#### **Board of Directors:**

Board of Advisers: Prof. Álvaro Escribano Sáez (UC3M) Prof. Isabel Gutiérrez Calderón (UC3M) Mrs. Fátima Roias (REE) Mr. Antonio Llarden (ENAGAS) Mrs. Carmen Becerril (OMIE)

Board of Directors: Prof. Álvaro Escribano Sáez (UC3M) Mr. Ignacio Muñumer (ENAGAS Mr. Rafael Gómez-Elvira (OMIE)

#### **Faculty**

Energy Economics I: General aspects

- Prof. Paulina Beato (Catedrática de Análisis Económico)
- Dr. Juan Delgado (Managing Director Global Economics Group)
- Prof. Álvaro Escribano (Catedrático de Economía UC3M)
- Dr. Nemesio Fernández-Cuesta (Economista del Estado/Técnico Comercial)
- Prof. Isabel Sánchez (IE University)

Energy Economics II: The Spanish Sector

- Lecturers of REE, OMIE, ENAGAS, KPMG

Universidad Carlos III de Madrid Campus Madrid-Puerta de Toledo Ronda de Toledo, 1 Tlf. 91 624 82 28 e-mail: ceemr@postgrado.uc3m.es





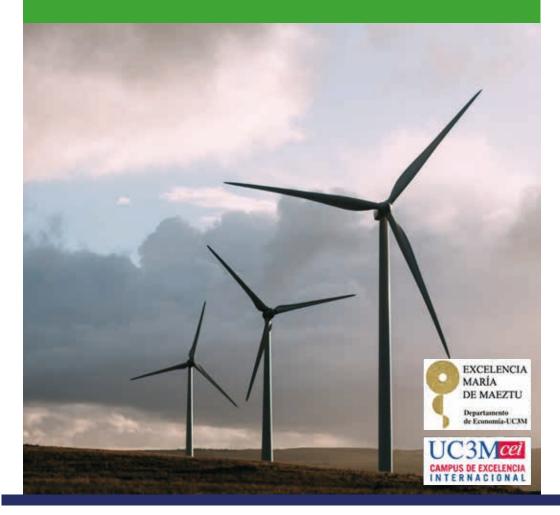




# **Energy Economics I and II**

This course is part of:

Specialization Degree in Economics of Regulated Markets Master in Industrial Economics and Markets



### **AIMS**

This Specialization Course on Energy Economics covers a variety of theoretical and empirical topics related to energy demand, energy supply, energy prices, environmental consequences of energy consumption and production, and various public policies affecting energy demand, supply, prices, and environmental effects.

The course is structured in to main groups of lectures: in the first part, participants get an introduction to the economic fundamentals of Energy, while in the second part, they will get an overview of the the Spanish energy sector, mainly power and gas, within the context of a global liberalization and competition.

Such an ambitious and applied goal justifies that the course program is designed jointly with professional of the energy companies and institutions involved in the various stages of production and distribution as well with the system and market operators. The course is divided in modules whose contents neatly covers the economic, technical and institutional aspects of the energy activities of production, transportation, distribution and marketing, using the fundamental tools provided by economic theory of the markets, the structure of the prices and regulatory principles.

In summary, this course offers a comprehensive and updated overview on the past, present and future of the challenging energy economic sector.

### **ORGANIZATION**

The Specialization Course in Energy Sector Economics is part of the Expert and Specialization Degrees Courses in Economics of Regulated Markets of the University Carlos III of Madrid (UC3M). The lectures cover a total of 12 ECTS (6 ECTS each part), distributed over the course between the months of September and June. Classes will be held from 16:00 to 19:30, in Campus Madrid-Puerta de Toledo of the Universidad Carlos III de Madrid.

The applied nature of the course will be enhanced through seminars and practical sessions, simulations of market management and evaluation of business initiatives, visits to production facilities, control centers and market institutions, as well as roundtables.

### REGISTRATION

- Full tuition fee 3.200 euros
- Energy Economics I: 1.600 euros
- Energy Economics II only: 1.600 euros

Surname	Name	DNI/Passport	
Address			
Phone	Fax E	E-mail	
Degree Granted	Universit	У	
Company	Address .		
Phone	I	E-mail	
Wish to enrol in (Underline	as applicable):		
BLOCK I	BLOCK II	BOTH BLOCKS	

## **Diploma**

A Diploma will be given to all students who complete the course requirements, including class assistance, participation in visits and practical sessions, and adequate performance in periodic exams.

## **Program**

#### **Economics of Energy I: General Aspects**

- I. Basic Concepts and Tools
  - Topic 1. Energy Concepts and Relevant Economic Theorems
- Topic 2. Energy Demand Estimation: Useful Econometric Tools
- II. Oil and Gas
  - Topic 3. Oil markets: The Economics of the Refining Industry
  - Topic 4. Gas: Markets and Hubs
- III. The Economics of the Power Sector
- Topic 5. Power Sector: General Economic Issues
- Topic 6. Power Sector: Regulation
- IV. Challenges of the Energy Industry
- Topic 7. Energy and Climate Change
- Topic 8. Energy and Growth
- V. Energy policies
  - Topic 9. Energy Efficiency and Security of Supply
  - Topic 10. Renewable Energy
  - Topic 11. Energy and Climate Transition
  - Topic 12. Energy and Competition

#### Economics of Energy II: The Spanish Sector

- Topic 1: Perspectives of the Spanish Electricity Sector
- Topic 2: Generation: Electricity/Gas
- Topic 3: The European Market Coupling in Electricity Risk Management
- Topic 4: Iberian Market Operator: Market Processes and clearing of the daily and intradaily market
- Topic 5: Transmission and System Operation:
  - 5.1.The Spanish Power System
  - 5.2 Renewable Energy Integration
- Topic 6.1 An International Perspective
  - 6.2 Settlement of Electricity and Consumer Final Price
- Topic 7: Settlement and Metering of Electricity (in Spain)
  - 7.1 Metering of Electricity
  - 7.2 System Development
- Topic 8: Introduction to The Gas System/ Access to the Gas System
- Topic 9: The Spanish and European Gas System. Gas System Operation in Spain
- Topic 10: Ancillary services and European Platforms
  - 10.1 Commercialization
- Topic 11: Visit to the Control Center (CECOEL)
- Topic 12: Round Table
- Topic 13: Harmonisation and Convergence with Europe
  - 13.1 European Framework: Networkcodes
  - 13.2 Smart Grid
- Topic 14: Closing Ceremony