DESALINISATION OF MARINE AND BRACKISH WATERS

OBJECTIVE

Reduce water scarcity.

DESCRIPTION

Desalination is the process of removing salt from sea or brackish water to make it usable for a range of 'fit-for-use' purposes including drinking. Desalination techniques include:

- Electrically driven technologies: reverse osmosis is the most frequently used technique and it consists of filtering water with osmosis membranes that separate salt from water. Feed water is forced though the rolled-up membrane with high pressure. Other techniques include Mechanical Vapour Compression (MVC) and Electrical Dialysis (EDR).
- Thermally driven technologies: multistage flash distillation (MSF), multi effect distillation (MED), Thermal Vapour Compression (TVC) and Membrane Distillation (MD).

EXPECTED RESULTS

Increase in the number and operational capacity of desalination plants and consequently in the quantity of desalinated water.

RESULT INDICATORS

Volume of desalinated water [m^3/day]

INVOLVED ACTORS

Local administrations, water management authorities, plant operators, environmental agencies.

EXPECTED TIMELINE FOR ACTION

- Medium term (5-10 years)

BEST PRACTICES

- Spain
- Australia

CRITICALITIES

Some of the challenges include the high-energy consumption of desalinisation plants and the non-applicability in main water consumption sectors like agriculture.

SCOPE OF THE ACTION

- Adaptation

TYPE OF PROPOSED ACTIONS

- Grey

SECTOR OF ACTION

- Coastal management
- Water resource management

CLIMATE IMPACTS

- Drought

IMPLEMENTATION SCALE

- Association of municipalities
- Municipality

SOURCE

https://climate-adapt.eea.europa.eu/metadata/adaptation-options/desalinisation