania			

5. Does the permit include granted exemptions regarding the following operation conditions (Article 6 WID) (number of plants)

If so, please indicate the number per country.

	the gas resulting from the process is raised to a temperature of 850 °C for two seconds	**for hazardous wastes with >1 % halogenated organic substances: 1.100 °C for at least two seconds**
Austria		
Belgium		
Czech Republic		
Denmark		
Estonia		
Finland		
France		
Germany		
Greece		
Hungary		
Ireland		
Italy		
Latvia		
Lithuania		
Luxembourg		
Malta		
Netherlands		
Poland		
Portugal		
Slovakia		
Slovenia		
Spain		
Sweden		
United Kingdom		
Bulgaria		
Romania		

6. Does the permit include granted exemptions from the emission limit values of the WID?

	Parameter + No of plants	Granted ELV per parameter + Number of plants
Austria		
Belgium		
Czech Republic		
Denmark		
Estonia		
Finland		
France		
Germany		
Greece		
Hungary		
Ireland		
Italy		
Latvia		
Lithuania		
Luxembourg		
Malta		
Netherlands		
Poland		
Portugal		
Slovakia		
Slovenia		
Spain		
Sweden		
United Kingdom		
Bulgaria		
Romania		

1.7. Questionnaire FEAD

The objective of this questionnaire is to get additional input about the incineration and co-incineration of wastes in the European Union.

This is one of several different questionnaires sent out to different institutions and part of a manifold information gathering exercise where we:

- Contact Member States,
- Contact associations of industry sectors that are co-incinerating waste,
- Contact associations of operators of dedicated waste incinerators,
- Contact waste management sectors,
- Contact additional experts,
- Perform literature research.

Questions

(The reference year should be as far as possible 2005. The scope is EU27. Figures would fit best if given per Member State.)

In which processes are wastes co-incinerated?
Here it will be of highest relevance to identify the whole variety of industry sectors where wastes are co-incinerated. Until now investigations are performed for Cement Industry, Lime Industry, Blast Furnaces of the Steel Industry, Copper Industry (primary and secondary), Power Plants, Chemical Industry, Ceramic Industry, Brick Industry, small waste oil burners in UK.

Please indicate the amount and types of wastes co-incinerated where possible. We expect to get a fairly complete picture for dedicated waste incinerators and cement and lime industry from other sources. It would be very helpful to get indication regarding the amount of wastes co-incinerated in other sectors.

Which problems do your members experience with the implementation of the Waste Incineration Directive on the level of installation permits?
(e.g.: differences regarding the emission limit values, operation condition requirements or monitoring requirements depending on the Member States or authority or type of installation?)

Are other problems with the Waste Incineration Directive and its implementation in the Member States are known?

The last question is regarding the definition of wastes that are seen as “wastes for incineration”:
Several installations use wastes as raw materials (e.g. mineral waste in cement industry that is bound into the matrix and leave the process as clinker). For

those cases the Waste Incineration Directive does not apply (because the waste is not incinerated). Other wastes are clearly incinerated in processes like e.g. waste oil and the Waste Incineration Directive applies.
The question is now how to draw the borderline between both types of wastes. For example: is a waste that consists of 60% minerals and 40% plastics a waste where the Waste Incineration Directive applies?
What could be possible criteria to draw this borderline? (e.g. organic content, portion of substances that are oxidised in a thermal process, net energy contribution to the process, certain lower calorific value, and so on)
What could be appropriate values? (e.g. organic content above 10%, portion of oxidised substances above 10%, etc).

THE EXAMPLES MENTIONED ABOVE ARE NOT TO BE SEEN AS PROPOSALS FROM OUR SIDE. THEY ARE EXCLUSIVELY FOR ILLUSTRATING PURPOSES.

1.8. Data requirements regarding Lime kilns

Scope of this data collection: Lime kilns in European Member States plus Romania and Bulgaria

Reference year: 2005

General Information

1. Number of plants

	"New" Article 3 (6) WID	"Existing" Article 3 (6) WID	Plants that are covered by WID and IPPC at the same time
Austria			
Belgium			
Czech Republic			
Denmark			
Estonia			
Finland			
France			
Germany			
Greece			
Hungary			
Ireland			
Italy			
Latvia			
Lithuania			
Luxembourg			
Malta			
Netherlands			
Poland			
Portugal			
Slovakia			
Slovenia			
Spain			
Sweden			
United Kingdom			
Bulgaria			
Romania			

Input -2. Secondary fuels

	Number of plants using secondary fuels	Type of waste (wastes according to European Waste List)	Permitted capacities for secondary fuels (range + average) (t/y)	Amount of secondary fuels actually used (range + average) (t/y)	% of resulting heat release range + average per country	
					Hazardous wastes	Non hazardous wastes
Austria						
Belgium						
Czech Republic						
Denmark						
Estonia						
Finland						
France						
Germany						
Greece						
Hungary						
Ireland						
Italy						
Latvia						
Lithuania						
Luxembourg						
Malta						
Netherlands						
Poland						
Portugal						
Slovakia						
Slovenia						
Spain						
Sweden						
United Kingdom						
Bulgaria						
Romania						

Emission monitoring - 3. Please indicate the monitored emissions into air.
Please mark as follows:
for continuous monitoring "c" + number of plants
for discontinuous monitoring "dc" + number of plants + number of measurements per year. If not monitored, please leave the field blank.

	Total dust	**HCl**	**HF**	**NOx**	**Cd +Tl**	**Hg**	**Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V**	**PCDD/F**	**SO2**	**TOC**	**CO**	**PAH**	**Others**
Austria													
Belgium													
Czech Republic													
Denmark													
Estonia													
Finland													
France													
Germany													
Greece													
Hungary													
Ireland													
Italy													
Latvia													
Lithuania													
Luxembourg													
Malta													
Netherlands													
Poland													
Portugal													
Slovakia													
Slovenia													
Spain													
Sweden													
United Kingdom													
Bulgaria													
Romania													

Emission monitoring - 4. In case that emissions in waste water from exhaust gas treatment are monitored. Please mark as follows:
for continuous monitoring "c" + number of plants, for discontinuous monitoring "dc" + number of plants + number of measurements per year. If not monitored, please leave the field blank.

	Total suspended solids	Hg	Cd	Tl	As	Pb	Cr	Cu	Ni	Zn	PCDD/F	PAH's	Others
Austria													
Belgium													
Czech Republic													
Denmark													
Estonia													
Finland													
France													
Germany													
Greece													
Hungary													
Ireland													
Italy													
Latvia													
Lithuania													
Luxembourg													
Malta													
Netherlands													
Poland													
Portugal													
Slovakia													
Slovenia													
Spain													
Sweden													
United Kingdom													
Bulgaria													
Romania													

5. Please indicate according to which standards the emissions are monitored (e.g EN 14181 or similar):

6. Emission of PAH / other emissions? In how many plants are emissions of PAH monitored? In how many plants are additional emission values set according to Article 7 (5) of the WID?

	Number of plants with ELV for PAH + ELV(mg/m³)	**Number of plants with Monitoring of PAH emissions**	**Number of plants with ELV for other substances Substance + number + ELV(mg/m³)**
Austria			
Belgium			
Czech Republic			
Denmark			
Estonia			
Finland			
France			
Germany			
Greece			
Hungary			
Ireland			
Italy			
Latvia			
Lithuania			
Luxem-bourg			
Malta			
Nether-lands			
Poland			
Portugal			
Slovakia			
Slovenia			
Spain			
Sweden			
United Kingdom			
Bulgaria			
Romania			

7. Does the permit include granted exemptions regarding the following operation conditions (Article 6 WID) (number of plants)

If so, please indicate the number per country.

	the gas resulting from the process is raised to a temperature of 850 °C for two seconds	**for hazardous wastes with >1 % halogenated organic substances: 1.100 °C for at least two seconds**
Austria		
Belgium		
Czech Republic		
Denmark		
Estonia		
Finland		
France		
Germany		
Greece		
Hungary		
Ireland		
Italy		
Latvia		
Lithuania		
Luxembourg		
Malta		
Netherlands		
Poland		
Portugal		
Slovakia		
Slovenia		
Spain		
Sweden		
United Kingdom		
Bulgaria		
Romania		

9. Does the permit include granted exemptions from the emission limit values of the WID?

	Parameter + No of plants	Granted ELV per parameter + Number of plants
Austria		
Belgium		
Czech Republic		
Denmark		
Estonia		
Finland		
France		
Germany		
Greece		
Hungary		
Ireland		
Italy		
Latvia		
Lithuania		
Luxembourg		
Malta		
Netherlands		
Poland		
Portugal		
Slovakia		
Slovenia		
Spain		
Sweden		
United Kingdom		
Bulgaria		
Romania		

1.9. Data requirements regarding Cement kilns

Scope of this data collection: Cement kilns in European Member States plus Romania and Bulgaria

Reference year: 2005

General Information

1. Number of plants

	"New" (Article 3 (6) WID	"Existing" (Article 3 (6) WID	Plants that are covered by WID and IPPC at the same time
Austria			
Belgium			
Czech Republic			
Denmark			
Estonia			
Finland			
France			
Germany			
Greece			
Hungary			
Ireland			
Italy			
Latvia			
Lithuania			
Luxembourg			
Malta			
Netherlands			
Poland			
Portugal			
Slovakia			
Slovenia			
Spain			
Sweden			
United Kingdom			
Bulgaria			
Romania			

Input -2. Secondary fuels

	Number of plants using secondary fuels	Type of waste (wastes according to European Waste List)	Permitted capacities for secondary fuels (range + average) (t/y)	Amount of secondary fuels actually used (range + average) (t/y)	% of resulting heat release range + average per country	
					Hazardous wastes	Non hazardous wastes
Austria						
Belgium						
Czech Republic						
Denmark						
Estonia						
Finland						
France						
Germany						
Greece						
Hungary						
Ireland						
Italy						
Latvia						
Lithuania						
Luxembourg						
Malta						
Netherlands						
Poland						
Portugal						
Slovakia						
Slovenia						
Spain						
Sweden						
United Kingdom						
Bulgaria						
Romania						

Emission monitoring - 3. Please indicate the monitored emissions into air.
Please mark as follows:
for continuous monitoring "c" + number of plants
for discontinuous monitoring "dc" + number of plants + number of measurements per year. If not monitored, please leave the field blank.

	To-tal dust	**HCl**	**HF**	**NOx**	**Cd +Tl**	**Hg**	**Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V**	**PCDD/F**	**SO2**	**TOC**	**CO**	**PAH**	**Oth-ers**
Austria													
Belgium													
Czech Repub-lic													
Denmark													
Estonia													
Finland													
France													
Germany													
Greece													
Hungary													
Ireland													
Italy													
Latvia													
Lithuania													
Luxembourg													
Malta													
Netherlands													
Poland													
Portugal													
Slovakia													
Slovenia													
Spain													
Sweden													
United King-dom													
Bulgaria													
Romania													

4. Emission of PAH / other emissions? In how many plants are emissions of PAH monitored? In how many plants are additional emission values set according to Article 7 (5) of the WID?

