Executive summary:

The overall objective of the STEP-WISE project was to improve the dissemination/ communication between policy, research and industry.

The specific objectives of the STEP-WISE Project were to:
-Screen environmental water related policies (EU Directives) for tasks that (may) link to RTD projects and results;
-Collect information on EU research projects and their results that are relevant for the implementation of these water related policies (Scientific Support to Policy, SSP);
-Update the current world wide web based WISE-RTD Knowledge Portal system to accommodate these policies and research results;
-Provide a detailed recommendation towards a better uptake of FP environmental RTD results with tangible impact on economic growth and social welfare ('gap analysis').

In addition to the Water Framework Directive (WFD), already present in the WISE-RTD water knowledge portal (see http://www.wise-rtd.info online), another nine EU Directives that relate to 'water' were selected and their policy tasks extracted. These Directives were: the Floods Directive, Urban Waste Water Directive, Bathing Water Directive, Drinking Water Directive, Groundwater Directive, Fish Water Directive, Shellfish Water Directive, Nitrates Directive and the Marine Strategy Framework Directive. The US Clean Water Act was included as well. These actions required an update of the scheme of keywords that link the policies to the scientific results and improvement of the categorisation algorithms. Once the information (policy, research) was implemented in WISE-RTD a research gap analysis and a policy gap analysis was carried out.

A Long List of water related research and research demonstration projects was prepared (FP and LIFE projects). Based on expert opinion from this set a Short List was prepared of projects that were considered to have a potential impact on EU water policies. Information was collected on these projects as well as on their results that could be of use to stakeholders (policy, research, industry). Projects already present in WISE-RTD were scanned for potential support to the new set of Directives. Basic information, a short abstract in layman's English and links where to find more information, were uploaded to the WISE-RTD Portal. Beside the 11 policies, there are by the end of 2012 930 policy and research projects, 1,459 experiences and 1,222 guidances referenced in WISE-RTD.

The technical developments of these tasks in the ICT structure of WISE-RTD have been running in parallel. To accommodate all changes, a revised and restyled WISE-RTD was developed and implemented. This related to technical and lay-out issues, such as revision of the keywords' structure, adjustment of the portal such that groups of keywords can be linked to uploaded information, changes to the researcher/consultant user entries, revision of the uploading facility, tackling layout issues/shortcomings to allow an intuitive use, the inclusion of social media, and the addition of the technology platform 'My WISE-RTD'. The restyled web portal was developed using an open source technology DRUPAL. All information was migrated to this new technology and tested. The new technology allows a more sustainable system.

A dissemination strategy was developed. The implementation included e.g. the organisation of dissemination events (workshops, final conference) as well as the use of the new social media. Dissemination involved the

production of flyers, newsletters, posters and policy briefs that were published either in printed or in electronic form, depending their dissemination purpose. Three highly interactive multi-media eLearning modules were developed and integrated in the Portal to promote WISE-RTD and to illustrate its use and functioning, as well as to drive the user to effective science-policy-industry interfacing. A 'Roadmap for uptake of EU Water Research in Policy and Industry', a document summarising the SPI-Water cluster projects' experiences and recommendations, concluded the project's activities.

Throughout the reporting period intensive contacts between STEP-WISE and the two other SPI-Water cluster projects (STREAM and WaterDiss2.0) have ensured optimal cooperation and harmonisation. Links have been established with the projects ENVIMPACT and PROCEED.

Project Context and Objectives:

Summary Description of the project context and main objectives

The 'Environment' is of vital importance for any citizen in Europe, and beyond, now and in the future. Hence, the European Community has funded fundamental and applied research for decades aiming at a sustainable management and development of the environment, e.g. via a series of Framework Programmes (FP) under the EC Research Directorate.

The results from these investments in research must be utilised and applied for achieving the benefits that they promised. There appears to be a gap between generating scientific output on one side and making an optimum use of these scientific results by stakeholders other than scientists. Stakeholders may be policy makers / policy implementers, SMEs, large industries and other practitioners such as the public in general.

'Science is too difficult to understand' and 'Scientific reports are written by scientists mainly for scientists' are opinions that are often heard from policy makers and the industrial sectors alike. Whether these are true or not, there is a challenge for scientists to explain to the non-scientific world, what their work is about and what is the importance of their results. Or, looking from another angle, how may these RTD results be relevant for practical implementation of e.g. in for water policies, in order to improve the state of the environment, having a positive impact on economic growth and social welfare.

Dissemination of scientific results is often not easy. Scientists are trained to write scientific publications and to use scientific terminology, which are often not understood by the non-scientific stakeholders. Yet, there is an urgent need to disseminate scientific results to the stakeholders who have the right to know for which aim and why research budget is spent, what has been achieved and discovered in the European Research Area and how the European Community (EC) will benefit from these results.

Likewise scientists from other sectors of the scientific universe may largely benefit from the proper dissemination of RTD results if they would know where to find them. To whatever audience at whatever level, communication and dissemination are key factors in our information society for achieving a sustainable environment, and for making the most efficient use of the limited available resources.

From the above it may seem that only the scientific community is to be blamed for insufficient initiative to 'sell' research findings. This of course is not true. Also the various stakeholders have often shown limited or no initiatives to find research results that may be useful to support and even be implemented in their own professional fields, such as environmental policy makers/implementers, and the industrial sector (from small and medium-sized entreprises (SME) to larger industries). The problem is not only one-directional (from science to users/stakeholders) but certainly multi-directional: stakeholders should make the research area aware of their needs. In fact, the mechanism is not only dissemination but also communication between the three 'main players' in a triangle (scientific community, policy makers and implementers, and the industrial sector). The role of communication and information, and in particular the communication of research in relation to policy making,

has been discussed considerably in recent years. The importance of demonstrating its impact has been established, but is this alone enough to inform policy? How does dialogue – where the communication is multi-directional, iterative and within context – fit in?

Let's assume a triangle. The research world is at the top and it is here that the environmental research results are generated and need to be disseminated. The right lower corner shows the 'Industrial sector', ranging from the small and medium enterprises (SMEs) to the large industries. In fact this audience is a rather heterogeneous mix of different 'users', including the common citizen and other stakeholders such as the specialised NGOs and consultants. The left lower corner is where a separate Policy audience is considered at the international, national and regional level.

Traditionally researchers communicate via publications in scientific journals and (applied) research reports. These dissemination products are not easily accessible and they are technical and full of scientific jargon. Also Policy makers/implementers have their own publications and reports, full of the policy jargon.

Experience has shown that the interrelationship between research, policy and the outside world is not as effective as it could / should be. Part of it relates to jargon, part to problems in simply finding the relevant information. The question to answer remains: how to facilitate better communication so that needs are heard and results are utilised?

There are few EC databases where information on research projects can be accessed: DG Research makes use of CORDIS (see http://cordis.europa.eu/projects/home_en.html online), DG Environment has the LIFE website (see http://ec.europa.eu/environment/life/project/Projects/index.cfm). However, the information stored in these databases is usually very basic and not maintained by project consortia; moreover, information on achievements, outcomes and deliverables is usually not included.

