



Coordination of national environment and  
health research programmes

**ERA-ENVHEALTH**



**ERA-ENVHEALTH project**

**Synthesis report**



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**Compilation of the executive summaries of the ERA-ENVHEALTH reports**

**from 2008 to 2012**

**December 2012**

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## SUMMARY

This document is a compilation of the executive summaries of the reports produced by the ERA-ENVHEALTH project from 2008 to 2012. The compilation aims at providing a concise overview of the major documents and reports prepared by the ERA-ENVHEALTH project in order to facilitate the dissemination and transfer of the project results.

The European Environment and Health Action Plan (EHAP) for 2004-10 pointed to a need to strengthen networks between researchers, policy-makers and stakeholders. The goal of ERA-NETs<sup>1</sup> is to foster exchange and sharing of expertise and resources across discipline, sector and country boundaries, complementing the national and European research funding schemes. The ERA-ENVHEALTH project, co-funded by the European Commission's 7th Framework Programme, was set up to bring together organisations planning research in the E&H arena at the national level in Europe with the objective of providing policy support.

The environment and health research field is broad and complex. Actors are dispersed across several – often segregated – organisational structures, in numerous disciplines. It is also a transversal issue, impacting and being impacted on by many different sectors. Multidisciplinary research and cross-sectoral collaboration are therefore particularly important. Thus, ERA-ENVHEALTH's task was to mobilise scientific research in support of European and national policies on E&H issues.

ERA-ENVHEALTH is a European project aimed at enhancing the coordination of national Environment and Health (E&H) research programmes. The objective of the project is to bring together European organisations that finance and plan research programmes in the field of E&H and to establish a lasting cooperation in this area. This objective is achieved by analysing the E&H research landscape, defining common priority areas and responding to these through joint activities and transnational calls for research projects.

Collaboration between ERA-ENVHEALTH partners has enabled the development of a shared vision and improved exchange of knowledge and expertise through access to information at the European level via its website and databases for experts and research programmes. A common framework for describing and assessing the Environment and Health research programmes and projects was developed with the aim of making available information about the current and past funding programmes, thus providing good visibility of Environment and Health research in Europe. In August 2012, the Research Database contains information from 11 countries on 41 organisations, 50 programmes and over 500 projects. This database will continue to be updated and expanded.

The “Final overview of research programmes and projects including synthesis and recommendations” provided an overview and description of the Environment and Health

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<sup>1</sup> European Research Area Networks. The ERA-NET scheme is aimed at stepping up the co-ordination and networking of national and/or regional research programmes.





research landscape in the EU. This information is a strong basis for analysing the research in the field of E&H in the participating countries. It reflects the diversity of the participating countries, their different cultures and structures for research and administration as well as their similarities.

The information gathered was used to identify key strategic issues in Environment and Health. Horizon scanning of emerging issues was undertaken and combined with the analysis of current projects to identify emerging issues where there are gaps in Environment and Health research in Europe. This provides an up-to-date, comprehensive analysis of Environment and Health research in Europe and areas where transnational research can bring added value. In addition, in order to appreciate the range of projects in the database and rather than just list project titles, a visual representation was produced. The aim of this visualisation is to depict the distribution of projects by identifying clusters of similar or related project activity.

In order to maximise the potential for joint funding of common strategic issues across member states in Europe, prioritisation criteria and a multi-criteria analysis (MCA) tool have been developed. The MCA tool allows standardisation of the thematic selection process, among topics but also among the various partners in ERA-ENVHEALTH. The criteria and MCA tool enable structured discussions on the selection of E&H topics and enhance transparency in the selection process. In this way, the partners are able to define the topics for which joint activities can be set up. The main topics identified include indoor air quality, nanomaterials, toxicity of mixtures and low doses and climate change.

The originality of ERA-ENVHEALTH is that a first call for proposals was launched at the start of the project to experiment joint funding and fully assess its implementation. The first transnational joint call, funded by three partners (NERC – UK, ANSES – France, and IenM – Netherlands), was launched in 2008 on: *“Health vulnerability resulting from future climate change impacts on soil-water ecosystems, land use and water resources at regional scale”*. Two projects were funded:

- *Risk assessment of the impact of climate change on infectious diseases*
- *Environmental change and rising dissolved organic carbon trends: implications to Public Health*

A second call was launched in 2012 on *“Air pollution in urban areas – health impacts on vulnerable groups under changing conditions”*; funded by five partners (ANSES and ADEME – France, BelSPO – Belgium, Swedish EPA – Sweden, and UBA – Germany). One project was selected for funding: *“Assessment of changing conditions, environmental policies, time activities, exposure and disease (ACCEPTED)”*.

The first call was designed to obtain practical experience in managing and evaluating an Environment and Health multinational programme. To support and improve this work, an evaluation of the first call (process and impact) within ERA-ENVHEALTH was planned to identify the strengths and weaknesses, measure performance and efficiency and help provide solutions and improve the management of the calls, in particular for the design of the





second ERA-ENVHEALTH call. An independent expert evaluator was chosen to carry out the evaluation and was supported in his work by an Evaluation Steering Committee.

The first part of the evaluation concentrated on the management and scientific evaluation issues encountered during the first call and provided recommendations to improve the design and the launch of the second call. Some activities prior to the launch of the call were thereby found as highly important for the smooth running of the process. The results also recommend guidelines for future calls. A special framework for future calls was proposed in the evaluation, using the 'à la carte' method and allowing the matching of several dimensions related to the call: choice of the research topic; number of partners financing a selected research area; and modality of financing (call for proposals or tendering). The scheme has the advantage of providing a well elaborated framework, established by all the ERA-ENVHEALTH partners, and allowing for a maximum of flexibility. The majority of the recommendations were taken into account by the second call funders in the call design and implementation and improvements have been carried out.

The second part of the evaluation concentrated on the impacts of the programme, both in terms of strengthening European research in health & environment and providing useful data and decision-making tools to policymakers, climate change and human health being a priority issue. This evaluation was more of a model of feasibility as it was carried out on one call from which two projects were funded. In order to evaluate impacts over time, more years and resources would have been required. Nevertheless, it is a novelty for ERA-NETs and provided very interesting insights into transnational calls for research projects in Environment and Health, in particular it highlighted:

- the importance of being able to put together and fund small European projects (smaller than EU-funded projects but larger than nationally-funded ones), thereby encouraging and implementing true and lasting collaborations;
- the possibility of building policy-oriented calls for research;
- the need for involving policy-makers in the design of such calls for research and the realisation that traditional communication tools are not sufficient to disseminate the research results to the stakeholders;
- the observation that these types of calls and research, in particular in the environment and health domain, are emerging but not yet mature at the European level.

ERA-ENVHEALTH brings dynamism to E&H research in the EU by promoting collaboration and fostering innovative ideas, and by increasing its visibility as a key area for research. With the development of new programmes and changes to existing ones, an increase is expected in the diversity of disciplines involved in research and in multinational projects on E&H issues. ERA-ENVHEALTH responds to the recognised need for enhancing coordination through cooperation in E&H research and contributes to the European Environment and Health Action Plan (EHAP) 2004-2010 by promoting better coordination for research implementation and better use of research results to support policy development. Further to







the success of the 1st EHAP and the WHO-Europe March 2010 Parma Declaration<sup>2</sup>, there is an added value to a coherent collaborative framework which defines coordinated and combined actions for research on some of the Environment and Health priorities. In this respect, ERA-ENVHEALTH introduced a new task to investigate the link between policy and research in E&H. Recommendations to improve the uptake of scientific results in policy-making were defined and a policy framework linked to E&H research was provided by formulating EU-wide environment and health priorities from a policy point of view in order to guide collaborative research.

The ERA-ENVHEALTH final conference, which took place 13-14 June 2012 in Paris (France), brought together over 140 representatives from research organisations, research funding entities, non-governmental organisations, scientists and national and European authorities from 16 countries. It provided the opportunity to take stock of four years of successful collaboration and open a high-level prospective debate on environment and health priorities and concerns. It was also the first step for the future of the network for participants wishing to continue collaboration. Based on four major themes: environment and Health research in Europe, priorities for Environment and Health, linking science and policy and, perspectives for the future, the two-day meeting provided insights into the future challenges in environment and health and the ways in which research can contribute to meeting them. The discussions during this final meeting contributed to identifying relevant and effective policies for environment and health research in Europe.

The results of the ERA-ENVHEALTH project are summarised in this document through the compilation of the executive summaries of the ERA-ENVHEALTH reports forming the basis of the project's scientific results.

The ERA-ENVHEALTH consortium is a unique network for Environment and Health research in Europe. Unique through the variety of actors participating: NGOs, ministries, agencies, international organisations.... Unique through the diversity of countries represented and unique in its innovative and multi-sectoral approach.

***ERA-ENVHEALTH has contributed to increasing the visibility of European research in the field of environment and health and is looking forward to continuing its collaboration, which in this time of financial crisis is crucial so as to maximise the use of research funding and help ensure coherent policies beyond national boundaries.***

ERA-ENVHEALTH has shown that transnational collaboration in E&H fills an important niche. It provides an interesting forum to discuss challenges, visions and emerging issues. The project has met its primary objectives and while project funding from the European Commission ends in late 2012, the network wishes to continue to collaborate and expand, using own resources, striving towards better integrating E&H research into policy.

