

Preparation of a strategic NWE-cluster "Adaptation to the expected spatial impacts of climate change"

Overview of invited projects

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Source: NWE programme project database

018A ALFA Adaptive Land use for Flood Alleviation

General Information

Project priority: Environmental challenges
Strategic Initiatives: unspecified
Start date: 01-01-2007
End date: 31-12-2013
Website: www.ruimtevoorderivier.nl
ERDF Grant: 7,784,267.99
Total eligible cost: 15,568,535.98

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Project partners

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3. Vlaamse Milieumaatschappij (VMM) [BE]
4. Emscher Genossenschaft [DE]
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Summary description

The general project aim is to protect the North West Europe region against the effects of (the risk of) flooding due to climate changes. This will be done in the project by creating new capacity for storage or discharge of peak floods within river catchments. For example, new floodplains will be created in areas that have not been flooded recently. The need for the creation of new capacity for water storage or discharge reflects the impact of climate change. Present functions of the target areas will be retained and will be combined as optimally as possible with river and other functions. The foreseen actions will help to protect (more) vulnerable areas up- or downstream from the project areas.

This aim can be broken down into the following objectives:

1. To develop and implement technical solutions related to the creation of new capacity for water storage or discharge.
2. To raise awareness and increase solidarity between and within upstream and downstream areas within river catchments in Europe. The project will focus on adaptation/intervention in one area to protect another more vulnerable (in economical, social and/or ecological perspective) area. The latter can be either an urban or a rural area, situated up- or downstream of the intervention area.
3. To optimise the combination of functions in the target areas by preserving the current function and developing desirable and suitable new functions. For instance nature and recreation.

Detailed description

The partners in the ALFA-project are all dealing with similar transnational issues, for instance, flooding issues, nature development, recreational facilities.

This partnership consists of organisations dealing with FRM in 5 countries of which some have national responsibility, others regional responsibility to improve the safety level of citizens living in river catchments. Also, non-governmental organizations are included in the partnership.

This cross sectoral cooperation at different levels and in different regions throughout the planning, decision, implementation and evaluation phases of the project will offer many different perspectives on the same transnational challenges. This will provide a dynamic environment, aiding innovative thinking about the challenges we all face enabling us to develop new approaches.

The project activities are being implemented in 5 river catchments, Meuse (The Netherlands), Rhine (Germany) Eden (United Kingdom), Seine (France), Kleine Nete (Belgium) and Emscher (Germany).

Horizontal, vertical and geographical cooperation will be realised by jointly implementing the support actions. This means that every partner organise intervisions, staff exchanges, a thematic workshop and/or a symposium in which all the other partners —with its relevant experts or stakeholders- will participate. On top of that the partners will actively participate in the general supporting actions such as the launch event, mid term evaluation, road show, final conference and partnership meetings.

Objectives description

The general aim is: to protect the NWE region against the effects of flooding due to climate changes. This will be done in the project by creating new capacity for storage or discharge of peak floods within river catchments. New floodplains will be created in areas that have not been flooded before or recently. The need for the creation of new capacity for water storage or discharge reflects the impact of climate change. Present functions of the target areas will be retained and will be combined as optimally as possible with river and other functions. This aim is broken down into the following objectives: To develop and implement technical

solutions related to the creation of new capacity for water storage or discharge. To raise awareness and increase solidarity between and within upstream and downstream areas within river catchments in Europe. The project will focus on adaptation/intervention in one area to protect another more vulnerable area.

To optimise the combination of functions in the target areas by preserving the current function and developing desirable and suitable new functions, for instance nature and recreation. Interrelation and interaction between work packages. Intervisions, thematic workshops, symposia, staff exchange and pilots will be work package related. The launch event, road shows, mid term report and the final conference will be related to the over all project. This means that in these items the subjects and ongoing results of the 3 the work packages will come together. The Steering Group and Coordination Group will be responsible for the linkage of work packages. In addition all partners participate in all work packages which ensures interrelationships between work packages.

Activities description

WP 1: Innovative technical solutions for increased water storage capacity or discharge.

ACTION:

- 1.1: Development of management concepts to combine river- and land use functions,
- 1.2: Definition of technical water management measures,
- 1.3: Construction of innovative solutions for storage/discharge capacity.

OUTPUT:

3 management concepts, 4 technical water management measures, 6 constructions for storage/discharge.

WP 2: Public involvement measures.

ACTION:

- 2.1: Dialogue with the public (inhabitants and stakeholders),
- 2.2: Development of information and education schemes,
- 2.3: Development of ways/methods to create up/downstream solidarity with stakeholders,
- 2.4: Finding ways and methods to compensate the stakeholders in the areas where measures will be implemented.

OUTPUT:

5 communication concepts, 3 information and educational schemes, 3 methods to create solidarity, 3 compensation methods. and concepts.

WP 3: Social, economic and ecological benefits.

ACTION:

- 3.1: Protection and rehabilitation of ecological values,
- 3.2: Define measures for developing and maintaining the economic potential of temporary flooded areas by combining functions,
- 3.3: Develop and test spatial planning tools to reduce damage potential of flooding,
- 3.4: development and implementation of recreational facilities and land use.

OUTPUT:

4 ecological measures, 5 measures for economic potential, 3 spatial planning tools, 4 land use concepts.

On top of these implementation actions a set of supporting actions will be implemented. These are actions related to the detection of common 'problems' and challenges as well as to the sharing of knowledge and experiences within the partnership and with external target groups. Examples of supporting actions are: intervisions, thematic workshops, symposia and staff exchanges

Innovation

The distinctive innovative elements are:

Continuation of existing functions; in former projects adaptive land use concentrated on nature development and implementation of measures in basically rural areas to protect urban areas up- or downstream. This asks for up- en downstream solidarity. Focus on densely populated and/or intensively managed areas. The measures to be implemented do have long- term effects. Involving the affected inhabitants and users of the area; Dealing with areas that have not been flooded for more than 100 years. Because the economic meaning of these areas has grown over the years, people have forgotten that these areas used to be meant for flooding. Cooperation between government and non- government; within the project the effects of this cooperation on the whole planning process will be examined. Looking at both high and low flows; creating capacity for extreme flooding ALFA project will: Create new Flood plains whilst present functions of the area will be retained and extended. Implement measures in an area to protect up- or downstream other areas that are more vulnerable. Deal with new safety concepts; Start dialogue with those who will be affected. Start the dialogue with the public (people that live and/or work outside the target area) to create solidarity and awareness. Stimulate economic, ecological and social impact; measures that are initially meant for flood protection could generate positive economic, ecological and social effects. Entrepreneurs benefit from new (recreational) functions in the area. Support new partnerships; because of the foreseen combination of functions in the new flood plains stakeholders representing a large variety of organisations will be engaged. This extends from the stakeholders networks that are already used to participating in water management projects.

Project specifics

We want to cooperate on the following topics:

1. Innovative technical solutions for increased water storage capacity or discharge.
2. Public involvement measures.
3. Social, economic and ecological benefits.

These topics are covered in 3 work packages.

Previous EU projects involvement

The ALFA project was initiated and further developed during SDF "Seed Money" workshops, taking into account the other project ideas developed within the sector of Flood Risk Management (FRM). The coordinated development of project ideas on FRM issues prevents duplication and can strengthen the exchange of knowledge and experiences between the projects in future. There is a common interest of the partners involved in the different projects to be informed about the developments on FRM. The participants of the workshop in Dublin showed a keen interest to keep in touch with each other and expressed their willingness to be part of a possible future umbrella project with the aim of structured and regular exchange of knowledge and experiences.

This will create added value to come up with solutions for FRM- NWE. There is a relation with other projects such as FloodResilienCity as both projects are dealing with FRM, however the issues tackled are different and are supplementary.

The follow-up activities of the Interreg IIIB project Sustainable Development of Floodplains (SDF) focus on a wider target group than the original SDF project partners only and also on a larger geographical area. The Rhine River basin based cooperation will be shifted towards cross cooperation between geographically not linked river basins in the participating partners' countries.

The ALFA project will build on knowledge and experiences of several Interreg III B projects (for instance SDF, Sand and Scaldit). Building on results and experiences of these projects, the partners have developed a new project that includes a combination of elements that have

not been dealt with in the past. These elements are described in section 2.1. In order to ensure the effectiveness of the project existing partnerships have been evaluated and renewed and extended.

074C AMICE A coordinated strategy for the Adaptation of the Meuse to the impacts of Climate Evolutions on floods and low-flows with the perspective of sustainable development in the Meuse international catchment basin.

General Information

Project priority: Enviromental challenges
Strategic Initiatives: unspecified
Start date: 01-01-2008
End date: 01-06-2013
Website: www.epama.fr
ERDF Grant: 2,809,075.74
Total eligible cost: 8,879,589.83

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10. Waterschap Aa en Maas [NL]
11. Waterschap Brabantse Delta [NL]
12. Agence Prévention et Sécurité (APS) [BE]
13. Administration communale de Hotton [BE]
14. nv De Scheepvaart [BE]
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16. RIOU vzw [BE]
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Summary description

Climate change experts are increasingly pointing-out the importance of adaptation to anticipated changes, as opposed to waiting until impacts are irreversible. Consequences of climate change on river basins can be potentially catastrophic.