In support of WFD implementation, an important communication tool that has been developed over the years is the 'Water Information System for Europe' (WISE). The EU bodies (DG ENV, JRC, EUROSTAT and EEA) and EU25 Member States, Norway, Bulgaria and Romania believed that there was a need for streamlining the reporting process, gathering more useful and relevant information and making the exchange process as efficient as possible using modern technology for the information on water. At their Water Directors' meeting in November 2003 they agreed on the: "Development of a new, comprehensive, European data and information management system for water, including river basins". This system, the Water Information System for Europe (WISE) was thus launched (water.europa.eu). WISE was an initiative to modernise the collection and dissemination of information on water policy across Europe.

A next development step was to bridge the communication between RTD projects and policy makers and to communicate their results in support of the implementation of the water policies in the EU. For this purpose, the interactive Web Portal WISE-RTD was launched under the Harmoni-CA project 'Harmonised modelling tools for integrated basin management' (FP5-EESD, contract EVKI-2001-00192). This project developed the WISE-RTD world wide web based portal (see http://www.wise-rtd.info online). In order to demonstrate its possibilities the only policy addressed was the WFD, and

research results mostly focused on modelling. WISE-RTD's major objective was (and still is) to improve communication between science and policy. WISE-RTD had become the 'Research Projects' corner stone of WISE.

It is important to realise that WISE-RTD is by principle a switch-board, connecting the user via hyperlinks (URL) to the original EC project web-based sources. WISE-RTD does not aim to be a complete repository of documents displaying research results.

After a positive assessment the WISE-RTD portal was expanded under the EC 'SPI-Water' project (FP6-Policies, GA 44357). Within this project, still focussing on the WFD only, the research covered was largely expanded. It included next to Framework Programme (FP) projects also LIFE projects and projects from other funding schemes (e.g. Interreg, COST). This required the Portal to be adapted such that all research 'water' related fields could be covered. The keyword system of categorisation had to be adapted as well.

Using the WISE-RTD as it was after the completion of the project SPI-Water the project STEP-WISE was proposed. STEP-WISE aimed to continue on this road and expands to include:
a) relevant EC environmental policies in the 'water' domain, other than the WFD, and
b) the environmental water technologies sector,
insofar both were not incorporated in the WISE-RTD Web Portal.

The focus of bridging the communication gap was expanded to also include industry. Thus the objective remained to bridge the science – policy – industry gap also for these policies/technologies/research. This required an expansion of WISE-RTD with the new policies, as well as the inclusion of recent research projects (starting since the conclusion of SPI-Water).

The specific objectives of the STEP-WISE Project were to:
- Screen environmental water related policies (EU Directives) for tasks that (may) link to RTD projects and results;
- Collect information on EU research projects and their results that are relevant for the implementation of these water related policies(Scientific Support to Policy, SSP);
- Update the current world wide web based WISE-RTD Knowledge Portal system to accommodate all water related policies;
- Provide a detailed recommendation towards a better uptake of FP environmental RTD results with tangible impact on economic growth and social welfare ('gap analysis').

The objectives included the implementation of several EU water policies in the WISE RTD Portal, the collection of project and project results from the Framework Programme (FP) and LIFE funding programmes, spanning at least a decade. The Portal itself had to be adapted to accommodate the expansion of policies and projects/results. New algorithms linking keywords covering these Directives, research and technologies should be developed and implemented in WISE-RTD. The facility used for uploading information should equally be updated.

In order to improve communication (bi-directional dissemination) the STEP-WISE aimed to widely disseminate and communicate these findings to international stakeholders in Europe. The audience would consist of representatives from the scientific, policy, and industry worlds. Tools for dissemination would include information in printed format as well as

in electronic form. To improve the communication among policy, research and industry and to promote WISE-RTD and to illustrate its use and functioning for diverse stakeholders an eLearning Programme was to be developed.

Project Results:

Main results

This Coordination and Support Action (CSA) project STEP-WISE was organised in for work packages (WP) plus the coordination and management. These four WPs were:
WP1: Collection and input of information
WP2: Information and Communication Technology
WP3: Research priorities and policy gaps
WP4: Dissemination and Communication
In the following sections for each WP the major results will be highlighted.

WP1 – Collection and input of information

The tasks for WP1 were to collect information on research projects (Framework Programme) and research demonstration (LIFE) projects, to assess their potential support the water related policies, for relevant projects to collect information on the research results and to upload all this information to the WISE-RTD web portal. A Long List of projects was prepared with research projects that related to the environmental compartment 'water', with a possible relation to one or more of the policies (Directives) collated under WP2.

Collation of research projects

The RTD projects collected were from the Framework Programmes (DG Research and Innovation, mainly Forth Framework Programme (FP4), Fifth Framework Programme (FP5), Sixth Framework Programme (FP6) and Seventh Framework Programme (FP7)). Prime source was the information obtained via the public information website and database Cordis (see http://www.cordis.europe.eu online). Also other sources were used to identify project, the most important being 'Water in the context of European Environmental Research' CD-ROM, European Commission, 2006; Information Society Technologies, IST-World (see http://www.ist-world.org online); New approaches to adaptive water management under uncertainty, Newater (see http://www.newater.info online); EU Water Initiative - Water for Life (see http://europa.eu.int/comm/research/water-initiative/index_en.html online); relevant ERA-NET clusters and Integrated Water Resources Management, IWRM.net (see http://www.iwrm-net.eu/ online).

For the research demonstration the project were all from the LIFE Programme (DG Environment, LIFE00 to LIFE09). The following LIFE actions were scanned since LIFE 2000: LIFE Environment (LIFEIII ENV, LIFE+ ENV), LIFE Third Countries (LIFEIII TCY), LIFE Nature and Biodiversity (LIFEIII NAT, LIFE+ NAT) and LIFE Information and Communication (LIFE+ INF).

In line with the DoW, in the frame of STEP-WISE no new nationally funded projects were included. By the 1st June 2011 the Long List was completed. However, in the course of the STEP-WISE project the team continued to search for new projects, especially those that had started after 1 June 2011 (thus mainly Seventh Framework Programme (FP7) and LIFE10 projects). New projects were assessed for relevance until the end of STEP-WISE. The following number of RTD projects was identified for the different Framework Programmes: FP3 (4), FP4 (58), FP5 (294), FP6 (189) and FP7 (60), other (36), totalling 641 projects. Of these 152 were already

present in the WISE-RTD portal (related to the WFD only). For LIFE action these numbers were: LIFE-NAT (248), LIFE-ENV (274), LIFE-TCY (39) and LIFE-INF (8), totalling 569 projects. Of these 356 were already present in WISE-RTD.