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<sup>2</sup> Declaration from the Fifth Ministerial Conference on Environment and Health "Protecting children's health in a changing environment", Parma, Italy, 10-12 March 2010





# 1. INFORMATION EXCHANGE: DESCRIBING THE E&H RESEARCH LANDSCAPE FOR TRANS-NATIONAL RESEARCH

## 1.1. Database creation

### 1.1.1. Research database

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Deliverable leader: BelSPO

Belgian federal science policy office  
Avenue Louise 231 Louizalaan  
B-1050 Brussels  
BELGIUM



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***The ERA-ENVHEALTH research Database contains details of current and past funding programmes in Europe, entered by the project participants and collaborating partners.***

The ERA-ENVHEALTH project brings together key participants in E&H research management from 10 countries, representing a wide diversity of institutional arrangement for E&H funding with the objectives of achieving critical mass and ensuring better use of resources; facilitating access to experts; joining forces to provide answers to common problems, global or specific geographical issues; and developing common approaches and governance principles to develop more coherent E&H policies. Given the high diversity of E&H issues of which some might be very common/urgent in some MS and less in other MS and given the possibility that ERA-ENVHEALTH will allow cooperation between a number of MS to tackle a specific E&H issue, ERA-ENVHEALTH will bring dynamism to Environment and Health research in Europe by promoting collaboration between research programmes and fostering innovative ideas.

The ERA-ENVHEALTH research database provides information about the current and past funding programmes in Europe open to Environment and Health researchers. As a first step, the database will focus on the information related the research programmes funded by the 16 organisations who are members of ERA-ENVHEALTH. However, the project also aims at widening this scope.





Albeit not an exhaustive review of E&H research in Europe, the database provides a unique source of material for E&H scientists and policy-makers to access data on research projects, to identify potential research partners and modes of specialist expertise.

Information in the database is available to anyone interested in environment and health research funding and research projects in Europe, although some fields and records may remain confidential.

Consulting data is free of charge, but users cannot claim property rights on the data in any shape or form. For any use of data, a written request is needed and the ERA-ENVHEALTH project must be mentioned as reference.

Access at [www.era-envhealth.eu](http://www.era-envhealth.eu)

### 1.1.2. Expert database

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#### Deliverable leader: BelSPO

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***The ERA-ENVHEALTH Expert Database helps identify scientists of the highest standards in the E&H domain to evaluate joint call activities.***

This can only be achieved through effective identification and pooling of scientific excellence across Europe. To this end, ERA-ENVHEALTH set up a database of external scientific experts in order to develop a more effective and flexible response as needed. In addition, one of the main objectives of setting up this database is to enhance the transparency of the process through which experts are selected and invited to participate in ERA-ENVHEALTH's scientific activities.

Any user who wants to consult the data is invited to contact the administrator of the database to get a login and password. Consulting data is free of charge, but users cannot claim property rights on the data in any shape or form.

Experts in the database may be invited to provide scientific advice or participate in scientific debates within the ERA-ENVHEALTH project and potential working groups or panels created as the work progresses. Access at [www.era-envhealth.eu](http://www.era-envhealth.eu)







## 1.2. Information collection

### 1.2.1. Draft overview of programmes – April 2009

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Deliverable leader: UVZ

Public Health Authority of the Slovak Republic

Department of Environment and Health  
Trnavska cesta 52  
826 45 Bratislava  
SLOVAKIA



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***Survey of national research programmes related to Environment and Health within the ERA-ENVHEALTH partner countries based on the analysis of data collected via a questionnaire***

Environment and Health (E&H) research is a broad and complex area that requires the cooperation of a wide community of experts and authorities. The European Commission, as well as the World Health Organisation, have expressed the need for better coordination and use of research results to support policy development on Environment and Health. This “Draft overview of programmes” provides a first description of the E&H research landscape and gives a survey of national programmes owned or managed by the ERA-ENVHEALTH consortium partners. Necessary information was collected through a questionnaire survey focused on describing the programme manager organisations, providing overall information on the E&H programmes (objectives, budget and source of funding, topics) and information on the number of projects funded by the E&H programmes. The information was collected from 14 organisations which provided information on 18 E&H programmes. The survey confirmed that the E&H programmes dealt with a very wide range of objectives, agents, topics and other E&H issues and that there is a need to bring together scientists from many disciplines including environmental, medical, biomedical and socio-economic sciences, public health research, economists and legal experts to find solutions to environmental issues related to health and human well-being problems. The information collected in this overview will serve as an input into the E&H research database which will be a platform for mutual information and experience sharing within the E&H partners.

The aim of the “Draft overview of programmes” was to provide a first description of the E&H research landscape in partner organisations and to provide the first overview of national programmes and projects owned or managed by the ERA-ENVHEALTH consortium partners.





## 1.2.2. Final overview of programmes and projects including synthesis and recommendations – February 2010

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### Deliverable leaders: UBA and UVZ

Umweltbundesamt (Federal Environment Agency)

FG II 1.1, Geschäftsstelle  
Aktionsprogramm Umwelt und Gesundheit  
Corrensplatz 1  
14195 Berlin, GERMANY



Public Health Authority of the Slovak Republic

Department of Environment and Health  
Trnavska cesta 52  
826 45 Bratislava  
SLOVAKIA



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### ***Report on E&H projects and programmes landscape and Framework for joint activities related to E&H research within the partner countries***

The main aim of this Final Report was to give an overview of the European Environment and Health (E&H) research landscape based on the description of programmes and their related projects owned or managed by the consortium partners and in a wider scope within the Member States. Further goals were to describe the structures available for funding of transnational research among countries participating within the ERA-ENVHEALTH project, to identify the main authorities in the field of E&H, to obtain information on programme managing practices in particular countries (mechanisms for priorities identification, preparation and launch of programmes, implementation, quality assurance, communication, propagation and reporting) and to provide recommendations for effective funding of E&H research and effective arrangements for cooperation (see section 2).

To reach these aims two questionnaires were developed: a first one on “Research Programmes – National programmes and projects related to E&H within the partner countries” and a second one on the “Framework for joint activities relating to E&H research within the partner countries”. The 1st questionnaire was answered by the ERA-ENVHEALTH partners and other relevant organisations. Its information was collected in the ERA-ENVHEALTH research database, which was the basis for writing this Final Report. The 2nd questionnaire was intended for the ERA-ENVHEALTH partners only. Its information also served to complete this report.

It can be highlighted that the participating organisations showed a great interest in exchanging information within the ERA-ENVHEALTH network and in future cooperation within the field of E&H. By September 2009, 38 organisations (including the 16 ERA-ENVHEALTH partners) from 11 countries gathered and entered data on 49 E&H funding





programmes and 461 associated projects. This information is a strong basis for analysing the research in the field of E&H in the participating countries. It reflects the diversity of the participating countries, their different cultures and structures for research and administration as well as their similarities. The large amount of information gathered stresses the high interest in further cooperation and also the need for future collaboration in this area.

The most important results of this Final Overview can be summed up as follows:

- The number of the **E&H programme managing organisations** per country varies – probably due to different research and administration structures as well as federal structures in certain countries. Most of these organisations are ministries, policy-oriented agencies and other public bodies. The majority of them are mainly competent for environment issues (see section 4.1).
- The general **objectives of the E&H funding programmes** indicate that most of the programmes have the aim to support scientific research with the intention to provide support for policy-makers, to protect the environment and human health, to improve cooperation among experts and authorities as well as to exchange information and inform the public (see section 4.2).
- The **budget of the programmes** which could serve as an indicator for their importance ranges from 0.1 M€ to 160 M€ yearly. This wide range of financial conditions could partly be due to different research and administration structures. The poor response rate (less than half of the managing organisations answered to this question) is probably due to the fact that some of these programmes have a wide range of objectives and do not only fund E&H research. That makes it difficult to clearly distinguish which part of the funding relates to E&H research only (see section 4.3).
- The most frequently stated **programme topics** are “Outdoor air quality”, “Other chemical agents”, “Biological agents & Microorganisms” as well as “Exposure Assessment” and “Health Impact Assessment”. These topics have been recorded by 30 or more out of the 49 programmes and can therefore be considered as being the most important and/or most established ones for the majority of the programme management organisations. Also, cross-national overlap can therefore be expected for these topics (see section 4.4).
- 15 topics were selected by less than 15 out of the 49 programmes, e.g. “Green Space”, “Transport” and “Electromagnetic fields”. The fact that certain topics only got selected a few times might be due to different reasons: they fall outside the remit of the majority of the programme management organisations, they are considered to be not important for most of the involved organisations, they are quite old or just upcoming (see section 4.4).
- The **outcomes of the 49 E&H programmes** mainly range from science research support to recommendations for policy-makers with regards to E&H protection. 35





E&H programmes indicated outputs which refer to “Science (scientific publications)”, 32 programmes referred to “Policy (recommendations for policy-makers)” and 30 of them to “Publicly available information”. 25 programmes indicated outcomes which were focused on “Public (information)”. Particular outputs of the E&H programmes evaluated in this Final Overview are available in the ERA-ENVHEALTH research database via the links to the programme web pages (see section 4.5).

