PUBP 3350 – DM – Energy policy & Markets

Fall 2026

Class time: TR 12:30 – 1:45 **Classroom: Clough 129**

Professor: Daniel Matisoff **E-mail:** matisoff@gatech.edu

Office: DM Smith 310 **Office hours:** TBD, or by appt.

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Teaching Assistant: TBD **E-mail:** TBD

Office hours: TBD

FORMAT:

THIS CLASS WILL MEET IN PERSON. ATTENDANCE IS REQUIRED.

Course Description & Learning Objectives

Why do oil prices rise and fall?

Will we ever "run out" of oil?

Can we solve climate change without hurting American industry?

What are the promises and pitfalls of renewable energy?

Under what economic and policy conditions can renewable energy be competitive?

Can America achieve energy independence? What does energy independence mean?

How will carbon regulation impact American energy production?

Why should we incentivize renewable energy production? And how can we best design those incentives and regulations?

This course cuts through myths that are pervasive in the media, public opinion, and in statements by politicians. It will give you a theoretical basis from which to assess energy policy options, and an understanding of how global energy markets work, as well as an overview of domestic and international energy policy. The course seeks to build group project skills and students will produce a policy analysis of policy options related to an energy policy problem.

Through this course you will gain the tools to assess and analyze the market characteristics, policies, and regulations that impact the supply, demand, and impacts of energy consumption in the U.S. and abroad. This course will provide an overview of applied energy economics, energy regulation, basics of U.S. and global energy production / consumption, and policy options for promoting a sustainable energy future.

GT Learning Outcomes:

- **Analyze** the fundamental economic drivers of energy supply, demand, and pricing in domestic and global markets
- **Evaluate** energy policy instruments (e.g., regulation, subsidies, taxes, cap-and-trade) in terms of efficiency, equity, and effectiveness
- **Explain** the role of market failures (e.g., externalities, public goods) in shaping energy and environmental policy
- **Assess** the economic and policy conditions under which renewable and conventional energy sources are competitive
- **Interpret** the impacts of energy policy decisions on industry, consumers, and environmental outcomes
- **Apply** policy analysis frameworks to real-world energy challenges, including climate change and energy transition
- **Develop** and **communicate** evidence-based policy recommendations through written and collaborative group work
- **Critically assess** competing narratives about energy markets and policy using economic theory and empirical evidence

Core IMPACTS – Social Sciences

This course is part of the University System of Georgia's Core IMPACTS curriculum and satisfies requirements in the **Social Sciences** area.

Courses in the Social Sciences area focus on the systematic study of human behavior and social systems. Students will develop the ability to:

- **Analyze** social, economic, or political systems using appropriate theoretical frameworks
- **Apply** empirical evidence to evaluate explanations of human behavior and public policy
- **Examine** the role of institutions, markets, and governance in shaping societal outcomes
- **Communicate** informed perspectives on contemporary social issues

In this course, these outcomes are achieved through the study of energy markets, environmental externalities, and public policy design, with particular attention to the economic and institutional drivers of energy systems and climate policy.

Please come see me *early* if you have any apprehensions or are having difficulties with course materials.

Grading & Attendance

Participation / Attendance – 100 points 10%

Exams x 2 200 points each – 400 points 40%

Graded Book Discussion - 50 points - 5%

Group Project Group Grade – 350 points 35%

Group Project Individual Grade – 100 Points – 10%

Grading Scale (%):

90 – 100 = A	70 – 79.9 = C	< 59.9 = F
80 – 89.9 = B	60 – 69.9 = D	

Required Materials, Readings & Assignments

Readings: You are expected to complete all book and additional article readings for this class by the due date listed on the syllabus. Discussion in class will depend heavily on readings you have completed for that day's class. There will be additional short articles posted to Canvas in addition to the book chapters listed below. Please pay attention to Canvas. For your convenience, materials will be posted under the Modules Tab in Canvas for each class topic.

David Weimer and Aidan Vining - Policy Analysis. 5th ed ISBN-10: 0205781306 • ISBN-13: 9780205781300

Book is available online (and is also available through the GT library). I suggest the following sites: amazon.com, half.com, or abebooks.com. Some are available used for quite cheap. Abebooks.com & Betterworldbooks.com are excellent resources for used books! Older / newer additions are acceptable.

