

REDUCING WATER CONSUMPTION FOR COOLING OF THERMAL GENERATION PLANTS

OBJECTIVE

Recycle the cooling water of the thermal systems.

DESCRIPTION

The most energy-efficient way of cooling thermal plants is the use of the once-through system, whereby water is withdrawn from nearby bodies of water, diverted through a condenser where it absorbs heat from the steam, and then discharged back to its original source at higher temperatures. Recirculating tower cooling and dry cooling are alternative cooling options that considerably reduce water use compared to once-through cooling systems.

EXPECTED RESULTS

Preserve the aquatic environment.

RESULT INDICATORS

Reduction of water used for cooling [l/MWh]

INVOLVED ACTORS

Engineers, Public Administration, local communities.

EXPECTED TIMELINE FOR ACTION

- Short term (1-4 years)

BEST PRACTICES

- Apulia Region - Italy

CRITICALITIES

Higher costs; technical limitation of dry cooling.

SCOPE OF THE ACTION

- Adaptation
- Mitigation

TYPE OF PROPOSED ACTIONS

- Grey

SECTOR OF ACTION

- Energy
- Water resource management

CLIMATE IMPACTS

- Drought
- Extreme temperatures
- Other

IMPLEMENTATION SCALE

- Municipality

SOURCE

<https://climate-adapt.eea.europa.eu/help/share-your-info/adaptation-options/reducing-water-consumption-for-cooling-of-thermal-generation-plants>