

Case Study

Assessment of the Global Desalination Market



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About the Client



- The client is an international investment group

Client Objectives / Goals



- Understand the global desalination market, with a focus on small-scale desalination plants
- Decide whether to invest in small-scale solar-powered mobile desalination plants

Approach and Methodology



- An initial hypothesis was constructed based on our preliminary research and discussions with the client. The initial hypothesis was “small-scale desalination plants are not economically feasible”
- The hypothesis was rigorously tested based on our analysis of the global desalination market, covering historic and forecasted market value and capacity
- Assessed the geographic and technological landscape of this sector and identified few of the challenges affecting the various plants
- Benchmarked leading desalination companies based on their cost structures, technology, operational and financial parameters

Sample Output



SECTION 04
ECONOMIC CONSIDERATIONS

RE-desalination: A growing market where costs typically increase with decrease in production capacity

Capacity	Target Customers
Capacity < 1 m³/d	Target Customers: Single users like households
Capacity < 10 m³/d	Target Customers: Group of 10-20 Holiday Homes
Capacity 10-1,000 m³/d	Target Customers: Villages and Hotels
Capacity > 1,000 m³/d	Target Customers: Municipalities

Category	Typical Capacity (m³/d)	Water Generation Cost (€/m³)
Solar SW	1-5	1.5
Solar MFC	1-100	2-3
Solar MW	10-100	4-10
Solar CSP MED	1-3,000	1.5-2.2
PV MED	1-100	2.0-2.5
PV MED	1-100	2.0-2.5
Wind MED	10-2,000	2.0-2.5
Wind MED	1-100	2.0-2.5
Wind MED	1,000-2,000	2.5-3.0

Combination	Cost (€/m³)	Assumptions
OP-Opt Wind Powergen	1.80	Nominal Capacity: 1,000 m³/d Number of Annual Operating Hours: 5,000
Resonance (OP) MED	1.80	Specific Energy Consumption: 3.3 kWh/m³ Nominal Capacity: 100 m³/d Number of Annual Operating Hours: 5,000
Desalator (OP) PV MED	11.81	Nominal Capacity: 100 m³/d Number of Annual Operating Hours: 5,000 Specific Energy Consumption: 8.4 kWh/m³
Resonance (OP) PV MED	6.26	Nominal Capacity: 100 m³/d Number of Annual Operating Hours: 5,000 Specific Energy Consumption: 3.8 kWh/m³
Desalator Water (OP) PV MED	6.27	Nominal Capacity: 100 m³/d Number of Annual Operating Hours: 5,000 Specific Energy Consumption: 3.3-3.7 kWh/m³
OP Water Collection + Resonance MED	4.84	Nominal Capacity: 1,000 m³/d Number of Annual Operating Hours: 5,000 Specific Energy Consumption: 3.3 kWh/m³

Results / Value-add



The client was planning to make a multi-million dollar investment in a technology that it wasn't bullish about. Based on our detailed and neutral analysis of the market and the prevailing cost structures, the client did not go ahead with the investment