Uploading research information

In order to give a first indication about the relevance of the projects for support to the implementation of one or more Directives and use in WISE-RTD the projects were, based on the expert opinion of the team, qualified as 'Yes' (certainly of relevance), 'May be' (possibly of relevance), and 'No' (no relevance expected). Criteria were tuned to the objective of WISE-RTD, i.e. to be a switchboard where the user is directed to information that is available on the http://www. The criteria included: Projects ending before 2000 have a low priority (no http://www expected), more recent projects that are well in progress/completed have a higher priority (better chances for finding a website), projects with no http://www have a low priority, and projects without an English http://www have a low priority.

All the 'Yes'-projects were entered in the Short List; the 'May be'-projects were reassessed and based on expert opinion some were added to the Short List as well. Projects not selected for the Short List were not 'lost' (they are still on the Long List). Coordinators of projects are free to include their projects/results in the Portal by uploading the information using the 'My WISE-RTD' facility; WISE-RTD is an open access system.

Information on the projects that were Short Listed was to be collected and in the end to be uploaded to WISE-RTD. The Short List of selected projects consisted partly of projects already present in WISE-RTD (entered before STEP-WISE started e.g. by the Harmoni-CA or SPI-Water projects). They were all checked whether project information was present that related – in addition to the WFD – to one or more of the additional Directives; this could be the identification of additional keywords for the project info, as well as the identification of additional project results. For new projects identified in the frame of the STEP-WISE project information related to all Directives defined in WP3 was collected. Preferably there should be available an URL (web link) to the project website. By the end of May 2012 the total number of projects in the Short List was 436 RTD projects (mostly FP) and 384 LIFE projects.

The collection of information on the Short Listed projects and on their results was a major task. It was completed by the end of June 2012 (for FP7/LIF10 projects that had not yet been finalised a check on new deliverables was made until the end of 2012). For projects in principle the following information was collected: Project acronym and full title; start- and end dates; funding programme; project website (if present), and the Cordis or DG Environment web link; summary text; relevant additional information; Contact details (coordinator name, email address). Relevant additional information included the project logo, relevant figure/picture, flier/fact sheet or layman's report (LIFE), policy briefs. If available such smaller documents were to be uploaded to the WISE-RTD document repository. For each project a short abstract of about 15 lines was prepared, explaining the project in layman's English.

In order to avoid a dead-end when a project website no longer exists, it was decided to include at least one other website providing information

on the project. This was for FP projects usually the link to CORDIS (see http://cordis.europa.eu/search/index.cfm?dbname=proj online), for LIFE to the project info website (see http://ec.europa.eu/environment/life/project/Projects/index.cfm online). Also links to other websites that collate information to a certain topic like water (such as http://www.emwis.net/, http://www.eugris.info or http://www.iwrm-net.eu/) were used in addition.

In addition to information related to the description of the project, information on the project results was collected. These were usually project deliverables that are in principle available via the project website. Such information was in principle not uploaded to WISE-RTD. Instead a link was provided to the source on the internet. Would it be decided in the future that these project results would best be contained in a centralised document repository, using the web-links they could be downloaded automatically and stored.

The project results identified were usually in the form of deliverables, often in pdf format. Explicit focus was on deliverables that would be of interest to users of WISE-RTD and in support of the implementation of the water related Directives. Thus management or progress reports were not included. Selected documents could be e.g. 'Documents', like policy guidance documents, technical (research) guidance documents, case studies and experiences, or 'Tools', such as mathematical models, socio-economic support, monitoring, data bases of relevant information, tools for data management, quality assurance of data, uncertainty analyses, decision support systems (DSS), training products, etc.

For each project result (there could be more for a given project) basic information was prepared/collected: a short abstract of about 15 lines, explaining the result in layman's English so that it can be easily understood by non-scientists; definition how the result relates to the implementation of one or more water related Directives; keywords best describing the result in terms of Directive implementation; where relevant information on ecoregion, river basin, river or lake, and country where demonstrated (case studies). Initially, keywords were entered in the Portal using the web portal input system (WPIS) that originated from SPI-Water implementation. However, after completion of the new keyword structure and categorisation scheme (WPs 2 and 3) it was decided to abandon this system and use the newly developed facility 'My WISE-RTD'. In this new facility keywords can be entered.

Final uploading of information on projects and on project results was completed by September 2012. An e-mail was sent to the coordinators of those projects where an e-mail address had been identified. It was suggested that they would check on the input and to correct or amend where feasible. Even after the STEP-WISE project has been completed, coordinators can still get access to WISE-RTD to edit their project description, and add new information/results.

By the end of the project (December 2012) a considerable amount of information has been uploaded to the portal. This accumulated for policy and research together to 930 projects, 1,459 experiences, 1,222 guidances and 227 research tools. These results, available on the WISE-RTD Water Knowledge Portal form a major outcome of this WP1.

Recommendations

An assessment was made on the availability of research results on the internet and of the information contained in WISE-RTD near the end of the project period. Some critical issues in the concept of linking to EC-projects' web-based sources emerged. One of the key issues was the observation that much information cannot be retrieved anymore via the internet as websites become obsolete. The shelf-life of projects and project results is limited to 5-6 years for RTD even somewhat shorter for LIFE. This is considered too short to allow optimum use made from publicly funded research.

Based on the assessment Recommendations were presented that focus on short-term and mid-term actions. Suggestions have been formulated for further development of dissemination strategies, including suggestions for improvement, the introduction of templates for dissemination, and the creation of a database of research deliverables. Sustainability of locating research information using WISE-RTD has been identified as one of the challenges that we all face (available as Deliverable D1.03: Recommendations for applicability of water related RTD).

Cooperation with other projects

In parallel to the call for STEP-WISE the projects PROCEED (GA 265352) and ENVIMPACT (GA 265275) aimed at dissemination of environmental research results from central and eastern Europe. Exchange of ideas and dissemination products continued throughout the project. Fact sheets have been exchanged. A Memorandum of Understanding (MoU) was signed between ENVIMPACT and STEP-WISE. With the 2-year project STREAM (GA 265309) and the three year WaterDiss2.0 (GA 265167) a cluster was formed: the Science Policy Interfacing in Water Management (SPI-Water). A technical meeting between ENVIMPACT, PROCEED, STREAM, WaterDiss2.0 and STEP-WISE was organised 23 January 2012. It was agreed to improve exchange of information, support each other in dissemination, and harmonise activities. A common agenda – also available on the SPI-Water cluster website – was agreed.

SPI-Water Cluster experiences. Contacts/cooperation/coordination between the cluster projects STEP WISE, STREAM and WaterDiss2.0 were ongoing. Moreover, a good teamwork was established between STEP-WISE and STREAM regarding their eLearning programmes. The close collaboration with STREAM and WaterDiss 2.0 regarding the event dissemination activities (WP4) continued throughout the reporting period. The Final Conference was organised in close cooperation with the project STREAM, and a common Roadmap was published.

Work Package 2: Information and Communication Technology
The tasks of WP2 were to carry out a technical impact analysis of WISE-RTD, to update the WISE-RTD Water Knowledge Portal and its uploading facility to accommodate the set of water related policies (Directives) and focus more on environmental water technologies. The aim was to facilitate dissemination products and to further develop and amend the technical ICT facilities leading to the revised WISE-RTD portal, and to host the information/tools on a server. Maintenance of these technical facilities, including software, was part of the objectives.

