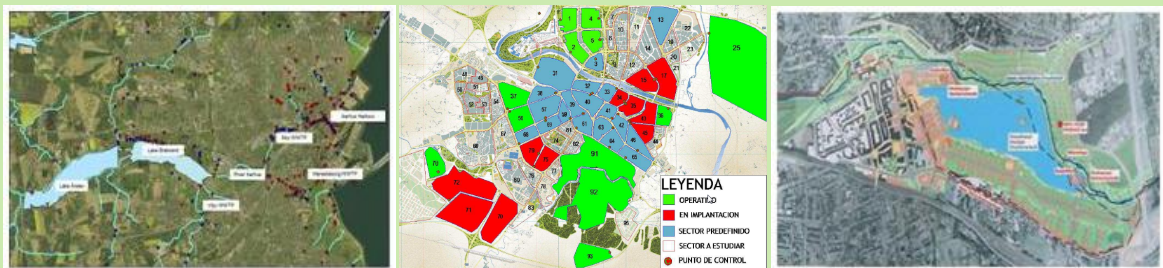


## GOOD PRACTICE IN URBAN WATER MANAGEMENT

### *DESSIN policy brief #1*

**Designing governance and financing regimes to  
encourage innovation uptake**

*A guide for water managers and policy makers*



New technology is a key element in tackling challenges faced in urban water management, such as poor water quality and increased water scarcity. New approaches are more likely to turn into real innovations (actually implemented and taken up by the market) if there is evidence of their benefits or added value in economic, environmental and social terms.

This brief provides a series of five recommendations on governance design factors conducive to innovation uptake. It is targeted to water managers and policy makers aiming to create enabling environments for innovation uptake.

The FP7 DESSIN project, funded by the European Union, responds to this requirement by demonstrating and promoting innovative water solutions. **The project is built around five demonstration sites across Europe, where these solutions are being tested and validated. DESSIN is also developing a methodology to value ecosystem services (ESS) improvements associated with the uptake of these technologies, thus enhancing the evidence base of the multiple benefits of tested innovations.**



## 1 GOOD PRACTICE 1: ESTABLISHING A STABLE AND HOMOGENEOUS POLICY FRAMEWORK

Continuity in public policy and financing streams is known to be important for long term business planning, and innovations are supported by strategies that provide investment security to innovators. A stable, clear and transparent regulatory environment helps innovators identify opportunities and strengthen the confidence in future returns on investment.

Regulations and policies may act as strong motivators in innovation development and uptake: it is important, therefore, that they provide the right incentives to foster sustainable innovations. Clear objectives in the regulatory and policy framework can provide strong supporting rationales for innovation development and uptake. For example, the

environmental targets of the EU Water Framework Directive or the EU Bathing Water Directive have contributed to direct investment towards more sustainable forms of urban water management. Other non-regulatory examples include policies of national or regional importance such as the “Culture of Excellence” in the Danish water sector or the Green City Initiative in Aarhus.

Currently, urban water management in Europe is characterised by a complicated policy framework where standards, ownership, and responsibilities vary widely between countries. Greater coherence and clarity could foster faster innovation transfer and create economies of scale.

### Example 1: The role of the Master Plan and Future Convention in the Emscher

The Emscher catchment is situated in the Ruhr Valley, home to the German industrial revolution and one of the most densely populated areas in Europe. There, the Water Framework Directive stimulated investments regarding rainwater decoupling from the urban wastewater network to improve water quality and restoration efforts to improve the ecological quality of rivers. Regionally, two umbrella plans, the Masterplan Emscher Future and the Future Convention for Stormwater, were instrumental in promoting a common and clear political vision regionally. They contributed to building trust, enthusiasm, and optimism, so that change and ambitious projects could succeed. One successful example is the creation of 24 ha lake and meadows on the site of an old steel factory which now serves as a flood retention basin and as an ecological hotspot.

