

Executive Summary:

Climate Change and the Water Sector Report

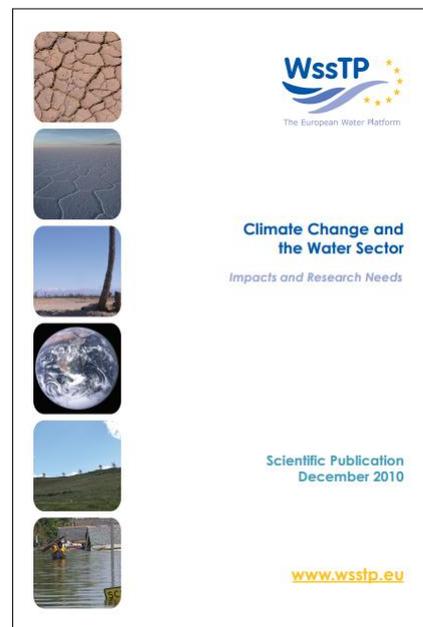


BACKGROUND TO THE CLIMATE CHANGE AND WATER SECTOR REPORT

WssTP's report on Climate Change and the Water Sector was published in December 2010, and involved 8 contributors from 6 countries.

Climate Change is resulting in more extreme weather events around the world. In some parts of Central and Eastern Europe, and particularly in the Mediterranean region, Climate Change can exacerbate the increasing risk of drought. At the same time, Climate Change and land use changes combine to raise the frequency and intensity of rainfall events, increasing the risk in areas that were already vulnerable to floods. In order to deal with these extreme “dry” and “wet” events, strategies are needed to improve flood protection and risk management.

The measures to be taken to reduce these events can be divided into two main groups: mitigation and adaptation. Firstly, mitigation involves all the methods of reducing carbon emissions, for example, by increasing the use of renewable energy and introducing energy and recovery systems in wastewater treatment. Secondly, adaptation to climate change involves reducing the impact of extreme events (by asset management, for example), reducing water withdrawal, and reducing water demand. This report consolidates current information, and assists leaders and experts to define research priorities based on consultation with our six Pilot Programmes.



CHALLENGES OF CLIMATE CHANGE AND THE WATER SECTOR

The IPCC state that “water availability and quality will be the main pressure on, and issues for, societies and the environment under climate change”. Europe’s sensitivity to climate change has a “distinct north-south gradient”. Thus, different impacts between northern and southern regions can be expected. Water availability is expected to increase in northern regions, while southern regions’ trend will be the increase in the frequency of droughts and heat waves.

One of the most important factors for the achievement and implementation of the mitigation and adaptation measures needed to face climate change challenges, is the adoption of a global agreement on the amount of funding required. This has been estimated at a cost a third of the world’s wealth.

Water use is strongly linked to changes in population, the type of food consumed, socio-economic policies, land-use, lifestyle and habits. Some of these factors, such as industrialization, intensive farming or agriculture, will contribute to more greenhouse gas emissions – the main culprit of climate change. Therefore, it is also very important to evaluate how water resources will be affected by changes in these non-climatic drivers; through this it is possible to properly assess the effect of climate change.

Impacts on the water sector can be classified in five main categories as: Impacts on water quantity and availability; Impacts on water quality; Impacts on water resources management; Economic and financial impacts; Social and security impact. The balance between water demand and availability is already at its limits in many parts of Europe. Quantity and quality problems due to climate change will soon compound this problem.

FUTURE RESEARCH NEEDS OF THE PILOT PROGRAMMES

The impacts of change will be far reaching, and, as such, all six of our Pilot Programmes and two Task Forces were consulted to discover their specific research needs. Key themes that require further research are: Alternative water supplies and technologies; Water efficiency and conservation measures; Risk management approaches; New assessment tools and methodologies; Infrastructures’ resilience; Monitoring and early warning systems; Eco-engineering approach; and Raising awareness.

Based on the Pilots’ background work and participants’ expertise, future actions may focus mainly on collaboration in ‘Climate Change’ projects, and the provision of support to draft project proposals for International, European, National or Regional institutions.