- The **near future priorities of the E&H programmes** most often relate to the themes “Climate change”, “Indoor air quality” and “Outdoor air quality”, to the agent “Nanomaterials/Nanoparticles”, to the human health effect “Endocrine disruptors”, to the methodologies “Epidemiology/Epidemiological studies”, “Exposure assessment” and “Human biomonitoring”. Each of them has been indicated by four to seven of the ten programmes having answered this question (see section 4.6).
- 461 **projects** were entered into the database by September 2009. 78% of them are conducting “applied research” and 17% “policy-orientated research” (see section 5.1). The analysis of the projects budget can be found in section 5.2.
- When looking at the **topics of the 461 E&H projects**, it can be stated that the distribution of the selected themes is generally very similar to the one of the programmes. This is not surprising as the projects that have been entered in the database were mostly selected as being representative of their funding programme (see section 5.3). Information about the objectives, methodologies, outputs and scientific outcomes of the projects can be found in section 5.4.
- When looking at the **national priorities of E&H activities** (2<sup>nd</sup> questionnaire) as much as eight topics were indicated by all participating countries as being “current governmental priorities”: “Outdoor air quality”, “Other chemical agents”, “Particulate matter”, “Asthma”, “Respiratory diseases” as well as “Modelling”, “Health impact assessment” and “Epidemiological studies”. In addition, roughly three quarters of the topics were stated by more than half of the countries as being of priority, e.g. “Climate Change”, “Indoor air quality”, “Biological agents & microorganisms”, “Exposure Assessment” and “Vulnerable groups” (see section 6.1-a).
- Regarding the **planned and most important E&H research activities of the ERA-ENVHEALTH partner organisations** most partners recorded the themes “Indoor air quality”, “Climate change” and “Outdoor air quality”, the agents “Nanomaterials” and “Particulate Matter”, the human health effects “Respiratory diseases”, “Allergies”, “Cardiovascular diseases” and “Cancer”, the methodologies “Human biomonitoring” and “Health impact assessment” and the social aspects “Children’s health” and “Vulnerable groups” (see section 6.1-b).
- The **funding structures of the ERA-ENVHEALTH partner organisations** show a large heterogeneity, which probably can be traced back to the different budget and funding laws of the different countries. The most frequently preferred funding structure is the “virtual common pot”; it exists for nine, partly exists for two and is





possible for six out of 14 partner organisations. Due to the diverse research and administrative structures in the different countries and the experience of the 1<sup>st</sup> call the ERA-ENVHEALTH partner organisations should find a pragmatic and practical solution applicable for the 2<sup>nd</sup> call (see section 6.2).

- The **drivers for national E&H activities and priorities** are very similar in the ERA-ENVHEALTH partner countries. All countries are driven by legislation and policy objectives and most of them by international commitments (like WHO CEHAPE and EU Environment and Health Action Plan). Differences are likely to occur in the different structures and ways of formal and informal actions of the relevant driving forces. Surprisingly and, to some extent unlikely, the role of “NGO/public/media” as a driver is apparently negligible in most of the countries (see section 6.3).
- Concerning the **programme management** in the partner countries there are a lot of similarities, e.g. in nearly every country the competent authorities for the initiation and prioritisation of E&H research are ministries together with their agencies. Regarding the preparation (process and procedures) and implementation (call and proposal) of E&H research the answers vary a lot, probably due to the diverse research and administrative structures in the countries. With respect to quality assurance and to communication, dissemination and reporting mainly similarities can be identified. It can be highlighted that on all levels – organisations, programmes and projects – a big effort is done not only to communicate scientific results to the scientific community and policy-makers but also to a broader public (see section 6.4).
- The answers to the **governance** questions differ a lot. Between and within the different countries there are various ways for research results to make their way from science into policy (see section 6.5).
- The analysis **of the priorities of the 1<sup>st</sup> and the 2<sup>nd</sup> questionnaire** indicates that there are topics which have been, are and – in the near future – will be important and recognized, such as the themes “Indoor air quality” and “Transport”, the agents “Particulate matter” and “Other chemical agents”, the human health effects “Allergies”, “Cancer”, “Cardiovascular diseases” and “Respiratory diseases” and the methodology “Health impact assessment”. Topics that are recorded as planned and most important E&H activities of the consortium partners (future state) but not as current programme topics and governmental priorities (actual state) can indicate research gaps, i.e. quite new areas where research activities are necessary. This might be the case for the themes “Climate change”, “Nanomaterials” and “Noise” and the methodology “Human biomonitoring” (see section 6.6).







## 1.3. Bridging science and policy

### 1.3.1. Linking research to policy in E&H: a process analysis – September 2012

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Deliverable leaders: UBA, BelSPO/FPS, and CNR

Federal Environment  
Agency



Belgian federal science policy  
office



National research council



Federal public service, food  
chain safety and environment



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#### ***Analyses and case studies to better understand the uptake mechanisms of scientific information into policy and the communication processes***

Subtask 1.3.1 “Linking research to policy in environment and health: a process analysis” of the ERA-ENVHEALTH project was designed to better understand the uptake mechanisms of scientific information into policy. Its aims are to describe the overall communication processes as well as to develop strategies that can help researchers, programme managers, policy-makers and other stakeholders create more interdependence. To complete this task a three-step analysis was conducted:

1. Analysis of tools and communication strategy (BelSPO/FPS): A first part reviews the scientific literature on the knowledge transfer process between science and policy. In order to bring a more practical perspective, initiatives by the World Health Organisation (WHO) and European Commission (EC) (namely other ERA-NET experiences) intending to improve the uptake of scientific evidence are examined. The review is complemented by a survey which evaluates specific scientific information needs for policy-makers and the most common communication forms of three stakeholder groups (policy-makers, knowledge brokers and scientists). As a result, taking into account all sub-task inputs, barriers and enhancing factors for efficient communication are highlighted, best practices and recommendations to bridge the gap between science and policy in E&H are suggested.





2. Analysis of funded research (UBA): Policy-orientated projects listed in the database are examined to investigate how these projects came about and whether their recommendations for policy-making are used. Additionally some follow-up interviews with project coordinators on the policy impact of scientific results are conducted as well as an analysis of project publications and science-policy interfaces as best practice examples. The purpose is to evaluate which strategies the science to policy interface pursues, which methods are used and what information is chosen to be communicated.
3. Analysis of case studies (CNR): Different case studies that cover a broad range of experiences of scientific knowledge use and production are analysed. The aim of this analysis is to illustrate the process and help identify best practice examples, back up some of the previous findings and give further insight into (in-)efficient knowledge transfer mechanisms. Drivers and key factors that facilitate or delay the comprehension/use of scientific knowledge are identified in order to draw tailored recommendations. To facilitate the understanding of the contextual elements and their influence, a framework to read possible interaction flows among stakeholders and a check-list of actions to positively bridge science and policy is produced.

The cases presented are particularly useful to examine real life mechanisms, and to discuss with the involved actors and with a group of experts about what happened and possible alternative solutions. The ERA-ENVHEALTH framework here presented requires the use and integration of several models, and the models have to be seen in practice. The case studies presented are very different in terms of stakeholders, dimension and time frame. Notwithstanding, common recommendations and conclusions can be drawn.

The results of the three analyses lead to the creation of the brochure “Improving Knowledge Transfer – A Checklist for Researchers”<sup>3</sup> (see Annex 5) designed to support researchers who wish to enhance the uptake of their scientific findings into policy. Researchers who would like also to function as knowledge brokers can find it very useful. It is thus a tool to prepare research and present results in a way that is particularly suitable for policy-makers.

Additionally another tool to enhance the uptake of scientific results was developed. It is an interactive map presenting information on national institutions involved in E&H, relevant publications (e.g. newsletters) and other stakeholders in Europe. Both, the brochure and the interactive map, can be downloaded from the ERA-ENVHEALTH website: [www.era-envhealth.eu](http://www.era-envhealth.eu).

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<sup>3</sup> Leading authorship: UBA (Jana Kandarr, Katja Kailer) supported by: CNR (Liliana Cori, Sabina De Rosis), BelSPO/FPS (Julie Harlet) and ANSES (Salma Elreedy, Adrienne Pittman).





## 1.3.2. EU-wide priorities for collaborative E&H research – July 2012

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Deliverable leader: RIVM

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Rijksinstituut voor Volksgezondheid  
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### ***Summary of interview and survey results***

Since the Environment and Health Action Plan (EHAP, 2004-2010) ended, no new European-wide environmental health policy strategy has been laid out. In order to contribute to the development of a second EHAP, or at least to an increase in the visibility of E&H issues and their importance in policy and research, the ERA-ENVHEALTH project has outlined priorities for environment and health (E&H) policy.

Surveys and interviews were performed among 18 key experts with a broad overview of E&H policy and research trends on a national level and across the EU. The experts recommended continuous action in the field of E&H to support national efforts, prioritise research and to continue cross-sectoral collaboration and networks established by the EHAP 2004-2010. To get environmental health (back) on the political agenda it is important to involve other sectors, to find win-win situations, to clearly identify positive returns of policies and to give a positive message about environment and health. Policy sectors which may be linked to important E&H goals are for instance transport, urban environment, physical activity (health domain), energy and climate.

Focus should be on the indoor environment, outdoor air and nanomaterials, according to many of the experts that were consulted. It has been suggested to take a health-oriented approach, i.e. by prioritising those diseases that cause the largest disease burden in Europe. Health could be an indicator of well-being, sustainability and good policy, and could contribute to identifying positive returns of E&H policies. There is a need for a good information system. Continuation of research on human biomonitoring is needed. A cross-national E&H forum could help in prioritising research, collaboration and networks, training and education. Bridging the gap between science and policy-making is important to 'put into motion what we know'.