The Meuse is a transnational, navigable river, one of the largest in NWE, with a catchment basin incorporating 5 Member States, situated in a densely populated area of NWE. Its discharge fluctuates considerably with seasons: it reached 3100 m³/s in winter 1993 at the Dutch/Walloon border and is only 10-40 m³/s in summers. Classed as a rain-fed river, it has no glacier and little groundwater storage capacity to buffer precipitations. A direct link exists between climate evolutions and changes in high & low-flows, putting at risk the assets of the basin, including major infrastructures, industries, priceless historical and ecological heritage.

The aims of AMICE, which unites public authorities, universities & NGOs from 5 NWE regions, are:

- 1) develop a basin-wide climate adaptation strategy, coordinated transnationally, focused on water discharges and the functions influenced by them. The strategy development will take into account climate scenarios, on-going projects, existing measures and the EU Floods Directive (2007/60/EC), with a particular focus on floods & low-flows.
- 2) realise a set of measures against low-flows & floods, profitable for the international basin of the Meuse and that can be used by other river basins in NWE.
- 3) reinforce and widen the partnership between stakeholders of the Meuse basin, and increase the exchange of knowledge and experience on prevention, preparedness and protection against flood & drought risks.
- 4) engage the local population and stakeholders by improving their understanding of climate change, sustainable development, catchment basin functioning, risk consciousness of water hazards and the sense of belonging to a common river basin, across administrative and language borders.

Detailed description

The methods used vary with the nature of the task to be carried out.

For scientific investigations of WP1, several partners will work on the very same topic. It will require a very intense collaboration & exchange of data. Methodology meetings are planned between involved partners to discuss the way the work should be done: constitution of a highly detailed road-map for each action. The meetings will be led by the Reference partner (accurate scientific content of road-map) & the project coordinator (ensure compliance with planning, budget & objectives). An online database will also be created (Action1) to enable fast & secure exchange of data between partners.

For the sub-projects of WP2, 3 & 4, the work will be implemented in smaller groups that will operate independently. Input from others will be solicited via site visits & expert meetings. Progresses and results from each action will be made available to all partners via the internal section of the AMICE website.

For the communication actions, contributions from partners will be made regularly. They will be interviewed for the creation of the film's storyline, they will present their achievements in the International Events, they will provide press articles, scientific articles, maps and pictures to be placed on the AMICE website and used in the Newsletter. Communication actions (achieved or planned) and messages to be broadcast will be on the agenda of each PSG meeting, to be discussed and agreed by all.

The good balance between the countries and regions involved in AMICE, either for the

coordination of scientific investigation, amount of investments or organisation of meetings is the key element which guarantees a continuous and strong involvement of all partners.

See Annex 4.

Objectives description

AIMS

- 1) AMICE will produce a coordinated strategy of adaptation to the impacts of climate change on water quantities, in the international Meuse basin. It will take into account on-going projects, existing measures, the Floods Directive (2007/60/EC) & focus on both floods & droughts. It will use the most innovative practices of prevention, protection & preparedness to water-related crisis & propose new measures. The strategy proposed will be tested within the sub-projects of WP 2, 3 & 4.
- 2) AMICE will reinforce & widen the partnership between stakeholders of the Meuse, increase exchange of knowledge & experience on future flood & low-flow risks.
- 3) AMICE will diffuse results to public authorities & also improve public understanding of climate change, sustainable development & catchment basin functioning; reinforcing risk consciousness of water hazards & the sense of belonging to a transnational basin, across administrative & language borders.

OBJECTIVES

WP1: Evaluate the socio-economic & ecological damage cost of potential future floods and low-flows in the Meuse basin. Carry out a 'climate-check' of water management practices.

WP2: Create natural water retention zones, taking into account climate change, ecological challenges, landscape & social benefits, for the reduction of both floods & low-flows.

WP3: Demonstrate how structural protections with a transnational benefit can be designed considering climate evolutions, water works of neighbouring countries within the Meuse basin, & low-flow issues.

WP4: Promote preparedness to extreme events. Improve crisis management techniques. Organise 1 international flood crisis exercise.

WP5: Deliver tools to develop a basin culture & strengthen solidarity, non-technical reports (in the 4 languages of NWE), 3 International Events for the dissemination of conclusions, 1 interactive documentary on the Meuse basin with AMICE's key messages.

Activities description

ACTIONS:

- implement a transnational online database for the promotion of a better knowledge of river basin behaviour
- jointly investigate and agree on climatic & hydrological scenarios for 2030-2050 and beyond 2050
- identify future impacts of floods & low-flows on the economy (Lisbon agenda), society, ecology (Gothenburg agenda)
- demonstrate the climate-proof character of existing & future measures, propose improvements
- design & build transferable investments in natural water retention, demonstrate their low-cost & multiple benefits
- test 3 techniques for the active control of water quantities, designed after transnational concertation
- improve and distribute flood crisis management software for preparedness to extreme events in the Meuse basin, prepare and do a flood crisis management exercise
- set up a communication strategy adapted to the general public, water experts & politicians
- propose, evaluate & diffuse the adaptation strategy

OUTPUTS:

The Strategic Cluster is initiated by the JTS NWE; the meeting is organised on behalf of the Lead Partner of the NWE Project Future Cities

- agreed climate change & discharge scenarios
- the first hydraulic simulation of the whole Meuse river, international database & maps
- identification of priority sectors threatened by floods, priority water uses during low-flows, cost of inaction
- adaptation strategy, transnationally developed, highlighting threats & opportunities of climate change
- reports translated & accessible to a non-expert public, 1 interactive documentary
- creation of natural water retention, hydrologic monitoring
- alleviation of flood problems, renaturalisation of agricultural zones, multi-activity water storages
- 1 innovative pumping system/water power station: lower water extraction from the Meuse
- new control rules for the Rur reservoirs
- 8 site visits, information & participation of the population in the local sub-projects, 1 international flood crisis management exercise
- 3 international events: sharing & dissemination of conclusions.

Innovation

AMICE is a basin-level project: for the first time, all issues are dealt with at the level of the International Hydrographic District instead of the regional or national level. Partners belong to the same hydrologic system, which guarantees intense collaboration. Partners will not only share methods and help each other in designing investments, but they will depend directly on each other's actions, especially when these have an impact on water levels and discharges. Raising awareness and fostering a sense of belonging to the same basin and solidarity have a very deep meaning in the Meuse context.

AMICE places climate change adaptation at the core of its work, and the uncertainty in the predictions will not be disregarded. While other projects build protections against future floods, AMICE first assesses the efficiency of existing practices in the future climatic context. Improvements and new measures will also be proposed and evaluated.

Low-flows are rarely dealt with in Interreg IV B projects; AMICE will place this issue on the same level as flood issues. Being a rain-fed river, low-flows & floods are more inter-related than in some neighbouring basins. WP 2 & 3 protections will address both high & low water situations; extra work will be carried out on the probability of occurrence of low-flows & damage calculations will be made. Some communication actions will also be fully dedicated to low-flows.

Other AMICE actions demonstrate its innovative nature. The hydraulic models will be inter-linked and simulate the same events, creating the first transnational hydraulic modelling of the river. Exercises in flood crisis management will be organised using the same inputs throughout the basin, leading to the first shared insight into international reaction to a potential flood. The Meuse will also be a pilot basin for developing risks maps of damages of potential future floods (cf Floods Directive) and low-flows.

Project specifics

A) CLIMATE CHANGE

Studies have already been undertaken relating to future climate change, synthetised in 'The impacts of climate change on the discharges of the river Meuse', 2005, International Meuse Commission. Conclusions are on the:

- increased frequency of floods in winter, extreme events in particular,
- increase in low-flows, more likely the result from higher water demand than higher temperatures,
- need to agree on common scenarios, jointly examine the effect of an improved coordination of water management policies.

The transnational cooperation will result in basin-wide scenarios on climate change &

discharges, used as input for the strategy.

B) TRANSNATIONAL ADAPTATION STRATEGY

"Adaptation strategy refers to a general plan of policies and measures to reduce the vulnerability of natural and human systems against actual or expected impacts of climate change, including climate variability and extremes." UNDP 2004, Adaptation Policy Framework for Climate Change.

Adaptation strategies are being undertaken in the different countries of the Meuse basin but are barely concerted at the transnational level.

C) PREVENTION, PROTECTION, PREPAREDNESS

The Floods Directive defines 3 approaches to reduce flood risk: prevention, protection & preparedness, which AMICE will combine in its adaptation strategy, and adapt to low-flows risk.

Prevention will rely on the scientific investigation of the vulnerability of economic, social & ecological systems, as well as the climate check* of water management practices on the Meuse river basin: WP1. Combined protection against both floods and low-flows will be tested on non-structural (natural water retention: WP2) and structural (storages, pumps, dams: WP3) protections. Preparedness will be promoted in the cases of extreme and unpredicted hydrological events: WP4.

*A Climate Check evaluates the sustainability of investments over their entire lifetime, explicitly taking climate change into account.

Other EU projects involvement

AMICE will restrict its scope to the management of water quantities but will link with other projects focusing on land-use, water quality, ecology, coastal areas and urbanisation. Cooperation will be sought with Interreg IVB projects "ALFA" (facilitated by a common partner: Rijkswaterstaat) & "Flood Resilient City" (via the French AFEPTB network).