Upgrade of WISE-RTD
A technical and functional analysis of the WISE-RTD Portal was carried out linked to the WP3 tasks with the aim to build a more effective Portal. It was found that technical as well as lay-out changes to the

WISE-RTD Portal were required, because the Portal needed to be expanded to accommodate the full set of water related EU Directives, the a technology oriented e-Market, and have room for the communication strategy. Recognising the diversity of the audiences STEP-WISE has created two types of guided searches in the WISE-RTD Water Knowledge Portal, which intelligently links research projects with water policies; one for the policy interested that starts from the water policies to find research results and one for the research/consultant that is a thematic based on major water issues.

Regarding the usability of the Portal comments were collected from all consortium members. After a technical analysis and feasibility check a totally new restyle of the Portal was developed, tested and implemented; the restyled Portal replaced the old Portal. Many technical and lay-out related changes were made to the WISE-RTD Portal. For example, the information is presented in more condensed form, and several lay-out shortcomings were addressed to allow a better readability.

The new version included the implementation of a revised and extended set of keywords. In parallel, the Web Portal Input System (WPIS) was expanded according to the new keywords structure to become the 'My WISE-RTD' facility. This now includes the option to upload a second flyer, policy brief and/or laymen's report, and to add more than one link (URL) to online information on a project (e.g. to CORDIS or LIFE). In the renewed portal it has become possible to enter extra 'free' keywords (which have to be dealt with at the quality control). The lay-out of 'My WISE-RTD' was tuned to best serve the future users of this input facility. The structure of the portal itself has been adjusted such that groups of keywords can be linked to the information uploaded in the WISE-RTD system.

A so-called breadcrumb navigation line was added on top of each page in the portal, such that users can easily go back to one of the previous pages they visited. The steps for a guided search were reduced and the guided search has become easier; the set of results is now shown on the right hand side of the screen, next to the steps of the guided search. The 'widen search' was extended. A new user entry was designed and implemented to become a 'Researcher/Consultant' entry, and user entry selection items were revised using buttons for the 'policy implementation key years' and the main tasks (and deeper level buttons for subtasks).

A new homepage lay-out was implemented, where emphasis is put on the guided search instead of the list buttons, and where links are added to the social media accounts; 'Updated information' is changed into one column with news, one with the policy related information and one with the Science and technology related information; the 'community' entry was made more prominent, as was the 'contribute' made more pronounced.

As EC Directives are going to be added in the different official languages of the EU a list of languages appears as soon as information is available in different languages, such that the visitor can select the most appropriate. The geographical classification keywords were simplified (only River Basin Districts and Regions were retained).

ICT dissemination tools
Components in support of the communication strategy (Twitter, LinkedIn, Facebook; cf. WP4) were developed and incorporated in the Portal. To make the extension of the Portal, the restyled Portal was built on a new

technology, DRUPAL (open source). All information was migrated to this new technology in a parallel test site. As a result the new technology does allow building a more sustainable system.

The eLearning modules (cf. WP4) were developed and integrated in the WISE-RTD user interface. This allows the user to learn how to utilise WISE-RTD using the same look-and-feel as the portal itself, while not requiring the user to have separate credentials in accessing the eLearning modules. This integration secures the sustainability of the eLearning programme after the project has been finalised. Moreover, this offers the possibility to guide learners through their search exercises and follow them as they click through the portal during the exercise and if necessary adjust the system in the future accordingly so the visitor can find information more easily.

Half way the project an assessment was carried out on the use of WISE-RTD. It was noticed that visitors browsing through the Portal do not stay very long on the site. The renewal of the user entries and the restyle of the site proved beneficial: after implementation of the new WISE-RTD the activity on the Portal approximately doubled to 2,000 visitors per month.

Quality control
Taking into account the new keyword-structure and keyword list, extensive revision was done of the keywords for all information (documents, cases, projects, tools, ...) in the portal. To ensure harmonisation and consistency of the WISE-RTD Portal, all information uploaded to the portal was quality controlled. A web service tool was developed and implemented for performing the quality control in an easier and user friendly way (for internal use).

The availability of the WISE-RTD Water Knowledge Portal with all its technical features forms the major outcome of this WP2.

Work Package 3: Research priorities and policy gaps
The tasks of WP3 included a review of EU and international policies, the performance of RTD and policy gap analyses and the development of a water technology e-Market.

EU and international policies
At the start of the STEP-WISE project, WISE-RTD was based entirely on the WFD. This was to be expanded with other policies (Directives) in the domain of the environmental compartment 'water' that could benefit from research output from (EU funded) projects.

It was originally planned to add four relevant EU water policies (other than the WFD) and the US Clean Water Act to the WISE-RTD Knowledge Portal. However, it became clear that WISE-RTD would become more complete if all 'water' related Directives could be included. Considering the overlap in tasks within the various Directives the additional work involved was considered manageable within the allocated resources of the project. As a consequence the following EU water policies were processed: Floods Directive, Urban Waste Water Directive, Bathing Water Directive, Drinking Water Directive, Groundwater Directive, Fish Water Directive, Shellfish Water Directive, Nitrates Directive and Marine Strategy Framework Directive. With the US Clean Water Act and the already present Water Framework Directive now 11 'water' policies have been implemented in WISE-RTD.

For each of these policies, tentative lists of policy implementation tasks were defined. They were sent to respective experts of the European Commission (DG Environment), who are well familiar with these Directives. They were asked to check our tentative list of policy implementation tasks and update/improve if/where needed. Based on this feedback, final lists of policy implementation tasks for the 9 additional EC Directives were prepared. These lists were updated to reach maximum consistency between the different Directives.

The articles were uploaded in the WISE-RTD Portal for all 10 additional water Policies. Links were defined between these articles and the defined policy implementation tasks. For that purpose, rather than uploading the different articles and subsections separately as sub-items, as done in the old version of the Portal, the article subsections were grouped per implementation task. This avoids that one implementation task or information item will receive too many links to article subsections.

Furthermore a list of other policies and related Directives, that are not implemented as a user entry, were processed as general items in the web Portal in order to be able to point to them and to complete the water policy domain. For all Directives a Fact Sheet prepared by the project STREAM has been uploaded to WISE-RTD. Additionally there were Fact Sheets for Action Plans (Environmental Technologies Action Plan, The Sustainable Consumption and Production Action Plan), Regulations (Detergents regulation, Regulatory framework for the management of chemicals (REACH), Persistent Organic Pollutants) Policies under construction (Water Scarcity and Drought Policy, Adaptation to Climate Change Framework) and a Blueprint (Blueprint to Safeguard Europe's Waters).

