Conférence de l'Institut Coriolis pour l'Environnement de l'École Polytechnique

What future for the storage of electricity in electrical systems?

Grégory FAYET

ingénieur de recherche,
EDF R&D

Mercredi
15 février 2012

École Polytechnique
Amphi. Becquerel
14h

Département de Mécanique

The evolution of the electricity sector as well as technology development suggests an increasing role for energy storage in power systems and energy usage.

On the one hand, centralized storage technologies will be one of the solutions to cover the growing need for flexibility at the scale of the entire and interconnected power system, in particular due to the integration of massive renewable energies.

On the other hand, distributed or domestic storage technologies will play a key role to prepare the transfer of the transport sector to an electric mobility, the emergence of intelligent building and smart-grids in general.

However, it is difficult to assess the requirement of electricity storage in the medium to long term because of the fast evolution of new technologies and the large number of applications they can provide. Furthermore, the existence of «conventional» flexible means adapted to the current needs and economic or regulatory barriers do not allow major energy utilities to fully access to the added value that the storage of electricity can create.

This presentation will shed light on key storage technologies considered in addition to the hydro pump (CAES, electrochemical batteries, flywheel, etc..), their potential uses and their cost and revenue perspectives.

http://www.coriolis.polytechnique.fr