

RENEWABLE ENERGY POLICY AT THE STATE & LOCAL LEVEL

PUBPOL 750.304

FALL TERM 2020

Instructor: Dr. Sarah Mills, Gerald R. Ford School of Public Policy
Office: Ford School of Public Policy, Weill Hall, Room 5309
Office Phone: 734-615-5315
Email: sbmills@umich.edu
Class: Tuesday & Thursday 4-5:20pm, [Zoom](#) (passcode 750)
Office Hours: Friday 2-3pm on [Zoom](#), and by appointment

INTRODUCTION AND COURSE OBJECTIVES

As national concern for addressing global warming grows, more and more Americans are looking for governmental action to speed a transition to low-carbon energy sources. Most of the focus has been on federal action or—in the Trump era—reversal of prior federal action. Furthermore, the lion's share of attention has been paid to a handful of policies that either put a price on carbon (e.g., carbon tax or cap-and-trade) or require utilities to meet renewable energy or improved energy efficiency targets. Below the radar, though, are state level policy choices—on tax policy, siting authority delegation to local governments, infrastructure investment, use of public lands, and even conflict of interest law—that can serve to facilitate or hinder an energy transition. Taken individually, these policies may seem innocuous, but collectively they can serve to provide preferred status to some energy sources and impact the performance of other policies. As a result, some states have opted to play a stealth game, relying on these lower-profile policies to facilitate an energy transition even in states where talking about climate change is politically untenable. Meanwhile in other states, these lower-profile policies may—knowingly or unknowingly—undermine achievement of even more explicit state climate policies including renewable portfolio standards.

This course will consider both the content and consequences of this complex web of policies shaping the energy mix, paying particular attention to the treatment of renewable energy sources compared to those of traditional fossil fuel based sources. It will also explore the diverse stakeholders who shape these policies and the motivations behind their positions—from economic development, to energy independence, to landowners' rights. While this course will focus on U.S. state-level policy, the lessons learned may be applied at the federal level, and beyond the U.S.

ASSIGNMENTS

There are two primary components to the assignments in the class: participation and a group research paper.

Participation (45%): Based on my past experience, what students love most about this class is discussion with classmates from across the university. I purposely recruit students from different departments, because I think it allows for a richer understanding of the technical, social, economic, and political considerations to cleaning up the electric grid. As a result, your active participation will be essential to both your learning—and that of your classmates. In the past, I have never given points for participation: it's hard to judge and my feeling was that it would come naturally if I posed the right questions in class. With COVID, I recognize that things are weird and you need the right incentive to participate. Also—quite frankly—I really want you to watch my recorded lectures (because I think they will spur your

thinking). For each class period you can amass 2% points toward your final grade by posing a thoughtful question about the lecture/assigned readings OR a reflection of how the lecture's topic squares with your discipline/assumption/learning from another class. You can do this:

- Before class: with a written comment or recording on the discussion board; OR
- During class: asking aloud or via chat

45% of your grade comes from participation, but there are 26 class periods (after the first one), so this is your opportunity to earn some extra credit...

Group research paper (55%): There are two options for the research paper. The goal for these papers is to either gain expertise on the web of policies effecting renewable energy deployment in a single state (state option) or expertise on how all 50 states address a specific policy issues (policy option). Both options involve the same number of assignments and the same split between group and solo assessment, but at different time periods based on the nature of the paper. Students will have an opportunity to rank the options for their paper and will know to which (4 person) team they are assigned by the end of the 2nd week of class.

Drafts of sections of the research paper are due periodically to allow for an opportunity for instructor feedback and revision. Ninety percent of the grade will be based on substantive content and the remaining ten percent on stylistic clarity and quality. Grades for the two group assignments will be assessed based on each individual's contribution informed by self- and group-evaluations.

Additionally, each student will be expected to conduct at least one phone interview with a policy expert to get clarification on any policy issues with which they are uncertain and to vet that they are correctly understanding the policy landscape. Draft interview questions should be submitted before the interview (worth 5% of the final grade) and a summary of the interview should be submitted after the interview (worth another 5%). Students in the group will also provide a peer review to their group members' individual assignment (worth 5% of the reviewer's final grade).

