



Best Available Techniques for Waste Incineration

Lighea Speciale

Acronyms



AMS

TWG



BAT-AEL

IED

ELV

Table of Contents



- Legal Framework
- How does the review work?
- Critical aspects of the BREF WI Review
- Current status
- Calibration standard

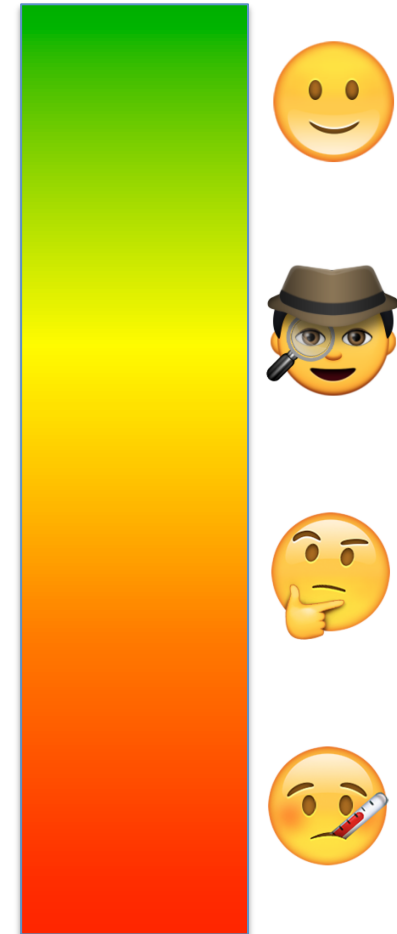


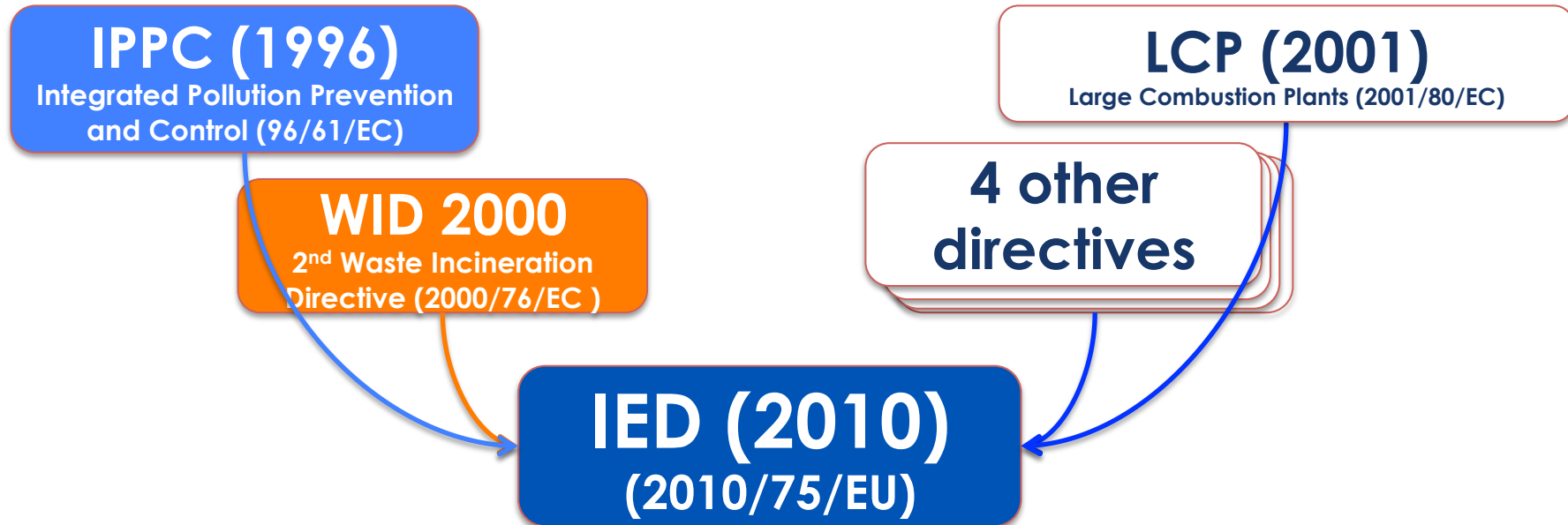
Table of Contents



➤ Legal Framework



Legal Framework



- **prevent** and, if not feasible, reduce pollution
- high level of **protection for the environment as a whole**
- **Permits of plants** based on **Best Available Techniques (BAT)**

BAT are determined by a Technical Working Group steered by the JRC (EIPPCB) and documented in BREFs

'BAT conclusions' are secondary legislation

Changes in the legal framework

Revised BAT conclusions are the reference for setting/updating permit conditions (within four years from the publication)

“Permits to contain emission limit values (ELVs) to ensure that, under normal operating conditions, emissions **do not exceed BAT-associated emission levels (BAT-AELs)**”

