

2018-2019

Nom du cours / Name of the course:

Natural gas economics

Enseignant / Professor:

Prof. Anna CRETI (U. Dauphine)
Dr. Olivier MASSOL (IFP School)

Contact de l'enseignant / Contact Information (Optional)

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Olivier MASSOL olivier.massol@ifpen.fr

Langue d'enseignement / Language :

Français

Overview:

This course explores the theoretical and empirical perspectives developed to gain insights into the economic, regulatory and policy issues pertaining to the natural gas sector. It discusses aspects of the demand, supply, logistic, industrial organization, regulatory and public policy issues that affect the economics of natural gas markets. The course will develop some of the issues discussed in the course "Electricity and Gas Market Empirical Modelling" (first semester).

Prérequis / Prerequisites (optional)

Microeconomics, Industrial Organization, Energy Economics

Objectifs du cours / Course Objectives:

This course covers a variety of theoretical and empirical modeling approaches developed to analyze the economic issues.

After having attended the classes, the students will:

- know key qualitative results on the structure and functioning of natural gas markets,
- have a satisfactory understanding of how to formulate adapted economic models using standard economic and operations research techniques.
- be able to discuss actual market organizations in view of theoretical results obtained from the economic analyses
- be able to read and present contemporary literature on these topics.

Mode d'évaluation / Mode of Assessment

Short dissertation (15 pages) written by groups of 2 students, with oral presentation

Planning / Course Schedule

1	Introduction: Gas fundamentals I - Natural gas demand models
2	II – Upstream issues - Gas resource extraction problems - Resource monetization issues III – Supply chain issues and problems - The economics of natural gas pipelines
3	III – Supply chain issues and problems (cont.) - LNG economics - The economics of natural gas storage
4	IV – Industrial organization - Long-term contracts - The traditional I.O., its shortcomings and the restructuring reforms - The actual organizations of natural gas markets. - Contemporary market design issues and lessons learned from the restructuring process
5	V – The economics of natural gas trade - Perfect and imperfect competition models - Cooperation models.
6	VI – The role of natural gas in the energy transition. - Is natural gas a bridge fuel? - Biogas - Insights for pipeline-based decarbonizing technologies (hydrogen, CCS).

Bibliographie / Readings (optional):

The course will have quite a bit of background reading. The professors have developed a reading list that will be distributed during each lecture.

MyCourse

This course is on MyCourse : **Yes**

Grading

The numerical grade distribution will dictate the final grade, according to the faculty's recommended grade distribution.

Class participation: Active class participation – this is what makes classes lively and instructive. Come on time and prepared. Class participation is based on quality of comments, not quantity.

Exam policy: In the exam, students will not be allowed to bring any document (except if allowed by the lecturer). Unexcused absences from exams or failure to submit cases will result in zero grades in the calculation of numerical averages. Exams are collected at the end of examination periods.

Academic integrity

Soyez conscient des règles de l'Université Paris Dauphine sur le plagiat et la triche aux examens. Be aware of the rules in Université Paris dauphine about plagiarism and cheating during exams. All work turned in for this course must be your own work, or that of your own group. Working as part of a group implies that you are an active participant and fully contributed to the output produced by that group. When you use the web, please state your sources.