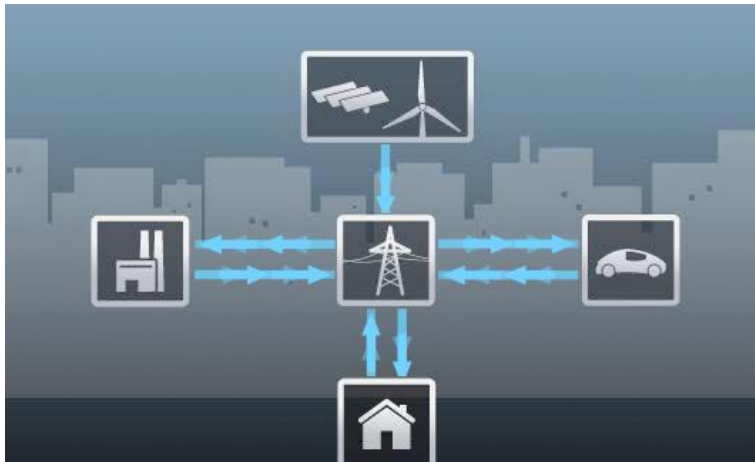


## Projet SECRETS

*Sustainable Energy Clusters Realized Through  
Smart Grids*



- **COORDINATION**

Université Ibnou Tofail- Ecole Nationale des Sciences  
Appliquées – Prof. Nissrine KRAMI

- **CONSORTIUM**

Université Ibnou Tofail  
Université Hassan II- Mohammedia  
Université de Huston  
OCP  
AGT Maroc

- **DUREE DU PROJET**

3 ans

- **BUDGET DU PROJET EN MAD**

Financement IRESEN: 4 407 611  
Investissement global: 5 151 700

- **CONTACTS:**

Prof. Nissrine KRAMI/nissrinekrami@yahoo.com

## Partenaires Scientifiques



**Ecole Nationale des Sciences Appliquées – Université Ibnou Tofail** avec son expérience dans les réseaux intelligents .



**Ecole Normale Supérieure de l'Enseignement Technique - Mohammadia** - Université Hassan 2 Mohammadia .



**University of Houston**, dotée d'une grande expertise dans le domaine des réseaux intelligents et bâtiments intelligents.



## Partenaires Industriels



**Office Cherifien des Phosphates**  
Potential dans le développement de villes vertes.

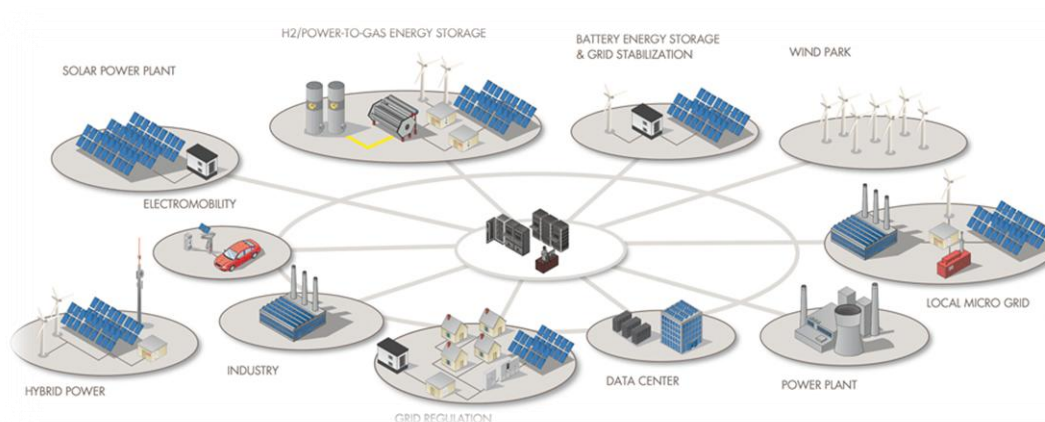


**AGT Maroc** grande expertise dans l'intégration des informations.



Several approaches exist to implementing a smart grid concept, in the US and in the EU. The linkage between microgrids and smart grids is also well established. The EU statistics in 2012 indicate that 204 smart grid projects were being tested or implemented in Europe, 15 being financed by the European Commission and 184 by member states together with power companies. Within FP6 and FP7, in the framework of the JRC (joint Research Council), the budget for Smart Grid projects was at the level of 184 M€. Among these projects many address particular aspects of the smart grid concepts, but a few resulted in actual real world implementations.

Under the IRESSEN call for proposal INNO-PV, we intend to implement the concept of a sustainable district, as opposed to or in evolution of individual building optimization, under the smart grid paradigm. With an innovative approach, one would maximize the use of endogenous energy sources, minimizing the need to import electricity from distribution network. This will involve the definition of a control architecture and a set of appliances that, based on a set of studies, simulations and laboratory experiments, will allow the implementation of the concept.



- **Objectifs du projet:**

This project pursues a twofold objective:

- 1) To develop new models that go beyond the academic flavor and may be adopted by the industry;
- 2) To generate capacity building in expert human resources in Morocco.

The general project goals are to develop a specification for a smart grid environment, which can deal with cluster-optimization, to implement a laboratory facility able to test the relevant concepts and to produce specifications that may be passed to the industry, including electric power system operator, in order to be implemented in large scale.



- **Perspectives du projet:**

1. Optimization of energy consumption in the urban environment;
2. Extension of the technologies and techniques employed in this project to ongoing urban and suburban development and energy use;
3. Creation of new products that will stimulate the economy by producing jobs and opportunities;
4. Development of sustainable cities;
5. Integration of renewable energy that will save the environment and reduce the CO2 levels.