

Climate Change: The Power of Taxes
Professor Janet Milne

Preliminary Syllabus
August 21, 2022

Note: This syllabus may change as the semester unfolds.

Class Schedule: Class meets on Monday from 3:35 to 5:10 p.m.

NOTE: According to the VLS calendar, Wednesday, November 2, follows the Monday schedule. To avoid having two classes that week, we will hold a special class on **Thursday, Sept. 8, from 12:45 to 2:00 p.m.**, which will replace the November 2 class. Because Monday, Sept. 5, is Labor Day, we will not have class that day, but meeting on Friday, Sept. 9, will allow us to maintain the pace and avoid having two classes in one week in early November.

Course Reading Material

Janet E. Milne & Mikael Skou Andersen, Handbook of Research on Environmental Taxation (paperback 2014) (“*Handbook*”)

Course Pack, Climate Change: The Power of Taxes (“*Course Pack*”)

Canvas: Material posted on Canvas. The reading period is posted in modules. The name of the module is the title of that week’s class as it appears on the syllabus. Some general material is also posted in a module “Additional Background Material.” You are not required to read the Additional Background Material. It is posted in case you would find it interesting or helpful.

Weekly Reflection

No later than **9 a.m. of the day of class**, please email a one-page reflection on the week’s reading to Professor Milne (jmilne@vermontlaw.edu). Be sure to put your name and the date on the reflection. The reflection may contain your reactions to the reading, questions you have after reading the assignment, and/or thoughts the reading triggers. It provides you with an opportunity to reflect on the reading.

Research Paper

A research paper is due on **Friday, December 9, at noon—no extensions**. The paper should be a minimum of 20 pages (double-spaced) and use footnotes (not endnotes) in Bluebook form. The paper can be on a topic of your choice that is somehow related to the use of tax instruments to address climate change. You must submit a one-page proposal for a paper topic no later than **Friday, October 14**. The paper will qualify for fulfillment of the AWR requirement only if you have Professor Milne’s consent very early in the semester and work with her on a schedule for the development of the paper.

Your grade will be based 80% on the paper and 20% on the quality of your work during the semester, as demonstrated by your participation in class and the weekly reflections.

Office Hours

Tentatively: Wednesdays, 3:15 p.m. to 5:00 p.m. on Teams. Or by appointment.

Course Objectives

1. Learn the theory and design of market-based carbon pricing mechanisms.
2. Develop skills in reading technical statutory language governing carbon pricing mechanisms.
3. Understand how policy factors shape the design and use of carbon pricing mechanisms, including administrative feasibility, equity, economic effect, environmental effect and political feasibility.
4. Consider the role of market-based environmental instruments among the array of environmental policy instruments, including command-and-control regulation.
5. Learn about the federal legislative process.

Reading Assignments

NOTE: For each week's reading assignment, please read the assignments in the order given below. Although the syllabus will ask you to move between the Handbook, the Course Pack and material posted on Canvas and to sections within each, the order provided below will introduce the material in a logical substantive order.

NOTE: Assignments for documents posted on Canvas show the page numbers as they appear within the documents themselves, not the electronic count of pages.

I. The Environmental and Tax Contexts

Class 1: Setting the Context (Monday, Aug. 29)

1. *Handbook*, pp. 15-29

2. *Canvas Module: Context*

UNFCCC Paris Agreement (Dec. 12, 2015), Introduction and Articles 1 through 5 (Agreement, pp. 1-6).

United States of America Nationally Determined Contribution (NDC) (Apr. 15, 2021), pp. 1-5.

G7 Communiqué, July 2022, pp. 1-6.

EPA Inventory of US Greenhouse Gas Emissions and Sinks 1990-2020, Executive Summary (July 2022), pp. ES1-ES6.

EPA Data Highlights Inventory of US Greenhouse Gas Emissions and Sinks 1990-2020 (July 2022).

Joint Committee on Taxation Overview of the Federal Tax System as in Effect for 2022 (June 28, 2022), pp. 24-25, 30, 32-33, 36.

This class will introduce the climate change context for discussions during the semester—international goals, US positions and policy options, the profile of US emissions, and US taxes. As you look at the US EPA's Inventory of US Greenhouse Gas Emissions, think about which greenhouse gases are major contributors and from which types of sources.

II. Fundamental Principles of Environmental Taxation

These three classes introduce the fundamental principles behind using the taxation to change behavior. The first class focuses on taxing pollution. The second class considers an alternative form of carbon pricing—a cap-and-trade system. The third class focuses on rewarding positive behavior with tax benefits.

