HAZBREF Stakeholder Kick-off Conference

Helsinki, 19-20 March 2018

Policy landscape: The role of IED and BREFs in curbing emissions of hazardous substances

Industrial Emissions & Safety unit, DG Environment

European IPPC Bureau (EIPPCB), Joint Research Centre

European Commission

The role of the IED

European Commission

IED overall purpose:

Reduce environmental impacts of largest industrial installations (≈ 50,000)

- *Energy industries…*
- *Metal industries…*
- *Mineral industries…*
- *Chemical industries…*
- *Waste management…*
- *Intensive livestock …*

Through integrated permitting and application of best available techniques

Best Available Techniques (BAT)

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

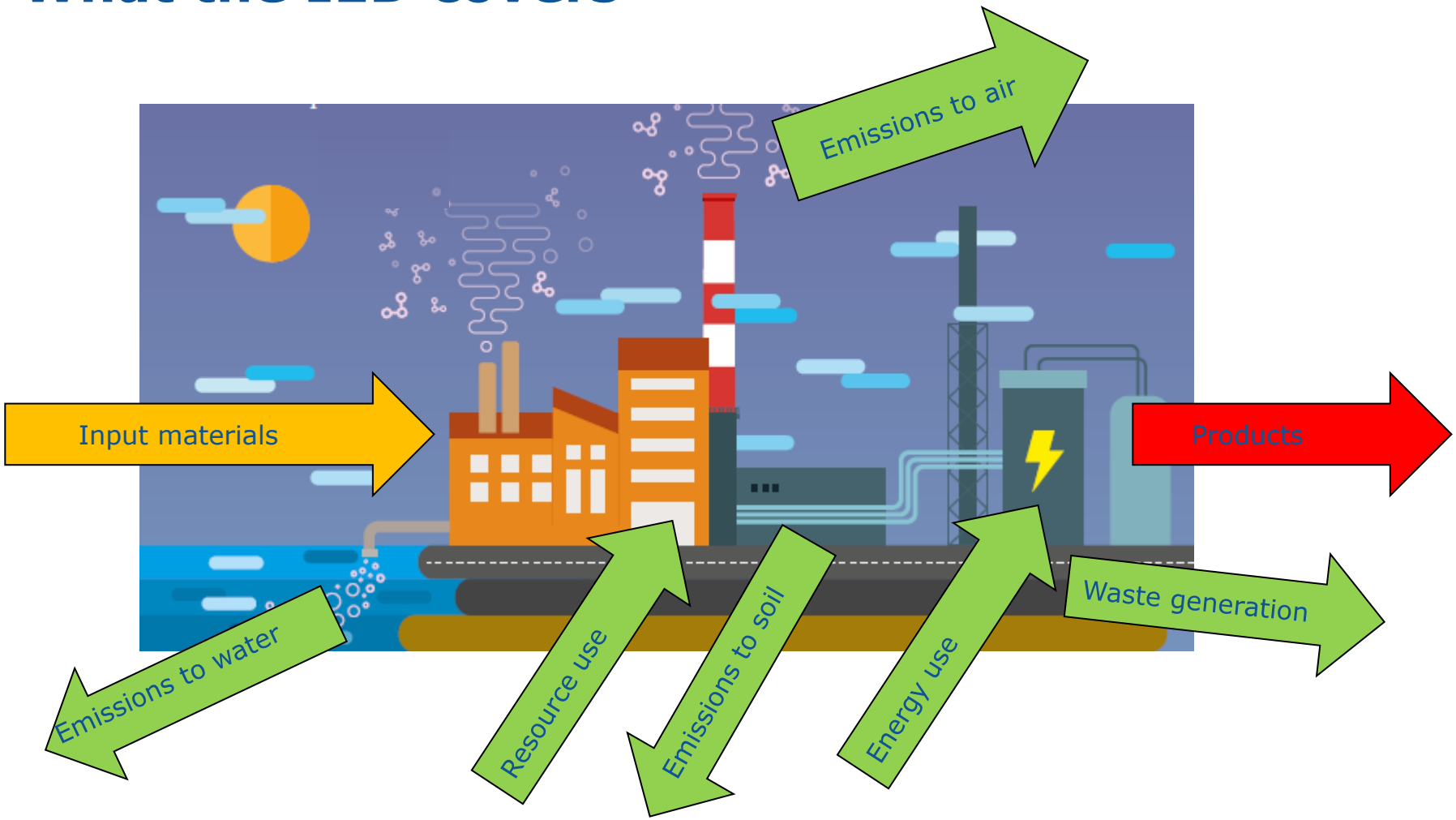
the technology used *and* the way the installation is designed, built, maintained, operated and decommissioned

Essential requirements of the IED

- **Prevention of pollutant emissions (air-water-soil)** or, if not possible, reduction
- **Waste generation is prevented** or where generated, treated in line with waste hierarchy
- **Energy** is used efficiently
- **Permit based on Best Available Techniques** (BAT) – including emission limit values (ELV) for all relevant pollutants
- **BAT conclusions** in implementing Decisions
- **Specific provisions** - minimum requirements (ELVs, monitoring..)
  - Large Combustion Plants
  - Waste incineration
  - Activities using organic solvents
  - Production of TiO2

European Commission

What the IED covers



Hazardous substances in IED

- The IED does not include consideration of the intentional products of the processes it covers.
- The IED sets requirements in relation to the use of input materials and in relation to emissions and waste generated.
- Emissions of hazardous substances may result from their intentional use or production or when they are generated as side products during the process (e.g. NO_2 generated during combustion).