For the US Clean Water Act (CWA) policy implementation tasks were defined. This took more time because first similarities had to be defined between the US Clean Water Act and the different EU water Directives. It was decided to split the CWA into its main components. Similarities between these components and individual EU water directives or sections were searched. This allowed the keyword linking to be done in a most consistent way. The comparison between the EU water directives and the US Clean Water Act also provided input to the (policies related) gap analysis task in the project.

By the end of the project the WISE-RTD Water Knowledge Portal contained 3,285 policy articles. The water policies are split and linked at the level of articles in order to reach enough in-depth linkage and correlation with research and research results in the WISE-RTD Web Portal.

Based on the lists of policy implementation tasks new additional keywords were identified. For each of the implementation tasks, related keywords were defined. Also this was done in a step-by-step approach. First, tentative lists of policy implementation tasks and additional keywords were defined. After the lists of implementation tasks were checked by the European Commission and were considered final, the list of keywords was also further updated.

The WISE-RTD Knowledge Portal was used to evaluate whether policy questions have been answered by the research and technological development (top-down, scientific support to policy), and whether needs from identified stakeholders, e.g. from the environmental water technologies sector, are covered by policy issues (bottom-up). Merging of

these two approaches, the gap analysis, was the basis for a detailed recommendation towards a better uptake of FP environmental RTD results with tangible impact on economic growth and social welfare.

Given that the WISE-RTD Portal is extended from the old portal, which only contains implemen¬tation tasks of the WFD policy, to all EU water-related policies, the keywords structure had to be updated, taking into account the new keywords. A document was prepared explaining the concept and philosophy behind the revised keywords structure. The document also explains how and based on which concepts the keyword linking (with the information, documents, cases, projects, tools, ..., in the portal) should be done. This will allow new persons involved in the keyword updating or linking to have access to a 'training document'. It will increase the sustainability in future developments of the Portal. Next to the links between the policy implementation tasks and the keywords, also the links between the keywords for all types of information in the portal (documents, cases, projects, tools, ...) had to be revised (also in sequential steps) based on the new keywords and revised keyword-structure (above). Keywords were moreover also defined for the new user entry items of the revised user entry for 'researcher/consultant/stakeholder'. This was done following the new style for the Portal. User subentries were defined in different sublevels.

The CWA policy items were given keywords based on a detailed analysis of the similarities and differences between the EU WFD directive tasks and the CWA policy articles and sub-articles. A first set of keywords describing relevant environmental and water technologies were obtained and checked against the current categorisation schemes (keywords structure). This approach leads to a tool to bridge the EU-US gap in the implementation of research and research results, but also in the implementation of water policies.

Policy and RTD gap analyses and priorities
A gap search tool was developed by 2Mpact. It is first based on the WFD and the Floods Directive tasks, and gradually expanded after other Directive's tasks were implemented in WISE-RTD. The gap search tool was finally applied after WP1 completed uploading information to the Portal. In STEP-WISE it is investigated whether needs from identified stakeholders are covered by policy issues and whether policy questions have been answered by the research and technological development outputs. Merging of these two approaches formed the integrated gap analysis. It formed the basis for recommendations towards a better science-policy interfacing, including the uptake of FP environmental RTD results with tangible impact on economic growth and social welfare (available as D3.09: Report on matching policy with RTD gaps). The recommendations from this analysis were combined with the recommendations of other Work Packages of the STEP-WISE project and with the recommendations of the two other SPI-Water cluster projects, STREAM and WaterDiss2.0. A 'Roadmap for uptake of EU Water Research in Policy and Industry' was thus prepared.

Also in support of the eLearning modules designed for WP4, based on the contents of the WISE-RTD Portal, an evaluation has been made whether questions asked by policy makers and policy implementers, e.g. water managers, get answers by relevant research and technological developments. WP4 prepared a list of questions that could be asked by the following three groups of users of the Portal: water managers, researchers and practitioners. For each of these questions it was checked

whether the Portal leads to successful matches. Success stories, i.e. research (projects, project deliverables) that demonstrate a perfect and successful match, were identified. FP funded research projects and results with high EU added value also were identified and used in the dissemination process (WP4).

Water technology e-Market
In order not to duplicate work that was carried out under WaterDiss2.0, STEP-WISE has adapted its e-Market strategy to focus on the strengths of WISE-RTD, i.e. global coverage of information and its role as switch board (also towards industry), and to further link with the work carried out under WaterDiss2.0 which goes more in depth in bringing the research to market. WaterDiss2.0 and STEP-WISE agreed on sharing the direct links of the common projects, so that the direct links of the projects on the WaterDiss2.0 eFair are entered as extra link in WISE-RTD, and vice versa. In that perspective the name of the WISE-RTD e-Market was changed into a name that better covers the purpose: 'My WISE-RTD'. The aim of My WISE-RTD is to enable the WISE-RTD Web Portal users to enter and update their projects and documents into the Portal, and to stimulate contacts between users with similar areas of interest, i.e. those that have uploaded their similar information into the Web Portal. This will facilitate further interfacing.

The 'My WISE-RTD' forms a unique entrance for registered users to the e-market, the eLearning and the WPIS uploading facility. The same tree structure is used for the user profiles, the upload of information (WPIS) and the e-market. Registered members who want to follow-up certain aspects of the 'water' area can identify topics in which they are interested and ask for a periodic update of new information entered for these aspects into the web portal. The web portal system will then automatically send them the periodic update.

Work Package 4: Dissemination and communication
The tasks of WP4 were the development and implementation of the dissemination and communication strategies, implement Dissemination for 'Bridging the Gap' between the various audiences/stakeholders (policy/research/industry) and the organisation of dissemination events. Most dissemination activities are reported in the next section on Impacts. The full description of the dissemination activities is available as Deliverable D4.12: Report on dissemination strategy execution.

The development and implementation of the eLearning modules, as a tool in 'Bridging the Gap', is reported here.

eLearning Programme
The main goals of the eLearning Programme are to communicate the value and importance of the WISE-RTD Water Knowledge Portal as a knowledge broker for bridging the communication gap between research, policy and industry. It stimulates the uptake of research results by policy and industry.

STEP-WISE aimed to develop innovative dissemination and training tools to reach the different audiences, target groups at national and/or international level, including policy makers, researchers and other users (industries). The eLearning Programme was developed to create three highly integrated, user-friendly, educating and at the same time entertaining modules.

The aims of the STEP-WISE eLearning modules are to improve interaction, and initiate dialogue between policy implementers, researchers and industrial stakeholders for achieving a coherent and holistic water management. The eLearning approach and concept were developed in order to help 'bridge the gap' and to be able to make the learner understand that a water issue has three different perspectives: as viewed by a policy-implementer, a researcher and by industry. It was therefore necessary to create horizontal eLearning modules. This means that instead of creating three separate modules one for each of these audiences, three common modules for all three audiences were created with three levels of expertise: Beginners, Intermediate and Advanced level. Each module thus has all three perspectives i.e. research, policy and industry.

