

Waste Incineration under the Industrial Emissions Directive

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ENV.C3 (Industrial Emissions)



Overview

■ IPPC Directive 2008/1/EC

→ integrated approach, permits, BAT, BREFs

■ WI Directive 2000/76/EC

→ emission limit values and monitoring (“minimum requirements”)

■ (future) Industrial Emissions Directive (IED)

→ merge IPPC D and WID (+ others)

→ strengthen application of BAT/BREF

→ better implementation (inspections, permit review)

→ increased transparency

→ stricter minimum requirements (ELVs)

- esp. for LCP; mainly status quo for WI

IPPC Directive 2008/1/EC

Integrated Pollution Prevention & Control

IPPC Directive 2008/01/EC

Integrated pollution prevention and control

- Codified version of Directive 96/61/EC
- Aiming at a **high level of protection for the environment as a whole**
- Covering all environmental media (air, water, soil)
- Installations to be operated according to **integrated permits** issued by competent authorities in Member States
- Permits to include **emission limit values** based on **best available techniques (BAT)**, taking into account certain local conditions
- provides for an **exchange of information on BAT** - Article 17(2)

IPPC Directive 2008/1/EC

Annex I: scope

- 5.1. Installations for the disposal or recovery (R1, R5, R6, R8 & R9) of hazardous waste with a capacity > 10 t/day
 - Disposal: incl. incineration on land
 - Recovery: incl. use as fuel
- 5.2. Installations for the incineration of municipal waste (household waste + similar wastes) with a capacity > 3 t/h
- Other activities possibly involving waste co-incineration
 - large combustion plants (> 50 MW), cement kilns, lime kilns, ...

Best

most effective
in achieving a
**high general
level of
protection** of
the
environment
as a whole

Available

developed on a scale
to be implemented in
the relevant industrial
sector, **under
economically and
technically viable
conditions**, advantages
balanced against costs

Techniques

the **technology**
used *and* the
way the
installation is
**designed, built,
maintained,
operated and
decommissioned**

BAT information exchange: BREFs

- **Only referred to in Annex IV**
 - as one of the “considerations to be taken into account (...) when determining BAT (...)”
- **Describe / define BAT to support competent authorities**
- **Process**
 - **BREF author** from IPPC Bureau (Commission)
 - **Technical Working Groups**: Member States, industry, NGOs
 - **Sevilla Process**: Data gathering and exchange, meetings (3-4 years)
 - Agreement on draft final BREF by **Information Exchange Forum (IEF)**
 - Formal adoption and publication by **Commission**
- **Result: 32 BREFs: sectoral - horizontal**
 - **Waste Incineration and Waste Treatment: adopted 2006**

Review of the BREFs

- To take account of dynamic nature of BAT

- Review cycle: 6-10 years

- Main concerns

- New processes, techniques
- Updated levels of performance
- Coherence with other BREFs

- Status

- Finished (adopted): Cement/Lime/MgO
- TWG work finished: Glass, Iron/Steel
- Ongoing: Non-Ferrous Metals, Pulp/Paper, Livestock, Refineries, ...
- To start 2010- : LCP, LVOC, ...
- Later on: **Waste Treatment, Waste Incineration**



Waste Incineration Directive 2000/76/EC

Waste incineration Directive (WID) 2000/76/EC

- **Scope: all incineration and co-incineration plants**
 - no capacity threshold
 - all types of waste **EXCEPT** experimental plants, "biomass" plants, animal carcasses, radioactive waste, ...
- **incineration plant**
 - **dedicated** to the thermal treatment of waste
- **co-incineration plant**
 - main purpose = **energy** generation or production of **material product**
 - which uses waste as regular or additional **fuel**
 - OR in which waste is thermally treated for the purpose of **disposal**
- WID sets **minimum requirements**
 - ➔ **not necessarily sufficient to meet IPPC requirements**

WID vs BREF

mg/Nm ³	WID (ELV)	BREF (BAT-AEL)
Dust	10	1- 5
HCl	10	1- 8
SO ₂	50	1- 40
NO _x	200 (400 if < 6 t/h)	40-100 (SCR) 120-180 (no SCR)
Hg	0.05	0.001-0.02

IPPC Recast: Industrial Emissions Directive (IED)

Review of the IPPC Directive
and related legislation on industrial emissions

IPPC Review (2006-07)

Main concerns with the status quo

- 1) **Insufficient implementation of BAT**
- 2) Limitations with regard to **compliance enforcement** and **environmental improvements**
- 3) Unnecessary **administrative burdens** due to complexity and inconsistency of parts of legal framework
- 4) Insufficient **scope** and **unclear provisions** to achieve the Thematic Strategy objectives (air, waste, soil)
- 5) Constraints on the use of more **flexible instruments**, such as NO_x and SO₂ emission trading systems

WID Review (2007)

- **No major implementation issues found**
- **ELVs from WID not too far away from BAT levels**
 - require similar abatement measures
(fabric filter, SCR/SNCR, semi-dry/wet scrubbers)
 - specific issue with cement kilns

Commission Proposal for an Industrial Emissions Directive (IED)

IPPC Recast Proposal: COM(2007) 844 final, 21.12.2007

- **Recasts** into one single act the IPPC Directive and 6 other 'sectoral' Directives, incl. WID
- Key IPPC principles are kept
- Sectoral « minimum » requirements revised
- Main changes aimed for:
 - **strengthening of BAT implementation**
 - Stronger role of BREFs and BAT AELs in them
 - Clearer provisions on permit reconsideration and inspections
 - **stricter EU wide emission limit values for LCPs**

