EiiF Feedback:

Industrial emissions – EU rules updated

Main Recommendations:

The horizontal Energy Efficiency BREF must become mandatory (including SMEs).
If not, industry will continue to consider it irrelevant and the EU goals will not be met.

The Energy Efficiency BREF must be updated and improved.

About EiiF

*The **European Industrial Insulation Foundation** (EiiF) is a European non-profit foundation registered in Switzerland in 2009.*

The 60 EiiF members have operations across the world, employ over 70.000 people and have an aggregated annual turnover of about EUR 14 billion.

Article 2 - Purpose of the Foundation

- The Foundation engages itself, exclusively and irrevocably, on a non-profit basis for the deployment of sustainable insulation systems in industrial plants and in the industrial environment **with the aim of saving energy, reducing CO_2 emissions** […].

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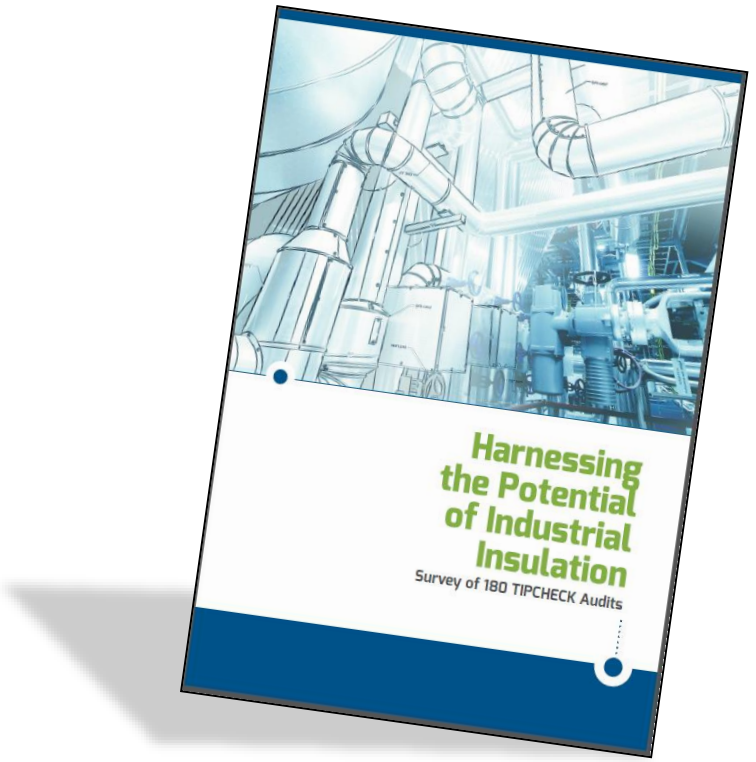
- The EiiF **strongly supports the initiative to update EU rules on industrial emissions**. We encourage this initiative in its aim **to ensure industry uses techniques that create a more sustainable EU economy**, **and a cleaner environment that improves public health**.

- Our expertise lies in the **very specific field of industrial insulation**, a **cross-cutting BAT delivering multiple benefits to industry**: process and safety needs, cost reductions, **energy savings and connected emission reductions** urgently needed for a **transition to a low carbon industry**.



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- **However, contrary to the building sector, the energy efficiency and emission reduction potential of insulation in industry is not used today.** The consequences are largely untapped energy and emission reduction potentials.

	Power Plant	Building Code (Walls) before 2010	Building Code (Walls) 2016
Temperature	**250°C**	18°C – 22°C	18°C – 22°C
Heat loss (AGI Q101)	150 W/m²	< 10 W/m²	< 4 W/m²
Insulation thickness	**100mm**	100mm	**350–500mm**

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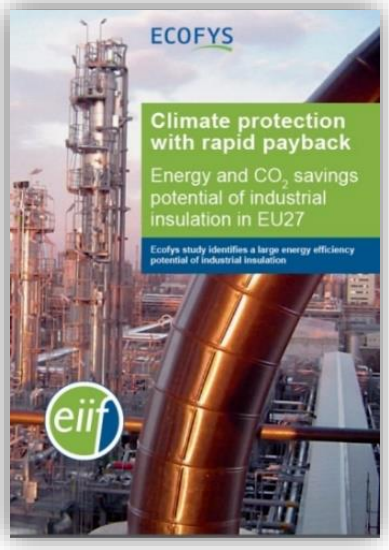
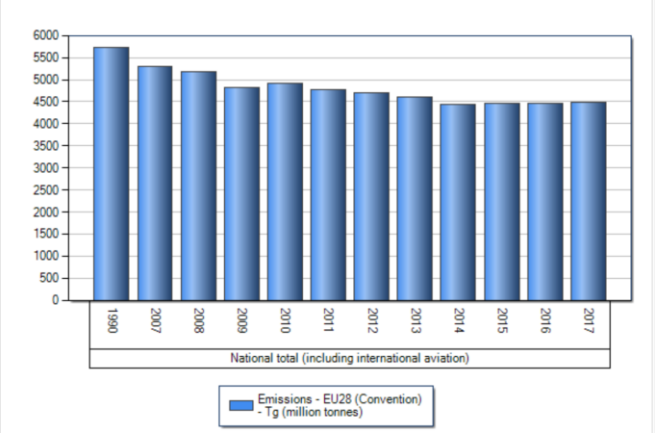
- According to an **Ecofys study**, specifically on the industrial insulation potential (Climate protection with rapid payback, 2012), and latest figures investigated by EiiF (based on the 2017 emission data provided by the EEA), the **annual reduction potential of industrial insulation** sums up to **50 Mt CO_2** and an energy saving potential of **600 PJ**. These potentials are equivalent to the **emissions of at least 15 million cars and the energy consumption of about 10 million households.**