The eLearning is part of WISE-RTD and when run it makes direct use of the WISE-RTD Water Knowledge Portal at http://www.WISE-RTD.info (eLearning button). Each eLearning module starts with a real-life water crisis video, on which the eLearning scenario builds with questions and answers using the Portal. The disaster/crisis scenario is used to alert and make the learners aware that most crisis and catastrophes can be avoided, if the necessary analysis, collaboration and implementation are done in time between the three target groups (policy, research and industry).

In order to create real-life scenarios, a questionnaire was prepared and disseminated to industry consultants and to the policy implementers for collecting their input. Based on this input and the broad knowledge and experience of the team the eLearning scenarios and content were prepared. Based on the above concept and scenario definitions, three highly interactive eLearning courses were created with video, voice-over, cartoon characters representing the researcher, policy implementer and industry consultant, and the new version of WISE-RTD Water Knowledge Portal. All modules were tested by all STEP-WISE partners before being released.

eLearning Module 1 deals with Floods at beginner's level and focuses on the Floods Directive. Module 2 deals also with Floods but the level of difficulty increases to the intermediate level. Module 3 deals with the problems associated with nitrate and focuses on all relevant water Directives. It is at an advanced level as the learner is expected to combine research results and several water policies.

The structure of each module is the following. The learner sees a film after he has read the Module Goal and other relevant information. The film shows a serious crisis situation with a voice-over explaining the issues and how WISE-RTD may help resolve/prevent the crisis. The voice introduces the three advisors: policy-implementer, researcher and industry consultant that must work together with the learner to resolve the situation. These advisors are present on the screen as cartoon characters. Each advisor sees the situation from his/her perspective and puts forward his/her question to the learner. The learner must then enter in WISE-RTD and identify policies, policy experiences, research results, tools and research experiences to answer the three advisors' questions.

In the Beginners module, the learner walks through WISE-RTD guided by one advisor at a time. This allows the learner to understand the perspective of each advisor. However, only when the three perspectives are combined the course (module) is successfully completed.

In the Intermediate level module 2 the exercise becomes harder. The modules are designed as a role game. Like in the first module, in module 2 the three advisors each pose a question related to the flood crisis from their perspective. The learner must act as a mediator between the three advisors and he/she must find sufficient information in the WISE RTD Portal to satisfy all three advisors. When the learner thinks that enough information has been collected, he enters the meeting room, where the advisors are waiting for him. Each advisor has two faces. Either the learner will be greeted with a smile, meaning that he has identified sufficient and relevant flood information, or the advisor will be busy working, indicating that the learner needs to continue his search in the WISE-RTD in the respective perspective. The course is designed so that the advisors guide the learner with tips and hints in finding the right information to satisfy their questions. The modules force the learner to view the problem not only from his/her comfort zone (his own professional experience) but to see it also from the two other perspectives. When all three advisors show their smiles, the module has been successfully completed.

The Advanced Module focuses on the issues of water contamination due to nitrates. The learner is expected now to be a WISE-RTD expert, and the course helps combine different directives and research experiences to minimise the water contamination issues. The three advisors pose the same question, but each one wants answers from his/her perspective and asks the learner to explore WISE-RTD to identify sufficient information to satisfy their needs. Similarly, they let the learner know in a final meeting how he performed.

STEP-WISE keeps statistics of the usage of its eLearning modules. The eLearning statistics as of 28 December 2012 were as follows: Beginners module: 244 unique persons started this level, 131 the Intermediate module and 27 the Advanced module. The majority of the learners did not complete the whole course but instead run through one or at most two perspectives. It is also interesting to see that the majority of learners start with the Industry consultant, then select the researcher and last the policy implementer.

Based on a questionnaire answers received the majority of learners agree or strongly agree that: After the course they understand how to use WISE-RTD, that WISE-RTD helps them to understand EC water Directives, that it can actively support them in their daily work, that they understand the importance of working in an integrated manner to resolve water issues, and that they intend to use WISE-RTD to look for professional information.

All three modules continue to be readily available on the Internet after the project has been completed (at http://www.WISE-RTD.info). They are offered for free and without any need to register.

Potential Impact:
Main dissemination activities and Potential impact

The tasks of WP4 – dissemination - were the development and implementation of the dissemination and communication strategies, implement Dissemination for 'Bridging the Gap' between the various audiences/stakeholders (policy/research/industry) and the organisation of dissemination events.

Dissemination and communication strategy
The dissemination and communication strategy defined in detail how the STEP-WISE project would communicate to the different stakeholders to raise awareness about the project and about WISE-RTD. The strategy focused on how to make the WISE-RTD known to the three diverse target groups by showing them that it can play an instrumental role in meeting their needs by providing research evidence in a language that the non-research groups can comprehend. The three target groups interested in water-management are: policy makers (inter)national and regional, researchers and industry including small and medium-sized entreprises (SME).

The communication and dissemination strategy defined the project's identity (logo, website layout and content), the definition of the flyers and policy briefs, the dissemination events (water conferences) and the purpose and initial architecture of the WISE-RTD eLearning Programme. The strategy also specified that social media such as LinkedIn, Twitter and Facebook should be used for disseminating the project's results and events. Furthermore, the strategy provided a matrix of target groups and dissemination means. Lastly, it mentioned how STEP-WISE would collaborate with the EC projects STREAM and WaterDiss2.0.

A full description of the implementation of these dissemination activities is available as Deliverable D4.12: Report on dissemination strategy execution.

Dissemination for Bridging the Gap
Project Flyer: One project flyer was published. The flyer presented the STEP-WISE project, its aim and goals, and the STEP-WISE partners. The flyer was ready end of August 2011. It was handed-out to all partners for dissemination to their respective networks. The flyer is downloadable from the STEP-WISE website.

Websites: A common SPI-Water Cluster website (see http://www.spi-water.eu online) was established for the three projects STEP-WISE, STREAM and WaterDiss 2.0 with STEP-WISE acting as the webmaster. The website provided a platform for dissemination for all three projects and common event calendar. Also available in pdf is the 'Roadmap for uptake of EU Water Research in Policy and Industry', a common dissemination and impact product, for which the STEP-WISE partners took a leading role in the set-up, editing, discussion with the final conference participants and completion.

The STEP-WISE project website (see http://www.spi-water.eu/step-wise online) is situated under the SPI-Water Website. The website provides information about the project, the consortium partners, news, pictures from events, all publications such as newsletters and policy briefs, a short description about WISE-RTD and links to other related EU-projects.

Newsletters: Three Newsletters were published to allow the WISE-RTD to be enhanced, online and populated. The first Newsletter (12 pages) contained articles on the WISE-RTD Water Knowledge Portal, the eLearning Module Structure, events, the SPI-Water Cluster projects and the central European projects. It was printed and widely distributed by project partners during the World Water Forum events (March 2012), at local events and meetings in different countries and during the Green Week 2012 in Brussels.

The second Newsletter (22 pages) was made available in electronic format only and was sent by email to more than 2,000 recipients world-wide. It contained articles about STEP-WISE's participation at the 6th World Water Forum and at the Green Week, an invitation to Use WISE-RTD Water Knowledge Portal (with a focus on Flood Management), the eLearning Programme, and a news and events section.

