

The Agricultural University of Athens is organising..

**Workshop on**  
**Water Planning & Desalination Applications**  
**in the context of ADIRA<sup>1</sup> Project**  
**Grand Hawaii Hotel, Limassol, Cyprus**  
**Monday, 6<sup>th</sup> December 2004, 17:30 – 19:00,**

**Workshop Goal**

The goal of the Workshop is to provide a forum for the discussion of the short and long term market penetration of water desalination applications in Cyprus and elsewhere. This will promote wider publicity of the efforts made by various public and private bodies towards the satisfaction of fresh water demand at prices not higher than marginal costs of conventional water supplies.

Technical and economic performance of latest equipment and technologies for both brackish and seawater desalination are within the scope of interest of the Workshop. Current water conditions and future expectations of supply and demand will give the background and the context in which the new technologies operate. Special emphasis will be given to *Autonomous Water Desalination Systems*, which is the prime target of the Adira Project.

**Who Should Attend**

The Workshop is open to anybody interested in Water Desalination. The subjects to be discussed will be of special interest to: *Decision Makers, Researchers, Engineers, Economists, Experts in Water Desalination, Suppliers of Water Desalination Systems and Related Equipment, Water Suppliers and Consumers*

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<sup>1</sup> [www.adira.info](http://www.adira.info)

# Adira

**Autonomous Desalination system concepts for seawater and brackish water In Rural Areas with renewable energy Potential, Technology, Field Experience, Socio- technical and Socio-economic impacts**

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## Major Objectives

The ADIRA activities aim to develop optimum concepts to supply rural areas with fresh water derived from salty water resources, targeting regions without access conventional energy sources.

Water desalination, using Renewable Energy Sources, is a reliable and sustainable method to overcome the major water and energy problems in remote rural areas with a poor infrastructure. Seawater and brackish water can be converted to fresh water, suitable for both drinking and irrigation. Since many arid areas have suitable wind and solar resources, they can provide the required energy.

## The Problem

Fresh water is the most important resource for life on earth. Access to it is expected to improve the living quality of local populations and stimulate productivity.

The rapidly increasing water demand in Middle Eastern and North African (MENA) countries is causing great concern in view of the arid climate in the area. Water is expected to become even more scarce in the future due to global warming. There is a shortage of fresh water, in contrast to large resources of brackish water or seawater. At the same time, remote rural areas are often not connected to the electricity grid, so that they lack the sustainable energy supply, which is required for water treatment.

## The Concept

The project follows an interdisciplinary approach, taking into account not only technical, but also legal, social, economic, environmental and organisational issues, both at local and at national level.

## Expected Results

The main result of this project will be the implementation of a large variety of different small-scale (1 to 50 m<sup>3</sup>/d) autonomous desalination systems (ADS) powered by renewable energy. The ADS will be installed in five MENA countries: Egypt, Cyprus, Jordan, Morocco and Turkey.

ADIRA will create knowledge in various major fields to promote the implementation of ADS in the Mediterranean Basin. The following will be available for each location in the survey areas:

1. Optimal combination of different types of desalination technology and associated Renewable Energy Sources.
2. Energy supply system for the desalination unit, taking the current power supply of households into account, if appropriate.
  - Economic operation scheme e.g. utility concept operated by the residents
  - Necessary actions for sustainable social integration and development of small communities.
3. Actions for raising awareness of the new technologies among the water consumers.
4. Measures to ensure satisfactory operation and maintenance.
5. Necessary measures for ADS construction: Small desalination unit design, selection, local participation in manufacturing, installation and staff training.
6. Proposal to national and regional governments on how to support the rural water supply infrastructure.

## COLLABORATING INSTITUTIONS

### *Coordinator:*

Fraunhofer Institute for Solar Energy Systems,

### *Partners:*

Agricultural University of Athens  
Canary Islands Institute of Technology  
Egyptian Water and Energy Association  
Fondation Marrakech 21  
Nat. Center for Scient. Research DEMOKRITOS  
Jordan University of Science and Technology  
Istanbul Tech.I Univ, Inst. of Eurasia Earth Sciences  
WIP-Renewable Energies  
University of Las Palmas de Gran Canaria

### *Sponsor*

Middle East Desalination Research Center

## WEBSITE

[www.adira.info](http://www.adira.info)