



Workshop on Implementation of BAT Conclusions for Waste Incineration

Panoramic view of the puzzle:
legal framework and background

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Panoramic view of the puzzle: legal framework and background

- A pinch of history
- Underlying principles for WtE permits
- Catches
- BREF and BAT conclusions – The Seville process
- Others: Large Combustion Plants (LCP) BREF, Waste Treatment (WT) BREF, Reference Report on Monitoring (ROM)

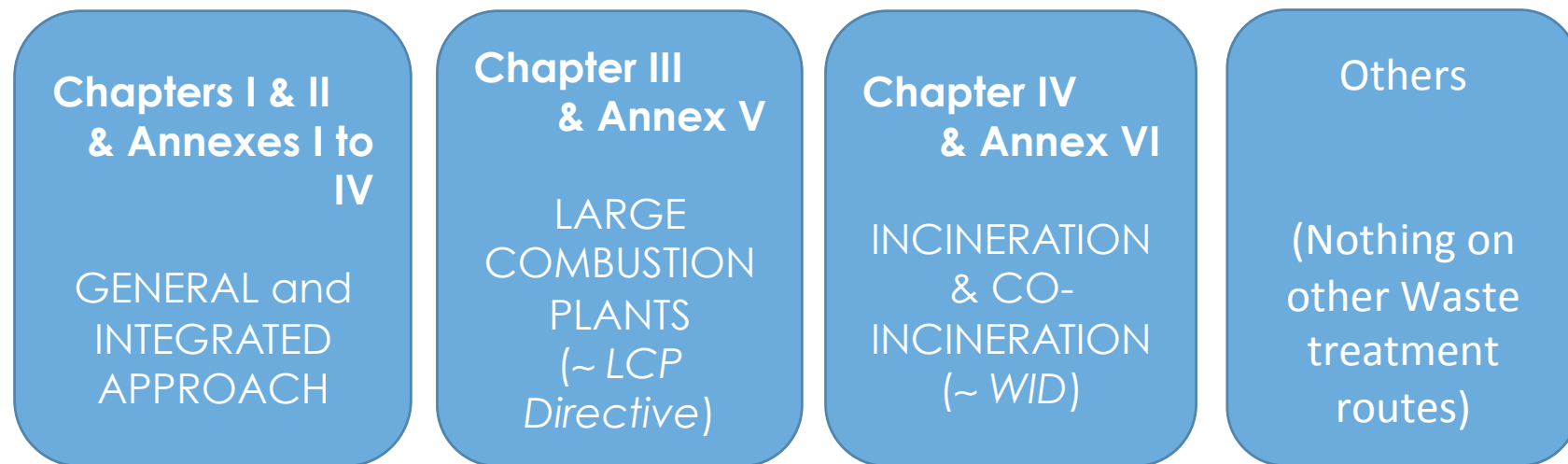


A pinch of history

WtE plants have been regulated at EU level since 1989 with the first Waste Incineration Directive (WID)



In 2010 the WtE sector was included in the scope of the so-called Industrial Emissions Directive (IED), which was the result of a merger of several directives (including the revised WID 2000/76/EC).





Legal Framework

Principle-pillar (IED recital (5))

*In order to ensure the prevention and control of pollution, each installation should operate only if it holds a **permit** [...].*



In particular:

IED, Art.14.3 – BAT conclusions shall be the reference for setting the permit conditions.



Legal Framework

BAT conclusions consist of BATs and their associated environmental performance and are included in a specific chapter of BAT REference documents (BREFs), which, **since the IED**, are defined as (IED, Art 3.11):

