



Horizon 2020 Capacity Building/Mediterranean Environment Programme

“Integrated modeling of Urban Water Systems”

10-12 September, Istanbul, Turkey, 2012

Introduction - The Horizon 2020 Initiative

The “**Horizon 2020 Initiative**” aims to de-pollute the Mediterranean by the year 2020 by tackling the sources of pollution that account for around 80% of the overall pollution of the Mediterranean Sea: municipal waste, urban wastewater and industrial pollution.

Horizon 2020 was endorsed during the Environment Ministerial Conference held in Cairo in November 2006 and is one of the key initiatives run under the Union for the Mediterranean (UfM). The H2020 2007-2013 Road-Map focuses on the following four pillars:

- Identification of projects to reduce the most significant sources of pollution.
- Identification of capacity-building measures to help neighbouring countries create national environmental administrations that are able to develop and police environmental laws.
- Use of the EC’s research budget to develop greater knowledge of environmental issues relevant to the Mediterranean and ensure this is shared.
- Develop indicators to monitor the success of Horizon 2020.

H2020 is made up of the following components: monitoring, reporting and research (RMR); investment; and capacity building. Under each component, a project is currently being run. H2020 Capacity Building/Mediterranean Environment Programme (H2020 CB/MEP) is the project aiming at enhancing the capacities to address pollution problems at institutional and society level. In addition, through the H2020 MEP, a Hot Spot Investment Programme (HSIP) for the West Balkans and Turkey - as complementary to the Mediterranean HSIP (MeHSIP) – has been elaborated. The other two projects currently being carried out under the investment and RMR H2020 components are respectively the MeHSIP-PPIF and the ENPI Shared Environmental Information System (ENPI-SEIS).

The framework - Horizon 2020 Capacity Building/Mediterranean Environment Programme

Obviously pollution is expected to be substantially reduced through the installation and proper functioning of major infrastructures (e.g. sewage treatment plants), installing pollution reduction technologies in industries, etc. However, this won’t work if institutional and individual capacities are not in place. This is what the H2020 CB/MEP aims to enhance by operating within the existing and developing policy instruments, and supporting the implementation of the commitments undertaken in the framework of the ENP as well as other regional agreements e.g. of the Barcelona Convention, while cooperating, coordinating and synergising with all relevant (EU and other) programmes.

Aims and objectives

The main objective of this project is to support the implementation of Horizon 2020 with a special focus on environmental mainstreaming. It aims to address the following problems:

- low political priority given to the environment;
- insufficient integration of environment in the different sector policies (agriculture, tourism, transport or energy) and lack of inclusion of the different actors from local to international level;
- Insufficient capacities and resources at institutional and civil society level.





More specifically, the purpose is to support the implementation of the Horizon 2020 Initiative Road Map and Work Plan through capacity building and awareness raising activities, and to promote integration of environment issues in other sectors policies.

Partners

This project is funded by the European Union and implemented by the National and Kapodistrian University of Athens (NKUA) in consortium with: Mediterranean Action Plan of the United Nations Environment Programme and its Regional Activity Centres and Programmes (UNEP/MAP and its RACs), National Waste Management Agency (ANGed)/ Regional Solid Waste Exchange of Information and Expertise Network in Mashreq and Maghreb Countries (SWEEPNet), Umweltbundesamt GmbH – Austrian Environment Agency (AEA), Lebanese Ministry of Energy and Water - the General Directorate of Hydraulic and Electrical Resources (LMoEW), Hellenic Ministry for Environment, Energy and Climate Change, UNESCO-IHE Institute for Water Education (UNESCO-IHE), Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE), Arab Network for Environment and Development (RAED), WWF Mediterranean Programme Office (WWF MedPO), Association of Cities and Regions for Recycling and Sustainable Resource Management (ACR+), Arab Countries Water Utilities Association (ACWUA).

Partner Countries

The Partner countries are: Albania, Algeria, Bosnia- Herzegovina, Croatia, Egypt, Israel, Jordan, Lebanon, Montenegro, Morocco, occupied Palestinian territory, Tunisia, Turkey, Syria.

Course Description - Integrated modeling of Urban Water Systems

Introduction to the training course

The training course is organized within the framework of the Horizon 2020 CB/MEP project and in response to the capacity building needs identified earlier in the project. The course is organized by the UNESCO-IHE Institute for Water Education with the support of the Arab Countries Water Utilities Association (ACWUA).

Its duration is 3 days; the language of the course is English (with translation into French).

Thirty (30) participants from the partner countries are expected to attend the meeting.