AMICE will also capitalise the results of 3 Interreg IIIB projects. Firstly, the FLIWAS software tool for flood crisis management partly developed through NOAH will be further improved & diffused in WP4. It will also be used in an international flood crisis management exercise and will help improve the French software tool OSIRIS (developed in the EU FP5). Secondly, the technique of natural water retention, promoted by NOFDP, will be adapted to the local contexts of the AMICE investments and to climate change adaptation. Finally, maps of damages will be built with the experience gained from SCALDIT (Walloon Ministry - DGRNE).

Recommendations from FLOODWISE (Interreg IVC project dedicated to the coordinated implementation of the Floods Directive) will be essential for AMICE: Member States will save time and money if the outputs of the AMICE project comply with the requirements of the Directive (especially flood maps and flood crisis management guidelines).

Results from EU research projects (notably FP6, NEWATER, AquaStress, FLOODSITE, INSPIRE & EXCIMAP) will be incorporated in AMICE through the participating partners (EPAMA via the French ministry of environment, Rijkswaterstaat, FHR, etc).

Examples will also be taken from the Rhine basin where cooperation is well-developed (cf Rhinenet project). Methods for the studies, international cooperation and calculation of the impacts or recommendations in urban planning will be used. Some partners of AMICE have participated or are still involved in other collaborations on the Rhine basin. The RIMAX network of projects is especially interesting.

Previous EU projects involvement

AMICE will restrict its scope to the management of water quantities but will link with other

projects focusing on land-use, water quality, ecology, coastal areas and urbanisation. Cooperation will be sought with Interreg IVB projects "ALFA" (facilitated by a common partner: Rijkswaterstaat) & "Flood Resilient City" (via the French AFEPTB network).

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087C C-Change C-Change - Changing Climate, Changing Lives

General Information

Project priority: Strong and prosperous communities
Strategic Initiatives: unspecified
Start date: 04-10-2007
End date: 31-12-2012
Website: www.groundwork-london.org.uk
ERDF Grant: 3,595,807.55
Total eligible cost: 7,191,615.09

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Project partners

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4. Planungsverband Ballungsraum Frankfurt/Rhein-Main [DE]
5. Ministère de l'Intérieur et de l'Aménagement du Territoire [LU]
6. Dienst Ruimtelijke Ordening Amsterdam [NL]
7. Forestry Commission [UK]
8. Provincie Gelderland [NL]
9. Région Ile-de-France [FR]

Summary description

C-CHANGE aims to achieve a 'sea-change' in attitudes, behaviours and practical responses to the challenges that climate change raises for city regions by:

1. Empowering politicians, planners, practitioners, communities, and in particular young people, to champion these approaches.
2. Developing creative solutions to the sustainable management of open space.
3. Climate-proofing regional spatial plans and strategies.

The objectives of C-CHANGE are to use transnational Actions and Investments to question, develop, test and demonstrate the following issues:

1. Building stronger communities — how can stakeholders from different social, demographic and economic strata be engaged in joint practical activities addressing climate change?
2. Demonstrating practical responses to climate change — how can the potential of multi-functional urban open space be developed for practical responses to urban living in a changing climate?
3. Adapting spatial planning strategies — how well do they prepare city regions economically, socially and environmentally to adapt to climate change and mitigate their contribution?

Detailed description

The core of the C-CHANGE Partnership has developed from the established SAUL Partnership, which has long experience of transnational working, with a deep understanding of each other and of Interreg, and which will now be extended to 3 new partners including a completely new region and Member State. The C-CHANGE Steering Group, made up of senior representatives of state and regional governance authorities and agencies, will oversee the strategic and practical development of the project. The transnational EJPG process is at the heart of C-Change. It is based on the successful mechanism for transnational planning and learning developed as part of the SAUL project and has been updated to incorporate the lessons learnt and respond to the objectives of C-Change. WP 2 and 3 have 1 linked EJPG each, WP1 has 2, as it focuses on different aspects of the key issue of engagement.

Each EJPG will involve all Partner Regions and a Lead Partner representative and bring together professionals whose expertise is relevant to the respective WP. EJPBs will add value to local implementation by enabling partners to make their experience directly available to other Regions and develop joint innovative approaches to planning and delivery.

Guided by external facilitators, the Groups will agree a structured workplan and mechanism for collective and individual learning. Facilitators will ensure productive meetings using interactive facilitation tools.

They will stimulate ongoing exchange between meetings and capture learning in reports and on the C-Change website. Members will document their own learning in Learning Logs. EJPBs will act as a sounding board for testing local approaches and will make practical suggestions for improvements. Findings will be presented at all C-Change events. Transnational recommendations and practical guidance on developing and applying the C-Change principles in other contexts will be produced for the Final Conference and the Final Report.

Objectives description

C-CHANGE aims to achieve a 'sea-change' in attitudes, behaviours and practical responses to the challenges that climate change raises for city regions by:

1. Empowering politicians, planners, practitioners, communities, and in particular young people, to champion these approaches.
2. Developing creative solutions to the sustainable management of open space.

3. Climate-proofing regional spatial plans and strategies.

See Annex IV and V for diagrams showing how the aim will be addressed.

The objectives of C-CHANGE are to use transnational Actions and Investments to question, develop, test and demonstrate the following issues:

1. Building stronger communities — how can stakeholders from different social, demographic and economic strata be engaged in joint practical activities addressing climate change? (Work Package 1)
2. Demonstrating practical responses to climate change — how can the potential of multi-functional urban open space be developed for practical responses to urban living in a changing climate? (Work Package 2)
3. Adapting spatial planning strategies — how well do they prepare city regions economically, socially and environmentally to adapt to climate change and mitigate their contribution? (Work Package 3)

Activities description

WP1 Delivery of a series of exemplar transnational Actions and Investments linked to multi-functional open spaces, demonstrating how to engage different stakeholders, communities and young people in climate change issues, with a set of transnational recommendations. A group of shared projects demonstrating innovative approaches to engaging communities and stakeholders through local food production in socially deprived areas, landscape laboratories, open air classrooms and urban hubs. Actions also engage communities and stakeholders in the projects taking place in WP2. Together these Actions and Investments will make up the virtual 'North West European Climate Change Park' in WP3.

WP2 A series of exemplar multi-functional urban open space responses to climate change focusing on practical and technological solutions, with transnational recommendations. A set of Actions and Investments testing how eco-hubs, lifestyle centres, climate routes and green roofs can demonstrate alternative energy solutions and engage communities in using them.

WP3 Guidance to State, regional and local governments on climate-proofing spatial plans based on expert analysis of different approaches tested against the revised London Plan, and a set of specific regional planning recommendations for each partner. Recommendations for a set of principles for developing urban greenspace strategies as tools for adaptation and mitigation.

Innovation

C-CHANGE will approach the challenges of climate change from the perspective of its impacts on EU citizens and their communities. It seeks to demonstrate that people at all levels, including young people, have capacity to help mitigate climate damage, by altering their attitudes and behaviours; and to adapt to its consequences, by recognising that their key quality of life factor - urban open space - has the potential to be used in ways that will make a real difference to sustainability.

Based on exploring and demonstrating the potential roles of urban green space, we will be piloting innovative technological responses that can be extended to other partner regions and more widely across Europe. We will be using these technological and strategic responses to climate change in order to change attitudes and behaviours through the use of innovative community engagement and communication activities.

The Partnership, made up of national, regional and local government players representing city regions with major economic significance in Europe, is led by an NGO internationally recognised as an expert in the field of engaging communities and young people in sustainable development through environmental action.

C-CHANGE is designed to involve a wide range of social, economic and professional stakeholders. But for these practical test-bed initiatives to have long term and EU-wide impacts, the Project is also designed to inform, challenge and shape spatial planning responses to climate change. It shares the innovative policy responses contained in the

recent London Plan revisions with other Partner regions, and will produce guidance to individual city regions as well as recommendations on an EU level, based on specific practical examples set out in the Action and Investment sheets.

Project specifics

1. Changing Communities in a Changing Climate — demonstrating how new and changing communities can be engaged in climate change issues through innovative engagement activities with a view to changing attitudes and behaviours and building social cohesion.
2. Climate Change and Multi-functional Open Space — based on different spatial planning approaches, transnationally testing and demonstrating the potential of urban open space as a key element in adaptation to climate change, developing good practice and providing the evidence for the C-CHANGE spatial planning principles and proposals.
3. Climate Change and Spatial Planning - testing different approaches to climate change within spatial planning systems, with the objective of climate-proofing existing spatial plans.

Previous EU projects involvement

C-CHANGE will contribute to the EC's 6th Environmental Action Programme, through practical demonstration projects and policy development objectives, on climate change, nature and biodiversity, environment and health, and natural resources and waste. It supports the First Pillar of the EC Green Paper (2007) on Adapting to Climate Change - integrate adaptation measures when implementing existing legislation and modifying forthcoming policies, integrate adaptation into existing Community funding programmes, and develop new policy responses; and the Fourth Pillar - involving European society, business and public sector in the preparation of co-ordinated and comprehensive adaptation strategies.

C-CHANGE also reflects the EC's Climate Change Programme II, in particular the Adaptation Working Group. The EC Report, Attitudes of European Citizens Towards the Environment (March 2008) notes that good intentions are often not acted on, and C-CHANGE seeks to demonstrate a different approach.