Permit
of WtE
plant

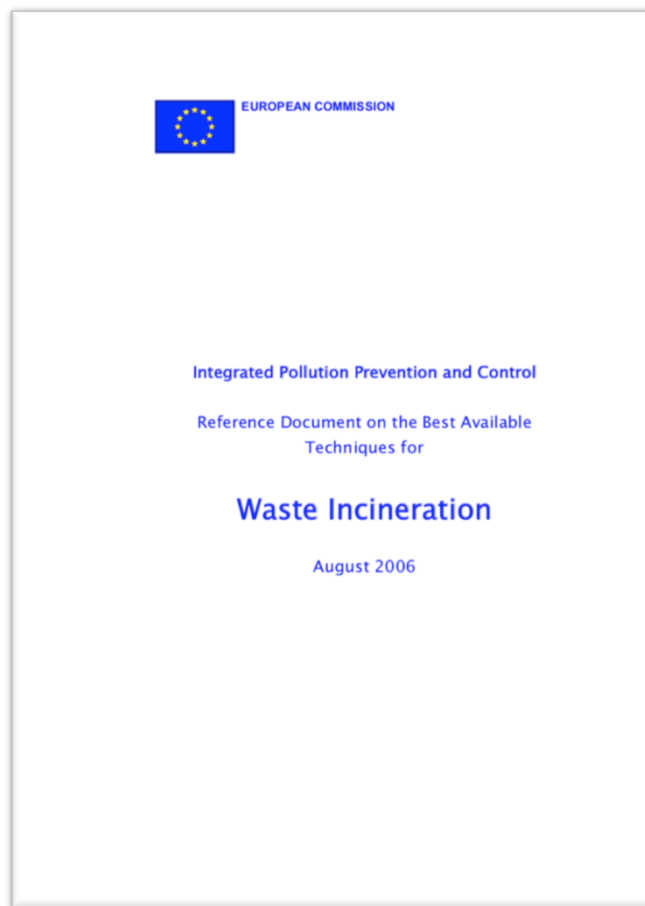
*'BAT reference document' means a document, **resulting from the exchange of information organised pursuant to Article 13**, drawn up for defined activities and describing, in particular, applied techniques, present emissions and consumption levels, techniques considered for the determination of best available techniques as well as **BAT conclusions** and any emerging techniques, giving special consideration to the criteria listed in Annex III;*



However...

There is a catch. The 2006 WI BREF.

The 2006 WI BREF was published before the IED and under the IPPC Directive. It was a for-information document, **without any binding nature.**



It is a **common misunderstanding** to make comparison between the BAT conclusions in 2006 WI BREF and BAT conclusions in the upcoming 2019 WI BREF.

	IPPC Directive 1996	IED 2010
Implementation of BATs in general	Mandatory on the basis of the general definition of BATs.	Mandatory in reference to the list of BAT conclusions given in the BREF
BREFs	Not mentioned (introduced in EU law by IED).	Defined in the IED (see Art. 3 and 13). Only the BAT conclusions chapter is translated in the EU 23 languages and is the reference for setting the permit conditions (IED, Article 14.3).
Use of the BATs listed in the BREFs	For information.	Should be used as a reference (see above). However, the list of BATs listed in the BAT conclusions is neither prescriptive nor exhaustive.
BATAELs	Not mentioned. For information in BREFs, as typical levels normally observed when using BATs.	<u>Future ELVs must be set to ensure that emissions do not exceed BATAELs under NOC (Normal Operating Conditions).</u> (See IED, Article 15,3)
(Other*) BATAEPLs (BAT Associated Environmental Performance Levels).	Not mentioned. Added for information.	Not mentioned. No requirement related to the BATAEPLs (other than BATAELs). Added by the Commission's BREF Guidance (Commission decision 2012/119/EU).



However...

