LIFE fit for REACH

Baltic pilot cases on reduction of emissions by substitution of hazardous chemicals and resource efficiency

Project summary

The LIFE project "Fit for REACH" has been granted by the European Commissions LIFE programme and national co-financers to the Baltic Environmental Forum Group and a consortium of 15 partners from industries, competent authorities, consultants and research institutes. The project started on 1 October 2015 and shall finish on 31 March 2020. It acts in Estonia, Latvia and Lithuania. Project lead party is the Baltic Environmetnal Forum Latvia, project managers Ms. Heidrun Fammler and Mr. Valters Toropovs (name.surname@bef.lv).
In the following parts of the final project application (agreed ToR) are extracted to give an overview on goals, activities and expected results.

Project objectives

The environmental problem targeted by the project is the fact that hazardous substances reach the environment, disturb ecosystem functions, have endocrine effects, accumulate and reach the human food chain so that they are found in breast milk etc. Although effects are known, the concerned substances are still in use and emitted by the industry. Regulations seem to have too little effects, although they are in place and prioritize substances of very high concern (SVHC). REACH places high responsibility for chemicals management on industry and has led to a greater awareness about hazardous substances. However, many emitters downstream of supply chain are very small companies using substances and mixtures in production processes and often unaware of what they contain. They cannot afford complex authorization procedures and lack the knowledge, skills and funds to find alternative substances.
We therefore offer downstream user SMEs a full "chemicals management package" including: capacity building on CLP/MSDS literacy, information on chemicals inventories and general management practices, guidance how to follow legal obligations on specific substances (SVHC) and proposals on how to implement substitution as a core action to reduce environmental impacts from the use of chemicals in their own products and processes, possibly also realising resource efficiency gains.
Substitution will be used as an entry point to companies and as "pilot cases" to illustrate all elements of a chemicals management at SMEs, including the assessment of alternatives, socio-economic evaluation and an analysis of the social motivation for substitution. We want to prepare downstream user SMEs to face the future challenges for chemicals management, which means to understand the restrictions of tomorrow already today: sunset dates of various substances beyond 2019, active participation in the authorization process, complying with obligations set in WFD until 2020 etc. We want to make Baltic SMEs "Fit for REACH".
The pilot aspects of the project will be its full chemicals management package, the relation to resource efficiency, the illustration of actions and effects, all which lead to a "methodological blueprint" for SMEs on substitution. We want to demonstrate that substitution pays off economically and for the environment, to show that (socio) economic analysis is feasible, can be "simple" and still be a useful decision aid. Moreover, we want to demonstrate successful substitution cases.

Actions and means involved

Preparatory actions:

A1. Analysing and advancing existing cases of substitution for the Baltic target group: searching for international best practice on substitution and turning it into useable information for the small Baltic market

A2. Preparatory works for pilot cases I and II: detailed substance mapping in 6 pilot companies, drafting a work plan and technical preparation

A3. Avoiding hazardous substances from entering a company: guidelines for a HS free procurement and a better supply chain communication

A4. Establishing the Baltic SME Forum "Fit for REACH" and recruiting 50-80 companies for "light cases" of substitution of SVHC and implementation good chemicals management practices

Implementation actions:

B1. Pilot cases I: concrete reduction of emissions by substitution of HS

B2. Pilot cases II: reduction of emissions by resource efficiency

B3. Pilot cases III: implementing a series of "Light cases" for SMEs – demonstrating that "Low efforts pay off!"

B4. Developing online tools to assist in proper management of chemicals in SMEs – e.g. for identifying substances based on their CAS number or to check MSDS

B5. Synthesis, findings and policy recommendations

Monitoring impact of project actions:

C1. Environmental impact assessment of the pilot cases

C2. Socio-economic impact assessment of the pilot cases and an assessment of motivations & barriers for taking decisions to substitute

Public awareness and dissemination of results:

D1. Overall project visibility: leaflet, website, media work

D2. Dissemination & replication of pilot cases to more interested SME's and industries in the Baltic States and in other countries (e.g. PL, HU)

D3. Contribution to the SUBSPORT data base by entering the Baltic cases and translating the international cases to the Baltic languages, thus making them accessible for the Baltic SMEs

D4. Policy dialogue: Round tables on implementation and enforcement of REACH/CLP in the Baltic States; international seminar on new developments on REACH and CLP

D5. Society dialogue: greening industry, greening procurement, greening consumption: assessing public opinion and readiness to support a greener corporate identity and performance of industry

D6. International networking and experience exchange with other (LIFE) projects: contacts, meetings, and conferences

