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Public Version of the FINAL Project Report
Covering the project activities from **01/01/2009** to **30/06/2012**

Reporting Date
18/09/2012

LIFE+ PROJECT NAME or Acronym
**Baltic Actions for Reduction of Pollution of the Baltic Sea
from Priority Hazardous Substances**

Data Project

Project location	Estonia, Latvia, Lithuania
Project start date:	01/01/2009
Project end date:	31/12/2011 Extension date: 30/06/2012
Total Project duration (in months)	36 months Extension months 6 months
Total budget	1,691,598 €
EC contribution:	839,799 €
(%) of total costs	49,65%
(%) of eligible costs	50%

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/Attached to the public version of Project Final Report is a list of project deliverables with links/

2. Executive Summary

The project wanted to contribute to the protection of the Baltic Sea through strengthening the cooperation of different state institutions in the field of hazardous substances management and legislation enforcement, raising the knowledge of different stakeholders about hazardous substances and their substitution possibilities among enterprises.

The **project objectives** as defined in the grant agreement (Section B) were the following:

- To overcome the lack of reliable information the project wants to investigate on the occurrence of selected WFD (and HELCOM) priority substances and some pollutants of national importance in waste water, sewage water and the receiving environment (surface water and sediments) and propose relevant monitoring measures for future;
- To overcome the shortcomings in regulatory mechanisms the project wants to improve the current permit (IPPC and non-IPPC) quality with regard to measures for reduction of hazardous substances at enterprises and to use the permits as tool for efficient enforcement of the legislation;
- To start practical reduction measures at sites the project wants to enhance better chemicals management at pilot enterprises: detection, use and substitution programmes for certain substances as well as elaboration of investment strategies, potential applications for investment support;
- To overcome knowledge and skills shortcomings at stakeholders the project wants to train to make best use of the REACH mechanism by systematically generating and disseminating information related to environmental hazardousness of substances (in products) and conditions of safe use;
- To promote a modern and innovative chemicals management system the project wants to enhance the dialogue among authorities, industry, science and NGOs/society representatives on the cooperation needs for improving hazardous substances management at different levels of their occurrence in their life-chain (production, industrial processes, waste water, environment, human being);
- To bring in inspiration and skills from abroad the project wants to facilitate the network of Baltic stakeholders with international experts on new legislative developments regarding hazardous substances control and reduction in Baltic States as well as transboundary cooperation needs;
- To create more demand for hazardous substance reduction measures from the population the project wants to develop a concept for raising awareness at the general public on hazardous substances aiming at active policy making participation and at change of consumption patterns.

2.1. Summary of Project Framework

The project was successfully led by the coordinating beneficiary, Baltic Environmental Forum Estonia and implemented in cooperation with 17 very motivated associated beneficiaries from Estonia, Latvia and Lithuania.

Three industrial associated beneficiaries (P11 SIA REBIR in Latvia, P18 AB “Vienybė” in Lithuania, P19 UAB “Panevėžio Aurida” in Lithuania), which due to the financial crisis had substantial reorganisation or had to finish their production in general, were replaced by three new industrial associated beneficiaries (P11 KVADRO in Latvia, P18 Siulas in Lithuania and P19 VLG in Lithuania). The new associated beneficiaries were integrated into the project structure very well and have taken over the task of the previous associated beneficiaries. These changes were accepted by the European Commission and the agreement was modified on 30.09.2009.

P17 Vandens has withdrawn its participation in the project due to internal reorganisations, financial difficulties due to the financial crisis and the reduced amount of personnel. The work of P17 Vandens was successfully taken over and redistributed by partners P12 BEF LT and P13 EPA. These changes have been approved by the European Commission and the contracts modified on 09.02.2011.

2.2. Summary of Project implementation and results

Action 1 - Compilation of background information and setting the frame for a common understanding of the EU Hazard Concept - formed a necessary background for further activities by **compiling information** about the occurrence of the target substances in the three target countries Estonia, Latvia and Lithuania. EU hazard concept was published in easy understandable **leaflet** for stakeholders and in parallel a **training seminar** on the hazard concept was conducted for the project partners.

Action 2 - Preparatory action for Screening of substance occurrence - **prepared the screening** of substance occurrence and the following source analysis (by national and Baltic meetings), **raised the competency** of the teams (training on how data analysis will lead from information on occurrence of substances to analysis of their sources) and **selected the substances** of concern for further analysis. Furthermore, **laboratories** which would be able to analyse those substances were selected.

Action 3 - Screening and source analysis - contributed to the emission inventory (by **sampling and analysing substances of concern** in Estonian and Latvian water environment) and **identified hazardous substances sources** in order to further work with reduction of discharges of hazardous substances. 130 different substances from 12 substances groups were investigated (alkylphenols and their ethoxylates, organotin compounds, polybrominated diphenylethers, short and medium chain chlorinated paraffins, phthalates, polyaromatic hydrocarbons, volatile organic compounds, pesticides, metals, perfluorinated substances), many of which have been investigated for the first time in the Baltic States. Samples were taken from the surface waters and their bottom sediments, from waste water the effluents and sewage sludge of waste water treatment plants in Estonia and Latvia. Also analyses of hazardous substances were performed in Estonia, Latvia and Lithuania at different industry branches, waste water treatment plants, landfills and residential areas to investigate the possible sources of such substances to the Baltic Sea. Several national and Baltic expert meetings were held on the screening results and source identification of hazardous substances. Results of screening and source tracking were published in **printed reports**.

Action 4 - Overall substance reduction strategy, optimising information source uses and elaboration of proposals for future state monitoring programme - improved the system of hazardous substance management at the state authorities, which were the direct target group of the action. Countries developed the **national hazardous substances reduction strategies** and frame for the hazardous **substances monitoring system network**, what served as a basis for further concrete general and individual actions as well as basis for the reporting on WFD to EC. Furthermore the interfaces of REACH with other sectors of environmental legislation were investigated, discussed at an **international seminar** and compiled into a **brochure** for the authorities to spread the knowledge further in the countries.

Action 5 - Permitting guideline elaboration and stakeholders' capacity building for increased quality of permits - served as a general **long-term tool (guideline)** for both authorities and industry for constant reduction or phasing out the emissions of the selected pollutants and **raised awareness** on hazardous substances management in permitting (national trainings). The guideline was elaborated in English and adaptively translated into 3 national languages.

Action 6 - Pilot permit elaboration - was testing the results of action 5 in practice and gave real steps towards reduction of the uses of certain hazardous substances by applying strict and detailed measures at plant level. It elaborated **new permit applications** for the partner enterprises in all three countries, and held several **training courses and info days** in different regions of each country for different groups (experts writing permits, permitting authorities, controlling authorities) to inform about the hazard concept and requirements in the environmental permits. Furthermore also **international seminar** on new IED was organised.

Action 7 - Preparatory action at industry - **substance screening** in form of **hazardous substance mapping at plant level** in the partner enterprises was carried out to screen all raw materials and

auxiliaries in the production process and to analyse ingredients in the products, if these are belonging to the target substance groups.

Action 8 - Pilot industry actions for substitution - created a basis for the enterprises for handling the hazardous substances or phasing out some hazardous substances. As main activity the project developed for each pilot enterprise **an individual substitution scenario**. Furthermore, to support the substitution concept, **leaflets and a handbook** were produced and several **international seminars and national trainings** were carried out on substitution and on optimum management of hazardous substances at plant level.

Action 9 - Strategy for raising public attention & awareness on hazardous substances – functioned as preparatory action for dissemination of project results and for media dialogue to develop a systematic way what actually shall be disseminated, to whom and how it can be made attractive. A look to Old EU-15 and the **history of public awareness** on hazardous substances provided the background for developing an **own strategy** in the Baltic States. Furthermore the action was supported by **meeting with journalists**.

Action 10: All visibility and dissemination actions were implemented successfully. The **deliverables** were: one project flyer, the web site, 45 notice boards, a brochure for the general public, information brochure in Russian language and the Layman's report, furthermore a variety of reports from national and international events and media records. The project has been presented and project results disseminated at 22 different events (international and national), 5 scientific articles and 19 articles for general public in other media have been produced during project implementation.

Action 11 and 12: The **project monitoring and management** scheme proved being well-designed and functional - continuous financial supervision of partners was undertaken; partners participated actively in decision making; the advisory committee was advising and supporting well – and overall no project management problems were encountered.

Action 13: “**After-LIFE Communication Plan**” was produced and delivered as a chapter together with the final project report.

2.3. Summary of conclusions

The project has been a great success as evaluated by all partners and the competent authorities during the final project events in May-June 2012. One of the main conclusions is that an important set of new data and information on hazardous substances in water environment has been gathered in the Baltic States that would not have been possible without the LIFE+ project, its funding and the excellent job of all partners. The project has dealt with the problem holistically, analysed sources of the target hazardous substances, addressed them in optimised permits and elaborated a set of reduction solutions for single pilot installations an innovative contribution to reduction of hazardous substance use at industry and consequently pollution of the water environment in Baltic States and Baltic sea. It also has raised awareness at stakeholders and involved them into the discussion about the better management of hazardous substances and motivated them to take further actions towards reduction of emissions of substances to water environment. Finally, it has lead to one new LIFE+ project proposal, its award and started implementation (end of 2011), going a step further to initiate a stronger demand at the society in the three Baltic States for products free of hazardous substances and to impact the society's behaviour to assist changing it from environmentally passive to active participation in environment.

3. Introduction

3.1. Background, problem and objectives

Due to economic activities of the human society, various chemical substances have been released to the environment. Some of these substances (PBT substances) can be transported very long distances from the original emission source and they eventually can occur anywhere. Furthermore, if persistent substances cause an effect, the exposure will continue for a long period. The effects are practically irreversible. The ecosystems are not able to recover, e.g. the ecosystem of the Baltic Sea is suffering from the level of contamination and also humans are exposed to these substances via the food chain. Exposure to toxic substances can cause death and illness including disruption of the endocrine, reproductive and immune system, neurobehavioral disorders and cancer possibilities occur. The problem of hazardous substances in the aquatic environment has reached alarming dimension since longer time and it seemed not to be solved: information and data on uses of these substances was still scattered and all obliged parties reported lack of information about occurrence of substances and sources.

The environmental problem targeted with the project BaltActHaz was the **reduction of priority hazardous substances discharged from industrial and municipal point sources** in Baltic States. The **overall strategic goal** of the BaltActHaz project was to support Baltic States in implementing the EU Water Framework Directive, the IPPC Directive and the coming Marine Directive as well as the new HELCOM Baltic Sea Action Plan with regard to reduction of hazardous substances. The project elaborated reduction recommendations of hazardous substances for state authorities to plan further steps for screening and source tracking activities related to hazardous substances. For pilot companies recommendations for the substitution of hazardous chemicals were proposed and suggestions for the implementation of best available techniques were worked out. To improve chemicals management at enterprises, a pre-programmed excel template was created to help companies conduct a chemicals inventory at their enterprise in order to identify hazardous chemicals they use and with project team discuss possible needs for improvement.

3.2. Results

The project has resulted in getting new **information about occurrence of hazardous substances** in Baltic States. Substances newly detected for the first time in aquatic environment in Baltic States in surface waters and in bottom sediments are organotin compounds, phthalates, alkylphenols and their etoxylates and polybrominated diphenylethers. It gave possibility to propose **new monitoring programmes** (new substances, new sites and matrixes).

The project **identified the sources of hazardous substances**. It showed that point source for hazardous substance emissions to water bodies are not only industrial enterprises, but municipal sewers. The origin of the hazardous substances comes from household effluents but as well from small scale services and installations. The industry branches which are most likely emitting such substances in the Baltic States are metal processing and galvanic industries, production of building materials, wood and pulp industries, textile and plastic industry.

The project assisted the development of **reduction measures for hazardous substances** in Baltic States. Data and information gained within the project were handed over to the competent authorities to support them implementing the EC requirements.

Direct work with industrial enterprises gave new valuable information for industries about **management of hazardous substances** at plant level and **proved the substitution possibility** for certain applications and chemicals.

Stakeholders involved in permitting of installations started to recognise hazardous substances as important topic and agreed that **integration of chemicals into environmental permits** would bring

reduction of emissions and makes management of hazardous substances in enterprises easier. Elaborated permitting guideline and conducted trainings demonstrated that **joint efforts of all stakeholders** are needed to ensure to use the permits as a tool for efficient enforcement of the legislation.

Very important aspect of the project was the **communication and dialogue** opportunities between different stakeholders. At the end of the project stands the substantially **increased capacity and awareness** of a large amount of experts and stakeholders on different aspects of management of hazardous substances. In addition the cooperation with Russian and Polish experts and stakeholders was strengthened and shall lead to screening of hazardous substances in these countries and in Baltic Sea.

4. Administrative part

4.1. Description of the management system

4.1.1. Working method and project actions

Project coordination and planning

The main tool for project coordination and planning were the project partners meetings. Big partners meetings were organised twice a year. The aim of the meetings was to support mutual cooperation and to give the project an official start, to discuss the progress of the project, to give an overview regarding completed activities and to collect feedback regarding the financial reporting of previous periods, and to plan the upcoming activities. In total 6 partners meetings (including kick-off meeting) were held.

Financial management

The first project activity in January 2009 was setting up the **financial management** scheme by the beneficiary. The common budget was divided according to actions and involvement of all partners as laid down in the joint budget, the own financial contribution was calculated as percentage of partner's budget. Associated beneficiaries were accounting to the coordinating beneficiary half yearly; they were regularly submitting time sheets, expenditure reports and copies of all receipts/invoices; according to this documentation they received the payments from the coordinating beneficiary.

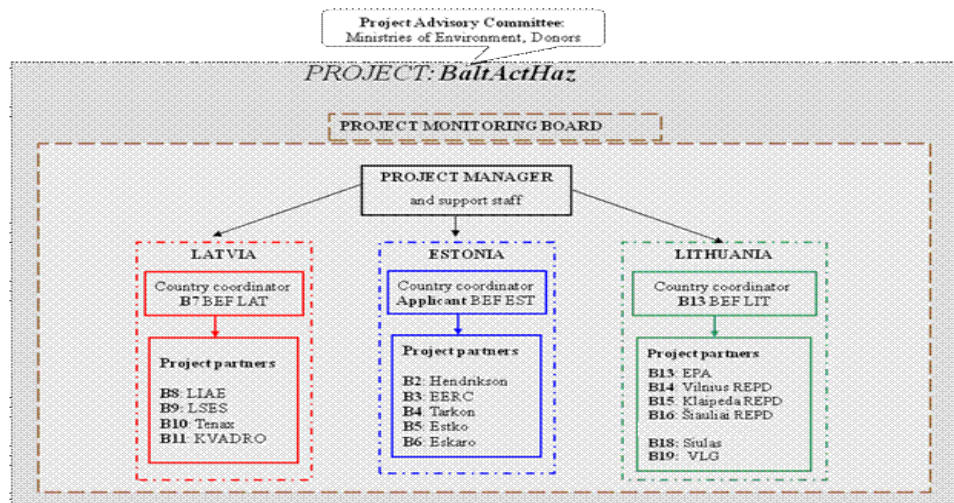
Based on best price offer, the company Grant Thornton Rimess OÜ (before named as A. Kangust & Partnerid OÜ) was selected out of three companies and contracted for the project **auditing** according to the requirements of the European Commission. According to the audit report the auditor found all financial operations as according to rules and had no objections to the beneficiary's financial management.

Project reporting

The first project report was the inception report submitted in September 2009, followed by the mid-term report submitted in September 2010 and the progress report submitted in November 2011. All reports received positive feedback from the European Commission.

4.1.2. Beneficiary, partners and project-organisation

The project was led by the P1 Baltic Environmental Forum Estonia and implemented in cooperation with 17 partners: from Estonia (P2 OÜ Hendrikson & Ko, P3 OÜ Eesti Keskkonnauuringute Keskus, P4 AS Hanza Tarkon, P5 AS Estko, P6 AS Eskaro), Latvia (P7 Baltic Environmental Forum Latvia, P8 Institute of Aquatic Environment, P9 State Environmental Services, P10 SIA Tenax, P11 SIA KVADRO), and Lithuania (P12 Baltic Environmental Forum Lithuania, P13 Lithuanian Environmental Protection Agency, P14 Vilnius Regional Environmental Protection Department, P15 Klaipeda Regional Environmental Protection Department, P16 Šiauliai Regional Environmental Protection Department, P18 AB "Siūlas", P19 AB "Vakarų laivų gamykla"). The project management organigram is illustrating the project partner structure:



Coordinating beneficiary of the project was P1 BEF-EE who was responsible for project management A12. There have been three project managers: first Ms. Kitty Kislenco, since the maternity leave of her (from January 2010) Mr. Jorgen Talkop took over in November 2009 , and after Mr. Talkop left Ms. Kertu-Kirit Sild took over in October 2010. The project manager was in charge of the operational project management, project partner communication and contracting, reporting to EC and supervision of action implementation.

For co-leadership and project supervision Ms. Heidrun Fammler, president of the BEF Group, was contracted. Her role was to advise the project manager, to set up financial and accounting schemes at partners and to provide training on LIFE+ project reporting. Ms. Fammler also gave training and leadership advice to project managers and action leaders.

Coordinating beneficiary P1 BEF-EE was also leading the following activities: background A1, visibility A10, monitoring A11, and ALCP A13. Later (from April 2011) BEF-EE took also over the lead of substance screening (A3) and reduction strategy (A4) actions due to the maternity leave of original action leader Ms. Zita Dudutyte (P12 BEF-LT). Ms. Kitty Kislenco became action leader of the remaining A3 and A4 after her return from maternity leave. BEF-EE was also acting as country coordinator for all project actions in Estonia.

Associated beneficiary P2 Hendrikson was leading the permitting-related activities A5 and A6.

Associated beneficiary P7 BEF-LV was leading pilot industry activities A7 and A8, and public awareness strategy action A9. BEF-LV was also acting as country coordinator for project implementation in Latvia. During project implementation BEF-LV notified one change in its leading personnel: action leader Ms. Inguna Rauda of A9 was replaced by Ms. Ginta Opmane.

Associated beneficiary P12 BEF-LT was leading the substance screening activities A2 and A3, as well as substance reduction strategy A4, which at the end of the project was handed over to BEF-EE due to maternity leave of the action leader Ms. Dudutyte in April 2011. BEF-LT was also acting as country coordinator for project implementation in Lithuania.

Each project partner nominated a coordinator from their organisation who was in charge of team management at the partner office. Coordinators of project partners have been participating in project partners meetings and been the main contact persons for reporting and communication with project manager. The project team from the P1 BEF-EE, P7 BEF-LV, P12 BEF-LT and P2 Hendrikson were meeting at least half yearly to communicate on project progress, administrative challenges and undertake joint project planning.

