



Mascara Renewable Water

**RODRIGUES'S ISLAND
RENEWABLE DESALINATION ROADMAP**

—
Maxime THERILLION

Nov. 15th 2017

INNOVATIVE COMPANY BY TWO EXPERIENCED ENTREPRENEURS



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BONN 2017

The world's first solar desalination technology without battery





INNOVATIVE COMPANY BY TWO EXPERIENCED ENTREPRENEURS

The world's first solar desalination unit without battery



**Reverse
Osmosis
Desalination**

OPERATION WITH CONSTANT POWER

INCOMPATIBILITY

**Photovoltaic
Solar
Energy**



FLUCTUATING ENERGY PRODUCTION

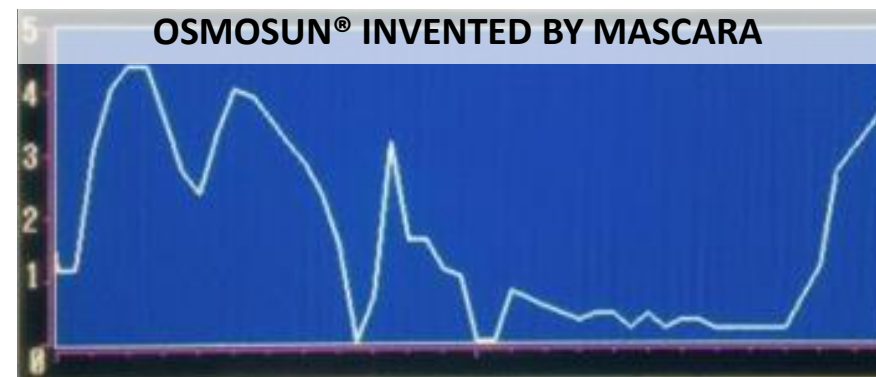
TWO SOLUTIONS



**BATTERY
STORAGE**

FLEXIBLE REVERSE OSMOSIS

OSMOSUN® INVENTED BY MASCARA



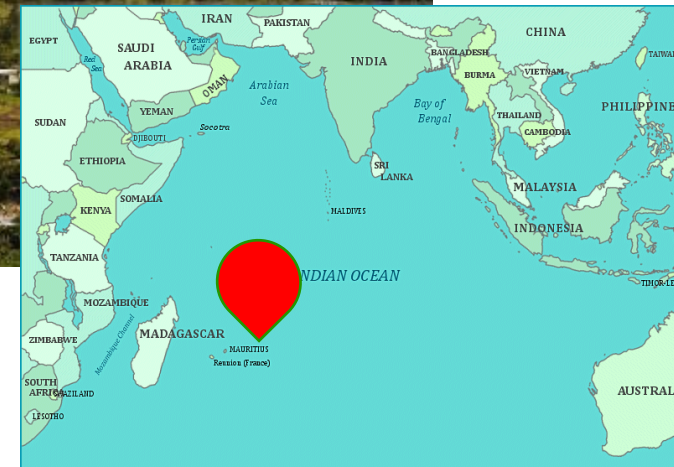


RODRIGUES, REPUBLIC OF MAURITIUS

40,000 inhabitants over 110km² in the Indian Ocean



An island with a
important consciousness
for the environment



WATER STRESS IN RODRIGUES

Address the water scarcity with desalination



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DESALINATION PLAN INITIATED

to provide the 12,000m³ of water per day needed to address the population's need



20% OF THE INSTALLATION ARE OPERATING

Due to expensive cost of energy (USD 0.30/kwh) for conventional desalination solutions, leading to equipment degradation over time

ALIGNED INTERESTS FOR STANDALONE DESALINATION



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Public utilities and governing bodies seeking viable solutions



Rodrigues' population & Regional Assembly

Water running 3h every
3 weeks



Central Water Authority

No solution for the
water supply of the
remote island



Central Electricity Board

USD 0.18 spent for every
cubic meter desalinated
by private organizations

CENTRAL GOVERNMENT GIVING STRATEGIC DIRECTION



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Public utilities and governing bodies seeking responsible solutions