State option: Teams in the state option will write a paper, modelled on papers from the previous iteration of this class, that includes:

- Background on the existing energy mix and renewable energy potential, a content analysis of newspaper articles assessing local narratives about the energy transition, and a literature review of any existing energy policy research from the state, drawing from both peer-reviewed and grey-literature sources.
- An analysis of the policy landscape including—but not limited to—the policy areas we address in class: explicit climate policy, tax policy, siting authority, use of public lands, infrastructure investment, and policies effecting distributed generation. This analysis will include both existing and proposed policies, as well as the politics shaping those policies.
- An assessment of how those policies collectively facilitate or hinder renewable energy deployment, and where there might be opportunities for a more harmonious state renewable energy policy.

Policy option: Teams in the policy option will write a paper similar to NCSL's reports on particular policy topics and/or the DSIRE database that includes:

- Background on the different varieties of the policies. This may be known at the outset (in consultation with the instructor) or may be refined once states are investigated.
- A summary of how each state handles the policy. This need not be long—and may take the form of a single paragraph for each state, but should include common elements displayed in a table.

- Analysis of the prevalence of policies across the country and any trends, based on potentially explanatory characteristics (e.g., renewable energy potential, installed capacity, etc.).

<u>State Option</u>	<u>Policy option</u>	<u>Proportion of Grade</u>	<u>Due Date</u>
Background (group)	Background + structure (group)	10%	10/6
Policy landscape: 1 st draft (solo)	First half of assigned states (solo)	10%	10/27
Interview: questions (solo)	Interview: questions (solo)	5%	10/27
Policy landscape + analysis: 2 nd draft (solo)	All states + analysis (solo)	10%	11/19
Peer Review of above (solo)	Peer Review of above (solo)	5%	12/3
Interview: Reflection (solo)	Interview: Reflection (solo)	5%	12/3
Final background + policy landscape + analysis (group ; 20-25 pages)	Final background + state inventory + analysis (group ; 20-25 pages)	10%	12/10
Participation (solo)		45%	Every class

REQUIRED TEXTBOOKS

There are no required textbooks for this class. Course readings will all be available through Canvas.

EXPECTATIONS

I believe the best learning environment is a result of the efforts of both students and instructors.

The responsibilities of the student include:

1. coming to class on time and being prepared to participate
2. turning on your camera during class discussion
3. respecting the views and learning needs of other students
4. consulting with the Instructor about any problems in the course
5. adhering to high standards of academic conduct

The responsibilities of the Instructor include:

1. coming to class prepared to facilitate discussion and learning
2. giving students guidance about how to improve their performance
3. respecting the views and learning needs of all students
4. working with students to resolve any problems in the course
5. responding to email within 24 hours; email sent after 4pm on Friday will be returned by Monday at noon

If you believe you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with the Office of Services for Students with Disabilities to help us determine appropriate accommodations. I will treat any information you provide as private and confidential.

There's a lot going on in the world right now. If you or another student you know is feeling overwhelmed, depressed and/or in need of support, services are available. For help, contact Counseling and Psychological Services (CAPS) at 734.764.8312 and <https://caps.umich.edu/> during and after hours,

on weekends and holidays, or through its counselors physically located on both North and Central Campus. You may also consult University Health Services (UHS) at 734.764.8320 and <https://www.uhs.umich.edu/mentalhealthsvcs>.

SCHEDULE

Sept 1: Where is the U.S. Energy Policy detailed?

What role has the federal government historically played in setting energy policy, and how has that changed—or not—as the impacts of climate change have become known? What role do states and local governments play in setting energy policy? And who are the important actors within a state?

Sarah Mills' 2018 December unpublished op-ed

Lydersen, K. (2020). "[Wind Energy Increasing in Illinois and Indiana Despite Challenges](#)" *Energy News Network*

NoiseCat, J. B. (2019). [The Environmental Movement Needs to Reckon with Its Racist History](#) *Vice*

Sept 3: Technical aspects of The Energy Transition

Transitioning from an electric grid powered by fossil fuels to one powered by renewables poses a number of challenges and opportunities. Today, we'll talk about the technical and economic aspects of the transition, focusing in particular on how the transition impacts the electric grid and electric reliability.