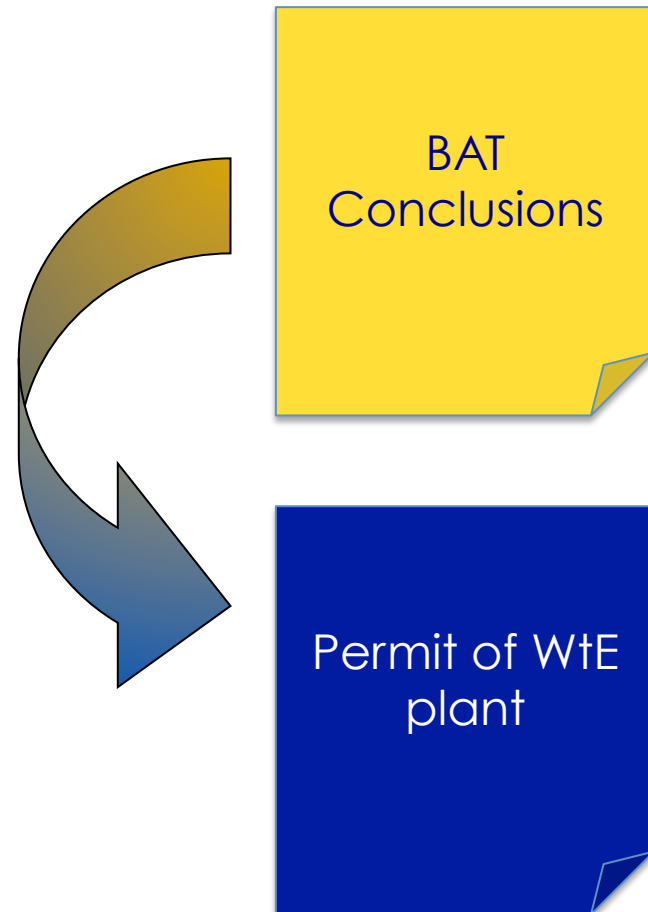


Table of Contents



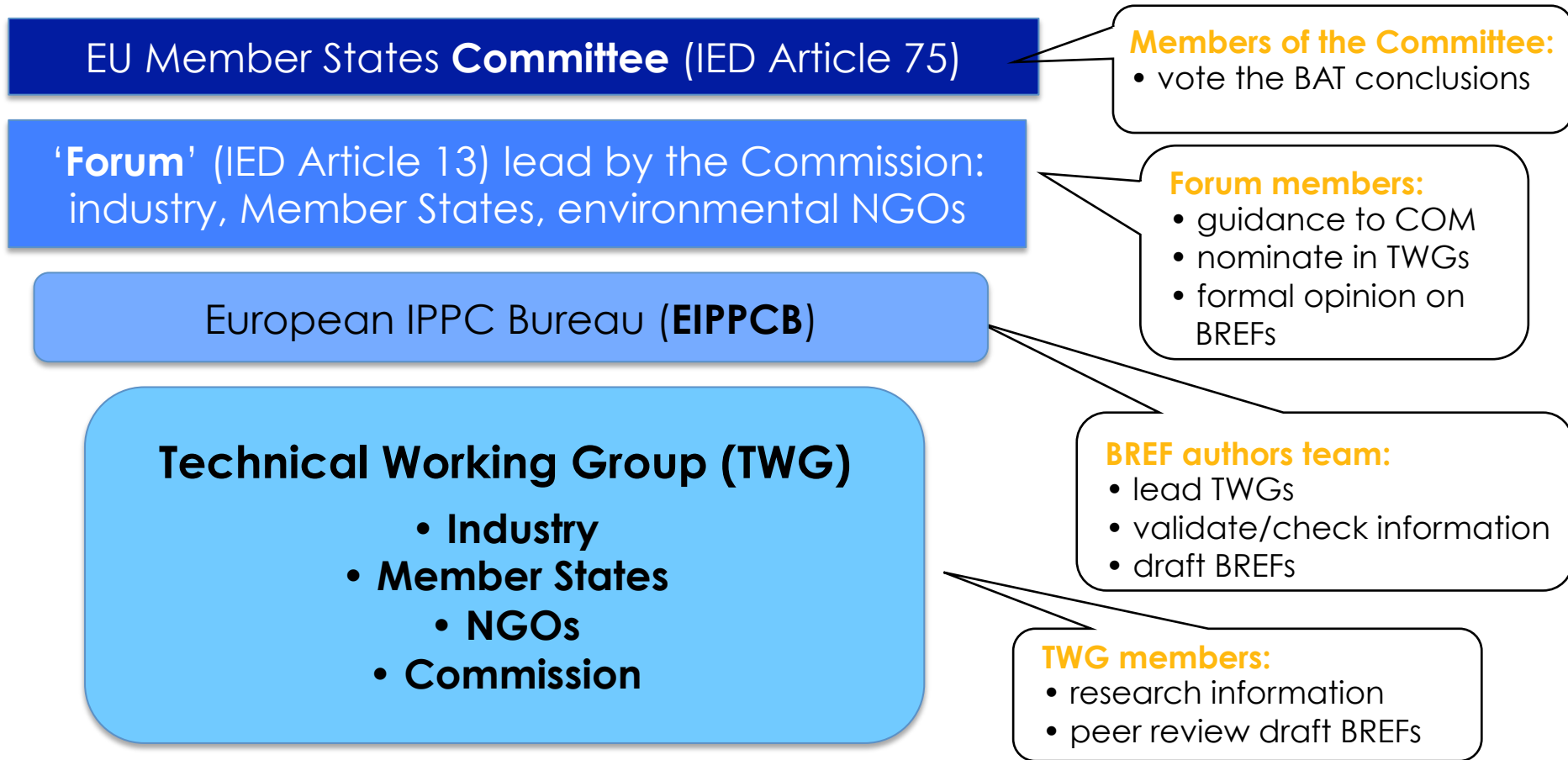
➤ How does the review work?