Class 2: The Theory and Design of Environmental Taxes—And the British Columbia Carbon Tax Case Study (Thursday, September 8 at 12:45)

1. *Handbook*, pp. 85-96

2. Renee Cho, Columbia Climate School, Social Cost of Carbon, Read the blog at this link, <https://news.climate.columbia.edu/2021/04/01/social-cost-of-carbon/>
3. *Canvas Module: Carbon Tax Theory and Design*

Baumol and Oates, Use of Standards and Prices (1971), pp. 42-47
4. *Handbook*, pp. 175-190
5. British Columbia's Carbon Tax, <https://www2.gov.bc.ca/gov/content/environment/climate-change/clean-economy/carbon-tax#:~:text=Approach%20to%20Carbon%20Pricing,%2450%20per%20tCO2e.&text=To%20align%20with%20the%20change,child%20effective%20July%201%2C%202022>. Read the home page to see the current tax rates.
6. *Canvas Module: Carbon Tax Theory and Design*

Milne, How Durable is a Lockbox for Carbon Tax Revenue? Pittsburgh Tax Review (2019), pp. 105-123.

What theories support using taxes to reduce greenhouse gas emission? What are the basic legal elements of a carbon tax? What is the design of the British Columbia carbon tax and how has it evolved over the years?

Class 3: The Cap-and-Trade Alternative—RGGI, California and European Union Case Studies (Monday, Sept. 12)

1. *Handbook*, pp. 29-30, 410-413
2. *Canvas Module: Cap-and-trade*

World Bank, State and Trends of Carbon Pricing 2022 (2022), pp. 9-32.

CRS, Regional Greenhouse Gas Initiative (2019), pp. 1-18.

California Chamber of Commerce v. Air Resources Board (2017).
3. European Commission, European Emissions Trading Scheme (EU ETS), https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets_en#:~:text=The%20EU%20ETS%20is%20a,and%20remains%20the%20biggest%20one. Read the description of the EU ETS on the home page.
4. *Handbook*, pp. 59-72

How does a cap-and-trade system operate differently than a carbon tax? What are its relative advantages and disadvantages? What is a “tax”? Do legal considerations influence the choice of policy—cap-and-trade or carbon tax—and the level of government at which it operates?

Class 4: The Theory of Green Tax Expenditures—Electric Vehicle Tax Credits and More (Monday, Sept. 19)

1. *Course Pack*, pp. 1-25
2. *Handbook*, pp. 45-47, 96-101, 360-374
3. *Canvas Module: Green Tax Expenditures*

CRS, Electric Vehicles: A Primer (2020)

Joint Committee on Taxation, Estimates of Federal Tax Expenditures 2020-2024 (2022), Look for the cost of energy-related tax expenditures, including tax credits for electric vehicles.

CRS, Tax Provisions in Inflation Reduction Act of 2022 (HR 5376) (Aug. 3, 2022). Look at the range of energy-related tax provisions and the electric vehicle provisions in particular.

Joint Committee on Taxation, Revenue Estimate HR 5376 (Aug. 9, 2022). Look at the cost of energy-related tax expenditures in the Inflation Reduction Act, including provisions for electric vehicles.

4. Read about the National Recharging Network, <https://highways.dot.gov/newsroom/president-biden-usdot-and-usdoe-announce-5-billion-over-five-years-national-ev-charging>

Lobbying assignment (to be distributed prior to class)

Should we provide tax benefits to taxpayers who engage in behavior that reduces greenhouse gas emissions? Why give out benefits through the tax code rather than through grants or rebates? How do we pay for these tax benefits?

III. Carbon Tax Design

These classes will delve into the details of carbon tax theory and design. They will draw on specific examples of carbon taxes, including bills that have been introduced in Congress. These examples will allow you to understand design details and choices, and they will help you learn how to read legislative language. We will debate important design issues from legal, policy and political perspectives.

Class 5: Carbon Taxes—What Do We Tax and How Much? (Monday, Sept. 26)

1. *Course Pack*: Explore one of the carbon tax bills in the Course Pack (pp. 27-291) (as assigned in class). Bills are separated by colored dividers. For your bill, determine (1) what the carbon tax bill taxes (the tax base), (2) who pays the tax (the taxpayer) and (3) by how much (the tax rate).
2. Global Methane Pledge, <https://www.globalmethanepledge.org/#about>
Read about the pledge and the signatories.
3. *Canvas Module: What Do We Tax and How Much?*

CRS, Inflation Reduction Act Methane Emissions Charge: In Brief (Aug. 4, 2022)

Class 6: Carbon Taxes—What Do We Do with the Tax Revenue? (Monday, Oct. 3)

1. Carbon Leadership Council, <https://clcouncil.org/>. Visit the website and read about the Council's bipartisan plan, <https://clcouncil.org/our-solution/>
2. *Canvas Module: What Do We Do with the Revenue*
Milne, How Durable is a Lockbox for Carbon Tax Revenue? Pittsburgh Tax Review (2019), pp. 123-145.
3. *Course Pack*: Explore one of the carbon tax bills (as assigned in class). For your bill, determine what the bill does with the tax revenue and what conditions it puts on the use of the revenue. What policy and political arguments favor that revenue choice? Does the design of the tax or the use of the revenue address equity issues?

NOTE: No class on Monday Oct. 10 (Fall Break)

Paper Topics Due—Friday, Oct. 14

By email, send a short description of your proposed paper topic (maximum one page).

