Energy Economics

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CEMFI and CEPR

CEMFI Energy Econocmics Course

In which field of Economics are you interested in?

- Environmental & Energy Economics
- Industrial Organization (IO)
- Development Economics
- Financial Economics
- Public Economics
- Labor Economics
- Health Economics
- Urban & Regional Economics
- Agricultural & Resource Economics
- Behavioral Economics
- Experimental Economics
- Mechanism Design
- Economic History
- Political Economy
- Transportation Economics
- Inequality & Distribution

...then Energy Economics is for you!

Why Should We Care About Energy Markets?

Decarbonizing power is critical to addressing climate change

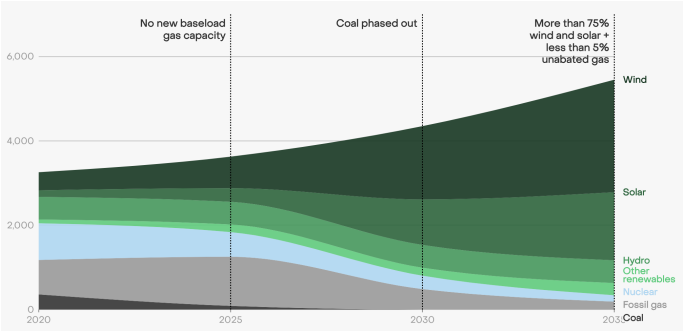


Figure: 1.5C pathways to clean power by 2035 in Europe

Decarbonizing power requires significant investments in renewable energies while fossil fuels are phased out.

Why Should Economists Care About Energy Markets?

Energy prices have systemic effects across the economy

- **Energy prices influence competitiveness**

  "The first priority is to lower energy prices... We have the highest energy prices: EU companies face electricity prices that are 2-3 times higher than those in the United States and in China." Draghi 2024

- **Price increases lead to adverse distributional effects**
  Fabra, Leblanc, and Souza 2025
- **...and exacerbate energy poverty**, with health and mental health consequences
  Lee and Yuan 2024 and Bentleya et al. 2024
- The **design of energy and climate policies** also has distributional implications
  Kiribrahim-Sarikaya and Qiu 2025 and Reguant 2019

Why Should Microeconomists Care About Energy Markets?

Understanding how **energy markets** function and how firms and households respond to energy policies helps us **design them so as to promote both efficiency and equity**

- **Consumer behavior:** households and firms respond to energy prices, taxes & subsidies; by how much? why (behavioral biases, frictions, ...)?
- **Market power:** energy markets feature imperfect competition; what are the roles of market design and market structure?
- **Externalities:** energy use generates negative environmental and can raise security of supply concerns; How to mitigate them?
- **Regulation & policy design:** what are the impacts of carbon pricing, renewable subsidies, standards...? How to provide incentives for energy conservation and investment in back-up plants and storage?
- **Innovation incentives:** energy prices and policies shape R&D, adoption of clean technologies, and diffusion of innovation; how best to promote it?
- **Distributional impacts:** energy costs and policies affect households differently across income groups and regions; how to avoid adverse effects?

Why Should Macroeconomists Care About Energy Markets?

Understanding the **interactions between energy shocks** (whether associated with government policies, geopolitical events, new technologies, or changes in market structure) **and the macroeconomy** can help us understand both short-run macroeconomic outcomes as well as long-term economic growth.

- **Energy price shocks matter:** influence inflation, employment, and long-run growth.
- **Energy transition:** impacts on investment, consumption, unemployment, asset prices, and business cycles.
- **Financial stability:** energy shocks and policies interact with credit markets; implications for central banks and supervisors.
- **Fiscal impacts:** resource booms/declines and taxation affect local public finances.
- **Public spending & subsidies:** effects on output, jobs, and growth.
- **Innovation & growth:** energy policies and prices shape technological change and long-run productivity.

Why Should Econometricians Care About Energy Markets?

Energy markets provide **very rich sources of data** (time series, panel data), allowing to shed light on highly relevant **policy relevant questions**.

Content of the Course

1. Overview of Energy Markets
2. Competition in Electricity Markets: Theoretical and Empirical Analysis
3. Forwards and Long-Term Contracts
4. Designing Renewable Energy Policies
5. Capacity Investments and Security of Supply
6. Energy Storage and Transmission
7. Pollution Permit Markets and Taxes
8. Energy Efficiency and Behavioral Biases
9. Retail Markets: Competition and Pricing
10. Distributional and Socio-Economic Effects of Energy and Climate Policies

References

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- Fabra, N., C. Leblanc, and M. Souza (2025). *Unpacking the Distributional Impacts of the Energy Crisis: Lessons from the Iberian Electricity Market*. CEPR Discussion Paper 20593.
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