	Number of plants with ELV for PAH + ELV(mg/m³)	**Number of plants with Monitoring of PAH emissions**	**Number of plants with ELV for other substances** **Substance + number + ELV(mg/m³)**
Austria			
Belgium			
Czech Republic			
Denmark			
Estonia			
Finland			
France			
Germany			
Greece			
Hungary			
Ireland			
Italy			
Latvia			
Lithuania			
Luxem-bourg			
Malta			
Nether-lands			
Poland			
Portugal			
Slovakia			
Slovenia			
Spain			
Sweden			
United Kingdom			
Bulgaria			
Romania			

5. Does the permit include granted exemptions regarding the following operation conditions (Article 6 WID) (number of plants)

If so, please indicate the number per country.

	the gas resulting from the process is raised to a temperature of 850 °C for two seconds	**for hazardous wastes with >1 % halogenated organic substances: 1.100 °C for at least two seconds**
Austria		
Belgium		
Czech Republic		
Denmark		
Estonia		
Finland		
France		
Germany		
Greece		
Hungary		
Ireland		
Italy		
Latvia		
Lithuania		
Luxembourg		
Malta		
Netherlands		
Poland		
Portugal		
Slovakia		
Slovenia		
Spain		
Sweden		
United Kingdom		
Bulgaria		
Romania		

30. Does the permit include granted exemptions from the emission limit values of the WID?

	Parameter + No of plants	Granted ELV per parameter + Number of plants
Austria		
Belgium		
Czech Republic		
Denmark		
Estonia		
Finland		
France		
Germany		
Greece		
Hungary		
Ireland		
Italy		
Latvia		
Lithuania		
Luxembourg		
Malta		
Netherlands		
Poland		
Portugal		
Slovakia		
Slovenia		
Spain		
Sweden		
United Kingdom		
Bulgaria		
Romania		

2. Annex 2

2.1. Software tool for data collection

In order to cope with the expected amount of data from the different sources a software tool based on Microsoft Access was developed. One tool gathering information based on the Member States questionnaire and one from the questionnaires answered by the Associations.

The information stemming from the Member States is divided into five pages. Two of them contain text provided by the Member States with general information and details of co-incineration plants. Two pages provide information as a list (type of wastes burned, list of Article 12(2) plants). The fifth page contains numerical information (number of co-incineration plants), see also exemplary screen shot below.

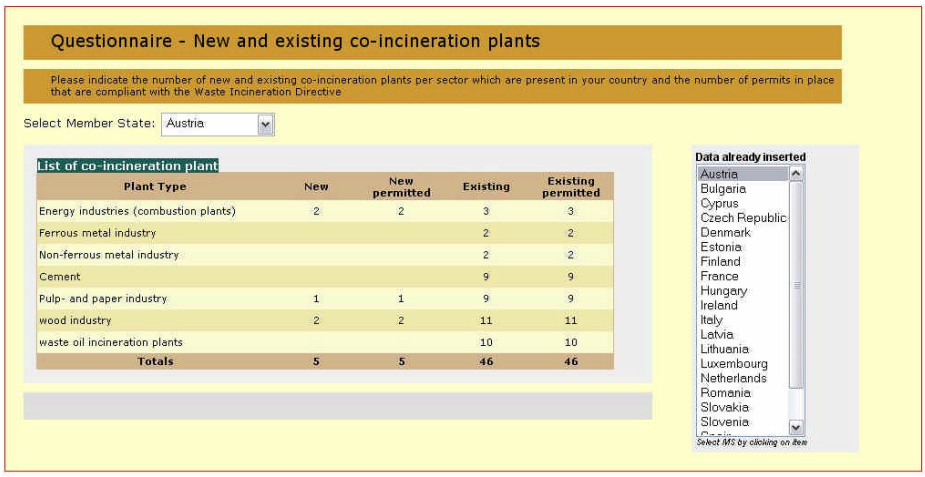


Figure 1: Exemplary page of the internet tool

The database enables the users to obtain and to update relevant information on the WID implementation on co-incineration plants in the 27 Member States. Furthermore the datasets of different Member States can be updated simultaneously by different users.

For the text information this provides the advantage that the information of all Member State is clustered, that it can easily be viewed side by side and can be processed further. For the numerical information queries have been programmed for evaluation purposes. In general this procedure has the advantage to incorporate all provided information into one file for further treatment steps.

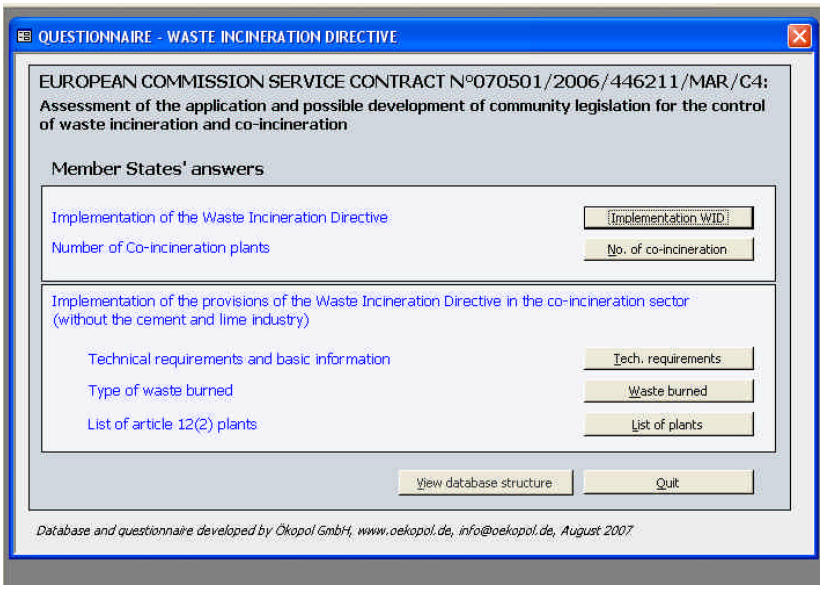


Figure 2: Exemplary page of the Access tool

The tool could also be used for further data collections of this or other topics. It would also be possible that Member States integrate their information (directly into the tool e.g from reporting obligations of the WID or based on the requirements of Article 12 of the WID)[5].

The answers of the associations' questionnaire awas incorporated into another tools. Its content is based on the questionnaire send to the associations and in some cases also based on Memmber sTates information. Please see following figures for examples of its content.

[5] See also Austria's comment on the necessities of electronic data management in chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**

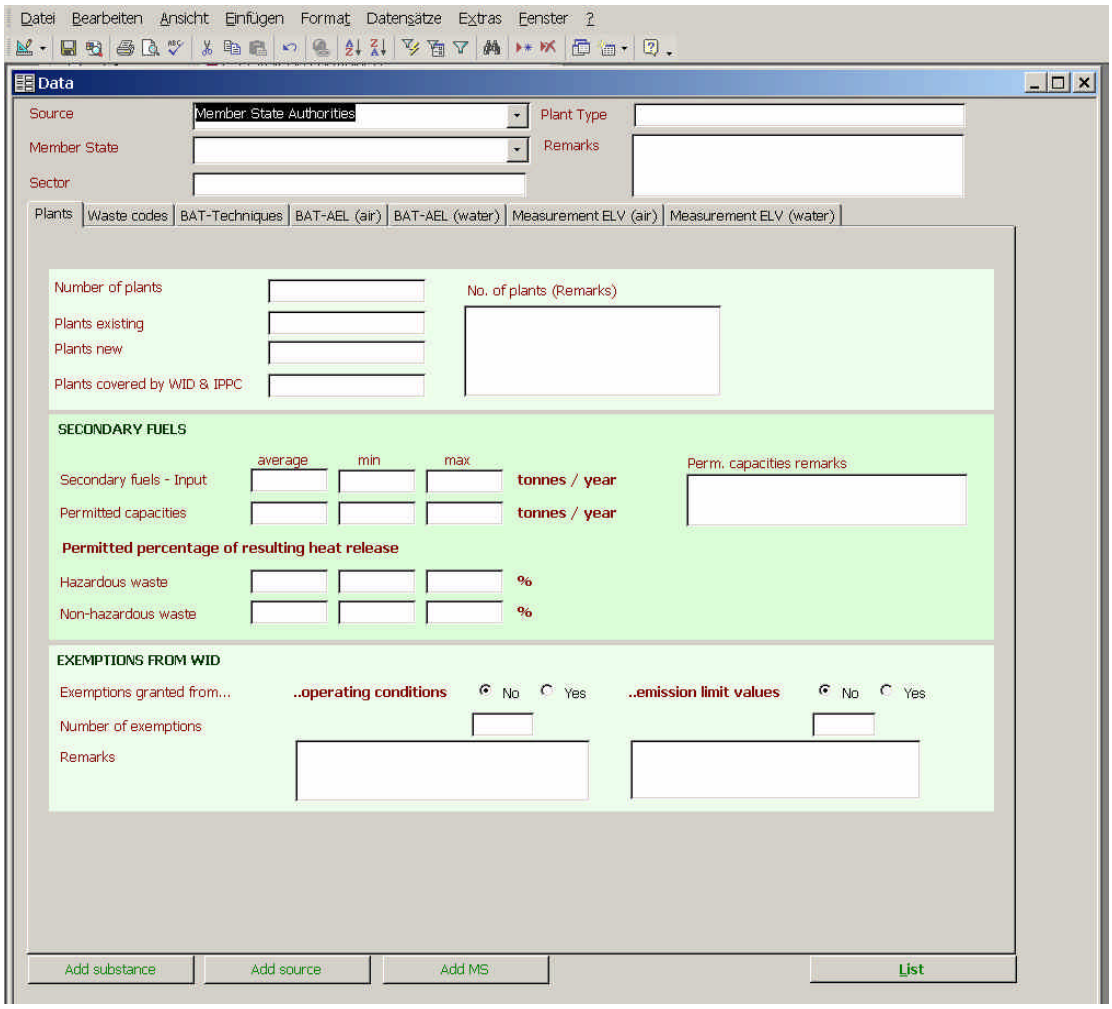


Figure 3: Database tool for information on the incineration sector – general information

Figure 1 shows the form developed for questions 1-3 and 7 of the association's questionnaire. The form has been adapted to the answers actually returned and does not contain fields for all questions.

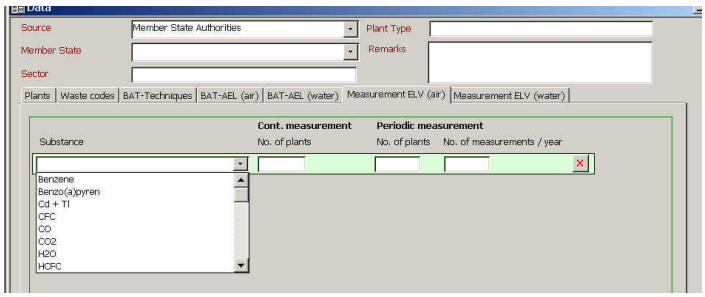


Figure 4: Database tool for information on the incineration sector – measurement requirements

Figure 4 shows the possibilities to integrate information about the measurement procedure of the air emissions of the WID as asked under point 4 of the questionnaire.

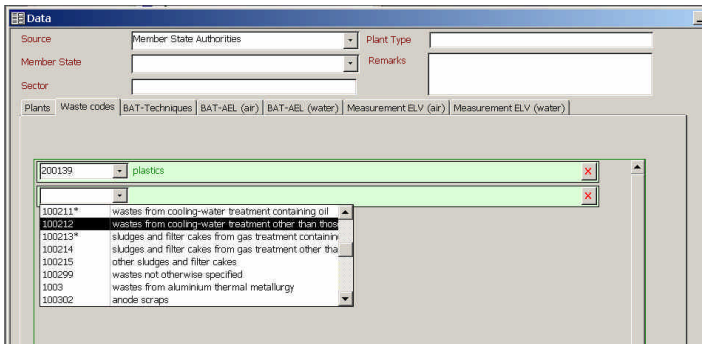


Figure 5: Database tool for information on the incineration sector – waste codes

Figure 5 shows the information to be incorporated with regard to the waste codes used. The waste codes stem from Decision 2000/532/EC on the list of wastes, so in case that Member States or Associations indicated only the number the text was added automatically.