Gimon, E. (2019). "[How We Need To Evolve America's Power Grid To Enable A Clean Energy Future](#)" *Forbes*

Jenkins, Jessie, and Thernstrom, Samuel (2019). "[We Need More Than Solar and Wind to Power the Green New Deal](#)" *New York Times*

Heinberg, Richard and Fridley, David (2016). [Our Renewable Future: Laying the Path for 100% Clean Energy](#). Ch.3. → skim

Smith, G. & Walker, B. (2019). [Is 100% renewable energy for the US possible? Yes](#) *UtilityDive*

Optional

Gahrn, Amy. (2020). [State of the Electric Utility](#). *Utility Dive*

Zichella, Carl and Hladik, Johnathan. [Finding a Home for Renewable Energy and Transmission](#). *America's Power Plan*. → skim

Sept 8: Social Aspects of The Energy Transition

Today we'll focus on the social aspects of the transition: the shifting physical and geographical footprint of power plants and what it means for communities that currently host coal or natural gas power plants, as well as those that will be asked to host wind or solar farms.

Eller & Hardy. (2017). "[Is wind power saving rural Iowa or wrecking it?](#)" *Des Moines Register*

Bryce (2018). "[Wind power is an attack on rural America](#)" *Los Angeles Times*

Martinez, C. & Vazquez, D. (2018). "[Why energy policy must include environmental justice](#)" *The San Diego Union-Tribune*

Poon, L. (2019). "[When Residents Support Solar – Just 'Not in my Backyard'](#)" *Citylab*.

Optional

Jackson (2018). [“Sheer wind, sheared communities”](#) Michigan Farm News

Metz, Dave and Weigel, Lori (2014). [Voter Attitudes Toward Energy Issues in the Midwest](#).

Fairbank, Maskin, Maullin, Metz & Associates and Public Opinion Strategies.

Mcfetridge, S. (2018). [New rebellion against wind energy stalls projects](#) Chron

Sept 10: Researching State Policy [Hartman as guest speaker]

Ford School alum Kristy Hartman serves as Energy Program Manager at the National Conference of State Legislators (NCSL), a bipartisan organization that helps to improve the quality and effectiveness of state legislatures. She’ll come to class to both share existing NCSL research on state energy policy, but also provide tips on how to get a lay-of-the-land of the policy environment in each state, from tracking individual pieces of legislation to figuring out who to call to ask questions.

Sept 15 & 17: State Climate Policies

Most of the academic attention on state climate policy has been on three policies: carbon taxes, cap-and-trade, and renewable portfolio standards. What motivates some states—but not others—to take unilateral action? How do state-level politics impact the policies themselves? Do you mandate or incentivize? Tax or cap-and-trade? Go it alone or collaborate with neighbors? On Tuesday, we’ll discuss carbon taxation and cap-and-trade. On Thursday, renewable portfolio standards.

Tuesday’s Readings

Environmental Defense Fund. (2020). [How Cap and Trade Works](#)

Rabe, Barry (2018). [The economics- and politics- of carbon pricing](#). The Brookings Institution

Optional

Bromley-Trujillo, R., Butler, J. S., Poe, J. & Davis, W. (2016). [The Spreading of Innovation: State Adoptions of Energy and Climate Change Policy](#). *Review of Policy Research*

Carley, S. (2011). [The Era of State Energy Policy Innovation: A Review of Policy Instruments](#)
Review of Policy Research

Marron et al (2015). [Taxing Carbon: What, Why, and How](#). Tax Policy Center. → skim

Thursday’s Readings

Rabe, R. [Race to the Top: The Expanding role of U.S. State Renewable Portfolio Standards](#). Just sections I & II (pages 11-19 on the pdf)

Trabish (2018). [“Modernizing renewables mandates is no longer about the megawatts”](#)
UtilityDive

Storrow, B. (2020). [Bold ambitions meet rocky realities in blue states](#). E&E News

Optional

REPI Minnesota and Oregon Climate Policy sections

[Evolving the RPS: Implementing a Clean Peak Standard](#) (2018). *Strategen Consulting*

Winston (2018). [“Michigan deal shows trend of ballot measures to boost renewable generation”](#)
S&P Global Platts