More information can be found at: <http://www.eglv.de/en/waterportal/emscher-conversion.html>

## 2 GOOD PRACTICE 2: DESIGNING SUPPORTING FINANCIAL INCENTIVES AND OPPORTUNITIES

National and European rules and financing streams have a clear influence on the choice and design of innovations locally. Including targets, eligibility or selection criteria to ensure delivery of multiple ecosystem services could significantly influence local investments.

The application of charges on water use can increase the uptake of water efficient technologies, while the application of discharge fees can incentivise investment in pollution abatement technologies. For example, a

discharge fee based on sealed land was used in the Emscher valley to boost private rainwater decoupling investments.

Private financing is an important source of funding in urban water management. A wide range of instruments exists to finance infrastructures in urban water management and could be considered to foster sustainable innovation uptake.



Alternative strategies can be used to finance innovation uptake. For example, to create Lake Phoenix in the Emscher valley, extensive funding was generated from the private market thanks to the marketing of newly built real

estate on the shore of the lake. Additional sources of private funding could be exploited if the benefits and ecosystem services delivered by an innovation are clearly identified and quantified.

### Examples of financing options for urban water management innovations

Private finance	Instruments	Examples
<b>Loan and credit</b>	Loans and credits are debts provided by one entity to another accompanied by an interest rate.	Oldest and most common sources of financing (e.g. European Investment Bank)
<b>Microfinance</b>	Microfinance provides small amounts of money at a lower interest than under other funding schemes.	Offered by micro-finance institutions across Europe, e.g. Adie in France or Finnvera in Finland.
<b>Equity investment</b>	Equity investment is the practice of buying a fraction of a company in the form of equities.	The European Bank for Reconstruction and Development provides equity investments for private water companies.
<b>Venture capital</b>	Venture capital is a form of equity investment mostly used when a project does not manage to attract capital in public markets.	Mostly used in North America. In Europe, examples include Vento and Aqua Resources Fund. See the Private Equity & Venture Capital Association web-site for more information.
<b>Insurance and guarantee</b>	Insurance is the transfer of the risk of loss from one entity to another in exchange for payment. A guarantee is an agreement serving as security for the formal pledge to pay another person's or company's debt.	A range of insurances are available worldwide. Guarantees are not frequently used in the water sector.
<b>Crowdfunding</b>	Crowdfunding is the practice of funding a project or venture by raising many small amounts of money from a large number of people, typically via the internet.	Several platforms exist such as Kickstarter and Indiegogo.

More information can be found at: [https://dessin-project.eu/?page\\_id=32](https://dessin-project.eu/?page_id=32)

## 3 GOOD PRACTICE 3: ENCOURAGING THE DEVELOPMENT OF PARTNERSHIPS

Many actors are relevant to innovation uptake in urban water management: water service providers, policy makers, national regulatory agencies, local government planners, civil society, water users, professional associations, financial institutions, etc.

Building trust is important, and innovation uptake can benefit from more exchange between relevant actors. Several projects in Europe and Australia have for example promoted the role of Learning Alliances or Shadow Networks to foster informal debates on problems and potential solutions between

stakeholders. They allow actors to get to know each other and facilitate relationship building.

Aligning perspectives and seeking consensus are ideal objectives; however, in cases of innovation uptake reviewed in DESSIN, searching for multiple benefits and allowing for compromises were the key to success. Linking potential benefits and ecosystem services delivered by innovations with their key beneficiaries or the priorities of relevant actors can help create broad coalitions for innovation uptake.



### **Example 2: Seeking compromise in the Emscher**

One of the key success factors for the realisation of Lake Phoenix in the Emscher was the successful linking of different actors, goals and ambitions. Most eminent example in this respect is the compromise that had to be made regarding the actual size of the lake. Conflicts occurred between actors wanting to maximise real estate opportunities and other actors pledging for a bigger size of the lake to ensure its ecological viability and maximise its attractiveness and flood protection potential. Relational management, and the shared wish for a successful project, meant that eventually all actors involved were willing to find mutually acceptable compromises.