At the beginning of the project agreements were elaborated and signed with the associated partners. All initial signed partnership agreements were attached in Inception report Annex 6.1, final modified agreements are attached in Final report Annex 7.1.1.

Referring to the question posed by European Commission in the MTR about partner P10, Tenax Ltd. we would like to explain: Tenax Ltd. is an industrial enterprise that consists of three sub-ordinated companies – ‘Tenachem’, ‘Tenapors’ and ‘Tenaglass’. Juridically, the company is one organisational

and economic structure, Tenax Ltd. However, as the project activities took place in the company 'Tenachem', which produces construction chemicals and had the most relevance towards the project, in the project reporting for Actions 7 and 8, we name the company 'Tenachem' instead of 'Tenax', to be more precise in which part of the enterprise hazardous substance mapping and substitution activities took place.

4.2. Evaluation of the management system

4.2.1. The process

The overall project implementation process went very well, the team was highly motivated and all partners contributed actively to the success of the project. None of the proposed actions had to be revised – they were well designed. The LIFE+ project and its funds have facilitated the start of comprehensive hazardous substances screening and source tracking in the Baltic States. The project actions were running well and led to a good result with identified sources of hazardous substances, improved permitting knowledge and hazardous substances management in industrial enterprises.

The project activities became quite well-known also beyond partners' circle and stakeholders appreciated their early integration into the substances screening and monitoring proposals.

Even obviously complicated actions, that required more time for concept agreements among partners and implementation in the multi country and multi language setting were finished in excellent quality and given budget – therefore we can state that the overall project implementation process went very well.

4.2.2. The project management, the problems encountered, the partnerships and their added value

The only management problem was two time change of associated beneficiaries. First due to economic crisis three industrial partners (P11 SIA Rebir, P18 AB "Vienybē", P19 UAB "Panevėžio Aurida") dropped out at the beginning of the project. The withdrawal of these three associated beneficiaries was outside the coordinating beneficiary's and other associated beneficiaries' control. The problem was solved by recruiting new associated beneficiaries (P11 SIA "KVADRO", P18 AB "Siūlas", P19 AB "Vakarų laivų gamykla").

Second change to the management structure was the drop out of P17 Vandenys. The situation was solved by transferring the work of the P17 Vandenys to project partners P12 BEF-LT and the P13 EPA.

All project partners gave added value to the project. With the help of the pilot enterprises many hazardous substances were identified in their production and communication between project experts and pilot enterprises was very strong and cooperation with them continues. State authorities as partners were very valuable as experts as well as active participants at the trainings. The project had many different partners and this gave the opportunity for example for industries and state authorities (different stakeholders) to exchange knowledge and experience, to discuss common problems and possible solutions.

4.2.3. Technical and commercial application

The project have produced several guidelines and handbooks and implemented many training courses, but there was no commercial application of the results.

Seven industrial enterprises were seeking alternatives for substituting hazardous substances or technologies and have also considered economic feasibilities for substitution. However, the project was not testing technical measures and the economic feasibility was checked only at individual level of each pilot company and there is no reproducibility.

4.2.4. Comparison against the project-objectives

All foreseen project objectives were reached.

4.2.5. Effectiveness of dissemination activities

Project dissemination activities were extremely effective as the interest in the project deliverables was very high. The coordinating beneficiary and partners distributed the majority of the publications to the target group before final dissemination events. Therefore with project prolongation additional copies of publications were produced and partly already disseminated.

4.2.6. The future: continuation of the project and remaining threats

Some chemical substances still emerge as being of concern due to their undesired toxicological and eco-toxicological properties and effects. In most cases it is still unknown whether these substances are of relevance for Baltic States since there is no monitoring of such substances. Therefore further screening of pharmaceuticals and other emerging substances that are not monitored regularly could be done. As Baltic countries are small, one-off actions in form of external projects (e.g. LIFE+ projects) would be sufficient to gather information for policy implementation purposes.

Training for industrial enterprises on proper management and substitution of chemicals need to be continued to widen the scope and promote the training programme further on.

During the project we have identified a general lack of understanding of all citizens and local municipalities about hazardous substances and their potential impact to environment and human health. Both issues have been tackled further on in new projects. The project called BaltInfoHaz with overall goal to initiate a stronger demand at the society in the three Baltic States for products free of hazardous substances started on 1st October 2011. Furthermore a new project proposal to increase knowledge and promote actions for substance reduction among all involved stakeholders at local level is planned to be submitted in the LIFE+ call in 2012. We also try to initiate a similar regional hazardous substance project among the Visegrad countries Poland, Slovakia, Czech Republic and Hungary to address larger industries with our findings, tools and guidelines and initiate a larger reduction potential of hazardous substance emissions to the aquatic environmental problem than the small Baltic States with their small industries can do.

5. Technical part

5.1. Task by task - description

5.1.1. Action 1 Compilation of background information and setting the frame for a common understanding of the EU Hazard Concept

The action formed necessary background for further activities directly targeting objectives of the WFD and Member States obligations. It collected background information (1.1), produced a leaflet for stakeholders to understand EU hazard concept and carried out a training seminar (1.2).

5.1.1.1. Action 1.1 Compilation of information about the occurrence of the target substances

Action leader:	Kitty Kislenko, BEF Estonia, P1
Key partners involved:	Hendrikson, P2 BEF Latvia, P7 BEF Lithuania, P12
Action start:	01.01.2009
Action end:	30.04.2009
Delays or drawbacks:	no modification
Action report:	see MTR: Annex 7.2.1

For compilation of information about the occurrence of the target substances the team carried out background research and **compiled information material**. Information material included the following issues:

- overview about hazardous substances and their definitions;
- overview on the legal requirements in the EU and three Baltic countries addressing environmentally hazardous substances;
- information about occurrence of the target substances in Estonia, Latvia and Lithuania;
- introduction to permitting practices related to hazardous substances;
- overview about state monitoring programmes in Baltic States;
- information about other projects and activities related with hazardous substances management.

The results were formulated in a background paper (pdf) in English (see IR: Annex 6.2.1).

5.1.1.2. Action 1.2 Laying down the EU hazard concept

Action leader:	Kitty Kislenko, BEF Estonia, P1
Key partners involved:	all
Action start:	01.01.2009, additional reprint of leaflets 01.01.2012
Action end:	30.06.2009, additional reprint of leaflets 31.03.2012
Delays or drawbacks:	no modification
Action report:	see MTR: Annex 7.2.1

To help partners and stakeholders to understand the EU hazard concept a **training seminar “Hazardous substances – what we talk about?”** was organised in Jurmala, Latvia, 3.-4.06.2009. The topics of the training were i) definitions and criteria of “hazardous” substances in different legislative frameworks; ii) identification of environmentally hazardous substances; iii) interrelation of different legal frameworks on reduction of hazardous substances; iv) roles and responsibilities of different stakeholders.

In total 27 persons from project partner organisations and external Baltic stakeholders participated at the training (see IR: Annex 6.3.1). As a result the training was evaluated as useful by the 95% of participants and 5% evaluated as interesting.

A leaflet on EU hazard concept “Hazardous substances of environmental concern – what does that mean?” has been produced (see MTR: Annex 7.2.1) in 2009. The content of the brochure included: i) introduction why to talk about hazard concept; ii) which substances are of relevance to the environment; iii) information about most relevant legal frameworks and interrelation of different frameworks regarding the reduction of hazardous substances; iv) overview about definitions and criteria of hazardous substances; important information sources; management approach towards hazardous substances in the EU; and, v) lists of hazardous substances in different frameworks. In 2012 the leaflet was updated (mainly new lists of hazardous substances) and reprinted (in 600 copies) due to high interest by stakeholders.

The leaflet is available in the project website in English, Estonian, Latvian, Lithuanian languages and has been printed in 1500 copies all together in the three Baltic languages. They have been distributed to the main stakeholders of the project such as Ministries of Environment, Ministries of Social Affairs, Environmental Competent authorities (services, agencies, information centres, etc), Regional Environmental Authorities (environmental boards), Environmental and Health inspectorates, laboratories and scientific organisations, project partners, experts, green NGOs and industrial enterprises.

Indicators used to test the performance of action:

Project Objective	Indicator	Source of verification	PROGRESS
Support BS in implementing of WFD, IPPC Directive and Marine Directive + HELCOM BSAP with regard to reduction of hazardous substances.	Agreed concept for action with regard to improvement needs for policy implementation in each country.	Working programme for project actions and beyond.	Fulfilled and documented in background material (A1.1) and stakeholders trained (A1.2).
	Leaflets elaborated.	Leaflets readily elaborated in 3 languages; in total 1500 (500 in each Baltic country) copies	A leaflet “Hazardous substances of environmental concern – what does that

		distributed.	mean?" elaborated, in total 1500 printed and distributed.
Facilitate network of Baltic - international stakeholders.	Fruitful discussions and international input received on substance occurrence, reduction strategies and legal demands.	Training seminar held; training was found successful - feedback (by evaluation sheets) from the stakeholders to the trainers about increased understanding of the EU hazard concept (participant lists, reports); 20-25 participants attended.	Training seminar "Hazardous substances – what we talk about?" held. As a result the training was evaluated as useful by the 95% of participants and 5% evaluated as interesting. Agenda, presentations, report and participant list of the event available. 27 people participated.
-	Time line.	Proposed time line kept.	Time line kept.

5.1.2. Action 2 Preparatory action for Screening of substance occurrence

Project action A2 contributed to the identification of nationally relevant substances or revising of national lists of substances. It prepared the screening of substance occurrence and the following source analysis (2.3, 2.4), raised the competency of the teams implementing action A3 later on (2.1) and selected the substances of concern (2.2).

5.1.2.1. Action 2.1 Training on screening action

Action leader: Zita Dudutyte, BEF Lithuania, P12
Key partners involved: BEF Estonia, P1
EERC, P3
LIAE, P8
EPA, P13
Action start: 01.01.2009
Action end: 30.04.2009
Delays or drawbacks: no modification
Action report: see MTR: Annex 7.2.2

A training course on "Hazardous Substances Screening in Practice" was held 16.-17.04.2009, in Vilnius, Lithuania. The 15th April was a preparatory day for the team to discuss presentations and exercises. In total 27 participants attended the training (see IR: Annex 6.3.2). The topic of the training was to introduce the experience in hazardous substances screening exercise from Lithuania and Finland and to plan the hazardous substances screening in Estonia and Latvia. The training was evaluated very positively (99%) with the indication that information provided was exactly as needed for the project.

5.1.2.2. Action 2.2 Selecting the substances of concern in Estonia and Latvia

Action leader: Zita Dudutyte, BEF Lithuania, P12
Key partners involved: BEF Estonia, P1
EERC, P3
BEF Latvia, P7
LIAE, P8
Action start: 01.04.2009
Action end: 30.09.2009
Delays or drawbacks: no modification
Action report: see MTR: Annex 7.2.2

For the purpose of selection of substances of concern, sampling sites and matrixes in Estonia and Latvia at first **national meetings** were held: in Estonia on 22.05.2009 (10 participants) and in Latvia on 27.05.2009 (20 participants). In the meetings agreements were made on which substances to select,

location of sampling sites and matrixes relevant for the country to be analysed (see MTR: Annex 7.2.2).

The national meetings were followed by the **Baltic meeting** (09.09.2009, Latvia, organised back to back with the 2nd project partners meeting, 26 participants) with the aim to get feedback from the project partners and external experts on the nationally agreed schemes for the screening and discuss further practical steps, like criteria for selection and contracting of laboratories for analysis, and to benefit from Swedish experiences with regard to identification of HS sources (see MTR: Annex 7.2.2). Main issues on the agenda were: i) hazardous substances screening exercise planning in Estonia and Latvia; ii) lists of HS, sites, matrices to be developed; iii) working groups to discuss and review proposals; iv) choice of laboratories and methods – minimum performance criteria; source control of priority substances in Europe; and, v) source tracking of hazardous substances from a Swedish perspective.

Finally, Estonia and Latvia **selected the substances to be analysed, sampling sites and matrixes**. In Estonia 134 substances, 33 sites (WWTP, Lake Peipus and rivers, coastal waters, agricultural areas) and 4 different matrixes (surface water, sewage sludge, effluent, bottom sediment) were chosen. In Latvia 67 substances, 22 sites (WWTP, rivers, lakes and harbour aquatories) and 4 different matrixes (surface water, sewage sludge, effluent, bottom sediment) were chosen. Selection criteria's are described in screening reports, see action 3.3.

As in Lithuania the screening of hazardous substances has been carried out in an earlier project 2005 – 2007, in the current project the Lithuanian partners immediately started with preparatory works for the identification of pollution sources (action 3.4) and selected substances of concern and listed the sites. In total 102 substances and 44 sites (waste water from different industrial companies, waste water from other commercial facilities (e.g. laundries, supermarkets), run-off from specific areas (e.g. recycling facilities, industrial areas, car repairing facilities), filtrate from landfills, sewage water from household, WWTPs and transboundary rivers) were selected.

5.1.2.3. Action 2.3 Selecting of laboratories for analysing substances

Action leader:	Zita Dudutyte, BEF Lithuania, P12
Key partners involved:	EERC, P3 LIAE, P8
Action start:	01.07.2009
Action end:	29.02.2011
Delays or drawbacks:	In Lithuania contracting of laboratory for the source tracking was in delay due to internal reorganisation procedures of two involved associated beneficiaries (P17 Vandenys and P13 EPA), which took place in the whole second half of the year 2009 and finally led to the withdrawal of one associated beneficiary – P17 Vandenys in 2010. With the 2 nd amendment of the grant agreement the deadline for tendering in Lithuania was extended from November 2009 until November 2010. The tasks of the resigned associated beneficiary were taken over by other Lithuanian project partners – P12 BEF-LT and P13 EPA. The action implementation caught up during second half of 2010 and the objectives were reached.
Action report:	see MTR: Annex 7.2.2

Since a variety of the target hazardous substances were not possible to be analysed in the Baltic States due to lack of capacity of laboratories, a certain part of the analyses were contracted to laboratories outside of Baltic countries. The criteria for laboratories and analysis methods were discussed in the training course, national and Baltic meeting of stakeholders. The main criteria for those laboratories were that the laboratory needed to be accredited, all methods of analysis validated and in accordance with requirements (EN ISO/IEC-17025 standard and Directive 2009/90/EC) and that the limits of quantification (LOQ) of applied analysis methods corresponded to the environmental quality standards. For selection of laboratories public procurement procedures were prepared in Estonia and Latvia due to size of contracts and nature of the contracting partner (public body). Afterwards the selected **laboratories were contracted** in April 2010 in Estonia - GALAB Laboratories GmbH

(GALAB) from Germany and in Latvia - ALS from Czech Republic. In Lithuania the laboratory ALS Scandinavia AB from Sweden was contracted in February 2011 after the European Commission approved the withdrawal of P17 Vandenys and the related changes to the grant agreement.

5.1.2.4. Action 2.4 Detailed planning of the analysis

Action leader:	Zita Dudutyte, BEF Lithuania, P12
Key partners involved:	EERC, P3 LIAE, P8 EPA, P13
Action start:	01.10.2009
Action end:	30.01.2011
Delays or drawbacks:	Similarly to A2.3 in Lithuania also the planning of the source tracking was in delay and the tasks were taken by P12 BEF-LT and P13 EPA. The action implementation caught up during second half of 2010 and was implemented fully in compliance with the objectives.
Action report:	see MTR: Annex 7.2.2

The planning took place in two stages, firstly before the first sampling round and analysis and, secondly, when first results were available. This procedure helped to make the analysis more targeted. The **detailed planning of the 1st round of analysis** was finalised in Estonia and Latvia in March 2010. The results from the first round on screening in Estonia and Latvia were received in August-September 2010 and **planning for the 2nd round of analysis** was finished in September 2010. The detailed planning of the 2nd round of analysis was in slight delay due to delayed 1st sampling round (main reason for that was the long winter and no possibility for sampling due to large amounts of snow). The delay did not influence the general deadline of sampling as the time slot between planning and actual sampling was decreased.

The **source tracking planning** was finished in Lithuania in the end of January 2011.

Indicators used to test the performance of action:

Project Objective	Indicator	Source of verification	PROGRESS
Investigate on occurrence of selected priority substances.	Substances traced respectively eliminated from the national priority list as non-relevant for target countries.	<ul style="list-style-type: none"> List of priorities (substances, sampling sites, matrixes) elaborated. Laboratories for substance analysis in all countries selected. Sampling and analysis scheduled with fixed deadlines elaborated and agreed by partners. 	<ul style="list-style-type: none"> List of priorities (substances, sampling sites, matrixes) for sampling elaborated. Laboratories selected and contracted in all three countries. Sampling and analysis of screening exercise scheduled in Estonia and in Latvia. Sampling and analysis of source tracking exercise scheduled in all three countries.
Enhance dialogue among authorities, industry, science and society representatives.	Fruitful discussions on substance occurrence, reduction strategies and legal demands among the stakeholders in each country.	National events with active participation of all stakeholders (participant lists, reports).	National meetings in EE and LV to make planning and to discuss screening results were held and evaluated 99% useful. Agendas, presentations, reports and participant lists of the events available.
Facilitate network of Baltic - international stakeholders.	Fruitful discussions and international input received on substance occurrence, reduction strategies and legal demands.	Estonian and Latvian team successfully trained (self-evaluation: 90% agree their knowledge has substantially increased) (participant lists, reports); 25 participants attended.	Training course on "Hazardous Substances Screening in practice" held and evaluated 99% positively. Agenda, presentations, report and participant list of the event available. 25 people participated the training.
-	Time line.	Proposed time line kept.	Timeline was not fully kept: in Lithuania the planning of the source tracking and contracting

			laboratories were in delay due to withdrawal of the associated beneficiary – P17 Vandenys. Despite of this delay all the project goals were reached.
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5.1.3. Action 3 Screening and source analysis

Action A3 contributed to elaboration of an emission inventory (3.1, 3.2, 3.3), and identification of hazardous substances sources (3.4) in order to further work with reduction of discharges of hazardous substances from the sources or phase out as required by WFD.

5.1.3.1. Action 3.1 Sampling and transportation of samplings

Action leader:	Zita Dudutyte, BEF Lithuania, P12
Key partners involved:	EERC, P3 LIAE, P8
Action start:	01.03.2010
Action end:	29.02.2011
Delays or drawbacks:	no modification
Action report:	Annex 7.2.2.3

Two sampling rounds were carried out in Estonia and Latvia in 2010 and at beginning 2011. The samples were taken by project partners P3 EERC and P8 LIAE. Sampling and transportation of samples to laboratories were performed following procedures according to ISO/EN standards.

