Aims

The course is aimed at providing the basic cognitive and methodological framework that is necessary to understand the main energy and environmental problems.

Contents

The course consists of two fundamental parts: the first one is focused on energy economics, starting from the theory of exhaustible resources (based on the marginalistic and neoclassical economic theory), with special reference to the main determinants of energy demand, to the stock sources price formation, to the difference between reserves and resources, as well as to the fundamental national and international energy policy issues. According to the latter issue the recent energy markets liberalization process, its outcomes and constraints will be analysed, together with the main initiatives aimed at promoting energy efficiency and an increasing recourse to renewable energy sources.

Features and functioning of power, oil and gas markets, both physical and virtual, will be highlighted, paying particular attention to access pricing models to energy transport and distribution essential facilities.

The second part of the course will be devoted to the main issues of environmental economics with reference to the basic concepts of externalities, market failures, public goods and sustainable development.

Attention will be then focused on different methodologies of cost/benefit analysis and on economic and non-economic instruments for environmental management and regulation.

The functioning of the main environmental markets will be explained and analysed.
Detailed program

FIRST PART - Energy Economics
1. Analysis of the current international energy context (statistical overview)
2. Reserves, resources and Hubbert's peak
3. Renewables and non renewables
4. The price of stock energy sources
5. Energy policy and liberalisation process
6. The national energy balance
7. Energy Efficiency
8. Energy demand and its determinants
9. The oil market (physical and virtual)
10. The natural gas market
11. Access pricing models to energy facilities
12. The power market

SECOND PART - Environmental economics
1. Economic growth and environment
2. The concept of sustainable development
3. Externalities and public goods
4. Market failures and public intervention
5. Environmental policy non-economic instruments (centralised and non-centralised)
6. Environmental policy economic instruments: taxes, subsidies, tradable permits
7. Environmental markets

Cost/benefit analysis: main methodologies

Prerequisites
None.

**Teaching form**

Frontal lectures, 8 credits.

**Textbook and teaching resource**

References:


Further material will be provided by the lecturer during the course.

**Semester**

Second semester.

**Assessment method**

The exam will be held exclusively in oral form. The knowledges required to sustain the test are represented by those acquired during the course and based on the provided teaching material.

No partial tests are foreseen.

The assessment will be based on the completeness of the preparation, on the degree of understanding of the analyzed issues and of their relationships, on the ability to grasp, through the offered theoretical framework, the main concrete issues and dynamics underway on the markets, currently subject of international scientific debate.

Adequate weight will also be given to the candidate's language skills and exhibition capacity.

The mark will be attributed in thirtieths (18-30/30).

**Office hours**

By appointment to be set via e-mail.