# Energy Business and Management of Environmental Goods

## Prof. Marco Frey; Prof. Claudia Checchi

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

To develop the student's capacity to understand and evaluate business and social decisions regarding energy markets, the relationship between energy and environment, and environmental management. During the course, attending students will be involved in group activities on specific topics, also in order to learn how to study in-depth a specific topic among those covered in the course, conduct a bibliographic survey, develop critical thinking skills, prepare a research project, and present it publicly. At the end of the course, students will be able to:

* know the energy and environmental policies and analyse the regulatory decisions of European and Italian institutions;
* understand the nature of sustainability challenges, energy transition and the circular economy, and assess the impact on business strategies;
* develop skills in the management of public energy, water and waste services, and apply them to the analysis of specific business cases;
* identify the contribution made by different economic stakeholders in pursuit of the 2030 Agenda, and the objectives of the European Green New Deal;
* evaluate their acquired skills and find ways to further develop them;

organise, in collaboration with other students, an in-depth study on the course topics and communicate the results.

***COURSE CONTENT***

Part I: (*Prof. Marco Frey)*

– The evolution of sustainability policies.

– Agenda 2030 and the role of business.

– The Green and Circular economies: new development and business models.

– Sustainability and competitiveness of firms and of economic systems.

– Innovation, BAT and eco-efficiency in productive processes.

– The role of voluntary instruments within environmental policies involving businesses (Emas, ISO 14001, ISO 50001, ecolabel, PEF, OEF).

– Green marketing, reporting and sustainability communications.

* Efficient use of resources: Management of integrated waste cycle and management of the water cycle.

– Sustainable management of human resources, human rights and security management.

– Relationships with the production-distribution chain, and policies for sustainable purchases in global competition.

– A new frontier in environmental goods: ecosystem services.

– A new frontier of the environmental goods: the ecosystematic goods.

Part II: *Prof. Claudia Checchi*

– Energy sources, the characteristics of energy and its role in the economic system.

– Energy as a strategic sector and energy transition.

– Decarbonisation policies.

– European energy policies: from liberalisation to climate policies.

– The electricity market: energy and services markets.

– The natural gas market.

– Nuclear energy: the characteristics.

– Energy efficiency and the tools for its promotion.

– Energy poverty.

– Towards the decarbonisation of the energy system: tools and scenarios.

– The final prices of energy in Italy.

***READING LIST***

Part 1

*Basic reading list*

M. Frey, *Economia e gestione dell’ambiente*, F.Angeli.

M. Frey, *Il management ambientale,* F. Angeli, Milan, 1995 (chapters I, IV, VII).

The lecture summaries, the reading references reported in the syllabus, and the material available on the Blackboard.

*Optional further reading list*

G. Carnimeo-M. Frey-F. Iraldo, *Gestione del prodotto e sostenibilità,* Angeli, Milan, 2002.

N. Gusmerotti, M. Frey, F. Iraldo, Management dell’economia circolare, Franco Angeli, Milano, 2020.

F. Iraldo et alii, *A literature review on the links between environmental regulation and competitiveness,* MAIN working paper, 2009.

M. Frey-F. Testa-F. Iraldo, *"The determinants of eco innovation in green supply chains: evidence from an Italian sectoral study",* R&D Management, 43, 4, 2013, pp. 352-364.

T. Daddi-M.R. Di Giacomo-F. Testa-M. Frey-F. Iraldo, *“The effects of Integrated Pollution Prevention and Control (IPPC) regulation on companies management and competitiveness”,* Business Strategy and Environment, 2013.

M. Frey-A. Sabbatino, *The Role of the Private Sector in Global Sustainable Development: The UN 2030 Agenda,* in *Corporate Responsibility and Digital Communities*, pp. 187-204, Pallgrave Macmillan, Cham, 2018.

M. Frey, *Agenda 2030 e ruolo delle imprese*, Impresa Progetto, no. 2/2018, pp. 1-7.

M. Frey-F. Iraldo, *I sistemi di gestione ambientale tra passato e futuro,* EGEA, 2009 (chapters of one's choice).

M.E. Porter-C. van der Linde, *Toward a New Conception of the Environment-Competitiveness Relationship,* Journal of Economic Perspectives, vol. 9, Number 4, Fall 1995 (pp. 97-118).

Part 2

*Essential reading list*

P. Ranci, *Economia dell'energia,* Il Mulino, 2011.

The reading references reported in the syllabus and the material available on the Blackboard.

*Optional supplementary reading list*

P.L. Ciocca-I. Musu*, Natura e Capitalismo. Un conflitto da evitare*, Luiss University Press, 2013.

L. Maugeri, *Con tutta l’energia possibile,* Sperling & Kupfer, 2008, pp. 273.

N. Stern, *Clima è vera emergenza,* F. Brioschi editore, 2009, part 1, pp. 21-75.

and also, the following book chapters or documents:

P. Ranci-M. Leonardi-L. Susano, *Poveri di energia*, Il Mulino 2016.

Ministero dello sviluppo, *Proposta di piano nazionale integrato per l’energia e il clima*, 2018.

***TEACHING METHOD***

Frontal lectures, testimonials from experts, recorded lectures, project work.

***ASSESSMENT METHOD AND CRITERIA***

Single written exam covering both modules. Each written exam will comprise eight questions (4 per module). Those students attending lectures will be allowed to participate to a mid-term test on the first half of the programme, as well as to working groups; the topics they cover, integrated with the contents of lectures, will be discussed during the course and presented in a final thesis. All information concerning the assessment, participation in the groups, and the teaching material for both attending and non-attending students, will be available on Blackboard page.

***NOTES AND PREREQUISITES***

In case the current Covid-19 health emergency does not allow frontal teaching, remote teaching will be carried out following procedures that will be promptly notified to students.

Further information can be found on the lecturer's webpage at http://docenti.unicatt.it/web/searchByName.do?language=ENG or on the Faculty notice board.