Daniel Matisoff and Douglas Noonan. ***Ecolabels, Innovation, and Green Market Transformation: Learning to LEED.*** **Cambridge University Press. ISBN:** 978-1108744843

Book is available via Amazon and other online booksellers. Digital and print versions are also available through the GT library.

Additional Required Readings & Reference Materials will be placed on Canvas.

The PUBP 3350 Web Page: A Canvas site will provide this syllabus, lecture outlines, required readings, and supplemental references.

Group Project / Policy Memo: Details about this exercise will be discussed at the beginning of the course. Your grade for this project will be based on both the quality of the group's effort and your individual contribution.

Exams: The midterms will cover material from class readings and lectures. The final will do the same, emphasizing the last portion of the course, but will be cumulative. These will be multiple choice.

Attendance & Participation Policy:

Be in attendance (IN PERSON), do your readings, and participate. Students are assessed on the quality and quantity of participation. You are strongly encouraged to be in class as much as possible, though excused absences are allowed per Institute regulations. Effective participation is difficult if you are absent. For further information on the Georgia Tech attendance and academic absence policy please click here.

Disability Services:

This class will comply with all reasonable accommodations as proscribed through the Americans with Disabilities Act and/or Georgia Tech regulations. For additional information on requesting accommodation and other services offered by Georgia Tech, please see https://disabilityservices.gatech.edu/

Readings:

You are expected to complete all book and additional article readings for this class by the due date listed on the syllabus. Discussion in class will depend heavily on readings you have

completed for that day's class. There will be additional short articles posted to Canvas in addition to the book chapters listed below. Please pay attention to Canvas.

Classroom Etiquette and Georgia Tech Student Code of Conduct:

Per GT policies, this class is in person. Please participate, raise, hands, ask questions, and be engaged. It improves the learning experience to generate some active discussion! Please try really hard not to be on your phone! If you have a laptop out, please be using it to take notes or follow lecture slides, and not do other unrelated things. Also, you are required to adhere to the Student Code of Conduct.

Please see the GT Student code of conduct here:
https://policylibrary.gatech.edu/student-life/student-code-conduct

Take Home Exams:

There are 2 take home exams for this course and they will be turned in via Canvas.

Group Project:

You are challenged to produce a group paper and presentation that covers sustainable aviation fuels (SAFs) as they relate to your assigned UPS hub and its location, existing and future policy, markets, and technology, and an implementation strategy for UPS. The key component for the final portion of the paper is to create a plan that will allow your hub to procure 30% SAF by 2035. Throughout the entire project, as you are conducting your research and meeting with your groups, this should be at the forefront of your mind.

Late Policy:

Late assignments will be deducted 10% per calendar day late. (E.g. from hours late = 0 – 24, 10% will be deducted; from hours late = 24 – 48, 20% will be deducted, etc.) Late assignments will not be accepted once graded assignments are returned to the class.

Maximum lengths on assignments:

Assignments have a specified length. These are absolute maximums. You may write less, but historically, assignments that are much shorter than the specified length have been found to be incomplete / less good than assignments that effectively use the allocated space.

HONOR CODE:

By accepting admission to the Institute you have agreed to abide by the Honor Code, and also available here: https://osi.gatech.edu/content/honor-code which was initiated and designed by the student government. Students are expected to avoid any instances of academic misconduct including, but not limited to: 1) possessing, using, or exchanging improperly acquired written or oral information in the preparation of an exam or paper; 2) substitution of material that is wholly

or substantially identical to that created or published by others; 3) false claims of performance or work. *If you have a question about what is permissible, ask*.

AI policy. I understand that AI and chatbots are very useful for helping improve efficiency, draft outlines, etc. For this class, you MAY NOT USE AI or Chatbots to complete exams. You're cheating yourself, first and foremost. I would rather see imperfect work, completed by humans, than work completed by a chat algrorithm. To complete group projects, you MAY use AI to generate outlines and ideas and look for sources, but you should NOT rely on the AI for writing.

Class Schedule and Readings

Plan to read each listed item (in the textbook or available on Canvas) before the class for which it is listed. Items noted as "Additional Readings" are meant to serve as a reference or bibliography, and are especially meant for those doing research in these areas. "Additional Readings" are not required for class discussion, but those interested in energy policy may choose to do these readings and benefit from them!

Part I: Basic Energy Economics Theory

Week 1 –

Session 1: Syllabus and Introduction; Competitive Markets (refresher)

- Syllabus
- Begin discussion of Competitive Markets

Session 2: Competitive Markets (refresher)

- Weimer & Vining, Ch 4
- "Oil Prices: What's behind the drop? Simple Economics"
- Another Fracking Boom to Beget Another Fracking Bust
- Will the US shale boom ruin the oil party?