2.2. Co-incineration

2.2.1. Plant type by Member states

PlantType	Name	Sum New	Sum New-Permitted	Sum E-xisting	Sum Existing-Permitted
Cement	Austria			9	9
Cement	Bulgaria			4	4
Cement	Cyprus			2	2
Cement	Czech Re-public			2	2
Cement	Denmark			1	1
Cement	Estonia			1	1
Cement	France			27	27
Cement	Germany			33	33
Cement	Hungary			4	4
Cement	Ireland	1	1		
Cement	Latvia			1	1
Cement	Lithuania			1	1
Cement	Luxem-bourg			1	1
Cement	Nether-lands			1	1
Cement	Romania			7	7
Cement	Slovakia			4	4
Cement	Slovenia			1	1
Cement	Sweden			3	1
Cement	UK			21	21
Ceramics	Denmark			2	2
Ceramics	Estonia			1	1
Ceramics	Lithuania			1	
Ceramics	Spain			1	1
Ceramics	Sweden			1	1
Chemical	Ireland			1	1
Chemical	Nether-lands			1	1
Chemical	Sweden			2	2
Combustion plants	Austria	2	2	3	3
Combustion plants	Belgium	1	1	1	1

PlantType	Name	Sum New	Sum New-Permitted	Sum E-xisting	Sum Existing-Permitted
Combustion plants	Denmark	1	1	1	1
Combustion plants	Finland	6	6		
Combustion plants	France			6	6
Combustion plants	Hungary	1	1		
Combustion plants	Ireland	1	1		
Combustion plants	Italy			103	101
Combustion plants	Nether-lands			2	2
Combustion plants	Slovenia			2	2
Combustion plants	Spain			10	
Combustion plants	Sweden	9	9	16	16
Combustion plants	UK	0	0	28	28
Ferrous metal in-dustry	Austria			2	2
Ferrous metal in-dustry	Luxem-bourg			2	2
Fertiliser	Spain			2	2
Food	Spain			1	1
Lime	Denmark			1	1
Lime	France			4	4
Lime	Sweden	4	2		
Lime	UK			2	2
Non-ferrous metal industry	Austria			2	2
Non-ferrous metal industry	Germany			3	3
Non-ferrous metal industry	Sweden			1	1
other sectors	Denmark			1	1
other sectors	Italy			384	122
other sectors	Spain			4	4
Pulp- and paper industry	Austria	1	1	9	9

PlantType	Name	Sum New	Sum New-Permitted	Sum E-xisting	Sum Existing-Permitted
Pulp- and paper industry	Belgium	1	1	1	1
Pulp- and paper industry	Nether-lands			1	1
Pulp- and paper industry	Sweden	2	2	4	4
waste oil incinera-tion plants	Austria			10	10
wood industry	Austria	2	2	11	11
wood industry	Nether-lands			1	1

2.2.2. Member States list of wastes used within the Co-incineration sector (except cement and lime)

WasteNo	MS	Waste
17	Sweden	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
19	Sweden	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
20	Sweden	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS 2001 separately collected fractions (except 1501)
0501	Romania	wastes from petroleum refining
020102	Italy	animal-tissue waste
020103	Italy	plant-tissue waste
020103	Netherlands	plant-tissue waste
020104	Romania	waste plastics (except packaging)
020106	Italy	animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
020106	Sweden	animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
020106	UK	animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
020107	Italy	wastes from forestry
020107	Netherlands	wastes from forestry
020107	Sweden	wastes from forestry
020107	UK	wastes from forestry
020109	Italy	agrochemical waste other than those mentioned in 020108
020202	Estonia	animal-tissue waste
020202	France	animal-tissue waste
020202	Italy	animal-tissue waste
020203	Hungary	materials unsuitable for consumption or processing
020203	Italy	materials unsuitable for consumption or processing
020203	Slovenia	materials unsuitable for consumption or processing
020203	UK	materials unsuitable for consumption or processing
020299	Italy	wastes not otherwise specified
020299	Spain	wastes not otherwise specified
020299	UK	wastes not otherwise specified
020301	Italy	sludges from washing, cleaning, peeling, centrifuging and separation
020301	Netherlands	sludges from washing, cleaning, peeling, centrifuging and separation
020303	Italy	wastes from solvent extraction
020304	Italy	materials unsuitable for consumption or processing
020304	Netherlands	materials unsuitable for consumption or processing
020399	Italy	wastes not otherwise specified
020601	Netherlands	materials unsuitable for consumption or processing

020701	Italy	wastes from washing, cleaning and mechanical reduction of raw materials
020701	Netherlands	wastes from washing, cleaning and mechanical reduction of raw materials
020702	Italy	wastes from spirits distillation
020702	Netherlands	wastes from spirits distillation
020703	Italy	wastes from chemical treatment
020704	Italy	materials unsuitable for consumption or processing
020704	Netherlands	materials unsuitable for consumption or processing
030101	Italy	waste bark and cork
030101	Netherlands	waste bark and cork
030105	Finland	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 030104
030105	Italy	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 030104
030105	Netherlands	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 030104
030199	Italy	wastes not otherwise specified
030301	Italy	waste bark and wood
030301	Sweden	waste bark and wood
030307	Italy	mechanically separated rejects from pulping of waste paper and cardboard
030307	Romania	mechanically separated rejects from pulping of waste paper and cardboard
030308	Finland	wastes from sorting of paper and cardboard destined for recycling
030310	Italy	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
030399	Italy	wastes not otherwise specified
040108	Romania	waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium
040109	Italy	wastes from dressing and finishing
040221	Finland	wastes from unprocessed textile fibres
040221	Italy	wastes from unprocessed textile fibres
040222	Finland	wastes from processed textile fibres
040222	Italy	wastes from processed textile fibres
070299	Italy	wastes not otherwise specified
070299	Netherlands	wastes not otherwise specified
070599	Italy	wastes not otherwise specified
080112	Italy	waste paint and varnish other than those mentioned in 080111
080120	Italy	aqueous suspensions containing paint or varnish other than those mentioned in 080119
080318	Italy	waste printing toner other than those mentioned in 080317
080410	Italy	waste adhesives and sealants other than those mentioned in 080409
090107	Italy	photographic film and paper containing silver or silver compounds
120103	Italy	non-ferrous metal filings and turnings
120105	Finland	plastics shavings and turnings
120105	Italy	plastics shavings and turnings
120105	Slovenia	plastics shavings and turnings

130210	Finland	
130211	Finland	
150101	Finland	paper and cardboard packaging
150101	Italy	paper and cardboard packaging
150101	Slovenia	paper and cardboard packaging
150102	Finland	plastic packaging
150103	Finland	wooden packaging
150103	Italy	wooden packaging
150104	Finland	metallic packaging
150105	Finland	composite packaging
150105	Italy	composite packaging
150106	Finland	mixed packaging
150106	Italy	mixed packaging
150107	Finland	glass packaging
150109	Finland	textile packaging
160102	Romania	
160103	Estonia	end-of-life tyres
160103	Luxembourg	end-of-life tyres
160103	UK	end-of-life tyres
160214	Italy	discarded equipment other than those mentioned in 160209 to 160213
160304	Italy	Inorganic wastes other than those mentioned in 160303
160306	Italy	Organic wastes other than those mentioned in 160305
160505	Italy	gases in pressure containers other than those mentioned in 160504
160509	Italy	discarded chemicals other than those mentioned in 160506, 160507 or 160508
161002	Italy	aqueous liquid wastes other than those mentioned in 161001
170201	Finland	wood
170201	Italy	wood
180101	Italy	sharps (except 180103)
180104	Italy	wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)
190203	Italy	premixed wastes composed only of non-hazardous wastes
190210	Estonia	combustible wastes other than those mentioned in 190208 and 190209
190210	Italy	combustible wastes other than those mentioned in 190208 and 190209
190599	Italy	wastes not otherwise specified
190699	Italy	wastes not otherwise specified
190805	Finland	sludges from treatment of urban waste water
190805	Italy	sludges from treatment of urban waste water
190805	UK	sludges from treatment of urban waste water
190814	Italy	sludges from other treatment of industrial waste water other than those mentioned in 190813
191201	Finland	paper and cardboard
191204	Finland	Plastic and rubber
191204	Finland	Plastic and rubber
191204	Italy	Plastic and rubber

191207	Finland	wood other than that mentioned in 191206
191207	Finland	wood other than that mentioned in 191206
191207	Italy	wood other than that mentioned in 191206
191208	Finland	textiles
191210	Estonia	combustible waste (refuse derived fuel)
191210	Finland	combustible waste (refuse derived fuel)
191210	Finland	combustible waste (refuse derived fuel)
191210	Hungary	combustible waste (refuse derived fuel)
191210	Italy	combustible waste (refuse derived fuel)
191212	Hungary	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 191211
191212	Italy	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 191211
200101	Italy	paper and cardboard
200108	Italy	biodegradable kitchen and canteen waste
200110	Finland	clothes
200125	Italy	edible oil and fat
200132	Italy	medicines other than those mentioned in 200131
200138	Finland	wood other than that mentioned in 200137
200138	Italy	wood other than that mentioned in 200137
200139	Finland	plastics
200139	Italy	plastics
200301	Italy	mixed municipal waste
200301	UK	mixed municipal waste
200307	Italy	bulky waste
020108*	Italy	agrochemical waste containing dangerous substances
030104*	Italy	sawdust, shavings, cuttings, wood, particle board and veneer containing dangerous substances
030205*	Italy	other wood preservatives containing dangerous substances
050102*	Italy	desalter sludges
050103*	Italy	tank bottom sludges
060102*	Italy	hydrochloric acid
060203*	Italy	ammonium hydroxide
060205*	Italy	other bases
070101*	Italy	aqueous washing liquids and mother liquors
070104*	Italy	other organic solvents, washing liquids and mother liquors
070108*	France	other still bottoms and reaction residues
070108*	France	other still bottoms and reaction residues
070108*	Italy	other still bottoms and reaction residues
070201*	Netherlands	aqueous washing liquids and mother liquors
070204*	Netherlands	other organicsolvents, washing liquids and mother liquors
070208*	France	other still bottoms and reaction residues
070208*	Italy	other still bottoms and reaction residues
070208*	Netherlands	other still bottoms and reaction residues
070308*	Italy	other still bottoms and reaction residues
070401*	Italy	aqueous washing liquids and mother liquors
070501*	Italy	aqueous washing liquids and mother liquors
070503*	Italy	organic halogenated solvents, washing liquids and mother liquors
070504*	France	other organic solvents, washing liquids and mother liquors
070504*	Italy	other organic solvents, washing liquids and mother liquors