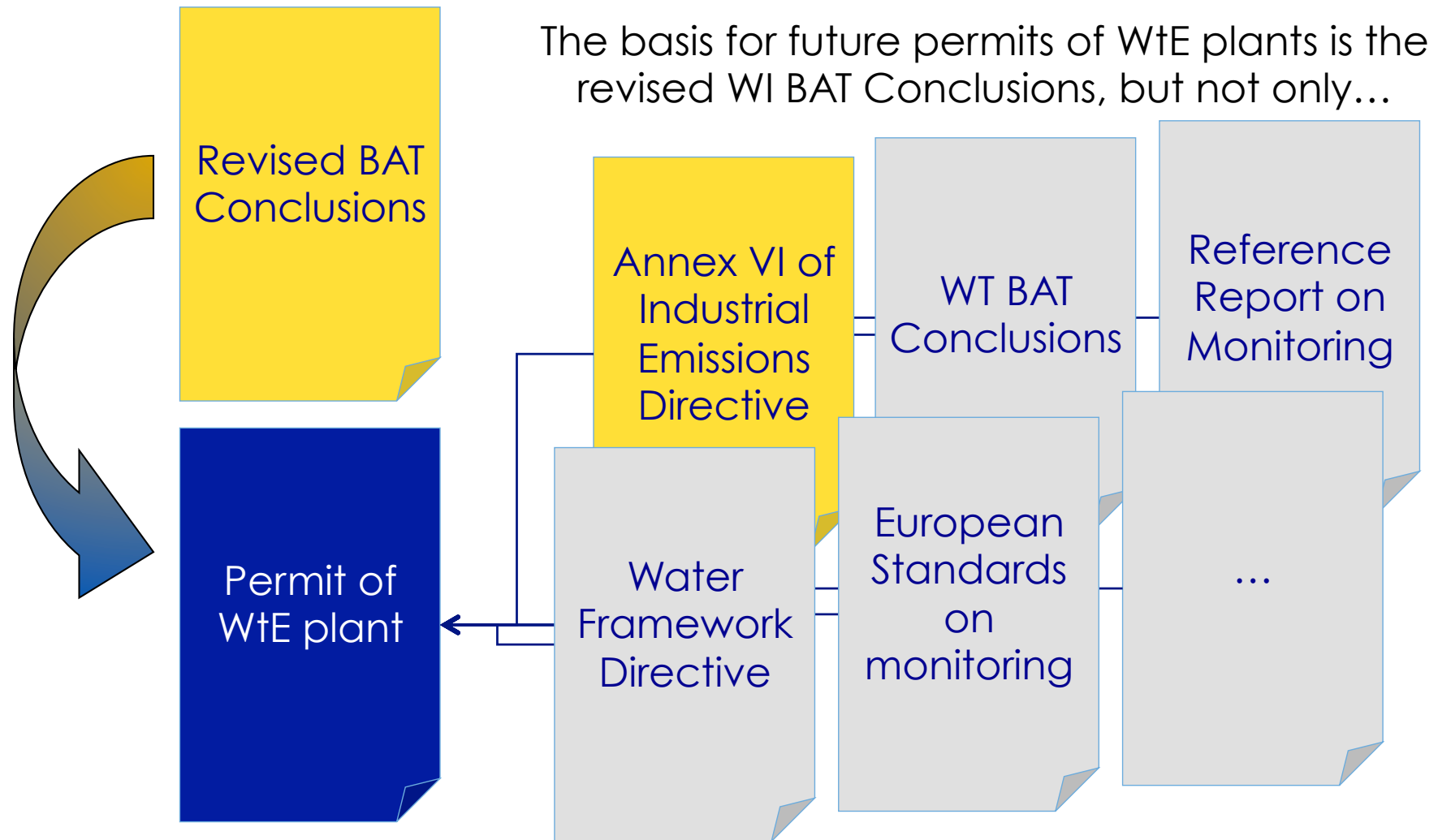
There is another catch. IED Annex VI.

IED Annex VI contains specific provisions for the waste incineration sector, including Emission Limit Values (ELVs) and compliance rules. Apart from the WI sector, only LCPs and solvent production have dedicated annexes.

These provisions, e.g. on compliance, are not included in the soon-to-be-published WI BAT Conclusions. How to manage the interlinks between Annex VI and BAT conclusions is still an open question in many cases.



Legal Framework - Interactions





Legal Framework – In practice

Permit of
WtE
plant

IED Article 3 (10): "**'best available techniques'** means the **most effective and advanced stage** in the development of activities and their methods of operation which indicates the practical **suitability** of particular techniques for providing the **basis for emission limit values and other permit conditions** designed to prevent and, where that is not practicable, to **reduce emissions and the impact on the environment as a whole**:

(a) **'techniques'** includes **both the technology used and the way** in which the installation is designed, built, maintained, operated and decommissioned;

(b) **'available techniques'** means those developed on a scale which **allows implementation in the relevant industrial sector**, under **economically and technically viable conditions**, taking into consideration **the costs and advantages**, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator;

(c) **'best'** means most effective in achieving a high general level of **protection of the environment as a whole**;"

BATs should be appreciated on Multiple Criteria (= Integrated approach)