Additional Readings:

Matisoff, Daniel C, Douglas S Noonan, and Jinshu Cui. "Electric Utilities, Fuel Use, and Responsiveness to Fuel Prices." *Energy Economics* 46 (2014): 445-52.

Week 2 –

Session 1: Market failures I

- Weimer and Vining, Ch 5
- For $20 Million, a Coal Utility Bought an Ohio Town and a Clear Conscience
- Why Coal Can't Compete on a Level Playing Field

GROUP PROJECT PREFERENCES

Session 2: Market failures II

- Weimer & Vining, Ch 6 & 7

GROUP PROJECT ASSIGNMENT

Week 3 –

Session 1: Policy tools I – Command & Control: Mandates, Quotas, Limits, & Requirements

- Weimer & Vining, Ch 10
- Biden, Emphasizing Job Creation, Signs Sweeping Climate Actions
- "Numerous States Prepare Lawsuits Against Obama's Climate Policy"
- "The roots of Boeings 737 max crisis a regulator relaxes its oversight"

Session 2: Policy Tools 2: Market-Based Regulation: Taxes, Subsidies, and Cap & Trade

- Stavins, Robert. 1998. "What Can We Learn from the Grand Policy Experiment? Lessons from SO2 Allowance Trading." *Journal of Economic Perspectives* v12, n3 p69-88.

GROUP WORK TIME (5-10 mins)

Week 4 –

Session 1: **In-Class Exercise – Cap & Trade**

- "EPA affirms its right to limit mercury from power plants"

Session 2: **In Class Exercise – Cap & Trade Wrap-Up**

Week 5 –

Session 1: Politics & Energy

- Weimer & Vining, Ch 8
- "Role reversal: GOP blasts Obama plan to sell TVA"
- "Colorado Communities Take On Fight Against Energy Land Leases"
- "Opposition Grows to Proposed Coal Ash Dump in Pickens County"
- "When Pollution is a Matter of Life and Death"
- Where Americans (Mostly) Agree on Climate Change Policies, in Five Maps
    - https://www.nytimes.com/interactive/2018/11/01/climate/climate-policy-maps.html

Session 2: Visit from UPS & GROUP WORK TIME (half class)

Week 6 –

Session 1: Policy tool tradeoffs

- Goulder, Lawrence and Ian Parry. 2008. "Instrument Choice in Environmental Policy" *Review of Environmental Economics and Policy*. v2 p152-174.
- Keohane, Nathanial, Revesz, Richard, and Robert Stavins. 1998. "The Choice of Regulatory Instruments in Environmental Policy. *Harvard Environmental Law Review*. V22 n2 pp313-367. Stavins Ch 32.
- Michael. "It's immoral to buy the right to pollute (with replies)". Stavins Ch 18.

Session 2: The Social Cost of Carbon

- Policy Brief: World Resources Institute. "More than Meets the Eye – The Social Cost of Carbon in U.S. Climate Policy, in Plain English.
- The Flawed Case Against Pricing Carbon
- "New EPA document reveals sharply lower estimate of the cost of climate change"
- "The Problem With Putting a Price on the End of the World"

Part I of Group Project due in class:

- *Context & Market Overview*
- *10 pages plus summary, you will receive feedback before next section is due*

Part 2: Energy Supply: Sources, Policies, & Uses

Week 7 –

Session 1:

Exam 1 Assigned

Coal

- "Full Cost Accounting for the lifecycle of Coal"
- "Economic Costs of Mental Retardation – CDC"
- "Workers Try to Plug Coal Ash Leak in NC"
- "This Abandoned Pennsylvania Town Has Been On Fire For 53 Years"
- **"**Trump Administration Prepares a Major Weakening of Mercury Emissions Rules
- P.A. Plans to Get Thousands of Pollution Deaths Off the Books by Changing its Math

Session 2:

DRAWDOWN GA GAME

Week 8:

Session 1: Oil & Gas, Fossil Fuels

- Podcast: https://www.npr.org/2022/08/31/1120422634/breaking-down-the-price-of-gasoline
- Natural Gas Under Assault After Brief Reign at Top
- "A 14-year-long oil spill in the Gulf of Mexico verges on becoming one of the worst in U.S. history"

