Technology Fact Sheet

Desalinization of sea water for fresh water[i]

1) Technology description

- A promising technology which has been applied to large water filtration plants in Israel, Singapore, Australia and Korea, the United States.
- There are water purification plants in Hon Tam, Nha Trang with a capacity of 1000 m^3/day. Water purification technology is mostly under research. Small-scale studies on applications of water supply services to offshore islands, rigs and vessels at sea have been conducted.

2) Socio-economic benefits

- Diversifying water supply to meet the demand in water-scarce areas such as islands, rigs and vessels.
- Reducing the cost of transportation to areas of water scarcity.

3) Environmental benefits

- Reducing energy consumption in transportation of water.
- Reducing pressure on water resources, water shortage droughts.

4) Status of technology

- In Vietnam, there was the sea water purification plant on the islands of Hon Tam, Hon Tre in Nha Trang with capacity of 1000 m^3/day. However, sea water purification technology is in the majority of research and development applications in the context of Vietnam. There have been research and application of small-scale water supply services to the islands and drilling platforms and ships at sea.

5) Application potential

- Can be applied to large-scale water supply in water-scarce areas such as islands, rigs and vessels.
- Can be applied in a small scale in the drilling rigs and ships.

6) Barriers

- More expensive than normal technologies.
- May impact on waste discharge to the environment.
- Has to import equipment, high capital costs, high maintenance and operation costs.
- Requiring complicated operation and maintenance techniques.
- Consuming a lot of energy to operate, thus releasing higher amount of GHG.

7) Costs

Implementation and technology application costs

- The cost depends on regional conditions of deployment, the salinity of sea water, equipment used, the size of water supply.

Incremental costs to adapt to climate change (compared to conventional technology)

- It depends on design costs, material redundancy design, maintenance procedures, maintenance to cope with the harsh conditions due to climate change.

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[i] **This fact sheet has been extracted from TNA Report - Adaptation for Vietnam. You can access the complete report from the TNA project website http://tech-action.org/**