

Barcelona Process: Union for the Mediterranean

EU Mediterranean Water Initiative

Moving long-term water issues up the political agenda & strengthening water technology research and development capacity in the region

- The Netherlands' Proposal -

Introduction – water in the Mediterranean region

'Water scarcity and drought management are huge challenges in the Mediterranean. Scarce water resources, intensive water competition between users – in particular agriculture and tourism – and frequent drought episodes are common challenges in the Mediterranean. However, European countries are also impacted by low levels of water availability and share the same concerns regarding water resources management. In addition, in the light of climate change, intensity and frequency of droughts are estimated to increase.

'Unsustainable water management including water over-consumption and water pollution as well as possible climate change effects in a water scarcity situation could result in severe impacts on nature and society.' (Source: 'Mediterranean water scarcity and drought', April 2007)

Cooperation on water issues – the key to sustainable economic growth

A key priority of all countries in the Barcelona Process should be ensuring sufficient availability of usable water for future generations. This aim is also included in the UN Millennium Development Goals and the European Water Framework Directive. Water issues can only be resolved when countries work together and develop integrated solutions for water management in the Mediterranean region.

The Netherlands regards water management and water distribution in the Mediterranean region as important and strategic issues. A vital Mediterranean region is in the interests

of not only Mediterranean countries themselves, but of the more northerly European countries, too. Cooperation between the water-scarce countries of the Mediterranean region and with EU countries is essential if future political, economic, environmental and demographic challenges related to water use are to be met.

The Netherlands has a long and successful tradition of tackling water-related problems. Active engagement in integrated water management and transboundary issues has even been crucial to the country's physical survival. Over the centuries, the Netherlands has acquired broad experience, knowledge and technical know-how on dealing with water issues, which can also be applied to other regions. We are committed to sharing our knowledge and experience with our Mediterranean partners. This is demonstrated by major Dutch investments in water technology innovations, Dutch involvement in regional water initiatives such as EXACT, the Middle East Desalination Research Centre and the Red Sea-Dead Sea conveyance study, and our long-term partnership in the Nile Basin Initiative.

The EU Mediterranean Water Initiative (EMWI)

In the context of the Barcelona Process, the Netherlands aims to execute water projects at two connected levels.

1. At strategic level, we propose to promote regional cohesion and economic integration through a high-level discussion of the region's water footprint.
2. At operational level, we aim to launch a joint capacity-building programme focusing on integrated water resources management, water reuse and desalination.

Before the start of a pilot project on water footprinting, all partner countries in the Barcelona Process will be invited to attend a seminar where the concepts of 'water footprinting' and 'virtual water trade' will be explained and the scope of the strategic and operational components of the EMWI discussed. After this seminar, interested countries will be asked to join the pilot project which will operate at both the strategic and operational levels.

1. Strategic level – moving water up the political agenda

Water scarcity and droughts in the Mediterranean region highlight the need to move away from a crisis management approach towards one which is more strongly focused on prevention and preparedness, and which would strengthen demand management and water savings policies, boost implementation of the 'user pays' principle and help integrate sustainable water use in other sectoral policies. Legislation and technology alone will not solve the problems at hand: raising awareness among politicians, policymakers, stakeholders and citizens will also play an important role in the future. We propose using the concept of water footprinting to move water issues higher up the policymaking and political agendas.

The water footprint concept is more comprehensive than the water basin

approach applied in, for instance, the European Water Framework Directive. The water footprint considers the quantity of domestic water resources as well as 'virtual' water use through imported goods and services.

It is proposed to conduct a pilot project to calculate the water footprint of a number of countries on both the northern and southern shores of the Mediterranean. This approach would, first, enable national governments (at policy level) to make an analysis of their present and future water situation. The underlying principle of virtual water trade would help to give insight into strengths and weaknesses with respect to water consumption at both national and regional levels.