- In fact, industrial insulation could annually **reduce about 1% of Europe's CO_2 emissions** (or about 5% of EU industry emissions), thus offering a cleaner environment to European citizens.





European Environment Agency

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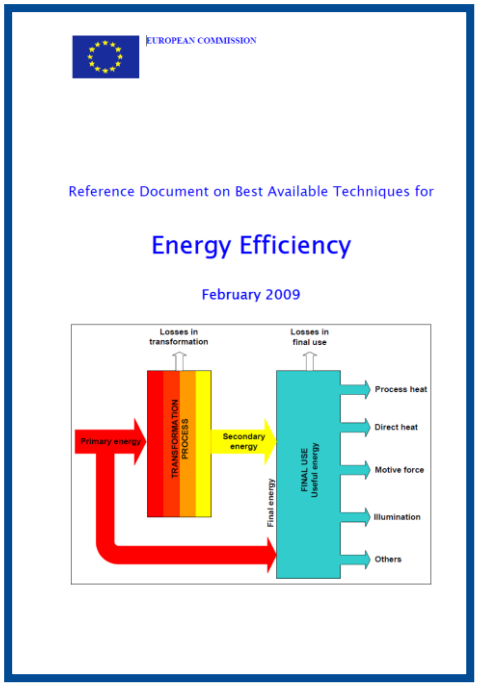
- Furthermore, investments in industrial insulation give **rapid payback** - see EE-BREF page 153:



EUROPEAN COMMISSION

Reference Document on Best Available Techniques for

Energy Efficiency

February 2009

Page 153/Chapter 3,
Steam Pipes:

Achieved environmental benefits
Table 3.10 shows heat losses from uninsulated steam lines at different steam pressures.

Distribution line diameter (mm)	Approximate heat loss per 30 m of uninsulated steam line (GJ/yr)			
	Steam pressure (barg)			
	1	10	20	40
25 148		301	396	522
50	248 50	6	665	886
100 438		897	1182	1583
200 781		1625	2142	2875
300 1113		2321	3070	4136

Table 3.10: Heat loss per 30 m of uninsulated steam line
Adapted from [123, US_DOE]

A reduction of energy losses through better insulation can also lead to a reduction in the use of water and the related savings on water treatment.

Cross-media effects
Increased use of insulating materials.

Operational data
No data submitted.

Applicability
As a baseline, all piping operating at temperatures above 200 °C and diameters of more than 200 mm should be insulated and good condition of this insulation should be checked on a periodic basis (e.g. prior to turnarounds via IR scans of piping systems). In addition, any surfaces that reach temperatures of higher than 50 ºC where there is a risk of staff contact, should be insulated.

Economics
It can give rapid payback, but time depends on energy price, energy losses and insulation costs.

Driving force for implementation
Easy to achieve compared to other techniques. Health and safety.

EiiF – Consultation: **Industrial emissions – EU rules updated**

Against this background we see a great opportunity in the enforcement of EU rules on industrial emissions.

- **<u>We therefore recommend the following suggestions for the IED's revision:</u>**

1. **The horizontal Energy Efficiency BREF must become mandatory (including SMEs).**

➢ ***If not, industry will continue to consider it irrelevant and the EU goals will not be met.***

EiiF – Consultation: **Industrial emissions – EU rules updated**

2. The Energy Efficiency BREF must be updated and improved:

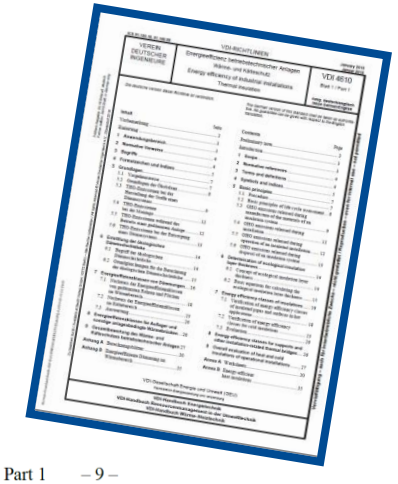
a) <u>Insulation specific:</u>

Mandatory minimum requirements for insulation defined by **maximum heat loss rates** similar to the existing building insulation standards must be introduced:

- With the lately released VDI 4610 energy classes for industrial insulation an effective tool is now available.