In Estonia, in total 84 samples were taken and sent to the external laboratory (GALAB). Part of the chemical analyses was done in the partner's own laboratory. In Latvia, in total 46 samples were taken and sent to the external laboratory (ALS). The sampling in Latvia was slightly in delay due to cash flow problems, but no serious threat to the action implementation was caused.

In Latvia fewer samples were taken due to the increased prices compared to the initial costs calculation, however, also the smaller number of samples fulfilled the requirement of soundness of results.

5.1.3.2. Action 3.2 Analyses of samplings of selected substances

Action leader:	Zita Dudutyte, BEF Lithuania, P12
Key partners involved:	EERC, P3 LIAE, P8
Action start:	01.04.2010
Action end:	30.03.2011
Delays or drawbacks:	no modification
Action report:	Annex 7.2.2.3

The substances were **analysed in two sampling rounds**. In the first round all selected substances were analysed while in the second round only these substances were analysed which showed high concentrations in the first round or where the results were questionable for any reason.

The results from the 1st round of analysis were received in July and August 2010 in both countries. The results from the 2nd round of analysis were received in Estonia in November-December 2010 and in Latvia in March 2011.

In Estonia the target of 100 samples was almost achieved, in reality, 96 samples were analysed (84 screening samples and 12 source tracking samples). In Latvia the target of 100 samples was not achieved, in reality 60 samples were analysed (46 screening samples and 14 source tracking samples), mainly because of two reasons: 1) Difference between the actual price and the one foreseen in the budget. The costs per sample were determined by the laboratory which won the tender. The entire budget has been spent and the number of samples was maximum possible for the price of winning laboratory. In Estonia it was possible to analyse more samples as some of the work was implemented

at lower costs by project partner's own laboratory, and some of samples were subcontracted to external laboratory, therefore the price for all samples was less than in Latvian case where all samples were analysed in a foreign laboratory. 2) After project launch another EU-funded project "Screening of nitrates, priority and hazardous substances in surface and underground waters" (funding source: Cohesion fund) which started independently in Latvia and covered part of sites BaltActHaz was supposed of covering. As a result, both projects exchanged the information and we did not duplicate work from EU funds, but gained more information from the other project source. Overall we can state that, even though the quantitative number of samples was not reached, the goal was fully reached as a result of successful cooperation between different projects.

5.1.3.3. Action 3.3 Compiling results from the analysis

Action leader:	Zita Dudutyte, BEF Lithuania, P12
Key partners involved:	BEF Estonia, P1 EERC, P3 BEF Latvia, P7 LIAE, P8
Action start:	01.04.2010
Action end:	31.01.2012
Delays or drawbacks:	no modification
Action report:	Annex 7.2.2.3

Analysis results were **compiled into reports in Estonia and Latvia**. The harmonised outline for the report was agreed in end of 2010. The reports were written in national languages and translated into English to be available for international experience exchange. 200 copies of the national versions and 50 copies of the English versions were printed in Estonia and in Latvia (see Annexes PR: 7.2.1. and FR Annex 7.3.2.2).

The main findings from the substance screening can be concluded as following:

- Organotin compounds, phthalates, alkylphenols and their ethoxylates were detected, both, in surface water and sediments as well as in the treated waste water and sludge; their concentrations sometimes exceeded the applied limits for surface waters;
- Organotin compounds were detected in harbour areas in all three Baltic States in very high concentrations in the water and the bottom sediments and they exceeded the environmental quality standard set for these substances;
- Effluent water from WWTPs contained high concentrations of alkylphenols (nonylphenols, octylphenols) and their ethoxylates, phthalates, organotin compounds and heavy metals were detected;
- Sewage sludge from nearly all WWTPs was highly contaminated by alkylphenols, organotin compounds, heavy metals, phthalates, chlorinated paraffins and PBDE-209.

National meetings with stakeholders (see PR: Annex 7.2.1 and FR: Annex 7.2.2.3) to discuss the overall results from screening activities were held in Estonia on 31.08.2010 (8 participants), 16.02.2011 (16 participants) and in Latvia on 31.08.2010 (10 participants), 13.01.2011 (37 participants) and on 11.04.2011 (13 participants).

Baltic in-depth meeting: The "Baltic meeting on screening results and proposals for hazardous substances reduction strategies and monitoring programmes" with the project partners from all three Baltic States and the relevant competent authorities was held in Riga on 12.04.2011 (back-to-back with 5th Partners meeting, 34 participants) with the aim to feedback the results of screening in Estonia and Latvia and to discuss further actions for source analysis (see PR: Annex 7.2.1).

5.1.3.4. Action 3.4 Investigation of the hazardous substances sources

Action leader:	Zita Dudutyte, BEF Lithuania, P12 Kitty Kislenko, BEF Estonia, P1
Key partners involved:	EERC, P3 BEF Latvia, P7

	LIAE, P8
	EPA, P13
Action start:	01.09.2009
Action end:	31.03.2012
Delays or drawbacks:	As described above, P17 resigned from the project and the task was overtaken by P12 BEF-LT and P13 EPA, which resulted in some delays of the action implementation. This delay did not influence the deadlines of corresponding activities in Estonia and Latvia. Despite of this delay all the project goals were reached.
Action report:	Annex 7.2.2.3

Consequently, the next step after substance screening was to **investigate the hazardous substances sources**. This screening data was used as background information for further planning and investigation of sources of hazardous substances. Investigation of the sources within the project was performed in different ways: identification of used hazardous substances in the pilot companies, sampling and analysis of industrial waste water, sewage water, run-off water and other potential sources of hazardous substances as well as screening of the contracts at WWTPs.

In the following a short overview of countries source tracking activities is presented:

Lithuania: Investigation of sources focused on 104 substances/groups of substances. 75 samples were taken and sent to laboratory at the beginning of April 2011, results were received in June 2011. Second sampling round took place in June 2011 and results were received in August 2011, 18 samples were taken. In Lithuania a variety of sampling sites were chosen: waste water samples were taken from industrial companies, residential areas, other commercial facilities as laundries, supermarkets; also run-off water from specific areas (e.g. recycling facilities, industrial areas, car repairing facilities), filtrate from landfills (not treated at site but discharged to combined sewage system), treated waste water and sludge from WWTP, surface water and sediment from shipyards was analysed. During first sampling round in total 77 sites were sampled and for the second round 9 sites were sampled.

Results show the occurrence of the same substances as in the screening action - alkylphenols and their ethoxylates, phthalates, organotin compounds, additionally PBDEs and chlorinated paraffins, high concentrations of these substances were detected both in waste water from industrial companies as well as in waste water from residential areas. It is important to emphasise that high concentration levels of many substance groups were detected also in household effluents and therefore the municipal source should be considered as an equivalent source of pollution to the industrial one.

The samplings for source tracking in Estonia and Latvia were performed in May-June 2011.

Estonia: The North-Eastern region was chosen for sampling as it is the main area of oil shale industry. Waste water samples were taken from several industrial companies and from residential areas, leachate water from semi-coke landfill and ash depository as well as samples from treated waste water and sludge. In Estonia, 12 samples were taken and 134 substances analysed. Results show that the same hazardous substances' groups as from screening were detected also in Estonia: phthalates, alkylphenols and their ethoxylates, organotin compounds, PBDEs, chlorinated paraffins etc. The main source for one- and two-basic phenol compounds as well as for PAHs (anthracene, naphthalene) is the oil shale processing and chemicals' production industries. The main source for phthalates and alkylphenols were households.

Estonian national meeting to select substances and sampling sites for investigation of hazardous substances sources was held on 16.05.2011 (15 participants) and meeting to discuss the hazardous substances content in the samples taken from the outflows of docs of Tallinn shipyard of BLRT Grupp was held on 25.11.2011 (12 participants).

Latvia: Riga, Liepaja, Ventspils, Valmiera, Saldus and Dobeles were chosen as sampling sites and samples of waste water were taken from industrial companies and from residential areas. In Latvia 14 samples were taken and 43 substances analysed. The highest concentrations of alkylphenols were observed near companies that produced/worked with textiles. The effluents from household are regular source of pollution with PBDE and chlorinated paraffins. The waste waters discharged to environment from WWTPs should be further monitored to make sure that PBDE and chlorinated paraffins have been removed within treatment process. The source tracking and further control of PFOS in sewage waters and waste water cannot be regarded as effective yet because analytical methods are not developed far enough.

All results from source tracking activities were compiled into three separate country **reports** and into one English report. These reports focus on the analytical results performed for the identification of sources of hazardous substances and documents the experiences and results of Estonia, Latvia and Lithuania. Based on the findings, they also contain recommendations and advice for the priority hazardous substances to be checked at first place by controlling authorities respectively by the WWTPs or the industry itself in their effluents; furthermore, the reports contain recommendations for further tools for identification of sources of hazardous substances. Reports are attached in Annex 7.3.2.2. In Estonia 50 copies of the national version and 50 copies of English version were printed. In Latvia 100 copies of the national version and 50 copies of English version were printed. In Lithuania 200 copies of the national version and 50 copies of English version were printed.

Furthermore, the project team was supporting several WWTPs with **screening of their contracts** with companies emitting hazardous substances. The concept for this work was agreed by action leader and country coordinators. In Estonia 3 (Keila, Tartu, Haapsalu), in Latvia 3 (Riga, Liepaja, Dobele), in Lithuania 3 (Vilnius, Kaunas, Klaipėda) WWTPs participated in this activity which was implemented in two steps:

- Firstly, during info days and trainings in the countries WWTP were informed about potentially hazardous substances that could be emitted by their clients (source analyse results) to the waste water and got recommendations what they should take into account when making contracts with clients.
- Secondly, individual talks were held with each participating WWTP and further recommendations were given: how to approach companies, what to search and ask from the companies (e.g. which substance information) and how to evaluate received data.

Communication with WWTPs started in September 2011 and finished in April 2012.

Those WWTPs, where the samples were taken, are now aware of substance occurrence and have figured out possible sources. It is not possible yet to report if WWTP already changed the contracts with clients as many of them are only now considering the changes of contracts. But according to the feedback the WWTP got valuable tips and recommendations for further work and communication with clients. In Estonia, one WWTP stated that they have refused to make contract with one industrial company emitting huge amount of restricted substance into waste water. In Latvia, in some cases additional investigation is currently being carried out on the WWTP's own initiative.

Baltic meeting: The “Baltic meeting on results of hazardous substances source tracking, proposals for monitoring programmes and measures for reduction” with the project partners from the three Baltic States and the relevant competent authorities was held in Vilnius on 6.-7.03.2012 (43 participants). The aim was i) to introduce the updated results of hazardous substances source tracking; ii) to discuss the proposals for improvements of state monitoring programmes; iii) to discuss the recommendations for reduction measures of hazardous substances; and iv) to share experience about the potential general and substance specific measures for reduction that shall be taken into account for compliance with WFD and HELCOM Baltic Sea Action Plan requirements. Report of the meeting is attached in Annex 7.2.2.3.

Indicators used to test the performance of action:

Project Objective	Indicator	Source of verification	PROGRESS
Investigate on occurrence of selected priority substances.	Substances traced respectively eliminated from the national priority list as non-relevant for target countries.	Sample results: in Total 200 (100 in Latvia and 100 in Estonia) samples taken and analysed.	Number of samples taken and analysed, in total 156 samples; in Estonia the target of 100 samples was almost achieved, in reality 96 samples. In Latvia the target of 100 samples was not achieved, in reality 60 samples, mainly because of two reasons: 1) Difference between the actual price and the one foreseen in the budget. 2) After project launch another EU-funded project started independently

			and covered part of sites BaltActHaz was thinking of covering. Despite of this drawback all the project goals in general were reached.
		Results of analysis ready to be used for elaboration of national strategies, and updating national monitoring systems.	Results of analysis were ready to be used for elaboration of national strategies, and updating national monitoring systems.
		At least 10 contracts between WWTP and companies revised.	9 WWTP were advised on hazardous substances issues in contracts and in need of updating these.
		At least some sources of the selected hazardous substances identified.	Many sources of the selected hazardous substances identified.
Enhance dialogue among authorities, industry, science and society representatives.	Fruitful discussions on substance occurrence, reduction strategies and legal demands among the stakeholders in each country.	National events with active participation of all stakeholders (participant lists, reports).	2 national meetings to discuss results of screening have taken place in Estonia and Latvia in February and April 2011 and evaluated 99% useful. Agendas, reports and participant lists of the events available. 29 stakeholders participated.
Facilitate network of Baltic - international stakeholders.	Fruitful discussions and international input received on substance occurrence, reduction strategies and legal demands.	Baltic and international events with active participation of stakeholders (participant lists, reports).	2 Baltic meetings held and evaluated 99% useful. Agendas, presentations, reports and participant lists of the events available. 78 people participated.
-	Time line.	Proposed time line kept.	Timeline was not fully kept: sampling for investigation of the sources of hazardous substances was in Lithuania delayed due to withdrawal of the associated beneficiary – P17 Vandenys. This delay did not influence the deadlines of corresponding activities in Estonia and Latvia. Despite of this delay all the project goals were reached.

5.1.4. Action 4 Overall substance reduction strategy, optimising information source uses and elaboration of proposals for future state monitoring programme

Action A4 was meant for the development of concrete outputs like **recommendations for substance reduction strategy** (4.1) and **proposals for the state monitoring programme** (4.3), which were based on the results of actions A2 - A3. This work required integration of good knowledge about other information sources (interrelations of REACH & other environmental legislation) and also the capacity building of the stakeholders on the issue which was provided within this action (4.2).

5.1.4.1. Action 4.1 Substance reduction strategy

Action leader:	Zita Dudutyte, BEF Lithuania, P12 Kitty Kislenko, BEF Estonia, P1
Key partners involved:	BEF Latvia, P7 EPA, P13
Action start:	01.02.2011
Action end:	29.02.2012
Delays or drawbacks:	Elaboration of national substance reduction strategies was highly dependent on the analytical results from the sampling and was in delay due to delay of action 3.4. Nevertheless, this delay did not hinder achieving the goals of the project.
Action report:	Annex 7.2.2.4

Another “**Baltic meeting**” - “on proposals for hazardous substances reduction strategy and monitoring programme” was held in Riga on 13.04.2011 (34 participants), with the aim to discuss and feedback the outline and further elaborate substance reduction strategies in the 3 Baltic States (see PR: Annex 7.2.2). 100% of participants evaluated the work as very valuable.

After this Baltic meeting 6 **national meetings** were held to discuss the national strategies deeper (see PR: Annex 7.2.2 and FR: Annex 7.2.2.4): 17.06.2011 (9 participants) and 19.09.2011 (17 participants) in Lithuania, 07.07.2011 (12 participants) and 12.12.2011 (14 participants) in Latvia, 28.09.2011 (16 participants) and 22.02.2012 (21 participants) in Estonia. The aim of these meetings was to discuss with relevant stakeholders their wishes, needs and timelines, furthermore also to present and feedback on worked out reduction recommendations. Participants were very interested in investigation results regarding hazardous substances in the water and different tools that might help in reducing hazardous substances in companies, they also wished to get national figures aiming to use them in document preparation process or legislation improvement. The problems which were pointed out by national stakeholders e.g. new problematic substances need to be considered and included into national reduction recommendations, also the results from other similar projects need to be taken into account which are relevant when discussing hazardous substances reduction issues.

Furthermore a report “**Recommendations for the reduction of hazardous substances**” was elaborated - at first in English in each country (for Baltic communication purposes) and later it was translated into national languages. The discussion points which took place during national meetings with relevant stakeholders were considered and included into the report. Lithuanian report was ready in November 2011, Latvian and Estonian in December 2011. The goal was to set realistic targets and propose manageable steps to reduce hazardous substances. For Estonia the report was produced specifically as an operating tool for the Ministries of Environment and Ministry of Social Affairs. The report focused on the following major issues: i) legal references towards the reduction of the emission of hazardous substances; ii) assessment of relevance of hazardous substances to monitoring/screening data, available information on use, emissions, regulatory status as well as existing measures for the management of those substances; iii) detailed analysis of the emissions of relevant hazardous substances/ substance groups; iv) identification of potential general and substance specific measures for the reduction of those relevant hazardous substances/ substance groups; and, v) data sheets to present the available information on substances in a compact form. Reports are attached in Annex 7.3.2.3.

Results of action A3 and A4 were presented to wider audience in 9 national **info days/trainings** (3 in each country in different regions). The info days and trainings were carried out (see Annex 7.2.2.4) on the following dates: 28.11.2011 (24 participants), 27.03.2012 (19 participants) and 19.04.2012 (21 participants) in Estonia; 03.04.2012 (10 participants), 15.05.2012 (107 participants) and 07.06.2012 (30 participants) in Lithuania; 09.05.2012 (15 participants), 10.05.2012 (19 participants) and 11.05.2012 (15 participants) in Latvia. Info days introduced the results from the source tracking activity as well as items to consider from REACH and WFD when elaborating permits to regional environmental authorities (environmental services and inspectorates), WWTPs and related industrial enterprises. In total 260 participants participated in national info days in countries. In the end of the training-info day participants were asked to fill in a feedback form to evaluate the training. 10% of them evaluated the training useful and 90% evaluated as very useful and informative.

5.1.4.2. Action 4.2 Optimisation of information source uses

Action leader:	Zita Dudutyte, BEF Lithuania, P12 Kitty Kislenko, BEF Estonia, P1
Key partners involved:	BEF Latvia, P7
Action start:	01.01.2010
Action end:	30.11.2011
Delays or drawbacks:	no modification
Action report:	Annex 7.2.2.4

A visit to ECHA and to the Finnish Environment Institute (“SYKE”) was organised on 29.-30.09.2010 (see PR: Annex 7.2.2). The goal was to get an insight into chemical regulatory system from the perspective of an environmental specialist and to discuss the practical aspects of the implementation of environmental and chemical legislation on national level. 15 participants from the Baltic States were present.

The international seminar - REACH Workshop “Synergy of Chemical & Environmental legislation for the proper management” was held on 24.-25.03.2011 in Riga, in total 50 participants were present in the workshop. The goal of the meeting was to discuss the legal tools available for the management of substances hazardous to environment under REACH, WFD and IPPC, how they are interlinked and how to utilise them in practice in the most efficient way. The target group of the event was representatives from state institutions from Baltic States: policy makers responsible for REACH, WFD and IPPC implementation (ministries, agencies etc.) as well as institutions dealing with the enforcement and control of REACH, WFD and IPPC requirements (state and regional environmental and health boards, inspectorates). The participants evaluated the event very positively (see PR: Annex 7.2.2) and it got positive international reputation in the Baltic Sea region at HELCOM and EU BSS steering groups.