The third Newsletter (12 pages) was in electronic format only and distributed to over 2000 recipients world-wide. It had articles concerning the STEP-WISE Final Conference, eLearning Modules 2 and 3, STEP-WISE at the 3rd CIS-SPI meeting, at the EU Water Blueprint Conference and at the FLOOD-WISE Final Conference.

All Newsletters were sent to the coordinators of the projects STREAM, WaterDiss2.0, PROCEED and ENVIMPACT for distribution to their partners and respective networks. The three newsletters are available on WISE-RTD and on the STEP-WISE website.

Policy Briefs: On suggestion by the European Commission policy briefs were prepared.
Policy Brief 1 was printed and distributed together with the first Newsletter during the 6th World Water Forum, Green Week and the Blueprint Conference. It focused on how the WISE-RTD Water Knowledge Portal facilitates Water Policy Implementation. It highlights the directives included in the WISE-RTD and it illustrates an example of how it links research results to policies. Furthermore, it briefly discusses the CIS-SPI initiative and lastly, it shows the number of WISE-RTD users in and outside the EU.

Policy Brief 2 was published in electronic format only and distributed by e-mail. It focused on how the WISE-RTD could be considered a Knowledge Broker tool and what does it really mean to act as a Knowledge Broker. WISE-RTD is able to present and link information across boundaries (policy, science and industry), makes it a useful tool for the knowledge-broker that is searching to combine and present scientific evidence and experience to support water policy-making and implementation. Furthermore, Policy Brief 2 focused on the conclusions of the STEP-WISE involvement during the Green Week 2012.

Policy Brief 3 was published in electronic format and distributed at the end of the project by e-mail. It summarised the final conference and one of its major achievements the 'Roadmap for Uptake EU Water Research in Policy and Industry. Furthermore, it announced the eLearning module 3 and that the US Clean Water Act was included in the WISE-RTD. Lastly, the policy brief explains what happens to the WISE-RTD after the STEP-WISE project ends and how interested may join the WISE-RTD association.

The three Policy Briefs are available at the STEP-WISE and WISE-RTD websites.

Social Media: STEP-WISE disseminated through the social web media Facebook, Twitter and LinkedIn, initially as project, later to be changed in new accounts for WISE-RTD, allowing these accounts to continue after the project ends. All three accounts were extensively used for announcing the WISE-RTD developments, eLearning releases as well as the STEP-WISE event participation and the Final Conference.

Even though social media are very popular for socialising between friends and people, for a cause like Science-Policy Interfacing it has not received a great response from the wider audience. Perhaps, one of the reasons is that the Science-Policy interface is mostly represented by a generation that is still not used to this new type of media coverage.

Other Dissemination Media: Two posters about the WISE-RTD Water Knowledge Portal were designed and displayed during the 6th World Water Forum, the Green Week 2012 and the Blueprint Conference. The first poster was also printed in A4 format and distributed as a flyer during these conferences as well as during the FLOOD-WISE and the STEP-WISE Final conferences.

Organisation of dissemination events
STEP-WISE planned its workshops to be linked to two international water events: 6th World Water Forum and the Green Week 2012; several other events were attended (FLOOD-WISE Final Conference, CIS-SPI Event and the Blueprint Conference). The STEP-WISE Final Conference concluded the project.

- World Water Forum, Marseilles (FR), 12-17 March 2012: Together with the two other projects of the SPI-Water cluster (STREAM and WaterDiss2.0), STEP-WISE shared a booth opposite the European Commission Pavilion. A flyer, summarizing the side events of all three projects was prepared and disseminated. The three projects together welcomed more than 500 visitors from all over the world. During the 6th World Water Forum, STEP-WISE organised two side-events on 14 and 15 March 2012 discussing 'The Dissemination of Water Research Results and Their Impact on Economic Growth and Social Welfare'. Even though the attendance of the side-events was lower than expected, the side-events proved interesting. STEP-WISE actively participated in the session about 'Science and Water Policy Interface (SPI): When Science and Innovation Meet Water Policy'.
- Green Week, Brussels (BE), 23-25 May 2012: The 2012 Green Week had a focus on water management issues and STEP-WISE participated with two presentations and in the poster-exhibition. Guido Vaes (HydroScan) presented 'Easy access to water policy related RTD projects' during the WISE Side Event organised by the EEA. Xenia Schneider (XPRO Consulting) presented 'Connecting the Dots of Policy and Science through the WISE-RTD Water Knowledge Portal' during the Session and Side-Event organised by the DG Environment 'Trickle-down effect? Science and evidence-based environmental policy making'.
- FLOOD-WISE Final Conference, Maastricht (NL), 23-24 October 2012: Almost 100 water managers and decision makers from over 10 European countries gathered in Maastricht to discuss their experiences with cross-border flood safety. The Interreg IV project FLOOD-WISE aimed at improving flood risk management in border regions. The WISE-RTD Water Knowledge Portal was actively used by the project. STEP-WISE presented and demonstrated the WISE-RTD and the linked FLOOD-WISE information during the Project Market of the conference.
- 3rd CIS-SPI meeting, Brussels (BE), 14-15 November 2012: about 90 people from the Commission, policy makers and implementers, researchers and industry attended at the third Common Implementation Strategy -

Science Policy Interface (CIS-SPI) workshop. STEP-WISE actively participated at workshop.
- EU Water Blueprint Conference, Nicosia (CY), 26-27 November 2012: The Conference was organised jointly by the Cyprus Presidency and the European Commission, with the goal to present the main outcomes of the 'Blueprint to safeguard Europe's water'. About 120 people attended the conference. The attendees were from national water agencies, industry, researchers, economists and NGOs. The project STEP-WISE presented a poster about WISE-RTD and disseminated policy briefs and a flyer invitation for the Final Conference.
- Other Event Participation: STEP-WISE communicated its purpose and its goals through the following events: MENBO-INBO General Assembly, Porto (PT), 25-28 September 2011; 2nd CIS-SPI Meeting Brussels (BE), 29-30 September 2011; STREAM Policy Seminar, Amsterdam (NL), 1 November 2011; Ecologic Meeting, Berlin (DE), 3-4 November 2011 (through the STREAM Project).

Furthermore WISE-RTD and STEP-WISE were actively disseminated at: SPI brainstorming session, Brussels (BE), 7 November 2011; STREAM Summer School, Rome (IT), 24-28 September 2012; WFD Strategic Coordination Group, Brussels (BE), 11 May 2012; Imprints Conference, Brussels (BE), 27 September 2012; Conference 'Noordzeedagen', Egmond aan Zee (NL), 4-5 October 2012; four meetings of the WISE Steering Group in Brussels (BE).
- STEP-WISE Final Conference, Brussels (BE), 3-4 December 2012: the conference was co-organised with the STREAM project: STEP-WISE organised the first day at the International Auditorium, STREAM the second at the European Parliament. The Final Conference title was 'Water Science Reaching Policy and Industry: Practical Steps towards Efficient Water Knowledge Transfer'. The main conference goal was to communicate the two project's experiences and discuss these with the conference participants. Furthermore, through three parallel workshops, the two projects collected the participants' input. Another conference objective was to deliver a Roadmap for efficient Science-Policy-Industry interfacing for answering the following questions through concrete project experiences and discussions: a) How to get policy makers involved in the scientific process to serve water policy's needs?; b) How to strengthen water innovation by answering water policy needs?; c) How to promote coordination and collaboration of research and technology development in the water industry?; d) How to facilitate the water knowledge transfer at all EU-levels (EU, states, regional, local)?; e) How to facilitate water management and innovation to meet societal needs?