070507*	Italy	halogenated still bottoms and reaction residues
070508*	Italy	other still bottoms and reaction residues
070510*	Italy	other filter cakes and spent absorbents
070608*	France	other still bottoms and reaction residues
070610*	Italy	other filter cakes and spent absorbents
070701*	Italy	aqueous washing liquids and mother liquors
070703*	Italy	organic halogenated solvents, washing liquids and mother liquors
070704*	Ireland	other organic solvents, washing liquids and mother liquors
070704*	Italy	other organic solvents, washing liquids and mother liquors
070707*	Italy	halogenated still bottoms and reaction residues
070708*	France	other still bottoms and reaction residues
070708*	France	other still bottoms and reaction residues
070708*	Ireland	other still bottoms and reaction residues
070708*	Italy	other still bottoms and reaction residues
070710*	Italy	other filter cakes and spent absorbents
080111*	Italy	waste paint and varnish containing organic solvents or other dangerous substances
080115*	Italy	aqueous sludges containing paint or varnish containing organic solvents or other dangerous substances
080117*	Italy	wastes from paint or varnish removal containing organic solvents or other dangerous substances
080119*	Italy	aqueous suspensions containing paint or varnish containing organic solvents or other dangerous substances
080121*	Italy	waste paint or varnish remover
080312*	Italy	waste ink containing dangerous substances
080409*	Italy	waste adhesives and sealants containing organic solvents or other dangerous substances
080415*	Italy	aqueous liquid waste containing adhesives or sealants containing organic solvents or other dangerous substances
090103*	Italy	solvent-based developer solutions
090104*	Italy	fixer solutions
090105*	Italy	bleach solutions and bleach fixer solutions
110106*	Italy	acids not otherwise specified
110113*	Italy	degreasing wastes containing dangerous substances
120109*	Italy	machining emulsions and solutions free of halogens
120114*	Italy	machining sludges containing dangerous substances
120118*	Italy	metal sludge (grinding, honing and lapping sludge) containing oil
130110*	Finland	mineral based non-chlorinated hydraulic oils
130111*	Finland	Synthetic hydraulic oils
130113*	Italy	other hydraulic oils
130204*	Italy	mineral-based chlorinated engine, gear and lubricating oils
130205*	Finland	mineral-based non-chlorinated engine, gear and lubricating oils
130205*	Italy	mineral-based non-chlorinated engine, gear and lubricating oils
130205*	Lithuania	mineral-based non-chlorinated engine, gear and lubricating oils
130205*	Spain	mineral-based non-chlorinated engine, gear and lubricating oils
130205*	UK	mineral-based non-chlorinated engine, gear and lubricating oils
130206*	Finland	Synthetic engine, gear and lubricating oils
130206*	Italy	Synthetic engine, gear and lubricating oils
130208*	Italy	other engine, gear and lubricating oils
130208*	Lithuania	other engine, gear and lubricating oils

130307*	Lithuania	mineral-based non-chlorinated insulating and heat transmission oils
130402*	Estonia	bilge oils from jetty sewers
130502*	Hungary	sludges from oil/water separators
130502*	Italy	sludges from oil/water separators
130502*	Lithuania	sludges from oil/water separators
130506*	Italy	oil from oil/water separators
130507*	Italy	oily water from oil/water separators
130703*	Italy	other fuels (including mixtures)
130703*	Lithuania	other fuels (including mixtures)
130802*	Italy	other emulsions
140602*	Italy	other halogenated solvents and solvent mixtures
140603*	Italy	other solvents and solvent mixtures
140604*	Italy	sludges or solid wastes containing halogenated solvents
140605*	Italy	sludges or solid wastes containing other solvents
150110*	Italy	packaging containing residues of or contaminated by dangerous substances
150111*	Italy	metallic packaging containing a dangerous solid porous matrix (for example asbestos), including empty pressure containers
150202*	Italy	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances
150202*	Lithuania	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances
160107*	Italy	oil filters
160113*	Italy	brake fluids
160114*	Italy	antifreeze fluids containing dangerous substances
160121*	Italy	hazardous components other than those mentioned in 160107 to 160111 and 160113 and 160114
160303*	Italy	inorganic wastes containing dangerous substances
160305*	Italy	organic wastes containing dangerous substances
160506*	Italy	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
160507*	Italy	discarded inorganic chemicals consisting of or containing dangerous substances
160508*	Italy	discarded organic chemicals consisting of or containing dangerous substances
160708*	Estonia	wastes containing oil
160708*	Italy	wastes containing oil
161001*	Italy	aqueous liquid wastes containing dangerous substances
161003*	Italy	aqueous concentrates containing dangerous substances
170204*	Finland	glass, plastic and wood containing or contaminated with dangerous substances
170503*	Hungary	soil and stones containing dangerous substances
180103*	Italy	wastes whose collection and disposal is subject to special requirements in order to prevent infection
180106*	Italy	chemicals consisting of or containing dangerous substances
180202*	Italy	wastes whose collection and disposal is subject to special requirements in order to prevent infection

180202*	Slovenia	wastes whose collection and disposal is subject to special requirements in order to prevent infection
190204*	Italy	premixed wastes composed of at least one hazardous waste
190205*	Italy	sludges from physico/chemical treatment containing dangerous substances
190205*	Lithuania	sludges from physico/chemical treatment containing dangerous substances
190207*	Estonia	oil and concentrates from separation
190207*	Italy	oil and concentrates from separation
190208*	Italy	liquid combustible wastes containing dangerous substances
190208*	UK	liquid combustible wastes containing dangerous substances
190209*	Italy	solid combustible wastes containing dangerous substances
190806*	Italy	saturated or spent ion exchange resins
190813*	Italy	sludges containing dangerous substances from other treatment of industrial waste water
200131*	Italy	cytotoxic and cytostatic medicines
200137*	Finland	wood containing dangerous substances

2.2.3. Member States list of wastes used within the cement industry

MS	WasteNo	Waste
Hungary	13	OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in chapters 05, 12 and 19)
Hungary	020103	plant-tissue waste
Hungary	020203	materials unsuitable for consumption or processing
Hungary	030311	sludges from on-site effluent treatment other than those mentioned in 030310
Hungary	100102	coal fly ash
Luxembourg	100102	coal fly ash
Slovenia	101210	solid wastes from gas treatment other than those mentioned in 101209
Hungary	150101	paper and cardboard packaging
Slovenia	150102	plastic packaging
Hungary	150103	wooden packaging
Slovenia	150105	composite packaging
Slovenia	150203	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 150202
Hungary	160103	end-of-life tyres
Lithuania	160103	end-of-life tyres
Luxembourg	160103	end-of-life tyres
Slovenia	160103	end-of-life tyres
UK	160103	end-of-life tyres
Hungary	190210	combustible wastes other than those mentioned in 190208 and 190209
UK	190805	sludges from treatment of urban waste water
Slovenia	190904	spent activated carbon
Slovenia	190905	saturated or spent ion exchange resins
Hungary	191208	textiles
Hungary	191210	combustible waste (refuse derived fuel)
Hungary	200101	paper and cardboard
Lithuania	200101	paper and cardboard
Slovenia	200101	paper and cardboard
Slovenia	200125	edible oil and fat
Hungary	200139	plastics
UK	200301	mixed municipal waste
Slovenia	120112*	spent waxes and fats
Slovenia	130110*	mineral based non-chlorinated hydraulic oils
Slovenia	130111*	Synthetic hydraulic oils
Slovenia	130113*	other hydraulic oils
Hungary	130205*	mineral-based non-chlorinated engine, gear and lubricating oils

Slovenia	130205*	mineral-based non-chlorinated engine, gear and lubricating oils
UK	130205*	mineral-based non-chlorinated engine, gear and lubricating oils
Slovenia	130206*	Synthetic engine, gear and lubricating oils
Slovenia	130208*	other engine, gear and lubricating oils
Slovenia	130307*	mineral-based non-chlorinated insulating and heat transmission oils
Slovenia	130308*	Synthetic insulating and heat transmission oils
Slovenia	130310*	other insulating and heat transmission oils
Slovenia	130401*	bilge oils from inland navigation
Slovenia	130402*	bilge oils from jetty sewers
Slovenia	130403*	bilge oils from other navigation
Slovenia	130506*	oil from oil/water separators
Slovenia	130802*	other emulsions
Slovenia	150202*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances
Slovenia	150202*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances
Slovenia	180202*	wastes whose collection and disposal is subject to special requirements in order to prevent infection
UK	190208*	liquid combustible wastes containing dangerous substances
Cyprus		Green Coal (fuel deriving from domestic waste, organic fraction of municipal waste which has been digested
Cyprus		Sewage sludge
Cyprus		Waste oils
Cyprus		Used tyres
Spain		tyres
Spain		solvents
Spain		sludges
Spain		destillation residues
Spain		fuels with hazardous substances
Spain		sewage sludge
Spain		animal bone meal
Spain		solvent mixtures
Spain		tyres

2.3. ARTICLE 12(2) PLANTS

Co-incineration without cement & lime

Bulgaria	< 2t/h : Hospital Waste Incineration Plant, Alexandrovska Hospital, Georgi Sofiyski Str. 1, BG-1431 Sofia
Bulgaria	< 2t/h: Medicom Ltd., Military Medical Academy, Georgi Sofiyski Str. 3, BG-1606 Sofia
Estonia	Maxit Estonia
Finland	Fortum Lämpö Nakkilan lämpökeskus (non IPPC)
Finland	Kainuun Voima Oy, Kajaani (1.1)
Finland	Kotkan Energia Oy Hovisaaren voimalaitos (1.1)
Finland	Tornion Voima Oy, Tornio (1.1)
Finland	UPM-Kymmene Oy, Rauma (6.1)
Finland	Vapo Oy Haapavesi (non IPPC)
Hungary	Mátra Power Plant, Visonta, Hungary: Lignite-fired power plant; nominal capacity 836 MWe. In 2006 lignite consumption was 7998117 t/a and fuel oil consumption was 21704 t/a.
Ireland	Cognis Ireland Ltd/Henkel Ireland detergents Ltd (P0052-02), Little Island, Co. Cork
Lithuania	Joint Stock Company "Senove", Jocioniu Str. 13b, Vilnius (incineration,
Lithuania	Stock Company „Palemono keramika“ , Pamario Str. 1, Kaunas, LT – 52265 Lithuania, (co-incineration, ceramics)
Lithuania	Stock Company "Akmenes cementas", Dalinkeviciaus Str. 2, Naujoji Akmene (co-incineration, cement kiln). Permit will cease in 01.01.08 due to non-compliance of dust emissions
Luxembourg	http://www.environnement.public.lu/air_bruit/inspections_envir/dioxines/resultat_controles/2005_juill_schifflange.pdf
Luxembourg	http://www.gouvernement.lu/air_bruit/inspections_envir/dioxines/resultat_controles/2005_novembre_differdange.pdf
Netherlands	Chemelot, Mijnweg 3, 6167 AC Geleen
Netherlands	DSM Resins International B.V., Postbus 5, 7760 AA Schoonebeek
Netherlands	Kolengestookte Elektriciteitscentrale Hemweg A'dam
Netherlands	Trespa Internationaal BV, Wetering 20, 6002 SM Weert
Slovenia	ELAN, d.d., Begunje na Gorenjskem
Slovenia	Termoelektrarna Šoštanj (TEŠ), Šoštanj
Spain	Cementos Cosmos (Galicia)
Spain	Protección Medioambiental PMA (Galicia)
UK	Solvent Resource Management, Knottingley
UK	Aroma and Fine Chemicals Ltd., Widnes
UK	Aylesford Newsprint Ltd, Aylesford
UK	BASF, Seal Sands, Middlesborough
UK	Cheale Meats Ltd., Little Warley
UK	Ciba Soeciality Chemicals, Bradford
UK	Dow Chemical Company Ltd., Kings Lynn
UK	Dundas Chemicals, Mosspark, Dumfries
UK	EON UK CHP Kemsley Ltd., Sittingbourne
UK	EPR, Westfield, Fife
UK	Fibrogen Ltd., Glanford Power Station, Scunthorp
UK	Fibropower, Eye Power Station, Eye
UK	Fibropower, Thetford Power Station, Thetford