The water footprint would also provide a quantitative measure of the impact of potential long-term solutions to strategic water issues. As a measure of water consumption, which is directly linked to major issues such as energy, economic potential and tourism, the water footprint is relevant to all sectors concerned (such as industry, agriculture and

'The **water footprint** of a nation shows the total volume of water that is used to produce the goods and services consumed by the inhabitants of the nation. Since not all goods consumed in one particular country are produced in that country, the water footprint consists of two parts: use of domestic water resources and use of water outside the borders of the country. The water footprint includes both the water withdrawn from surface and groundwater and the use of soil water (in agricultural production).

'A nation can preserve its domestic water resources by importing a water-intensive product instead of producing it domestically. International trade can save water globally if a water-intensive commodity is traded from an area where it is produced with high water productivity (resulting in products with low virtual-water content) to an area with lower water productivity.' (Source: www.waterfootprint.org)

spatial planning), not only to the water sector. The political weight of these other sectors and the international nature of water issues will help move the discussion from policy to politics. The EMWI will facilitate this process. The water-related challenges that lie ahead of us demand timely action.

The Barcelona Process can provide valuable know-how and technology and a good legal basis (Water Framework Directive), but lacks a strategy.

- There is little awareness of the scale of the problem.
- Old supply-management approaches are used instead of demand management.
- Little is being done to bring all water sector actors together in innovative partnerships.
- There are few incentives for industry and agriculture to participate in programmes that address water problems.

On the other hand, there is enormous potential for water savings in the Mediterranean region:

- public water supply: up to 40% savings by reducing leakage in supply networks and water savings devices
- agriculture: 10 to 20% savings by improving conveyance efficiency of irrigation systems
- agriculture: 30% savings through changes in irrigation practices
- agriculture: up to 50% could be saved by using more drought-resistant crops
- agriculture: 10% could be saved by reusing treated sewage effluents
- industries: 15-80% could be saved, depending on application of technical measures
- tourism: 80% could be saved by fitting newer installations
- tourism: 70% could be saved with efficient irrigation, rainwater harvesting and reusing water

2. Operational level – strengthening water technology research and development

At operational level, EMWI projects will aim to improve water efficiency and minimise pollution to a negligible level as regards human and environmental health by applying appropriate technologies. Local communities, agriculture and industry can enjoy the economic and social benefits of a high level of water productivity by applying recycling technologies, closed production cycles and efficient irrigation techniques and other technologies. The EMWI will promote and conduct research and development in order to build on existing know-how on adaptive integrated management and to develop innovative technological solutions as well as a 'fast track' for marketing these technologies.

The countries involved in the strategic component of the EMWI will also be involved in the operational part of the initiative, so that the results of political discussion can be

converted to concrete action to enhance the capacity of national institutes, universities and local businesses in terms of knowledge and innovative pilot projects.

Specifically, the concept that connects the strategic and operational levels is the water footprint. The national water footprint used at strategic level will be scaled down to the level of specific sectors or industries. This will provide information about which parts of the water cycle would give the best returns on investment. The EMWI will launch a proactive research and development programme to address suboptimal links in the water cycle, resulting in the development and testing of new, innovative technologies.

Integrated water resources management (IWRM), i.e. tackling the issues of renewable resources, water use patterns, water conservation, water reuse and desalination in conjunction with each other, will be one of the tools used to achieve the objectives above. All European countries are affected by low levels of water availability and have the same concerns regarding water resources management. A sustainable and adequate water supply in the Mediterranean will require a major long-term effort in which an increasingly important part will be played by experts in IWRM, water reuse and desalination.

The EU Mediterranean Water Initiative proposes to increase scope for supporting the Mediterranean region by means of capacity building and sharing knowledge on integrated water resources management, water reuse and desalination. The aim is to launch and support a joint capacity-building programme in these areas, with academic programmes provided at MSc and PhD level and universities and businesses from the two regions working together on applied research and training projects.

Knowledge transfer will also be promoted through joint conferences and workshops to be organised in the Mediterranean region for experts in integrated water resources management, desalination and water reuse. The focus of these events will be on applied research and pilot project development.