Target group

The capacity building activity is of an intermediate/advanced level and is targeted to mid-career engineers, managers and decision-makers in fields related to wastewater treatment from:

- Water and wastewater management competent authorities
- Municipalities
- Water and sewerage associations
- Universities
- Consultancy firms

Learning objectives

The principal objective of the course is to bring professionals from different backgrounds and positions together to provide up-to-date knowledge on urban water systems modeling in line with the aims of Horizon2020. Cross-fertilization of the participants will be encouraged. Furthermore, the course is designed in a way to:



- Promote integral thinking in urban water management practice;
- Update participants with the latest developments in the modeling of urban water system components and their integration;
- Demonstrate benefits of model-based decision making in the urban water management using case studies;
- Promote model-based asset management and optimization of urban water infrastructure.

Methodology and Structure

The general structure of the course will be:

- Lectures
- Group and plenary discussions
- Case studies
- Participant presentations

Resources for participants

Resources that are intended to be provided to participants are:

- PPTs, reference documents
- Case study material
- Demo software

Learning outcomes of the training course

After completion of the course the participants will:

1. Be updated on the state-of-the-art EU and global developments concerning urban water related challenges and their management;
2. Become familiar with a set of tools to properly address the identified challenges in the urban water sector, not only in situations where sufficient resources are available, but also under the more challenging conditions usually prevailing in the Mediterranean;
3. Be exposed to the latest technical and software knowledge in the fields of drinking water transport and distribution, wastewater and storm water collection, treatment and disposal, and flood risk management;
4. Have exchanged information amongst themselves and strengthened their network in the region;
5. Initiate new joint project or research ideas to contribute to the de-pollution of the Mediterranean by 2020.

Preliminary course schedule/curriculum

The following possible subsequent topics will be addressed:

- Introduction to urban water systems and modeling
- Integrated urban water management
- Novel concepts in integrated urban water management
- Model-based management of urban water sub-systems
- State-of-the-art integrated model-based management of urban water systems
- Model-based asset management and optimization of urban water systems

A preliminary overview of the course is given below:



Course schedule/ curriculum			
10.09.2012	Description	Duration	Method/Speaker or Trainer
Session 1	<ul style="list-style-type: none"> Welcome - opening words Introduction of speakers and participants Overview of H2020 CB/MEP Expectations of trainees 	9.00-10.45	<i>Prof. Michael Scoullas</i> <i>Prof. Dr. D. Brdjanovic</i> <i>Dr. Zoran Vojinovic</i> <i>Dr. Koussai Quteishat</i>
		Coffee (15 min.)	
Session 2	<ul style="list-style-type: none"> Introduction to urban water systems and modeling Integrated urban water management 	11.00—12.00	Presentation <i>Dr. Zoran Vojinovic</i>
		Lunch (1 hour)	
Session 3	<ul style="list-style-type: none"> Overview modeling drinking water transport and distribution systems 	13.00-14.30	Presentation (via video or DVD) <i>Dr. Nemanja Trifunovic</i>
		Coffee (15 min.)	
Session 4	<ul style="list-style-type: none"> Overview modeling urban floods 	14.45-16.30	Presentation <i>Dr. Zoran Vojinovic</i>

Course schedule/ curriculum			
11.09.2012	Description	Duration	Method/Speaker or Trainer
Session 1	<ul style="list-style-type: none"> Overview modeling sewerage 	9.00-10.45	Presentation <i>Dr. Zoran Vojinovic</i>
		Coffee (15 min.)	
Session 2	<ul style="list-style-type: none"> Overview modeling wastewater treatment plants 	11.00—12.00	Presentation <i>Prof. Dr. D. Brdjanovic</i>
		Lunch (1 hour)	
Session 3	<ul style="list-style-type: none"> Case studies: drinking water transport and distribution systems 	13.00-14.30	Presentation (via video or DVD) <i>Dr. Nemanja Trifunovic</i>
		Coffee (15 min.)	
Session 4	<ul style="list-style-type: none"> Case studies: modeling urban drainage and sewerage and use of GIS 	14.45-16.30	Presentation <i>Dr. Zoran Vojinovic</i>

Course schedule/ curriculum			
12.09.2012	Description	Duration	Method/Speaker or Trainer
Session 1	<ul style="list-style-type: none"> Case studies: modeling wastewater treatment plants 	9.00-10.45	Presentation <i>Prof. Dr. D. Brdjanovic</i>
		Coffee (15 min.)	
Session 2	<ul style="list-style-type: none"> Case studies: integrated urban water systems modeling 	11.00-12.00	Presentation <i>Prof. Dr. D. Brdjanovic</i>
		Lunch (1 hour)	
Session3	<ul style="list-style-type: none"> Case studies: integrated urban water systems modeling 	13.00-15.00	Presentation <i>Participants</i>
		Coffee (15 min.)	
Session 5	<ul style="list-style-type: none"> Closing Remarks Certificates Award 	15.15-16.00	<i>Prof. Michael Scoullas</i> <i>Prof. Dr. D. Brdjanovic</i> <i>Dr. Zoran Vojinovic</i> <i>Dr. Koussai Quteishat</i>