Horizon 2020 Capacity Building/Mediterranean Environment Programme

'Study visit on ISWM with focus on integrated systems including WtE & anaerobic digestion'

23 -25 May, the Netherlands, 2011

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) – is being elaborated. The other two projects currently being carried out under the investment and RMR H2020 components are respectively the MeHSIP and the Mediterranean Shared Environmental Information System (Med 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

Introduction to the training course

The study visit 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 study visit is organized by the Association of Cities and Regions for Recycling and Sustainable Resource Management (ACR+) with the support from Confederation of European Waste to Energy Plants (CEWEP). Its duration is 3 days; the language during the study visit is English with translation available if need be.

Ten to twelve participants (*to be confirmed*) will attend from Lebanon.

Target group

The capacity building activity is targeted to: Country officials (Ministries, Agencies, Regional & Local authorities), and others that are involved, or will be in the future, in finding solutions for the waste management in Lebanon. The background level of the trainees is expected to be of an intermediate/ high level.

Learning objectives

The main objective of the study visit is to increase the trainees' understanding of ISWM integrating mainly, but not solely WtE and anaerobic digestion options and including the following aspects: the main advantages and disadvantages of those solutions, modalities for implementation and operation and their adaptability to the Lebanese context, the different technology types and the characteristics and develop their skills to allow them for appropriate decision making regarding different ISWM options. The training/ study visit should also allow exploring modalities for ISWM implementation including WtE and anaerobic digestion facilities at a national scale (BOT contracts, financing, etc), PPP, -as well as exploring the main consideration to include in the Draft Integrated Solid Waste Management law and exploring cost recovery mechanisms.

Methodology and Structure

The study visit is intended to be participatory and interactive, making use of learning tools such as:

- Observation of visited integrated waste management facilities
- Lectures at those facilities
- In depth plenary discussions with responsible management staff at the facilities
- Video displays, …

Learning outcomes of the study visit

After the training course the trainees will be able to:

- Understand the current status of ISWM integrating WtE and anaerobic digestion options according to the best available technologies not exceeding extreme costs (BATNEEC)
- Understand the complementarity between the different technologies
- Appraise the key issues (technical, environmental, economic, safety, health, cultural and social) of the processes/ options
- Compare and contrast practices and policies in Europe (visited facilities) with the local situation in Lebanon
- Able to reflect on and challenge the things they have seen and heard and explain the reasoning behind the choices made as compared to other alternative waste management options
- Create a set of criteria to consider when designing a ISWM strategy/ facility integrating WtE and anaerobic digestion options

A summary overview of the study visit is given below

Monday 23 May:

- Introductory session presented by Jan Manders from CEWEP (Confederation of European Waste to Energy Plants) and Jean-Jacques Dohogne.
- Visit of the ATTERO facility in Groningen (100kton/y) for residual waste going through a sorting plant separating paper, RDF (for WtE) and the organic fraction (going for anaerobic digestion) and one facility on the 24th in Wijster (400kton/y) which is an integrated waste management approach combining WtE, composting, anaerobic digestion and controlled landfilling (+ trials on separation of the plastic fraction)

Tuesday 24 May:

- Introductory session presented by Jan Manders on Waste to Energy plants.
- Visit of the ATTERO facility in Wijster (400kton/y) which is an integrated waste management approach combining WtE, composting and controlled landfilling (+ trials on separation of the plastic fraction)

Wednesday 25 May:

- Visit of the AEB WtE facility in Amsterdam

Detailed study visit program

Arrival of the trainees at Amsterdam (Schiphol) on Sunday evening **22 May**.
- Welcome addresses & opening words
- Introduction of course program
- Introduction of speakers and participants

	Topic	Description	Length	Trainer/ facilitator	Location	Method
Day 1: Monday 23 May 2011						
8h30 – 11h00	Travelling	From Amsterdam to Groningen	2.5 hours			
Session 1 11h00-13h00 including a break of 15 minutes	Introduction	• Introduction Horizon2020 programme (JJD) • Introduction to waste management aspects in Europe including legislative, institutional, technical, environmental, economic and social aspects of waste management • Characteristics of the waste management aspects in the Netherlands • Introduction to anaerobic digestion	2 hours	Jan Manders	Conference room ATTERO Groningen	Interactive presentations
13h00-14h00	Lunch Break		1 hour			
Session 2 14h00-17h00	Site visit	• Visit of the Groningen facility (100kton/y) for residual waste going through a sorting plant separating paper, RDF (for WtE) and the organic fraction (going for anaerobic digestion) • Recap site visit in the conference room of the facility + planning for next day	3 hours	Plant representative + Jan Manders	ATTERO Groningen	Interactive study visit followed by plenary discussion and recap
					Stay in Groningen	

Day 2: Tuesday 24 May 2011						
8h00 – 9h00	Travelling	• From Groningen to Wijster	1 hour			
Session 3 9h00 – 10h00	Introduction	• Introduction to Waste to Energy	1 hour	Jan Manders	Conference room ATTERO Wijster	Interactive presentation
Session 4 10h00-13h00	Site visit	• Visit of the **Wijster** facility (400kton/y) which is an integrated waste management approach combining WtE, composting and controlled landfilling (+ trials on separation of the plastic fraction)	3 hours	Plant representative + Jan Manders	ATTERO Wijster	Interactive study visit followed by plenary discussion
13h00-14h00	Lunch Break		1 hour			
Session 5 14:00-15:00	Recap	• Recap of the first two days + planning for the next day	1 hour	Jan Manders + JJ Dohogne	ATTERO Wijster conference room	Interactive session
15h00 – 17h30	Travelling	From Wijster to Amsterdam	2.5 hours		Stay in Amsterdam	

UNEP/MAP and its RACs *ANGed/ SWEEPNet* *AEA* *LMoE W* *HMEECC* *UNESCO-IHE* *MIO-ECSDE* *RAED* *WWF MedPO* *ACR+* *ACWUA*

Day 1: Wednesday 25 May 2011						
Session 6 9h00 – 12h00	Site visit	• Visit of the AEB WtE facility in Amsterdam	3 hours	Plant representative + JJ Dohogne	Conference room AEB	Interactive study visit followed by plenary discussion and recap
Session 7 12h00 – 12h30	Closing	• Follow up • Evaluation • Certificates	0.5 hour	JJ Dohogne		

Departure of the trainees from Amsterdam (Schiphol) on Thursday morning **26 May**.