## 2. DEFINITION AND PREPARATION OF JOINT ACTIVITIES: PRIORITISATION OF COMMON STRATEGIC ISSUES FOR TRANS-NATIONAL FUNDING

### 2.1. Identification of common strategic issues

#### 2.1.1. Report on programme strategic and emerging E&H issues, complementarities and clustering arrangements – October 2010

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***There are two main aims for this report. Firstly to identify common and strategic environment and health issues across the partners. Secondly to use horizon scanning to identify emerging issues in the environment and health area.***

The starting point for the identification of strategic and common issues was the database developed in Workpackage 1. The database, at present (August 2010), consists of 464 projects. In considering the strategic and common issues in E&H research, eight themes related to human health were identified as being particularly suitable for joint activities. This was based on the number of projects in the database relating to these themes and the number of partners involved in these areas. The eight broad areas are:

- Outdoor air quality
- Local/living environment
- Water quality and supply
- Indoor air quality





- Chemical agents
- Biological agents and microorganisms
- Particulates
- Pesticides and biocides

Within each of these themes more detailed areas of work have been identified.

To identify emerging issues a futures technique called horizon scanning has been used. This can be described as the systematic search for potential threats and opportunities. To identify these threats and opportunities a large variety of on-line sources (including newspapers, journals, science, health and environment news sites) were scanned on a monthly basis for articles relating to environment and health. A total of twelve scans were completed between July 2009 and June 2010. On average each monthly scan contained about 20 articles. All of the articles collected over the 12 month period were referenced to the same categories and sub-categories of environment and health research used in the analysis of the database of projects.

The theme with most horizon scanning articles was chemical agents, which had double the number of articles compared with the next nearest theme. Other popular themes with 20 or more articles were: outdoor air quality; nanomaterials; climate change and particulates. In addition, there are more detailed work areas for each of these themes.

In comparing current issues with emerging issues there are three themes which feature in both lists at the theme and sub-theme level. These are outdoor air quality (for example the effects of ozone pollution), particulates (for example linking sources and fractions responsible for toxic effects) and chemical agents (for example exposure to flame retardants).

In order to appreciate the range of projects in the database a visualisation of the data was performed. The aim of this visualisation was to depict the distribution of projects by identifying clusters of similar or related project activity. It is generated from the textual descriptions of ongoing research projects in the ERA-ENVHEALTH database collected by the partners. In addition, the horizon scanning articles have also been included in this visualisation. The visualisation will be accessible from the ERA-ENVHEALTH website and can be used in planning collaborative activities and a joint research call.

Following the presentation of a draft version of this report to the Annual Assembly meeting a number of additional emerging issues were identified by the partners based on expert opinion.

The common and strategic issues as well as the emerging issues will be considered by the ERA-ENVHEALTH partners for collaborative activities including as issues for a joint call.







## 2.2. Prioritisation of E&H issues for joint activities and funding

### 2.2.1. Prioritisation criteria to select environment and health issues for joint activities and funding – February 2011

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#### ***Report summarising the development and application of prioritisation criteria and list of prioritised work areas***

To maximise the potential for joint funding of common strategic Environment and Health issues across member states, prioritisation criteria are needed, not only at the international level, but also at the national level. In ERA-ENVHEALTH, RIVM together with the ERA-ENVHEALTH partners has developed such criteria.

This report summarises the outcomes of discussions.

The following set of prioritisation criteria has been developed:

1. Links with policy needs
2. Multi/interdisciplinary issue
3. Severity and size of the problem – burden of disease
4. Benefit of international collaboration
5. Public concern

In addition, a Multi-Criteria Analysis (MCA) tool has been developed, that allows standardisation of the selection process, among topics but also among the various partners in ERA-ENVHEALTH. The criteria and MCA tool enable structured discussions on the selection of E&H topics and enhance transparency in the selection process.





The ERA-ENVHEALTH consortium will apply these criteria and the MCA to highlight a list of prioritised work areas for ERA-ENVHEALTH partners. In this way, the ERA-ENVHEALTH partners will be able to define the topics for which joint activities can be set up, including for example workshops and knowledge exchange activities as well as those for which an ERA-ENVHEALTH research programme may be launched.

A 3-step procedure is to be implemented in order to firstly get ERA-ENVHEALTH partner organisations to define and prioritise areas in E&H which, for each organisation, would benefit most of transnational collaboration and in what form (through calls or other activities). The idea is to have partners prioritise the list of areas prior to a work session organised in March 2011 and according to their responses create subgroups to work closely together on a joint activity in their common area of interest. The partners in each subgroup can then start using the MCA tool together to prioritise the themes, and topics, if relevant with regards to the chosen activity, under their chosen E&H area, during the work session organised on the 30th of March 2011.





## 3. IMPLEMENTATION OF JOINT ACTIVITIES

### 3.1. Building an action plan for common activities

#### 3.1.1. Action plan for common activities – April 2012

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#### Deliverable leaders: IenM and RIVM

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#### ***Report following up on the prioritisation exercise and providing a framework for priority focus for E&H activities***

To maximise the potential for joint funding, common strategic Environment and Health (E&H) issues across Member States were defined and types of research areas, prioritisation criteria, research themes and topics within themes have been identified. Broad areas were defined as being particularly suitable for joint activities including outdoor air quality, local/living environment, water quality and supply, indoor air quality, chemical agents, biological agents and micro organisms, particulates, pesticides and biocides. Horizon scanning was used to identify emerging issues which included chemical agents, outdoor air quality; nanomaterials; climate change and particulates.

These common and strategic issues as well as the emerging issues were then considered by the ERA-ENVHEALTH partners for collaborative activities. In order to do so, five prioritisation criteria were developed (links with policy needs, multi/interdisciplinary issue, severity and size of the problem – burden of disease, benefit of international collaboration, public concern).

In a multi-criteria-analysis-like approach these five criteria were applied to the various research themes to structure and facilitate the decision process on selected research themes





and establish sensible partnerships. An internet questionnaire was designed containing questions on affiliation, importance (ranking) of types of research areas and criteria, evaluating research themes on the criteria (7-point scale) and “willingness to invest”. In a second run partners’ preferences for specific research topics within research themes were analysed.

The main conclusion is that there are various opportunities for transnational collaboration including funding calls. The main common research areas of interest for the future of the network are: climate change, indoor air quality, outdoor air quality, nanomaterials, and toxicity of mixtures/low doses and noise.

Although these research areas are of interest to the ERA-ENVHEALTH partners, to maximise the impact and added-value of the network, activities must also be focused on the policy agenda and major trends that may influence our environment. The discussions are integrated into a framework for priority focus.

Demographic developments and climate change clearly dictate the focus of environment and health policy on the urban residential area. The implications of rapid urban growth include unemployment, environmental degradation, lack of urban services, overburdening of existing infrastructures and lack of access to land, finance and adequate shelter. Managing a sustainable urban residential environment becomes one of the major challenges for the future especially when balancing the different parameters including waste discharge and resource consumption.

On top of it all is the apparent change of the environment itself due to climatic changes. It is recognised that adaptation to climate change is needed. The European Regional Framework for Action 3, adopted at the 2010 Parma conference<sup>4</sup> is aimed at assuring adequate (public) health measures to deal with climate change.

These autonomous developments dictate a priority focus of environment and health policies on the urban environment. Policies should be aimed at three distinct levels, spheres: cities (macro), neighbourhood (meso) and households/Individuals (micro). Exposure considerations should focus on the built environment and human behaviour within these distinct spheres.

Considering this, improving the indoor air quality chemically, physically (temperature, humidity) and biologically, then, is likely to have a significant impact on human health even more so than reducing outdoor air quality.

Directions already provided by the European Commission to deal with health consequences from climate change have to be bent and tuned in a more integrated, rather than sectorial, way. As a suitable policy instrument to deal with this, the Strategic Environmental Assessment (SEA) is recommended. The objectives of the SEA process are to provide for a high level of protection of the environment and to promote sustainable development by

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<sup>4</sup> Fifth Ministerial Conference on Environment and Health “Protecting children’s health in a changing environment”, World Health Organization, Parma, Italy, 10–12 March 2010





contributing to the integration of environmental considerations into the preparation and adoption of specified plans and programmes, prior to their approval or authorisation.

Given the outcome of the ERA-ENVHEALTH prioritisation exercise amongst partner institutes this is fairly consistent since the main topics for research needs in the coming years are in particular indoor air quality and

- its relation to asthma and airway related diseases
- minimum ventilation requirements linked to energy saving requirements
- chemical exposure (70% of the exposure is mixed exposure indoors)
- fungal and micro-organism exposure.

## 3.2. Cooperation and implementation of coordinated activities

### 3.2.1. Report on the implementation of joint activities – August 2012

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Deliverable leader: ISPRA

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ITALY



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#### ***Report on the process of building joint activities in ERA-ENVHEALTH.***

The ERA-ENVHEALTH project brought together 16 partners from 10 countries and an external advisory committee composed of representatives of various stakeholders in environment and health, creating the opportunity of an active network for environment and health research in Europe.

Over the four years of collaboration and cooperation, carried out with the support of European funding, the network partners worked on tackling the challenges in environment and health research, including knowledge gaps and priority areas for research to support policy-making.

The work programme also tried to overcome “governance” challenges such as:







- the fragmentation and overlap of research at the national level and across EU Member States,
- the need to improve expertise from mutual learning and access to research,
- the lack of an appropriate platform for concrete co-operation between countries and research programmers,
- the development and implementation of joint programmes and activities on a long-term perspective.

Other variables were also considered and discussed among the project partners not only on the basis of scientific knowledge but also keeping in mind global aspects such as the current crisis situation, socio-economic and demographic drivers and global environmental changes such as climate change.