- Yingling (2018). [“Utilities challenge need and wisdom of state renewable energy ballot initiatives”](#) *DailyEnergyInsider*
- Tomich (2018). [“What's the future for the Midwest in a post-mandate world?”](#) *EnergyWire*
- Gearino (2018). [“Rural Jobs: A big reason Midwest should love clean energy.”](#) *Inside Climate News*

Sept 22 & 24: Municipal (and University) Climate Pledges

This week we'll look specifically at municipal climate pledges. What prompts cities to make these pledges? What are the prospects for meeting them? How does utility structure—in particular, whether there is a municipal electric utility—factor into opportunities for achieving these climate goals? Then, on Thursday, we'll dig more into A2 Zero, Ann Arbor's plan for Carbon Neutrality—and maybe the university's carbon neutrality plan if it's out by then. As a city within the territory of an IOU, if municipalization isn't an option, what should a city pursue? Community choice aggregation? A carbon tax? RECs? What do you do about existing housing stock?

Tuesday's Readings

- Rhodes (2018). [“What Does 100% Renewable Energy Really Mean?”](#) *Forbes*
- Teale, C. (2020). [Cities need more expertise, utility support in 100% renewables push: report](#) *UtilityDive*
- De Chalendar, J. (2019). [Why '100% renewable energy' pledges are not enough](#) *Financial Times*

Optional

- Master's Project. (2020). [Investigating City Commitments to 100% Renewable Energy: Local Transitions and Energy Democracy](#) *Institute for Local Self-Reliance* → skim
- Clean Energy States Alliance. (2020). [New Jersey's Plan for Achieving 100% Carbon-Neutral Electricity](#) [webinar]
- Krause (2015). “Climate Policy Innovation in American Cities.” In [Changing Climate Politics](#). Edited by Wolinksky-Nahmias.

Thursday's Readings

- A2Zero (2020). [Ann Arbor's Living Carbon Neutrality Plan](#). Read at least Executive Summary.
- SolSmart (2020). [Community Choice Aggregation](#).
- Roberts, D. (2020). [California now requires solar panels on all new homes. That's not necessarily a good thing.](#) *Vox*
- Trabish, H. K. (2019). [As CCAs take over utility customers, local renewable generation emerges as the next big growth drive](#) *UtilityDive*

Sept 29 & Oct 1: NIMBYs and YIMBYs

To kick-off talking about siting renewable energy projects, we'll consider why community members would—or would not—want to welcome renewable energy development. We'll look at the research around NIMBY (not in my backyard) and YIMBY (yes in my backyard) responses, and which types of residents tend to be most supportive of renewable energy projects. We'll consider the role of place attachment, landscape characteristics, views about property rights, and renewable energy business models in shaping responses to specific projects. We'll talk a bit about NIMBYism in an urban context—to rooftop solar, for example—but here is where we will really start to focus almost exclusively on utility-

scale power plants in rural communities (we'll come back to small-scale renewables the first week in December).

Tuesday's Readings

- Stanton, R. (2018). ["Ann Arbor bans solar panels in residential front yards"](#) *MLive*
- Abel, D. (2020). [As woods give way to solar farms, state to issue controversial rules that could harm solar industry](#) *Boston Globe*
- Deaton & Agnew (2018). ["With wind farms, bias is in the eye of the beholder"](#) *Popular Science*
- Sutton (2017). ["I am proud to live by a wind turbine"](#) *Des Moines Register*
- Belsie (2018). ["Who owns the view: North Dakotans tangle over proposed wind project."](#) *Christian Science Monitor*
- Casey, M. (2019). [US wind developers are losing the online battle against NIMBY groups](#) *Renewable Energy World*

Thursday's Readings

- Taylor, D. E. (2018). [Black Farmers in the USA and Michigan: Longevity, Empowerment, and Food Sovereignty](#) *Journal of African American Studies* – skim
- Dowd Muska, D. (2020). [The 'Green Future' Meets the NIMBY Present](#) *InsideSources*
- Schively, Carissa (2007). [Understanding the NIMBY and LULU Phenomena: Reassessing Our Knowledge Base and Informing Future Research.](#) *Journal of Planning Literature*

Optional

- Diamond, E. P., Bonnie, R., & Rowe, E. (2020). [Rural Attitudes on Climate Change: Lessons from National and Midwest Polling and Focus Groups](#) Duke Nicholas Institute for Environmental Policy Solutions

