

Syllabus

Clean Transportation Law & Policy, ENV 5425

Summer 2023, Term 4

Professor Joe Halso

Vermont Law & Graduate School

Instructor & Office Hours

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I will be available each day after class for office hours. I’m also happy to meet by appointment.

Course Location & Schedule

Classes will be held in Oakes 211.

Our class begins on Monday, July 24th and concludes on Thursday, August 3rd.

We will meet Monday through Thursday from 9:00 AM – 12:00 PM each day. There is no class on Fridays.

Course Overview

Clean Transportation Law & Policy is a two-week, two-credit course.

Transportation is the leading source of climate pollution in the United States. This course examines a range of high-impact policies to decarbonize our transportation sector, with a particular focus on the strategy of transportation electrification and its implications.

We’ll discuss the historic clean transportation investments made in recent federal legislation, the Biden Administration’s plan to reduce transportation emissions, the effort to build out a nationwide EV charging network, the frameworks for the regulation of vehicle emissions, fuel economy, and fuels (as well as the related policy and legal issues), how to reduce emissions from ridehailing companies like Uber and Lyft, the effort to develop “indirect source rules” for warehouse and freight facilities, and the role for state policy, among other topics. We’ll also closely examine the role of electric utilities in transportation electrification and how electric vehicles can support a smarter and cleaner electric grid.

Course Objectives

My goals are for students to understand:

- The need to decarbonize our transportation sector and the strategies that can maximize the benefits of that transition;
- Key federal and state policies for reducing transportation emissions (and the limits of those policy approaches);
- How to identify and analyze legal and policy issues in the transportation policy space; and
- The opportunities and challenges at the intersection of the transportation and electricity sectors for various stakeholders, and the interests and motivations of those stakeholders.

Course Requirements and Grading

Our class sessions will be organized around lectures, discussion, and in-class exercises.

Active participation in every class session is expected. Please read the assigned readings for each class in advance of that class. I will assign students to be called on for each day.

Grades will be determined by class participation (20%), a class presentation to be assigned on the first day (35%), and a take-home final exam (45%).

The take-home final exam will be made available on Friday, August 4th and must be completed by the end of the day on Sunday, August 6th. Additional details will be provided in class.

Reading Materials

All reading materials are available on the Microsoft Teams site. There is no textbook.

Please pay close attention to the reading assignments. In many cases I have assigned specific sections for you to read rather than an entire document. The readings are meant to be completed in the order listed for each class.

Class-by-Class Overview and Reading Assignments

Week 1

Class #1 (Monday, July 24)

Decarbonizing transportation and the strategy of electrification

We'll talk about the problem of transportation pollution, strategies to decarbonize the transportation sector, the historic investments made in recent federal legislation and the impact of federal leadership. We'll dig into the topic of transportation electrification and the interaction of electric vehicles and the grid. I will also assign the class presentation.

Readings for Class #1

Electrification as a climate solution

Excerpt from David Roberts, "The Key to Tackling Climate Change: Electrify Everything," Vox (October 27, 2017).

The electric vehicle market

Bloomberg New Energy Finance, "Electric Vehicle Fleet Set to Hit 100 Million by 2026, but Stronger Push Needed to Stay on Track for Net Zero," BNEF (June 8, 2023).

Federal action to decarbonize transportation

Summary of major federal clean transportation actions

Electric vehicles and the electric grid

Illinois Citizens Utility Board, *The ABCs of EVs: A Guide for Policy Makers and Consumer Advocates* (April 2017), **please read pages 3-4, 18-22.**

U.S. Department of Energy, EVGrid Assist Webinar Highlights (February 2023)

Class #2 (Tuesday, July 25)

Infrastructure day!

We'll talk about the infrastructure we need to power increasingly electric fleet. How much do we need? How will we fund it? Who might regulate it? We'll cover the new National Electric Vehicle Infrastructure (NEVI) program created by the Bipartisan Infrastructure Law and the minimum standards promulgated to by the Federal Highways Administration to govern it. We'll also talk about how EV infrastructure fits into the utility regulatory picture, including regulation of charging by state utility commissions, why utilities would like to invest in EV charging, and the different approaches taken by policymakers to guide those investments.

Readings for Class #2

The NEVI program, NEVI minimum standards, and regulation of EV charging

“Biden-Harris Administration Announces New Standards and Major Progress for a Made-in-America National Network of Electric Vehicle Chargers,” The White House Briefing Room (February 15, 2023), **please read all pages but just skim the section titled “Manufacturing Boom.”**

Declaratory Ruling on Jurisdiction Over Publicly Available Electric Vehicle Charging Stations, Case 13-E-0199, In the Matter of Electric Vehicle Policies New York Public Service Commission (filed November 22, 2013) and excerpt of New Hampshire Senate Bill 575 **(combined as a single PDF—please read all pages)**.

The utility business model and EVs: traditional utility incentives & the “public interest”

Travis Kavulla, Excerpt from “There Is No Free Market for Electricity: Can There Ever Be?,” American Affairs (May 20, 2017).

Defining utility roles in transportation electrification

Excerpts from: Illinois Citizens Utility Board, *The ABCs of EVs: A Guide for Policy Makers and Consumer Advocates* (April 2017); an *Order* issued by the Massachusetts Department of Public Utilities; California Senate Bill 350 and Colorado Senate Bill 19-077 **(combined as single PDF—please read all pages)**.

Class #3 (Wednesday, July 26)

Infrastructure day, round two

In our third class we'll talk more specifically about the role for electric utilities, utility program design, and the perspectives of interested stakeholders.

Readings for Class #3

Designing utility electric vehicle programs

Western Resource Advocates, *Overview of Utility Transportation Electrification Plans* (April 2022), please read and skim the utility examples (**please read entire document, but you may just skim the “model programs” sections**).