The ultimate goals were also to define a common vision of the environment and health research landscape in Europe, to provide tools for dissemination of lessons learnt and knowledge gathered, to launch a framework for coordinating public research programmes and maintain network cooperation beyond the project's lifetime.

Hence, further discussions among partners highlighted that joint activities were essential for a network based on "contributing and sharing", and also for the future of the network beyond the project's life and, finally, that it was also important to share the entire process that led to the definition of concrete joint activities as illustrated in Figure 1.

As a result of all of these implications, activities under task 3.2 were expanded including two main areas of work with two separate reports:

- a) Report on the joint activity concerning an indoor air quality survey on research and policy governance within the enlarged ERA-ENVHEALTH network.
- b) Report on the process of building joint activities in ERA-ENVHEALTH.

The first report focused on a more in-depth survey on indoor air quality research and governance within the ERA-ENVHEALTH enlarged network, including the cooperation potential of potential new partners (PNP) enrolled under the framework of task 5.2 and also all institutions that provide information for the ERA-ENVHEALTH research database.

This second report on the process of building joint activities in ERA-ENVHEALTH summarises the activities that have been implemented with the cooperation of the consortium partners and the potential new partners enrolled throughout the timeline of the project, with the aim of describing the entire process underlying the definition and scenario for joint activities in the consortium.

The process consisted of two main interconnected stages:

- a) A preparatory stage to strengthen network knowledge and ability to network
- b) An implementation stage where concrete actions were planned and undertaken



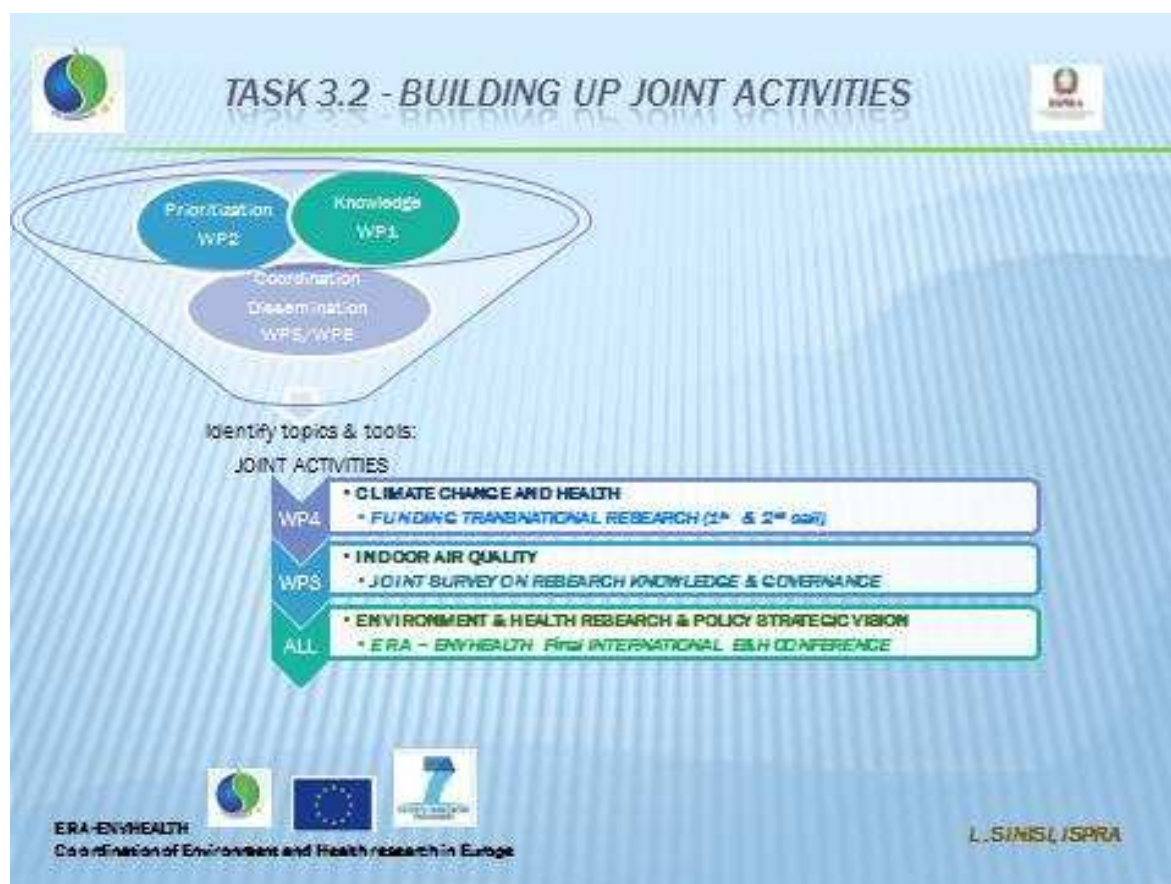
All these tasks were achieved basically through a learning-by-doing process, mainly through joint activities which involved ERA-ENVHEALTH partners and the potential new partners (PNP) network and aimed to build knowledge and tools for Environment and Health (E&H) research governance at the EU level and to improve national capacities.

In the preparation stage all partners were called upon to cooperate in the implementation of research database information exchange and dissemination tools, in providing national information for the survey, investigating crucial issues such as priority issues in E&H research and science-policy gaps. Activities done under the framework of workpackage 1 and workpackage 5 were essential for this process. Project leadership and workpackage 6 consistently supported the whole process. This preparatory phase allowed partners to select topics and tools for joint activities.

Three main joint activities (see Figure 1) to be developed using project tools and tasks:

- funding transnational calls on the topic of climate change (see WP2 and 4 reports),
- launching a pilot activity using the ERA-ENVHEALTH network and tools (consortium and potential new partners, ERA-ENVHEALTH research database, ERA-ENVHEALTH dissemination tools) to test the network ability to picture Indoor Air Quality (IAQ) research and policy needs (see also task 3.2 and 5.2 reports).
- the organisation of ERA-ENVHEALTH project final conference, open to stakeholders and researchers outside the consortium focusing on Environment and Health research strategic visions to share experiences and lesson learnt.

Figure 1. Building joint activities





The objectives of these joint activities were to promote exchange and collaboration among the different actors involved in environment and health, and also to help bring science closer to policy in this sector by enhancing the use of scientific outputs.

These discussions not only bring dynamism to environment and health research by promoting collaboration and fostering innovative ideas but are also the foundation of the network's future activities.

### **3.2.2. Survey on indoor air quality research and policy governance – June 2012**

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Joint activity leader: ISPRA

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#### ***Report from the ERA-ENVHEALTH joint activity on indoor air quality research and governance within the ERA-ENVHEALTH network.***

Healthy indoor air governance is a quite complex issue, still facing many research (such as for instance pattern of exposure or secondary pollutants) and policy challenges at the national and European levels.

Indoor air quality was also ranked among one of the top topics of interest by the ERA-ENVHEALTH consortium partners further to the project's activity results achieved in the different workpackages.

This survey was developed within task 3.2 of the ERA-ENVHEALTH project. This task is under workpackage 3 meant to provide a framework plan for joint activities to address the prioritised work areas defined in workpackage 2.

ERA-ENVHEALTH partners, both in preparatory work and discussions on selecting topics for joint activities, agreed on 3 main joint activities (see Figure 1) to be developed using project tools and tasks:

- a) funding transnational calls on the topic of climate change (see WP2 and 4 reports)
- b) launching a pilot activity using the ERA-ENVHEALTH network and tools (consortium and potential new partners, ERA-ENVHEALTH research database, ERA-ENVHEALTH dissemination tools) to test the network's ability to picture IAQ research and policy needs (see also task 3.2 and 5.2 reports)



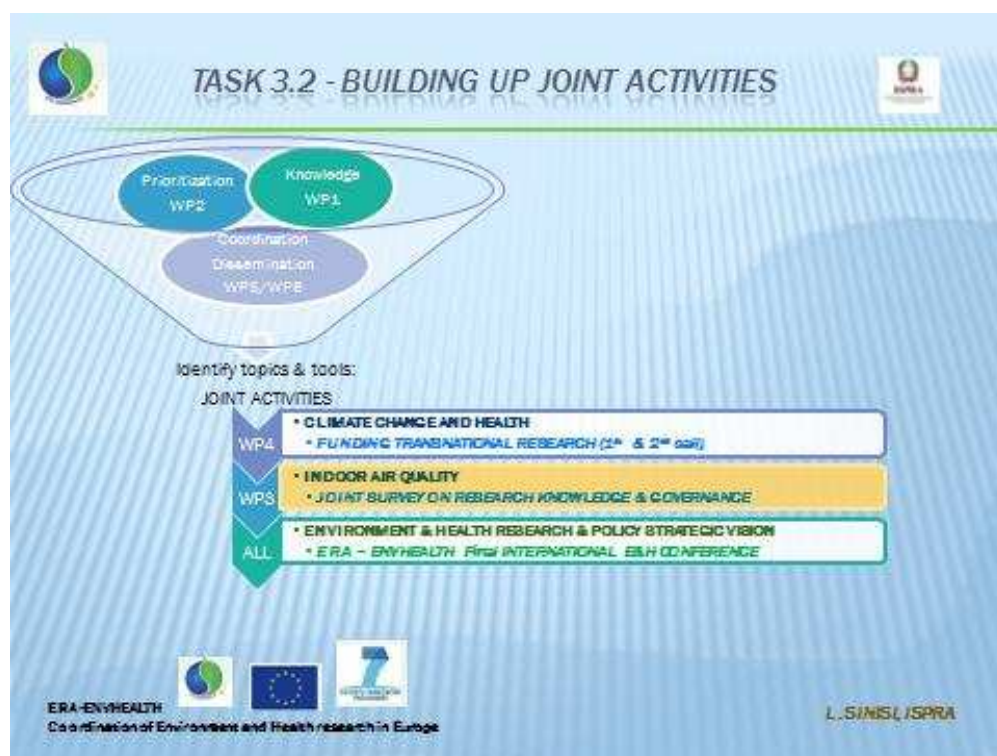


- c) the organisation of the ERA-ENVHEALTH project final conference, open to stakeholders and researchers outside of the consortium on Environment and Health research strategic visions to share experiences and lesson learnt.