Ordinary legislative procedure

(ex 'co-decision')

- **Council position at first reading:** adopted on 15 Feb 2010
- **Second reading in EP and Council:** March – June 2010
- If agreement: adoption by end 2010
- Then...
 - entry into force: 2012
 - application for existing installations: 2012-2016

IED: BREF process

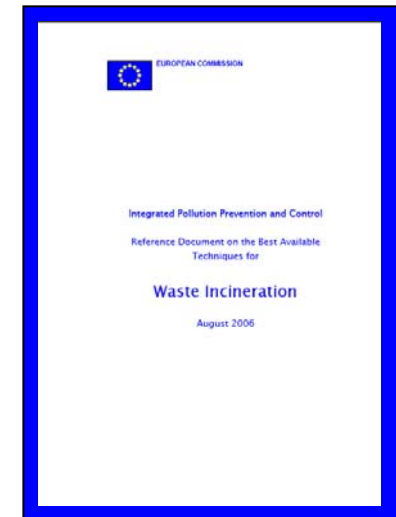
Information exchange = as Sevilla process under IPPCD

Forum = as IEF under IPPCD

Outcome = **BREF and BAT conclusions** containing i.a. **BAT AELs**

Adoption of **BAT conclusions** by Cion (*all EU languages*) taking into account opinion of the Forum

Publication of complete BREF by Cion

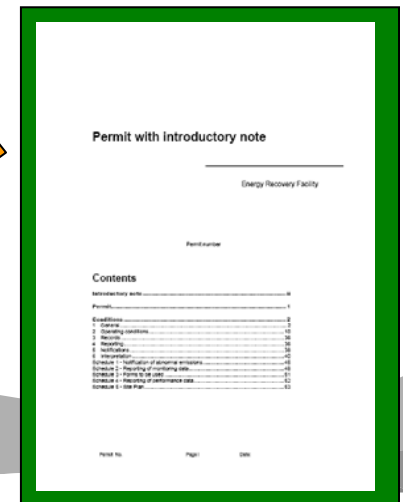
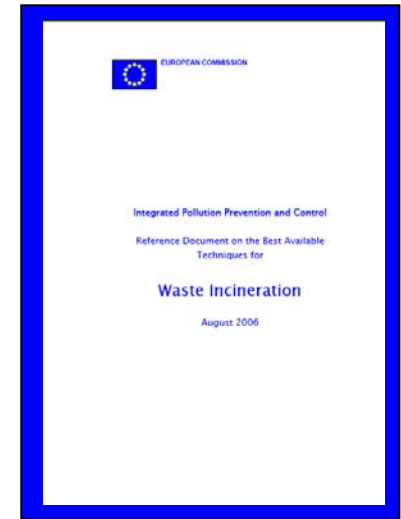
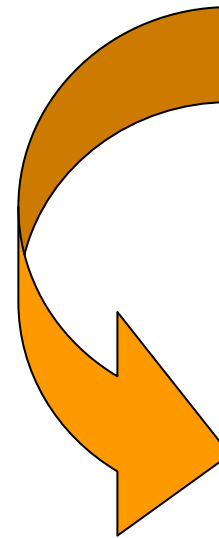


IED: strengthening the role of BAT/ BREFs in the setting of permit conditions and ELVs

BAT conclusions shall be the reference for setting the permit conditions

Permits must contain emission limit values (ELVs) set by the competent authority that ensure that emissions do not exceed BAT AELs

Derogation from BAT AELs is allowed in specific cases as long as it is justified (costs vs benefits in relation to criteria)



IED: changes related to waste incineration

■ Scope of Chapter I/II (IPPC)

5.2. Disposal or recovery of waste in waste incineration plants or in waste co-incineration plants

- (a) for non hazardous waste with a capacity exceeding 3 t/h
- (b) for **hazardous waste** with a capacity exceeding 10 t/day

■ Scope of Chapter IV (WI) same as under WID

■ Annex VI “**minimum**” **ELVs** same as under WID except:

- existing cement kilns co-incinerating waste: NO_x -> 500 mg/Nm³
- co-incineration in large combustion plants: streamlined with new LCP limit values

IED: other relevant changes

■ Permit reconsideration

→ linked to adoption of BAT conclusions

■ Soil

→ baseline report

→ site closure: back to baseline and no significant risk

■ Inspections

→ plans and programmes

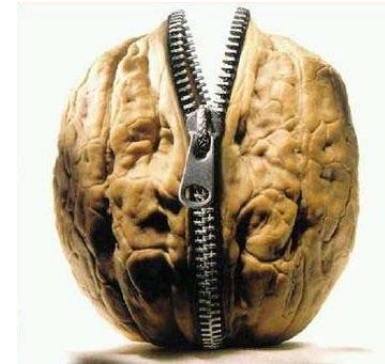
→ risk based approach, with frequency to be set for site visits

■ Transparency

→ making information public, incl. on internet

■ Scope

→ few activities added (some waste related)





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For more information...

- **DG ENV industrial emissions website**
<http://www.ec.europa.eu/environment/ippc/index.htm>
- **European IPPC Bureau (BREFs)**
<http://eippcb.jrc.ec.europa.eu/reference/>