

66382 - Energy markets

Syllabus Information

Academic year: 2023/24

Subject: 66382 - Energy markets

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

Degree: 636 - Master's in Renewable Energies and Energy Efficiency

ECTS: 6.0

Year: 1

Semester: Second semester

Subject type: Optional

Module:

1. General information

The ENERGY MARKETS course provides an essential complement to the technical content of other Master courses, training students in the economic management of energy supply and the legal knowledge of the more practical aspects for the development of renewable energies in the context of modern energy markets.

The course is aligned with some of the Sustainable Development Goals, SDGs, of the 2030 Agenda (<https://www.un.org/sustainabledevelopment/es/>) and certain specific targets, so that the acquisition of the learning outcomes of the subject provides training and competence to the student to contribute to some extent to their achievement:

- Goal 7: Ensure access to affordable, secure, sustainable and modern energy for all.
- Target 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services.

2. Learning results

- Identify the different models of energy markets internationally applied and explain the functioning and problems of each one.
- Optimize and negotiate the technical and economic conditions of electricity and gas supply contracts.
- Develop computational and statistics skills for the mining and processing of data from international markets and the evaluation of indexed modalities of energy purchase.
- Identify international strategies to promote investments in renewable energies and apply the Spanish legal framework for the optimal management of facilities.

3. Syllabus

1. Regulation of the energy sector

- Wholesale and forward markets models.
- Emissions trading markets.
- Technical grid operation and ancillary services markets.
- Network access tariffs and charges.

2. Electricity supply contracting

- Retail markets. Components of the final price.
- Negotiation of supply contracts. Types of offers and contracts.
- Tools for monitoring of energy consumption and costs.

3. Introduction to market regulation

- Introduction to the structure of markets: private and social results.
- Imperfect competition markets. Origins and firm behavior
- Market regulation models and competition policy.

4. Regulation of distributed generation

- Models of remuneration of renewable energy. International experiences.
- Impact of the sale of electricity from renewable sources in the wholesale market.

5. Oil and gas markets

- Regulation of the gas sector.
- Regulation of the oil sector. Biofuels.

4. Academic activities

- Presentation of theoretical contents.
- Solving of 10 practical cases.
- Autonomous work.
- Assessment.

5. Assessment system

The assessment of the subject will be carried out through the global evaluation system and will consist of two activities:

1. A set of 10 practical exercises proposed by the teacher
2. A test of understanding of basic concepts

However, all students will have the right to take a global evaluation test, which will be scheduled on the dates indicated by the center in its exam calendar, both in the first and second calls.

Weighting of the assessment activities:

- Activity 1: 50%
- Activity 2: 50%

Assessment criteria:

The assessment criteria of activity nº 1 are:

- Fulfillment of the objectives proposed in each practical case

The assessment criteria of activity nº 2 are:

- Rating according to the number of correct answers obtained