The indoor air quality survey was launched using a “contributing and sharing” approach in order to also verify the cooperation potential of the global ERA-ENVHEALTH network including potential new partners enrolled under the framework of task 5.2 and also all institutions that provide information for the ERA-ENVHEALTH research database.

The work programme defined by the leader of task 3.2 was presented, discussed and approved at the ERA-ENVHEALTH General Assembly meeting in September 2011. The survey was launched in the fall in 2011.

Figure 1 Building joint activities



Results were preliminarily presented at the ERA-ENVHEALTH work sessions in Berlin in April 2012 and finally discussed at the ERA-ENVHEALTH final conference held in June 2012 in Paris.

An online questionnaire built on the ISPRASINANET (Italian Environment Information System managed by ISPRA) was created using a user-friendly interface. The questionnaire was also available and disseminated through the ERA-ENVHEALTH website (*section joint activities and join the project*).

The report summarises the methodologies, issues encountered and results of this joint activity including a brief review of existing indoor air quality related policy at the EU level.







The questionnaire consisted of two main sections, one for strictly research-related input and one for governance-related input.

The “Research overview” section included six questions about:

1. Type of indoor environment investigated
2. Sources of indoor air pollution investigated
3. Population groups considered
4. Chemical and biological pollutants investigated
5. Research on indoor air quality monitoring techniques/procedures
6. Health impacts investigated

The “Governance overview” section included questions about:

1. Indoor air quality regulation in your country
2. Competent authority for the management of indoor pollution sources
3. Participation in indoor air quality related research projects
4. Allocated funds for indoor air research in (your) institute (yes/no/ % total budget)
5. Integrated research activities (e.g. climate change and indoor air...)

Although dissemination of the questionnaire was European-wide, if we just look at the figures, the survey results aren't satisfactory both from a quantitative and qualitative point of view. The response rate was low compared to the relevance that was highlighted in the discussions on the indoor air topic. We feel that this was due not only to a question of time constraint (the survey was done over a period of a couple of months), neither to a lack of interest for the issue, but mainly to the fact that the indoor air quality issues is very complicated to picture *per se* and often it is still not very clear and defined which are the authorities involved and their fields of action.

However, the data also show some interesting information: no regulation exists on indoor air quality in residential homes still these are the indoor environments that received most attention from researchers. Although respiratory and allergic diseases are the health impacts most commonly investigated, ozone and pollens are the “least” monitored pollutants.

In most cases, the question related to competent authorities for local indoor air monitoring were left blank even if some countries, such as France, Italy and Germany, show advanced policy scenarios with a focus also on vulnerable groups or environments (i.e. children, schools).

The data gathered from the questionnaire are scarce and probably not very representative of the actual situation on indoor air research at the European level, it is still true though that any extension of this survey may lead to interesting results on the current indoor air quality scenario.







## 4. FUNDING OF TRANS-NATIONAL RESEARCH

### 4.1. First call for proposals

#### 4.1.1. Selected projects – 2009

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Deliverable leader: NERC

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***The full details of the call management process, scope of the call, available budget etc. are contained within a Memorandum of Understanding (MoU) signed by all three funding partners.***

The announcement of opportunity for the first joint call for ERA-ENVHEALTH was published on the 3<sup>rd</sup> of March 2008. The theme for this call was “Health vulnerability resulting from future climate change impacts on soil-water ecosystems, land use and water resources at regional scale” Applications were invited from consortiums of scientists from the UK, France and the Netherlands but could involve researchers from other European member states. The funding available for the call was approximately 3 million Euros, provided by UK, French and Dutch partners.

The call had a deadline for pre-proposals of 25 April 2008. 10 proposals were received which were assessed for their fit to call criteria, all were then invited to submit full proposals with a closing date of 24 June 2008. All 10 full proposals were received and were externally reviewed prior to evaluation by an international assessment panel. The proposals were ranked according to “scientific excellence”, with a secondary category of “added value” applied to separate those with the same grade. The panel then recommended that the final decision of funding should be taken by the ERA-ENVHEALTH Joint Call Steering Committee, based on funding limitations and strategic fit. The Steering Committee accepted the recommendations of the panel, and agreed to fund the top two ranked proposals (details below).

Due partly to differences in national financial regulations and budgetary regimes it has proved challenging to synchronise the issue of contracts / grants to the successful project research teams and this stage of the process has been protracted and ideally would have





been concluded in a shorter timescale. This has been an important learning point for future calls and has highlighted that the uncertainties that can develop from use of the “virtual” common pot mechanism must be considered and contingency procedures agreed & incorporated when developing future call processes.

The first joint call provided a useful case study and practical experience of managing and evaluating a trans-national call. The strong process framework that has been developed and lessons learned during the implementation have provided a sound basis on which to develop future trans-national calls.

- ***Environmental Change and Rising DOC Trends: Implications for Public Health***

This highly integrated multidisciplinary project engages the skills of environmental scientists, mathematical modellers, analytical chemists, toxicologists and public health scientists to address health vulnerability issues resulting from future environmental change impacts on soil-water ecosystems at a regional scale. It will address the health implications of a recently observed alarming trend for rising Dissolved Organic Carbon (DOC) concentrations in aquatic ecosystems used for potable water abstraction. Over the past two decades the concentration of dissolved organic carbon (DOC) in many source waters has more than doubled and continues to rise (Freeman et al., 2001). There is increasing evidence to suggest that the process is being driven by environmental changes such as a decline in acid deposition (Evans et al., 2006; Monteith et al. 2007), combined with rising temperatures, increased frequency of drought and changes in the seasonal distribution of rainfall. We aim to analyse data from monitoring programmes and various other studies to allow us to predict the likely impact of future changes in climate and air pollution on DOC concentrations in water entering reservoirs and water treatment works. The increase in the level of DOC reaching water treatment works has major implications for human health. Organic matter in raw water is only partially removed by conventional treatment using inorganic coagulants; what remains may react with disinfectants. During chlorination of water supplies the chlorine reacts not only with the microorganisms but also with most of the other organic material present in the water, either dissolved or in suspension. This produces a range of organic compounds known as disinfection by-products (DPBs) including a group of chemicals called trihalomethanes (THMs), plus haloacetic acids, halonitriles, haloaldehydes and chlorophenols. We will carry out laboratory experiments to test the likely implications of the future changes in DOC we have predicted for the generation of these compounds within the water treatment system. Furthermore, a wide variety of other chemical contaminants, derived from industrial air pollutants, fertilizer application and urban waste water discharge may bind (by sorption) to natural organic matter and be transported into reservoirs and water treatment works in association with DOC. Their fate within the treatment system, i.e. whether they are removed or remain within solution, depends heavily on the type of contaminant, the nature (or quality) of the DOC, the chemistry (e.g. pH and ionic strength) of the aqueous solution and the type of treatment process. We will carry out laboratory experiments to determine the extent to which these contaminants are bound to DOC at the point they enter the water treatment process and what is likely to happen as a result of the process, e.g. the extent to which contaminants are likely to be removed or remain in solution. Living organisms respond in various ways and on a spectrum of timescales when exposed to chemical contaminants.





Some effects in organisms are immediate while others effects may be delayed and not shown up for 10 or 20 years or more; for example, cancer in humans. We will draw on existing risk assessment approaches from national and international (EU) governmental agencies to evaluate the potential human health impacts of changes in levels of a range of contaminants under environmental change scenarios. Finally, we will bring together the findings of our research in the form of a Decision Support System (DSS) that will provide information to the water industry, the environmental agencies and other stake holders. The DSS will provide predictions of likely DOC trends under future climate change scenarios and the likely importance of predicted changes for wider water quality and human health.

- ***Risk assessment of the impact of climate change on human health and well-being***

Assessment of the potential impact of future climate change on human health and well-being (the latter via effects on animal health) is hindered by the sheer number of pathogens, their diversity, varied linkages to climate and ecosystems and, often, lack of data. Here we propose to exploit a unique database developed at the University of Liverpool which will soon contain a set of records for all known pathogens of humans and domestic animals. We will use expertise present within the University of Liverpool, the international co-investigators and our project partners to generate a subset of the list, namely all those pathogens that occur in proximity to the UK, France and the Netherlands or threaten these countries; are of major impact in terms of the magnitude and likelihood of impact on human health or well-being; and have epidemiological linkages to temperature or moisture levels in air or the environment and, hence, may be expected to be susceptible to the effects of climate change. This subset of diseases will be subjected to qualitative or quantitative risk assessment to estimate how they will change (in terms of distribution, incidence and severity) under scenarios of future climate change within the next half-century. Our underlying principle is that the data and pathways on which our conclusions are based should be fully recorded, referenced and transparent; as better data become available, it will be possible to update the model outputs. A benefit of our approach is that it is 'bottom-up', at the start giving equal weight to all possible pathogens that could be affected by climate change, and then reducing the list according to agreed criteria. This approach is balanced, allowing the conclusion, for example, that the highest-impact pathogens are largely insensitive to climate change. By contrast, most previous assessments of the impacts of climate change are top-down, starting (and often ending) with the premise that a few key vector-borne pathogens of (usually) humans (malaria, dengue, yellow fever) need urgent consideration. We will listen closely to stakeholders and end-users while designing our risk assessment pathways, and wish to communicate our scientific approaches and findings to them effectively. To the end, we plan to adopt participatory methods throughout the project.