Refocusing the utility role: customer-side rebates, utility-side investment, & energization

John Zullo, “Policymakers debate who should build EV charging networks,” *Maryland Matters* (June 16, 2023).

Summary of three California policies concerning the utility role in transportation electrification (**combined as a single PDF—please read all pages**).

Class #4 (Thursday, July 27)

Regulation of vehicle emissions and fuel economy

We'll talk about the basic framework for regulation of tailpipe emissions and fuel economy, focusing on the development of vehicle emission standards, a job that is shared by the federal Environmental Protection Agency (EPA) and California's Air Resources Board (CARB). We'll also talk about the latest federal and California standards for light-duty vehicles and the legal and policy issues facing States that want to adopt California's more protective standards.

Readings for Class #4

The regulatory roles for California, EPA, and NHTSA

Excerpt of Brief of State and Local Government Petitioners and Public Interest Petitioners, *Union of Concerned Scientists et al. vs. National Highway Traffic Administration*, Court of Appeals for the D.C. Circuit (No. 19-1230).

Select Clean Air Act provisions **(combined as one PDF, please read all pages)**.

California's Advanced Clean Cars II program

International Council on Clean Transportation, *Advanced Clean Cars II: The next phase of California's Zero-Emission Vehicle and Low-Emission Vehicle regulations*, **please read pages 1-9 EXCEPT for the sections titled "Proportional fuel cell electric vehicle values" and "Derogations."**

Week 2

Class #5 (Monday, July 31)

Regulation of vehicle emission and fuel economy, part II

Building on Class 4, we'll talk about the latest federal and California vehicle emission programs for medium- and heavy-duty vehicles. We'll also talk about enforcement of emission standards through the lens of the Volkswagen "diesel-gate" scandal and the Diesel Brothers, then we'll round out our discussion by talking about the National Highway Traffic Safety Administration's regulation of fuel economy standards.

Readings for Class #5

California's medium- and heavy-duty vehicle rules

EPA, Regulatory Update: EPA Announces the "Clean Truck Plan" (August 2021).

California Air Resources Board, Fact Sheets on the Heavy-Duty Low NOx Omnibus rule and the Advanced Clean Truck rule (**combined as single PDF, please read all pages**)

Enforcing emission standards

Sierra Club, Volkswagen Settlement Overview.

Ezra Dyer, "Diesel Brothers Exhaust Their Defense in Truck Pollution Case," Car and Driver (March 11, 2020).

NHTSA regulation of fuel economy

Excerpt from Brief for Respondents National Highway Traffic Safety Administration, *Natural Resources Defense Council vs. NHTSA, et al.*, Court of Appeals for the D.C. Circuit (Case Nos. 22-1080, 22-1144, 22-1145).

Class #6 (Tuesday, August 1)

Liquid fuels: Clean Fuel Standards and Gas Taxes

In our sixth class we'll cover transportation fuels. First, we'll talk about the legal and policy issues related to state-level Low Carbon Fuel Standards (LCFS). In the 9th Circuit case assigned for reading the specific LCFS policy at issue is called the "Oregon Clean Fuels Program." We'll also talk about the possibility of a nationwide LCFS that could replace or work alongside the current federal Renewable Fuel Standard. Finally, we'll talk about state gas taxes and the challenge of funding our transportation infrastructure in an electric future.

Readings for Class #6

Low Carbon Fuel Standards (LCFS)

American Fuel & Petrochemical Manufacturers v. O'Keefe, 903 F.3d 903 (9th Cir. 2018), **please read the majority opinion (pages 6-26).**

A national Low Carbon Fuel Standard?

Congressional Research Service, *A Low Carbon Fuel Standard: In Brief* (July 21, 2021), **please read pages 1-2, 5, 8-11.**

Gas taxes in an electric future

National Governors' Association, *Planning for State Transportation Revenue in a Coming Era of Electric Vehicles* (February 2020), **please read the Executive Summary.**

Class #7 (Wednesday, August 2)

Emerging regulatory approaches

During this class we'll talk about two new policies to reduce emissions from goods movement: California's Advanced Clean Fleets rule and Indirect Source Rules. We'll also talk about the climate challenge posed by ride-hailing companies like Uber and Lyft, and the legal considerations related to state goal setting and zero-emission vehicle mandates.

Readings for Class #7

Reducing emissions from goods movement

California Air Resources Board, *Advanced Clean Fleet rule fact sheet*

National Law Review, "ISR Rule South Coast AQMD Adopts Warehouse Indirect Source Rule, First Reporting Months Away" (May 18, 2021).

Electrifying ride-hailing services

Union of Concerned Scientists, *Ride-Hailing is a Problem for the Climate. Here's Why.*

Union of Concerned Scientists, *Clean Miles Standard fact sheet*

State goal setting and ZEV mandates

Matthew N. Metz and Janelle London, *State Vehicle Electrification Mandates*, EVS33 (June 2020), **please read section 1 through 3.2.2.4 and section 6 through 6.3.2.**

Class #8 (Thursday, August 3)

“What’s next?”

During the first hour of our final class, we’ll talk about where transportation policy may be headed, using disruptive technology like autonomous vehicles as a frame for our discussion. The remainder of the class will be spent on class presentations. Finally, we’ll discuss the take-home final exam.

Readings for Class #8

General Motors, Why All Autonomous Vehicles Should Be Electric Vehicles.

Rick Pruetz, “Autonomous Vehicles: Heaven or Hell?” Ecocities Emerging (June 2023).

Kiran Julin, “Big Batteries on Wheels Can Deliver Zero-Emissions Rail While Securing the Grid,” Berkeley Lab (November 23, 2021).