

POLITICS AND ECONOMICS OF INTERNATIONAL ENERGY

Professor: Jean-Pierre FAVENNEC, Anton MELARD DE FEUARDENT
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BIOGRAPHICAL INFORMATION

Jean-Pierre Favennec is a consultant in the energy industry. He has worked on a number of projects in the field of oil, gas, electricity, including numerous studies concerning the strategies, pricing, and profitability of these sectors. He was a project manager in over fifty different countries from South America, Africa, the Middle East, Asia and Europe. He is a professor at the IFP School. He was responsible for training seminars for the major energy companies in France and worldwide. He was Director of the Centre for Economics and Management. Jean Pierre Favennec is a specialist in energy, including energy economics, geopolitics and the strategic aspects. He has also worked more specifically on the downstream sector of the hydrocarbons industry, and has written a number of papers on these subjects. He is the author of several books: *Refining Economics and Management*, *Research and Production of Oil and Gas : Reserves, Costs, Contract*; *Energy : at which price ? The Geopolitics of Energy and l'Atlas Mondial des Energies (in French)*. Jean-Pierre Favennec is teaching Energy Technics, Economics and Geopolitics in many Universities including Universities in Asia and the Middle East Countries. He is also speaking in many international conferences and seminars, all over the world, about the situation of the energy, oil and gas industries. Jean-Pierre Favennec is an active consultant for international and national oil companies and governments. He was also the director and manager of worldwide well known conferences like the International Oil Summit and the International Gas and Electricity Summit, held each year in Paris for twenty years and he is the director of the Energy Summit in Africa, held each year in Africa.

Anton de Feuardent is an expert in the valuation and in the economic and financial modelling of complex projects and public-private partnerships (oil, gas and mining, water, waste, electricity; infrastructures), assisting governments and companies worldwide. Over more than 15 years, he has acquired a well-grounded knowledge of the contractual relations between governments and companies (e.g. production sharing contracts, joint ventures, concessions, management and services contracts) and an intricate understanding of the key economic and financial principles underlying the valuation of such contracts. Anton de Feuardent has assisted more than 25 governments, the International Monetary Fund and other leading international institutions in contracts negotiations, the definition of tax policies and regulation rules as well as the public administration of complex contracts. Anton de Feuardent is also a trusted advisor to numerous companies, banks and investors, providing economic and financial figures for decision making and analysis. Anton de Feuardent has testified as an independent expert before State courts and numerous arbitration tribunals (ICSID, ICC, LCIA, PCA, UNCITRAL). He has also served as an advisor and mediator in many litigation and international arbitration cases.

READINGS

- *The Quest*, Daniel YERGIN –Penguin Books (2011)
- *The Prize*, Daniel YERGIN –Penguin Books (2006)
- *The Geopolitics of Energy* – Jean-Pierre FAVENNEC – Gyan Publishing House (2017)
- *International Petroleum Fiscal Systems and Production Sharing Contracts* - Johnston D. (1994), Pennwell Books, Tulsa, Oklahoma.
- *Oil and Gas Exploration and Production: Reserves, Costs, Contracts* – Bret-Rouzaut Nadine and Favennec J.P. et al. (2010), Institut Français du Pétrole Publications, Editions Technip, Paris
- Look at the following websites : www.iea.org; www.eia.gov; www.opec.org; www.eiti.com (international organizations) and at the websites of the energy companies (BP – look at the BP Statistical Review, and of course Shell, ExxonMobil, Chevron, Total, ENI, and the large electricity companies
- Interesting information on the website of the Columbia University (New York) and many other ones

COURSE OUTLINE

Sessions 1-2: Introduction to Energy. Introduction to Politics and Economics of International Energy – JPF

These two sessions will be devoted to a general presentation of “What is energy”. We will discuss the various forms of energy, what is primary energy, secondary energy, final energy, useful energy. We will discuss energy efficiency and losses. We will analyze the evolution of energy demand and consumption, the factors which affect energy demand (per capita): wealth, price. We will discuss potential energy consumption and sources in 2050. We will have a first overview of the main economical and geopolitical issues of the energy business.

Presentation:

The energy landscape in 2050

Required readings:

- *The Quest*, Daniel YERGIN – Penguin Books (2011)
- *The Geopolitics of Energy* – Jean-Pierre FAVENNEC – Gyan Publishing House (2017)

Sessions 3-4: General historical, economical and political aspects of energy (2 sessions) - JPF

These two sessions will be devoted to a presentation of the history of energy and mainly oil, which is the energy which by far has the highest “geopolitical content”. We will analyze, using some concepts of industrial organization, how the oil industry was first organized and managed by the seven sisters, before the oil producing countries took control – for a while – of the industry and later when the oil market was in the hands

of much more actors. Through these sessions we will touch on the problem of reserves, of energy geography and of the general evolution of prices.

