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WP4: case studies and sectoral guidances

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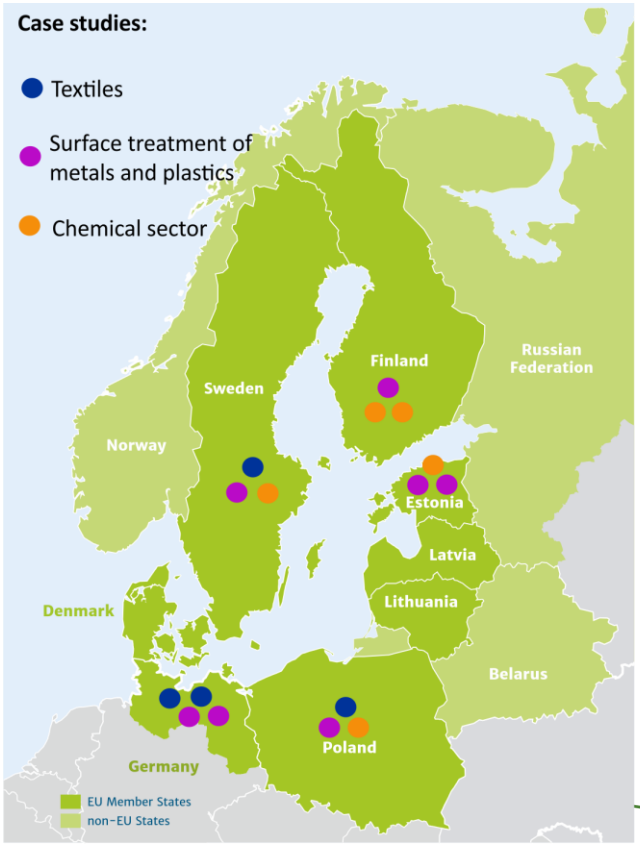
Case study installations in Finland

- Borealis Polymers Porvoo: polyethylene PE2 plant
- Yara Uusikaupunki & Siilinjärvi: NPK fertilizer production
- Aurajoki oy Turku: Metal electroplating and powder coating

Case-installations in partner countries

- Sweden:
  - Nouryon (Akzo Nobel): cellulose derivatives
  - Almedahls: Textiles
  - 1 STM company
- Estonia:
  - Akzo Nobel Baltics: paints and coatings
  - 2 STM companies
- Poland
  - 2 STM companies
  - 1 textile company
  - (2 polymer companies)
- Germany:
  - 2 Textile companies
  - 2 STM companies



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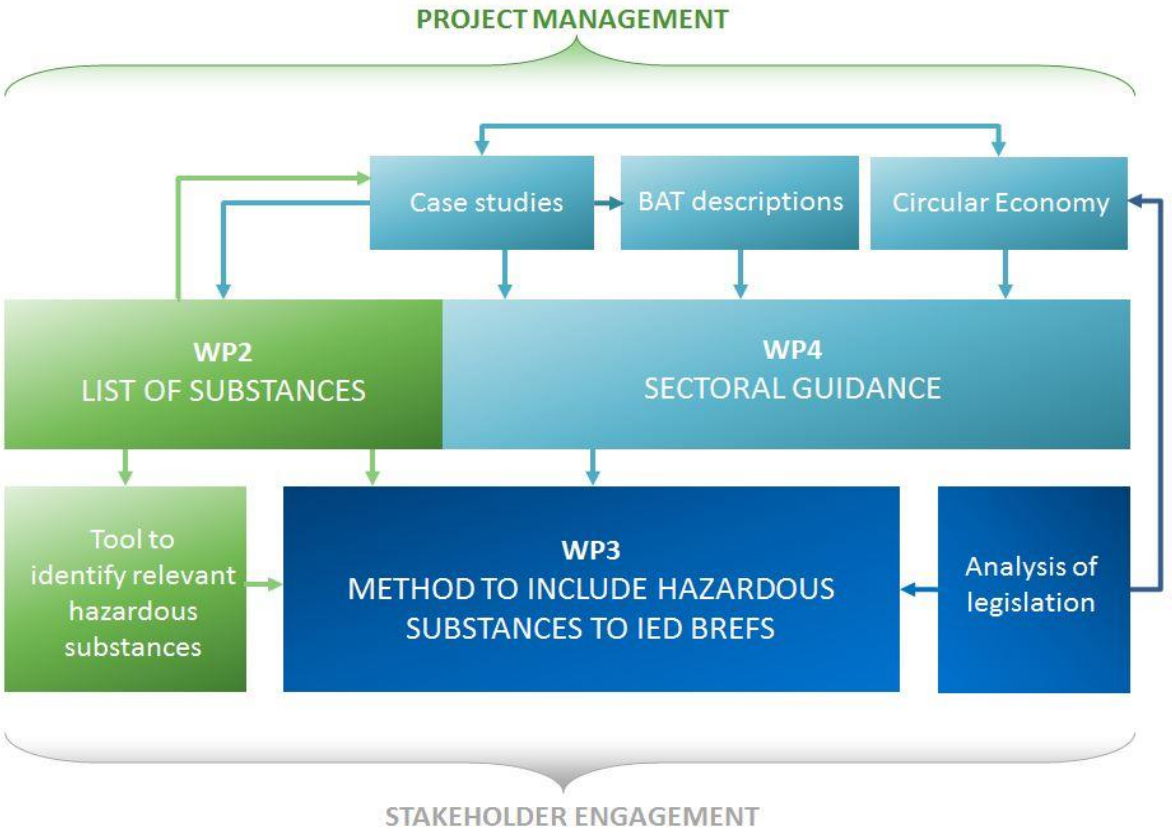
Case studies