Accompanying the seminar a **brochure called “Chemical and Environmental legislation: REACH, IPPC, WFD. The interactions beyond”** was elaborated and published in May 2011, national versions were printed (300 copies per country) in November 2011 (see PR: Annex 7.2.2). The brochure included:

- introduction to the background of different legal frameworks in order to understand their concepts as much as it concerns the management of hazardous substances;
- main interactions between the chemical and specific environmental legal frameworks;
- recommendations for the authorities how to contribute to better implementation and enforcement of the requirements from WFD, IPPC/IE Directive and REACH regulation in order to ensure that permitting and enforcement activities are in line with the requirements of these different legal frameworks and to contribute to better performance of environmental inspections and enforcement of permits in the Member States.

The brochure was mainly targeted to the national competent authorities and regional authorities who are responsible for the implementation and enforcement of the above mentioned policies.

5.1.4.3. Action 4.3 Proposal for state monitoring program

Action leader:	Zita Dudutyte, BEF Lithuania, P12 Kitty Kislenko, BEF Estonia, P1
Key partners involved:	EERC, P3 BEF Latvia, P7 LIAE, P8 EPA, P13
Action start:	01.01.2011
Action end:	31.12.2011
Delays or drawbacks:	no modification
Action report:	Annex 7.2.2.4

The goal was to give input for the improvement of **state hazardous substance monitoring system**. Work on the state monitoring programme started in the beginning of 2011 with an outline in English, draft proposals in national languages were ready by the end of September 2011.

During development of the proposals 6 **national meetings** were organised for involved stakeholders (see PR: Annex 7.2.2 and FR: Annex 7.2.2.4): 17.06.2011 (9 participants) and 19.09.2011 (17 participants) in Lithuania, 07.07.2011 (12 participants) and 12.12.2011 (14 participants) in Latvia, 28.09.2011 (16 participants) and 22.02.2012 (21 participants) in Estonia. The aim was to discuss with relevant stakeholders the state monitoring programme – at first a state-of-the-art analysis and then elaboration of proposals for improvements with regard to hazardous substance detection and monitoring. The biggest concern for later implementation of the proposed programme was about laboratory capacities - for example, which laboratories are accredited to perform analyses of these substances. Participants agreed to the idea that in determining new substances it would be good to apply sediment analyses and biota analyses. Passive sampling methods would be more effective in waste water treatment plants for control of waste water inflow because of highest concentrations of several pollutants.

A **paper** called “**Proposals for the State Monitoring Programme**” was ready in all Baltic countries by the end of December 2011. Final papers are available in English and national languages, see Annex 7.3.2.3. The paper focused on the following issues: i) legal framework for the monitoring of hazardous substances and the purpose of monitoring in general; ii) analytical requirements for the chemical analysis and monitoring of water status and related challenges; iii) analysis of current practices on monitoring of hazardous substances; iv) proposals for improvement of the current monitoring system; and, v) management of emerging substances. The paper is mainly targeted to those authorities that are responsible for the implementation and enforcement of policies for control of hazardous substances, especially those developing environmental monitoring programmes.

The results of the screening studies were submitted and presented to the national permitting authorities during several meetings. Authorities stated that they will use the **results for surveying and revising the permits** given for the WWTP discharging hazardous or priority hazardous substances to the environment, in cases where they need to request to include newly identified substances to the permits and define appropriate monitoring for the discharge points. For example in Estonia the screening results regarding organotin compounds were considered and the water permit for BLRT Group was updated and these substances were included for monitoring.

The success indicator of this action was the approval of the recommendations for substance reduction strategy and proposals for the state monitoring programme by national authority.

Indicators used to test the performance of action:

Project Objective	Indicator	Source of verification	PROGRESS
Build up capacity to make best use of the REACH mechanism for information on HS.	Elaborate and provide information on the interlink of REACH and the substance information requirements of the other Directives.	Brochure, training reports.	Visit to ECHA organised, report available. REACH workshop held successfully; agenda, presentations, report and participant list of the event available. Brochures readily elaborated; electronic copies and 900 printouts distributed to authorities.
Propose relevant monitoring measures for future.	Elaborated monitoring programme which addresses the substances of concern and allocates budget for their future monitoring.	Monitoring programme and strategies.	Recommendations for substance reduction strategies for all 3 countries elaborated; electronic copies distributed to authorities. Proposals for monitoring programme ready in all Baltic countries, documents are available in English and national languages, presented to national stakeholders

			during national events.
Enhance dialogue among authorities, industry, science and society representatives.	Fruitful discussions on substance occurrence, reduction strategies and legal demands among the stakeholders in each country.	Working group meetings held, meetings were found successful (self-evaluation of the participants; approval 90%).	21 national working group meetings and info days held and evaluated 99% useful. Agendas, reports and participant lists of the events available.
-	Time line.	Proposed time line kept.	Timeline was not fully kept: elaboration of national substance reduction strategies was highly dependent on the analytical results from the sampling and was in delay due to action 3.4. This delay did not hinder achieving the goals of the project.

5.1.5. Action 5 Permit guideline elaboration and stakeholders' capacity building for increased quality of permits

The action A5 produced a technical guideline (5.1) for companies, permitting authorities and inspectors on how to carry out a site specific assessment on integrated pollution prevention and control with regard to substances of particular environmental concern.

5.1.5.1. Action 5.1 Drafting of the permitting guideline and national awareness raising activities

Action leader: Juhan Ruut, Hendrikson, P2
Key partners involved: BEF Estonia, P1
BEF Latvia, P7
BEF Lithuania, P12
LSES, P9
EPA, P13
Vilnius, P14
Klaipeda, P15
Šiauliai, P16
Action start: 01.04.2009
Action end: 30.05.2012
Delays or drawbacks: Permitting guideline was in delay, because of the need for input from other activities (A3.4 and A6). This delay did not hinder achieving the goals of the project, but improved the quality of the publication.
Action report: Annex 7.2.2.5

Preparations for drafting the permitting guideline started in April 2009. Elaboration of permit guideline was divided into 3 phases incorporated accompanied by national and Baltic meetings:

Phase 1: Drafting the permitting guideline (August 2009-June 2010). For the discussion on the guideline's aims and focus **4 national working group meetings** were held (in Estonia on 29.04.2009 and 16.06.2009, in Latvia on 27.05.2009, in Lithuania on 28.05.2009). The persons involved were the project action leaders, several partners and other relevant stakeholders (ministries, permitting institutions, inspectorates, WWTPs) (see IR: Annex 6.3.5). A **Baltic working group** meeting with relevant project partners was held in Riga on 26.11.2009. The project editorial team considered the need for improvement to ensure easier comprehensibility, thus in 19.01.2010 a **working group meeting** was held in Vilnius (participants Zita Dudutytė, Goda Kuliešytė and Juhan Ruut) (see MTR: Annex 7.2.5.).

The second draft was circulated for commenting before the **2nd national working groups** in Estonia on 18.02.2010 (see MTR: Annex 7.2.5.) and in Lithuania on 09.03.2010 (see MTR: Annex 7.2.5.). Based on the feedback received the permitting guideline was updated.

Phase 2: Commenting and updating the draft (July 2010-December 2010). The draft was updated with the experience gained from pilot permitting activities (Action 6) and with the practical substitution considerations (Action 8). In Latvia the **2nd meeting** was held in 13.10.2010 (35 participants).

Phase 3: Final layout, translation, feedback from stakeholders and publishing (January 2011-January 2012). **National working group meetings** were organised in Lithuania on 19.09.2011 (20 participants) and in Latvia on 21.09.2011 (14 participants) with the aim to introduce the permit guideline to stakeholders, to discuss what still needs to be added or corrected and mainly looking at the point of national legislation in the countries (see PR: Annex 7.2.3). A 2nd **Baltic expert meeting** was held in Riga on 21.09.2011 (22 participants, together with action 6) with the aim to discuss details of environmental permitting issues related to hazardous substances in the light of permit guideline (see PR: Annex 7.2.3).

The final **Permitting guideline** is meant for all stakeholders involved directly (roles defined by legislation) or indirectly environmental permitting: companies, municipal sewage system – waste water treatment plant (WWTP) operators, consultants, permitting authorities, and inspectors. The objective of the guideline is to improve the current permit (both IPPC and non-IPPC) quality with regard to measures for reduction of hazardous substances at enterprises and to use the permits as a tool for efficient enforcement of the legislation. The experience has shown that the narrow approach, solely targeted to the fulfilling of requirements of the permitting legislation, is not sufficient to achieve appropriate consideration of hazardous substances in permits (including discharges to the municipal sewer as a specific case). Wider understanding of overall chemical management principles is necessary. Thus the guideline is divided into 3 parts:

- Part A. Introduction giving background of the project and problems related to the release of hazardous substances, and introducing overall EU framework designed to reduce chemical hazards to the aquatic environment;
- Part B. Hazardous substances in environmental permitting address various issues, relevant both for applicants and permittees, to ensure good permit. Also some recommendations are given to improve national permitting legislation;
- Part C. Hazardous chemicals management in an enterprise to introduce main tools necessary for safe management of chemicals, and also good permits: classification, safety data sheets, chemicals inventory and mapping of hazardous substances.

The guideline was produced in an English template (PDF for web presentation) and three national versions a bit differing from each other to reflect national requirements given in legislation were printed in 300 copies in each language (Annexes in CD) (Annex 7.3.2.4). Competent authorities have been in the process of elaborating the guidance and are using guidance in their everyday work.

To introduce permitting guideline to wider audience and raise awareness on hazardous substances in permitting system **2 national trainings** were performed in each Baltic country: in Estonia 27.03.2012 (19 participants) and 19.04.2012 (21 participants); in Latvia 10.05.2012 (19 participants) and 11.05.2012 (15 participants); in Lithuania 25.04.2012 (78 participants) and 30.04.2012 (34 participants). Reports of the trainings see in Annex 7.2.2.5. In the end of the training participants were asked to fill in a feedback form to evaluate the training. 90% of them evaluated the training as very useful and informative. Also feedback to the guidelines was asked from participants, 80% of respondents confirmed that the guidelines are needed for the future and found it useful.

Indicators used to test the performance of action:

Project Objective	Indicator	Source of verification	PROGRESS
Improve the current permit quality reg. HS at enterprises.	Elaborate guidelines which are easy to understand and will be used as official document.	Guidelines readily elaborated in 3 languages; in total 900 (300 in each Baltic country) copies distributed. Feedback from users of the guidelines, 75% of respondents confirm that the guidelines are useful or very useful.	Guidelines readily elaborated in 3 languages; in total 900 copies printed and distributed. 80% of respondents confirmed that the guidelines are needed for the future and found it useful.
Enhance dialogue among authorities, industry, science and society representatives.	Fruitful discussions on substance occurrence, reduction strategies and legal demands among the stakeholders in each country.	Working group meetings held; meetings were found successful (self-evaluation of the participants; approval 90%) (participant lists, reports).	10 national meetings held and evaluated 99% useful. 6 national trainings held and 90% of participants evaluated the trainings very useful and informative, 186 participants attended the trainings. Agendas, presentations, reports and participant lists of the events available.
Facilitate network of Baltic - international stakeholders.	Fruitful discussions and international input received on substance occurrence, reduction strategies and legal demands.	Baltic working group meetings held; meetings were found successful (self-evaluation of the participants; approval 90%) (participant lists, reports).	2 Baltic expert meeting held and evaluated 90% very useful. Agendas, presentations, reports and participant lists of the events available.
-	Time line.	Proposed time line kept	Timeline was not fully kept: permit guideline was in delay, because of the need for input from other activities (A3.4 and A6). This delay did not hinder achieving the goals of the project, but improved the quality of the publication

5.1.6. Action 6 Pilot permit elaboration

Action A6 was serving as a general learning tool (6.3) for authorities and industry and tested the results of action 5 in practice by elaboration of new permit applications (6.1; 6.2).

5.1.6.1. Action 6.1 Elaboration of new permit applications

Action leader: Juhan Ruut, Hendrikson, P2
 Key partners involved: Hanza Tarkon, P4
 Estko, P5
 Eskaro, P6
 BEF Latvia, P7
 LSES, P9
 Tenax, P10
 Kvadro, P11
 BEF Lithuania, P12
 EPA, P13
 Vilnius, P14
 Klaipeda, P15
 Šiauliai, P16
 Siulas, P18
 VLG, P19

Action start: 01.08.2009
Action end: 31.12.2011
Delays or drawbacks: no modification
Action report: Annex 7.2.2.6

In this action new permit applications were elaborated for the partner enterprises in all three countries.

/Detailed information about activities in the partner enterprises are not published in this report due to sensitivity of data/

Final results and materials of the activity please see in Annex 7.2.2.6. In total 5 new permit applications elaborated (4 permits issued) and for 4 companies' recommendations for hazardous substance management improvement were provided.

5.1.6.2. Action 6.2 National experience exchange on permitting process

Action leader: Juhan Ruut, Hendrikson, P2
Key partners involved: BEF Estonia, P1
BEF Latvia, P7
LSES, P9
BEF Lithuania, P12
EPA, P13
Vilnius, P14
Klaipeda, P15
Šiauliai, P16
Action start: 01.01.2010
Action end: 31.09.2011
Delays or drawbacks: no modification
Action report: Annex 7.2.2.6

Permitting issues have been discussed among other topics in all A5 meetings.

On 30.06.2010 a small scale **expert workshop** was held in Riga. Participants were Epp Zirk, Juhan Ruut, Valters Toropovs and Juris Fridmanis. The main discussion point was the amount of information required on hazardous substances in the permitting application. Estonian legislation seems to be most comprehensive requiring from IPPC enterprises information on hazardous substances and preparations. Similar approach has been taken by action leader while proposing overall template, which would be suitable for permitting and for WWTP related work. At the same time while attempting to fill in the tables, it required quite an effort based on Estonian project partner company inventories – information required by IPPC permitting template is still much more than available from the inventory.

Estonian stakeholder meeting took place on 05.11.2010 (15 participants) hosted by Ministry of Social Affairs. The main discussion point was better information exchange between different stakeholders, to develop and use common tools and thus improving permitting. On 07.04.2011 **Lithuanian working group** meeting was organised in Lithuanian Environmental Protection Agency with the aim to discuss permitting issues with partner companies.

The second round was held as **Baltic expert meeting** (22 participants) on 21.09.2011 in Riga, Latvia together with action A5 with the aim to exchange information between countries on recent and/or further activities regarding permitting of hazardous substances (changes in legislation, practices, etc.). At the end of the meeting feedback from participants was asked on recent and/or further activities regarding permitting of hazardous substances in respective countries: in general feedback was positive (100%) – project has had influence on permitting practices. Lithuanian representatives said that there is a plan to improve their permitting templates according to the ones proposed by the project. Estonian and Latvian representatives stressed the importance of awareness raising also among permitters.

5.1.6.3. Action 6.3 Training of stakeholders

Action leader:	Juhan Ruut, Hendrikson, P2
Key partners involved:	BEF Estonia, P1 BEF Latvia, P7 LSES, P9 BEF Lithuania, P12 EPA, P13 Vilnius, P14 Klaipeda, P15 Šiauliai, P16
Action start:	01.07.2010
Action end:	28.02.2012
Delays or drawbacks:	no modification
Action report:	Annex 7.2.2.6

The action presented the guideline (developed in action 5) to more stakeholders and gave them training how to work with it (for experts writing permit applications as well as for permitting authorities and controlling authorities). Beside the topic of the guideline the training courses also contained sessions on how REACH can be used as tool for permitting authorities and enforcement authorities.

Three **trainings on permitting** in each country were held in period November 2010 – January 2011 for different stakeholder groups – enterprises, national authorities and other stakeholders as WWTPs, consultants. In Estonia trainings were held on 10.11.2010, 30.11.2010 and 02.-03.12.2010. In Lithuania trainings were held on 01.12.2010, 03.12.2010 and 07.12.2010. In Latvia trainings were held on 07.12.10, 25.01.2011 and 31.01.2011. Altogether 260 participants were in the trainings (see PR: Annex 7.2.4). The goals of the trainings were to raise the knowledge of the target group about hazardous substances in the water environment, introduce the legislative requirements; discuss problematic aspects with relation to environmental permits, discharging waste water and handling hazardous substances. In the end of the trainings participants were asked to fill in a feedback form to evaluate the training, what were the most interesting topics for them and what are the suggestions for the organisers for future trainings. All answering participants (80% answered the questionnaire) evaluated the training as useful and informative. The topics which were presented at the training were interesting and met the expectations of the participants.

9 info days (3 in each country) in different regions were completed in period September-October 2011 to inform participants about the hazard concept and requirements in the permits. The aim of the information days was to inform participants about hazard concept and requirements in permits, introduce stakeholders with permitting guidelines as well as introduce participants with hazardous substance screening and source tracking results in Baltic States and the latest updates in chemical legislation. In Estonia info days were held on 20.09.2011 (45 participants), 29.09.2011 (25 participants) and 30.09.2011 (22 participants). In Lithuania info days were held on 18.10.2011 (54 participants), 19.10.2011 (30 participants) and 20.10.2011 (45 participants). In Latvia info days were held on 17.10.2011 (21 participants), 18.10.2011 (27 participants) and 31.10.2011 (25 participants). Altogether 294 participants were participating in info days (see PR: Annex 7.2.4 and FR: Annex 7.2.2.6). Feedback to info days was positive and participants asked a lot of specific questions regarding hazardous substances and about foreseen restrictions under REACH regulation. They posed real problems to their daily work. Participants were mainly interested to get more information in future on CLP, about hazardous substance identification in products, a lot of uncertainties is still about safety data sheets and information in these, about how to evaluate if all relevant information is included in SDS.

A Seminar for Baltic States on Industrial Emissions Directive was held (in Estonia) for industries and state authorities on 2.-3.02.2012 (57 participants). Report from the event see in Annex 7.2.2.6. Aim of the seminar was to inform stakeholders about the changes in the IPPC system introduced by IED and to present time frame of the changes; to discuss about stakeholders preparedness for changes, share experience which actions shall be taken to be in compliance with IED requirements and to discuss how changes affect permitting of hazardous substances to the aquatic environment. In general, it was considered that the time schedule for implementation of IED is tough, but so far no delays in the

IED implementation plan are observed and the deadline of transposition will be met in the Baltic States. Implementation of IED may have “hidden rocks” due to national specifics. They should be found out and communicated to the European Commission. Commission will consider improvement proposals from member states.

