

**API-165**  
**Energy and Environmental Economics and Policy**

Lecture: Mondays and Wednesdays, 2:45–4:00, RG21

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**The Course**

This course applies economic tools to understand the rationale, design, and evaluation of public policies focused on energy and environmental problems. The course examines the efficacy, welfare, and distributional impacts of an array of policy approaches, including carbon pricing, subsidies for energy efficiency and renewable power, cap-and-trade programs for conventional air pollutants, fossil fuel subsidies, clean energy research and development, fuel economy standards, information programs, and multilateral climate and energy policy governance.

**Prerequisites**

API-101 and API-201, or equivalents.

**Readings**

There is no required text for the course. Assigned readings will be available through the API-165 course website and hyperlinked on this syllabus. Readings should be completed prior to class.

**Evaluation**

*Policy Evaluations*, 50%: Student will work in small groups to undertake a series of policy evaluations.  
*Group Project*, 30%: Students will work with a group for an end-of-semester project.  
*Participation in classroom discussion*, 20%: Contribution to classroom discussion, with an emphasis on comments reflecting reading and providing value-added to the conversation, will be evaluated.  
Unexcused absences will adversely affect participation grade.

Complete descriptions of these assignments will be provided over the semester on Canvas. **Late assignments will not be accepted.** Students are expected to be familiar with and abide by the [HKS Academic Code](#). Violations of the academic code will not be tolerated.

**Doctoral Section of Course**

Students may register for the doctoral section of the course to satisfy doctoral program field course requirements. Students registered for the doctoral section will be evaluated based on policy evaluation assignments and classroom participation, as described above, as well as on two referee reports on current working papers and a research-oriented term paper. The latter will be in lieu of participating in the end-of-semester group project.

## Schedule of Classes, Topics, and Assigned Readings

### January 27: Imperfect Competition: Oil Markets

Heal, G. 2008. Exhaustible Resources. In: Durlauf, S. and Blume, L.E., eds. *The New Palgrave Dictionary of Economics*, pp. 1911-1918.

### January 29: Imperfect Competition: Oil Markets

Pindyck, R.S. 1978. Gains to Producers from the Cartelization of Exhaustible Resources. *Review of Economics and Statistics* 60(2): 238-251.

### February 3: Imperfect Competition: Power Markets

Cicala, S. 2015. When Does Regulation Distort Costs? Lessons from Fuel Procurement in U.S. Electricity Generation. *American Economic Review* 105(1): 411-444.

### February 5: Externalities: Introduction

Muller, N.Z. and R. Mendelsohn. 2009. Efficient Pollution Regulation: Getting the Prices Right. *American Economic Review* 99(5): 1714-1739.

### February 10: Externalities: Value of Statistical Life

Aldy, J.E. and W.K. Viscusi. 2008. Adjusting the Value of a Statistical Life for Age and Cohort Effects. *Review of Economics and Statistics* 90(3): 573-581.

### February 12: Externalities: Social Cost of Carbon

Nordhaus, W.D. 2017. Revisiting the Social Cost of Carbon. *Proceedings of the National Academy of Sciences* 114(7): 1518-1523.

### February 17: No Class: President's Day

### February 19: Externalities: Social Cost of Carbon

Dell, M., B.F. Jones, and B.A. Olken. 2012. Temperature Shocks and Economic Growth: Evidence from the Last Half Century. *American Economic Journal: Macroeconomics* 4(3): 66-95.

### February 24: Externalities: Catastrophic Risk

Weitzman, M.L. 2014. Fat Tails and the Social Cost of Carbon. *American Economic Review* 104(5): 544-546.

**February 26: Public Goods: International Environmental Agreements**

Barrett, S. and A. Dannenberg. 2016. An Experimental Investigation into “Pledge and Review” in Climate Negotiations. *Climatic Change* 138: 339-351.

**March 2: Public Goods: Innovation**

Howell, S. T. 2017. Financing Innovation: Evidence from R&D Grants. *American Economic Review* 107(4): 1136-64.

**March 4: Distributional Issues**

Levinson, A. 2019. Energy Efficiency Standards Are More Regressive than Energy Taxes: Theory and Evidence. *Journal of the Association of Environmental and Resource Economists* 6(S1): S7-S36.

**March 9: Libertarian Paternalism**

Allcott, H. 2011. Social Norms and Energy Conservation. *Journal of Public Economics* 95(9-10): 1082-1095.

**March 11: Energy Prices and Fossil Fuel Subsidies**

Davis, L.W. 2014. The Economic Cost of Global Fuel Subsidies. *American Economic Review* 104(5): 581-585.

**March 16-18: No Class: Spring Break**

**March 23: Fuel Economy Standards**

Anderson, S.T. and J.M. Sallee. 2011. Using Loopholes to Reveal the Marginal Cost of Regulation: The Case of Fuel-Economy Standards. *American Economic Review* 101(4): 1375-1409.

**March 25: Price Instruments**

Parry, I.W.H. and K.A. Small. 2005. Does Britain or the United States Have the Right Gasoline Tax? *American Economic Review* 95(4): 1276-1289.

**March 30: Price Instruments: Renewable Subsidies**

Aldy, J.E., T.D. Gerarden, and R.L. Sweeney. 2019. Investment versus Output Subsidies: Implications of Alternative Incentives for Wind Investment. NBER Working Paper 24378.

**April 1: Price Instruments: Energy Efficiency Subsidies**

Howe, S. and J.E. Aldy. 2017. Consumers’ Response to State Energy Efficient Appliance Rebate Programs. *American Economic Journal: Economic Policy* 9(4): 227-255.

**April 6: Quantity Instruments: EU ETS**

Bushnell, J.B., H. Chong, and E.T. Mansur. 2013. Profiting from Regulation: Evidence from the European Carbon Market. *American Economic Journal: Economic Policy* 5(4): 78-106.

**April 8: Quantity Instruments: SO2 Cap-and-Trade Program**

Ferris, A. E., R.J. Shadbegian, and A. Wolverton. 2014. The Effect of Environmental Regulation on Power Sector Employment: Phase I of the Title IV SO<sub>2</sub> Trading Program. *Journal of the Association of Environmental and Resource Economists* 1(4): 521-553.

**April 13: Quantity Instruments: NOX Cap-and-Trade Programs**

Deschênes, O., M. Greenstone, and J.S. Shapiro. 2017. Defensive Investments and the Demand for Air Quality: Evidence from the NO<sub>x</sub> Budget Program. *American Economic Review* 107(10): 2958-89.

**April 15: Competitiveness**

Aldy, J.E. and W.A. Pizer. 2015. Competitiveness Impacts of Climate Change Mitigation Policies. *Journal of the Association of Environmental and Resource Economists* 2(4): 565-595.

**April 20: Nuclear Power Phase-out**

Neidell, M.J., S. Uchida, and M. Veronesi. 2019. Be Cautious with the Precautionary Principle: Evidence from the Fukushima Daiichi Nuclear Accident. NBER Working Paper 26395.

**April 22: Instrument Choice**

Stavins, R.N. 2019. The Future of U.S. Carbon-Pricing Policy. NBER Working Paper 25912.

**April 27-29: Designing Energy and Climate Change Policy**

U.S. House of Representatives. Recognizing the Duty of the Federal Government to Create a Green New Deal. House Resolution 109.

Climate Leadership Council. 2019. Our Plan.

**May 8: Group Projects Due**

*Group Projects are due by 5pm in electronic and hard copy*