- Case studies serve as input for sectoral guidance reports, which will be prepared for textile, STM and chemical sectors. Case study reports will not be published.



Sectoral guidance

Contents:

1. Sector Overview
2. Hazardous Substances Relevant to the Sector
3. Obligations and Critical Aspects of Chemicals Management
4. Recommendations on BAT candidates
5. Permitting Process and Management
6. Concluding remarks

Sector overview

- Basic information on the sector
- Baltic Sea relevance
  - How many installations are in Baltic Sea Catchment?
  - How many installations in Europe in total?
- Issues of concern

Hazardous Substances Relevant to the Sector

- Results from WP2
  - SVHCs and WFD PSs identified for the sector
- Information on chemical legislation
- Information on different lists of hazardous substances
  - e.g. REACH authorisation and restriction lists, SIN list, sector specific lists (if any)

Management of hazardous chemicals in installations

- Obligations with reference to hazardous substance from REACH and IED
- Chemicals management practices identified in the case studies

- Example: In Akzo Nobel Baltic case the permit application lists ~70 chemicals not containing hazardous substances and ~ 100 chemicals containing hazardous substances → difficult to evaluate the information and environmental authorities need guidance on where to focus

BAT candidates

- Adelphi compiled 5 BAT candidate descriptions for textile industry which were introduced to the TXT BREF review process
- 1 BAT candidate description from Borealis was provided to WGC BREF
- Sweden has contracted SWECO to compile BAT descriptions for STM and CHEM sectors. BATs identified on case studies so far :
  - STM: 5 BAT descriptions (+ GER ?)
  - CHEM: 3 BAT descriptions

BAT on chemicals management

- General management of chemicals is already minimizing the use of hazardous chemicals and releases of hazardous substances
- Continuous development of the management is one of the key issues in assessing the most suitable BAT applications which are e.g. chemical inventory and the improvement of the SDS.
- The current practises in chemicals management vary between countries, some need more guidance than others

→ Chemicals management system (CMS) should be addressed in all BREFs

BAT on the use of modelling – example on use of SDS and exposure scenarios (ES)

- The ES in the SDS indicates the fate of substance in various processes. But the ES risk ratios should be refined and recalculated to the specific processes.
- When the ES in the SDS does not cover the use even after scaling or when the use in the ES indicates that the **PEC/PNEC ratio is >1**

→ **a site-specific risk ratio calculation should be done for the hazardous substances**

- The risk ratio can be based on spERCs or estimated by using measured data and by calculating substance flow over the process to estimate emissions

Other BATs

- Optimization of intermediate gas flows through automatic process control from Borealis (WGC BREF)

- 5 descriptions provided for the TXT BREF review:
  - Separation and specific disposal of concentrates containing recalcitrant chemicals
  - Treatment of waste gas from stenters with special consideration of methanol
  - Biological pre-treatment of PVA-containing segregated streams
  - Storage, unloading and handling
  - Chemicals management system

Permitting Process and Management:

Findings from the case studies

- The roles and responsiblities of different authorities should be clearer for the operators
- Estonia: The chemicals management permit is not required from installations having integrated environmental permit according to the IED – it is considered that these permits cover adequately hazardous chemicals management.
- Finland: more open communication before and during the permitting process would clarify issues and help to streamline the process

Concluding remarks

- Estonia: There is communication between authorities, but having a common e-accounting system for chemicals, based on information provided by enterprises involved in different stages of chemicals supply chain would be valuable to streamline the environmental permitting process
- Finland: the impurities and hazardous substances should be better noted in the SDSs of raw materials. Also, the exposure scenarios and data on environmental hazards should be improved and spERCs developed.

Concluding remarks

- The monitoring should be based on chemical inventory so that the amount of substances monitored would be reasonable and justified based on environmental fate of the substances and significant releases

→ BAT on chemicals management system and chemical inventory to help to identify relevant substances and significant emissions

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Kiitos!

Lisätietoja:

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