

# Ocean Energy Resources Assessment for Maldives (OpERATE) Maldives

## THE PROJECT

Study of the energy potential produced by sea currents and identification of the most appropriate technological solutions for exploiting it.

## BACKGROUND

The full exploitation of the marine resource and, in particular, of the currents' potential as a source of renewable energy, represents a sustainable solution to respond to the growing energy demand in the Republic of Maldives.

## OBJECTIVE

Reduction of greenhouse gas emissions through the promotion of renewable energy sources.

## PLANNED ACTIVITIES

- Development of high-resolution three-dimensional models of sea currents in the Maldivian archipelago, and in some atolls to be selected.
- Use of numerical models to characterize, in detail, the variability of circulation in the area and to identify the most promising sites for energy production.
- Development of tools to measure currents at selected sites. The use of these tools will also serve to provide a validation of the numerical simulations.
- Assessment of the most promising sites' energy potential, and the best devices to be used for energy production.

## SUBJECTS

### Promoters:

- Italian Ministry of the Environment, Land and Sea
- Maldives Ministry of Environment and Energy

### Actuators:

- ENEA
- Marine Research Centre (MRC)
- Maldives Meteorological Service (MMS)
- Environmental Protection Agency (EPA) of the Maldives

## DURATION

December 2016 – December 2019

## TOTAL COST OF THE INITIATIVE

€ 866,245

Lender: MATTM

Other lenders: ---

## OUTPUT

- Report on sea currents and their variability in the Maldives archipelago. ✓
- Report on the development and use of high-definition numerical models for the analysis of marine circulation in the archipelago and in some atolls to be selected. ✓
- Presentation report of possible sites for the extraction of marine energy, selected on the basis of the numerical models used. ✓
- Report on the instruments to be used for measuring currents at the selected sites and on the results of the measurements. ✓
- Report on the instrumentation to be used for the extraction of energy in the selected sites. ✓

PROJECT STATUS SETTO

✓ realized to ✓ in progress