The “Sevilla process”: a complex consensus-building exchange of information with numerous stakeholders and underpinned by sound techno-economic information that has been enshrined into law by:

Commission Implementing Decision 2012/119/EU



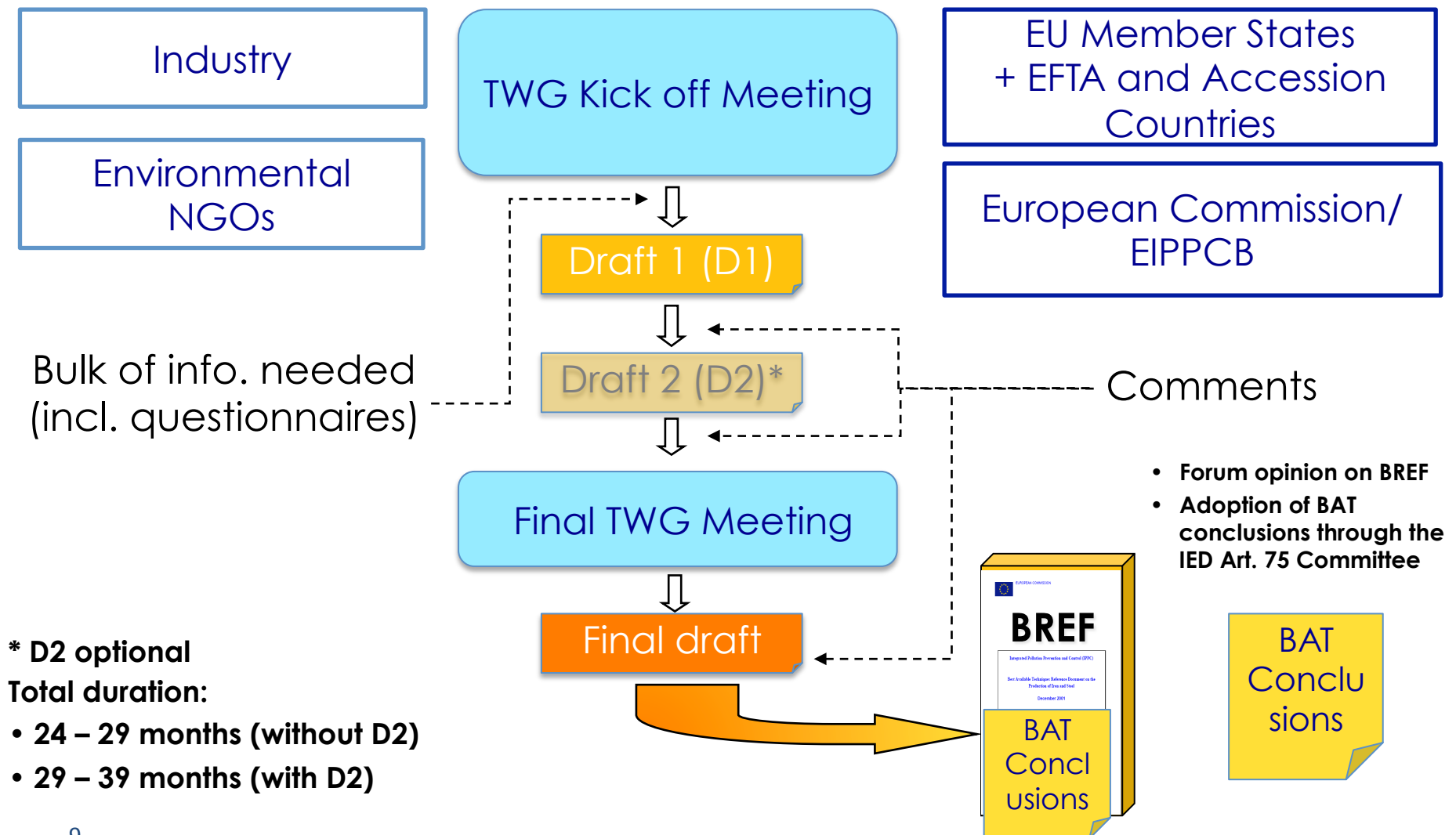
How does the review work?



CEWEP represented in the WI BREF TWG by 9 people, from the secretariat and the members (Itad, BW2E, Utilitalia, SVDU, Avfall Sverige)

How does the review work?

The 'Sevilla process'



How does the review work?



CEWEP is involved in the Review as member of the TWG. The preparation for the work is developed within *CEWEP – ESWET Joint Working Group (JWG) on BREF WI*

- Participants: experts from CEWEP and ESWET members
- Chairs: Ella Stengler (CEWEP) and Edmund Fleck (MARTIN/ESWET)
- Observers: FEAD and Municipal Waste Europe (MWE)
- Regarding critical issues: JWG makes proposals which will be formally approved by the board of each association

Table of Contents



- Critical aspects of the BREF WI Review



Critical aspects of the BREF WI Review 1/

BREFs refer only to EU legislation but they are drafted from data delivered with national/regional rules

The BREFs must be drawn up EXCLUSIVELY in compliance with the EU regulation*



The experts involved in the review must clear their mind and disregard their national implementation rules

And to make it more complicated...

It is crucial to identify the national rules which may affect the nature of the data collected, e.g.:

- How some data can be discarded from the yearly set in some MS
- How is the confidence interval deducted
- How are the Limits of Detection/Quantification taken into account
- How is compliance checked (column A or B, 4-hr/60-hr counter...)

Critical aspects of the BREF WI Review 2/

**IED General regime:
compliance in
Normal Operating
Conditions (NOC)**



*IED special regime
for incineration:
compliance in
Effective Operating
Time (EOT)*

IED does not define NOC nor OTNOC (Other Than Normal Operating Conditions) but gives examples of OTNOCs.

Critical aspects of the BREF WI Review 2/

IED General regime:

▶ Compliance of emissions to air assessed in Normal Operating Conditions (NOC)

- IED, Article 15: “The competent authority shall set emission limit values that ensure that, under normal operating conditions, emissions do not exceed the emission levels associated with the best available techniques as laid down in the decisions on BAT conclusions referred to in Article 13(5) ...”