Presentations:

- The evolution energy prices
- The oil and Gas reserves and Production: an international overview

Required readings:

- *The Quest*, Daniel YERGIN – Penguin Books (2011)
- *The Geopolitics of Energy* – Jean-Pierre FAVENNEC – Gyan Publishing House (2017)

Recommended readings:

- *The Prize*, Daniel YERGIN – Penguin Books (2006)

Session 5: The Upstream Oil Business: General aspects - JPF

This session will give a broad presentation of oil, gas, and coal exploration and production. Some economic aspects will be discussed

Required readings:

- *The Quest*, Daniel YERGIN – Penguin Books (2011)
- *The Geopolitics of Energy* – Jean-Pierre FAVENNEC – Gyan Publishing House (2017)

Recommended readings:

- *Oil and Gas Exploration and Production: Reserves, Costs, Contracts* – Bret-Rouzaut Nadine and Favennec J.P. et al. (2010), Institut Français du Pétrole Publications, Editions Technip, Paris

Session 6: Energy markets - JPF

This session will discuss what parameters influence the prices of the different kinds of energy and will especially detail the crude oil market. We will present physical – spot – markets as well as futures markets and see how hedging strategies can be developed. We will discuss electricity prices.

Presentation:

The trading companies – the trading business. A growing role for the trading companies?

Required readings:

- *The Quest*, Daniel YERGIN – Penguin Books (2011)
- *The Geopolitics of Energy* – Jean-Pierre FAVENNEC – Gyan Publishing House (2017)

Session 7: Oil, gas, uranium: exploration and production of non-renewable energy resources - AMF

This session will deal with the economic aspects of extracting non-renewable energy resources. It will describe the various steps of the business and the costs/prices elements. Lifecycle of an exploration and production project

- Long-term projects and profitability
- Exploration and production business: international or national company?

Presentation:

- Relationships between oil and gas companies and producing countries
- The main steps of an extractive project: exploration, development, production, remediation.

Required readings:

- *The Quest*, Daniel YERGIN – Penguin Books (2011)

Session 8: Oil, gas, uranium: non-renewable energy resources and development issues - AMF

This session will discuss how extraction of non-renewable energy resources may impact the development of producing countries.

- The sharing of the extractive rent (tax policies and tax administration of extractive projects).
- Facing changing commodity prices and economic disequilibrium
- The resource *curve*
- The benefits of transparency

Required readings:

- *The Quest*, Daniel YERGIN – Penguin Books (2011)

Session 9: The Downstream Oil Industry - JPF

The aim of this session is to explain, from a technical and mainly an economical point of view, how crude oil is transformed into gasoline, diesel, fuel oil and other products. A short technical overview of petroleum products, crude oils and refineries will be followed by a geographical and political analysis of refining in the world.

Presentation:

Present situation of the refining and marketing industry.

Required readings:

- *The Quest*, Daniel YERGIN – Penguin Books (2011)
- *The Geopolitics of Energy* – Jean-Pierre FAVENNEC – Gyan Publishing House (2017)

Session 10: The Natural Gas Business - JPF

Natural gas is a clean product, very attractive from an environmental and technical point of view, but without specific markets. The business model of this energy will be analyzed. The main issues (cooperation/competition between producing countries, development of new natural gas sources) will be discussed.

Presentation:

The potential of gas development

Required readings:

- *The Quest*, Daniel YERGIN – Penguin Books (2011)
- *The Geopolitics of Energy* – Jean-Pierre FAVENNEC – Gyan Publishing House (2017)

Session 11: The Electricity Business - JPF

Electricity is key in the quality of life and in the development of emerging countries. What are the sources of electricity? What is the situation of production in the different countries?

Presentation:

The impact of regulation/deregulation of the electricity business

Required readings:

- *The Quest*, Daniel YERGIN – Penguin Books (2011)

Session 12: Nuclear and Renewables - JPF

A large fraction of electricity is still produced from coal and gas (and hydro). But nuclear is often considered as an attractive source and this will be discussed. The development of wind and solar is impressive but management of these intermittent energies is a big concern.

Presentation:

The impact of the development of renewable on the electricity system. Technical, economical and political issues

Required readings:

- *The Quest*, Daniel YERGIN – Penguin Books (2011)