Introduced in 1996 by IPPC Directive

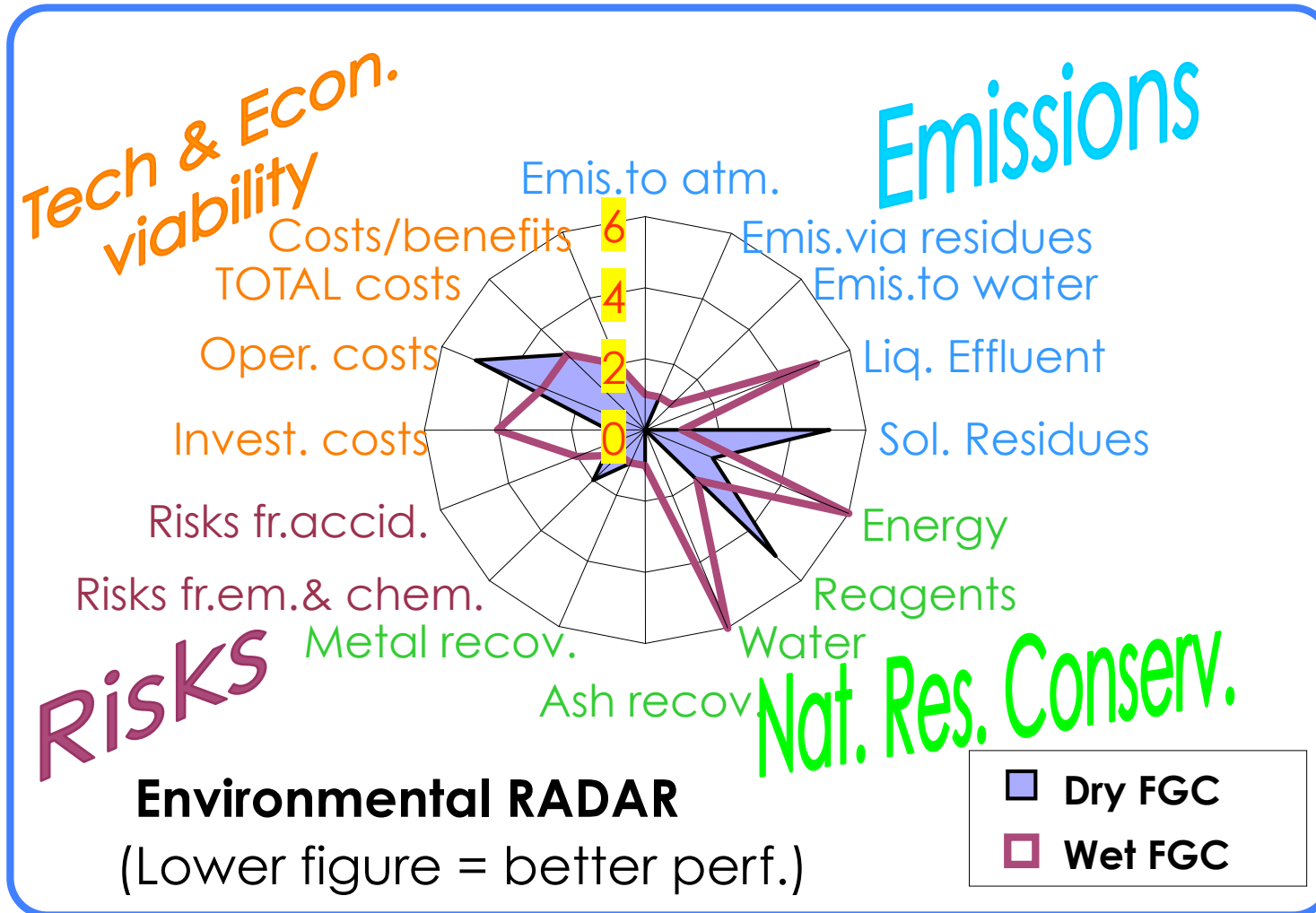
(Reinforced in 2010 by IED (2010/75/EU))

Considerations to take into account to determine
the Best Available Techniques (IPPC directive Annexe IV and IED Annex III)

Example (see diagram next page)

	CONSIDERATIONS	INDICATORS	Technique 1	Technique 2
EMISSIONS	Emissions and Impacts (criterion nr. 6 & 10)	Emissions to air	1	1
		Emiss. via residues	1	1
		Emissions to water	0	1
	Low waste techniques (criterion nr. 1)	Liquid Effluent	0	5
		Solid Residues	5	1
NATURAL RESOURCES CONSERV.	Raw material & Efficiency (criterion nr. 9)	Energy	2	6
		Reagents	5	2
		Water	0	6
	Recovery & Recycling criterion nr 3	Ash recov.	1	1
		Metal recov.	1	1
RISKS	Risks from haz.subst., env. emiss. and accid. (crit. n° 2,10,11)	Risks fr.em.& chem.	2	1
		Risks from accid.	1	2
TECHNIQUE & ECONOMY	Economical and Technical viability (nr 4, 5, 7, 8 & def. of "available technique", art 10.b)	Invest. costs	1	4
		Operation costs	5	3
		TOTAL costs	3	3
		Costs/benefits	2	2

Legal framework - Integrated approach




Comparison between wet and dry FGC techniques



Legal framework – Wording trap

Wording	Meaning	Comment
BAT conclusions	Chapter of the BREF with the conclusions on BATs	Chapter 5 in the WI BREF
BAT conclusions	Commission Implementing Decision with conclusions on BATs	The content is the same as the one of the BREF chapter on BAT conclusions
BAT	Numbered BAT conclusions in a.m. chapter and Decision	In order not to confuse them with BATs, here they are called 'BAT-c'
BAT	Techniques listed in individual 'BAT-c', usually numbered a), b), c), d) etc.	These are the actual BATs as defined in Article 3.10, neither prescriptive nor exhaustive