Energy Efficiency Classes according to the new German Insulation Standard:

VDI 4610



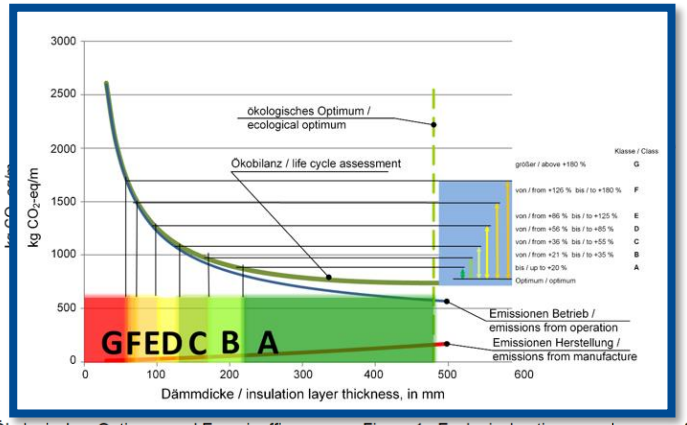


Bild 1. Ökologisches Optimum und Energieeffizienzklassen – prinzipielle Darstellung (Quelle: G+H Isolierung

Figure 1. Ecological optimum and energy efficiency classes – schematic diagram (source: G+H Isolierung)

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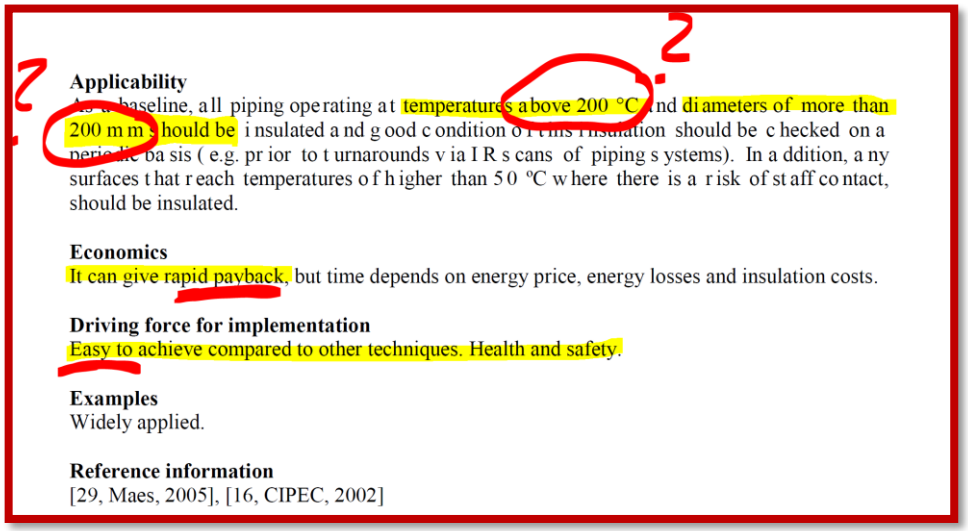
- Today the EE-BREF is **too vague** and in particular **misses out the huge energy efficiency potential** of insulating equipment at temperature levels **below 200 °C**:

  - "As a baseline, all piping operating at temperatures **above 200 °C** and diameters of more than 200 mm **should be insulated** and good condition of this insulation **should be checked** on a periodic basis […]."
    (Page 153, Chapter 3, Steam pipes)



Applicability

As a baseline, all piping operating at temperatures above 200 °C and diameters of more than 200 mm should be insulated and good condition of this insulation should be checked on a periodic basis (e.g. prior to turnarounds via IR scans of piping systems). In addition, any surfaces that reach temperatures of higher than 50 °C where there is a risk of staff contact, should be insulated.

Economics

It can give rapid payback, but time depends on energy price, energy losses and insulation costs.

Driving force for implementation

Easy to achieve compared to other techniques. Health and safety.

Examples

Widely applied.

Reference information

[29, Maes, 2005], [16, CIPEC, 2002]

  - "ensuring insulation is **optimized**" (Page vi/Executive Summary)
    –> No guidance at all.

  - "An optimum insulation thickness which relates energy consumption with economics should be found in every particular case" (Page 132, Chapter 3, Combustion)
    –> No guidance at all.