C-CHANGE responds to the Leipzig Charter, which recognises that an integrated approach to urban development in city regions is essential if Lisbon is to be achieved, addressing economic, social, and environmental factors together. C-CHANGE reflects the European Landscape Convention's emphasis on involvement of communities, professional exchange and learning, and its focus on quality, planning, and the sustainable management of landscape. C-CHANGE draws on the IIB project SAUL, which demonstrated the value of regional spatial strategies, the importance of engaging local people in open space development, and the link between quality open space and economic and social well-being. Climate change has grown in significance since SAUL began, and SAUL findings offer some valuable lessons that can be applied in C-CHANGE. Some of the same experienced SAUL regions are involved, however completely different localities for Actions and Investments are included.

019A FloodResilienCity Improved integration of increased urban development and flood risks in major cities

General Information

Project priority: Environmental challenges
Strategic Initiatives: unspecified
Start date: 01-05-2007
End date: 30-04-2012
Website: www.rws.nl/www.ruimtevoorderivier.nl
ERDF Grant: 8,270,722.50
Total eligible cost: 16,541,445.00

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Project partners

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2. Les Grands Lacs de Seine (I.I.B.R.B.S) [FR]
3. Ville d'Orléans [FR]
4. Communauté d'agglomération Orléans - Val de Loire [FR]
5. Département du Loiret [FR]
6. Ecole des Ingénieurs de la Ville de Paris - EIVP [FR]
7. Dublin City Council [IE]
8. City of Bradford Metropolitan District Council [UK]
9. University of Sheffield [UK]
10. Stadtwerke Mainz AG [DE]
11. Directoraat-Generaal Rijkswaterstaat - Programmadirectie Ruimte voor de Rivier [NL]

Summary description

To integrate the increasing demand for more houses and other buildings with the increasing need for more and better flood risk management measures in North West European cities along rivers.

Objectives to achieve that aim:

1. Awareness: To enhance the awareness and engagement in all aspects of flood risk and the means of managing it at
 - the Policy level (politicians/decision makers),
 - among the Professionals (of the involved authorities and elsewhere) and
 - at the Public level (people, companies, developers, insurance companies).
2. Avoidance: To limit flood damage and ease recovery by planning and adapting buildings, infrastructure, surfaces and economic activities and building capacity in individuals and institutions to become more resilient
3. Alleviation: To reduce flood risk by implementing physical, technical, non-structural and procedural measures for the management of water systems.
4. Assistance: To provide support to recovery processes and to engage and build capacity in communities, and others prior to, during and after flood events
5. Strategy & Capacity: To develop the capacity to engage in the processes above to adapt to and manage flood risk by integrating the activities associated with objectives 1 - 4.

The project wants to deliver a structural change in the mindset of the politicians, professionals and public in Brussels, Leuven, Mainz, Paris, Orléans, Dublin, Nijmegen and Bradford. That change should entail that all involved recognize the importance to address all 4-'A's in their policies to achieve Sustainable Flood risk Management. Moreover, they should recognize that location specific application of each of the 4-'A's delivers more policy options to facilitate new urban development plans.

Detailed description

The main ways of how the 11 partners are going to work together in this project are:

A. The partners are working together within Actions through:

- Multiple site implementation: Many Actions are build around a set of sub-actions executed by different partners. In such multiple sub-action Actions intensive exchange and cooperation will take place.
- Intervisions: Each year all partners have allocated partner staff time to execute intervisions on each others actions. Therefore it is done in the format of a 2 day action which includes a presentation of the action, a technical on-site visit, a discussion and a report which lays down the responses on the action and the conclusions of the discussion.
- Partner staff exchanges are foreseen in the budget. Each year some experts from each partner will be travelling abroad to another partner to work one or two weeks on FloodResilienCity actions and learn how the other partners organisation and processes work.

B. Partners will exchange knowledge and innovations in meetings through:

- Workshops: In total seven 1-day workshops will be organised
- Theme sessions: Four 1½-day sessions will be organised. At each session a small set of commonly experienced barriers for better integration of urban spatial planning and flood risk management will be tackled.
- 8-cities conferences: Two of those 2-day politicians' trips will be organised to stimulate direct interaction between politicians from the involved cities.

C.Horizontal and Vertical cooperation ways of cooperation

Each partner is already a prominent player in the national networks on flood risk management and thereby contributes to horizontal and vertical cooperation. Each partner shall use those networks to further communicate the lessons learned and innovations the FloodResilienCity project. The explicit importance given to all 3-P levels in the Communication plan (see section 6) will guarantee sufficient dissemination on all 3 levels.

Objectives description

The main Aim of FloodResilienCity is to integrate the increasing demand for more houses and other buildings with the increasing need for more and better flood risk management measures in North West European cities along rivers.

The project seek to adapt the Scottish Sustainable Flood(risk) Management framework as a basis for the joint FloodResilienCity strategy

This strategy will make cities undergoing major urban development more resilient to flood water. The partners are basing their strategy upon the Scottish Government's initiative on 'Sustainable Flood (risk) Management' (SFM), because it is representative of a majority of strategies.

FloodResilienCity objectives for achieving the main aim are:

Objective 1: AWARENESS: To enhance the awareness and engagement in all aspects of flood risk and the means of managing it at the Policy level (politicians/decision makers), among the Professionals (of the involved authorities and elsewhere) and at the Public level (people, companies, developers, insurance companies).

Objective 2: AVOIDANCE: To limit flood damage and ease recovery by planning and adapting buildings, infrastructure, surfaces and economic activities and building capacity in individuals and institutions to become more resilient.

Objective 3: ALLEVIATION: To reduce flood risk by implementing physical, technical , non-structural and procedural measures for the management of water systems.

Objective 4: ASSISTANCE: To provide support to recovery processes and to engage and build capacity in communities, and others prior to, during and after flood events.

Objective 5: STRATEGY & CAPACITY: To develop the capacity to engage in the processes above to adapt to and manage flood risk by integrating the activities associated with objectives 1 - 4.

Activities description

The main actions to reach the objectives are:

- Awareness: Using flood models to identify where the flood damages will occur, make people aware by bringing back the relation of the city and the river, Cost Benefit Analysis tool to provide information on potential flood damages and on the options to mitigate those damages, Framework for promoting Awareness and capacity to respond to flood risks.
- Avoidance: Flood proofing public infrastructures, Flood proof buildings (existing and new),Flood resilience by spatial planning, Flood proof buildings & Business continuity planning, Place of Water Sensitive Urban Design WSUD, across cases.
- Alleviation: Design and use of a new island, Constructing streets to be used as rivers during floods, Design study of flood reservoir in the Woluwe Valley,Developing and testing procedures and tools for the investigation of flood alleviation methods in urban areas, Building organisational capacity for flood alleviation in urban areas
- Assistance: Design of the emergency routes to and from a newly created island,

online GIS tool improving urban areas reconstruction, Insurance + Finance services and their place in the FloodResilienCity strategy in all 8 cities, Strengthening communities in their assistance before, during and after a flood.

- Strategy & Capacity: Sustainable Flood Risk Management communication, New city spatial plan including dike relocation and other avoidance/alleviation measures, Link non-structural responses to awareness raising and engagement, Examples of new technologies in Flood Risk Management, Implementing New strategies based on review current ones.

The main output of FRC is an intense cooperation between 11 partners in 8 cities. The actions deliver tangible results and will prepare the ground for implementation of the FRC strategy. Among the outputs: 3 international Conferences, 4 international Theme sessions, 2 "city-summits", field trips, staff exchanges.

Innovation

The innovative aspect of this project is that the exchange and interaction between the policy makers and professionals of the partner cities will make flood management within each city more integrated and holistic. The engagement of developers, business leaders and communities will also ensure that capacity is developed to deliver resilient cities despite the unknowns of climate changes. This will stem from a more comprehensive understanding and engagement in the different aspirations and approaches. Although it is not possible to include large numbers of the public stakeholders in direct international exchange, the engagement plan will enable the partner cities to convey transnational differences and similarities and transnational learning at a local and national scale. The results of this process will be reflected in the outputs. FRC will support the development of policy and technologies within the member countries and between countries as a result of the creation of a transnational learning alliance. This will include the exchange of information about broad policy issues and specific technical details on issues such as flood resilient construction. In addition to opportunities for non-structural responses will be explored as means of delivering more flexible and cost-effective solutions. The exchange of information in the project preparation meetings mean that the partners are already aware of a recent UK Government publication on flood resilient construction that is freely available and on the application of a 'sustainable' approach to FRM by the Scottish Government. The partners in this project have wide experience with flood risk management and INTERREG projects. The interaction during the application preparation process has resulted in a common shared strategy for the project and to compare the approaches in the different cities. The partners consider the project strategy and methodology highly innovative.

Project specifics

Urban planning, Flood risk management, Climate change, Innovation, Regeneration, Competitiveness, Sustainable development, European cooperation

Other EU projects involvement

Building upon partners' involvement in EU-funded projects:

Almost all partners have been involved in EU-funded projects on flood management. This project builds upon hands on partner experiences from several EU-funded projects and programmes. To keep it short and simple here the names of each project, the EU programme it was part of and the name of the involved partners are given:

Urban Water - IIIB NWE (RWS); Freude am Fluss - IIIB NWE (RWS; City of Orléans); SAFER - IIIB NWE (Dublin); NOAH - IIIB NWE (Dublin); NORIS - IIIB NSR (Bradford and Sheffield University); UWC - IIIB NSR (Bradford, supported by Sheffield University); Scaldit -

IIIB NWE (VMM); No Regret - IIIB NSR (VMM); Lutanius IIIA France-Wallonie-Vlaanderen (VMM); IASM IIIA Euregio Benelux Middengebied (VMM); DUWA IIIA Euregio Benelux Middengebied (VMM); Eranet CRUE (Manchester, Sheffield, Hamburg, RWS, University Paris 1 - Panthéon/Sorbonne, Defra (England), Scottish Government)

Taking into account and cooperation with relevant EU-funded projects:

Within the INTERREG IIIB NWE programme FloodResilienCity specifically builds upon the work done in the following projects: Urban Water, Freude am Fluss, ESPACE, TRUST, SAFER.