Legal framework – BAT conclusions

The “BAT conclusions” chapter of BREFs is

- Intended to be written as a stand-alone document
- Translated in 23 EU languages
- Published as a **Commission Implementing Decision**



IED Art.21

- "**Within four years of publication of decisions on BAT conclusions** in accordance with Article 13(5) relating to the main activity of an installation, the competent authority shall ensure that:
 - (a) all the permit conditions for the installation concerned are reconsidered and, if necessary, updated to ensure compliance with this Directive [IED];
 - (b) the installation complies with those permit conditions.
- The reconsideration shall take into account **all the new or updated BAT conclusions applicable** to the installation and adopted since the permit was granted or last reconsidered."

Legal framework – BAT conclusions

According to BREF guidance (Comm. Decision 2012/119/EU) include a series of “BAT conclusions” in a **standardised format**

Example of an individual BAT conclusion which includes emission levels associated with BAT (BAT-AELs)

42. In order to reduce VOC emissions from process AA, BAT is to use one or a combination of the techniques given below.

	Technique	Description	Applicability
a	aa	[description]	new plants
b	bb		existing plants
c	cc		

The BAT-AELs for VOC are:

- For new installations: 10–20 mg C/Nm³ as a daily average under reference conditions xx, yy, ...
- For existing installations: 20–30 mg C/Nm³ as a daily average under reference conditions xx, yy, ...

Derogation from BATAELs allowed in specific & justified cases (IED Art.15.4)

- Need to demonstrate that costs are disproportionately higher than benefits due to local/installation-specific situations
- Member States report to the public/Commission on use of derogations

NB: applicability often includes ‘*generally applicable*’ that according to EIPPCB does not mean ‘*always applicable*’.



Legal framework – BAT conclusions

The legal basis for the exchange of information on BAT

- Article 13(1) of the Industrial Emissions Directive 2010/75/EC:
 - *'In order to draw up, review and, where necessary, update BAT reference documents, the Commission shall organise an **exchange of information between Member States, the industries concerned, non-governmental organisations promoting environmental protection and the Commission**'*
- The exchange of information should address:
 - the performance of installations and techniques in terms of emissions and consumptions, etc.
 - the techniques used, associated monitoring, economic and technical viability, etc.
 - best available techniques and emerging techniques identified after considering all the issues concerned

Legal framework – BAT conclusions

The legal basis for the exchange of information on BAT

EU Member States **Committee** (IED Article 75)

Members of the Committee:

- vote the BAT conclusions

'**Forum**' (IED Article 13) lead by the Commission:
industry, Member States, environmental NGOs

Forum members:

- guidance to COM
- nominate in TWGs
- formal opinion on BREFs

European IPPC Bureau (**EIPPCB**)

Technical Working Group (TWG)