▶ BAT-AELs defined in Normal Operating Conditions (NOC)

- Article 3.13 defines: “emission levels associated with the best available techniques' as 'the range of emission levels obtained under normal operating conditions using a best available technique or a combination of best available techniques, expressed as an average over a given period of time, under specified reference conditions”.

IED does not define NOC nor OTNOC (Other Than Normal Operating Conditions) but gives examples of OTNOCs.

Critical aspects of the BREF WI Review 2/

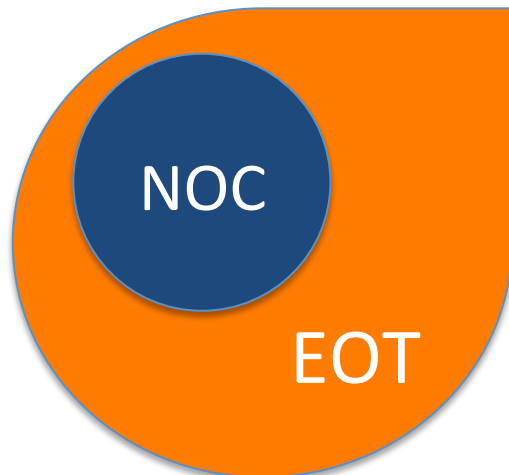
IED special regime for incineration:

All ½-hr and 10-min values* must be calculated and comply with ELVs within the Effective Operating Time (EOT)

(Annex VI, Part 8, §1.2)

“1.2. The half-hourly average values and the 10-minute averages shall be determined within the effective operating time (excluding the start-up and shut-down periods if no waste is being incinerated) (...)”