Besides FloodResilienCity takes into account the experiences from other related EU-projects, such as FLOWS, ERA-NET CRUE, No Rainwater In Sewers (NORIS), Urban Water Cycle (UWC), PROCAPITES, Eastern Rivers Basin District project.

Previous EU projects involvement

Building upon partners' involvement in EU-funded projects:

Almost all partners have been involved in EU-funded projects on flood management. This project builds upon hands on partner experiences from several EU-funded projects and programmes. To keep it short and simple here the names of each project, the EU programme it was part of and the name of the involved partners are given:

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Besides FloodResilienCity takes into account the experiences from other related EU-projects, such as FLOWS, ERA-NET CRUE, No Rainwater In Sewers (NORIS), Urban Water Cycle (UWC), PROCAPITES, Eastern Rivers Basin District project.

003A ForeStClim Transnational Forestry Management Strategies in Response to Regional Climate Change Impacts

General Information

Project priority: Enviromental challenges
Strategic Initiatives: unspecified
Start date: 01-01-2008
End date: 31-12-2012
Website: www.fawf.wald-rlp.de
ERDF Grant: 5,685,552.34
Total eligible cost: 11,642,761.07

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3. Office National des Forêts - Direction Territoriale Alsace [FR]
4. Université Louis Pasteur - SERTIT [FR]
5. Centre de Recherche Public - Gabriel Lippmann [LU]
6. Centre Permanent d'Initiatives à l'Environnement (CPIE) Val de Vilaine [FR]
7. Ville de Allaire [FR]
8. Syndicat Intercommunal a Vocation Unique (SIVU) du Vauvert [FR]
9. prospective party [FR]
10. Bangor University [UK]
11. Lehrstuhl für Waldwachstumskunde, Technische Universität München [DE]
12. Groupement d'Intérêt Public (G.I.P.) du Pays de Redon et Vilaine [FR]
13. Natural Environment Research Council - Centre for Ecology and Hydrology [UK]
14. Ville de Beignon [FR]
15. Landesforsten Rheinland-Pfalz [DE]
16. Association syndicale libre forestière de Allaire et du Pays de Redon et Vilaine (ASLF) [FR]
17. University of Newcastle upon Tyne [UK]
18. Mountain Environments Ltd [UK]
19. Vereniging Nederlands Cultuurlandschap [NL]
20. International Institute for Geo-information Science and Earth Observation [NL]
21. The Mersey Forest [UK]
22. FORESTRY COMMISSION [UK]

Summary description

Climate Change reflects itself on the regional level by a changing regional climate and impacts on the environmental, societal and economic worlds. Hand in hand with this will be an inevitable shift in forest site conditions in the next decades with serious implications for sustainable forest management.

Hence the project will show regionalized climate change impacts on forest site characteristics, on forest protection functions, on forest yield, biodiversity, water resources and carbon sequestration across North-West Europe; all of this linked to a diverse set of multi-level risk assessments associated with preserving the multitude of forest goods and services, which will be part of the "ForeStClim"-strategies.

The development of transnational coordinated forestry management and forest protection and adaptation strategies will be the principal outcome of the project and help secure the future economic stability of forestry in North-West-Europe, a sustainable timber production, an efficient protection of forest ecosystems, as well as the maintenance of the protection, recreation and other functions of forests.

Objectives description

Project aim: An inevitable forest site shifting will take place in the next decades. Hence the project will aim at a regionalization of climate changes and its effects on dynamically changing site characteristics in forests. Forest management strategies coping with climate change impacts as well as a projection of land-use and water regime changes will be worked out. A combined risk assessments will also include the forest dimension of goods and services. The development of transnational coordinated forestry management and forest protection strategies will be the outcome.

WP1:1: forcing and validation data, data processing, as well as data handling and storage of the modelling results, 2: setting up a data centre, 3: participating in the analysis of regional climate model data, 4: organizing and coordinating data exchange via specified interfaces, 5: downscaling IPCC AR4 climate change scenarios, 6: deriving interactions between plant physiology / changed forest features and the atmosphere.

WP2: Development of modules to assess forest site shifts, forest stand shifts, risks for forests and woodland, water regime, ecological goods of woodland and economical consequences under given climate change developments. Simulation of forest growth and carbon sequestration in forests.

WP3: Compiling of forestry management and forest risk strategies. Continuing of a strategy which combines water management and forestry measures to improve water retention in forests. Presentation of the cultural benefits of forests within a book together with a political leaflet.

WP4: adoption of digital and transnational modules in forest planning and forest site surveying practices, which do not cope with climate change, implementation of the site surveying practices, implementation of forestry management and risk mitigation strategies in combination with water management measures, advisory board to secure the applicability, fostering capacity building and raising awareness.

Activities description

Actions: 1.Setting up a project advisory board, 2.Establishment of regional and local climate change scenarios, 4.Projections of land-use changes on future woodland cover 5.

Assessment of effects of regionalized climate change scenarios 6.Development and integration of innovative site survey and forest inventory methods 7.Application of these seminal methods in demonstration sites will enable the partners to generate forest planning criteria and forestry management strategies 8.Forest growth modelling including impacts of climate change and forest site shifts 9.Risk assessment and

The Strategic Cluster is initiated by the JTS NWE; the meeting is organised on behalf of the Lead Partner of the NWE Project Future Cities



visualization of forest development 10. Derivation of potential water retention areas. Production of runoff generation and groundwater recharge maps 11. Development of a digital tool for multicriteria analysis for the assessment of ecological and economic consequences of forest strategies 12. Integration of the ForeStClim-results in a Spatial Planning Support System (SPSS) 13. Development of forestry strategies to react to different regional climate change scenarios 14. Processes of transnational coordination to adapt the strategy package will be implemented 15. Development of a digital spatial decision support system (SDSS) 16. Implementation of the forest strategies in forest test and demonstration sites 17. Material collection for a book and a political leaflet concerning forest areas

Outputs: 1. climatic change scenarios downscaled to the partner regions, 2. forest site survey methods, 3. Digital forest site maps and water budget maps 4. European forest growth models sensitive to climatic change and forest site shifts, 5. Reports (digital and printed), 6. Standardised digital forest hazard maps, 7. Digital spatial planning support system 8. Digital geographic information 9. Digital tool for multicriteria analysis of ecological and economic consequences of forest strategies under different regional climate change scenarios, 10. Forestry strategy package integrated in a management information system.

Innovation

The major focus of the transnational activities in the ForeStClim-project is on innovative approaches for a sustainable resource management taking environmental shifts induced by regional climate change into account. In order to maintain intact and vital forests the projection of forest site shifting under climate change is essential. Hence, forest site survey and assessments have to be undertaken, showing existing and projected vulnerability. The adoption of adjusted site survey and forest inventory procedures viable for reacting to climate change.

The adaptation of forest growth models to climate change impacts and forest site shifts besides the impacts of forestry management represents a new generation of forest growth modelling. This will be a dynamical reacting tool to visualize and to quantify projections of timber production as well as of carbon sequestration. One of the key issues in a future changed climate will be the

protection of wetlands and floodplains as a precaution against flashfloods in smaller catchments with high forest cover percentage. These services of forests in water management have so far not been appropriately included in planning procedures. Hence water retention areas will function as one of the pillars of an anticipatory environmental precaution planning procedure in ForeStClim.

ForeStClim takes a closer look at opportunities and boundaries of risk management. Special attention under climate change has to be given to the management of storm exposed sites and of sites with extreme climatic conditions including floods, droughts and consequently fires. This will be an innovative aspect to forest maintenance. Additionally, guidelines for natural regeneration of climatically tolerant forest stands will be provided in order to maintain the broad genetic variability of a multitude of seedlings as well as to provide risk diversification and hence opportunities of mitigation.

Project specifics

Regionalisation of climate change scenarios in the partner areas of authority. Development of innovative and integrated modules within a transnational expert and stakeholder team using a common approach in order to assess forest site shifts, forest stand shifts, risks threatening forests and woodlands, as well as goods and services under a changed climate.

Incorporation of these modules into regional forest planning and forest site surveying practices which do not cope with the challenges of climate change and tailoring these into innovative strategic instruments. Simulation of forest growth and

The Strategic Cluster is initiated by the JTS NWE; the meeting is organised on behalf of the Lead Partner of the NWE Project Future Cities



carbon sequestration and implications of climate change for future forestry production targets such as high valuable timber, forest pulp and wood fuel biomass. Compiling a transnational approach to forestry management and forest risk strategies in order to create a more proactive and adaptive management and governance regime focused on sustaining the production, recreational and protection functions of forests. Pursuing a joint strategy which combines water management and forestry measures to improve water retention, mitigate flash floods and strengthen the resilience of forests towards increasing drought events (building upon the INTERREG project WaReLa). This work will include risk assessment and multicriteria analysis aimed at preserving economic stability under a future climate. A multiple goal optimization model will show trade-offs as well as windows of opportunity between alternative management strategies. On the other hand regional multiple goal optimization models, one for each partner region, will show trade-offs between regional policy alternatives. Fostering capacity building and raising awareness will be a major concern of the project partners. Hence, a major goal will be developing and implementing publicity initiatives and a joint communication plan. In addition a process of transnational climate changed induced forestry coordination will be launched.