Indicators used to test the performance of action:

Project Objective	Indicator	Source of verification	PROGRESS
Use the permits as tool for efficient enforcement of legislation.	Tested guidelines in concrete permit applications, revised guidelines and to have large amount of permitting and enforcement authorities introduced to them.	List of new permits: pilot permit applications are accepted and permits issued.	5 new permit applications elaborated, 4 permits have been issued already. For 4 companies’ recommendations for hazardous substance management improvement were provided.
Enhance dialogue among authorities, industry, science and society representatives.	Fruitful discussions on substance occurrence, reduction strategies and legal demands among the stakeholders in each country.	Large stakeholder group trained: stakeholders successfully trained (at least 100 participants attending the training course; self-evaluation; 90% agree their knowledge has substantially increased).	Stakeholders successfully trained, 9 trainings and 9 info days held and evaluated 80% useful and informative (rest did not filled in evaluation). 554 participants attended the trainings and info days. Agendas, presentations, reports and participant lists of the events available. One Baltic seminar held, 57 participants attending the seminar. Agenda, presentation, report and participant list of the event available.
		2 working group meetings held; meetings were found successful (self-evaluation of the participants; approval 90%) (participant lists, reports).	4 working group meetings (national and Baltic) held and evaluated 100% useful. Agendas, presentations, reports and participant lists of the events available.
-	Time line.	Proposed time line kept.	Time line kept.

5.1.7. Action 7 Preparatory action at industry: substance screening at plant level

Action A7 prepared the ground for the partner enterprises in handling the hazardous substances. The partner enterprises have undergone a detailed hazardous substance mapping process (7.1).

5.1.7.1. Action 7.1 Detailed hazardous substance mapping process

Action leader: Valters Toropovs, BEF Latvia, P7
 Key partners involved: BEF Estonia, P1
 Hendrikson, P2
 Hanza Tarkon, P4
 Estko, P5
 Eskaro, P6
 Tenax, P10
 Kvadro, P11
 BEF Lithuania, P12

Siulas, P18
 VLG, P19
 Action start: 01.06.2009
 Action end: 30.05.2010
 Delays or drawbacks: no modification
 Action report: Annex 7.2.2.7

Hazardous substance mapping was successfully carried out in all 7 partner companies: P4 Hanza Tarkon, P5 Estko, P6 Eskaro, P10 Tenax, P11 Kvadro P18 Siulas and P19 VLG. The mapping of hazardous substances in project partner companies (production and use of raw materials and auxiliaries) was made based on the mapping tool, SDS checklist and English inventory template. The inventory template, SDS checklist and mapping tool were used (see MTR: Annex 7.2.7).

/Detailed information about activities in the partner enterprises are not published in this report due to sensitivity of data/

As a result, each enterprise now has a comprehensive list of substances in use, their amounts, hazard properties, supplier contacts and other relevant information, thus successfully fulfilling the goal of action and allowing the starting the follow-up activities.

Indicators used to test the performance of action:

Project Objective	Indicator	Source of verification	PROGRESS
To carry out mapping of used and produced substances in partner enterprises in order to identify priority hazardous substances which might be subject to restrictions.		Hazardous substance mapping completed in 7 enterprises.	Hazardous substance mapping was successfully carried out in all 7 partner companies.
-	Time line.	Proposed time line kept.	Time line kept.

5.1.8. Action 8 Pilot industry action for substitution

In action A8 development of substitution scenarios for partner enterprises to phase out some hazardous substances were carried out (8.1). The action started with elaboration of a leaflet (8.3) on general substitution potential and continued with an international exchange seminar (8.2) and production of a handbook (8.4) on substitution of hazardous substances. Furthermore trainings (8.5) for enterprises were carried out.

5.1.8.1. Action 8.1 Development of substitution scenarios

Action leader: Valters Toropovs, BEF Latvia, P7
 Key partners involved: BEF Estonia, P1
 Hendrikson, P2
 Hanza Tarkon, P4
 Estko, P5
 Eskaro, P6
 Tenax, P10
 Kvadro, P11
 BEF Lithuania, P12
 Siulas, P18
 VLG, P19
 Action start: 01.06.2009
 Action end: 30.06.2011
 Delays or drawbacks: The development of substitution scenarios as these were very diverse and some of them were very difficult and extremely specific,

therefore it required more time for the consultants, however the delay did not negatively impact project success.

Action report: Annex 7.2.2.8

To assist with the creation of individual substitution scenarios external experts from “Kooperationsstelle GmbH” (Hamburg, Germany) were contracted after inquiring potential experts in this field. The elaboration of substitution scenarios in project partner companies started in August 2010 and was completed in all partner companies by June 2011. The substitution scenarios were very diverse and some of them were very difficult and extremely specific, therefore it required more time for the consultants, however the delay did not negatively impact the project success.

As a result of the project action most of the partner companies are now testing out the possibilities proposed in the substitution scenarios. This is a lengthy process which requires production of test batches and laboratorial testing of ready products. As a result, most of the companies are still in process of applying the proposed alternatives, however there are already some successful results. In this activity following problems in each of the partner companies were identified and agreed to be as priorities:

/Detailed information about activities in the partner enterprises are not published in this report due to sensitivity of data/

Additionally, partner companies expressed their interest to visit each other and see how the chemicals management issues are being tackled elsewhere. As a result, four visits - one to Estonia – P4 Hanza Tarkon (20.04.2011), one to Latvia – P10 Tenax (14.06.2011), one to Lithuania – P19 Western Shipyard (30.09.2011) and one to Germany – Blohm & Voss (study visit on 08.11.2011) were organised and turned out to be very beneficial for participants, who expressed great interest in different operational aspects of other project partner companies (see PR: Annex 7.2.5).

As it was promised to also produce information on possible investment sources and funding options for companies working on improvements of their environmental performance, a separate document was elaborated, covering all major funds and other financial sources, both national and international, which are currently offering such possibilities. As this information cannot be prepared in great details for each company (each company must apply for funds themselves with detailed technical background information, which can differ greatly by concrete funding source), a common document was produced and introduced to the project partner companies (see PR: 7.2.5).

As the real implementation of the substitution requires acquisition of more funds and time, the substitutions were not finished by project end.

5.1.8.2. Action 8.2 International exchange seminar

Action leader:	Valters Toropovs, BEF Latvia, P7
Key partners involved:	BEF Estonia, P1 Hendrikson, P2 Hanza Tarkon, P4 Estko, P5 Eskaro, P6 Tenax, P10 Kvadro, P11 BEF Lithuania, P12 Siulas, P18 VLG, P19
Action start:	01.01.2010
Action end:	05.05.2012
Delays or drawbacks:	no modification
Action report:	Annex 7.2.2.8

Several international seminars were organised in the frame of the action.

International exchange seminar on substitution of hazardous substances was organised in Riga on 19.-21.05.2010. Contracted speakers from Kooperationsstelle GmbH covered topics about reasons and principles of substitution, introduced different tools which can help with assessment of substitution options, gave practical examples from already implemented cases and moderated working groups for participants to try out the presented tools and work with some cases either from prepared examples or from their own experience. In total 46 people attended the seminar, representing various stakeholder groups: from project partners companies and external companies, state institutions, professional associations and non-governmental organisations (see MTR: Annex 7.2.8).

Additionally, seeing the very high interest on the topic from project partners' side, a topic on the new CLP regulation was included as an extra part to the seminar where the participants had a chance to get acknowledged with the new classification and labelling system of hazardous substances and preparations, which is an important part of overall chemicals management system. Similar as the part about substitution, also this part of the seminar consisted of both theoretical background and practical exercises for the participants.

Seminar for Baltic States for shipyards and metal processing industry was organised in Liepaja, Latvia on 12.-13.04.2012 (37 participants) with the following topics on the agenda: i) to inform stakeholders from the specific industry branch on hazardous substances which occurs in their work; ii) to inform about REACH registration requirements for alloys; iii) to show the possibility of substitution of hazardous substances in metal processing; iv) to indicate which hazardous substances are emitted in shipyards, which are more problematic, how companies are dealing with that; to discuss about stakeholders preparedness for substitution, to share experience between inspection authorities – what are the main problems for them and to initiate discussion between authorities and industries, and between authorities from three Baltic States. Report of the event is attached in Annex 7.2.2.8. At the end of the seminar participants were asked to evaluate the event. They stated that one of the biggest achievements was to gather this big and diverse audience of chemists and environmentalists to the event and make them analyse their everyday work and responsibilities from a more holistic perspective than they are used to, in terms of hazardous substances management at shipyards and metal processing industry. It is also an issue in the Baltic countries that the gathered audience of competent authorities' (for REACH, IPPC, WFD) specialists do not communicate with each other much and this event served as a good catalyst for that. Apart from that, the seminar has given good hints and ideas of potential tools of synergies of chemical and environmental legislation. It is also believed, this event has fostered the stakeholders to take real actions, generated during the national working group discussions.

Furthermore a **Seminar for Baltic States on chemicals Classification, Labelling and Packaging (CLP) regulation** was carried out in Vilnius, Lithuania, on 2.-3.05.2012 (68 participants). The aim was to share experience which actions have been taken to be in compliance with CLP requirements – what is the situation, how far we are with the implementation; to inform stakeholders about the changes/requirements concerning the classification and labelling of mixtures; to discuss how changes affect the companies and the authorities; to present the examples for classification of mixtures. Report of the event is attached in Annex 7.2.2.8. Concluding, there was a great interest from competent authorities to attend the event as there is lack of knowledge, trainings and competencies on the topic, especially among regional authorities. For the feedback round participants (100%) replied that the practical cases of classifying mixtures were very useful for the stakeholders and showed big interest to have more such kind of trainings in future.

5.1.8.3. Action 8.3 Leaflet on general substitution potential

Action leader:	Valters Toropovs, BEF Latvia, P7
Key partners involved:	BEF Estonia, P1 Hendrikson, P2 BEF Lithuania, P12
Action start:	01.01.2010
Action end:	30.06.2010
Delays or drawbacks:	no modification
Action report:	Annex 7.2.2.8

To raise the interest of local industries in all three Baltic States on the subject of substitution of hazardous substances and to inform them about upcoming training events in the frame of the project, a leaflet on “**Substitution of hazardous substances – how to meet legal requirements and get more competitive?**” was elaborated. It introduces the idea of substitution, informs the reader about factors which play important role in deciding for or against substitution, lists relevant legal acts and briefly states what restrictions, which might lead to necessity of substitution. The leaflet was translated and printed (200 copies) in all three national languages for distribution in Estonia, Latvia and Lithuania (see MTR: Annex 7.2.8).

5.1.8.4. Action 8.4 In-depth handbook on substitution options

Action leader:	Valters Toropovs, BEF Latvia, P7
Key partners involved:	BEF Estonia, P1 BEF Lithuania, P12
Action start:	01.01.2010
Action end:	31.12.2011
Delays or drawbacks:	In-depth handbook was in slight delay due to delay of activity 8.1, because the results from the substitution scenarios were part of the handbook. This delay did not negatively impact project success, but in opposite, increased quality of the publication.
Action report:	Annex 7.2.2.8

A “**Substitution handbook**” was produced to provide help to enterprises of different industry branches in decision making regarding the substitution of hazardous chemicals in processes and products. It presents both theoretical overviews and several examples of already developed substitutions in order to illustrate not only the challenges, but also some ways and means, which may be utilised. It consists of two major parts: first explaining the main principles and drivers behind substitution of chemicals at a company level and then going step by step through substitution – from identification of priorities to monitoring of results. The handbook also has 3 annexes where additional tools for chemicals risk prioritisation can be found, including electronic tools for substance identification. The handbook was elaborated in English by the project team and translated and printed (200 copies) in all three national languages for distribution in Estonia, Latvia and Lithuania (see FR: Annex 7.3.2.5). Printed handbooks were distributed to enterprises during project trainings and seminars as well as in other events outside project frame.

5.1.8.5. Action 8.5 Training for additional enterprises

Action leader:	Valters Toropovs, BEF Latvia, P7
Key partners involved:	BEF Estonia, P1 Hendrikson, P2 BEF Lithuania, P12
Action start:	01.09.2009
Action end:	15.06.2012
Delays or drawbacks:	no modification
Action report:	Annex 7.2.2.8

12 training courses on substitution of chemicals were organised in the three Baltic States (4 per country): in Estonia 9.11.2011, 15.11.2011, 8.12.2011, 18.04.2012; in Latvia 30.11.2011, 5.12.2011, 9.05.2012, 10.05.2012; in Lithuania 18.10.2011, 20.10.2011, 12.06.2012, 14-15.06.12 (see Annex 7.2.2.8). Total attendance was 414 participants. In trainings all relevant stakeholder groups were present, including industrial enterprises, state authorities, scientific institutions and industrial associations. In self assessment after the courses nearly all participants (95%) indicated that their knowledge was substantially increased and that such type of events are very needed to better understand rather complex issues of chemicals management and substitution. The topics which were presented at the training were interesting and met the expectations of the participants. Most interesting topics were: chemicals inventory, Safety Data Sheets, substitution of hazardous chemicals, different databases, legal acts.

5.1.8.6. Action 8.6 Elaboration of background paper on BAT

Action leader: Valters Toropovs, BEF Latvia, P7
 Key partners involved: BEF Estonia, P1
 BEF Lithuania, P12
 Action start: 01.08.2011
 Action end: 30.12.2011
 Delays or drawbacks: no modification
 Action report: Annex 7.2.2.8

The BAT background paper was prepared (English template, PDF document) as extracts from all BREF documents on information about best practices in chemicals management in different industrial sectors. It was translated in all national languages and distributed to all relevant stakeholder groups – mainly state authorities, but industrial enterprises as well. The background paper (PDF document) (see FR: Annex 7.3.2.5) was prepared as a document coherent with the substitution handbook (A8.4) and the permitting guidelines (A5.1).

Indicators used to test the performance of action:

Project Objective	Indicator	Source of verification	PROGRESS
Enhance better chemicals management at selected enterprises.	Screened substances used at pilot enterprises and related substitution programme developed.	In-depth handbooks readily elaborated; in total 600 (200 in each Baltic country) copies distributed to enterprises.	All 7 partner enterprises have worked together with expert team and evaluated the substitution possibilities and helped to work out the substitution scenarios. Enterprises have got direct solutions to substitute substances of concern. The appropriate funding mechanisms like environmental investment funds/EU funds are clarified. In-depth handbooks elaborated, 600 copies printed and distributed.
		The leaflet on general substitution potential.	Leaflets readily elaborated, 600 copies printed and distributed to enterprises.
		Background paper on BAT elaborated.	Background paper on BAT elaborated; electronic copies distributed to industries and permitting authorities.
	Awareness raised on the target substances and ability of companies to continue alone beyond project end.	Training for more enterprises in Baltic States; enterprises successfully trained (at least 100 participants attending the training courses; self-evaluation; 90% agree their knowledge has substantially increased), 200 participants attending the trainings.	12 national trainings held and 95% participants indicated that their knowledge was substantially increased and that such type of events are much needed to better understand rather complex issues of chemicals management and substitution. Agendas, presentations, reports and participant lists of the events available. 414 participants attended the events.
-	Time line.	Proposed time line kept.	Timeline was not fully kept: development of substitution scenarios required more time for the consultants; in-depth handbook was in slight delay due to delay of activity 8.1, because the results from the

		substitution scenarios were part of the handbook. These delays did not negatively impact project success.
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5.1.9. Action 9 Strategy for raising public attention & awareness on hazardous substances

Action 9 provided preparatory action before dissemination of project results and before media contacts to discuss in a systematic way what actually shall be disseminated, to whom and how it can be made attractive.

5.1.9.1. Action 9.1 Investigations

Action leader:	Inguna Rauda, BEF Latvia, P7
Key partners involved:	BEF Estonia, P1 BEF Lithuania, P12
Action start:	01.03.2009
Action end:	29.02.2010
Delays or drawbacks:	no modification
Action report:	see PR: Annex 7.2.6

Investigation process started in March 2009: materials from Baltic States on hazardous substances via Internet and Old EU countries' practice examples were collected. All collected materials were evaluated and used as input to create public awareness raising strategy. Investigations completed in February 2010. The outcomes of the "Investigations by the project team in Old EU about public awareness history on chemicals and hazardous substances" (see MTR: Annex 7.2.9.) and an information collected covering the findings about hazardous substances in the Baltic States media from 2005-2010 (see MTR: Annex 7.2.9.) were used as input for the Public Awareness Raising Strategy.

5.1.9.2. Action 9.2 Journalist round tables

Action leader:	Ginta Opmane, BEF Latvia, P7
Key partners involved:	BEF Estonia, P1 BEF Lithuania, P12
Action start:	01.08.2009
Action end:	29.02.2010
Delays or drawbacks:	no modification
Action report:	see PR: Annex 7.2.6

Each project country was looking for important, powerful and largely presented media with the goal to invite these different media representatives to the planned event and involve them as active and powerful actors in the further project implementation process. The ultimate goal with it was/is to transfer project activities results in understandable language for wider society to get people attention on environmental topics and deeper on hazardous substances surrounding each of us. The **journalist round tables** were carried out in Latvia on 10.02.2010, in Lithuania on 05.02.2010 and in Estonia on 10.02.2010 informing journalists about the project, presenting public awareness raising strategy and discussing the message to be given to the public about the hazardous substances (see MTR: Annex 7.2.9.). The journalist round table created interest among the journalists regarding the project topics and the gained media coverage which is recorded in action 10.

5.1.9.3. Action 9.3 Interviews at different groups of society

Action leader:	Ginta Opmane, BEF Latvia, P7
Key partners involved:	BEF Estonia, P1 BEF Lithuania, P12
Action start:	01.10.2009

Action end: 29.02.2010
 Delays or drawbacks: no modification
 Action report: see PR: Annex 7.2.6

The interviews were made to find out the opinions of different groups in the society regarding the project topics related to hazardous substances. The **interviews** with experienced people in environmental protection (“green pioneers”) and with ordinary people living close to the industries or other areas of possible pollution were held in all Baltic States in January 2010. In each country were 3-5 “green pioneers” and 3-5 ordinary people interviewed. Together 15 “green pioneers” and 14 people living in so called “hot spots” (places with significant industrial activity and pollution) were interviewed Estonia, Lithuania and Latvia. The aim of the interviews was to find out the history of the development of public awareness regarding environmental issues and the opinion of people regarding environmental issues, e.g. their readiness to take actions for improving their living environment. The summaries of the results from interviews were attached in MTR: Annex 7.2.9.

5.1.9.4. Action 9.4 Elaboration of a strategy for public information and feed backing

Action leader: Ginta Opmane, BEF Latvia, P7
 Key partners involved: BEF Estonia, P1
 BEF Lithuania, P12
 Action start: 01.10.2009
 Action end: 31.08.2011
 Delays or drawbacks: no modification
 Action report: see PR: Annex 7.2.6

The **Public Awareness Raising Strategy** was elaborated and updated on following topics:

- ideas from the interviews implemented into the strategy;
- ideas from some stakeholders, e.g. Ministry of Environment have been implemented into the strategy;
- examples brought into the strategy from meetings and seminars.