- Industry
- Member States
 - NGOs
- Commission

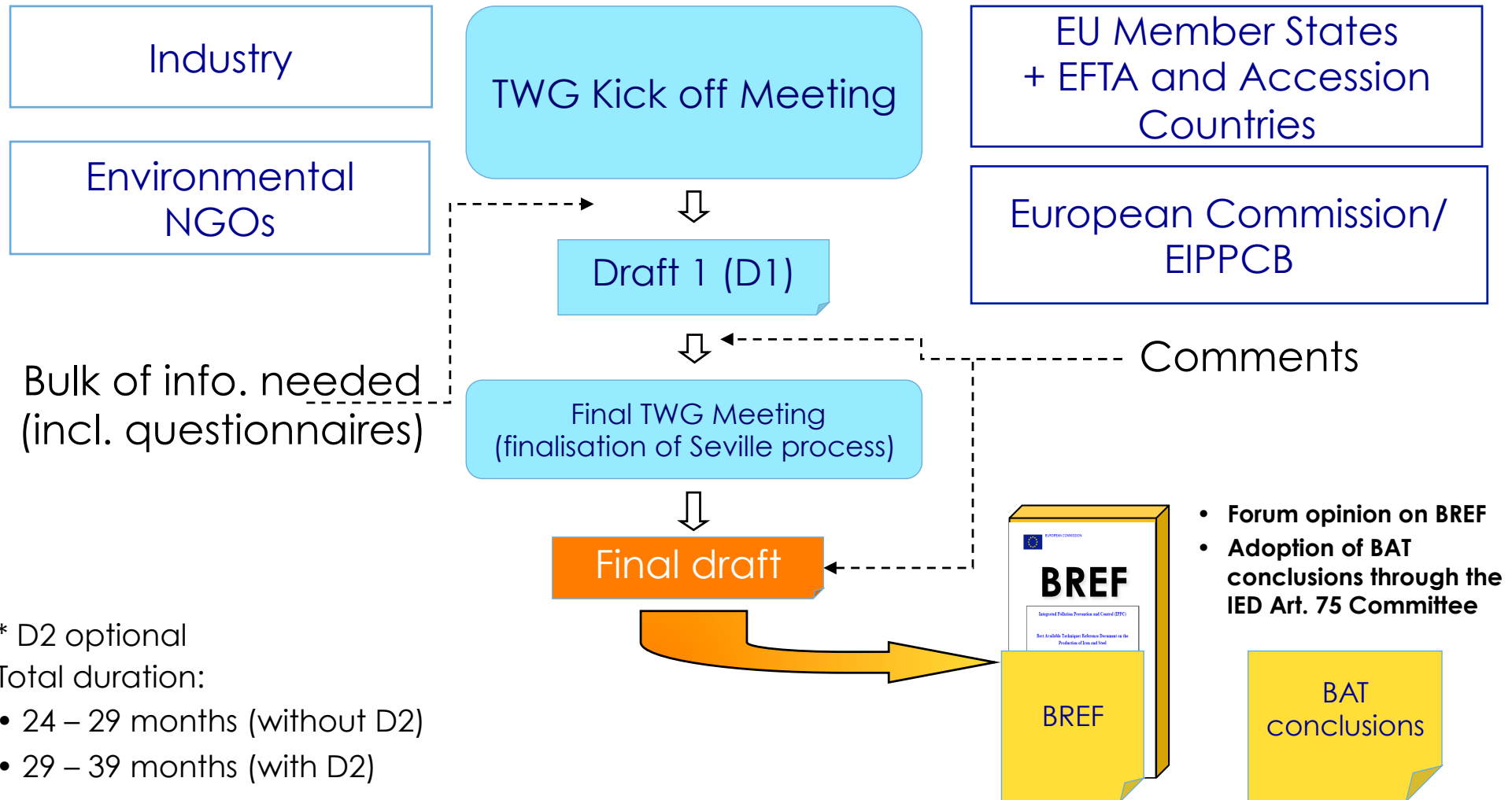
BREF authors team:

- lead TWGs
- validate/check information
- draft BREFs

TWG members:

- research information
- peer review draft BREFs

Legal framework – The Seville process



* D2 optional
 Total duration:
 • 24 – 29 months (without D2)
 • 29 – 39 months (with D2)



Implementation of BAT conclusions – starting point

Within 4 years from BAT conclusions publication, competent authority should ensure that:

- all the permit conditions are reconsidered and, if necessary, updated to ensure compliance with IED (and BAT-c)
- the installation complies with those permit conditions.

IED Articles 12, 14 to 16 and 18 to 24 provide

- Elements for the permit application and obligations of the operator
- Measures to be included in the permit and main tasks of the competent authority

BAT conclusions, in practice, summarise most of these measures

- setting ELVs that ensure that, in NOC, emissions do not exceed BATAEL values. Here these future ELVs are called: “BATAEL-based ELVs”

Important: MSs can adopt General binding rules (see IED Art.6)

- In such case, the permit may simply include a reference to such rules. This simplifies the application form and the local negotiations



A glimpse at other BREFs interesting for the sector





LCP (Large Combustion Plants) BREF

- Scope

- 1) Combustion in plants $\geq 50 \text{ MW}_{\text{th}}$ (Sum of Units $\geq 15 \text{ MW}_{\text{th}}$)
- 2) Gasification of coal or other fuels, if $\geq 20 \text{ MW}_{\text{th}}$ and if combustion of syngas
- 3) Co-incineration of waste in LCP (see (1) above), if $> 3 \text{ t/h}$ (or, for haz. waste, if $> 10 \text{ t/d}$)

- All fuels (solid, liquid, gaseous)

- Including biomass and some waste (co-incinerated)
- Excluded: MSW and similar waste, radioactive waste, animal carcasses

Link:

<http://eippcb.jrc.ec.europa.eu/reference/>

- **LCP BREF:** Large Combustion Plants BAT Reference document
- **MSW:** Municipal Solid Waste



