

Energy Policy MSc (online)

Modules

The course is comprised of twelve 15-credit taught modules.

Introduction to Energy Policy

15 credits

The mission of this module is to help students develop an interdisciplinary, systematic and critical understanding of the role of policy and innovation for sustainable energy transitions in developed and developing countries. The module first introduces students to the functioning of energy systems, their sustainability challenges and clean energy innovation as a potential solution. Students will then learn and reflect upon interdisciplinary energy policy mix thinking by applying a state of the art, top down policy mix mapping approach to a real-world energy transition challenge.

Policy Analysis

15 credits

The module introduces students to a practical approach to developing policy proposals, drawing primarily upon concepts from welfare economics and public choice theory. The aim is to provide students with the concepts and tools to understand specific policy problems, identify relevant goals, develop evaluation criteria, identify alternative policy options, assess the likely impact of those options against the evaluation criteria, and provide practical policy recommendations.

Understanding the Policy Process

15 credits

The goal of this module is to help students studying Energy Policy and Sustainable Development Masters develop a systematic and critical understanding of how the policy making process works in modern economies. Each of the seven weeks will focus on a different stage of the policy making process, with students exploring the nature of the process, the significance of different stages and their characteristics; and consider various influences on each of the stages.

Science, Technology and Innovation

15 credits

The mission of the module is to provide students with a grounding in a variety of economic and noneconomic (systems) frameworks for studying issues of science, technology and innovation, and their collective relationship to energy production and policy. The module gives students from diverse disciplinary backgrounds the knowledge and shared concepts for their studies, enabling them to communicate with each other and with the wider industrial, academic and policy communities concerned with innovation. The module aims to provide deep understanding of the processes of technical change and their relationships to organisations, markets and regulations.

Energy Sustainability

15 credits

This module introduces students to the main issues of energy and sustainability, and the challenges of transitioning to a low carbon energy system. The approach is interdisciplinary and practical, focusing on specific policy issues rather than theoretical debates. Substantive issues covered include: the current unsustainability of energy use and the history of fossil fuel dependence; energy efficiency and energy demand; market liberalisation and carbon pricing – and alternatives to the current models; energy use in transport; the electricity system and the role of renewable energy; and controversial technologies including nuclear power, carbon capture and storage, and biofuels.

Energy Justice

15 credits

This module revolves around a central question: how can justice theory help people make meaningful decisions about the production, the delivery, the use, and the effects of energy? In asking this question, the module connects the discussion of energy and technology with long-standing notions of virtue, utility, happiness, welfare, freedom, distributive justice, and procedural justice. To give a pragmatic structure to this inquiry (and to show why this question matters), the class is divided into four parts:

- (1) understanding the global energy system and the injustices currently associated with it;
- (2) exploring justice theory and what it can offer when applied to energy problems;
- (3) examining policy mechanisms and tools that promote energy justice;
- (4) analysing case studies around the world of where communities or countries have made remarkable gains promoting energy justice.

Perspectives, Methods & Skills

15 credits

This module provides students with the basic building blocks for the production and use of social scientific research, giving special consideration to inter and transdisciplinary research. The aim is to develop students' abilities to understand, critically evaluate, conduct, and communicate research. Module contents are relevant to students interested in pursuing careers in public and private sectors, and in research. The module will help students develop more sophisticated interpretative lenses, a strong understanding of methodological approaches used in the social sciences, and effective communication abilities. These skills are highly applicable to academic and non-academic tasks.

Quantitative Research Methods for Energy Policy

15 credits

This module equips students with the essential analytical skills needed to provide and derive evidence-based implications for actions and strategies in the field of Energy Policy.

Assuming no prior knowledge of statistics, the module covers: basic concepts of descriptive and inferential statistics; basic statistical tests and analyses; essential elements of regression analysis; issues and biases affecting quantitative research. Students will not only acquire knowledge about intuitive theoretical foundations and practical implications of methods covered in the module; they will also gain practical experience of conducting statistical analyses with hands-on exercises based on the widely used statistical software SPSS.

Governing Energy Transitions

15 credits

This module will introduce students to a systems perspective on long-term, socio-technical change in the field of energy in order to explore the co-evolution of technologies with political, institutional, economic and social factors. The module will illustrate this conceptual perspective with historical and current case studies from the energy sector and explore the implications for governing transitions to low carbon energy systems. The module will analyse and reflect on current policy approaches for governing low carbon transitions. Substantive issues to be covered include: the historic transition from horse-drawn carriages to auto mobility, low carbon innovation policy in the UK, the Energy Transitions approach in the Netherlands, transitions in developing country contexts, the politics of governing transitions and the role different interests of a variety of actors play, bottom-up approaches to changing energy systems such as energy cooperatives, as well as strategies of incumbent energy companies to respond to pressures for change towards a low carbon energy system.

Energy and Development

15 credits

The module examines substantive energy policy challenges faced by developing countries, including increasing energy access, reducing energy poverty and addressing energy security. Integrating orthodox perspectives on energy policy with insights from innovation studies and socio-technical approaches, the module will explore the implications for development of notions such as lock-in, path dependency and leapfrogging. Building on this conceptual apparatus, the module will critically engage with academic and policy debates on strategies and policy instruments such as low carbon development, technology transfer and carbon markets, all of which are intended to play roles in helping developing countries achieve development objectives while establishing sustainable energy systems.



Energy and Economic Growth

15 credits

This module will investigate the challenge of reconciling economic growth with sustainable energy use. Drawing on perspectives from evolutionary and ecological economics, the module will explore the role of key energy supply and conversion technologies in driving past surges of economic growth, and the dependence of economic activity on efficient conversion of primary energy sources into useful work. It will then assess the implications of these insights for the potential for a new surge of economic growth based on investment in low carbon energy technologies.

Energy Policy Capstone Project

15 credits

The module will provide students with the opportunity to integrate knowledge, skills and capacities from the entire ODL Energy Policy MSc course into a student-directed capstone project. The project is structured as a policy briefing paper focused on a specific energy policy problem and culminating with a set of clear recommendations for the defined audience of the briefing paper. Paper components are staged and structured to ensure students are supported in meeting the intended learning outcomes. Students will be matched with a supervisor for additional support and to ensure engagement with the broader SPRU community. Students will be encouraged to select a topic of relevance to their employer or other institutional home, or to work on a topic aligned with themes suggested by researchers in the Sussex Energy Group.