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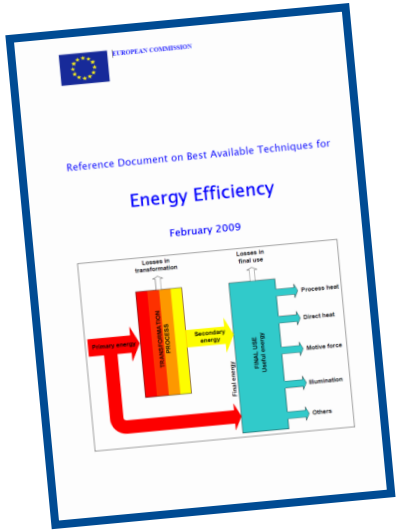
b) <u>General:</u>

The structure and formatting must be corrected to transfer the BREF into a motivating, user-friendly document.



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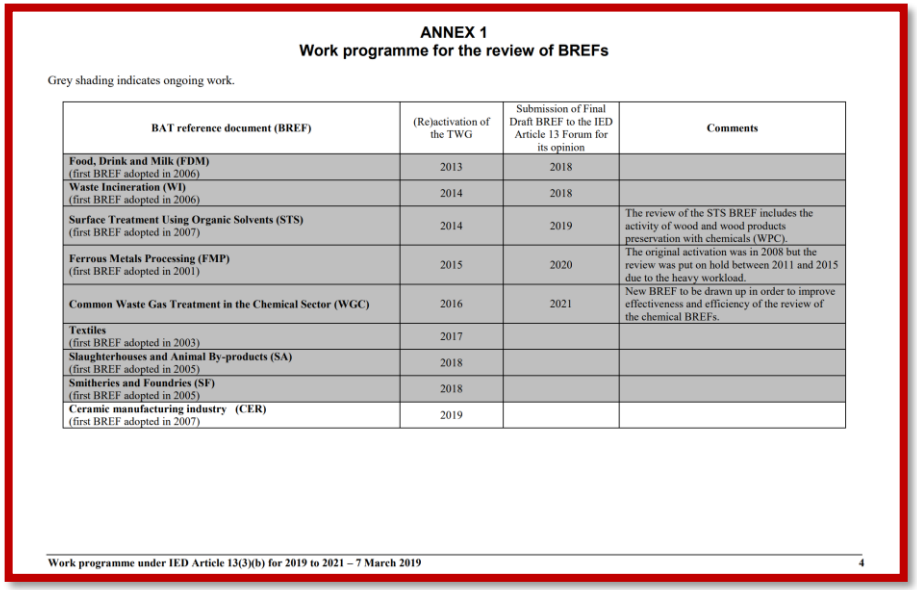
3. **The duration** of the general process for **developing and reviewing BREFs is too long and too complex**. For the EE-BREF the process took almost 6 years and the revision every 8 years has not happened. The current BREF process makes it furthermore **impossible to introduce innovations and younger best practices in due time**.

- A more efficient process would enable the IED **to ensure that industry uses more and new innovative techniques creating a more sustainable EU economy**.

➢ We propose to change the BREF process to enable **a duration of not more than one year**, and a **revision every 4 years**.



ANNEX 1
Work programme for the review of BREFs

Grey shading indicates ongoing work.

BAT reference document (BREF)	(Re)activation of the TWG	Submission of Final Draft BREF to the IED Article 13 Forum for its opinion	Comments
Food, Drink and Milk (FDM) (first BREF adopted in 2006)	2013	2018	
Waste Incineration (WI) (first BREF adopted in 2006)	2014	2018	
Surface Treatment Using Organic Solvents (STS) (first BREF adopted in 2007)	2014	2019	The review of the STS BREF includes the activity of wood and wood products preservation with chemicals (WPC).
Ferrous Metals Processing (FMP) (first BREF adopted in 2001)	2015	2020	The original activation was in 2008 but the review was put on hold between 2011 and 2015 due to the heavy workload.
Common Waste Gas Treatment in the Chemical Sector (WGC)	2016	2021	New BREF to be drawn up in order to improve effectiveness and efficiency of the review of the chemical BREFs.
Textiles (first BREF adopted in 2003)	2017		
Slaughterhouses and Animal By-products (SA) (first BREF adopted in 2005)	2018		
Smitheries and Foundries (SF) (first BREF adopted in 2005)	2018		
Ceramic manufacturing industry (CER) (first BREF adopted in 2007)	2019		

Work programme under IED Article 13(3)(b) for 2019 to 2021 – 7 March 2019 4

EiiF – Consultation: **Industrial emissions – EU rules updated**

- **We strongly encourage DG Environment on the revision of the Industrial Emissions Directive and offer any support we can give to ensure industry uses the insulation BAT in its best way** to create a more sustainable EU economy, and a cleaner environment that improves public health.

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