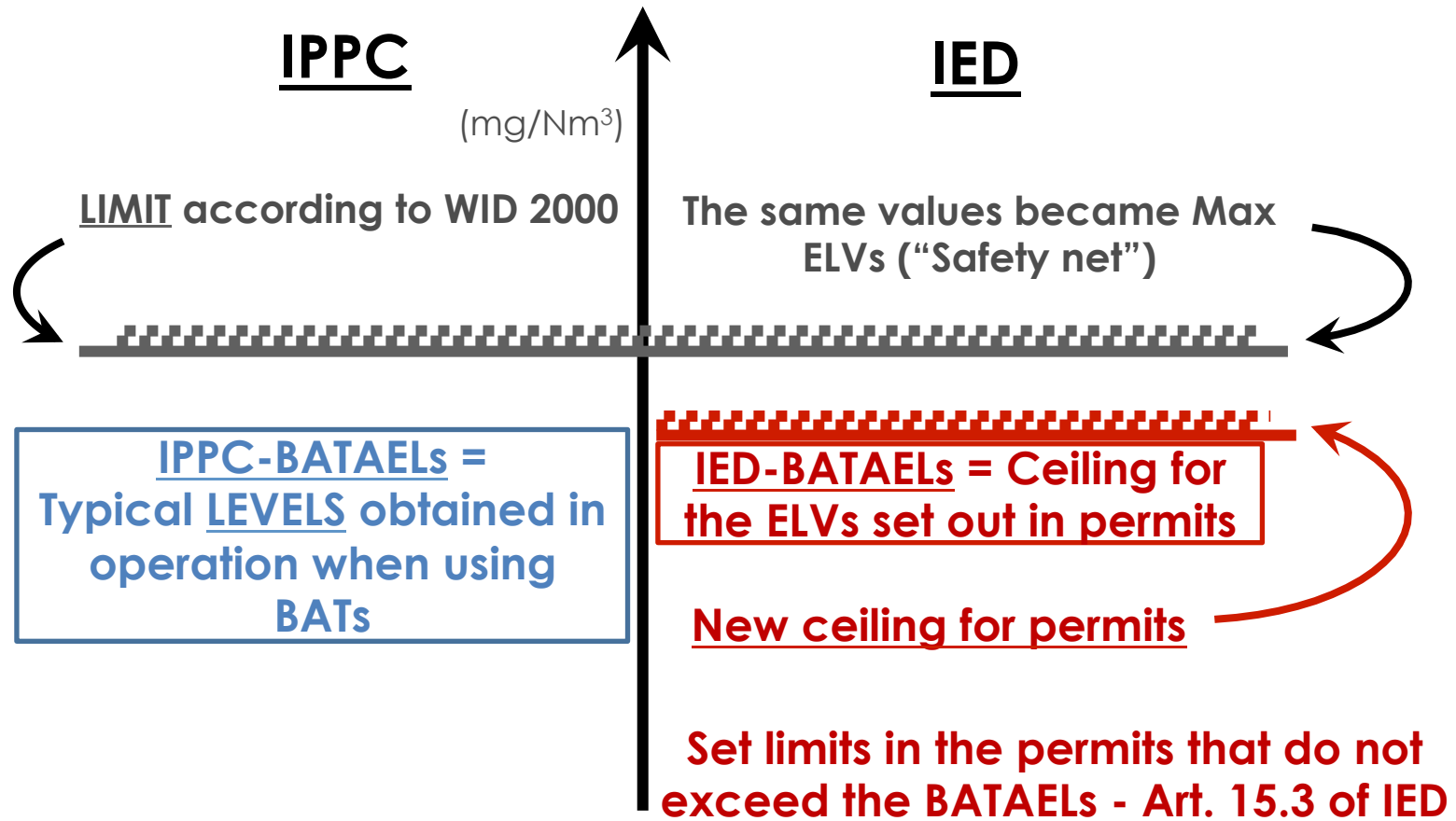
✓ IED does not define EOT



*** By default, daily average values must comply with ELVs within EOT too**

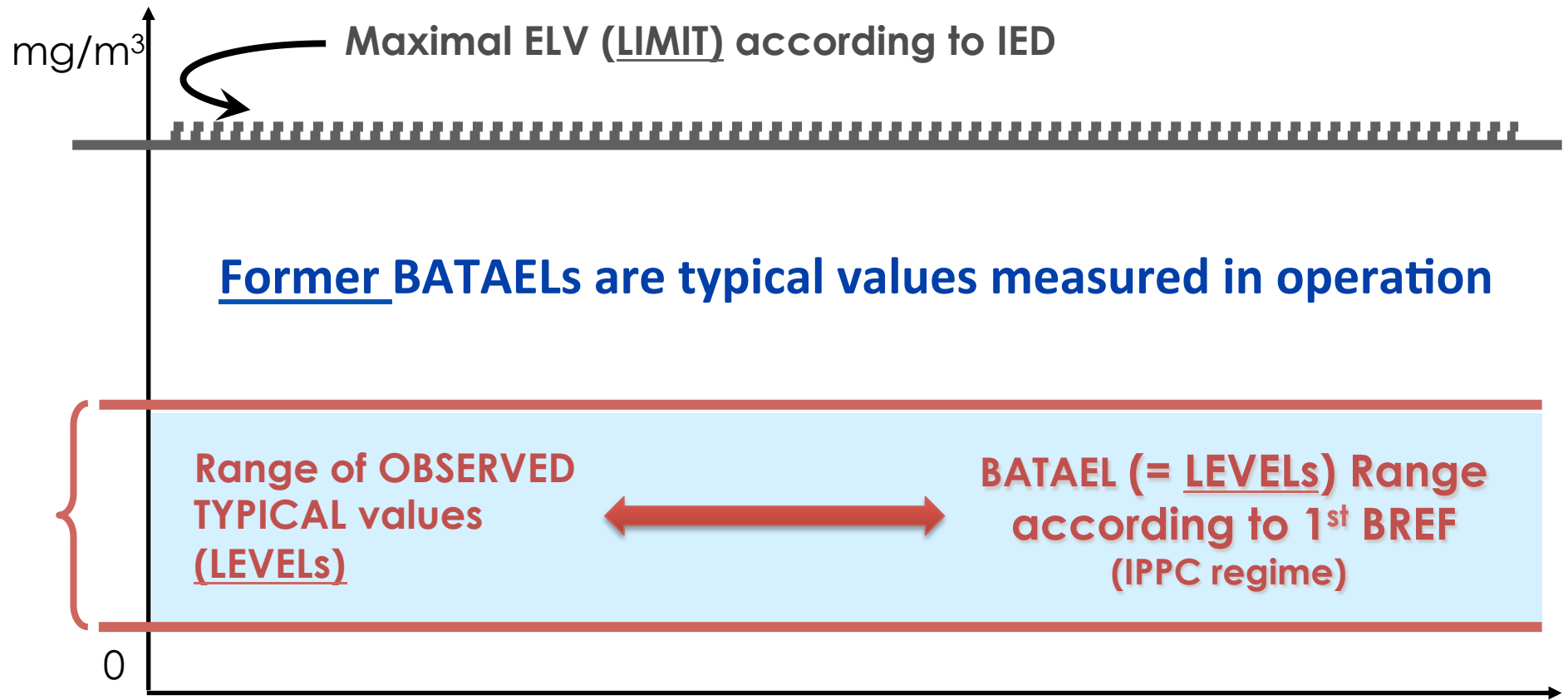
Indeed Annex VI, Part 8, §1.2 adds: “The daily average values shall be determined from those validated average values.” (i.e. from the ½-hr values)

