

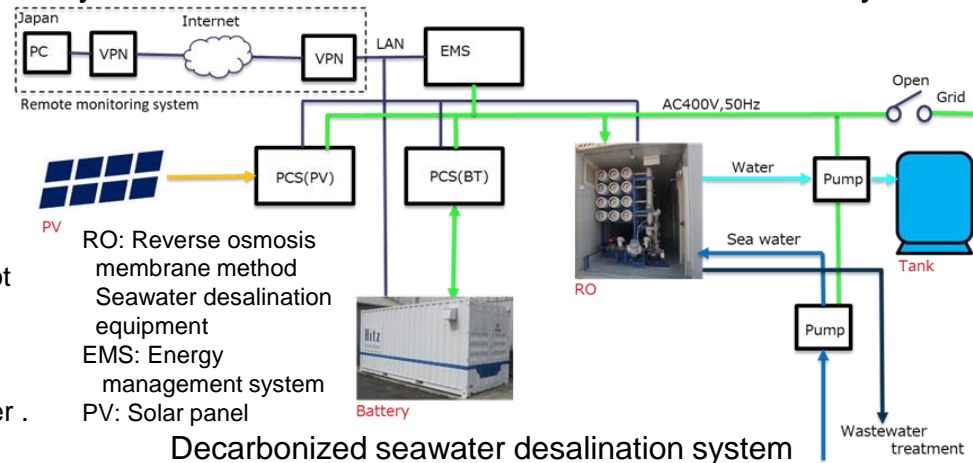
(Project Title) Demonstration of decarbonized seawater desalination system using solar power generation and NAS battery in Maldives.  
 Representative participant : Hitachi Zosen Co.

## Outline of renovation and demonstration

The system without GHG emissions in the Maldives that provides safe and inexpensive water to people by desalinating seawater using only sunlight available on any island. We will demonstrate the system as an independent system that stores solar power in NAS battery and desalinates seawater with the NAS battery when there is no sunlight.

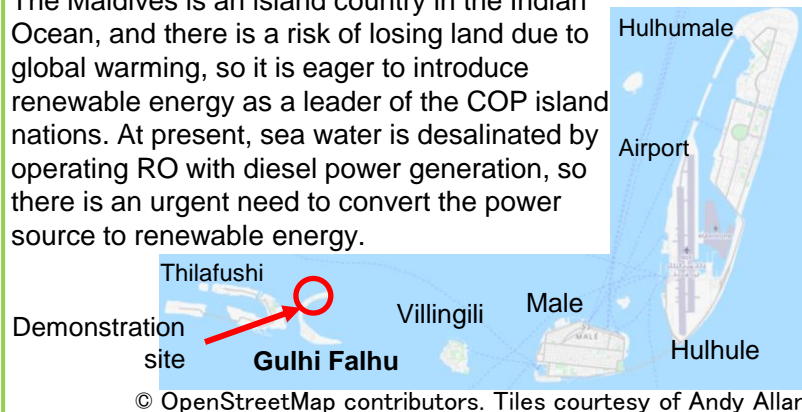
### 【renovation】

- ① EMS that supports independent operation without grid connection.
- ② Since the amount of solar radiation is insufficient during the rainy season, the RO stops and restarts autonomously depending on the remaining amount of the storage battery.
- ③ Since there is no grid connection and reverse power flow is not possible, EMS is performed so that surplus solar power generation is not generated within the system.
- ④ Control the temperature of the NAS battery using only solar power without relying on an external power supply.
- ⑤ Examine the water storage management suitable for Maldives weather .
- ⑥ Adapt RO to fluctuating renewable energy sources.



## Outline of partner country / region

The Maldives is an island country in the Indian Ocean, and there is a risk of losing land due to global warming, so it is eager to introduce renewable energy as a leader of the COP island nations. At present, sea water is desalinated by operating RO with diesel power generation, so there is an urgent need to convert the power source to renewable energy.



## Prospects of commercialization and diffusion in partner country / region

### Expected commercialization

- STEP1: Established SPC with a local company.
- STEP2: Received first order in 2024. (JCM Model Projects)
- STEP3: Aim for a cumulative total of 10 orders in 2026.

### Expected to spread

Plans to develop water pipe facilities including RO on all residential islands (189 islands). In addition, in order to achieve carbon neutrality in 2030, it is obligatory to convert 30% of RO electricity into renewable energy.