UK	Foyle Proteins, Londonderry
UK	Granox Ltd, Widness
UK	Huntsman Corporation UK Ltd., Bynea Organic Chemicals, Llanelli
UK	IFF GB Ltd., Chemical Works, Haverhill
UK	Invista, Invista Textiles (U.K) Ltd, Wilton,Redcar
UK	Lisburn Proteins, Lisburn
UK	Monkton Coke and Chemical Co., Barnsley
UK	Neerock Ltd., Colne Meats, Coln
UK	Novera Energy Ltd, Rainham, London
UK	O Kanes, Ballymena
UK	Robinson Brothers Ltd., West Bromwich
UK	Schenctaday Europe Ltd., Chemical Works, Wolverhampton
UK	Slough heat and power.
UK	Solvent Resource Management, Morecambe
UK	Solvent Resource Management, North Shields
UK	Solvent Resource Management, Rye
UK	Solvent Resource Management, Sunderland
UK	Ulster Farm By Product, Glenavy
UK	UPM-Kymmene (UK) Ltd., Deeside Paper Mill, Shotton
UK	William Forrest & Son (Paisley) Ltd, Motherwell

Cement plants

Country	Name of the plant	Capacity	Location	Miscellaneous
Spain	Cemex Alicante	< 2t/h	Valencia	
Spain	Cemex Bunol	< 2t/h	Valencia	
Spain	Lafarge Asland	< 2t/h	Valencia	
Spain	Cementos Alfa	< 2t/h	Cantabria	
Spain	Cementos Cosmos		Galicia	
Lithuania	Stock Company "Akmenes cementas", Dalinkeviciaus Str. 2, Naujoji Akmene			Permit will cease in 01.01.08 due to non-compliance of dust emissions
Czech Republic	Ceskomoravsky cement, a.s., nastupnicka spolecnost, Cementarna Mokra; Mokra 359 , 664 04 Mokra-Horakov			http://www.heidelbergcement.cz/cement/data/upload/42c531f65cc73.pdf
Czech Republic	Lafarge Cement, a.s.; Cizkovice 27, 411 12 Cizkovice			http://www.lafarge.cz/ospolecnosti/ospolecnosti-finance.html
Slovenia	SALONIT ANHOVO, gradbeni materiali, Vojkova 1, 5210 Anhovo, Deskle			

Hungary	Duna-Dráva Cement Ltd. Vác Plant; dry technology, total capacity: 3450 tons/day			
Hungary	Duna-Dráva Cement Ltd. Beremend Plant; dry technology,total capacity: 3000 tons/day			
Hungary	Holcim Hungária ZRt. Lábatlan Plant; wet technology, total capacity: 950 tons/day			
Hungary	Holcim Hungária ZRt.Hejőcsaba Plant; dry technology, total capacity: 4200 tons/day			
Slovak Republic	Holcim (Slovensko), a.s., Rohožník		Rohožník	IPPC permission
Slovak Republic	Cemmac,a.s.,		Horné Sŕnie	IPPC permission
Slovak Republic	Považská cementáreň, a.s., Ladce		Ladce	IPPC permission
Slovak Republic	V.S.H., a.s.		Turňa nad Bodvou	IPPC permission

Incineration plants

Country	Name of the plant	Capacity	Location	Miscellaneous
Bulgaria	Hospital Waste Incineration Plant Alexandrovska Hospital	< 2t/h	Georgi Sofiyski Str. 1 BG-1606 Sofia	
Bulgaria	Medicom Ltd. Military Medical Academy	< 2t/h	Georgi Sofiyski Str. 3 BG-1606 Sofia	
Spain	Incineration plant	< 2t/h	Cantabria	
Spain	Incineration plant	< 2t/h	Cantabria	
Spain	Finaltaire (waste wood)	< 2t/h	Valencia	
Spain	J.Canet (grease)	< 2t/h	Valencia	
Spain	Agrupacio Cereco, SL (animal carcasses)	< 2t/h	Valencia	
Spain	Cementerio de animales sena (animal carcasses)	< 2t/h	Valencia	
Spain	La casa de Noe, SA (animal carcasses)	< 2t/h	Valencia	
Spain	Centro Canino la pinada, SL (animal carcasses)	< 2t/h	Valencia	
Spain	Diun S.L. Arbizu (animal carcasses)	< 2t/h	Navarra	
Slovenia	LEK Tovarna farmacevtskih in in kemičnih izdelkov, d.d.,		Verovškova 57, 1000 Ljubljana	
Slovenia	PINUS TKI d.d.,		Grajski trg 21, 2327 Race	
Romania	SC IRIDEX GROUP IMPORT EXPORT SRL	< 2t/h		
Romania	S.C.MONDECO S.R.L.	< 2t/h		
Romania	SC GUARDIAN SRL	< 2t/h		
Romania	SC PRO AIR CLEAN SA	< 2t/h		
Romania	SC IF TEHNOLOGII SRL	< 2t/h		
Romania	S.C. SUPERSTAR COM S.R.L.	< 2t/h		
Romania	SC ECOFIRE SISTEMS SRL	< 2t/h		
Slovak Republic	OLO, a.s., Bratislava (municipa waste)	> 2t/h	Bratislava	
Slovak Republic	Kosit, a.s., Košice (Municipal waste)	> 2t/h	Košice	

Slovak Republic	Duslo, a.s. Šala (Industrial waste)	> 2t/h	Šala	
Slovak Republic	Slovnaft, a.s., (Industrial waste)	> 2t/h	Bratislava	
Slovak Republic	Fakultná nemocnica s poliklinikou Bratislava (Infectious clinical waste)	< 2t/h	Bratislava	
Slovak Republic	Fakultná nemocnica , a.s. , Nitra (Infectious clinical waste)	< 2t/h	Nitra	
Slovak Republic	Fakultná nemocnica Trenčín (Infectious clinical waste)	< 2t/h	Trenčín	
Slovak Republic	Nemocnica s poliklinikou Prievidza, (Infectious clinical waste)	< 2t/h	Bojnice	
Slovak Republic	Nemocnica s poliklinikou Sv. Lukáša, Galanta (Infectious clinical waste)	< 2t/h	Galanta	
Slovak Republic	Martinská fakultná nemocnica	< 2t/h	Martin	
Slovak Republic	Chemza, a.s. Strážske (Industrial waste)	< 2t/h	Strážske	
Slovak Republic	Fecupral, s r.o. (Industrial waste)	< 2t/h		
Slovak Republic	Železničné opravovne a strojárne, a.s., Zvolen (Industrial waste)	< 2t/h	Zvolen	
Slovak Republic	V.A.S, s.r.o., Mojšová Lúčka (Tallow)	< 2t/h	Mojšová Lúčka	
Czech Republic	Only three sources with nominal capacity of two tonnes or more per hour exist in the Czech Republic. There are all existing municipal waste incinerators and their annual reports are accessible to the public on their websites. An annual report contains following information: operation data (source equipment, BAT, emission reduction facilities, energy recovery), type and amount of waste burned according to EWC, additional raw materials (for exhaust gases cleaning, water chemical treatment), materials or energy for the purpose of recovering in the source obtained, emission into environment (emission into air, waste water, solid waste produced), compliance with the specific emission limit values, audit report, financial management etc.			
Czech Republic	Pražské služby, a.s. ,	> 2t/h	Pod Šancemi 444/1,190 00 Praha 9	http://www.psas.cz/main.cfm?path=24
Czech Republic	TERMIZO a.s., Třída Dr. M.	> 2t/h	Horákové 571, 460 06 Liberec 7	http://www.termizo.cz/index.php?sekce=envi

Czech Republic	Spalovna a komunální odpady Brno, akciová společnost (SAKO Brno, a.s.) ,	> 2t/h	Jedovnická 4247/2, 628 00 Brno	http://www.sako.cz/spolecnost/vyrocnizpravy/
Czech Republic	Information about all waste incinerators (including sources with nominal capacity of less than two tonnes per hour) are accessible to the public on website of the Czech Hydrometeorological Institute. This obligation results from the legislation (Decree No 356/2002 Coll. § 26 paragraph 2: *Information from the register of incineration plants are made accessible to the public*.).			
Czech Republic	1. Monthly updated review of waste incineration and co-incineration facilities (http://www.chmi.cz/uoco/emise/spalovny/index.html) - Information for this review are obtained from periodic report of the Czech Environmental Inspectorate. They are published in the form of synoptic tables with following information: identification data (operator, registration number, identification number of facility (ICP), addresses of operator and source, telephone number, fax, e-mail) and operating data (putting into operation, nominal capacity in t/hour, t/day and t/year, tonnes of waste burned in last two years, emission limit values compliance).			
Czech Republic	2. Yearly updated geographical navigator (http://www.chmi.cz/uoco/emise/geoprehled/gnav.html) - Information for geographical navigator are obtained from operating records (REZZO – Register of Emission and Sources of Air Pollution). The geographical navigator presents overall yearly information about sources for incineration/co-incineration of waste (address of operator and source, putting into operation, waste types, capacity in t/year, amount of incinerated waste in t/year, characterization of incineration lines, emission reduction facilities, annual emissions of all reported pollutants).			
Czech Republic	3. Evidence of permits for waste incineration and co-incineration according to § 17 paragraph 1 and 2 of Act No 86/2002 Coll. (http://www.chmi.cz/uoco/emise/spalovny/evidence/index.html) - Evidence of permits is given by legislation: Decree No 354/2002 Coll. § 5 paragraph 6: *The Ministry of the Environment shall under the § 13 paragraph 1 of the Act keep records on permits and compliance with conditions set out in paragraph 4*. Act No 86/2002 Coll. (The Air Protection Act) § 36 paragraph 2: *(2) Furthermore, according to Art. 1, the air protection authorities shall make accessible to the general public:* *c) applications for permits and statements of air protection authorities according to § 17, from 23 to 25, 27, 30 and 31, and the permits and statements issued on this basis.* Permits are issued by the regional authorities according to Act No 86/2002 Coll. Evidence of permits for waste incineration and co-incineration contains following information: operator, registration number, source address, facility type, permit specification, date of permit issue, file number, time limitation and binding conditions.			