The Hon. **Ivan Leslie COLLENDAVELLOO**,
GCSK,SC. Deputy Prime Minister,
Minister of Energy and Public Utilities

“

Future desalination installation for the hotel industry must be powered by renewable energy sources. ”

MASDAR KICKSTARTED RENEWABLE DESALINATION



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MASDAR's program revealed the first industrialised solar desalination solution



MASDAR Renewable Energy Desalination Program, Abu Dhabi



OSMOSUN® solar desalination unit performances qualified by MASDAR

FIRST PHASE OF RODRIGUES RENEWABLE DESALINATION ROADMAP



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OSMOSUN®80 Solar desalination unit



July 2017 - Official launch of the first solar desalination unit of Rodrigues



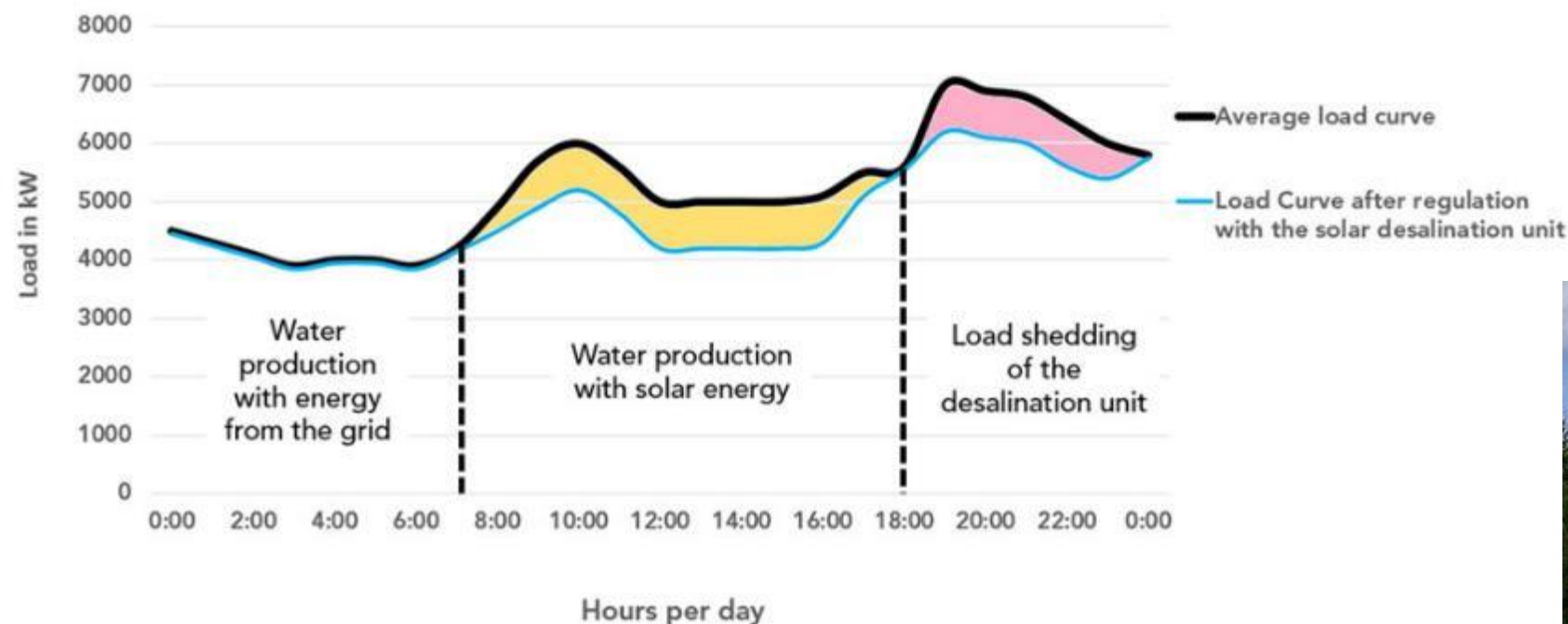
Implementation in progress



OSMOSUN® REGULATING THE ELECTRICAL NETWORK

The desalination unit uses the available wind energy at night

OSMOLOAD : Network regulation with flexible solar desalination

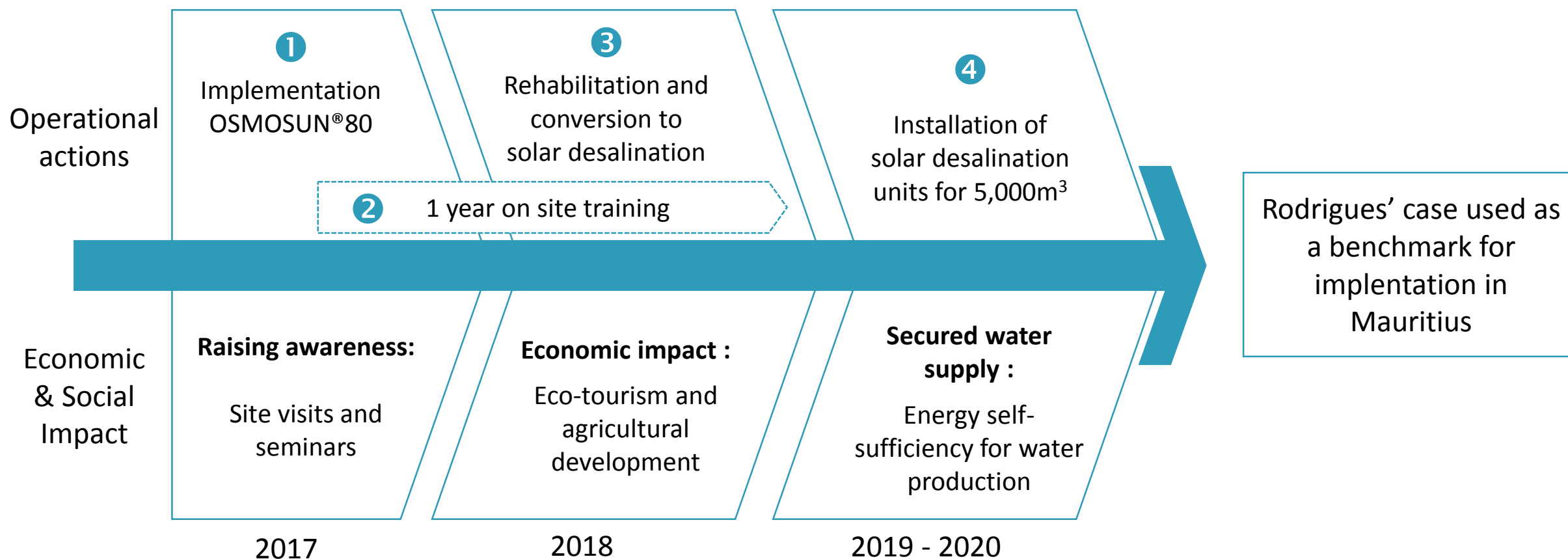


OSMOSUN® unit in hybrid mode take the most of the wind power available at night



TURN RODRIGUES INTO AN EXEMPLARY REFERENCE FOR ISLANDS