## 4.2. Second call for proposals

### 4.2.1. Design of the second call: Management Paper– November 2011

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Deliverable leader: ANSES

French Agency for food, environmental and occupational health & safety

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***The model chosen by ERA-ENVHEALTH ensures the participation of all partners in the definition of the programme and the launch of a common programme with specific targeted calls (involving partners with the same interests), a number of common eligibility criteria, common evaluation procedures and flexible funding modes depending on the national constraints.***

ERA-ENVHEALTH and its partners highlight the value in enhancing European collaboration and express a number of benefits and opportunities arising from the development of transnational cooperation and activities including joint calls for research projects, both for the programme managers and for the researchers:

- Increased research capacity and quality of results, not only through greater access to scientific excellence but also due to cost sharing enabling a higher impact of the public investment in research.
- Minimisation of duplication through information exchange and exploitation of complementary strengths.
- Broadening of the access to research funds for the area of E&H but also for national research teams.
- Capacity building for the national research teams and enabling them to build lasting linkages within the European scientific community.
- Building up of experience in transnational cooperation.
- Greater degree of flexibility in launching transnational calls by using the “a la carte” framework.





The Partners intend to issue a second transnational call for research projects in the general area of Environment and Health research. The purpose of the Management Paper is to establish the procedures for the second call for proposals in the framework of a transnational funding programme within the context of the ERA-ENVHEALTH network. It dictates the common action of the Partners with respect to the organisation and management of the second ERA-ENVHEALTH call. The Management Paper takes into account the recommendations of the evaluation of the 1st call and sets out the procedures for the design and management of the 2nd call.

The Management Paper sets out the common procedures, such as the area of the programme and the dissemination of the call, which are to be defined and carried out by the ERA-ENVHEALTH partners together. Specific procedures, related to the proposed “a la carte system” which enables groups of partners to get together to fund targeted calls within the programme, are to be defined within each subgroup of funding partners. These include the establishment of the call application, review and funding procedures. They will be defined in the signed Memorandums of Understanding between specific funding partners detailing the cooperation relevant for each targeted call, which will come to complete the Management Paper. The Management Paper defines common operational procedures whereas the Memorandums of understanding will define the specific decision-making procedures between funding partners.

#### 4.2.2. Announcement of opportunity and selected projects – 2012

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Deliverable leader: ANSES

French Agency for food, environmental and occupational health & safety

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***The second call was launched in January 2012 on: "Air pollution in urban areas – health impacts on vulnerable groups under changing conditions".***

Once the call programme and funding partners were defined and agreed upon, the funding partners were then responsible for implementing the call: defining more precisely the scientific domain addressed by the call, preparing the call documents, setting up the secretariat of the call and providing national contact points for the researchers, organising the evaluation of the proposals received, taking the final funding decisions and elaborating the contracts with the funded research teams. The funding partners are also responsible for the follow-up and monitoring of the projects they fund, and the valorisation of the results.





However, all ERA-ENVHEALTH partners are to take part in the dissemination activities.

The 2<sup>nd</sup> call was open to proposals for transnational scientific research projects that:

- link scientific advancement to challenges in E&H research, policy and practice
- generate new knowledge and insights,
- generate added value by linking expertise and efforts across national borders, leading to research projects designed at the appropriate scale and scope
- provide a transnational vision to support policy-making.

Policy-oriented, integrated, applied research was requested.

For this second call, a total amount of 1.35 M€ was provisionally reserved by the 5 funders in France, Belgium, Germany and Sweden. The partners will implement the virtual common pot funding mechanism.

The call was announced on the ERA-ENVHEALTH website ([www.era-envhealth.eu](http://www.era-envhealth.eu)), where all relevant documents are available for download, and in the ERA-ENVHEALTH newflash. In addition, all ERA-ENVHEALTH partners advertised the call using their own usual channels of communication.

The following documents were produced for the call:

- 1) The Management Paper: establishing the procedures for the second call for proposals in the framework of a transnational funding programme within the context of the ERA-ENVHEALTH network. It dictates the common action of the Partners with respect to the organisation and management of the second ERA-ENVHEALTH call. This Management Paper takes into account the recommendations of the evaluation of the 1st call and sets out the procedures for the design and management of the 2nd call.
- 2) Memorandum of understanding signed between the funding partners (last signature 10 January 2012): establishing the principles dictating the call's specific actions by the funding partners with respect to the organisation and management of the second ERA-ENVHEALTH transnational call for research proposals within the context of the ERA-ENVHEALTH network.
- 3) Call documents including the:
  - Announcement of opportunity for the ERA-ENVHEALTH 2nd call for transnational projects
  - 1st stage application form: Annexe 3 – letter of intent application form
  - 2nd stage application form: Annexe 4 – full proposal application form
  - Funding model: Annex 2
  - Secretariat procedures: Annex 5







- Information and guidelines for the Evaluation Committee and Assessment Criteria: Annex 6
- Good practice and conflict of interest: Annex 7
- Additional information and national contact points: Annex 8

The calendar of the ERA-ENVHEALTH second call is:

November 2011	Preparation of the calls by the funders
December 2011	Signature of the call MoU
End of January 2012	Launch of the call
End of March 2012	Deadline for submission of the letters of intent
Beginning of July 2012	Deadline for submission of the full proposals
July 2012 to September 2012	Evaluation of the proposals
September 2012 - December 2012	Signature of the contracts with the selected research teams
December 2012	Publication of the funded projects and start of the projects
January 2013 to December 2015	Follow up of the research funded

Eight letters of intent were received by the 31st of March 2012. Seven were eligible and five were invited to submit for the second stage.

By the 6th of July 4 full proposals were received and evaluated by the evaluation committee during a meeting in Brussels on the 28th of September 2012.

4 full proposals were received by the 6th of July 2012 and evaluated over the summer by 12 external referees.

The evaluation committee meeting took place in Brussels on the 28th of September 2012. The Evaluation Committee, composed of 6 international experts, evaluated and ranked the proposals on the basis of the referee assessments and suggested recommendations for funding.

The final selection meeting with the steering committee took place after the evaluation committee meeting in Brussels and one project was selected for funding:

- ***Assessment of changing conditions, environmental policies, time activities, exposure and disease – ACCEPTED.***

The selected project started in December 2012 for 36 months. The total ERA-ENVHEALTH budget for the project is of 1.17M€.





## 4.3. Evaluation and review of the calls for proposals

### 4.3.1. Management and scientific evaluation issues – June 2010

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Deliverable leader: MEDDE

French Ministry of Ecology, Sustainable Development and Energy

Grande Arche, Tour Pascal A et B  
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FRANCE



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#### ***Report on the management and scientific evaluation issues encountered during the first call***

*The work leading to the preparation of the report was sub-contracted to an independent evaluation expert*

ERA-ENVHEALTH is a network of 16 public research funding organisations from 10 European countries supporting scientific research in the field of environment and health. It was funded as an ERA-NET project under the European Commission's 7th Framework Programme for Research and Technological Development. It aims to network its partner organisations to develop sustainable collaboration in research funding, policy and practice, thereby creating added value in high quality environment and health research across national boundaries.

One of the activities of ERA-ENVHEALTH has been the organisation of a first targeted call for transnational research on the human health impacts of environmental change, funded by ANSES (French), IenM (Dutch) and NERC (UK) partners. The theme for this first call was "Health vulnerability resulting from future climate change impacts on soil-water ecosystems, land use and water resources at regional scale".

Through its evaluation, the first call aims to provide recommendations for future transnational calls for research, and in particular for the design of a second joint call in the framework of the ERA-ENVHEALTH project. This evaluation concentrates on management and scientific evaluation issues encountered during the first call.

The evaluation tools used for the assessment of the 1st call were based on a set of evaluation questions. The Term of References of the evaluation defined a list of questions,





which have been gathered and reformulated into evaluation questions and judgement criteria. The evaluation questions were then ranked by the members of the Evaluation Steering Committee, formed by members of the ERA-ENVHEALTH project, members of the ERA-ENVHEALTH external advisory committee and the financing organisations.

The main information sources for the data collection process were: Analysis of documents and interviews with stakeholders, including an on-line questionnaire for the non-selected project holders. In addition, a benchmark study was carried out using the same tools (interviews and desk study). In total, 22 interviews took place, of which 4 face-to-face and 18 telephone discussions.

Based on the documents and interviews, the logical framework of the call (the objective tree, the impact diagram and the theory of action) was reconstructed. Assessing the links between these elements through the qualitative analysis provided better insight in the expectations and satisfaction of the stakeholders.

The main findings of the evaluation concerned, in first place, the procedural framework of the call. Some elements were unanimously found as positive, such as the functioning of the Call Secretariat with the support of the National Focal Points. The text of the call was described as exhaustive, containing all the necessary elements for the submission of an eligible and good quality proposal.