2.3.1. Montly report of the Czech Republic on Article 12(2) Incineration plants

Except for three plants, full version available at: http://www.chmi.cz/uoco/emise/spalovny/index.html

No.	Region	Operator	Registration number	Identification number of the facility (ICP)	Very large source	Address of operator	Address of source	Tel.; fax + email
SOURCES INCINERATING MUNICIPAL WASTE								
1	PHA	Prazske sluzby, a.s.	60194120	732450771	yes	Pod Sancemi 444/1, 190 00 Praha 9	Zavod 14, Zarizeni na energeticke vyuziti odpadu Malesice, Prumyslova 615/32, 108 77 Praha 10	284 098 859; kovarl@psas.cz
2	LIB	TERMIZO a.s.	64650251	682030881	yes	Dr. Milady Horakove 571, 460 06 Liberec 7	Dr. Milady Horakove 571/56, 460 06 Liberec 7	482 428 671; 482 428 672; novak@termizo.cz
3	JM	Spalovna a komunalni odpady Brno, akciova spolecnost (SAKO Brno, a.s.)	60713470	611110451	yes	Jedovnicka 2, 628 00 Brno	SAKO Brno, a.s, spalovna smesneho komunalniho odpadu, Jedovnicka 4247/2, 628 00 Brno	548 138 155; 548 138 102; suzova@sako.cz

No.	Putting into operation	Capacity t/hour	Capacity t/day	Capacity t/year	Tonnes of waste in 2006	Tonnes of waste in 2005	1) Emission limit values compliance 2) Permits according to § 17 paragraph 1 and 2 of Act No 86/2002 Coll.*	New emission reduction facilities (year/type/substances separated) source renewal
SOURCES INCINERATING MUNICIPAL WASTE								
1	1998	60,0		310.000	214.043	206.122	1) yes 2) yes (integrated permit)	2001/ SNCR/ NOx
2	1999	12,0		96.000	89.860	93.063	1) yes 2) yes (integrated permit)	2003/ fabric catalytic filter/ PCDD/F
3	1989	45,0	1080,0	224.000	88.976	87.888	1) yes 2) yes (integrated permit)	2004/ SNCR/ NOx

2.4. Incineration

2.4.1. Exemptions according to Article 11.6 for parameter HCl

MS	Total number of plants	Number of plants with continuous measurement	Number of plants with periodical measurement	Number of periodical measurements
Czech Republic	35	5	32	1
				4
France	115	115	36	2
			2	4
Germany	70	69	1	3
Netherlands	14	8	6	2
Slovakia	15	5	2	4
			2	2
			3	1
Slovenia	2	1	1	2
Sweden	30	18	9	
UK	85	unclear	75	2

2.4.2. Exemptions according to Article 11.6 for parameter HF

MS	Total number of plants	Number of plants with continuous measurement	Number of plants with periodical measurement	Number of measurements
Austria	6		4	2
Czech Republic	35		35	4
				2
Finland	2		1	24
France	115	36	1	1
		3	96	2
			11	4
Germany	70		70	3
Netherlands	14		14	2
Slovakia	15	4	4	1
			3	4
			3	2
Slovenia	2		2	2
Sweden	30	4	20	
UK	85	7	71	2

2.4.3. Exemptions according to Article 11.6 for parameter SO2

MS	Total number of plants	Number of plants with continuous measurement	Number of plants with periodical measurement	Number of measurements
Czech Republic	35	5	32	1
				4
France	115	115	36	2
			2	4
Netherlands	14	10	4	2
Slovakia	15	7	3	1
			2	4
			2	2
Sweden	30	21	6	
UK	85	73	3	2

2.4.4. Implementation of exemptions from the emission measurements according to Article 11(7) - PCDD/F

MS	Substance	Total no of plants	NoPlantsCont	NoPlantsPeriod	NoMeasurements
Austria	PCDD/F	6		4	2
Belgium	PCDD/F	3		3	2
Czech Republic	PCDD/F	35		35	2
Finland	PCDD/F	2	1		
France	PCDD/F	115		1	1
	PCDD/F			107	2
	PCDD/F			5	4
	PCDD/F			2	12
Germany	PCDD/F	70	67	3	3
Hungary	PCDD/F	37		27	
	PCDD/F			1	3
Lithuania	PCDD/F	1		1	1
Netherlands	PCDD/F	14		14	2
Poland	PCDD/F	2		1	2
Portugal	PCDD/F	4		4	2
Slovakia	PCDD/F	15		3	4
	PCDD/F			6	2
	PCDD/F			5	1
Slovenia	PCDD/F	2		2	2
Sweden	PCDD/F	30		21	
UK	PCDD/F	85		76	2

2.4.5. Sum of Heavy Metals (Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V)

MS	Total no of plants	NoPlantsPeriod	NoMeasurements
Austria	6	4	2
Belgium	3	3	2
Czech Republic	35	35	1
			2
Finland	2	1	2
France	115	8	4
		67	2
		1	1
		1	12
Germany	70	67	
		3	3
Hungary	37	27	
		1	3
Lithuania	1	1	1
Netherlands	14	14	2
Poland	2	1	2
Portugal	4	4	2
Slovakia	15	1	0
		4	1
		6	2
		3	4
Slovenia	2	2	2
Sweden	30	21	
UK	85	76	2

2.4.6. Cadmium and Thallium

MS	Substance	Total no of plants	NoPlantsPeriod	NoMeasurements
Austria	Cd + Tl	6	4	2
Belgium	Cd + Tl	3	3	2
Czech Republic	Cd + Tl	35	35	2
	Cd + Tl			1
Finland	Cd + Tl	2	1	2
France	Cd + Tl	115	8	4
	Cd + Tl		67	2
	Cd + Tl		1	1
	Cd + Tl		1	12
Germany	Cd + Tl	70	67	
	Cd + Tl		3	3
Hungary	Cd + Tl	37	27	
	Cd + Tl		1	3
Lithuania	Cd + Tl	1	1	1
Netherlands	Cd + Tl	14	14	2
Poland	Cd + Tl	2	1	2
Portuga	Cd + Tl	4	4	2
Slovakia	Cd + Tl	15	4	4
	Cd + Tl		5	2
	Cd + Tl		2	0
Slovenia	Cd + Tl	2	2	2
Sweden	Cd + Tl	30	21	
UK	Cd + Tl	85	67	2

2.4.7. Mercury

MS	Substance		NoPlantsCont	NoPlantsPeriod	NoMeasurements
Austria	Hg	6		4	2
Belgium	Hg	3		3	2
Czech Republic	Hg	35		35	1
	Hg				2
Finland	Hg	2	1	1	24
France	Hg	115		67	2
	Hg			5	4
	Hg			1	1
	Hg			1	12
Germany	Hg	70	67		
	Hg		2	1	3
Hungary	Hg	37		27	
	Hg			1	3
Lithuania	Hg	1		1	1
Netherlands	Hg	14		14	2
Poland	Hg	2		1	2
Portugal	Hg	4	4	1	2
Slovakia	Hg	15		6	2
	Hg			3	1
	Hg			2	0
	Hg			3	4
Slovenia	Hg	2		2	2
Sweden	Hg	30	1	20	
UK	Hg	85		67	2

2.4.8. Implementation of the emission measurements requirements according to Article 11(2)a

MS	Substance	NoPlants-Cont	NoPlantsPe-riod	NoMeasure-ments
Austria	CO	4		
Belgium	CO	3		
Czech Re-public	CO	35	32	1
Finland	CO	1		
France	CO	115	36	2
France	CO		2	4
Germany	CO	70		
Hungary	CO	22		
Lithuania	CO	1		
Netherlands	CO	14		
Poland	CO	1		
Portugal	CO	3		
Slovakia	CO	14		
Slovenia	CO	2		
Sweden	CO	21	5	
UK	CO	73		
Austria	NOx	4		
Belgium	NOx	3		
Czech Re-public	NOx	35	32	1
Finland	NOx	1		
France	NOx		2	4
France	NOx	113	36	2
France	NOx		2	4
Germany	NOx	67		
Germany	NOx	3		
Hungary	NOx	19		
Hungary	NOx	1		
Lithuania	NOx	1		
Netherlands	NOx	14		
Poland	NOx		1	2
Portugal	NOx	3		
Slovakia	NOx	14		
Slovenia	NOx	2		
Sweden	NOx	21	7	
UK	NOx	76		
Belgium	TOC	3		
Czech Re-public	TOC	35	32	1
Finland	TOC	1		
France	TOC	115	36	2
France	TOC		2	4
Germany	TOC	3		

Hungary	TOC	20		
Hungary	TOC	1		
Lithuania	TOC	1		
Netherlands	TOC	14		
Poland	TOC	1		
Portugal	TOC	3		
Slovakia	TOC	14		
Slovenia	TOC	2		
Sweden	TOC	21	6	
UK	TOC	76		
Austria	Total dust	4		
Belgium	Total dust	3		
Czech Republic	Total dust	35	32	1
Finland	Total dust	1		
France	Total dust		2	4
France	Total dust	115	36	2
Germany	Total dust	67		
Germany	Total dust	3		
Hungary	Total dust	19		
Hungary	Total dust	1		
Lithuania	Total dust	1		
Netherlands	Total dust	14		
Poland	Total dust	1		
Portugal	Total dust	3		
Slovakia	Total dust	13		
Slovenia	Total dust	2		
Sweden	Total dust	21	6	
UK	Total dust	78		

2.4.9. Article 11 (14) b TSS

MS	Substance	no of plants with ww FGT	NoPlantsCont	NoPlantsPeriod	NoMeasurements
Austria	Total suspended solids	3		3	365
Belgium	Total suspended solids	3	3		
Czech Republic	Total suspended solids	35			12
	Total suspended solids				4
France	Total suspended solids	50		25	365
	Total suspended solids		2	6	365
Germany	Total suspended solids	2		1	6
Hungary	Total suspended solids	5	1	4	365
Netherlands	Total suspended solids	6		6	52
Sweden	Total suspended solids	14 or 15	8	4	
UK	Total suspended solids	18		18	365

2.4.10. Article 11(14)c: Heavy metals

MS	Substance	no of plants with ww FGT	NoPlants-Cont	NoPlantsPeriod	NoMeasurements
Austria	As, Cd, Cr, Cu, Hg, Ni, Pb, Tl, Zn	3		3	4
Belgium	As, Cd, Cr, Cu, Hg, Ni, Pb, Tl, Zn	3		3	12
Czech Re-public	As	35		30	12
					4
	Cd, Cr, Cu, Hg, Ni, Pb, Zn			35	4
					12
	Tl			32	4
France	As, Cd, Cr, Cu, Hg, Ni, Pb, Zn	50		3	52
		50		47	12
	Tl	50		47	12
		50		2	52
Germany	As, Cd, Cr, Cu, Hg, Ni, Pb, Zn	2		1	6
				1	12
	Tl	2		1	6
Hungary	As, Cd, Cr, Cu, Hg, Ni, Pb, Tl, Zn	5	1	4	12
Nether-lands	As, Cd, Cr, Cu, Hg, Ni, Pb, Tl, Zn	6		6	12
Slovakia	As, Cd, Cr, Cu, Hg, Ni, Pb, Tl, Zn	2		2	2
Slovenia	As, Cd, Cr, Cu, Hg, Ni, Pb, Tl, Zn	2		1	1

Sweden	As, Cd, Cr, Cu, Hg, Ni, Pb, Tl, Zn	14 or 15	13	2	
UK	As, Cd, Cr, Cu, Hg, Ni, Pb, Tl, Zn	18		18	12

2.4.11. Article 11(14) d

MS	Substance	Number of plants with waste water from FGT	NoPlants measuring periodically	NoMeasu-rements per year
Austria	PCDD/F	3	3	2
Belgium	PCDD/F	3	3	12
Czech Re-public	PCDD/F	35	10	1
				12
France	PCDD/F	50	3	4
	PCDD/F		47	2
Germany	PCDD/F	2	1	3
Hungary	PCDD/F	5	5	2
Netherlands	PCDD/F	6	6	2
Slovakia	PCDD/F	2	2	2
Slovenia	PCDD/F	2	1	2
Sweden	PCDD/F	14 or 15	14	
UK	PCDD/F	18	18	2