Critical aspects of the BREF WI Review 3/



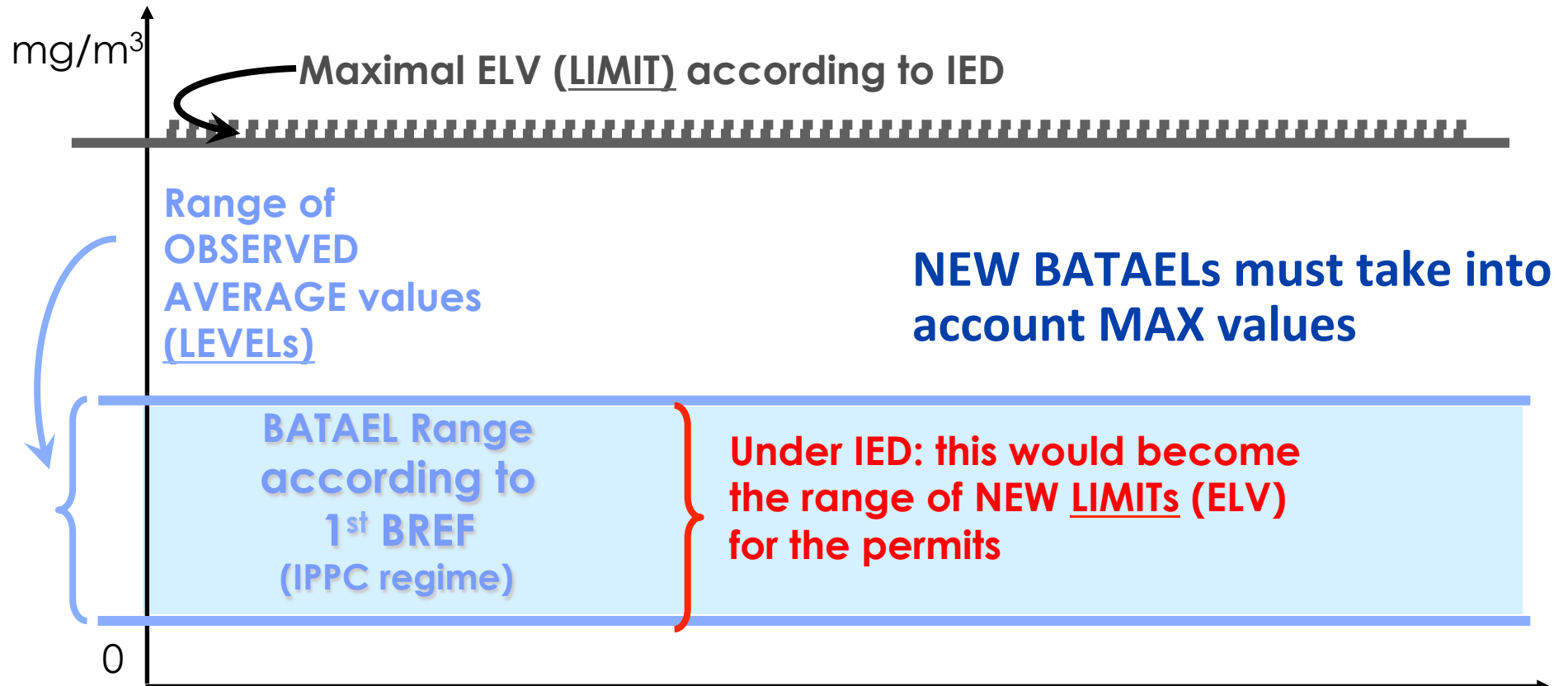
Future BAT-AELs must be higher than former BAT-AELs

Critical aspects of the BREF WI Review 3/



Critical aspects of the BREF WI Review 3/

Former BATAELs are not consistent with IED



Art. 15.3 gives two options with the same results:

(a) "ELVs that do not exceed the BATAELs"

(b) "ELVs that ensure that the emissions do not exceed the BATAELs"

