# Minor in Energy Economics and Policy

## Description

### The Minor concept

A minor gives you the opportunity of having a second specialisation in your degree. It is a bundle of three electives that can also be taken separately, but if chosen together they constitute a minor.

### Purpose

The green transition from fossil fuel-based, unsustainable energy sources to a society based on renewables, recycling, and reuse of materials is one of the defining challenges of our era. Energy, a cornerstone of modern economies, requires a shift towards renewable energy sources like wind, solar, and hydropower. The global imperative for sustainability, exemplified by the European Green Deal and Denmark's ambitious carbon emission reduction targets, is reshaping the energy industry at an unprecedented pace. Reaching energy and climate objectives implies massive transformations in the energy industry from technical, economic, regulatory, social, and policy viewpoints. Globally, there is a strong and growing need for graduates who can master the analytical skills and business perspectives needed for success in this changing landscape. This minor offers you a strategic opportunity to specialise within your master's degree and equips you with essential insights to navigate this evolving business and understand the main energy and environmental challenges.

This minor provides you with the tools, theories, and analytical frameworks needed to analyse the functioning of the energy sector from economic policy, system modelling, and business strategy dimensions. Understanding these insights is vital to inform regulation and policy as well as individual firm management and investments. The minor is composed of three interconnected courses that together form a comprehensive set of perspectives and methods, with an emphasis on quantitative analysis and a thorough knowledge of the energy industry's multi-faceted structure. This minor supports the students in acquiring skills and capabilities in line with the Nordic Nine principles. In particular, the minor facilitates the students to develop analytical thinking with data and curiosity about ambiguity, produce and protect the prosperity of current and next generations, and understand ethical dilemmas, in addition to having the leadership values to overcome them.

### Organisation

This minor is organised and supported by the Copenhagen School of Energy Infrastructure (CSEI) at CBS and is embedded in its overall strategy of research and education. The centre conducts research in tomorrow's energy infrastructure from an economic policy point-of-view to ensure a successful transition towards a new sustainable European energy infrastructure based on volatile

and renewable energy sources. The strong involvement of CSEI in the current European energy debate endorses that the students will get a good foundation for their professional development in the sector.

## Structure

The below table lists the structure and the ECTS credits of the individual courses. The course descriptions are available in the online course catalogue. Direct links are inserted in the below table.

| Course | ECTS |
|---|---|
| Energy Economics, Markets, and Policy | 7.5 |
| Energy System Economics and Modelling | 7.5 |
| The Energy Industry in Transition: Markets, Innovation and Strategies | 7.5 |

## Content

The minor builds upon the competences acquired by the students during their first year. Completing the minor will qualify you uniquely for specialist and management positions in organisations such as energy companies, technology providers, regulators, network operators, energy agencies and ministries, intergovernmental organisations, consulting and investment companies, or research and education institutions, among others.

The minor has a research-based focus and it is strongly founded on theories and methods from microeconomics, economic policy, business strategy and innovation, operations research, and system dynamics. To give you first-hand sector knowledge, the minor offers an extensive list of guest lectures given by experts and practitioners from the industry, in addition to the option to participate in field trips to energy sites.

Each course counts for 7.5 ECTS. To obtain the minor, you must choose all three of them. The courses are as follows:

***Energy Economics, Markets, and Policy*.** Based upon microeconomic principles, it introduces you to theories and concepts related to energy policy, energy markets, their regulatory frameworks, and technology and innovation issues and options. This course places the emphasis on how the energy industry is affected by globalisation, the need for fair and environmentally sustainable energy development, and the main socioeconomic challenges attached to the green transition.

***The Energy Industry in Transition: Markets, Innovation, and Strategies*.** Gives you a deep insight into the energy industry from a business perspective, with an emphasis on innovation and business strategy and a focus on frameworks to analyse ‘systemic innovation.’ It builds on relevant theories from business strategy, innovation, microeconomics, the economics and politics of regulation, and consumer behaviour, as they apply to concrete issues in the energy industry.

***Energy System Economics and Modelling*.** Introduces methods for modelling energy systems and strategies that are used by firms and policymakers for policy development and business analysis. These methods are mainly optimisation models, but others, such as system dynamics and efficiency analysis models are also briefly featured. They are an integral part of the ongoing policy debate surrounding alternative energy technologies and future development paths. Through hands-on experience, you will get a thorough understanding of how these models work and are used in policymaking, business development, and regulation.

## Examinations

The minor consists of the examinations listed below. The learning objectives and the regulations of the individual examinations are prescribed in the online course catalogue. Direct links to the individual examinations are inserted in the table below.

| Exam name | Exam form | Gradingscale | Internal/external exam | ECTS |
|---|---|---|---|---|
| Energy Economics, Markets, and Policy | Written sit-in exam on CBS' computers | 7-point grading scale | Internal exam | 7.5 |
| Energy System Economics and Modelling | Oral exam based on written product | 7-point grading scale | Internal exam | 7.5 |
| The Energy Industry in Transition: Markets, Innovation and Strategies | Oral exam based on written product | 7-point grading scale | Internal exam | 7.5 |

## Prerequisites for registering for the exam – compulsory activities

There are no compulsory assignments or requirements for active class participation.

## Further information

## Minor coordinator

Manuel Llorca – Department of Economics (ECON)

## Study Board

The Minor in Energy Economics and Policy is offered by the Study Board for Finance, Economics and Mathematics.

## How to sign up

To sign up for the Minor in Energy Economics and Policy, you need to select the Minor in Energy Economics and Policy (CEAPM1002U) when you sign up for your electives. You will then subsequently be signed up for all three courses.