Energy Derivatives

ECTS : 3

Description du contenu de l'enseignement :

The purpose of this course is to provide students with an overview of both the technical aspects of energy markets (generation, demand, constraints, market organization) as well as the most commonly used price models for pricing energy derivatives.
Attention is given to specific energy derivatives (Swing options and powerplants) and computational methods needed are detailed.

Course outline:

- Introduction to energy markets : electricity and gas market designs
- Price modeling : Spot and Forward models for electricity and gas prices
- Vanilla energy derivatives
- Structured derivatives and physical assets
- Advanced computational methods for stochastic control in energy markets

Compétence à acquérir :

Good technical knowledge of pricing models and computational methods for energy derivatives products

Mode de contrôle des connaissances :

Final exam

Bibliographie, lectures recommandées :

Clewlow L. & Strickland S., Energy Derivatives: Pricing & Risk Management, Lacima Group Pub., 2000.
Eydeland A. & Woliniec K, Energy and Power Risk Management: New Developments in Modelling, Pricing and Hedging, Wiley, 2007.
Géman H., Commodities and commodity derivatives: modelling and pricing for agriculturals, metals and energy, Wiley, 2005.

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