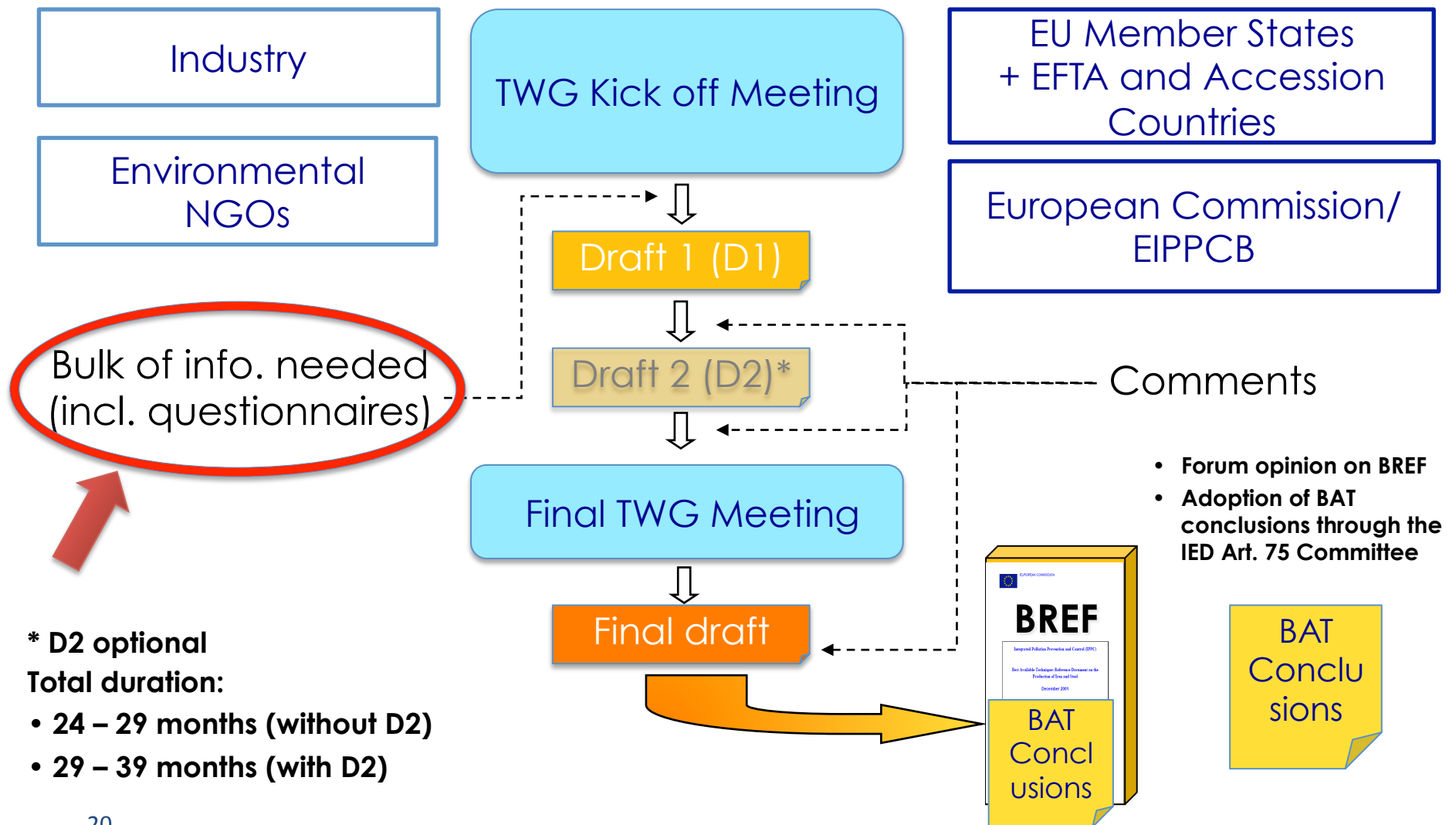
Table of Contents



➤ Current status of the Review



The Sevilla process



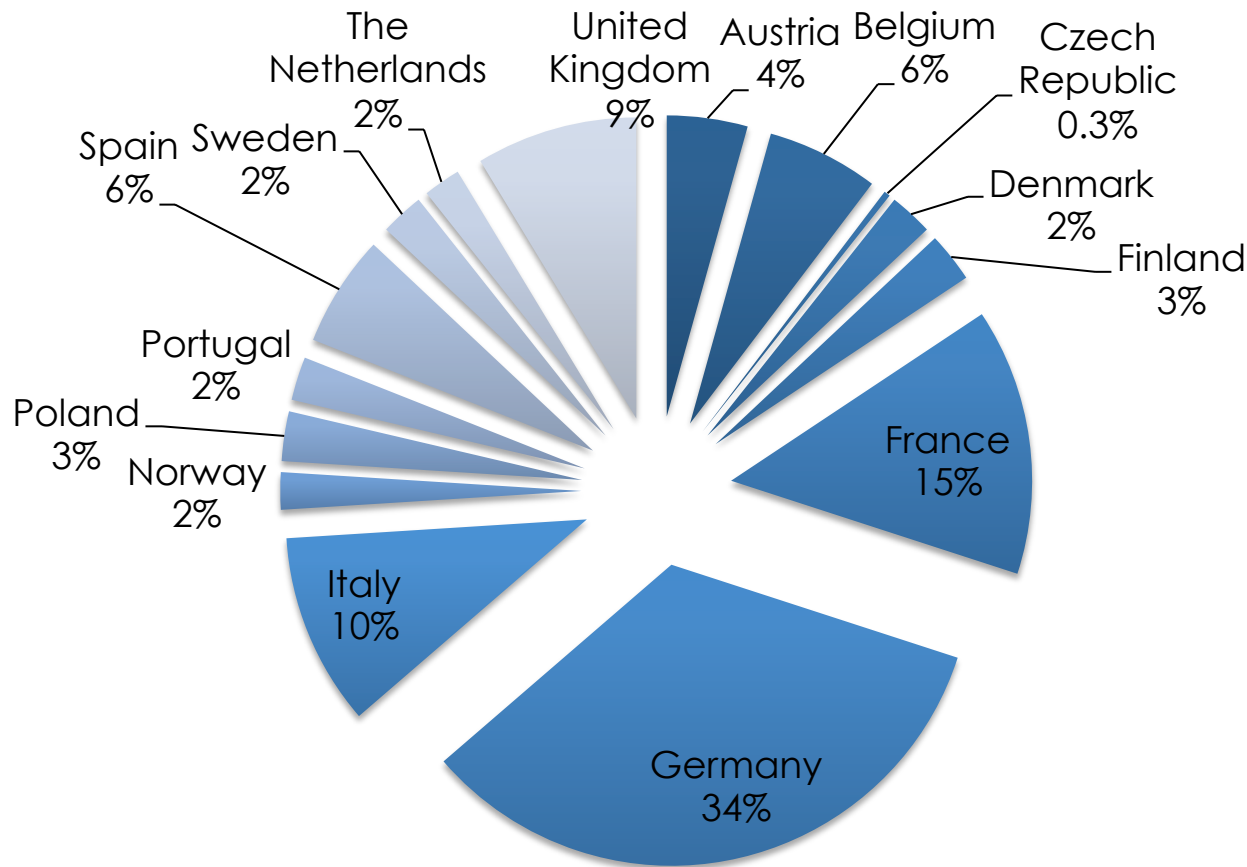
* D2 optional

Total duration:

- 24 – 29 months (without D2)
- 29 – 39 months (with D2)

Current status: Data collection

BREF WI data collection closed on 15th April 2016
(about 300 WI lines)



Several TWG members, including CEWEP, requested that the EIPPCB organise a workshop on the processing of the data collected in order to derive BAT conclusions and BAT-AELs.

CEWEP secretariat will work on checking and processing the data collected in order to have a methodology at hand to derive sound BAT-AELs.

Current status: A few certainties

Decisions on BAT – Associated Emissions Levels

- ▶ To express **BAT-AELs in concentrations as a daily average** or as an average over the sampling period depending on the availability of continuous monitoring for a given pollutant.
- ▶ Subject to the data collection, where practicable and justified, to also express **BAT-AELs in concentrations as half-hourly averages** for those pollutants monitored continuously.
- ▶ To gather information on annual average emissions in order to update Chapter 3 of the WI BREF, but not to express additional long-term average BAT-AELs (with the possible exception of NOX and Hg, subject to data collection).

Current status: A few certainties

Decisions on Energy issues

- ▶ To establish a clear system boundary, including e.g. definitions of terms and calculation methods used
- ▶ To collect data on design energy recovery values of the plant and on its actual performance, including e.g. presence of a district heating/cooling network
- ▶ To collect data on the energy consumption of incineration plants (e.g. energy demand and combustion of support fuels).