October 6 & 8: Property Tax Structure

Here is where we'll start to talk about the policies that rarely mention climate or renewable energy, but are no less influential in facilitating or hindering renewables deployment. On Tuesday we'll talk about tax incentives and the logic of taxes. Much attention has been given to the federal Production Tax Credit (for wind) and the Investment Tax Credit (for solar), and the role that this tax policy has historically played in "subsidizing" renewables development. Some states, too, provide tax incentives for renewable energy development. How important are these? On Thursday we'll be diving into Property Taxes. Nearly every state assesses a property tax on industrial facilities—including renewable energy projects. The rationale behind these taxes may be to raise government revenues but also to compensate local governments—who are often the beneficiaries of property taxes—for negative externalities. We'll talk about different ways that property taxes are structured—from a typical depreciation schedule to a back-loaded or levelized schedule—and what implications this has on developer decisions and on host communities.

Tuesday

- Sherlock, M. (2020). [The Renewable Electricity Production Tax Credit: In Brief.](#) *Congressional Research Service.*
- Energy Information Administration. (2019). [Tax credit phaseouts encourages more wind power plants to be added by end of year](#)

A collection of newspaper articles discussing Income Tax Credit debate in Oklahoma

Thursday

Battel (2016). [“Commissioners consider wind tax income for arena”](#) *Huron Daily Tribune*
McGraw & Hennessy/Flatland (2017). [“Rush to attract wind turbine investors leaves Kansas school districts shortchanged”](#) *Investigate Midwest*
Balaskovitz (2016). [“Advocates say wind, solar at a tax disadvantage in Michigan”](#) *Energy News Network*
Bernard & Mason (2018). [“Reducing property taxes a key to profitability of renewables.”](#) *UtilityDive*

Optional

REPI Wyoming and Minnesota Tax Policy sections

Oct 13 & 15: Negotiated Payments and Community Benefits

This week we'll dig more deeply into community compensation schemes that replace—or supplement—the property tax. On Tuesday we'll debate the merits of negotiated Payments in Lieu of Taxes. On Thursday, we'll talk about mandated community benefits agreements or more voluntary direct donations to local communities.

Tuesday

Jacobs (2017). [“Lawmakers debate future of wind energy”](#) *The Bismarck Tribune*
Kirk (2018). [“Turbine debate keeps spinning”](#) *Pharos-Tribune*
Baer (2017). [“Wind Energy Generates Big Benefits for Iowa Counties”](#) *Iowa Environmental Council*
Wilmoth (2018). [“Wind energy advocates rally to support industry in Oklahoma”](#) *NewsOK*

Thursday

Kenmore (2018). [“Hopkinton residents receive letter from wind company offering payments on electric bills”](#) *Watertown Daily Times*
New York State PSC. (2020). [Clean Energy Advocates Comments Concerning Host Community Benefit Program. \(Read at least #12\):](#)
<http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?Mattercaseno=20-E-0249>

Optional

Jossi (2018). [“Windfall: Minnesota counties use wind tax money for roads, tax relief”](#) *Energy News Network*

Oct 20 & 22: Zoning Considerations

This week we'll start to dig into how zoning regulations impact the feasibility of siting a renewable energy project in a community. On Tuesday, we'll discuss the sorts of regulations that are commonly placed on wind and solar plants sited on private property, aiming to better understand the rationale for such regulations and the practical implications that they have on project feasibility. On Thursday, we'll delve into the pros and cons of setting these regulations at the state versus local level. In particular, we'll discuss how state-level siting isn't necessarily the antidote to NIMBYism.

Tuesday

[Information Guide: Wind Energy Ordinances](#). Center for Rural Affairs

Battel (2018). "[Legal problems surface with Huron's master plan](#)" *Huron Daily Tribune*

Brumleve (2018). "[Wind-farm developers: 'We will go elsewhere' if rules too restrictive.](#)" *Ford County Record*

Optional

REPI California and Oregon Siting sections

Howell (2018). "[Company helps with wind rights](#)" *Fairmont Sentinel*

Day, M. (2017). [Best Practices in Zoning for Solar](#) *National Renewable Energy Laboratory*

Kirk (2018). "[UPDATED: Company no longer pursuing wind turbines in Cass, Miami counties](#)" *Pharos-Tribune*

Brower et al (2012). *Wind Resource Assessment- A Practical Guide to Developing a Wind Project*. Wiley.

