Energy Markets and Innovation Policies

Lecturers/Instructors: Michael LaBelle

Credits: 2

Pre-requisites: none

Aims, Objectives and Learning Outcomes
The European Union will be examined in depth, from the formation of the Oil and Steel Community to the Energy Union, and how energy policies, regulations and infrastructure have changed over time. This course will target students needing a holistic and in-depth view of the EU’s energy sector, from Economics, International Relations to Policy Study students. Energy security and efforts to reduce GHG emissions will feature heavily in this policy centered course. The aims are:

• Develop a holistic understanding of EU internal and external market connections
• Gain knowledge of policy and regulatory structure within the EU and national energy markets
• Create understanding of interplay of competition and monopolies in energy markets
• Strategic decision making of firms within competitive national markets and the EU
• Importance of energy geopolitics on EU and national energy markets
• Cross-disciplinary approach to education and how multiple perspectives join in the policy and business realm

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Assessment</th>
<th>Activities</th>
<th>Estimated Workload</th>
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<tbody>
<tr>
<td>Greater knowledge in:</td>
<td>How does the energy system work in the EU?</td>
<td>presentation</td>
<td>10 hours</td>
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<tr>
<td>Operations of gas and electricity markets and key players in the EU</td>
<td>Group poster presentation (10% of grade)</td>
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<td>External EU neighborhood and role in changes to EU energy security options</td>
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<td>Role of energy regulations and regulators</td>
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<td>Research and analysis skills. Greater ability to conduct research, organize data and analyze potential business or policy approaches.</td>
<td>5,000 words), 50% of grade</td>
<td>report</td>
<td>50 hours</td>
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<tr>
<td>Critical thinking skills.</td>
<td>Blogs, 40% of grade</td>
<td>Report and presentation</td>
<td>40 hours</td>
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<td>Class and lectures</td>
<td>attendance</td>
<td>lectures</td>
<td>20 hours</td>
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<tr>
<td><strong>Total hours</strong></td>
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<td><strong>120 hours</strong></td>
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<thead>
<tr>
<th>Session</th>
<th>Topic</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Energy systems</td>
<td>Course introduction; defining energy as a subject of study; roles and assignments; grading Energy system and resources: from upstream extraction to energy services (downstream)</td>
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<td>3</td>
<td>Energy Regulations of the European Union</td>
<td>National and EU level energy regulators: ACER and National Regulatory Authorities; Guest Speaker: Energy Regulators Regional Association</td>
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<td>4</td>
<td>Global Energy Markets</td>
<td>Global natural gas markets, LNG; oil markets</td>
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<td>5</td>
<td>Energy Efficiency in the European Union</td>
<td>Role of energy efficiency in climate change; National level targets. Contrasting energy efficiency efforts in Member States</td>
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<td>6</td>
<td>Energy Security threats and dependency</td>
<td>Russian gas pipelines 1970s – present; gas dependency by CEE countries; 2009 gas crisis; Pipeline politics (north and south stream). North Africa and the EU</td>
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<td>7</td>
<td>Energy Union</td>
<td>Innovating a more secure and efficient energy union. Energy efficiency and technologies addressing high household prices and improving energy security.</td>
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<td>8</td>
<td>Final class</td>
<td>Presentations</td>
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**Assignment #1: Poster Presentation**
Create a Power Point/Evernote/poster presentation of the historical evolution of the energy sector in the European Union using one energy technology as a point of reference. Explain how the market has changed over time for this technology and surrounding policies and regulations. Identify energy security and energy efficiency elements connected to this technology. Finally, describe how the technology fits within the overall framework of the energy union.

**Key questions to answer:**

1. Identify an energy technology
2. Where does it fit within the energy system?
3. What social or environmental issue does it address?
4. What regulations and policies affect its operations?
5. Who are the stakeholders involved?
6. What would be the ideal country for this technology or service?

**Assignment #2: Blog Readings**
Students will be divided into groups and will alternate assigned session readings. With the first student blogging and the other students commenting online in Moodle on the first student’s summary. Then they alternate.

Students comment on the required BLOG READING (as labeled in Moodle).
- The first student blog entry must be completed 24 hours before class, thus by 13:30. This must be 500 words.
- Other student must comment on blog entries within 24 hours (by 13:30 the day of class), thus all readings and blog entries are done before students come to class. This must be at least 300 and a maximum of 500 words.
- All points will be lost for late submissions.
- If a student is unable to provide an entry within the full timeframe, they can post an entry before the other students do – just noting they needed to publish early.
- If a partner fails to submit their first entry, then the other students must provide the first reading summary on the original schedule before class.
- Students will decide for themselves who goes first – if a decision can’t be made the professor will instruct the students of the order.
- The fourth entry is based on a review of the fieldtrip (see moodle for instructions)

**Student #1:** Students will write a 500 word summary on the key reading for the class. The blog entries must do the following:
Jean Monnet Chair in Energy and Innovation Strategies

- Describe in detail the key messages of the reading;
- Describe overall dilemma and the purpose in the reading;
- Describe how the reading ties into key concepts of the course (discussed in first class) – including other readings and speakers (there is always a secondary reading);
- A structured format with a clear introduction and conclusion are expected;
- Make your opinion known.

Student #2 and #3: On-line blog entry commentary

Students will be graded based on the useful and critical feedback they provide to their partner. Critical thinking skills are essential. The response needs to be a minimum of 300 words and a maximum of 500 words.

Critical written feedback should include:
- How well did they express their opinion?
- Does the student’s analysis frame the reading well within other course content?
- Does the reading provide both a general overview and some specific comments, indicating a good understanding of the reading?
- Do you agree or disagree with their interpretation and analysis?

Assignment #3: Research paper

Write a research paper on a chosen a technology and policy that fits within one of the seven session themes. Include a description of energy security issues, policies and regulations at the EU level that alter how national governments and firms traditionally treated such an energy technology. Describe the social aspects in at least one member state that would encourage the use of this technology over the long-term.

Readings

Session 1: Energy Systems


Session 2: Energy Policies of the European Union:


Session 3: Energy Regulations of the European Union


**Session 4: Global Energy Markets**


**Session 5: Energy Efficiency in the European Union**


**Session 6: Energy Security threats and dependency**


**Energy Union**