The conference was free of charge and 145 interested registered. Most of them were from Europe, but people registered also from countries outside Europe. However, 83 actually participated, mainly from EU-countries. At the workshops 68 delegates actively participated from 12 countries representing 16 from Policy, 22 from Research and 17 from Industry and Consultancy and 13 from other areas (NGOs, media, communication, education); there was a small majority of female delegates.

The first day at the International Auditorium focused on presenting, evaluating and discussing practical instruments to enhance communication and dissemination of projects research results. Keynote speakers from DG R&I highlighted the European Commission's approach to the SPI activities. The conference provided an exchange of experience and ideas during poster presentation sessions, where EU funded water research projects made brief presentations of their projects and answered questions by participants. Various videos produced by STREAM and STEP-WISE were shown at a video

corner, audio-visual production being an effective tool to present research results with an accessible and friendly language.

The conference actively involved all participants in three parallel workshops in order to discuss and collect further recommendations regarding the different aspects of science-policy-industry interfacing. The themes of the three workshops were 'Tools To Make Research Visible', 'Effective Science Policy Industry Interfacing' and 'Keeping Research Information Available'. The final recommendations were presented to the audience; the results were embedded in the 'Roadmap', which was finalised and presented during the conference second day at the European Parliament.

- Roadmap for Uptake EU Water Research in Policy and Industry:
The Roadmap was the main output of the final conference with recommendations based on the experiences of the SPI-Water Cluster projects STREAM, STEP-WISE and WaterDiss2.0, as well as the discussions made during the first day of the conference. Among the roadmap recommendations are that the research projects should ensure to have professional communication strategy targeting the necessary stakeholders, the European Commission should fence resources and online tools for making research results available after the project ends, research projects should prepare policy briefs to demonstrate how their results are relevant for EU and national politicians and thematic conferences gathering various research projects should be considered to reach the industry more effectively. The Roadmap was made available through the SPI Water Cluster website after the conference.

Potential impact
The impact of the project STEP-WISE relates – mainly via the WISE-RTD Water Knowledge Portal (see http://www.WISE-RTD.info online) - to an increased access to and use of EU research results (RTD, LIFE) for economic growth and social welfare by policy makers, researchers and industries (including small and medium-sized entreprises (SME)). STEP-WISE has illustrated how WISE-RTD Water Knowledge Portal can be used as a knowledge broker tool for strengthening the information exchange when needed and at the level of need. The results of the project significantly lowered the barriers to water related RTD result dissemination and knowledge management initiatives take-up and it enhanced their access to scientific knowledge, strengthening their innovation and use capacity while addressing issues of 'Information Society for all' policies.

STEP-WISE (WISE-RTD) offers the benefits of water related RTD evidence and knowledge that traditionally only other RTD-organisations seized, enhancing the diffusion of RTD results with high EU value through its knowledge base, which will strengthen the transnational collaboration, promote innovation and facilitate the integration of RTD – Policy value chains at a European level. A wealth of information, linking 10 EU water related policies plus the US Clean water Act, links to more than 900 policy and research projects with their results, spanning over a decade of EU funded research (RTD, LIFE). Not surprisingly, when searching for EC funded project information often the WISE-RTD portal has a high ranking on Google and other Internet search engines.

Water research results have been linked to policy guidelines (e.g. Directives) making it easy to search and understand their inter-relation. Once specific research results have been identified, WISE-RTD displays to the user related policy and research material. In this manner the user, independent of his background, can easily access other, related information.

The WISE-RTD Portal guides the different user groups to find their way in the enormous amount of information available on integrated water management. In addition to giving straightforward answers to questions and offers to demands at different levels of abstraction, the Portal also provides cross-over information that was not requested at first by the different user groups, but that is of relevance from the perspective of the implementation of the related EU Directives. For this aim, the Web Portal presents an eLearning tool. Acknowledging that science, policy and industry actors are not only divided by the difference of language but also of different thinking perspectives and timing horizons, the WISE-RTD eLearning program enables the learner to understand how a water issue can be addressed in a co-ordinated manner from different perspectives (research, policy and industry) to reach a sustainable solution.

The gap analysis between water policy and research issues based upon the content of the WISE-RTD Water Knowledge Portal can be used as a tool for directing future research and policy initiatives for all target groups.

Primary aim of the project was to strengthen the link between the RTD community and the policy developers and implementers. In this perspective not only the research world is addressed, but within the project an extension towards water technology was made. Through for example the workshops, by the active involvement of the CIS-SPI activity, the various dissemination activities and by the active involvement of all interested parties in the final project conference, a network of professionals was

created to facilitate the exchange of information, to bridge the gaps between the needs / expectations from research and policy. This allows European water legislation to be implemented in more sustainable way, allowing the water authorities to optimise investments in integrated water management and planning in support of developing most efficient strategies to meet the criteria defined in the set of 'water' Directives. In this way, it directly contributes to the enhancement of the quality of life and the health of European citizens, and leads to reaching good or improved ecological status of the surface and ground waters and the marine realm.

The results of the STEP-WISE project lead to better spreading of EU RTD/LIFE results in Europe. Moreover, by expanding the WISE-RTD to the US Clean Water Act, the Web Portal is also useful in the US and therefore the project contributed to the spreading of EU research results outside Europe. This therefore contributes to improve the European competitiveness on the world market.

The 'Roadmap for uptake of EU Water Research in Policy and Industry' may have a great impact on future research projects, if these follow the recommendations to ensure a higher uptake of their results. Likewise the Commission and Member States may consider the recommendations to improve the applicability of water research results in improving the European water status.

Investments in water planning are extremely expensive, it is expected that the increased efficiency by the enhanced communication between research, policy and industry will lead to significant cost savings. (Water) policy implementers may learn from research results, but also from experiences from other water management professionals. Parallel development will be avoided. These cost savings will in turn be passed to the community, and should have also a positive impact on the employment in the community.

List of Websites:
http://www.spi-water.eu\step-wise
http://www.spi-water.eu
http://www.wise-rtd.info
http://www.hydroscan.be
http://www.mermayde.nl
http://www.wise-rtd.org
http://www.2mpact.be
http://www.strategicmcs.com
http://www.kuleuven.be/hydr
http://www.dml.kuleuven.be
http://www.xpro-consulting.com
http://www.aqc.it
http://www.hydro-international.biz