LCP BREF – New pollutants to be monitored in LCP

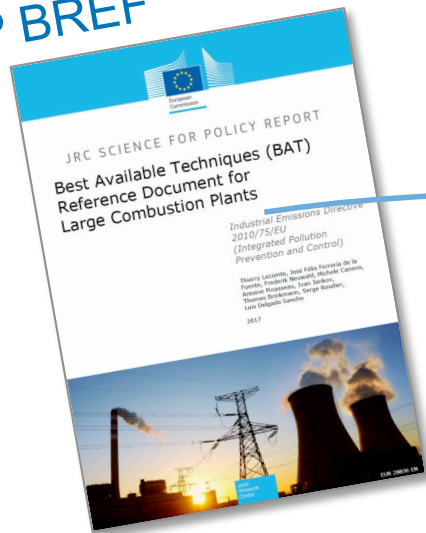
- **New pollutants** have been added to the 4 controlled up to now for LCPs (which were Dust, NO_x, SO₂ and CO)
 - For coal and lignite, biomass and peat alone or co-incinerated with waste :
 - NH₃, N₂O, HCl, HF, Hg
 - For co-incineration of waste with coal, lignite, biomass or peat
 - In addition to the substances above (NH₃, N₂O, HCl, HF, Hg)
 - TVOC, PCDD/F, Cd + Tl and other metals (Sb + As + Pb + Cr + Co + Mn + Ni + V)
- Although new for LCPs, most of these pollutants, are already limited in Waste-to-Energy plants for a long time

LCP BREF - Dates

- **LCP**: Large Combustion Plants
- **OJEU**: Official Journal of the European Union

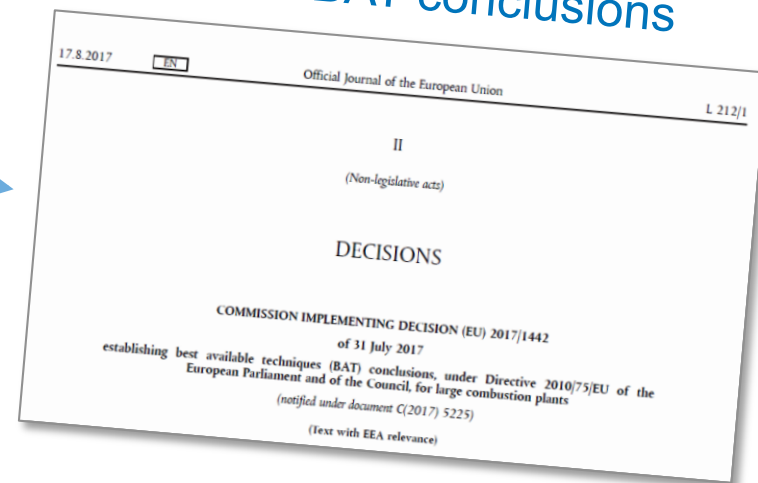
- **LCP BAT conclusions published 17/8/2017** in OJEU, in 23 EU languages as “Commission Implementing Decision (EU) 2017/1442” of 31/7/2017,
⇒ **Implementation before 18/8/2021** (4 years)
- **LCP BREF** released around 11/2017 on JRC-EIPPCB website, only in English
- **Court case** by Poland against Commission 18/10/2017. Bulgaria supports 1/2018

• LCP BREF



≈ Chapter 10

• LCP BAT conclusions





Waste Treatment BREF

Scope

- All waste management routes, except
 - Incineration (addressed in the WI BREF)
 - Co-incineration (addressed in WI BREF, LCP BREF and CLM BREF)
 - Landfilling (no BREF)
 - **the treatment of IBA, onsite and offsite** (addressed in the WI BREF)
- Includes
 - Waste **pre-treatment**, if any, before incineration or co-incineration
 - WI **FGC residues treatment**

Structure

- Mechanical treatment of waste
- Biological treatment of waste
- Physico-chemical treatment of waste
- Treatment of water-based liquid waste