Thursday

Nilson, R. et al. (2020). [Challenges of Large-scale Solar Electric Siting in New York State: The Evolving Permitting Process](#) Cornell Research & Policy Brief Series

Henry (2018). "[A look at wind power's history in Ohio](#)" *The Blade*

Eller, D. (2020). [Iowa Farm Bureau backs statewide regulations that guide wind, solar construction](#) *Des Moines Register*

Tomich, J. (2020). "[End of Iowa's wind boom? Renewable rules spark fears.](#)" *E&E News*

Optional

Rynne et al (2011). *Planning for Wind Energy*. American Planning Association. → skim

Doerr, Alissa (2014). [Zoned Out: An Analysis of Wind Energy Zoning in Four Midwest States](#). Center for Rural Affairs

Kowalski (2017). "[Ohio bills would ease restrictive setbacks for new wind farms](#)" *Energy News Network*

Miley (2017). "[Should Indiana have statewide zoning for wind turbines?](#)" *Tribune Star*

Oct 27 & 29: Local Zoning Considerations

This week, we'll delve into two additional considerations that often come into play when local governments are given authority for regulating siting of wind energy projects: conflict of interest and local ballot referenda. On Tuesday, we'll talk about what happens when local government board members also hold wind energy leases. Can or should they be allowed to set zoning regulations governing wind development, or vote on specific projects? Should developers just not go to communities until they have already set zoning? On Thursday, we'll discuss under what conditions wind projects can be put before voters, and we'll also consider the extent to which energy projects have political ramifications for local officials. Should proposals just be put before voters?

Tuesday

Carter (2018). "[Another Michigan Community Moving Toward Wind Farm Restrictions](#)" *Michigan Capitol Confidential*

Le Coz & Sherman (2017). "[Conflicts of Interest Abound in Wind Farm Proposals](#)" *GateHouse Media*

Balaskovitz, A. (2020). "[With wave of solar on the horizon, most Michigan communities lack policies](#)" *Energy News Network*

Kirk (2018). "[Proposed Statehouse wind energy bills fizzle](#)" *Pharos-Tribune*

Optional

McWhirther, S. (2019). [Paradise Township considers solar field zoning](#) *Traverse City Record Eagle*

Thursday

Norton (2018). "[Township voters to decide ballot proposals on planning commissions](#)" *The Morning Sun*

Vissers (2018). "[Wind farm issue blows change in L'Anse Township Board](#)" *The Daily Mining Gazette*

Battel (2017). "[Voters say no to more wind development](#)" *Huron Daily Tribune*

Drier and Battel (2018). "[Township sees more recall action](#)" *Huron Daily Tribune*

Optional

Stokes, Leah (2015). [Electoral Backlash against Climate Policy: A Natural Experiment on Retrospective Voting and Local Resistance to Public Policy](#). *American Journal of Political Science*

McCormack (2018). "[Burleigh commission accepts responsibility on wind farm decision](#)" *The Bismarck Tribune*

Henry (2011). "[Turbines in Michigan spur recall petitions](#)" *The Blade*

Nov 3: Farmland Preservation and Right to Farm Laws

Protection of farmland and farm livelihoods has been a concern in the U.S. since the 1970s. Every state has a right to farm law and all also have at least one policy aimed at farmland preservation, most of which date back to that era. We'll consider how these policies are being interpreted or amended to accommodate—or not—renewable energy, and discuss how wind and solar have differential impacts on the varying goals of farmland preservation. Is it possible to balance competing clean energy and rural land use policy objectives?