▶ **To set BAT-AEPLs for the design of new plants to be verified during the performance testing and to consider setting BAT-AEPLs based on actual performance for existing plants.**

61. the local... nations so that the use... heat and/or steam
 utilisation ca... s to generally ex... energy export level of
 1.9 MWh/tonne... le 3.42), base... of 2.9 MWh/tonne
 (ref. Table 2.11)

62. in situations where... ed on an average NCV of 2.9
 MWh /tonne) can be expo...
 a. the generation... 4 – 0.65 MWh electricity/tonne of
 MSW (based on a... MWh/tonne (ref. Table 2.11) processed
 (ref. Table 3.40)... m supply as far as practicable in the
 local circumsta...
 b. the generation... electricity from the waste as the
 annual ave... installation, including (where
 used) o... treatment operations (ref.
 Table...
 63. to reduc... on electrical dema... treatment or residue
 treatment) t... w 0.15 MWh/tonne of... ef. Table 3.47 and
 section 4.3.0... age NCV of 2.9 MWh/ton... Table 2.11)

The requirements on energy in the old BREF will not be used in the revised BREF

Table of Contents



➤ Calibration standard

Calibration standard

IED Art. 70(3).

Monitoring shall be carried out in accordance with CEN standards [...]

IED Annex VI,

Part 6.

1.2 & 1.3

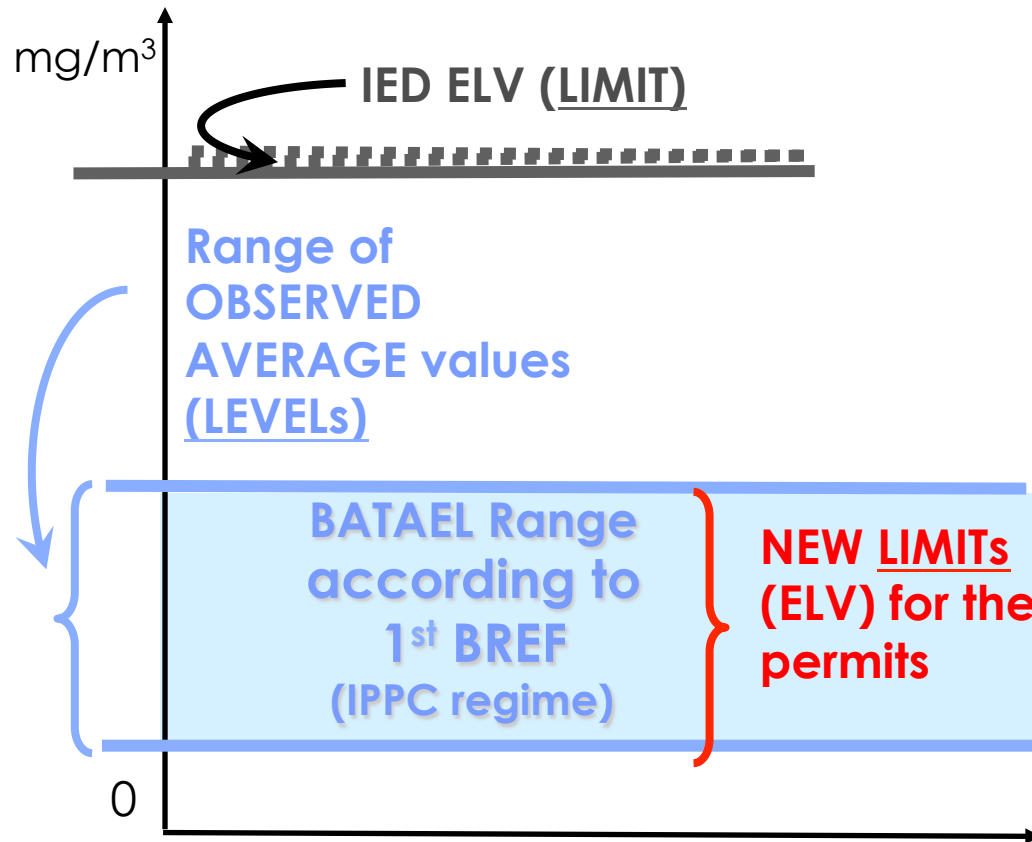


WI plants are equipped with Automated Measuring Systems (AMS) that have to be calibrated according to CEN standards. EN 14181 specifies procedures for Quality Assurance Levels (QAL) for AMS:

- ▶ A procedure (QAL2) to calibrate the AMS and determine the variability of the measured values obtained by it

QAL2 procedures link the assessment of the AMS performance with the measure uncertainty at the level of the ELV applied for the plant. The fact that calibration and variability are influenced by the value of the ELV means that there is a minimum ELV to avoid the failure of the measurement equipment.

Calibration standard



Accepting that operational values (usually very low, especially for WI plants) become the basis to set limits in the future permits carries within the risk of failure to comply with monitoring requirements.

BATAELs ranges have to be checked by the CEN TC 264 before they are set in the revised BREF WI.

Calibration standard – INERIS study

CEWEP and other associations asked INERIS to investigate how calibration standards influence the setting of ELVs and how much they can be lowered without causing measuring systems to fail.

Since emissions measurements come with an uncertainty, which becomes more important – as a relative value – when the measurements are close to 0, we call upon decision-makers to be cautious when choosing ELVs within the newly-defined BATAEL ranges in the BREFs, because lowering ELVs risks failing calibration of monitoring instruments.

Key Messages

BAT-AELs

- To be derived in EOT
- Method to be discussed with the TWG and not closed box
- Have to be set from Max values
- Range cannot be too wide (endless discussions)
- The lower end cannot be the lowest value reported

Data Collection

- Large database – virtually all the EU plants
- No disregard of outliers
- Compatibility check with calibration standards

Survived!



Thank you!

Questions?