Hazardous substances in IED (general)

- **Article 3(18)** – *'hazardous substances' means substances or mixtures as defined in Article 3 of Regulation (EC) No 1272/2008 …. on classification, labelling and packaging of substances and mixtures*
- **IED Annex II** *'List of polluting substances'* includes:
  - **Air:** Substances and mixtures which have been proved to possess carcinogenic or mutagenic properties or properties which may affect reproduction via the air;
  - **Water:** Substances and mixtures which have been proved to possess carcinogenic or mutagenic properties or properties which may affect reproduction in or via the aquatic environment;
- **IED Annex III** *'Criteria for determining best available techniques'* includes:
  - **2.** The use of less hazardous substances

Hazardous substances in IED (specific)

- **Recital 23** – *soil and groundwater*
- **Article 3(19)** - *baseline report on state of soil and groundwater*
- **Article 14(1)e** – *monitoring soil and groundwater in relation to hazardous substances*
- **Article 22(2)** – *baseline report*
- **Article 58** – *substitution (in relation to organic solvents)*
- **Article 59 and Annex VII, Part 4** – *ELVs for certain hazardous substances (in relation to organic solvents)*
- **Annex V** – *some ELVs for emissions from large combustion plants refer to hazardous substances (e.g. NO_2 and SO_2 to air)*
- **Annex VI** – *some ELVs for emissions from waste incinerators refer to hazardous substances (e.g. metals and PCDD/F to air and water)*

European Commission

The role of the BREFs

State of play concerning BREF reviews

13 BAT conclusions already published:

- Iron and Steel (IS); Glass (GLS); Tanning of Hides and Skins (TAN); Cement, Lime and Magnesium Oxide (CLM); Chlor-Alkali (CAK); Pulp, Paper and Board (PP); Refining of Mineral Oil and Gas (REF); Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector (CWW); Wood-Based Panels (WBP); Non-ferrous Metals (NFM); Intensive Rearing of Poultry and Pigs (IRPP); Large Combustion Plants (LCP); Large Volume Organic Chemicals (LVOC)

1 BAT conclusion soon to be adopted:

- Waste Treatment (WT)

7 (B)REFs being worked upon:

- Monitoring of Emissions (ROM); Food, Drink and Milk (FDM); Waste Incineration (WI); Surface Treatment using Organic Solvents/Wood-Preservation with Chemicals (STS); Ferrous Metals Processing (FMP); Common Waste Gas Treatment in the Chemical Sector (WGC); Textiles (TXT)

European Commission

Determination of Key Environmental Issues (KEIs)

- Significant workload to review a BREF
- Need to focus efforts and to frontload the information exchange (IED Article 13 forum meeting of June 2013)
- Commission proposal for criteria to define KEIs (IED Article 13 forum meeting of October 2015): environmental relevance and significance, potential of new BAT and BAT-associated emission levels (BAT-AELs) to trigger emission reductions
- KEI approach used in BREF reviews started since then
  - particularly relevant for BREFs where hazardous substances play an important role, e.g. waste gas treatment in the chemical sector (WGC) and textiles (TXT)

European Commission

Types of BAT

- **Management** techniques (e.g. inventory of chemicals, stream inventory)
- **Prevention** techniques (e.g. substitution, reduced pollutant generation)
- **Containment** techniques (i.e. storage, handling and processing in closed systems)
- **Recycling/recovery** techniques
- **Abatement** techniques
- **Monitoring** techniques

Example BAT: Abatement

- BAT on abatement in almost every BREF, where appropriate in combination with BAT-AELs
- Many BAT and BAT-AELs address hazardous substances, e.g.:
  - NO_X and SO_X emissions to air (e.g. CLM, GLS, LCP, LVOC)
  - Specific organic compound emissions to air (e.g. formaldehyde in LVOC and WBP)
  - Metal emissions to air and water (e.g. GLS, NFM, LCP)
  - AOX emissions to water (e.g. CWW, PP)
- Use of sum parameters and 'representative' substances

Example BAT: Substitution

- BAT on substitution of auxiliary or input material in many BREFS, e.g.:
  - CAK: Membrane cells instead of mercury cells (BAT 1)
  - LVOC (and others): Fuel choice, i.e. fuel type or fuel characteristics (BAT 4a, 5a and 6a)
  - LVOC: Zeolite catalysts instead of $AlCl_3$ for the production of ethylbenzene (BAT 31)
  - PP: Use of biodegradable or eliminable chelating agents instead of EDTA or DTPA during peroxide bleaching (BAT 3c)
  - TAN: Optimised vegetable tanning methods instead of chromium tanning (BAT 6c)
- No BAT on substitution of products or on product quality

Example BAT: Other

- BAT on inventory of chemicals, e.g. PP (BAT 2b) and TAN (BAT 2(ii))
- BAT on storage/handling/processing in closed systems, e.g. NFM (BAT 47b), PP (BAT 33f), REF (BAT 22 (i))
- BAT on recovery of hazardous substances, e.g. CAK (BAT 2), LVOC (BAT 16)
- BAT on monitoring in every BREF, usually in combination with BAT-AELs, but sometimes 'stand-alone'
  - Many address hazardous substances
  - Use of sum parameters and 'representative' substances

Review of the TXT BREF: cooperation ECHA/JRC

- Cooperation started in autumn 2017
- ECHA's role is key for the review of the TXT BREF in order to help identify:
  - hazardous chemicals to be considered KEIs for the textiles sector
  - techniques to reduce the impact of the sector on the environment (e.g. substitution techniques)
- TXT is a pilot project for the cooperation ECHA/JRC

Expectations for the HAZBREF project

- HAZBREF project can deliver valuable information and/or tools to feed into the BREF process
- Potential reinforcement of frontloading the information exchange and of KEI determination
- Need to take into account the implications for the BREF review workload
- Need to take into account the availability of data, and, in their absence, to potentially explore new mechanisms

Thank you for your attention