Replace *petrol water* by *renewable water* for a sustainable development



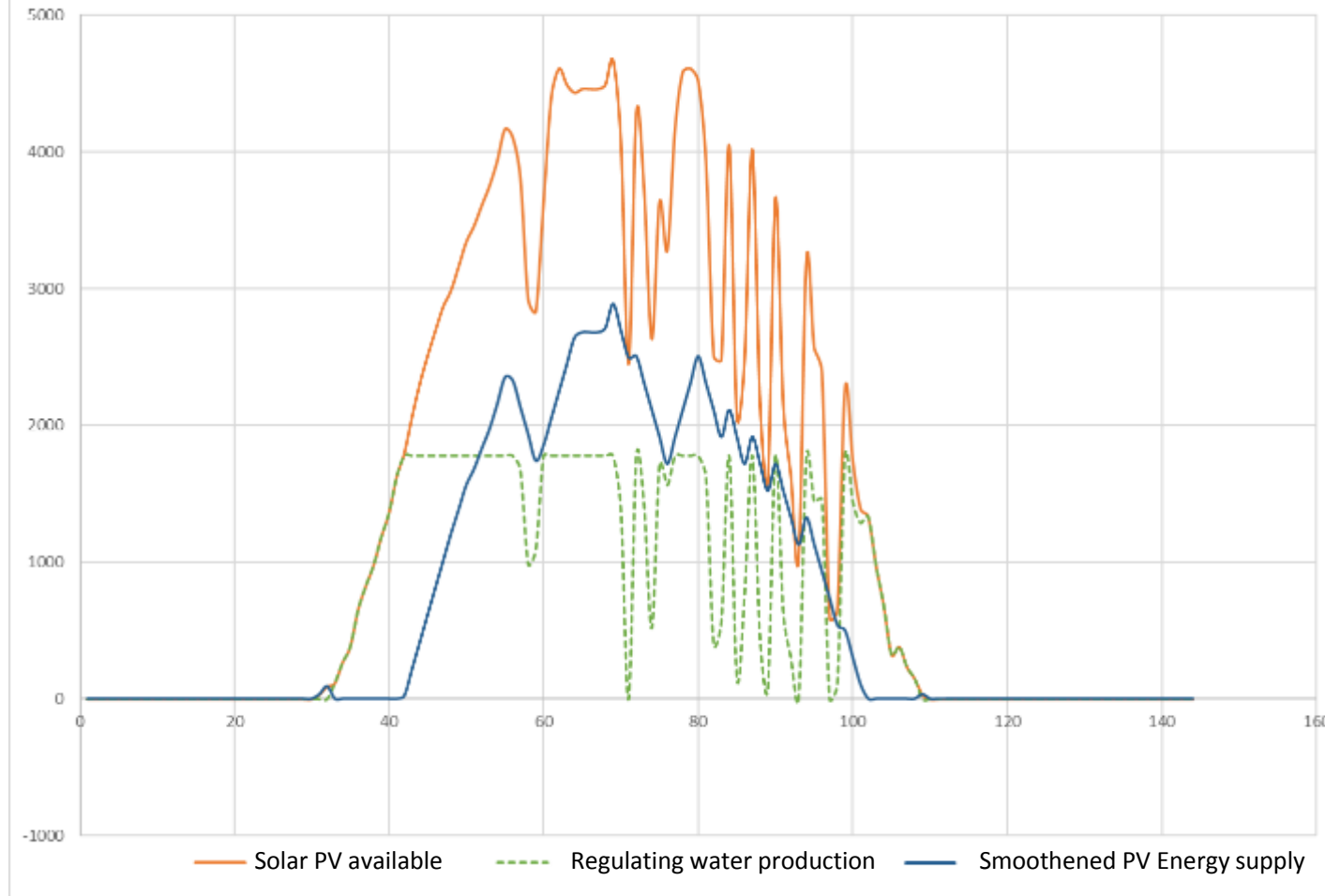
MASCARA'S UNIQUE SOLUTION FOR RENEWABLE WATER AND ENERGY



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The OSMOLOAD feature to increase renewable energy penetration rate

OSMOSUN® 4000m³/day – Smoothing PV energy while producing water



Roadmap to island sustainability :

Paired renewable energy and renewable water supplies



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LEADING THE WAY FOR RENEWABLE WATER

Q & A



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