

Fifth World Water Forum in Istanbul, 2009

Session 2.2.3

The challenge: implementing new and innovative technologies and policies that reduce Water and Energy footprints.

Introduction

The links between water, energy and climate are important and complex: Energy production requires water; and supplying water requires energy. Water use and energy consumption impact on climate and changes in climate have an impact on water availability.

In order to cope with the current water challenges it is time to act responsibly in the face of growing demand for water and energy and the associated global environmental problems of climate change and diminishing freshwater resources. Owing to the scarcity of both these resources, impacts on the economy are large and largely underestimated. An integrated and sustainable approach for water resource planning and energy usage is urgently needed.

One of the important elements of this approach should be the accelerated development and implementation of innovative technologies to reduce the water and energy footprint. This session and the process leading up to it will define the problem areas and technology gaps; discuss how to bring the water and energy sector together and which policies and incentives are needed to make sure the technologies to reduce the water / energy footprint are rapidly implemented.

In the course of 2008 and 2009, conferences, workshops and bilateral initiatives are organised by various actors to address the relationship between water and energy. From these initiatives the problem areas to be addressed will be identified. For each of these areas technology gaps, policies and incentives will be discussed during the session in Istanbul. Examples of these areas are “water and energy footprinting”, the “need for water-technologies for the exploration of crude oil” and “the use of emerging renewable energy technologies in the water sector”.

Selected Workshops and Conferences on Water and Energy (consortium participation)

- Stockholm World Water Week Side-Event “Water and Energy” (EWP, DHI, NWP)
- Copenmind, Copenhagen, 1-3rd September 2008 (DHI, EWP)
- 11th International Riversymposium, Brisbane, 1-4th September 2008 (DHI)
- European Policy Summit on Water – European Regional Summit for the fifth World Water Forum, Brussels, 5th November 2008 (n/a)
- UNESCO conference, Paris, 27-28th November 2008 (French Water Partnership, EWP)
- ANU/Cost exploratory workshop, Brussels, 19-21 January 2009 (ANU, EWP, DHI)
- Copenhagen Climate Congress, March 2009 (ANU, DHI)

- World Climate Congress, Geneva, September 2009 (DHI)
- COP 15, Copenhagen, December 2009 (n/a)

Consortium

So far, the consortium organising this session consists of:

- European Water Partnership, contact for Session:
Agnès Vaillier : a.vaillier@ewp.eu
Tom Vereijken: t.vereyijken@ewp.eu, **Harro Riedstra**: h.riedstra@ewp.eu
- CIEMAT, Spanish Research Centre on Environment & Energy
Sylvia Nunez-Crespi: sn.crespi@ciemat.es
- Suez-Environnement, France
Aurore Guilbert: aurore.guilbert@suez-env.com
Jacques Labre: jacques.labre@suez-env.com
- DHI Water & Environment
Henrik Larsen: hel@dhigroup.com
- ANU, Australian National University
Karen Hussey: karen.hussey@anu.edu.au
- University of Twente, The Netherlands
Arjen Hoekstra: A.Y.Hoekstra@ctw.utwente.nl

Draft Structure of Session

2 hour session divided into two parts + introduction and conclusion. Short presentations and moderated discussions.

A rapporteur will be included depending on the place of the session in the overall programme. The rapporteur should report on the other sessions on or related to Water and Energy, achieving consistency within the thematic programme of the Forum. The rapporteur should come from a developing country to contribute to a more balanced session.

Draft Session Programme

Moderator: Andrea Tilche (EU Commission, DG Research)

Introduction (EWP) 20 min. "General setting of the global water and energy nexus scene."

- Video (5 min.) showing various innovative projects on Water and Energy (Suez, Ciemat, Veolia (tbc) already proposed projects to be included)

Part I: Identification of technology gaps (35 min.)

- a) Which areas contain the main challenges? (WSSTP (tbc), Degremont)
- b) Which technologies and management approaches are available to address these challenges? In which areas are new technologies and approaches needed? (speaker tbc)
- c) Discussion

Part II: Policy recommendations to reduce energy and water footprints (50 min.)

- a) Virtual Water – The need for sound scientific evidence as a basis for policymaking (Professor Arjen Hoekstra, University of Twente, The Netherlands)
- b) Policies that limit the development and implementation of new, innovative technologies and further exacerbate the energy-water nexus (Karen Hussey, Australian National University)
- c) Energy footprint of Water (Henrik Larsen, DHI, Denmark and Adriana Hulsmann, KIWA Water Research, The Netherlands)
- d) Which policies and approaches are needed to remove these barriers in the short term and which drivers and incentives could be used to improve behaviour? (Local level) (speaker tbc)
- e) Discussion



Part III: Conclusion and recommendations' proposal and approval (15 min)

Over the coming months, a process will be set up to draft the recommendations that will be proposed during this session. This process will connect to the many workshops and conferences taking place on Water and Energy as described above and, furthermore, will make use of the VMS of the World Water Forum. The process will be established in consultation with the other topics in the World Water Forum to achieve consistency and avoid overlap. The recommendations will be fed into the political process of the Forum.

This part will consist of a presentation of and panel discussion on these recommendations.

Stakeholders

The complexity of the energy-water challenge demands that government, academia, industry and the non-governmental sector are all necessary participants so that feasible solutions are achieved. The composition of our presentations and speakers reflects this necessity.

Expected results

The expected result of this session (and the process leading up to it) is to develop a clear overview of:

- which technologies and policies are available to reduce the water / energy footprint and which are still needed in particular problem areas;
- which barriers limit the development and implementation of these technologies and which policies and incentives are needed to remove these barriers.

The knowledge gathered in this session will be summarised in a set of clear recommendations to deliver as policy input in the political process of the World Water Forum and other policy processes, specifically COP-15 in Copenhagen, 2009.