2.4.12. BAT-Technology

MS	Austria	Belgium	Czech Republic	Finland	France	Germany	Hungary	Poland	Portugal	Slovakia	Slovenia	Sweden	UK			Totals
total number of plants	6	3	35	2	115	70	37	2	4	15	2	28	85			404
total number of plants with waste water from FGT	min. 3	3	35	2	50	2	5	unclear	0	2	2	14 or 15	18 or 20			
Number of BAT																
1	4	3	35	1	18	3	15	1	3	4	2	18	2	67		176
2	1	2	20	0	0	2	1	0	3	4	2	18	0	24		77
3		3	1	1	11	3	1	1	2	3	0	7	2	67		102
4	1		35	1	17	2	3	1	3	4	1	17	0	67		152
5	2	3	0	0	3	1	1	1	0		0	7	0	0		18
6	2		0	0	0	1	1	1	0		0	1	0	0		6
7			1	0	3	0	0	0	0	2	0	0	0	0		6
8			1	0	2	3	0	0	0	1	0	1	0	67		75
9			1	1	12	1	0	1	0	1	0	2	0	0		19
10	2	3	0	0	0	2	0	1	0		0	1	0	67		76
11			2	0	6	0	3	1	3	2	0	14	0	0		31
12	1	3	2	0	6	2	0	0	0	1	2	12	2	0		31
13	2		1	0	0	1	0	0	0	1	0	3	0	0		8
14	1	3	0	1	2	2	0	0	0		0	10	0	0		19
15		3	3	0	3	1	0	1	0	1	0	9	0	0		21
16			0	0	0	0	0	0	0		0	5	1	0		6
17	4	3	35		19	3	4	1	3	3	0	8	2	67		152

3. Annex 3

Plant type	Units
Municipal waste incinerator	35
Hazardous waste incinerator	6
Cement or ceramic industry	3
Biomass incinerator	4
others	6
Sum	52

Country	Units
Austria	7
Belgium	5
France	19
Germany	6
Italy	6
others (e.g. Korea, Canada)	7

Company	Location/ contact	Unit	Plant type
SONITHERM	06300 Nice - France	2	Municipal waste
	+33 4 93 54 90 61		
	R Roumeguere		
ORVADE S.N.C.	45770 Saran - France	2	Municipal waste
	+33 2 38 79 03 14		
	J.Y. Haillecourt		
VALENE	78930 Guerville - France	3	Municipal waste
	+33 1 34 97 93 50		
	J. Marie		
EGGER Holzwerkstoffe	Wismar - Germany	1	Waste wood
	+49 2961 770 302		
	K. Kirchhoff		
EGGER Holzwerkstoffe	Brilon - Germany	1	Waste wood
	+49 2961 770 302		
	K. Kirchhoff		
INCENERITORE BOLZANO	Bolzano - Italy	1	Municipal waste
	+39 0471 54 28 88		
	Dr. W. Tirler		
KÄRNTNER Restmüllver-wertungs GmbH	Arnoldstein - Austria +43 4255 22366 240	1	Hazardous waste
	G. Kienberger		

3.1. References of AMESA ® system

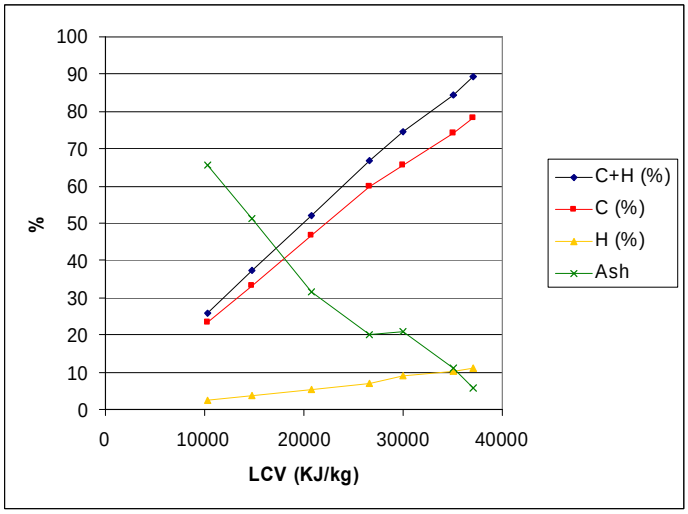
Company	Location	Units	Plant type	Operation
Gemeentelijke Dienst Afvalverwerking	Amsterdam, Netherlands	3	MWI	1996 – 1997
MVA Bielefeld-Herford GmbH	Bielefeld, Germany	1	MWI	1996 – 1997
MVA Hamm OHG	Hamm, Germany	1	MWI	1997 – 1998
IVOO	Oostende, Belgium	1	MWI	since 1997
Hoechst AG	Frankfurt a. M., Germany	1	HWI	1998 – 2001
Restmüllheizkraftwerk Böblingen	Böblingen, Germany	1	MWI	1999 – 2000
IVMO	Menen, Belgium	2	MWI	1999 – 2005
IVM	Eeklo, Belgium	1	MWI	since 1999
IMOG	Harelbeke, Belgium	1	MWI	since 1999
IVBO	Brugge, Belgium	3	MWI	since 1999
IVAGO	Gent, Belgium	1 1	MWI	since 1999 1999 - 2001
Indaver	Antwerp, Belgium	2	MWI	since 1999
C.V. IVRO	Roeselare, Belgium	1	MWI	since 1999
Dalkia nv-sa	Brussel, Belgium	1	MWI	since 1999
Intercommunale MI-WA	Sint-Niklaas, Belgium	1	MWI	1999 - 2002
ISVAG C.V.	Wilrijk, Belgium	2	MWI	since 1999
CReeD	Limmay, France	1	MWI	1999
n.n.	Germany	1	BCHP	since 2000
Aquafin	Brugge, Belgium	1	MWI	since 2000
n.n.	France	2	MWI	since 2000
n.n. moved to	UK France	2 1 (1)	MWI MWI	2000 – 2002 since 2003
MHKW Würzbürg	Würzburg, Germany	1	MWI	since 2000
Pfleiderer Gütersloh	Gütersloh, Germany	1	BCHP	since 2000
Hornitex	Horn-B. Meinberg, Germany	1	BCHP	since 2000
Intradel	Herstal, Belgium	4	MWI	since 2000
Ipalle	Thumaide, Belgium	3 1	MWI	since 2000 since 2002
ICDI	Pont-de-Loup, Belgium	2	MWI	since 2000
IBW	Virginal, Belgium	2	MWI	since 2000
Sydkraft SAKAB AB	Kumla, Sweden	1	HWI	since 2001
SIOMAB	Brussel, Belgium	2	MWI	since 2001
Test for EPA	Taiwan	1	MWI	2001 - 2002
n.n.	Germany	1	MWI	since 2001
n.n.	France	1	MWI	2001
SMITOM, Coperdiox	France, (77, Vaux le Pesnil)	2	MWI	since 2003
Enviro Agency UK, Test	UK	1 1	MWI CP	2003 2004
SITOMAT, Coperdiox	France, (83, Toulon)	3	MWI	since 2003
Indaver	Antwerp, Belgium	2	HWI	since 2003
Umicore	Belgium	1	S	since 2003
Tokorozawa East Clean Center	Tokorozawa, Japan	1	MWI	since 2003
n.n.	Finland	1	HWI	since 2003
n.n.	Japan	3	MWI	since 2003
MVA Salzbergen	Salzbergen, Germany	1	MWI	since 2004
Kvaerner	Isle of Man	2	MWI	since 2004
n.n.	Belgium	1	MeWI	since 2004
SIVERT, East Anjou	France, (49, Saumur)	1	MWI	since 2004
n.n.	Italy	1	PP	since 2004
n.n.	Belgium	1	CP	since 2004
ASM, Brescia	Italy	1	MWI	since 2004
n.n.	Belgium	1	SAP	since 2004
n.n.	Italy	1	MWI	since 2004
n.n.	Finland	1	HWI	since 2004
Electrabel	Belgium	2	PP	since 2005
n.n.	Belgium	3	MWI	since 2005
n.n.	Italy	1	MWI	since 2005
SYCTOM, Vitry	France, (75, Paris)	2	MWI	since 2005

Company	Location	Units	Plant type	Operation
n.n.	Belgium	2	MWI	since 2005
n.n.	Belgium	1	AWP	since 2005
n.n.	Italy	1	MWI	since 2005
Environnement-sa demo-unit,	France, Site demonstration	1	MWI	since 2005
n.n.	France	1 1	MWI	since 2005 Inst. in 2006
n.n.	Belgium	1	HWI	since 2006
n.n.	Belgium	2	CP	since 2006
ACEGAS, Trieste	Italy	1	MWI	since 2006
GSE 3 UIOM, Chambery	France	1 2	MWI	since 2006 Inst. in 2007
n.n.	Belgium	1	PP	Inst. in 2006
n.n.	Belgium	2	CP	since 2006
Tecnoborgo, Piacenza	Italy	1	MWI	Since 2006
n.n.	Belgium	1	CP	Since 2006
n.n.	Italy	1	MWI	Inst. in 2007
Sum (including periodical applications)		113		

Abbreviations:

MWI = Municipal Waste Incinerator,
HWI = Hazardous Waste Incinerator
MeWI = Medical Waste Incinerator
AWP = Animal Waste Plant
BCHP = Biomass Combined Heat and Power Plant
CP = Cement Plant
S = Smelter Furnace
PP = Power Plant
SAP = Sulphuric Acid Plant

3.2. General information related to the use of high calorific waste in blast furnaces



Correlation between lower calorific value and C, H, and ash content of seven pretreated plastic wastes

Production of pig iron in Europe and waste use potential [WVStahl 2006] and [http://www.stahl-online.de/wirtschaft_und_politik/stahl_in_zahlen/]

	Old MS				New MS		
	No of plants	Capacity (million t)	Utilisation (%)	Production (million t)	No of plants	Production (million t)	Total pro-duction (million t)
1990	129	120,203	76,4	91,776			120
1991							
1992							
1993							
1994							
1995	88	116,476	83,6	97,285			116
1996							
1997							
1998	75	112,259	85,5	96,024			112
1999	73	109,4	83,9	92,385			109
2000	73	109,3	87,1	95,205	20	15,619	125
2001	72	109	83,3	90,751	20	14,592	124
2002	66	105,6	85,1	89,849	20	15,004	121
2003	65	104,51	87,7	91,612	19	16,062	121
2004	65	106,2	89	94,042	19	16,901	123
2005							112
2006							115
Specific use rate for high calorific waste (kg/tpig iron)							
	low	**high**					
	30	65					
Theoretical potential for the use of high calorific waste (t/y) based on total production in 2005							
	3.450.000	7.475.000					

[WVStahl 2006] and http://www.stahl-online.de/wirtschaft_und_politik/stahl_in_zahlen/Bilder/2007/eu27_erzeug2006_jun.jpg

3.3. Overview of impact categories

Impact category	Details of the category	Impact included?				
		Monitoring exceptions	Hg continuous	PCDD/PCDF sampling	Cement NOx	Blast furnaces
Economic impacts						
Competitiveness, trade and investment flows	Does the option have an impact on the competitive position of EU firms in comparison with their non-EU rivals? Does it provoke cross-border investment flows (including relocation of economic activity)? Are the proposed actions necessary to correct undesirable outcomes of market processes in European markets?	Yes	Yes	Yes	Yes	Yes
Competition in the internal market	Does the option affect EU competition policy and the functioning of the internal market? For example, will it lead to a reduction in consumer choice, higher prices due to less competition, the creation of barriers for new suppliers and service providers, the facilitation of anti-competitive behaviour or emergence of monopolies, market segmentation, etc?	No	Yes	Yes	Yes	Yes
Operating costs and conduct of business	Will it impose additional adjustment, compliance or transaction costs on businesses? Does the option affect the cost or availability of essential inputs (raw materials, machinery, labour, energy, etc.)? Does it affect access to finance? Does it impact on the investment cycle? Will it entail the withdrawal of certain products from the market? Is the marketing of products limited or prohibited? Will it entail stricter regulation of the conduct of a particular business? Will it directly lead to the closing down of businesses? Are some products or businesses treated differently from others in a comparable situation?	Yes	Yes	Yes	Yes	Yes
Administrative costs on businesses	Does the option impose additional administrative requirements on businesses or increase administrative complexity? Do these costs weigh in relative terms heavily on SMEs (Small and Medium Enterprises)?	Yes	Yes	Yes	Yes	Yes
Property rights	Are property rights affected (land, movable property, tangible/intangible assets)? Is acquisition, sale or use of property rights limited? Or will there be a complete loss of property?	No	No	No	No	No