Previous EU projects involvement

The idea of the ForeStClim project was developed in a core group of the WaReLa-team. In ForeStClim the focus is set on forestry management strategies and risk management under the conditions of a changing climate. But the wooded WaReLa-demonstration sites in Germany and Luxembourg will be carried over to the ForeStClim-project. And the core WaReLa-team will be the future partners of the ForeStClim-project. In this new project the partnership will be extended by partners who were related to WaReLa in any way, for example as members in the WaReLa-advisory board or as delegates of WaReLa-workshops or conferences.

It is foreseen to set up an extension project for knowledge transfer and policy advice within the INTERREG IV C strand after ForeStClim has started. The transfer of knowledge from partners outside the NWE-region, particularly from southern European states would be complementary for ForeStClim. The policy advice building up on the ForeStClim outputs could be intensified within an INTERREG IV C partnership.

Within the integrated FP 6 project SENSOR a decision tool for European decision makers is developed. ForeStClim may add aspects of climate change scenarios on land use change as well as detailed information on forests. The Interreg III B CADSES project STRiM deals with risk assessment and risk management of environmental hazards. ForeStClim can cooperate with this project in terms of regional risk assessment.

In the former FP 5 project ITM (implementing tree growth models) the project partners gathered valuable experience on how to transform scientific prognosis tools to practice. This will help to integrate forest growth models within ForeStClim. A cooperation with the INTERREG IV A project "Regiowood" concerning the economical sector of forests and timber production against the background of an increasing worldwide timber demand is envisaged. This project is dealing with the development of inventory methods based upon remote sensing analysis.

034B Future Cities Urban Networks to Face Climate Change

General Information

Project priority: Environmental challenges
Strategic Initiatives: unspecified
Start date: 10-05-2007
End date: 31-12-2012
Website: www.future-cities.eu
ERDF Grant: 5,544,801.00
Total eligible cost: 11,089,602.00

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Project partners

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3. Emschergenossenschaft [DE]
4. Hastings Borough Council [UK]
5. Gemeente Nijmegen [NL]
6. Rouen Seine Aménagement [FR]
7. Gemeente Tiel [NL]
8. West Vlaamse Intercommunale [BE]

Summary description

The Future Cities-project aims at making city regions in Northwest Europe fit to cope with the predicted climate change impacts by proactive transformation of urban structures.

City structures and the urban living environment are especially vulnerable to the consequences of dryer as well as wetter weather conditions such as temperature rise ("heat island effect") or wetter winters (increased flash-flooding). At the same time well functioning city regions are one of the most important pre-requisites for sustainable economic development. A mere reaction on the impacts of climate change will lead to a cost escalation for adaptive measures. Viable and cost-effective adaptation measures are only scarcely at hand.

Therefore, anticipatory strategies are needed for adapting the urban structures in a way that the impacts of a changing climate will not endanger the urban living environment.

The Future Cities-Partnership develops concepts and implementation strategies which:

- are innovative — not yet implemented on the practical level
- save from greater financial loss — by operating proactively
- provide for synergy effects and cost-effectiveness — by applying combined measures.

8 partners from 5 countries cooperate to develop, apply and improve assessment criteria for climate proof cities. Adequate action plans will be developed in each city region and priority measures will be implemented in small-scale investments. Focus is laid on existing urban structures. Broad dissemination of the results is ensured by distinctly targeting disseminators e.g. architects, housing companies, project developers.

For selected strategic urban key components - "green structures", "water systems" and "energy efficiency" - effects and impacts will be combined for surplus effects. The single effects will be enhanced and economic efficiency is improved, e.g. by using green structures and the water system for cooling instead of energy consuming air-conditioning.

Detailed description

Thematic work related to the work packages is coordinated in the working groups (see fig annex B) which especially focuses on the development of the joint products as well as provide a continuous exchange platform. Working groups meet at least twice a year, more often according to the necessity. E.g. the preliminary assessment check needs to be finished by end of 2009. Accordingly, working group 1 "Assessment Check" has a peak in its work in 2009.

In charge of each working group are 2 different partners, which come from different countries. Thus, it is ensured, that different approaches are considered and an optimal integration will be secured. All partners are involved in coordinating a working group. The communication between the work packages is provided by 2 parallel meetings of all working groups per year.

The twinning working approach of Future Cities secures intense transnational working cooperation on crucial topics of Future Cities.

It is especially applied in WP2 and WP3. 2 partners from different countries assess their action plans, and, thus leading to jointly improved plans which take into account the best-practice from at least two countries in NWE. The results of the twinning are laid down in reports and they are disseminated to the whole partnership at the WG meetings and at conferences. The Twinning is undertaken by means of visiting each other's organisations, discussing the procedures and results "on the site" and creating a strong personal exchange link. As experiences from previous transnational projects have shown, strong personal cooperation which was installed during a project has a long-lasting effect — beyond the lifetime of a project: This creates a European network for exchanging practical experiences in every day-work. The Project Steering group ensures the inner cell of the project and working together.

All standard IT techniques will be used, such as using the website as exchange platform.

Objectives description

The main aim is: Making city regions fit to cope with predicted climate change impacts

General objectives tackled by all work packages are:

- Reduce the risks caused by climate change
- Transfer of the methods and action plans to city regions throughout NWE
- Improve methods and action plans by transferring monitoring results of the implementation activities

Specific objectives per work package are:

Objective 1: Develop a consistent and viable method to assess the climate proofness of cities and urban structures with regard to strategic urban key components (green structures, water systems and energy efficiency) (WP 1)

Objective 2: Develop action plans and concepts for pilot sites towards climate proof cities and city structures including methods for planning, effectiveness-cost analysis and implementation techniques (WP 2)

Objective 3: Implement pilot measures to test the developed guidelines and action plans and to contribute to the dissemination of the measures developed (WP 3)

Objective 4: Raise awareness efficiently by using and enforcing the potential of the target group "disseminators" (WP 4)

The work packages are structures and interlinked accordingly (see figure annex A).

The strategy comprises three major aspects:

- Investigate the effects of key components of the urban environment: "green structures", "water systems" and "energy efficiency" and their possible contribution to adaptation
- Use the potential of combining the effects, thus enhancing the impacts and improving economic efficiency, e.g. using green structures and the water system for cooling instead of energy-consuming air-conditioning
- Focus on selected key components of the urban environment where the partners have specific expertise and the combination will lead to a surplus.

Activities description

The Future Cities-project is structured in 4 work packages (WP).

In WP1 a joint assessment check for climate proof cities will be developed taking processes and key components into account.

In WP2 action plans for adaptation measures are developed jointly for the involved cities and regions. The action plans are systematically assessed. The feasibility of the assessment check is tested and evaluated leading to an improved check method which is then transferable.

To validate the theory and methods in WP3 exemplary measures with small-scale investments are implemented based on the outcomes of the action plans. All partners provide for evaluation to be fed into the assessment check of WP1.

In WP4 strategic stakeholders and disseminators are addressed for awareness raising which is important for triggering a more proactive approach widely. The demonstration sites of WP3 are used as concrete and vivid showcases.

Main outputs: A joint assessment check tool for climate proof cities is developed which will be tested in 5 NWE-countries and will be transferable throughout NWE and Europe.

8 action plans are developed for the combination of the key components "green structures", "water systems" and "energy efficiency" which will provide excellent examples how to achieve more efficiency.

The experiences made are evaluated and ensure, that the assessment check will be viable and transferable.

8 small scale investments at all partners' locations will show in all 5 countries how adaptation measures can be implemented efficiently in existing urban sites. This will highly support convincing other cities in NWE to start with adaptation.

Joint transnational and interdisciplinary working groups will be installed which are directly interrelated to each work package and the joint products.

The Strategic Cluster is initiated by the JTS NWE; the meeting is organised on behalf of the Lead Partner of the NWE Project Future Cities

For enhanced partnership working an innovative "twinning approach" is planned: 2 partners from different countries review and improve together their action plans.

Innovation

Practically successful adaptation measures in city structures to face climate change do not or rarely exist.

The first innovation pillar is that the focus is laid on anticipatory tackling adaptation: On EU level as well as national level some urban networks exist to promote mitigation measures but implementing adaptation measures is not in the focus yet although it is a very urgent topic to be tackled. Climate change is mainly integrated into planning in the form of mitigation strategies, i.e. by focussing on greenhouse gas emission reduction in general or the role of traffic in particular. Viable and cost-effective implementation of adaptation measures is only scarcely at hand.

Secondly, the strategy chosen is innovative:

Focus is laid on three strategic key components of urban structures: "green structures", "water systems" and "energy efficiency" and their combination to provide for surplus effects. Methods and techniques exist to some extent of mostly one component. New is the process of integrated consideration and implementation in combining the components.

