



## Intelligent electricity grids and electricity storage

### *ADEME's position*

As the period 2007 – 2010 corresponds to the launching of this programme, ADEME will position the agency by following four stages:

- a review of the current state of research work and objectives as conducted in France under the Framework Programme for R&D by the main actors in the sector (industrial companies and laboratories);
- identify and put into place, with the main actors in the sector, the research themes that are considered most important;
- take part in the European mechanisms for comparison of national research programmes on intelligent grids and energy storage, a typical example of which is the "Smart Grid" ERA-NET;
- define, publicise and promote ADEME's place in work on intelligent grids and storage.

### *Long-term stakes*

The inclusion of decentralised renewable energy resources in power grids poses new constraints related to grid connection, intermittence and capacity management, but also creates new opportunities, for pooling needs and production, and decentralised load management. To harmoniously integrate renewable resources in a competitive European energy system, management methods, power transmission and distribution architecture must all be rethought. To achieve this transformation it will be necessary to seize the opportunities created by the liberalisation of energy markets, by new information and communication technologies, progress in storage technology, and modification of global environmental conditions due to climate change.

### *Objectives for 2010*

ADEME has undertaken to construct a research programme on intelligent grids and storage, with its partners, to fulfil four objectives:

- advance the exploitation of RE for electricity transmission (wind power) and distribution (photo-voltaics);
- participate in work to improve the energy efficiency of the power grid, in particular transformers;
- make improvements in grid-management tools so that the grid can assume its full role in demand-side management (DSM) policies;
- learn more about present-day and future electricity demand in order to implement DSM schemes;
- develop innovative storage solutions to optimise energy systems.

### *Means*

Estimated cumulative budget for 2007 – 2010

⇒ **12 to 16 M€**

Cumulative number of theses 2007 – 2010

⇒ **10 to 12**

Number of experts mobilised  
(equivalent in full-time positions)

⇒ **7**