



Sustainable Water  
Integrated Management (SWIM) -  
Support Mechanism



Project funded by  
the European Union

*Water is too precious to waste*

**EXPERT GROUP MEETING ON CUMULATIVE ENVIRONMENTAL IMPACTS OF  
DESALINATION ON THE MEDITERRANEAN. Brussels 24 June 2014.**

*Presented by: Dr. Hosny Khordagui, Team Leader, SWIM-SM*



**POLICY OPTIONS TO BE  
CONSIDERED BY MEDITERRANEAN  
COUNTRIES IN PLANNING FOR  
DESALINATION**

1. In principle, desalination should be planned and designed within an IWRM context to sustain socio-economic development of communities. Desalination should not be considered as a mere non-conventional water resource, but as a community development project with the aim of creating jobs, eradicating poverty, etc. while protecting the environment.

2. Given its high capital cost and environmental impacts, desalination needs to be strategically considered by planners as the last resort after exhausting all water conservation and after all demand management measures are carefully implemented. These measures should encompass maximization of technical and allocative efficiencies before resorting to desalination.

3. Virtual value of water is an important tool that need be utilized in assessing technical and allocative efficiencies and in calculating the opportunity cost of supplying water through desalination.

4. The approval of a desalination plant needs to be
  1. Consultative,
  2. Transparent,
  3. Participatory and
  4. Justified on solid socio-economic and environmental grounds.

5. Due to its

1- maturity,

2- lower capital cost,

3- lesser energy needs, and

4- relatively lower environmental impacts,

**RO** should be considered as the technology of choice for future desalination in the Mediterranean region.

6. Water supply subsidies, if necessary, need to be refocused to target the poor and disadvantaged while observing the public human rights to access clean and affordable water supplies.

7. Seawater desalination plant intakes and outfalls should be sited and designed with the view to avoid damage to the near-shore marine ecology and habitat. They should be restricted to areas of low biological diversity and sensitivity. Near-shore circulation patterns also need to be fully exploited for adequate dilution, mixing and dispersal of the brine reject.

- 
8. It is critical for Mediterranean countries to develop regulations and establish discharge criteria and standards for brine physical and chemical characteristics.
  9. It is the responsibility of the national regulating authorities to develop adequate monitoring, inspection and enforcement capacities to ensure compliance with these standards.

10. Prior to investing in new desalination plants water authorities in countries of the region need to ensure that
- (1) NRW are minimized,
  - (2) water conservation and demand management policies are implemented,
  - (3) subsidies are limited,
  - (4) cost recovery and sound investment planning are assured,
  - (5) EIA, including the cumulative impacts, is performed and
  - (6) environmental externalities are an integral component of the socio-economic considerations.

11. Mediterranean countries need to join efforts in planning and institutionalizing a Research and Development (R & D) regional mechanism to collectively develop and manufacture RO desalination membranes, solar panels and/or collectors.

12. In order to eliminate impingement and entrainment of near-shore marine organisms, desalination plants inflow should be through well designed subsurface beach wells as a preferable technology to open ocean intakes provided that no damage is inflicted to coastal groundwater aquifers.

13. As an energy intensive technology, desalination needs to be powered without contributing significantly to GHG emissions. Mediterranean countries need to ensure that desalination plants are energy efficient, sited close to points of use and convert to relatively low energy desalination technology such as RO.
14. New desalination projects in the Mediterranean region need to be climate neutral through development and exploitation of the abundant renewable solar energy and countries should invest in renewable sources of energy with special attention to CSP.

مع خالص شكري  
وامتناني

Thank you  
for your attention

Merci pour  
votre attention



*For additional information please contact:  
Sustainable Water Integrated Management – Support Mechanism: [info@swim-sm.eu](mailto:info@swim-sm.eu)*