No class – go vote. [but questions/comments on discussion board welcome]

Sylvia, T. (2020). [SMART program could make 90% of Massachusetts off-limits to large-scale solar, force more job loss](#) *PV Magazine*

Morehouse, C. (2019). [Michigan opens 3.3M farmland acres to bee-friendly solar projects](#) *UtilityDive*

Lemery, D. (2019). [Legislation would allow wind power development on 'preserved farmland'](#) *The Center Square*

Ross, B. (2019). [Solar Energy & Agriculture: Pursing Win-Win Opportunities](#) *Great Plains Institute*

Spencer (2014). "[Bill Proposes Adding Wind Industry to 'Right to Farm' Act](#)" *Michigan Capitol Confidential*

Optional

- Grout, Travis and Ifft, Jennifer (2018). [Approaches to Balancing Solar Expansion and Farmland Preservation: A Comparison across Selected States.](#)
- Lehman, A. (2019). [State Gives Solar Preferences on Land 'Preserved' for Farmland](#) Mackinac Center for Public Policy
- Hammer (2018). "[Henry Co. approves 3 of 8 solar farm permits](#)" Dispatch-Argus
- Walton (2014). "[Michigan bill could exempt wind power from zoning, building permits](#)" UtilityDive
- Lapping et al (1983). "[Right-to-farm laws: Do they resolve land use conflicts?](#)" Soil and Water Conservation Society
- Lydersen (2018). "[Illinois bills for solar on farmland await governor's signature](#)" Energy News Network

Nov 5: Debriefing on the Election

I think there will be lots to talk about, regardless of the outcome from the Nov 3 election. I'm reserving this space for us to start to muse about what the national outcome might mean for energy policy at the state and local level.

- Roberts, David (2018). [US climate politics just got even more polarized.](#) Vox
More tbd

Nov 10 & 12: Siting on or near Public Lands

While for the last few weeks we have focused on private lands, this week we look at public lands. Roughly 35% of the land area in the U.S. is owned by the state or federal government, though this varies greatly from state to state. Furthermore, the goals and purposes of these lands can vary, from landscapes set aside as wilderness or public parks, to those actively managed for resource production, to those used by the military or other agencies. What are the opportunities and challenges of siting renewable energy projects on public lands? How does siting on public lands change who is considered "affected" by the project? To what extent does being proximate to public lands effect projects on private lands? On Thursday, we'll discuss a special class of public lands: off-shore waters and their opportunities for off-shore wind development.

Tuesday

- Molvar, E. (2020). [Should federal public lands be prioritized for renewable energy development?](#) The Wildlife News
- Challe, T. (2019). [Testimony of Michael Gerrard to Congress About Siting Renewable Energy on Public Lands](#) Climate Law Blog
- Institute for Energy Economics and Financial Analysis. (2019). [Native American tribes pushing into renewable energy development across the U.S.](#)
- Grandoni, D. (2020). [The Energy 202: Oil wells on federal lands got a break on payments. Renewables got big past-due bills](#) The Washington Post
- Balaskovitz (2018). "[In Michigan, unwanted properties could see new life with solar projects](#)" Energy News Network
- DeMarco (2018). "[Air Force Training Interferes With Wind Farm Plans](#)" KUNM

Optional

- Pearl (2018). "[Trump Administration advances 500MW solar project](#)" UtilityDive

REPI Oregon Public Lands section

Balaraman, K. (2020). [BLM OKs \\$1B California desert solar project praised for balanced approach amid ongoing controversy](#) *UtilityDive*

Berry, Alison (2013). [Leasing Renewable Energy on State Trust Lands in the Intermountain West](#). *Lincoln Institute of Land Policy*

Jackson (2018). [“Game commission declares moratorium on wind turbines.”](#) *windAction*

Apostol et al (2016). *The Renewable Energy Landscape: Preserving scenic values in our sustainable future*. Routledge.

Thursday

Gheorghiu (2019). [As first US utility-scale offshore wind project nears approval, supply chain, permitting come into focus.](#) *UtilityDive*

Cleveland (2017). [Offshore Wind on the Horizon](#). *NCSL LegisBrief*

Kulhman (2019). [Lake Erie Wind Project: Do Benefits Outweigh Risks?](#) *Public News Service*

Nov 17: Transmission Investment

Today we’ll discuss policies that have extended or expanded the transmission grid to connect the best (rural) wind- or sun-resource areas to urban load centers. We’ll also discuss the rules governing the siting of transmission projects and public reaction to that transmission infrastructure. What happens, though, when the renewable energy projects that would connect to the expanded grid are contested, or alternately, when there is opposition for building transmission?

