Autonomous Desalination Units based on Renewable Energy Systems

Many arid regions in Mediterranean countries have a great potential to cover part of their pressing water needs by renewable energy based desalination. However, the wide-scale implementation of this technology faces numerous technological, economic and policy barriers.

The co-ordination action ADU-RES analyses these barriers and suggests ways to overcome them. The following working steps are taken:

Further development of R&D: ADU-RES strives to develop further integrated plant designs for cost efficient renewable energy based desalination. Thus, existing R&D work is brought together with results of own research to formulate recommendations for improved plant designs.

Cost analysis: ADU-RES analyses the internal and external costs of the water produced from small, autonomous desalination units and suggests ways to lower the capital cost involved.

Demand analysis: Representative Mediterranean regions with high market potential for autonomous desalination units have been identified and specific sites have been selected for further analysis. In **Egypt, Morocco, Tunisia, Algeria and Palestine** consumer groups are being monitored in terms of their water demand behaviour and general socio-economic conditions.

A model is being developed that will quantify the potential of autonomous desalination units to cover the water needs of different consumer groups.

ADU – RES Consortium:

AUA, Agricultural University of Athens, Greece	**FM21**, Fondation Marrakech 21, Morocco
CDER, Centre de Développement des Energies Renouvelables, Algeria	**IAV**, Institut Agronomique et Vétérinaire Hassan II, Morocco
CRES, Centre for Renewable Energy Sources, Greece	**INRGREF**, Institut National de Recherche en Génie Rural, Eaux et Forets, Tunisia
CREST, Centre for Renewable Energy Systems Technology, Loughborough University, UK	**ISE**, Fraunhofer Institute for Solar Energy Systems, Germany
E.C. DG-JRC, Institute for Environment and Sustainability, Renewable Energies Unit, EU	**ITC**, Instituto Tecnológico de Canarias, Spain
ELARD, Earth Link and Advanced Resources Development, Lebanon	**PHG**, Palestinian Hydrology Group, Palestinian Authority
ETA–Renewable Energies, Italy	**RSS**, Royal Scientific Society, Environment Monitoring & Research Central Unit (EMARCU), Jordan
EWE, Egyptian Association for Water and Energy, Egypt	**WIP**–Renewable Energies, Germany

Political dialogue and dissemination: ADU-RES will reach policy makers and think tanks, providing them with expert analysis and recommendations for the promotion of desalination units. Widespread circulation of reports, methodology and guidelines amongst research and industry communities will initiate and maintain a fruitful interdisciplinary dialogue on the issue.

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How to get involved:

ADU-RES provides various opportunities to get involved and benefit from the project activities and results:

- Be included in the ADU-RES database to receive the newsletters.
- Participate in the next ADU-RES seminars in Tunisia (September 2005) and Jordan (May 2006).
- Forge alliances with the ADU-RES experts to initiate implementation actions for autonomous desalination units in the Mediterranean region.

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