The selection process was well established and enabled to choose the best projects in terms of scientific excellence, interdisciplinarity, novelty and project management. However, the policy orientation of the projects could be enhanced by requiring the involvement of the policy-makers in the realisation of the projects and by targeting the dissemination and use of the results. The composition and performance of the evaluation committee was highly appreciated, but at the same time the specific scientific expertise of the external peer reviewers were in some cases found to be not fully adapted to the special and interdisciplinary research fields.

Some activities prior to the launch of the call were found to be highly important for the smooth running of the process. These issues were confirmed by the benchmark study. First of all, the objectives of the financing organisations should be clearly expressed. In order to launch a common call, the goals of the policy oriented organisations have to be harmonised with those of the research financing bodies. This can concern issues such as the financing framework (tendering or call for proposals), or the type of research (applied or fundamental). Secondly, the definition of the research area targeted by the call should include all stakeholders in order to satisfy the needs of all users. And last but not least, the financing framework should be defined and formalised by a commitment document, such as a Memorandum of Understanding.

The research activities (and thereby the results) of the two selected and financed projects are currently underway. Programme managers consider that these scientific results will bring answers to some policy questions in terms of risk assessment of climate change impact on





human health, with a special focus on pathogens on one hand, and on soil-water ecosystem changes related to organic contamination at a regional scale on the other hand.

The conclusions and recommendations of the report include elements highlighted by the benchmark study, in addition to the findings of the evaluation of the 1st call for proposals. As a general conclusion, all the project holders and stakeholders agree that the ERA-NET scheme is a good tool to finance transnational research projects, and an innovation between the national and European levels of research financing schemes. The transnational programmes target this niche, and provide appropriate support by applying the principles of subsidiarity. The added value of transnational calls in terms of project size was highlighted, as well as the synergic aspect of the budget: financiers provide some available funds and have access to all research results. With regards to the management, the call secretariat was mentioned as being essential for the efficient implementation of the calls.

Some common difficulties can also be identified in almost all ERA-NETs. The most important one was the setting up of a real common pot; as a matter of fact, mostly virtual common pots or mixed-mode pots exist. The “funders’ agreement” was mentioned as a serious bottleneck in the cooperation in several calls. National agendas and strategies should be taken into account; therefore the definition of the research scope was also identified as a key point. The focus should be brought on applied research and less on fundamental research to answer financiers (policy-makers) needs. A limited number of financing partners (max 4-6) can ease the choice of topics and the definition of the financing rules. Finally, the dissemination of results was also stated as a key issue; however its execution is usually left to the research teams, and depends on the researchers.

As a general recommendation for a next call based on the findings of the present evaluation and completed by the benchmark study, a special framework was defined, using the ‘A la carte’ method. This framework allows the matching of several dimensions related to the call:

- Choice of the research topic
- Number of partners financing a selected research area
- Financing approach (call for proposals or tendering)

A strategic plan or an umbrella action plan can be elaborated jointly with all the involved stakeholders, defining the main research fields, and indicating, as much as possible, a schedule related to the different research areas or axes.

Based on this action plan, specific targeted calls can be launched for one of the axes depending on: the interested partners, the budget they can make available, and the objectives they express relating to the research results. The targeted calls can be launched one after the other or in parallel. The financing approach for the call can follow either the tendering type, or the call for proposals type, depending on the urgency and the specificity of the research results needed. The scheme has the advantage of providing a well elaborated framework, established by all the ERA-ENVHEALTH partners, and allows for a maximum of flexibility.





The stakeholder interviews and the discussions during the Evaluation Steering Committee meetings brought attention to the involvement and coordinating role of the European Commission regarding the calls through ERA-NET projects.

Programme managers and policy-makers expressed their needs to be informed about the existing research results in order to avoid double-financing. The issue is even more relevant, considering the continually narrowed national budgets for research and the economic crisis. This financial burden can be overcome with transnational calls by financing areas where no other financial resources are available. The willingness of the EC to harmonise research financing at the EU level is underpinned by the launch of the NETWATCH<sup>5</sup> website, collecting information on ERA-NETs. For instance, a guideline<sup>6</sup> and an exhaustive checklist<sup>7</sup> can be found in order to share experiences with the already accomplished calls<sup>8</sup>. However, ERA-NETs are funded as research projects and the question of their sustainability and the longevity of their call financing activities is raised, the continued funding of a secretariat being necessary.

### 4.3.2. Impact review and recommendations – May 2012

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#### Deliverable leader: MEDDE

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#### ***Outcomes and impacts evaluation of the first ERA-ENVHEALTH call - Report reviewing the first call for proposals with recommendations for later calls***

*An independent expert evaluator was chosen to carry out both parts of the evaluation and was supported in his work by an Evaluation Committee composed of 10 members.*

The first part of the evaluation<sup>9</sup> focused on the actions implemented to reach the first two operational objectives: “To create a new funding scheme” and “to test a new funding scheme”. The second part of the evaluation aimed at assessing the outputs of the first call

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<sup>5</sup> <http://netwatch.jrc.ec.europa.eu/nw/>

<sup>6</sup> [http://netwatch.jrc.ec.europa.eu/nw/static/eralearn/manual\\_printable.pdf](http://netwatch.jrc.ec.europa.eu/nw/static/eralearn/manual_printable.pdf)

<sup>7</sup> ERA-LEARN checklist, Version Feb 2010. 2: [http://netwatch.jrc.ec.europa.eu/nw/static/eralearn/checklist\\_printable.pdf](http://netwatch.jrc.ec.europa.eu/nw/static/eralearn/checklist_printable.pdf)

<sup>8</sup> <http://netwatch.jrc.ec.europa.eu/nw/index.cfm/static/eralearn/overview.html>

<sup>9</sup> ERA-ENVHEALTH report on the management and scientific evaluation issues encountered during the first call, June 2010





process so that recommendations can be defined in order to support the design of the second call which was already planned in the ERA-ENVHEALTH project plan. This second part focuses on the outcomes and impacts of the first call on the one hand and checks if the recommendations of the first part of the evaluation have been taken into account by the ERA-ENVHEALTH partners in the design of the second call process on the other hand.

The main objective of the second part of the evaluation was to analyse the follow-up of the research projects funded under the first call, the results produced by the research teams and their impacts on public policies and the structure of European research in environment and health.

This impact evaluation is a keystone to appreciate the adequacy between policy-making needs and research results and outcomes. In addition, it is to our knowledge, a novelty in ERA-NET projects.

The methodology of the second part of the evaluation was built on three steps: definition of the framework of the evaluation; data collection; and analysis.

From a temporal aspect, the evaluation took place before the end of the two funded projects and whereas the second call design process was ongoing. The vision of the evaluation, with regards to impact on policy-making, is not in capacity to fully assess the impact of the research projects: an impact that will occur over the next few years. However, elements have been collected all along the data collection phase and provide information on the potential effects of the projects.

Defining evaluation questions is an essential part of the set-up of any evaluation exercise. To ensure that the evaluation questions correspond to a real need for information, understanding or identification of a new solution, a set of interviews were done with funders of the first call and partners of the ERA-ENVHEALTH consortium.

Since the funded projects were not finished yet, the evaluation mainly focused on the effectiveness and the efficiency of the first call. The evaluation also described the first outcomes and impacts of the first call (utility and sustainability):

In order to reply the evaluation questions defined in the first step of the evaluation, different evaluation tools were used, including participatory observation which is a qualitative method to help understand the interplay among a group of a given community. The expert approaches participants in their own environment rather than having the participants come to him. The evaluator accomplishes this through observing in meetings. Data obtained through participant observation serve as a check against participants' subjective reporting of what they believe and do.

This evaluation was more of a model of feasibility as it was carried out on one call from which two projects were funded and in order to evaluate a real impact over time more years and resources would have been required. Nevertheless, it is a novelty for the Environment and Health domain and provided very interesting insights into transnational calls for research projects in Environment and Health, in particular it highlighted:







- the importance of being able to put together and fund small European projects, encouraging and implementing true and lasting collaborations;
- the possibility of building policy-oriented calls for research;
- the need for involving policy-makers in the design of such calls for research and the fact that traditional communication tools are not sufficient to disseminate the research results to the stakeholders;
- the fact that these types of calls and research, in particular in the environment and health domain, are emerging but not yet mature at the European level.



## ERA-ENVHEALTH'S PARTNERS

Partner name	Acronym	Logo
French Agency for Food, Environmental and Occupational Health & Safety (France)	ANSES	
French Environment and Energy Management Agency (France)	ADEME	
Ministry of Ecology, Sustainable Development, and Energy (France)	MEDDE	
Belgian federal Science Policy Office (Belgium)	BelSPO	
Federal Public Service Health, Food Chain Safety and Environment (Belgium)	FPS	
Environmental Protection Agency (Ireland)	EPA	
Superior Institute for Environmental Protection and Research (Italy)	ISPRA	
Swedish Environmental Protection Agency (Sweden)	Swedish EPA	
Ministry of Infrastructure and the Environment (Netherlands)	IenM	
National Institute for Public Health and the Environment (Netherlands)	RIVM	
Public Health Authority of the Slovak Republic (Slovak Republic)	UVZ	
Environment Agency (England and Wales)	EA	
Natural Environment Research Council (UK)	NERC	
Ministry of Health (Israel)	MOH	
Federal Environment Agency (Germany)	UBA	
National Research Council (Italy)	CNR	

### How to join the ERA-ENVHEALTH network

If your organisation is interested in joining the ERA-ENVHEALTH network, or if you are interested in being kept informed of the network activities, please contact the coordinator:

**Adrienne PITTMAN**

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