To discuss the concept of the Public Awareness Raising Strategy more in detail a meeting was organised in Riga in December 2009 (see MTR: Annex 7.2.9). Further elaboration was envisaged during project implementation due to the wish to insert concrete examples from other activities which were at the time ongoing and to find more examples regarding EU of hazardous substances incidents and their media coverage.

The Public Awareness Raising Strategy was finally completed on 30.08.2011 (see PR: Annex 7.2.6). Stakeholders found the Strategy document very useful. They agreed that there is a lack of information and knowledge how to convey these messages to the general public for the competent authorities and also for industries which have a duty to communicate with the public about the hazards of chemicals. During the year 2010 a new project was developed and approved called BaltInfoHaz (LIFE10 INF/EE/108) which was taking up the proposals from the strategy and will implement a lot of actions in Estonia, Latvia and Lithuania to increase the knowledge level at the society.

Indicators used to test the performance of action:

Project Objective	Indicator	Source of verification	PROGRESS
Enhance dialogue among authorities, industry, science and society representatives.	Fruitful discussions on substance occurrence, reduction strategies and legal demands among the stakeholders in each country.	Round table with journalists held, at least 15 journalists in each country present; up to 5-page report with clear recommendations from the round table meeting (participant lists, reports). Journalists get interested in the topic and actions are taken in media.	Round table with journalists held , 39 participants attended the round table meetings. Agendas, presentations, reports and participant lists of the events available. Contacts gained from the meetings. Reflections in media afterwards.

Develop a concept for raising awareness on HS.	Clarity about the objectives of public information on HS.	Strategy document: feedback from the different discussion partner groups about the strategy has done.	Strategy ready and feed backed from the different discussion partner groups.
		At least 5 narrative interviews conducted in each country, transcribed and evaluated.	29 interviews conducted, summary reports available.
		Investigations in old EU.	Background investigation conducted, results integrated into strategy document.
-	Time line.	Proposed time line kept.	Time line kept.

5.1.10. Action 10 Project visibility and dissemination

Action 10 was focusing on the general project visibility and dissemination. It included web site development and maintenance (10.1), media work (10.2), project advertising materials (10.2) and general dissemination events in the three target countries and at international level (10.3). The visibility of the project deliverables was very good, majority of publications were distributed. All the deliverables beard the colour scheme, financer logos and the project logo, were well recognisable and eye catching to people and served the purpose to disseminate project information well.

Dissemination and visibility actions started from February 2009 with development of the web site and continuous through whole project till end of June 2012.

5.1.10.1. Action 10.1 Development and maintenance of project web site

Action leader: Katrin Juhanson, BEF Estonia, P1
Key partners involved: BEF Latvia, P7
BEF Lithuania, P12
Action start: 01.01.2009
Action end: 30.06.2012
Delays or drawbacks: no modification
Action report: Annex 7.2.2.10

Project website (www.baltacthaz.bef.ee) was online as foreseen in the project application and was visited by ca 5600 visitors by end of the project. The website was a living product and was constantly updated with ongoing news, events and downloadable project deliverables. The website beard information about project activities, partners, financers and most importantly a news section about project events and a download area for all project-related info materials (reports, brochures, presentations, etc.). The website was/is available in all project languages – English, Estonian, Lithuanian and Latvian and served well the purpose to disseminate project related information and results. The project website was continuously kept up to date with project information and progress throughout the project and will be maintained and kept running after the project end.

The indicator which was set in project application – 100 visitors per month - has been generously reached. The website will be online and accessible also after the project has ended. This will help ensure a wider dissemination of project results. Screenshots of the website are in Annex 7.3.3.

5.1.10.2. Action 10.2 Media work, production of advertising materials and leaflets

Action leader: Katrin Juhanson, BEF Estonia, P1
Key partners involved: BEF Latvia, P7
BEF Lithuania, P12
Action start: 01.03.2009
Action end: 30.06.2012
Delays or drawbacks: no modification
Action report: Annex 7.2.2.10

The **project introductory flyer** (see IR: Annex 6.2.3) was created by end of May 2009 and altogether 2000 copies were printed (500 copies per language – English, Estonian, Latvian and Lithuanian). The content of the flyer included: i) general information about hazardous substances; ii) the goals of the project; iii) main activities; iv) expected results; v) target group of the project; vi) relevant contact information and donors. The flyer was available for download on project website and was continuously disseminated at seminars, meetings, public events etc. Although it was initially not foreseen to print the flyer in English language, it was done thanks to a good offer from the printing house and also served better the dissemination to wider (international) audience. The flyers were distributed to the main stakeholders of the project such as Ministries of Environment, Ministries of Social Affairs, Environmental Competent authorities (services, agencies, information centres, etc), Regional Environmental Authorities (environmental boards), Environmental and Health inspectorates, laboratories and scientific organisations, project partners, experts, green NGOs and industrial enterprises. All flyers were distributed by the end of the project.

With relation to Action 9 in February 2010 **journalists round tables** were held in each Baltic State with representatives of different media and the project and the issues that the project was dealing with were introduced to a group of journalists. After the Journalists Round Table different articles were produced and the topic of hazardous substances in the aquatic environment gained bit more media interest.

One part of project visibility and information dissemination was to seek for contacts to print media and provide information to journalists for writing **articles about project activities** and the issue of hazardous substances in the aquatic environment. A working group was formed inside Action 10 who was working with this issue and coordinating the production of articles with relation to important results or achievements in project activities. The foreseen target number of articles was in total 18 for different target audiences and in different media (internet article, specialised article, for general public, etc.) to be published within project lifetime. Until the end of the project 24 articles regarding the project topics were published and also media recordings in radio and TV broadcast were introduced the project (see MTR: Annex 7.2.10; PR: Annex 7.2.7; FR: Annex 7.3.6). All media articles were “recorded” and links or scans of published articles were kept and documented. Approximately 40 News have been published on the project website about project, project seminars, trainings and other events. Announcements of events have been also forwarded to different e-mailing lists depending on the target audience (e.g. industry associations, state authorities, consultants and other experts, research institutions and general journalists’ lists).

The main obstacle in publishing articles and gaining media interest was the actuality of topic in everyday news. In the beginning of project the project team was taking the approach to inform the general public about the issue of hazardous substances in environment and everyday life and towards the project end, when “touchable” results were available published concrete articles on the issue which were more interesting to the journalists.

Furthermore a **brochure for the general public** “A million reasons to know about hazardous substances” was developed in 2011. The brochure was introducing the health and environmental threats of certain selected hazardous substances to the general public and gave practical advice how to avoid contact with such chemicals. It was printed in Estonian, Latvian, and Lithuanian in 1000 copies per language and 500 copies in English and Russian (see PR: Annex 7.2.7). The brochures were distributed at all project events, universities, libraries, state authorities and ministries. There has been a huge demand for these brochures, especially from schools and universities. P1 BEF Estonia, decided to print additional copies for national dissemination (1000 additional copies were printed in Estonian and Russian language) due to the big interest from libraries and universities. All brochures have been distributed during project lifetime.

5.1.10.3. Action 10.3 National and international dissemination

Action leader:	Katrin Juhanson, BEF Estonia, P1
Key partners involved:	BEF Latvia, P7 BEF Lithuania, P12
Action start:	01.09.2009
Action end:	30.06.2012

Delays or drawbacks: Setting up notice boards took little bit longer time than planned initially as the negotiations and finding the suitable printing house took longer than expected due to the size and special requirements of the notice boards.

Action report: Annex 7.2.2.10

The project developed **project notice boards** at strategic places accessible for the general public. The number of notice boards produced was 15 in Estonia, Latvia and Lithuania (45 total). The notice boards contained information about hazardous substances in the Baltic Sea and beard information about the project and the financers. Additional notice boards were set up by end of August 2010 at all project pilot enterprises. The list of notice board locations and pictures is available for general public as interactive map in Google maps (see MTR: link as Annex 7.2.10). The list of notice board locations and pictures of the locations were attached in MTR, Annex 7.2.10.

An **international seminar** “A Dialog Seminar with Stakeholders from the European Union and the Russian Federation” was successfully organised in St. Petersburg on 28-29.04.2010. The aim was to inform the Russian stakeholders about European Union requirements in the frame of the chemicals management in particular REACH and elaborate a dialogue between EU countries and Russia to improve the exchange of information. In total the event had 43 participants, among them 27 Russian stakeholders, the project team and lecturers (see MTR: Annex 7.2.10). The contract for the event was made through an Estonian travel agency and all travel and subsistence expenses occurred within EU 27.

For industrial audience and local stakeholders a **translated information brochure in Russian language** was produced covering the background information on the EU hazard concept and the EU approaches towards chemicals management (see MTR: Annex 7.2.10). Printed brochure (300 copies) was produced and disseminated at the dialogue seminar held in Saint Petersburg (28-29.04.2010), Russia.

International dissemination of the project was active: project team participated in 22 dissemination events during the project period. Detailed list of all events please see in Annex 7.2.2.10.

At project end the **final events** in each beneficiary country were organised aiming at presentation of project results: in Estonia 17.05.2012 (32 participants, in the Ministry of the Environment), in Latvia 30.05.2012 (25 participants), three events in Lithuania 27.03.2012, 18.05.2012, 19.05.2012 (51 participants). High level representatives from the competent authorities (Ministries of Environment) were opening the event and the partners of the project presented their project results together with the main experts of the project. The events were public, however invitations were also sent directly to stakeholders. In total 108 people participated in final events of the countries (see FR: Annex 7.2.2.10).

Beneficiary elaborated a **Layman’s report** and printed it (300 in English, 100 in Estonian, 100 in Latvian, 100 in Lithuanian) as well as published on the web site. The report shortly describes the project goals, activities, results, involved partners and donors. More information please look from point 5.4.2.

Results achieved against the objectives:

Task	Foreseen in the revised proposal	Achieved	Evaluation
Information materials (action 10.3).	To develop publications for general public. 50 % distributed during project lifetime.	Brochures for general public were developed and printed in total 4000 copies (EN, RU, EE, LV, LT), all brochures were distributed during project lifetime. Also additionally 1000 copies printed in Estonian and 1000 copies printed in Russian in June 2012.	The brochure was “Best seller” of the project. Attractive style and easy language created huge demand for the brochure, from kinder gardens to ministries. 100% brochures were distributed during project lifetime.

	To develop information brochures in Russian language targeting at trans-boundary aspects.	Brochures in Russian language elaborated and printed targeting at trans-boundary aspects (300 copies in RU), successfully distributed among target group.	Highly appreciated information materials for RUS/BY stakeholders explaining the EU system of chemicals management and the hazard concept.
Dissemination of the project (action 10.1, 10.2, 10.3).	To develop project web site.	Web site developed in all project languages with regular updates and download of project results and products.	Web site was very popular and in average had over 100 visitors each month. Number of visitors continues to grow after project lifetime. Over 5600 visitors (June 2012).
	To elaborate project introductory flyer. 75 % distributed during project lifetime.	Flyer (for international dissemination) elaborated within first 6 months of projects. All distributed during project lifetime. Total 2000 copies (EN, EE, LV, LT).	Project flyer fulfilled its purpose. Was fully (100%) distributed nationally and internationally.
	To develop and set up information stands at least 12 per country.	15 information stands per country (EE, LV, LT) were set up in visible and accessible places.	Notice boards have been recognised and positive feedback gained. Schools and teachers very interested.
	To participate in international and national events to show the results and introduce to the methods and guidelines. Project should be presented at Baltic Sea Day in St. Petersburg.	Project team has participated at various international and national events to network with similar projects and present project activities and results. Project team has participated and represented BaltActHaz project at Baltic Sea Day in St.Petersburg in each year (2009-2012).	Activity has been successful. Project team has gained new connections for further cooperation. Project team has made presentation at Baltic Sea Day. Project received interest from RUS stakeholders, interest to replicate BaltActHaz activities in their countries.
	To organise international seminar with Russian and Belarusian participation, at least 20 participants from RU/BY.	International dialogue seminar with stakeholders from the European Union and the Russian Federation about the implementation of REACH held in St. Petersburg (28-29.04.2010), 43 participants participated.	International seminar evaluated very successful by participants. Project received interest from RUS stakeholders, interest to replicate BaltActHaz activities in their countries.
	To publish articles in media.	Over 40 News/press releases published at project website and sent to e-mailing lists of different news services. 13 articles for general public in national/local press. 6 internet articles. 5 specialised articles.	Project results have provided a lot of new information on the occurrence of hazardous substances in the water environment which have been published in different scientific journals and reports of competent authorities.
	To organise final events to present project results.	Final project events organised in Estonia, Latvia, Lithuania, 108 people participated.	Project final events in each country were held successfully, positive feedback from state authorities and the project activities and results have

			been evaluated very successful and of high quality.
	To publish Layman's Report.	Layman's reports in English, Estonian, Latvian, Lithuanian published, 300 copies in English and 100 copies in Estonian, Latvian and Lithuanian languages were printed.	Reports successfully prepared and 35% distributed during project lifetime and available for download from project website.

List of all produced deliverables (notice boards, web site, brochures, leaflets, handbooks, handouts) please see in Annex 7.3.2. Photos from different project events are attached in Annex 7.3.1. Dissemination issues are also described in chapter 5.4.

5.1.11. Action 11 Project monitoring

Project monitoring was undertaken at two levels: internal progress monitoring by the project core project partners (action leaders), and externally by the indirect beneficiaries of the project, the Ministries of Environment of Estonia, Latvia and Lithuania. For the internal monitoring a monitoring group (11.1) was set up among the project partners and for the external monitoring an advisory committee (11.2) of competent authorities was established.

5.1.11.1. Action 11.1 Project monitoring group

Action leader:	Kitty Kislenko (January 2009-January 2010), BEF Estonia, P1 Jürgen Talkop (November 2009-October 2010), BEF Estonia, P1 Kertu-Kirit Sild (October 2010-June 2012), BEF Estonia, P1
Key partners involved:	Hendrikson, P2 BEF Latvia, P7 BEF Lithuania, P12
Action start:	01.02.2009
Action end:	30.05.2012
Delays or drawbacks:	no modification

Project monitoring group consisted of the project manager and the action leaders who were taking over leadership of one or several actions. The monitoring group management board was the decision making organ of the project. This group was meeting regularly every sixth months of the project: in February 2009 (see IR: Annex 6.3.6), in September 2009 (see MTR: Annex 7.2.11), in February 2010 (see MTR: Annex 7.2.11), in November 2010 (see PR: Annex 7.2.8), in April 2011 (see PR: Annex 7.2.8), in October 2011 (see Annex 7.2.2.11), in May 2012 (see Annex 7.2.2.11).

The aim was to discuss the task implementation of action leaders and country coordinators, general project progress, carry out joint time planning, reporting to European Commission and project success indicators. The meetings proved to be a good tool to follow the project progress and take necessary decisions timely and in consensus among the core project team.

5.1.11.2. Action 11.2 Project Advisory Committee

Action leader:	Kitty Kislenko (January 2009-January 2010), BEF Estonia, P1 Jürgen Talkop (November 2009-October 2010), BEF Estonia, P1 Kertu-Kirit Sild (October 2010-June 2012), BEF Estonia, P1
Key partners involved:	Hendrikson, P2 BEF Latvia, P7 BEF Lithuania, P12
Action start:	01.03.2009
Action end:	30.10.2011
Delays or drawbacks:	The only constraint of the action was the unavailability of the complete project advisory board for the three meetings planned, due

to the fact that these officials were often on sudden travels or very busy and one of countries was usually not present at the meetings. Nevertheless, good communication with the members of the board beyond those meetings was also possible tete-a-tete and therefore absence of some members of the board did not influence the implementation of the action.

The project advisory committee gave advice and brought in target countries' decision makers interests. During the first monitoring group meeting it was agreed among project action leaders whom to invite to the project advisory committee. The respective organisations were contacted by project manager and invited to the advisory committee of the project. The final list of advisory committee members was ready in April 2009 when all institutions have officially nominated their representatives to the committee: Estonian Ministry of Environment, Estonian Ministry of Social Affairs, Estonian Environmental Board, Latvian Ministry of Environment, Latvian State Environmental Service, Lithuanian Ministry of Environment, Lithuanian Environmental protection Agency.

During the project 3 advisory committee meetings were held: on the 2.-3.11.2009 in Tallinn, Estonia (see MTR: Annex 7.2.11); 4.11.2010 in Tallinn, Estonia (see PR: Annex 7.2.8); on 24.10.2011 in Jurmala, Latvia (see Annex 7.2.2.11).

There were high expectations to this project and the advisory committee members found the project work very important and were completely satisfied. The results from project actions gave useful information for the state authorities and helped to bring the issue of hazardous substances more visible.

Indicators used to test the performance of action:

Project Objective	Indicator	Source of verification	PROGRESS
Facilitate network of Baltic - international stakeholders.	Fruitful discussions and international input received on substance occurrence, reduction strategies and legal demands.	Monitoring report is produced and distributed half-yearly. Monitoring report will contain the description of project progress and monitoring indicator implementation. Project Advisory Committee gives feedback after each of the three meetings. Evaluation report from project advisory committee.	7 monitoring meetings held. 3 advisory board meetings held and feedback received. Reports contain evaluation of indicators.
-	Time line.	Proposed time line kept.	Time line kept.

5.1.12. Action 12 Project management and administration

/Excellent Project Management lead to successful project implementation. Detailed information about activities under this action have been not published in the public version of this report./

5.2.Evaluation

5.2.1. Success and failures of methodology applied, results & cost-efficiency of actions

5.2.1.1. Methodology

At the end of the project no failures with applied methodologies could be noticed. The methods have been developed jointly during the application phase by the project team. Main methods – substance screening, expert meetings and round table discussions, seminars, trainings and information materials - were applied successfully as planned, no shifts from the initial planning. The action leaders were very competent chemical experts and contributed substantially to the methodological development and coordination among the countries.