The third innovation pillar is the focus on existing urban structures or on measures in developments which easily can be transferred to existing structures. Adaptation measures are started to be applied for new developments, but are more difficult to implement in existing structures. Although, there is need for action especially in these more vulnerable and ineffective parts of cities.

Although basic methods exist the financially viable application has to be elaborated to supply solutions that can be easily applied by cities across NWE. In this way the investments selected for Future Cities are necessary to test the feasibility and develop viability. Very often new techniques are there; but they are not yet being recognised and feasible to be implemented in a broad scale.

Project specifics

The project partners cooperate on development of joint solutions for the adaptation of urban structures to the impacts of a changing climate. They cooperate to generate comprehensive assessment methods as well as planning tools to support decisions for sustainable urban developments. The partnership cooperates to bring together a large number of specific and sector experiences. The cooperation results in joint methods and strategies for adaptation in different cities in NWE.

The changing climate in NWE is predicted to have impacts in different directions where adequate responses are needed, i.e. adapt the urban environment to dryer as well as wetter weather conditions. Both aspects will be tackled in the project striving for the best combination of measures to respond to both changes.

The Future Cities-strategy responds to major adaptation needs:

The temperature in the built environment is expected to rise with heavy impact on the cities' living conditions. In vulnerable locations e.g. hospitals/homes for the elderly, costly and energy-consumptive reactive measures are caused, e.g. more air-conditioning. Here, the key component "green structures" tackles the problem and may balance the predicted rise in temperature of urban surface. The question is: How to use these green cooling effects efficiently? How to secure the functioning during drought periods?

Winters are predicted to become wetter with increased runoff and flash-flooding.

Here, solutions could be found in combinations of the urban water systems with green structures.

Summers are expected to be hotter and drier which reduces the amount of water available for plants during droughts resulting in less cooling effects of green structures. Here, the combination with the water system is called for e.g. to develop ways to store additional water which can be used for irrigation.

Overall: How can the adaptation measures be combined effectively with structural urban changes for "climate proof cities"?

Other EU projects involvement

Results of projects undertaken on EU level as well as on national levels with regard to single components form part of the information basis and are taken into account accordingly (e.g. NWE IIIB-project ESPACE on the key component water management with regard to flood risk maps).

More theoretical approaches, e.g. as undertaken by the IIIC-project AMICA are taken further by testing and implementing viable solutions.

A research basis on the state of art of the incorporation of climate change into spatial planning was laid by the ASTRA-project INTERREG IIIB Northsea-programme.

For pushing results further, close cooperation is planned e.g. with the IVC-project proposals GraBS and "Climate Proof Cities". Here, the ongoing results of the networks' exchange on ideas will be taken into account within Future Cities.

In all cases, a clear added value is provided with the strategy chosen: the combination of the selected key components and the proactive implementation of viable adaptation measures. Future Cities is embedded within the European and national Framework strategies for reference as stated e.g. in the Green Paper Adapting to climate change in Europe or the 6th Action Programme for Environment.

Future Cities also may possibly contribute to the NWE-programme's planned cross-cutting theme for a Strategic Initiative with regards to adaptation to climate change on local level ("Adaptation to the expected spatial impacts of climate change").

Beyond existing EU-funded European initiatives Future Cities will make use of links to national funded projects in order to provide for synergy effects. E.g. in Germany a working cooperation exists with the research project "DynAKlim" under the national research programme "KLIMZUG" providing for valuable contribution to Future Cities' key component "water systems".

Previous EU projects involvement

Results of projects undertaken on EU level as well as on national levels with regard to single components form part of the information basis and are taken into account accordingly (e.g. NWE IIIB-project ESPACE on the key component water management with regard to flood risk maps).

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005A IMCORE Innovative Management for Europe's Changing Coastal Resource

General Information

Project priority: Environmental challenges
Strategic Initiatives: unspecified
Start date: 01-06-2007
End date: 31-10-2011
Website: cmrc.ucc.ie
ERDF Grant: 2,996,775.67
Total eligible cost: 5,993,551.34

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4. University of Aberdeen [UK]
5. Cork County Council [IE]
6. Cardiff University [UK]
7. Agentschap voor Maritieme Dienstverlening en Kust-afdeling Kust (MDK-afdeling Kust) [BE]
8. Syndicat Intercommunal d'Aménagement du Golfe du Morbihan [FR]
9. Aberdeen City Council [UK]
10. National Maritime College of Ireland [IE]
11. CoastNet - the coastal network [UK]
12. EUCC - The Coastal Union [NL]
13. Maritiem Instituut, Universiteit van Gent [BE]
14. Envision Management Ltd [UK]
15. UBO (Université de Bretagne Occidentale) [FR]
16. Sefton Council [UK]
17. Durham County Council [UK]

Summary description

Aim: To promote a transnational, innovative and sustainable approach to reducing the Ecological Social and Economic impacts of climate change on the coastal resources of NWE.

To achieve:

- A demonstration of how the innovative expert couplet approach (i.e. collaboration between coastal practitioners and scientists using the principles of sustainability science), can help with the effective implementation of adaptive management strategies for coastal resources.
- The identification of impacts of a range of specified climate change scenarios on coastal sectors and the development of a response in the form of strategies for adaptive management.

Detailed description

Sectoral Integration -

This will be achieved through the trans-national sectoral working groups established within the partnership in WP2. Their aim is to address problems related to specific coastal sectors e.g. fisheries, ports and shipping, marine recreation. These groups are scheduled to make joint presentations in the seminar on socio-economic impact of climate change in coastal sectors in NW Europe in London between months 18-30.

Vertical Integration.

All partners will be required to work at multiple vertical levels ranging from the local level to the trans-national project level. For example, at the local level, the partners will work as Expert Couplets. However, expert groups will be established to address specific issues such as reviews of institutional and legal aspects of the problem. These groups will operate at the project level by providing a holistic view of the overall project context. All partners will be engaged in addressing the broader challenge of transferring the knowledge gained from the project to coastal managers across NWE.

Geographical/ regional cooperation.

The geographical boundaries to which the project adheres are local, national boundaries and trans-national (considering NWE as a region). The mechanisms for engagement within the partnership are already described.

Objectives description

Objectives:

1. To demonstrate how the innovative expert couplet approach (i.e. collaboration between coastal managers and scientists using the principles of sustainability science), can help with the effective implementation of adaptive management strategies for coastal resources.
2. To improve the regional viability of our coastal sectors by developing common decision support tools and techniques for future planning.
3. To provide coastal managers with the capacity to implement adaptive management strategies by providing examples of strategies tested at nine pilots and technology such as visualisation tools, specialised software, best practice guidelines and a management process indicator set will be incorporated in a freely available Multimedia Distance Learning Too set of tools / skills developed, tested and fine-tuned as representative sites across NWE.

Activities description

Actions:

Build upon the lessons learnt from completed projects and programmes and link with current initiatives to fully realise the benefits of inter-project / programme exchange of ideas and outputs.

Implement nine Expert Couplet Nodes across NW Europe to demonstrate innovative approaches to coastal resource management based on principles of sustainability science. Identify and characterise the key natural and anthropogenic processes which can lead to socio-economic impacts from climate change in the coastal zone of NW Europe. Utilise scenario building as a tool for envisioning coastal futures.

Mentor and assist coastal managers in the development of in response to climate change scenarios.

Promote the adoption of sustainability science for coastal management among coastal practitioners, policy makers and scientists in NW Europe.

The development of the tools and adaptive management strategies will be undertaken in consultation with end-users at all of the nine pilot sites. The initial concepts will be developed by the Partners before field-testing by local end-users facilitated by the Expert Couplet Nodes. Outputs will be revised in response to end-user feedback before further testing and subsequent partner review prior to final production. This exchange of experience, technical know-how and research ideas should ensure that the strategies and tools will be successfully incorporated into future routine coastal management practice.

Innovation

- It seeks to operationalise the principles of sustainability science to achieve progress in the way we approach the management of our coastal assets. The discipline of sustainability science is an emerging approach that brings together established sciences in a multidisciplinary environment to address a common policy problem. As such it is an ideal framework for dealing with the complex Ecological Social and Economic (ESE) issues associated with the impacts of climate change in the coastal zone. An alternative term is 'the science of sustainability'.
- It develops unique relationships in the form of nine Expert Couplets, bringing together local government authorities and research groups, to collaborate at a broader scale with trans-national partners from across the region.
- It moves away from the traditional approach to climate studies, which focused on drivers for change and environmental trends, by focusing on the Ecological, Social and Economic consequences of future scenarios.
- A specific aspect of innovation in this project to move away from hard systems (e.g. engineering solutions) to more of a soft systems methodology (SSM) in dealing with the impacts of climate change in the coastal zone. In practice, projects that seek to develop coastal defence structures in response to increased coastal flooding represent traditional hard systems approaches (often referred to as hard engineering projects). Projects such as the one proposed here, which seek to get to the root of the problem and to develop optimum solutions by understanding organisational processes and public concerns, represent a SSM.

Project specifics

How to address the impact of climate change on different socio-economic coastal sectors e.g. fishing, port development, marine recreation, & coastal defence?

How to inform and assist coastal managers in the development of adaptive management strategies?

