



Horizon 2020 Capacity Building/Mediterranean Environment Programme

“Operation and maintenance of wastewater treatment plants”

Sub-regional training: 17-19 September 2012, Amman, Jordan

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 focused 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.



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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, and Syria.

Course Description - “Operation and maintenance of wastewater treatment plants”

Introduction to the training course

This sub-regional training course is organized within the framework of the ENPI Horizon 2020 CB/MEP project. It is organized by the UNESCO-IHE Institute for Water Education. Its duration is 3 days and the language of the training course will be English with simultaneous translation into Arabic.

Target group

The activity is specifically designed for: Ministries of Environment, Agriculture, Water, etc., Wastewater managers and decision-makers from municipalities, water and sewerage associations, water authorities, research institutes, etc. This capacity building activity is directed to about 20 participants from Egypt, Jordan, Lebanon and oPt.

Learning objectives

To promote integral thinking of wastewater treatment based on the concept of resource recovery, asset management, energy use, product handling and quality assurance, integrated into the design of wastewater treatment plants such that resulting process operations and control are optimized.

Methodology and Structure

The three-day course will be delivered combining presentations, case studies, and interactive sessions.

Learning outcomes of the training course

- To inform the trainees of the H2020 initiative.
- To gain knowledge in the process operation and control methodologies, as well as asset and energy management



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- To have an overview of the most recent technologies for municipal and industrial wastewater treatment plants and evolutions in the handling of biosolids.
- To be aware of data collection, validation, and quality assurance.
- To become familiar with O&M issues of a variety of wastewater treatment methods with cases representing both successes and failures.

A preliminary overview of the course is given below:

Course schedule/ curriculum			
Day 1 17.09.2012	Description	Duration	Method/Speaker or Trainer
Opening	<ul style="list-style-type: none"> Welcome addresses and opening words ENPI Horizon 2020 Capacity Building/Mediterranean Environment Program (H2020 CB/MEP) Introduction to the course Presentation of the participants and their aspirations from the workshop 	9.00-10.00	Dr. Emad Adly, H2020 CB/MEP Deputy Team Leader Dr. Koussai Quteishat, H2020 Key Thematic Expert
Session 1	<ul style="list-style-type: none"> Wastewater Treatment in The Hague Region (NL); situation overview and organization – Part 1 	10.00-10.30	Presentation Mr. Sebastiaan Meijer Ph.D. M.Sc.
		Coffee (15 min)	
Session 2	<ul style="list-style-type: none"> Wastewater Treatment in The Hague Region (NL); situation overview and organization – Part 2 	10:45-11:45	Presentation Mr. Sebastiaan Meijer Ph.D. M.Sc.
		Coffee (15 min)	
Session 3	<ul style="list-style-type: none"> Operation of large scale wastewater treatment; process design and operational practice 	12:00-13:00	Presentation Mr. Sebastiaan Meijer Ph.D. M.Sc.
		Lunch (1 hour)	
Session 4	<ul style="list-style-type: none"> Good housekeeping; Efficient Management of Asset and Energy 	14.00-15:00	Presentation Mr. Sebastiaan Meijer Ph.D. M.Sc.
		Coffee (15 min)	
Session 5	<ul style="list-style-type: none"> The continuous search for Cost reduction; Optimization and Innovation 	15:15-16.15	Presentation Mr. Sebastiaan Meijer Ph.D. M.Sc.
		Coffee (15 min)	
Session 6	<ul style="list-style-type: none"> Public responsibility; Managing Quality, Health, Safety & Environment Local development; The Delft Blue Water project – Urban Water Reuse 	16:30-17:30 17:30-18:00	Presentations Mr. Sebastiaan Meijer Ph.D. M.Sc.

Day 2 18.09.2012	Description	Duration	Method/Speaker or Trainer
Session 1	<ul style="list-style-type: none"> Introduction Technological Evolutions in Wastewater Treatment 	9:00-9:30 9:30-10:30	Presentations Mr. André Visser Ph.D. M.Sc.
		Coffee (15 min)	
Session 2	<ul style="list-style-type: none"> Design of Wastewater Treatment Plants – Part 1 	10:45-11:45	Presentation Mr. André Visser Ph.D. M.Sc.
		Coffee (15 min)	
Session 3	<ul style="list-style-type: none"> Process Control Mechanisms 	12:00-13:00	Presentation Mr. André Visser Ph.D. M.Sc.



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		Lunch (1 hour)	
Session 4	<ul style="list-style-type: none"> Design of Wastewater Treatment Plants – Part 2 	14:00-15:00	Presentation <i>Mr. André Visser Ph.D. M.Sc.</i>
		Coffee (15 min)	
Session 5	<ul style="list-style-type: none"> Technical Evolutions in Biosolids Handling 	15:15-16:15	Presentation <i>Mr. André Visser Ph.D. M.Sc.</i>
		Coffee (15 min)	
Session 6	<ul style="list-style-type: none"> Industrial Wastewater Treatment From Wastewater Treatment to Resource Recovery 	16:30-17:30 17:30-18:00	Presentations <i>Mr. André Visser Ph.D. M.Sc.</i>

Day 3 19.09.2012	Description	Duration	Method/Speaker or Trainer
Session 1	<ul style="list-style-type: none"> Introduction Decentralized WWTPs – Part 1 (Definition -Pros and Cons - where to be implemented?) 	9:00-9:30 9:30-10:30	Presentations <i>Dr. Moustafa Moussa</i>
		Coffee (15 min)	
Session 2	<ul style="list-style-type: none"> Decentralized WWTPs – Part 2 (Planning approach - Enabling environment) 	10:45-11:45	Presentation <i>Dr. Moustafa Moussa</i>
		Coffee (15 min)	
Session 3	<ul style="list-style-type: none"> Overview of WWTPs technologies life cycle- Part 1 (Identification – Preparation & Appraisal - O&M - Monitoring & Evaluations) 	12:00-13:00	Presentation <i>Dr. Moustafa Moussa</i>
		Lunch (1 hour)	
Session 4	<ul style="list-style-type: none"> Overview of WWTPs technologies life cycle- Part 2 (Identification – Preparation & Appraisal - O&M - Monitoring & Evaluations) 	14:00-15:00	Presentation <i>Dr. Moustafa Moussa</i>
		Coffee (15 min)	
Session 5	<ul style="list-style-type: none"> Lessons Learned from WWTP life cycle (Success &Failures) 	15:15-16:15	Presentation <i>Dr. Moustafa Moussa</i>
		Coffee (15 min)	
Session 6	<ul style="list-style-type: none"> Urban Waste Water Treatment Directive and Nutrient Discharges in the EU countries 	16:30-17:30	Presentation <i>Dr. Moustafa Moussa</i>
Session 7	<ul style="list-style-type: none"> Discussions 	17:30-18:00	<i>Moussa et al</i>
Session 8	<ul style="list-style-type: none"> Closing Remarks and Award of Certificates 	18:00-19:00	<i>Dr. Quteishat, Dr. Meijer, Dr. Visser, Dr. Moussa</i>



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