Specific methods applied:

- Screening of hazardous substances as one-off action was sufficient to gather information for policy implementation purposes as Baltic countries are small.
- Investigation on occurrence of hazardous substances and their sources was done by sampling, analysis of samples, screening contracts at WWTP and work with companies on identification of hazardous substances.
- Permit guideline elaboration was mostly based on expert work. At the initial stage stakeholders were interviewed at national roundtables to collect the main issues to be included in the guideline. Similarly, feedback was gathered during different stages of guideline elaboration, including comments received from the Baltic expert meetings. There is need to consider certain corrections while planning similar actions in next projects:
 - If it is expected to amend guidelines according to experience gained while testing proposals in practice, the final version of the guideline should be elaborated at the time when practical actions have been more or less finalised.
 - The guidelines in national languages are not just direct translation from common English version. Actually it is adaptive translation, which may result in quite different outcome than the initial version.
 - Most of the feedback will be given to national version of the guideline by stakeholders.
- At the final stage of the project permitting training methodology was elaborated according to principle ‘key stakeholders participating’ (industry, municipal sewer operator(s), permitter, environmental inspectorate). The training programme was balanced between theoretical part (what is needed for good environmental permit regarding HS management) and practical exercises. The exercises were elaborated taking into account as much as possible local conditions (type of industry, capacity of municipal WWTP and concentrations of HS in discharge, nature and water quality in receiving water body), which was largely enhanced by results of screening actions of the project. The approach was tested in several trainings in regions conducted in cooperation with Ministry of Environment, and appeared to be very effective. The described approach enabled stakeholders to better absorb otherwise quite abstract topic.
- Pilot permit applications were elaborated with expert assistance of project team members in each country. Applying some proposals made in permit guideline was hindered by the methodological pitfall, which appeared in the implementation phase – it was needed to use legally approved permit application templates, not those with the suggested changes. In addition, as the project scope was not covering permitting phase, there was no substantial feedback on permitters considerations on specific parts of permit applications. It is needed to consider methodological changes in future project applications, if similar environmental permitting actions are foreseen – the main emphasis should be on work with both applicants and permitters. In addition, it is necessary to consider that permitting is performed in national languages, i.e. assistance from other member states experts is very limited, and action leader cannot verify the outcome.
- Hazardous substance mapping at industrial enterprise was an investigation of all used and produced chemical substances to define possible problematic issues in each company to work for development of substitution scenarios. In practice this was done with help of a set of electronic tools, developed by project team for this purpose, which proved to be very effective and easy to use.
- Direct consultation for partner companies can be evaluated as successful, although it could have been even more effective if consultancy from external experts could have been done more directly, at least once visiting each enterprise, of course, in this case a lot more funds would had to be allocated. This was overcome by assistance of local experts serving as mediators and assisting in preparation of substitution scenarios.

5.2.1.2. Results

The project has produced a variety of valuable results from its actions. In the following they are described in brief going along the action order from above and trying to pick out the most outstanding results:

The screening of surface waters showed that hazardous substances are present in the environment of three Baltic States. The substance screening and sources tracking activities brought new information for the environmental authorities in Estonia, Latvia and Lithuania on the target substances indeed occurring in the environment in the countries. Newly detected substances for aquatic environment in Baltic States which were measured both in surface waters and in bottom sediments are organotin compounds, phthalates, alkylphenols and their etoxylates and polybrominated diphenylethers.

According to the source tracking of hazardous substances the industry branches which are most likely emitting such substances in the Baltic States are metal processing and galvanic industries, production of building materials, wood and pulp industries, textile and plastic industry. It also showed that point source for hazardous substance emissions to water bodies are not only industrial enterprises, but municipal sewers. The origin of the hazardous substances comes from household effluents but as well from small scale services and installations like laundries, car washing facilities, car shredder facilities, supermarkets (sewage water) and from surface run-off or industrial areas located at the municipality.

The project gave evidence and the results demand reaction from the competent authorities to address the substances of concern by regulative measures. The project helped to start such regulative measures with its report on "Recommendations for the reduction of hazardous substances" and took up the results from the activities in the "Proposals for improving State Monitoring Programme" which will help the countries better to implement WFD and HELCOM BSAP.

By reviewing the permits of the project partner companies and other enterprises the project initiated discussions on need to improve permitting quality in the Baltic States with regard to the aspect of hazardous substance management. The permitting guideline will impact future permit design and also quality of enforcement in the countries. The conducted trainings with practical examples contributed substantially to initiation of dialogue between main permitting stakeholders and improving permit quality in the Baltic States. The Baltic seminar on the new Industrial Emissions Directive enabled national stakeholders direct communication with the Commission representative and also with stakeholders in other countries, resulting in better understanding of necessary actions to be taken to ensure preparedness for changes.

Hazardous substance mapping at industrial enterprise was an investigation of all used and produced chemical substances to define possible problematic issues in each company to work with for development of substitution scenarios. It was carried out in all 7 partner companies. Initial situation with existing chemicals inventory was very different company to company but points to work with in substitution exercises were identified in all cases (including some which were unidentified by companies themselves beforehand). Not all cases dealt with priority hazardous substances in Water Framework Directive or REACH Regulation perspective, but all of them addressed substances posing unwanted environmental and health effects. Developed mapping tools proved to be capable of being applied universally at different types of industries and working effectively for the selected purpose.

Industrial partner enterprises detected their strengths and weaknesses with regard to hazardous substance management and found possibilities to substitute the hazardous substances or production processes. Individual substitution solutions were developed for project partner companies. In several cases the proposed substitution scenarios were successfully implemented. Prepared guidance materials introduced the concept of substitution of chemicals at enterprise level, describing a step-by-step approach to assist in preparation to substitution in practice. It also contains chemicals mapping tools which provide assistance for identification of priority hazardous substances. These materials have been widely distributed to different target groups in all the Baltic States, including industrial enterprises, permitting authorities, inspectorates and consultants. International exchange of experience between companies have been organised which was proven to be of a high interest to the participants, even if they do not represent the same industrial sectors. National trainings were organised, seeing a large interest from all selected target groups with over 150 total participants and approximately 60 different industrial enterprises present.

Different stakeholders (industries and competent state authorities) have participated in many training courses, seminars and several international events and learned more and more about REACH and its relation to environmental issues. This has been new for the stakeholders and the project facilitated the gain of this new knowledge substantially.

The seminar held in March 2011 and the related brochure “Chemicals and Environmental legislation: REACH, IPPC, WFD. The interactions beyond” were recognised at Baltic Sea level by the lead party of the Priority Area 3 of the EU Strategy for the Baltic Sea (Swedish Environmental Protection Agency) and Baltic Environmental Forum is invited to cooperate with the Swedish lead party and replicate the event in other countries.

With help of the LIFE+ project Baltic stakeholders in the chemicals supply chain met at a variety of events and the project managed to create an active and open network of enterprises even taking initiative to visit each other. State authorities got the opportunity to discuss with colleagues from the other two countries and also with international experts and gained knowledge and information for their future work.

The work of BaltActHaz was also introduced to Russian stakeholders and the results from the substance screening and source tracking activities were found so valuable that similar projects were being initiated in Russia. The cross-border network was significantly increased – respectively established with help of BaltActHaz.

The project identified the need for a public info campaign on hazardous substances use and impact for human health and environment in the Baltic States. The strategy for raising public awareness regarding hazardous substances was attested high important and the lack of awareness in the society is a big problem. The strategy was taken a step further towards implementation by developing a LIFE+ Information & Communication project called “Baltic info campaign on hazardous substances” (BaltInfoHaz LIFE10 INF/EE/108) which is a follow-up project to BaltActHaz action 9. It aims to initiate a stronger demand at the society in the three Baltic States for products free of hazardous substances. This project started on 01.10.2011 and will last until 31.03.2015 and shall have high impact on knowledge of the society.

All visibility and awareness raising actions were implemented successfully. All deliverables produced in the project are: background paper, leaflet to understand the EU hazard concept, report on HS screening results, report on investigation of sources of HS, substance reduction strategy, proposals for state monitoring programme, REACH brochure, permitting guideline, leaflet on general substitution potential, handbook on substitution options, background paper on BAT, project flyer, the web site, 45 notice boards, a brochure for general public, information materials in Russian language, a Layman’s report and after-LIFE communication plan. There have been approximately 100 project-related events (trainings, info days, Baltic meetings and international seminars) and 22 external events where the project team has represented BaltActHaz project results and activities; furthermore the project activities have led to 5 published scientific articles and 19 articles in other media.

The early integration of stakeholders into the process of elaboration of substance screening and source tracking plans, monitoring programmes and reduction measures proved a good tool to gain acceptance among the national stakeholders.

5.2.1.3. Cost effectiveness

To assess cost effectiveness one can take the project budget and set it against of activities, time and cost positions:

- The project budget had a total volume of approximately 1,6 Million € which was spent by 18 partners over 42 months for 13 project actions.
- Within the project approximately 100 different events were organised with ca. 2800 participants involving 74 000€ total expenditures;
- Approximately 10 000 copies of different brochures, leaflets, handbooks and reports have been printed for 75 500€ and distributed to the target groups.

- The project involved more ca. 175 persons from 3 countries having allocated approximately 12 900 working days for ca. 885 400€ total personnel costs – which means average costs of ca. 68€ per man day including all project direct and indirect costs.

5.2.2. Results achieved against the objectives

All objectives have been reached by the project. In the table below we present the actions implemented and briefly assessed whether the objectives were met. Visibility deliverables are described under chapter 5.4, project management objectives are described in chapter 4.

Task	Foreseen in the revised proposal	Achieved	Evaluation
Framing common understanding of the EU Hazard Concept (action 1.2).	To organise a training seminar on the hazard concept.	Training at Baltic level for project partners and key national authorities was held, 32 people participated.	Training was successfully organised and received good feedback from the participants.
Preparation for screening of substance occurrence (action 2).	To organise training seminar how the data analysis will come from information on occurrence of substances to an analysis of the sources of them.	Training on data screening and analysis was held, 27 people participated.	Training was successfully organised and received good feedback from the participants.
	To organise meetings for selection of substances.	<ul style="list-style-type: none"> • National team meetings carried out for selection of substances, 30 people participated. • Baltic meeting of stakeholders carried out, 26 people participated. 	Meetings were successfully organised, substances of concern were selected.
	To select laboratories who can analyse selected substances.	Laboratories for sampling analyses were selected and contracted.	Task was completed as foreseen in the revised proposal.
	To make detailed planning of the sampling and analysis.	Sampling and analysis of selected substances was planned and agreed between partners and stakeholders.	Task was completed as foreseen in the revised proposal.
Screening of substance occurrence (action 3.1, 3.2, 3.3).	To make samplings and analysis of samples.	Test results on selected substances samplings were received.	In Estonia the target of 100 samples was almost achieved, in reality 96 samples. In Latvia the target of 100 samples was not achieved because of difference between the actual price and the one foreseen in the budget. Overall goal was fully reached as a result of successful cooperation between different projects.
	To organise meetings to discuss the findings from substance measurements.	<ul style="list-style-type: none"> • National team meetings held on substances screening, 29 persons participated • Baltic expert meeting held to introduce screening results, 35 persons participated 	Meetings were successfully organised, substance screening results were introduced.
Investigating hazardous	To identify sources of hazardous substances.	Hazardous substances sources were investigated	Task was completed as foreseen in the revised

substances sources (action 3.4).		from waste water treatment plants back to enterprises.	proposal.
	To organise Baltic meeting to introduce the updated results of source tracking.	Baltic expert meeting held to introduce the updated results of source tracking, 43 persons participated.	Meeting was successfully organized, substance source tracking results were introduced.
	To support WWTP with the revision of the contracts with companies emitting hazardous substances.	Advice to WWTPs on screening of hazardous substances in contracts was given by project team.	Task was completed as foreseen in the revised proposal.
Elaboration substance reduction strategy (action 4.1).	To organise meetings and trainings to draft, elaborate and introduce substance reduction strategies.	<ul style="list-style-type: none"> • 6 national team meetings (2 in each country) held to develop substance reduction strategies, 89 persons participated in total. • Baltic expert working group held to elaborate substance reduction strategy, 34 persons participated. • 9 info days/trainings (3 in each country) held to introduce substance reduction strategies, 260 persons participated in total. 	Meetings and info days were successfully organised, substance reduction recommendations were elaborated and introduced. Info days/trainings received good feedback from the participants.
Optimising the information source uses (action 4.2).	To organise international seminar on REACH.	International seminar held on REACH interface with other sectors of environmental legislation, 50 persons participated.	Seminar was successfully organised, saw the expected interest and received very good feedback from the participants.
	To organise visit to Helsinki to Chemicals Agency.	Visit to Helsinki to Chemicals Agency and Finnish Environmental Institute to broaden the knowledge about chemicals and relevant databases was organised, 15 persons participated.	Visit was successfully organised.
Elaboration substance monitoring programmes (action 4.3).	To organise meetings to draft and develop state monitoring programmes.	6 national working group meetings (2 in each country) held to elaborate state monitoring programmes, 89 persons participated in total.	Meetings successfully organised, substance monitoring programmes were elaborated and introduced.
	To elaborate proposals for improvements with regard to hazardous substance detection and monitoring strategies.	Proposals for improving state monitoring programme were elaborated and concluded into reports (English and national languages).	Proposals for improving state monitoring programme were elaborated according need of competent authorities.
Permit guideline elaboration (action 5.1).	To organise meetings and trainings for drafting, developing and introducing permitting guideline.	<ul style="list-style-type: none"> • 9 national meetings (3 in each country) held to draft and develop handbook, 20 persons participated. • 2 Baltic expert working groups held to elaborate guideline, 25 persons participated. • 6 trainings (2 in each 	Meetings and trainings were successfully organised. Trainings were evaluated as very informative and innovative for the region.

		country) held to introduce permitting, 186 persons participated in total.	
Pilot permit elaboration (action 6.1, 6.2).	To elaborate new permit applications for the partner enterprises in all three countries.	5 new permit applications were elaborated (4 accepted during project phase) were made ready for approval by the permitting authority (partly approved during project duration, partly beyond, process outside project decision possibilities) and 4 recommendations for chemicals management system.	Main indicators of progress were that the pilot permit applications were accepted and permits issued.
	To organise meetings to find solutions for different permitting cases.	3 national working group meetings held among the involved stakeholders to feedback the progress and jointly look for solutions for difficult cases in each country, 20 persons participated.	Meetings successfully organised, permitting cases found solutions.
Increasing stakeholders capacity on permitting (action 6.3).	To organise trainings and info days to more stakeholders on permitting issues.	6 trainings and info days were organised in each country on permitting guideline, on REACH, permit requirements versus detection mechanisms for permit violations, hazard concept and requirements in the permits, 294 persons (permitting authorities, inspectors, experts writing the permits, industrial enterprises) participated.	All trainings were successful, saw a big interest from participants and were evaluated as very informative and innovative for the region.
	To organise Baltic seminar on the new IED (Industrial Emissions Directive).	Baltic seminar held among industries and state authorities to introduce the new Industrial Emissions Directive, 57 persons participated.	Seminar was successfully organised, saw the expected interest and received very good feedback from the participants.
Mapping of hazardous substances in industrial enterprises (action 7.1).	To obtain list of substances found at each participating enterprise.	Lists of substances including their amounts, uses, supplier data, hazard properties and environmental risks created for all 7 partner companies.	Task successfully achieved, all needed information collected.
Development of substitution scenarios (action 8.1).	To develop 5 – 7 substitution scenarios for partner enterprises.	6 substitution scenarios developed , for 7th company other solution offered.	Foreseen task was successfully achieved. Learning point was that creating individual solutions for companies with assistance from experts abroad proved to be more challenging than initially thought, mainly due to need of visiting and discussing the issues on place. This situation was dealt with assistance of local experts who served as local mediators.
International exchange (action	To organise 3 international seminars.	3 international seminars held:	Seminars were successfully organised,

8.2).		<ul style="list-style-type: none"> • International seminar held on substituting hazardous substances, 46 participants participated. • International seminar held to share the experiences on hazardous substance management at multipurpose harbour sites, 37 participants participated. • International seminar held on CLP Directive for Baltic countries to introduce directive, 68 participants participated. 	met the expected interest (especially CLP seminar) and received very good feedback from the participants.
Training for more industries (action 8.5).	To organise training courses for enterprises	12 trainings held (4 in each country) in the proposed timeline, 414 people participated.	All trainings were successful, saw a big interest from participants and were evaluated as very informative and innovative for the region.
Strategy for raising public attention & awareness on hazardous substances (actions 9.1, 9.3, 9.4).	To do investigations in Old EU about public awareness history on chemicals and hazardous substances. To perform interviews at different groups of society to find out interesting aspects within the project topic.	<ul style="list-style-type: none"> • 29 interviews were conducted at different groups of society to find out interesting aspects within the project topic. • Investigations and interview results were analysed and documented into the strategy for public information and awareness raising. 	Feedback for the strategy from different stakeholders was positive. It was stated that such document is needed and it is very important to work on public awareness raising issues in the Baltic States.
Journalist round tables (action 9.2).	To organise journalist round tables in each country.	Journalist round tables were held in each country to present the topic and discussing with journalists what are the issues, which can be transferred to the public and by which means, 39 persons participated.	Journalists got interested in the topic, round tables were successfully organised and reported.

List of project events is in Annex 7.2.2.10. Detailed information about the events (agenda, report, signature sheets) can be found from the Annexes of respective actions (Annex 7.2.2). Photos from different project events are attached in Annex 7.3.1.

5.3. Analysis of long-term benefits

5.3.1. Environmental benefits

5.3.1.1. Direct / quantitative environmental benefits

The holistic concept of source analysis of the target hazardous substances, addressing them in optimised permits and elaborating a set of reduction solutions for single pilot installations was an innovative contribution to **reduction of hazardous substance use at industry and consequently pollution of the water environment** in Baltic States and Baltic Sea.

- Screening of substances **indicated the presence** of hazardous substances in water environment (in surface waters, sediments and WWTP) and it gave the possibility to further **identify the sources** of hazardous substances.
- Enhancing better chemicals management at industry level is directly linked to successful implementation of IPPC/IED, as well as other environmental permitting schemes, and

ultimately **leads to reduced emissions of hazardous substances and reduced risks to human health and the environment.**

- Substitution of hazardous substances in enterprises, which have been realised in several companies have a **direct impact on reduction of emissions.**

5.3.1.2. Relevance for environmentally significant issues or policy areas

The implementation of the WFD and the IPPC Directives with regard to proper regulatory measures for management of the priority hazardous substances needed improvement in the Baltic States. Also there was a lack of understanding of the hazard concept of PBT substances, which was identified throughout many stakeholder groups. Therefore, a lot of activities carried out in the project were mostly focusing on raising awareness and educating target groups, which has no direct and immediate environmental effects but are very likely to contribute **towards better implementation of REACH, IPPC, WFD and the new IED (Industrial Emissions Directive)** through better educated parties which are involved in practical implementation of these legal acts.

The **WFD with its river basin concept** emphasises the transboundary river basin cooperation and therefore naturally demands trans-national cooperation and exchange of findings e.g. on pollution with hazardous substances or major point sources. The LIFE+ project contributed here with organising exchange seminars and expert meetings.

