



RENEWABLE ENERGY MALDIVES

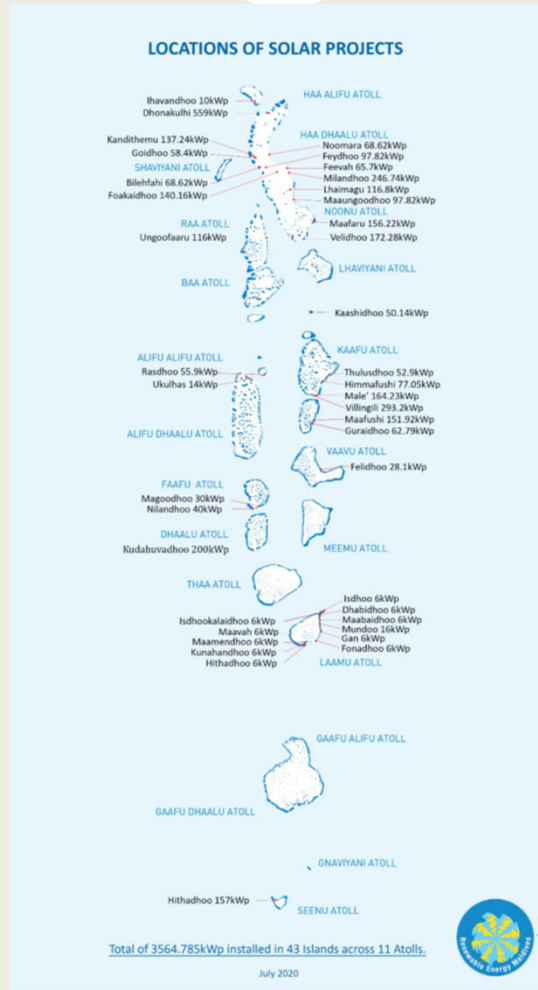
THE FUTURE IS NOW



Renewable Energy Maldives Pvt. Ltd.



- Renewable Energy Maldives Pvt. Ltd. (REM) was formed in 2007 with the mission of reducing the Maldives' reliance on fossil fuel for its energy needs.
- REM's purpose was to find indigenous energy resources that could provide the energy requirement of the Maldives
- And to promote large scale viable environmentally friendly solutions to the development issues of the Maldives .





Renewable Energy Maldives Pvt. Ltd.



eDhoni

Diesel / electric hybrid diving boat. (Saved 24 ltrs of diesel per hour)





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Hot water driven cooling:

Demo installed at a resort. Air conditioning from generator waste heat.





Low Carbon Opportunities



- 90% of the diesel fuel imported into the Maldives is used for electrical power production.
- Almost 70% of the electrical energy is used in providing comfort cooling.
- Transport costs are the biggest costs in any project in the Maldives. Mobility of goods and people are limited by the high fuel costs.
- As there are no fresh water resources in the Maldives, fresh water production is a vital area in many ways.



Low Carbon Opportunities: Energy production



- Solar PV's worth have been proven many times over in the Maldives.
- Projects of various sizes are possible now. Maldives is considering lagoon mounted and floating as possible solutions for large scale solar.
- Solar PV based Micro grids interconnecting inhabited islands and resorts allow all parties to reduce their energy costs and their carbon footprints.
- Space is available in most island lagoons for floating solar installation for energy self sufficiency.



Low Carbon Opportunities: Energy production



Gaadhoo (1° 49.208' N, 73° 27.069' E)

Isdhoo (2° 7.318' N, 73° 34.771' E)

**Estimated solar PV required:
25MW**



R. Fainu (Pop: 451)

**Solar PV requirement for diesel
free operation: 200kWp**



Low Carbon Opportunities: Waste heat driven cooling and fresh water production



- 70% of the electrical energy produced in Maldivian resorts is spent on providing comfort cooling.
- Low grade heat is available from various sources such as solar thermal, waste heat from diesel engines, waste to energy etc.
- Hot water driven absorption and adsorption chillers are ideal for district cooling projects in resorts, small islands and even in buildings in Male’.
- Small scale waste management solutions can provide the heat energy required for cooling and/or desalination.



Low Carbon Opportunities: Electric and hydrogen transport



- Cost of transport is a big cost factor in any type of project in the Maldives.
- Electric or diesel/electric hybrid boats have been shown to reduce the cost of operation and increase the comfort levels.
- Feasibility studies conducted in 2014 indicate hydrogen boats can compete with diesel provided the hydrogen is produced cheaply in the Maldives. This is possible with solar PV.
- Electric outboards can replace the numerous petrol outboards that are used currently in dinghys.
- Electric scooters can replace the 1000s of motorcycles in the Maldives.



Thank You