More information can be found at:

<http://www.eglv.de/en/waterportal/emscher-conversion/the-new-emscher/emscher-impulse/phoenix-lake.html>

Creating closer partnerships is critical for success. A feeling of joint ownership of the innovation uptake should in particular be created, where partners are able to influence

its design and implementation. This requires also giving significant thought to the adequate partnership structure and to the allocation of responsibilities.

### **Example 3: Flexible task sharing between Aarhus municipality, Aarhus water, and consultants**

In Aarhus, the municipality had a conscious strategy to nurture relations with the selected consultants in order to ensure joint ownership. The collaboration was organised as a partnering contract between the involved public and private organisations with shared responsibility for the process and final results. This allowed a level of flexibility and resulted in a process open for adjustments and changes that was critical for success. Technical management, for example, shifted between organisations during the project. The partnering approach allowed building capacity in all organisations during the lifetime of the project.

More information can be found at: <http://www.prepared-fp7.eu/prepared-arhus-denmark>

## **4 GOOD PRACTICE 4: SETTING UP MULTIPLE COMMUNICATION CHANNELS TO REACH OUT TO THE BROADER PUBLIC**

Innovations are often expensive and complex to introduce in existing systems. Any major change usually requires a strong rationale and broad support. Communication is crucial to

build legitimacy and public interest in innovation uptake, and therefore ultimately, political support.

### **Example 4: Strengthening the innovation business water sector in Zaragoza**

Zaragoza has formalised its approach to the development of water innovations through an institutionalised fora of firms, research institutions and local and regional administrations called ZINNAE. Its purpose is to consolidate the city as a setting for knowledge, demonstration and experimentation for the efficient use of water, in order to enable local companies to become more competitive. ZINNAE is based on the idea that the potential for innovation and economic development is unlocked through strong partnership between university, industry and government in the production, transfer and application of knowledge.

More information can be found at: <http://zinnae.org/>



## 5 GOOD PRACTICE 5: FOSTERING KNOWLEDGE CREATION AND CAPACITY BUILDING

Building knowledge on the development of the innovation and its implementation is often recommended. This may require phasing innovation uptake, for example through a period of testing and experimenting with new ideas. Pilot, demonstration sites or feasibility studies should thus be promoted. Their design should

take into account the potential controversial nature and maturity of the innovation. Identifying and quantifying which benefits and ecosystem services can be delivered may help obtain the support of potential beneficiaries of the innovation.

### Example 5: Using multiple communication channels in Zaragoza

Innovation uptake in Zaragoza relied heavily on an effective communication campaign over several years organised through the Water Saving City Programme. The Programme started in 1997 with an awareness-raising campaign targeted to households, scaled up in 2000 to other sectors, such as public buildings, parks and gardens, industries and the service sector. Good practices were identified and disseminated, and more than 10.000 pocket guides were distributed among the city's major water consuming sectors. Between 2006 and 2008, the *Zaragoza water saving city: 100,000 commitments* intended to sign more than 25,000 entities, institutions or citizens in adopting at least 4 certified actions on water use. Zaragoza hosted the International Exhibition *Water and Sustainable Development* in 2008 with 200 lectures and educational events. The municipality has also developed a self-explaining water bill in order to make the invoicing more transparent.

More information can be found at: <http://www.zaragozaconelagua.org/>

## 6 FOR MORE INFORMATION

These recommendations were developed as part of DESSIN, and are based on literature research and analysis of recent cases which have witnessed successful innovation uptake in their urban water management: Aarhus in Denmark, the Emscher catchment in Germany, and Zaragoza in Spain.

Another brief was prepared targeted to water innovators (technological companies and water utilities). Please visit the FP7 DESSIN project website: <https://dessin-project.eu>.

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