Previous EU projects involvement

COREPOINT: The project builds substantially on the outcomes of the Interreg IIIB Corepoint project, which focused on COastal REsearch and POLicy INTEgration for making progress in implementing the objectives of Integrated Coastal Zone Management (ICZM). The benefits of facilitating links between scientists and policy makers to address specific coastal problems emerged from the Corepoint project. However, the project was never organised to fully assess the implications of this approach as part of an innovative management process. By comparison, this project seeks to achieve innovation in management from the outset, by framing the approach to management adopted in the project in the context of the principles of sustainability science and by developing indicators for monitoring this management process. Corepoint will end in June 2008.

SPICOSA: The proposal has conceptual links to the FP funded SPICOSA project (Science Policy Integration for Coastal Systems Assessment). The SPICOSA partners are interested in understanding how sustainability science can deliver a more effective way of addressing complexity in coastal systems. However, while SPICOSA is a scientific project with an emphasis on earth system complexity, this project differs in its aims to deliver tangible management outputs. SPICOSA will run until 2011. Several of the academic partners are involved in both initiatives. This provides an opportunity to exchange information and knowledge between the two projects, which is an opportunity which will be actively pursued. Joint events may be considered to achieve synergies and added value for both projects.

Other projects: Encora, Cycleau, Espace.

002A WAVE Water Adaptation is Valuable for Everybody

General Information

Project priority: Enviromental challenges
Strategic Initiatives: unspecified
Start date: 01-01-2008
End date: 30-06-2013
Website: www.wrd.nl
ERDF Grant: 5,499,629.84
Total eligible cost: 10,999,259.67

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4. Waterschap Groot Salland [NL]
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6. Institution d' Aménagement de la Vilaine [FR]

Summary description

The overall challenge of the WAVE project is to create conditions for a sustainable, regional development in which the different (land use) functions are approached in an integrated manner and opportunities are used in such a way that the region is equipped to set off the consequences of climate change. The strengthening of the value of water in the region forms a leading principle within this context. The three main objectives are developing policies that prevent damage and address opportunities, making stakeholders and nature less vulnerable and introducing the importance of water.

All activities and measures taken within the framework of this project should contribute to the idea of 'climate proof catchments'. The WAVE project will make use of research projects that will be carried out within the Dutch 'Climate changes Spatial Planning' (CcSP) programme. One of the main themes of this research programme is 'Adaptation'. The Dutch CcCP programme introduces the 'climate proofing approach'. The starting point is that investments in sectors and hence the way land and water resources will be (spatially-) distributed is among other things also dependant of climate change developments.. The concept of 'climate proofing' is the development of (spatial-) adaptation strategies that reduce climate risks and optimise both environmental and business opportunities.

Detailed description

Cooperation between the partners will be based on the same principles as in the JAF project at several levels:

At the level of the Steering Committee: cooperation and exchange between regional board members, government officials and politicians.

At overall management level a Transnational Coordination Group will be established: implementing the WAVE project and the WAVE approach together is a shared challenge to the project partners. They will meet twice a year and have frequent bilateral contacts.

At the level of Cooperation Issues: here the partners representatives are responsible for implementing the joint actions together (with one partner taking the lead) and binding the regional actions.

At the level of communication: communicating WAVE (the project) and the WAVE approach is a shared responsibility and all partners will put effort into this via their communication officers who will cooperate transnationally too.

The projects' organisational structure reflects these levels of cooperation (see section 4.4). Improving cross sectoral and vertical integration is one of the objectives of WP1 of the WAVE project and is demonstrated clearly in Joint Action 1.1

Cross sectoral integration: Wave involves spatial planners, hydrologists, juridical experts, financial (and insurance) experts, scientists/universities, farmers, (tourism/recreational) entrepreneurs, nature experts.

Vertical integration: Wave involves regional and local authorities like municipalities, waterboards and provinces, national authorities like ministries and transnational authorities or platforms like the Dolphin Club.

This leads to functional integration: Wave involves planning and policy makers, project managers involved in implementation, communication officers/employees, water experts, politicians and government officials, risk management officers, etc.

Objectives description

The overall challenge is to create conditions for a sustainable, regional development in which the different (land use) functions are approached in an integrated manner and opportunities are used in such a way that the region is equipped to set off the consequences of climate change. The strengthening of the values for water in the region forms a leading principle within this context. All activities and measures taken within the framework of this project

should contribute to the idea of 'climate proof catchments'. The WAVE project will make use of research projects that will be carried out within the Dutch 'Climate changes Spatial Planning' (CcSP) programme.

The central aim is: Prepare for future developments in regional water systems caused by climate change, taking into account regional circumstances and practices. Objectives: 1. Develop policies and implement practices which can prevent or minimize damage and address opportunities associated with water in the context of climate change. 2. Make people, profit and planet less vulnerable in the future. 3. Introduce the value and importance of water in this respect. The project intends to contribute to more 'water and climate resistant water systems'. This should guarantee that there will be less economic loss as a result of climate change and that there is also clarity for residents regarding which risks are being covered by the authorities and which risks remain and how they should deal with these risks. The partners co-operate to ensure that the climate change will become at the heart of their planning, management and operational activities.

Activities description

The partners will undertake projects such as predicting and analysing extreme flooding and drought events, hydrological and hydraulic modelling (flood forecasting system) and expanding modelling techniques and calculation measures. Furthermore, there will be projects developing more coherent and integral visions and strategies on how to adapt and react to the risks of climate change in the catchments. Within these visions there will be attention for the sustainable dimension of water management and planning methods. Partners will also carry out projects that explore alternative solutions for water and land management practices regarding climate change and define the feasibility of real 'climate neutral' ways of planning, managing and constructing. Within this planning and policy theme, partners will carry out projects to create a coherent vision on making the catchment area climate proof for the benefit of all stakeholders. A second category of activities consists of concrete measures

There are also communication activities through the regions, based on coherent planning and decision making, using innovative public awareness activities like water festivals. Expected results and outputs: • Integral and coherent visions • More insight in regional effects and problems of climate change • Improve management and establish more integral and coherent planning practice • New ways of cooperation with land users • Innovative and spatially well balanced solutions for creating capacity for water (retention, improvement of connections for better discharge etc.) in multi user areas. • Smart combination of subsoil and aboveground functions. • risk management and communication strategies • involvement of and communication with land users • explore new ways of cooperation with different land users • strategies on how to manage and combine different interests, new financing techniques and stakeholder engagement arrangements

Innovation

Connection of climate proofing to the regional level and the situations in river basins; Shows a new understanding of the potential impacts of climate change from three perspectives: planning, people, measures; Making future problems more concrete in the present for people, politicians, planners and practitioners; Taking into account more extreme situations due to climate change, in particular in areas that are situated in the deltas of river basins; Linkage of climate change to risks at regional level and make risks more concrete; The value of water is introduced in spatial planning: how to deal with climate change from a water point of view; Evolving understanding and strengthening of the inter-relationships between water management, land management and the environment; Increase the acceptance of policy, plans and measures; Improving dialogue with stakeholders and find innovative ways of committing them; Promoting the opportunities presented by climate change.

The partners share a common vision on the problems that occur in their catchments due to

climate change. Therefore an approach of prevention and adaptation will be developed. Within WAVE the partners intend to effectively combine and apply resources (people, knowledge, finances) to make their catchments more climate proof. Within this framework partners do not intend to re-invent the wheel: they unroll an approach that will also make use of already existing experiences, models, knowledge and case studies and apply it to regional contexts. This approach will cause a 'WAVE' of solutions, views, actions, information and expertise within the regions involved. This approach will be disseminated to other regions as well and other regions are invited to contribute to this approach.

Project specifics

First, the WAVE project wants to improve vertical and cross-sectoral integration of water management in spatial planning. This is one of the central cooperation issues. Regional risk analysis is an important aspect in this respect. Secondly, WAVE partners aim to cooperate on the issue 'how to create spatial balances between water and use of land'. Thirdly, cooperation within WAVE focuses on awareness and on communicating climate change and risk awareness.

Previous EU projects involvement

Capitalises on the JAF and the JAF extension project. Besides, the German and Dutch partners have gained a lot of experience in IRMA projects (Interreg IIC). The English partner has experience (e.g. in transnational co-operation) in EU-funded Programmes like LIFE.SCC has experience in the Somerset Levels & Moors LEADER+ , a European Union-funded community initiative supporting the involvement of local people in developing and testing new types of sustainable rural development. Somerset County Council managed LIFE PROJECT 92-1/UK/026 1993-97 'Reedbed creation for water quality, nature conservation and fishery management' in partnership with the Parc Régional Naturel des Marais du Cotentin et du Bessin. Somerset County Council's contractual Partners were English Nature and the Royal Society for the Protection of Birds. The Environment Agency and RSPB participated in the Wise Use of Floodplains project (WUF) - Somerset Levels and Moors Case Study, 1999-2002.

The Flemish Environment Agency was lead partner in the Interreg IIIB Scaldit project and participated in the Interreg IIIB No Regret project on drought. As also in some transbordering projects e.g. the Lutanius project, the DUWA project and the IASM project. The WAVE project meets the aims of the European Water Framework Directive (EWFd). The project is also closely linked to the implementation of the European Water Framework Directive is the Directive on the Assessment and Management of Floods. WAVE's aim is to promote an innovative approach to risk management and prevention in water management and to put this into effect. As the WAVE project integrates (flood) risk management into the river basin management plans, complementary objectives are being addressed. Moreover, the project meets the need for close coordination, which is required for an effective implementation on both Directives