Class 7: Carbon Taxes—How Do Carbon Taxes Deal with Competitiveness Issues? (Monday, Oct. 17)

1. *Handbook*, pp. 192-204, 377-393
2. *Course Pack*: Explore one of the carbon tax bills (as assigned in class). For your bill, determine (1) whether the bill provides any special treatment for industry or any sectors, and (2) whether (and how) it taxes imports to put imports on equal footing with domestic activities. Study the design mechanics of border tax adjustments. How does your bill compare with the border tax adjustment in the bill Senator Coons introduced (See S. 2378 posted on this week's Canvas Module below?)
3. *Canvas Module: How Do Carbon Taxes Deal with Competitiveness Issues?*

European Commission, Carbon Border Adjustment Mechanism Q&As (July 2021).

S. 2378 (border tax adjustment bill introduced by Senator Coons July 19, 2021).

Class 8: Federal Carbon Pricing Choices--What Should Congress Do? (Monday, Oct. 24)

NOTE: Class today will last until 5:30.

This class will be a mock hearing before the US Senate Committee on Finance.

1. *Course Pack*, pp. 567-592
2. *Material to be distributed*
3. *Canvas Module: What Should Congress Do?*

IMF Working Paper, A Global and Country Update on Fossil Fuel Subsidies (2021).

CRS, Attaching a Price to Greenhouse Gas Emissions with a Tax or Emissions Fee (2019).

IV. Carbon Pricing Policy Choices

These case-study topics will allow us to explore how environmental taxation and other environmental pricing measures can address specific issues. They will allow you to continue to develop your understanding of the roles that taxation can play, design features, legal issues, and policy considerations in a variety of contexts.

Class 9: The Multi-level Governance Challenge—From Global to Subnational (Monday, Oct. 31)

1. *Handbook*, pp. 249-272, 456-474
2. Government of Canada, Carbon Pollution Pricing Systems Across Canada, <https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work.html> . Read the homepage, which describes how Canada both sets a federal standard and gives provinces the freedom to choose how to meet the standard.
3. *Canvas Module: Multi-level Governance Challenge*

Nordhaus, Climate Clubs (2015), pp. 1339-1341, 1343-1352.

IMF, International Carbon Floor Price (2021).

At what level should governments implement carbon pricing—state, national, global? How can governments coordinate sub-national and national policies? Is the Canadian approach a good model? Should we strive for a global policy?

Class 10: How Do We Change Transportation Patterns based on EU, Federal and State Case Studies—Carbon Taxes, Fuel Taxes, Cap-and-Trade, Tax Expenditures, Regulations? (Monday, Nov. 7)

1. *Handbook*, pp. 283-299
2. Vermont Agency of Transportation, Climate Change, <https://vtrans.vermont.gov/planning/climate-change> . Read about what Vermont is doing currently.
3. *Canvas Module: How Do We Change Transportation Patterns?*

CRS Reauthorizing Highway and Transit Funding Programs (March 2021).

What are the strengths and weaknesses of different approaches to reducing transportation emissions? Are there different answers for public transport, vehicles, aviation? What does a state like Vermont do to reduce its emissions—create state policies, rely on federal policies, or some combination? To what extent are choices driven by traditional goals, such as funding infrastructure, by climate change goals, or both? What solutions are equitable?

Class 11: Federal Tax Expenditures for Renewable Energy and Energy Conservation—What's Happening? (Monday, Nov. 14)

1. *Handbook*, pp. 439-455, 399-417 (revising 410-413)
2. *Canvas Module: Tax Expenditures for Renewable Energy and Energy Conservation*

CRS, Renewable Electricity Production Tax Credit: In Brief (2020).

CRS, Tax Provisions in Inflation Reduction Act (HR 5376) (Aug. 4, 2022).

Look at the climate-related provisions. Choose one provision that interests you and spend a few minutes finding out about it. Decide whether you think it represents sound policy.

How should the federal government balance climate-friendly tax expenditures, carbon pricing, and regulations? Who should pay for the cost of tax expenditures? What are your views on the climate provisions in the Inflation Reduction Act?

Class 12: Climate Change Adaptation—Who Should Pay? How? For What? (Monday, Nov. 21)

1. *Canvas Module: Climate Change Adaptation—Who should Pay?*

Callahan and Mankin, National Attribution of Historical Climate Change Damages (May 2022).

Milne, *Storms Ahead* (2015), pp. 819-839.

CRS, Paris Agreement: US Climate Finance Commitments (2019).

Green Climate Fund, Status of Pledges (July 31, 2022)

How will the US pay for its emergency response and adaptation costs at the local, state and national level? What obligation does it have to help other countries?

Class 13: A Broad Lens—Thumbnail Sketches of Your Paper Topics (Monday, Nov. 28)

V. Conclusions

Class 14: If You Were Climate Czar, What Would You Recommend to the President or Your Governor? (Monday, Dec. 5)

What are your top five recommendations for the best ways to use taxation in the US to address climate change mitigation and/or adaptation? How do they relate to other policies? At what level of government would they operate?

REMEMBER Friday, Dec. 9—papers due by noon that day.