D7. Dissemination – layman's report, notice boards, final conference

E1-5 Project management actions

Expected results

- The project will result in minimizing the exposure to hazardous substances. 6 in-depth and 50-80 light substitution cases will have been implemented and become perfect examples of good chemicals management.
- 50% of the target SMEs in EE (250), LV (300) and LT (400) is informed about the project. A smaller group (10%) will have expressed interest in cooperation and concluded cooperation agreements, leading to further reduction of HS.
- Guidelines for a hazardous substances free procurement will have been elaborated and tested by 5-6 companies. The guidelines will enable SMEs to improve their internal procurement system and to acquire raw materials and auxiliary products with less HS. A set of recommendations on how to optimize implementation and enforcement of REACH at SMEs will have been elaborated addressing competent authorities at i) ministerial level and ii) executive agency level.
- The web platform and its tools will have been recognized by at least 25% of the stakeholders (industry & authorities), the tools provided an effective assistance in the identification and management of chemicals.
- Sodium percarbonate emissions are reduced by 40 tonnes, sodium perborate - by 37 tonnes, nonylphenol - by 0,5 tonnes, phenylmetanol - by 8 tonnnes, organotin compounds - by 0,175 tonnes, Bisphenol A by 0,11 tonnes, lead oxide by 6 tonnes and of environmentally hazardous VOCs - by 80 tonnes
- The motivation of stakeholders to take decision for or against substitution will have been analysed as well as consumers' attitudes towards hazardous substances, greener products and production lines. This information will stimulate the pilot companies to undertake more actions as they will better understand the needs of the consumers and the market demand. SMEs will have more skills and tools to use their substitution success for marketing.
- Substitution cases from Baltic States published at SUBSPORT will encourage other CEE countries to strive for more substitution in their industries. The Baltic example of feasibility in an economy which is not as rich as the Nordic countries, DE, FR or UK will show that substitution must not cost a fortune and that it can be implemented by SMEs successfully.
- Attention from other (LIFE) projects and organizations in the Baltic States, the Baltic Sea Region and EU wide: LIFE Fit for REACH is represented and presented at a variety of international events and quoted at different fora.

Hazardous Substances targeted by the project

The substances targeted in Fit for REACH, are heavy metals and organic compounds of anthropogenic origin addressed in several legal frameworks:

- *nonylphenol* – a substance that is identified as a SVHC and included in the Candidate List for authorisation under REACH,
- *lead compounds* – substances, that are identified as priority hazardous substances in Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (WFD),
- *zinc and its oxides* – substances, that are included into national lists of priority substances which are established on the basis of the Water Acts of Baltic States
- *ethanol, xylene and other VOCs* (volatile organic compounds) – substances, that are regulated by Directive 2010/75/EU of the European Parliament and of the Council of

24 November 2010 on industrial emissions (Integrated Pollution Prevention and Control).

- *sodium perborate, bisphenol A* – substances that are listed in the SIN List 2.1 compiled by ChemSec; the list consists of 626 chemicals that ChemSec identified as having properties of Substances of Very High Concern based on the criteria in REACH Article 57

We also will address substances which are not meeting the SVHC criteria, but might pose risks to environment and health due to their intensive use:

- *4,4'-methylene diphenyldiisocyanate (MDI), methyl mercaptan, percarbonate, benzyl alcohol* – substances which may cause serious damage to human health or the environment and therefore give rise to concern but are not listed on the REACH candidate list.

The project's approach towards substitution and its main target group

The primary target group of the project are industrial enterprises which use hazardous substances to produce their products and which are willing to consider substitution. Small and Medium Size Enterprises (SMEs) downstream of the supply chain which use the target hazardous substances in auxiliary products and articles for their production or service processes are the main stakeholder and direct target group of the project. They will directly benefit from the project activities by being the target group for pilot cases in which they will implement concrete substance substitution actions. They will receive direct consultations from the project experts and possible small scale investments, but also a wide range of information and guidance documents.

The main goal of the pilot substitution actions at industry is to have evidence of possible substitution in the three Baltic States, where this is not yet common. The industry in Baltic States is very suspicious and has not fully realised the opportunities of carrying out substitution. The cases will be promoted as shining examples, but we need a variety of cases to show different processes and scenarios. Our approach is to have several larger cases of substitution with testing technologies or materials. The 6 pilot cases we selected to have i) different industrial branches characteristic for our countries(and ii) several cases in all three countries in which our target substances are used in iii) different production processes/stages using different chemicals in a different way.

The cases show the following scenarios:

1. production of dairy products and related disinfection of surfaces (food industry) - substances of concern: Bisphenol A;
2. metal plating (ship building and maintenance) - substances of concerns: various VOCs and heavy metals;
3. production of construction adhesives (construction material industry), - substances of concerns: organometallic compounds;
4. formulation of household chemical products (chemicals industry) - substances of concern: percarbonates, perborates;
5. production of construction foam (construction materials) - substances of concern: methylene diphenyl diisocyanate;
6. production of polymers (polymer industry) - substances of concern: various poliols, alkylphenols.

The primary aim of the project is to demonstrate that even - and maybe in particular - small and medium sized enterprises can reduce the adverse environmental impacts of their activities by reducing their hazardous substance emissions and even gain a market benefit from that.

The project also wants to demonstrate that the identification and (economic) assessment of alternatives to a hazardous substance is a manageable process, also for SMEs, and that it provides a good decision basis for substitution. We want to show that substitution pays off economically and for the environment, show that socio- economic analysis is feasible and that it can be a “simple” and useful decision aid.
The project will also demonstrate that a precondition for reducing chemical hazards is good hazard communication and information management skills (e.g. literacy of SDS, procurement, organizing of information, advanced legislation tracking).
We aim at an evaluation of the achieved results and lessons learnt from these pilot cases and their active dissemination especially among the similar industry branches and among all project stakeholders. The results will be extrapolated to the industries of the country/branch. We will encourage other stakeholders to use the technology and methods demonstrated in our project.

Furthermore we want to communicate to SMEs outside the project consortium that small, non-costly activities are nevertheless important to make them “fit for REACH” and that they can lead to good results. The motto “small efforts pay off” will be demonstrated by 50-80 “light cases” in which we want to identify the low-hanging fruits for substitution (small efforts, low costs: e.g. purchasing and testing small batches of alternative chemicals, testing suspicious raw or auxiliary materials for possible impurities doing small scale investments in technologies).With this activity, we want to reach a very large group of SMEs in the Baltic States and allay their fears that they cannot manage such substitution cases, that they are too expensive and only made for Nordic enterprises.