Impact category	Details of the category	Impact included?				
		Monitoring exceptions	Hg continuous	PCDD/PCDF sampling	Cement NOx	Blast furnaces
Innovation and research	Does the option stimulate or hinder research and development? Does it facilitate the introduction and dissemination of new production methods, technologies and products? Does it affect intellectual property rights (patents, trademarks, copyright, other know-how rights)? Does it promote or limit academic or industrial research? Does it promote greater resource efficiency?	No	Yes	Yes	Yes	Yes
Consumers and households	Does the option affect the prices consumers pay? Does it impact on consumers' ability to benefit from the internal market? Does it have an impact on the quality and availability of the goods/services they buy, and on consumer choice? Does it affect consumer information and protection? Does it have significant consequences for the financial situation of individuals / households, both immediately and in the long run? Does it affect the economic protection of the family and of children?	No	Yes	Yes	Yes	No
Specific regions or sectors	Does the option have significant effects on certain sectors? Will it have a specific impact on certain regions, for instance in terms of jobs created or lost? Does it have specific consequences for SMEs?	Yes	No	No	Yes	Yes
Third countries and international relations	Does the option affect EU trade policy and its international obligations, including in the WTO? Does it affect EU foreign policy and EU/EC development policy? Does the option affect third countries with which the EU has preferential trade arrangements? Does the option affect developing, least developed and middle income countries?	No	No	No	No	No
Public authorities	Does the option have budgetary consequences for public authorities at different levels of government, both immediately and in the long run? Does the option require significant establishing new or restructuring existing public authorities?	Yes	Yes	Yes	Yes	Yes
The macro-economic environment	What are the overall consequences of the option for economic growth and employment? Does it contribute to improving the conditions for investment and for the proper functioning of markets? Does the option have direct or indirect inflationary consequences?	No	No	No	Yes	Yes
Environmental impacts						

Impact category	Details of the category	Impact included?				
		Monitoring exceptions	Hg continuous	PCDD/PCDF sampling	Cement NOx	Blast furnaces
Air quality	Does the option have an effect on emissions of acidifying, eutrophying, photochemical or harmful air pollutants that might affect human health, damage crops or buildings or lead to deterioration in the environment (polluted soil or rivers etc)?	Yes	Yes	Yes	Yes	Yes
Water quality and resources	Does the option decrease or increase the quality or quantity of freshwater and groundwater? Does it raise or lower the quality of waters in coastal and marine areas (e.g. through discharges of sewage, nutrients, oil, heavy metals, and other pollutants)? Does it affect drinking water resources?	No	Yes	Yes	Yes	Yes
Soil quality or resources	Does the option affect the acidification, contamination or salinity of soil, and soil erosion rates? Does it lead to loss of available soil (e.g. through building or construction works) or increase the amount of usable soil (e.g. through land decontamination)?	No	Yes	Yes	Yes	No
The climate	Does the option affect the emission of ozone-depleting substances (CFCs, HCFCs, etc.) and greenhouse gases (e.g. carbon dioxide, methane etc) into the atmosphere?	No	No	No	Yes	No
Renewable or non-renewable resources	Does the option affect the use of renewable resources (freshwater, fish) more quickly than they can regenerate? Does it reduce or increase use of non-renewable resources (groundwater, minerals etc)?	No	No	No	Yes	No
Biodiversity, flora, fauna and landscapes	Does the option reduce the number of species/varieties/races in any area (i.e. reduce biological diversity) or increase the range of species (e.g. by promoting conservation)? Does it affect protected or endangered species or their habitats or ecologically sensitive areas? Does it split the landscape into smaller areas or in other ways affect migration routes, ecological corridors or buffer zones? Does the option affect the scenic value of protected landscape?	No	Yes	Yes	Yes	No
Land use	Does the option have the effect of bringing new areas of land ('greenfields') into use for the first time? Does it affect land designated as sensitive for ecological reasons? Does it lead to a change in land use (for example, the divide between rural and urban, or change in type of agriculture)?	No	No	No	No	No
Waste production / generation /recycling	Does the option affect waste production (solid, urban, agricultural, industrial, mining, radioactive or toxic waste) or how waste is treated, disposed of or recycled?	No	No	No	Yes	Yes

Impact category	Details of the category	Impact included?				
		Monitoring exceptions	Hg continuous	PCDD/PCDF sampling	Cement NOx	Blast furnaces
The likelihood or scale of environmental risks	Does the option affect the likelihood or prevention of fire, explosions, breakdowns, accidents and accidental emissions? Does it affect the risk of unauthorised or unintentional dissemination of environmentally alien or genetically modified organisms? Does it increase or decrease the likelihood of natural disasters?	Yes	Yes	Yes	Yes	Yes
Mobility (transport modes) and the use of energy	Does the option increase or decrease consumption of energy and production of heat? Will it increase or decrease the demand for transport (passenger or freight), or influence its modal split? Does it increase or decrease vehicle emissions?	No	No	No	No	No
The environmental consequences of firms' activities	Does the option lead to changes in natural resource inputs required per output? Will it lead to production becoming more or less energy intensive? Does the option make environmentally un/friendly goods and services cheaper or more expensive through changes in taxation, certification, product, design rules, procurement rules etc.? Does the option promote or restrict environmentally un/friendly goods and services through changes in the rules on capital investments, loans, insurance services etc? Will it lead to businesses becoming more or less polluting through changes in the way in which they operate?	No	No	No	No	Yes
Animal and plant health, food and feed safety	Does the option have an impact on health of animals and plants? Does the option affect animal welfare (i.e. humane treatment of animals)? Does the option affect the safety of food and feed?	No	Yes	Yes	Yes	No
Social Impacts						
Employment and labour markets	Does the option facilitate new job creation? Does it lead directly to a loss of jobs? Does it have specific negative consequences for particular professions, groups of workers, or self-employed persons? Does it affect the demand for labour? Does it have an impact on the functioning of the labour market?	Yes		Yes	Yes	Partly; demand for labour included under economic impacts (i.e. macroeconomic environment)

Impact category	Details of the category	Impact included?				
		Monitoring exceptions	Hg continuous	PCDD/PCDF sampling	Cement NOx	Blast furnaces
Standards and rights related to job quality	Does the option impact on job quality? Does the option affect the access of workers or job-seekers to vocational or continuous training? Will it affect workers' health, safety and dignity? Does the option directly or indirectly affect workers' existing rights and obligations, in particular as regards information and consultation within their undertaking and protection against dismissal? Does it affect the protection of young people at work? Does it directly or indirectly affect employers' existing rights and obligations? Does it bring about minimum employment standards across the EU? Does the option facilitate or restrict restructuring, adaptation to change and the use of technological innovations in the workplace?	No	No	No	No	No
Social inclusion and protection of particular groups	Does the option affect access to the labour market or transitions into/out of the labour market? Does it lead directly or indirectly to greater in/equality? Does it affect equal access to services and goods? Does it affect access to placement services or to services of general economic interest? Does the option make the public better informed about a particular issue? Does the option affect specific groups of individuals, firms, localities, the most vulnerable, the most at risk of poverty, more than others? Does the option significantly affect third country nationals, children, women, disabled people, the unemployed, the elderly, political parties or civic organisations, churches, religious and non-confessional organisations, or ethnic, linguistic and religious minorities, asylum seekers?	No	No	No	No	No
Equality of treatment and opportunities, non-discrimination	Does the option affect equal treatment and equal opportunities for all? Does the option affect gender equality? Does the option entail any different treatment of groups or individuals directly on grounds of e.g. gender, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation? Or could it lead to indirect discrimination?	No	No	No	No	No

Impact category	Details of the category	Impact included?				
		Monitoring exceptions	Hg continuous	PCDD/PCDF sampling	Cement NOx	Blast furnaces
Private and family life, personal data	Does the option affect the privacy of individuals (including their home and communications) or their right to move freely within the EU? Does it affect family life or the legal, economic or social protection of the family? Does the option involve the processing of personal data or the concerned individual's right of access to personal data?	No	No	No	No	No
Governance, participation, good administration, access to justice, media and ethics	Does the option affect the involvement of stakeholders in issues of governance as provided for in the Treaty and the new governance approach? Are all actors and stakeholders treated on an equal footing, with due respect for their diversity? Does the option impact on cultural and linguistic diversity? Does it affect the autonomy of the social partners in the areas for which they are competent? Does it, for example, affect the right of collective bargaining at any level or the right to take collective action? Does the implementation of the proposed measures affect public institutions and administrations, for example in regard to their responsibilities? Will the option affect the individual's rights and relations with the public administration? Does it affect the individual's access to justice? Does the option make the public better informed about a particular issue? Does it affect the public's access to information? Does the option affect the media, media pluralism and freedom of expression? Does the option raise (bio)ethical issues (cloning, use of human body or its parts for financial gain, genetic research/testing; use of genetic information)?	Partly. Impact on public administrations is considered under economic impacts	Yes	Yes	Yes	Partly. Impact on public administrations is considered under economic impacts

Impact category	Details of the category	Impact included?				
		Monitoring exceptions	Hg continuous	PCDD/PCDF sampling	Cement NOx	Blast furnaces
Public health and safety	Does the option affect the health and safety of individuals/populations, including life expectancy, mortality and morbidity, through impacts on the socio-economic environment (e.g. working environment, income, education, occupation, nutrition)? Does the option increase or decrease the likelihood of bioterrorism? Does the option increase or decrease the likelihood of health risks due to substances harmful to the natural environment? Does it affect health due to changes in the amount of noise or air, water or soil quality in populated areas? Will it affect health due to changes energy use and/or waste disposal? Does the option affect lifestyle-related determinants of health such as use of tobacco, alcohol, or physical activity? Are there specific effects on particular risk groups (determined by age, gender, disability, social group, mobility, region, etc.)?	Analysed together with environmental impacts	Yes	Yes	Yes	Analysed together with environmental impacts
Crime, terrorism and security	Does the option improve or hinder security, crime or terrorism? Does the option affect the criminal's chances of detection or his/her potential gain from the crime? Is the option likely to increase the number of criminal acts? Does it affect law enforcement capacity? Will it have an impact on the balance between security interests and the rights of suspects? Does it affect the rights of victims of crime and witnesses?	No	No	No	No	No
Access to and effects on social protection, health and educational systems	Does the option have an impact on services in terms of their quality and access to them? Does it have an effect on the education and mobility of workers (health, education, etc.)? Does the option affect the access of individuals to public/private education or vocational and continuing training? Does it affect the cross-border provision of services, referrals across borders and co-operation in border regions? Does the option affect the financing / organisation / access to social, health and education systems (including vocational training)? Does it affect universities and academic freedom / self-governance?	No	No	No	No	No