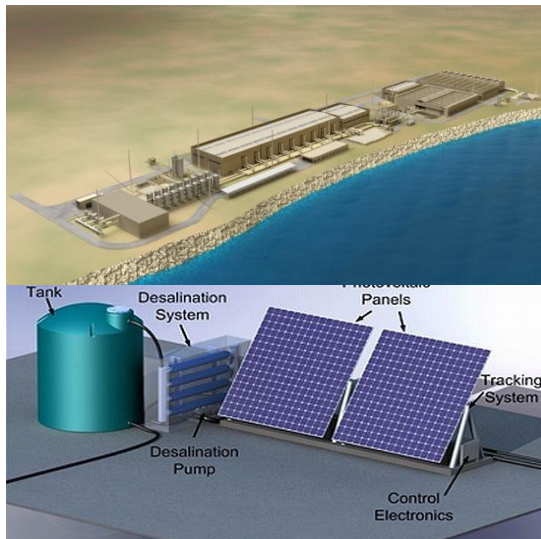


Projet dessalement solaire de l'eau de mer:

Utilisation de l'énergie solaire pour le dessalement de l'eau de mer



- **COORDINATION**

Université Internationale de Rabat-
Prof. EL HACHMI Essadiqi

- **CONSORTIUM**

Université Internationale de Rabat
Université Abdel El Malek Essaadi-Faculté des
Sciences et Techniques de Tanger
Université Roi Abdeallah des Sciences et
Technologies (KAUST)
Office Chérifien des Phosphates (OCP)
Acwa Power
Jet Alu

- **DUREE DU PROJET**

3 ans

- **BUDGET DU PROJET EN MAD**

Financement IRESEN: 3 948 458
Investissement global: 7 186 060

- **CONTACTS:**

Prof. Essadiqi EL HACHMI/ elhachmi.10@gmail.com

Partenaires Scientifiques



Université Internationale de Rabat mettra à la disposition du projet les compétences et l'expertise nécessaire en matière de formation et d'encadrement ainsi que de gestion du projet.



Université Roi Abdeallah des Sciences et Technologies: grande expérience dans la réalisation de projet de dessalement en Arabie Saoudite.



Université Abdel Malek Essaadi-Faculty of Sciences and Techniques (FST, Tanger) dispose de l'expertise nécessaire pour le développement d'un projet de dessalement de l'eau de mer combiné aux énergies renouvelables.



Partenaires Industriels



Office Cherifien des Phosphates Potentiel dans le développement de villes vertes et de l'usage des eaux traitées par dessalement.



JetAlu, une entreprise Marocaine spécialisée dans les travaux de façades légères et architectures transparentes. A travers une de ses filiales, elle investit dans les énergies renouvelables.



Acwa Power: Société de l'Arabie Saoudite, dotée d'une grande expertise dans le domaine du dessalement et de l'installation des parcs solaires en général.



Desalination technology is an important part of water management in Morocco. To face the deficiency in water, Morocco has included seawater desalination as part of its action plan objectives in the coastal zones. There are already desalination units that are being built or planned in the Atlantic ocean zone based on reverse Osmosis by OCP in Jorf Lasfar and the agriculture associations in Agadir zone.

The system that we are proposing to develop in Morocco and the one to be evaluated and optimized at KAUST, will be possibly integrated in the existing or planned desalination plants in the Kingdom of Morocco and the Kingdom of Saudi Arabia. The industrial partners such as OCP, Jet-Alu, Fribotech, ACWA Power, involved in the project will insure the possibility of this integration. The AD process developed by KAUST may also be used in the treatment of industrial and city water.

On the chemical plants side, OCP plans to build new seawater desalination units to produce the fresh water needed in the industrial processes. The seawater desalination plant of Jorf Lasfar will eventually produce about 80 million m³/py of fresh water that will prevent tapping into groundwater.

Also, this station will be used as a simulator to future technology desalination gaps and to study different desalination processes, using various solar thermal collectors. It will be used to assess the behaviour of different materials used in desalination process under various environment (corrosion, scaling, etc..).

The high caliber expertise of the project partners in sea water desalination, solar energy, heat exchanger, metallic construction and hydraulic that are complementary to each other will ensure the success of the project and its industrial application. This project is supported by ACWA Power of Kingdom of Saudi Arabia and OCP of kingdom of Morocco that are large companies and very well respected internationally and responsible financially.



- **Objectifs du projet:**

The main objective of this project is to develop a new concept of desalination plant to produce fresh water from seawater by using renewable energy, principally solar energy. The principal achievements will be associated with the environment protection, low maintenance and its accessibility to small communities.

The Cherifien Office of Phosphates (COP) have made considerable efforts to implement desalination plant in the country, we would like to joint our research capabilities to this effort and to develop a new and sustainable desalination pilot plant solutions for Morocco.



- **Perspectives du projet:**

Desalination technology is an important part of water management in Morocco. To face the deficiency in water, Morocco has included seawater desalination as part of its action plan objectives in the coastal zones. There are already desalination units that are being built or planned in the Atlantic Ocean zone based on reverse Osmosis by OCP in Jorf Lasfar, Laayoune, and Tantan. The latter is using wind energy. The system that we are proposing to develop in Morocco will be useful for small communities and in areas where there is distribution grid installed. The industrial partners such as OCP, Jet-Alu, ACWA Power, involved in the project will insure the possibility of this integration. The MED system will be used in the treatment of industrial and city water. This pilot scale desalination unit will be hybrid in term of thermal energy sources. It is also movable unit in a track, so it can be used in different coast locations to assess the impact of the corresponding seawater and solar irradiance conditions.