Through raising the awareness of state authorities, industries, general public and consultants more attention is paid to environmental issues, this leads to improved dialogue between different stakeholders, enhanced control of chemicals management and **more efficient policy implementation.**

5.3.2. Long-term sustainability

5.3.2.1. Long-term / qualitative environmental benefits

The project activities on source identification and hazardous substances screening lead to setting up further monitoring activities by the competent authorities e.g. new emerging hazardous substances will be included into monitoring programs and capacities need to be developed for analysing the WFD priority substances. Also, the project proposed reduction measures to relevant ministries who now are discussing the implementation and enforcement of these.

The introduced approach of mapping hazardous substances at company level with assistance of the newly programmed electronic tools has a potential of convincing a wide range of companies about benefits of easy and timely identification of potential high-risk substances and being proactive in terms of substitution of hazardous substances rather than dealing with emission problems at the end-of-pipe.

Elaboration of permit requirements regarding hazardous substances, including discharge to municipal sewer, has been impacted by the project and will gradually lead to better environmental performance of industry.

5.3.2.2. Long-term / qualitative economic benefits

Developed guidance materials on substitution of hazardous substances at company level and organised training courses, as well as already practically implemented cases (best practice examples), can serve as an initiator for companies to evaluate risks posed by mismanagement of chemicals and ultimately lead to more substitution activities, reducing emissions of hazardous substances into the environment.

The examples from substitution activities have shown that the economic measures can be achieved without mature investment costs. In several cases substitution of hazardous substances and following reduction of emissions were achieved in a rather simple way without major investment needs and in reasonable time frame - examples P5 Estko and P11 Kvadro.

5.3.2.3. Long-term / qualitative social benefits

The project identified that the public interest and concern is very low due to the abstract feature of the chemicals (especially PBT substances). It has led to low pressure on authorities and industry to invest into reduction measures. The project developed an easy language and attractive brochure for people about chemicals in everyday life and it was immediately distributed due to huge interest by public and professionals (competent authorities, inspectorates etc).

Also the identified need for intensive public info campaign gave new idea for more actions for raising awareness and concluded with new project application to LIFE+ programme. The project called BaltInfoHaz has been approved for financing by European Commission and started in autumn 2011.

The source analysis of the target hazardous substances, addressing hazardous substances in environmental permits and elaborating reduction solutions for single pilot installations contributed to reduction of hazardous substance pollution into environment. The reduction of pollution consequently will positively impact the health of the population in Baltic States.

5.3.3. Replicability, demonstration, transferability, cooperation

Applied electronic tools and mapping approach have a large transferability potential at local and regional level which was already proven by rather large interest from industrial enterprises during information days and seminars in all three Baltic States.

As shown by interest of participants during trainings and seminars, there is a need to present good examples of actual substitution in practise, at best, taking local enterprises as cases. Prepared training materials can be easily used for further trainings and as basis for information materials.

The “optimum permit addressing hazardous substances at industrial site” concept as central part of the permit guideline was a new product and can be later adaptively replicated in the region and further more in New Member States and accession/candidate countries (and probably also in several old EU Member States).

Also elaborated permitting training methodology according to principle ‘key stakeholders participating’ and using local examples in practical exercises can be easily transferred.

The objective is also to replicate the objectives and use gained experience in next project proposals:

- Gained knowledge and methodology from the project is aimed to be transferred from Baltic States to Poland and Slovakia to a much more industrialised environment with larger scale reduction potential. For that a LIFE+ project proposal called ‘AquaClean’ is under preparation and shall be submitted in year 2012.
- To use experience from BaltActHaz project to detect and track occurrence of HELCOM priority hazardous substances in the environment in the cross-border region to improve management and control of these substances and reduce their emissions to the Baltic Sea, in particular the Gulf of Finland and reduce the exposure risk of the inhabitants of the Estonia, Latvia, Russia cross border region. For this objective a project proposal called ‘CrossHaz’ has been submitted to Estonia–Latvia–Russia Cross Border Cooperation Programme within European Neighbourhood and Partnership Instrument.
- To increase level and knowledge at local level on hazardous substances of concern, to develop local hazardous substance reduction strategies at pilot cities and to improve competency of municipalities related to permit evaluation of installations a new project proposal called ‘HazCity’ is under preparation and will be submitted to next LIFE+ application round in 2012.
- Identified need for public info campaign on gave new idea for more actions is to initiate a stronger demand at the society in the three Baltic States for products free of hazardous substances. Therefore new project application BaltInfoHaz to LIFE+ programme was submitted, approved for financing by European Commission and started in autumn 2011. The

project aims to impact the society's behaviour to assist changing it from environmentally passive to active participation in environment.

5.3.4. Innovation and demonstration value

The project was demonstrating solutions for reduction of hazardous substances use at three different management levels:

- Hazardous substances were detected in the environment by screening effluents of WWTPs and further the analysis of sources until its origin. Such source tracking activity was done first time in the Baltic region and it provided proof of occurrence of substances in the environment as argument for regulatory action.
- Regulatory solutions were proposed by elaborating an “optimum permit template” and a methodological guideline systematically addressing the hazardous substances, starting from their presence in the input material, generation in production process steps, evaluating the fate of such substances in the technical process down to the emissions and product output. Reverse tracking guidance was also provided – in case hazardous substances are detected in discharges how to identify sources of such substances.
- Possibilities for reduction measures at single plant level were demonstrated and pilot enterprises substitution scenarios were elaborated, which later, although keeping the confidentiality principle, were advertised and promoted to industries of similar sectors/production processes. The special focus was on low-cost substitution scenarios which can be affordable and at the same time efficient tools for reduction of pollution.

Training methodology according to principle ‘key stakeholders participating’ appeared to be very effective in regions as for the first time in the countries different stakeholders were sitting together and discussing hazardous substances management. By demonstrating hazardous substances management and permitting issues based on local examples (industry, municipal WWTP, receiving water body) enabled permittees and inspectorate to better absorb otherwise quite abstract topic.

Publication and attitude on need to interlink all chemical substances management and discharges to the water environment regulating legal acts was presented as innovative and helpful in fulfilling requirements for better environmental quality.

5.3.5. Long term indicators of the project success

The approval of the strategies and monitoring programmes produced by the BaltActHaz project by national authority as well as the clear national decision on needs to revise permits for the WWTP discharging hazardous or priority hazardous substances to the environment.

Number of companies and state authorities using proposed electronic tools of identification and mapping of substances can serve as a long term indicator of impact of project results.

Initiation/continuation of elaboration of common e-tools on notification use of chemicals (ensuring better implementation of REACH, IPPC and WFD, as well SEVESO and workers safety legislation, including reporting both by industry and a Member State).

The amount of environmental permits updated according to project permitting guidelines.

Number of municipal WWTP plant operators having communication with their clients and control of their discharges according to project permitting guidelines.

Number of trainings conducted according to ‘key stakeholders participating’ methodology with or without project team supervision.

Decreasing concentrations of targeted HS in the discharged waste water/surface water.

5.4. Dissemination issues

5.4.1. Dissemination: overview per activity

Below all project publications and dissemination activities and outputs are described.

Task	Foreseen in the revised proposal	Achieved	Evaluation
Compilation of background information (action 1.1).	To compile information about the occurrence of the target substances in the three target countries Estonia, Latvia and Lithuania.	Background paper on countries' legal frameworks, available information on the target substances and baseline environmental situation was prepared (PDF document).	Background search successfully implemented and documented.
Framing common understanding of the EU Hazard Concept (action 1.2).	To produce a leaflet for stakeholders among state authorities and industry in national languages.	Brochure on the EU Hazard concept in national languages (English template as PDF), 1500 copies printed in Baltic languages.	Brochure successfully prepared and disseminated.
Screening of substance occurrence (action 3.1, 3.2, 3.3).	To make samplings and analysis of samples. To document analyse results.	Test results on selected substances samplings were received, test results compiled into report and printed (400 copies printed in Estonian and Latvian, 100 copies printed in English).	In Estonia the target of 100 samples was almost achieved, in reality 96 samples. In Latvia the target of 100 samples was not achieved because of difference between the actual price and the one foreseen in the budget. Overall goal was fully reached as a result of successful cooperation between different projects.
Investigating hazardous substances sources (action 3.4).	To identify sources of hazardous substances.	Hazardous substances sources were investigated from waste water treatments plants back to enterprises, report of source identification results elaborated in English and national languages. In Estonia 50 copies of the national version and 50 copies of English version, in Latvia 100 copies of the national version and 50 copies of English version, in Lithuania 200 copies of the national version and 50 copies of English version were printed.	Task was completed as foreseen in the revised proposal.
Elaboration substance reduction strategy (action 4.1).	To elaborate final strategies as an operating tool for the Ministries of Environment.	Substance reduction recommendations were elaborated into report (English and national languages) and forwarded to Ministries of Environment.	Substance reduction recommendations were elaborated according need of relevant state authorities in the countries and therefore accepted by ministries as a tool to use in further of hazardous substances reduction planning measures.
Optimising the information source uses (action 4.2).	To produce a brochure for the authorities to spread REACH knowledge further in the countries.	Brochure on REACH interfaces with other sectors of environmental legislation in national languages (English	Brochure successfully prepared and disseminated.

		template as PDF) was developed, 900 copies printed in Baltic languages.	
Elaboration substance monitoring programmes (action 4.3).	To elaborate proposals for improvements with regard to hazardous substance detection and monitoring strategies.	Proposals for improving state monitoring programme were elaborated and concluded into reports (English and national languages).	Proposals for improving state monitoring programme were elaborated according need of competent authorities.
Permit guideline elaboration (action 5.1).	To develop technical guidelines companies, permitting authorities and inspectors on how to carry out a site specific assessment on integrated pollution prevention and control with regard to substances of particular environmental concern.	Permitting handbook elaborated (English template for web) and printed in three national languages, 900 copies printed in total each language.	Handbook readily elaborated in 3 languages and disseminated to relevant target groups.
Publications and materials on substitution (actions 8.3, 8.4, 8.6).	To elaborate leaflet on general substitution potential.	Leaflet on general substitution potential prepared, translated and printed (English as template), 600 prints in total.	Leaflet successfully prepared and disseminated.
	To develop handbook addressing substitution options.	Brochure with practical annexes prepared, translated and printed (English template), 600 prints in total.	Material successfully prepared and disseminated.
	To elaborate background paper on BAT.	Electronical background paper developed as an overview of occurrence of hazardous substances in BREF documents, translated into all Baltic languages (English as template, PDF document).	Product successfully prepared and disseminated (attached into permitting handbook).
Strategy for raising public attention & awareness on hazardous substances (actions 9.1, 9.3, 9.4).	To elaborate a strategy for public information and awareness raising.	The strategy was feed-backed at international audience.	Feedback for the strategy from different stakeholders was positive. It was stated that such document is needed and it is very important to work on public awareness raising issues in the Baltic States.
Project visibility and dissemination (actions 10.1, 10.2, 10.3).	To set up project website.	Web site developed in all project languages with regular updates and download of project results and products.	Web site was very popular and in average had over 100 visitors each month. Number of visitors continues to grow after project lifetime. Over 5600 visitors (June 2012).
	To elaborate project introductory flyer. 75% distributed during project lifetime.	Flyer (for international dissemination) elaborated within first 6 months of projects. All distributed during project lifetime. Total 2000 copies (EN, EE, LV, LT).	Project flyer fulfilled its purpose. Was fully (100%) distributed nationally and internationally.
	To develop publications for general public. 50% distributed during project lifetime.	Brochures for general public were developed and printed in total 4000 copies (EN, RU, EE, LV, LT), all brochures were distributed during project lifetime. Also additionally 1000 copies printed in Estonian and 1000 copies printed in Russian	The brochure was “Best seller” of the project. Attractive style and easy language created huge demand for the brochure, from kinder gardens to ministries. 100% brochures were distributed

		in June 2012.	during project lifetime.
	To develop information brochures in Russian language targeting at trans-boundary aspects.	Brochures in Russian language elaborated and printed targeting at trans-boundary aspects (300 copies in RU), successfully distributed among target group.	Highly appreciated information materials for RU/BY stakeholders explaining the EU system of chemicals management and the hazard concept.
	To develop and set up information stands at least 12 per country.	15 information stands per country (EE, LV, LT) were set up in visible and accessible places.	Notice boards have been recognised and positive feedback gained. Schools and teachers very interested.
	To participate in international and national events to show the results and introduce to the methods and guidelines. Project should be presented at Baltic Sea Day in St. Petersburg.	Project team has participated at various international and national events to network with similar project and present project activities and results. Project team has participated and represented BaltActHaz project at Baltic Sea Day in St.Petersburg in each year (2009-2012).	Activity has been successful. Project team has gained new connections for further cooperation. Project team has made presentation at Baltic Sea Day. Project received interest from RU stakeholders, interest to replicate BaltActHaz activities in their countries.
	To publish articles in media.	Over 40 News/press releases published at project website and sent to e-mailing lists of different news services. 13 articles for general public in national/local press. 6 internet articles. 5 specialised articles.	Project results have provided a lot of new information on the occurrence of hazardous substances in the water environment which have been published in different scientific journals and reports of competent authorities.
	To organise final events to present project results.	Final project events organised in Estonia, Latvia, Lithuania, 108 people participated.	Project final events in each country were held successfully, positive feedback from state authorities and the project activities and results have been evaluated very successful and of high quality.
	To publish Layman's Report.	Layman's reports in English, Estonian, Latvian Lithuanian published, 300 copies in English and 100 copies in Estonian, Latvian and Lithuanian languages were printed.	Reports successfully prepared and 35% distributed during project lifetime and available for download from project website.
After-LIFE communication plan (action 13).	To elaborate an "After-LIFE Communication Plan".	After-LIFE Communication Plan is elaborated and submitted with project final report.	

The list of all events carried out during project and list of events where project team has disseminated the project results are described in Annex 7.2.2.10.

Copies respectively screen shots of all produced deliverables (notice boards, web site, brochures, leaflets, handbooks, handouts) please see in Annex 7.3.2.

Photos from different project events are attached in Annex 7.3.1.

LIFE+ logo was used on all project documents, in seminar announcements and hand-outs as well as on durable goods.

5.4.2. Layman's report

The Coordinating Beneficiary elaborated a **Layman's report** and printed it in 300 copies in English and as well as 100 copies in Estonian, Latvian and Lithuanian languages; it is also published on the web site. The report describes briefly project objectives, the background of the project and why it was proposed, activities and main results, future perspectives and communication, partners and donors. It has been distributed in the final events of the project and will further be distributed by the end of year 2012.

Layman's report is attached in Annex 7.3.5.

5.4.3. After-LIFE Communication plan

After-LIFE Communication Plan was produced by beneficiary and associated partners. It is delivered as separate document and attached to Annex 7.3.2.8 of the final report. Due to the fact that the project language was English we prepared After-LIFE Communication Plan only in English.

The After-LIFE Communication Plan indicates the further ideas of the BEF-Group how to continue awareness rising and transfer knowledge to build the capacity of the Eastern Baltic Sea Countries. Furthermore, the After-LIFE Communication Plan indicates the first steps which the BEF-Group has taken to continue with the work, outcomes and findings from the BaltActHaz project.

/Attached to the public report you will find a list of project deliverables with links/

*Report by: Kitty Kislenko and Kertu-Kirit Sild, Project Managers
Financial information: Lea Vedder, Project Financial Assistant
With support of the Project Co-manager Heidrun Fammler and the Project Action Leaders*

BaltActHaz project deliverables 2009 – 2012

(Deliverables are attached in Annex 7.3.2 & 7.3.5)

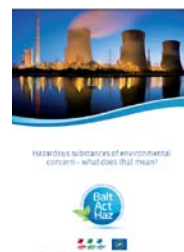
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A1. Hazardous Substances of Environmental Concern – What does that mean?

ENG: Electronical
EST: 500 copies
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LAT: http://baltacthaz.bef.ee/files/c15/c55/HS_lat_Final.pdf
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A3. Report : Hazardous Substances Screening results in the Aquatic Environment of Estonia

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A3. Report: Results on Screening of Hazardous Substances in Latvia

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A3. Report: Investigation of Sources of Hazardous Substances in Lithuania, Latvia and Estonia

ENG: 150
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LIT: http://baltacthaz.bef.ee/files/c15/c55/Report_SourceTracking_LIT.pdf
LAT: http://baltacthaz.bef.ee/files/c15/c55/Source%20tracking%20report_A3_FINAL.pdf



A4. Substance reduction Strategy

EST, LAT, LIT: Electronical versions

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EST: http://baltacthaz.bef.ee/files/c15/c55/Reduction_recommendations_EST.pdf

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A4. Proposals for the State Monitoring Programme

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EST: http://baltacthaz.bef.ee/files/c15/c55/Estonian%20Monitoring%20proposals_EST.pdf

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LAT: http://baltacthaz.bef.ee/files/c15/c55/Latvian%20Monitoring%20proposals_LV.pdf

ENG version of LAT: http://baltacthaz.bef.ee/files/c15/c55/Latvian%20Monitoring%20proposals_ENG.pdf

LIT: http://baltacthaz.bef.ee/files/c15/c55/Lithuanian_monitoring%20proposals_LT.pdf

ENG version of LIT: http://baltacthaz.bef.ee/files/c15/c55/Lithuanian_monitoring%20proposals_ENG.pdf

A4. Chemical and Environmental legislation: REACH, IPPC, WFD. The interactions beyond

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LAT: http://baltacthaz.bef.ee/files/c15/c55/REACH_LAT_Final.pdf

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A5. Permitting Guideline

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A8. Handbook on different substitution options for industry branches

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LT: http://baltacthaz.bef.ee/files/c15/c55/Substitution%20handbook_LT.pdf



Ohtlike kemikaalide
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2011



A8. Leaflet on general substitution potential

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LIT: http://baltacthaz.bef.ee/files/c15/c55/ohtlik_lit_loppf_210x297+3.pdf



Ohtlike ainete asendamine -
kuidas täita suurekandjainet talinerevart
nõuded ja olla konkurentsivõimeline?



A8. Background paper on BAT

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A10. Notice Boards

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A10. Project intro flyer

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ENG, EST, LAT, LIT: http://baltacthaz.bef.ee/files/c15/c55/BaltActHaz_Intro_FinalAll.pdf



A10. Russian translation of materials for industrial audience

RUS: 300 copies

Download:

RUS: http://baltacthaz.bef.ee/files/c15/c55/BAH%20RU_EU%20hazard%20concept%20&%20approaches.pdf

A10. Million Reasons to know about Hazardous Substances

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RUS: 1500 copies

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Layman's report

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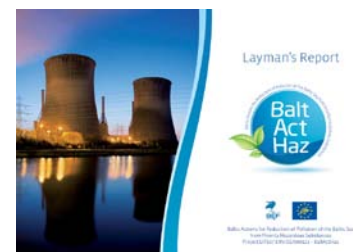
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After-LIFE communication plan

ENG: electronic pdf