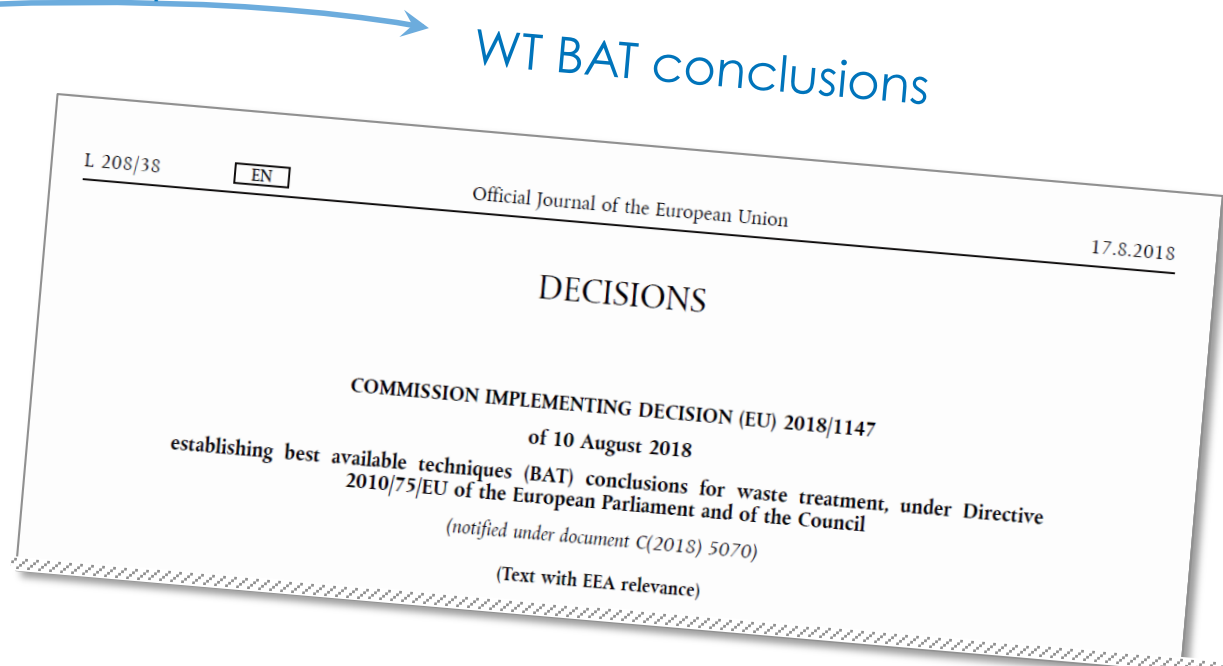
Waste Treatment BREF

Revised WT BAT conclusions published 17/8/2018 in OJEU, in 23 EU languages as “Commission Implementing Decision (EU) 2018/1147”

⇒ Implementation **before 18/8/2022** (4 years)

Revised WT BREF published in 11/2018 on JRC-EIPPCB website, only in English

≈ Chapter 6





Reference Report on Monitoring (ROM)

Aim

- “to **inform competent authorities and operators** of the **general aspects of the monitoring** of emissions to air and water [...];
- to bring together **information on monitoring** of emissions that may be of use to TWG members including the European IPPC Bureau when working on BREFs and their BAT conclusions.”

Covered topics

- “general aspects of monitoring” including “quality assurance, including personnel and laboratory qualifications, use of EN, ISO and other standards, as well as **measurement uncertainty**”
- monitoring of emissions to air and water

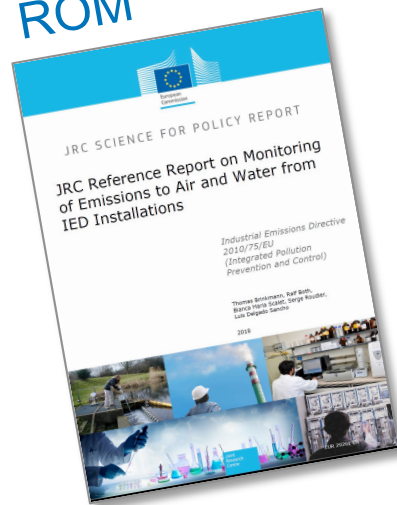
Excluded: “Monitoring considerations for specific industrial sectors: **Industry-specific aspects are covered by sectoral BREFs, if deemed relevant.**”

Reference Report on Monitoring (ROM)

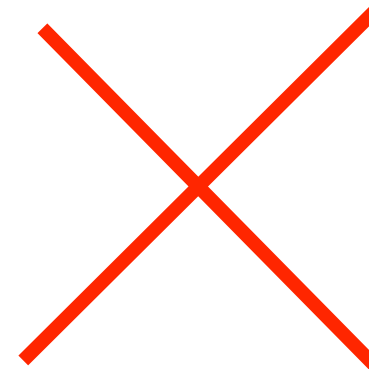
ROM is not a BREF but a Reference Report (REF) so it does not have to follow the rules of the information exchange. Also, it does not include BAT conclusions.

- Latest ROM published in 8/2018 on JRC-EIPPCB website, only in English

ROM



No BAT conclusions





Thank you!

Questions?