- Despite Their Promises, Giant Energy Companies Burn Away Vast Amounts of Natural Gas
- As coal fades in the U.S., natural gas becomes the climate battleground

Session 2: **Participatory Policy Exercise – Fracking I**

- Case Study: New Frackillvania
- Jackson, Robert B., et al. "Research and policy recommendations for hydraulic fracturing and shale-gas extraction." *Center on Global Change, Duke University, Durham, NC*(2011). Accessed from http://stophf.cz/wp-content/uploads/2012/04/ studie-HD-duke1.pdf

Exam 1 Due, on Canvas

Week 9 –

Session 1: **Participatory Policy Exercise – Fracking II**

GROUP WORK TIME (10-15 mins)

Session 2: Nuclear Energy

- "Nuclear Plants Vexed at Prices That Shift as Demand Does"
- "Energy Secretary is urged to end U.S. nuclear fuel program at Savannah River"
- "PSC Approves Billions in Vogtle Expenditures and Cost Overruns With No Review"
- Trump Administration Revives Nevada Plan as Nuclear Waste Piles up
- Toshiba's Westinghouse Files for Bankruptcy Protection

Week 10 –

Session 1: Renewable Energy – Wind

- Wind power costs could drop 50%. Solar PV could provide up to 50% of global power
- Devine-Wright, Patrick. 2005. Beyond NIMBYism: towards an integrated framework for understanding public perceptions of Wind Energy. *Wind Energy.*

Session 2: Solar 2 Solar and Utility Business Models

GUEST SPEAKER – Ross Beppler

Week 11 –

Session 1: Book Discussion *** Market Transformation***

Read: **"Ecolabels, Innovation, and Green Market Transformation: Learning to LEED" Assignment due: 3 questions on book.**

Session 2: Renewable Energy – Solar

- "Net Metering Cost-Effectiveness" (Pages 1-11 – key highlights)
- "Crowdfunding clean energy"
- "Georgia Power Solar Tariff Withdrawn"
- "Arizona's solar flare-up"
- Rooftop Solar Dims Under Pressure from Utility Lobbyists
- Solar Experiment Lets Neighbors Trade Energy Amongst Themselves

Part II of Group Project due in class:

- *Policy & Strategy Options*
- *10 pages plus summary, you will receive feedback before next section is due*

Part III: Energy Demand: Consumption, Regulation & Climate

Week 12 -

Session 1: Biomass / Biofuels: "Brazil's ethanol sector buffeted by forces both man-made, natural"

- Palm Oil Was Supposed to Help Save the Planet. Instead It Unleashed a Catastrophe

Session 2: Electricity Generation, Markets, & Regulation (FERC, ISOs, PSCs, etc)

- George. 1962. What Regulators Can Regulate: The Case of Electricity. *Journal of Law and Economics.* V5 October.
- "Boulder municipalization of Xcel Energy"

Exam 2 Assigned

Week 13 –

Session 1: Electricity Generation, Markets, & Regulations (continued)

- Joskow, Paul. 2001. California's Electricity Crisis. Oxford Review of Economic Policy.
- Borenstein, Severin. 2002. The Trouble with electricity markets. Understanding California's Restructuring Disaster. V16 n1 Winter, 2002 191-211.
- "The Smartest Guys in the Room," Chapter 17

Session 2: Conservation & Efficiency

- Metcalf, Gilbert. 1994. "Economics and Rational Conservation Policy." *Energy Policy* v22 n10 819-825.
- Linares, Pedro and Xavier Labandeira. 2010. "Energy Efficiency: Economics and Policy." *Journal of Economic Surveys.*
- Allcott, Hunt and Michael Greenstone. "Is there an Energy Efficiency Gap?" *Journal of Economic Perspectives*. V26 n1, Winter 2012, 3-28.

Week 14 –

Session 1: Group Work Day (full class (revisions))

Exam 2 Due, In Class

Session 2: Transportation Policy

- Transportation Policy Case: Congestion Pricing
- "Trump's Rollback of Auto Pollution Rules Shows Signs of Disarray"
- Cars are Death Machines: Self-Driving Tech won't change that

Part III of Group Project (strategy implementation and policy recommendations) due in class

Week 15 –

GROUP WORK TIME (full class (presentation))

Finals Week

Part III of Group Project; Full Reports (with edits) **SEE FINALS EXAM MATRIX (not updated at time of syllabus writing)**