Randolph (2019). [FERC seeking comments on improvements to electric transmission incentives policy.](#) *Daily Energy Insider*

[“Editorial: Missouri’s rural way of life threatened by more than wind power”](#) (2018). *St. Louis Post-Dispatch*

Walton, R. (2020). [Clean energy groups to propose FERC rules for national transmission system saving \\$47B a year](#) *UtilityDive*

Perryman (2018). [“PERRYMAN: Texas wind will take on added importance in the future”](#) *OA Online*

Optional

REPI Minnesota and Texas Infrastructure Investment sections

Brannstrom and Fry (2017). *New geographies of the Texas energy revolution*. The Routledge Research Companion to Energy Geographies, Chapter 1.

Stark (2019). [In the Midwest, technology not a replacement for transmission lines.](#) *Energy News Network*

Behr (2019). [Power lines: The Next ‘Green New Deal’ battlefield?](#) *EnergyWire*

Nov 19: Energy Storage

One of the key challenges in moving to very high levels of renewable energy penetration is that solar and wind aren’t dispatchable—you can’t “switch them on” to meet spikes or peaks in demand. Today we’ll look at different ways that renewable energy can be stored to buffer spikes and peaks—from battery banks, to electric vehicles, to pumped storage—and policies that incentivize or require deployment of energy storage.

Tomich (2019). [Climate clash brewing over energy storage](#). *EnergyWire*

Maloney (2018). "[As second wave of state storage targets builds, utilities propose new projects](#)" *UtilityDive*

Trabish, H. K. (2020). [Battery energy storage is getting cheaper, but how much deployment is too much?](#) *UtilityDive*

Walton (2018). "[NV Energy questions need for Nevada storage target](#)" *UtilityDive*

Shemkus (2018). "[Massachusetts grants help get energy storage projects off the ground](#)" *Energy News Network*

Colthorpe, A. (2020). [Large-scale renewables-plus-storage projects in US more than doubled from 2016 to 2019](#) *Energy Storage News*

Balaraman, K. (2020). [2020 Outlook: Renewables, resilience and reliability needs will drive storage](#) *UtilityDive*

Bandyk, M. (2020). [Landfills emerge as promising battery storage sites to back up renewable energy](#) *WasteDive*

Optional

Hicks, W. (2020). [Declining Renewable Costs Drive Focus on Energy Storage](#) *National Renewable Energy Laboratory*

Johnson & DeCarolis (2019). "[Utilities are starting to invest in big batteries instead of building new power plants.](#)" *The Conversation*

Lackner et al (2019). [Using Lessons from Reverse Auctions for Renewables to Deliver Energy Storage Capacity: Guidance for Policymakers](#). *Review of Environmental Economics and Policy Issue Brief: A Survey of State Policies to Support Utility-Scale and Distributed-Energy Storage* (2014). *National Renewable Energy Laboratory*

Tomich (2018). "[Big Oil looks to stop utilities' charging investments](#)" *EnergyWire*

Maloney (2018). "[New York energy storage: destination clear, road unsure](#)" *UtilityDive*

Davidson et al (2018). [Switching to electric vehicles could save the US billions, but timing is everything](#). *The Conversation*

Olinisky-Paul (2016). "[Energy Storage State Policy Update](#)" *Clean Energy States Alliance*.

December 1 & 3: Distributed generation

After focusing for most of the class on utility-scale renewable energy power plants, this week we'll turn our attention to smaller-scale systems, especially roof-top solar. On Tuesday, we'll talk about net-energy metering (NEM) policies, and specifically what elements different constituencies (from homeowners to utilities) support or oppose. On Thursday, we'll focus on taxation of small-scale systems and zoning, including solar access ordinances.

April 15

Kubis, A. (2019). [Native American Leaders Turn to Solar to Power Their Communities](#) *The Allegheny Front*

Clean Energy States Alliance. (2019). [Replacing Power Plants with Low-Income Residential Solar+Storage](#) [Webinar]

Gearino, D. (2019). [As Rooftop Solar Grows, What Should the Future of Net Metering Look Like?](#) *Inside Climate News*

Penrod, E. (2020). [Diminishing returns: Why an upcoming Utah rate case may signal the end of net metering](#) *UtilityDive*

Trabish (2018). "[Solar has transformed into solar-plus-storage: What will net metering become?](#)" *UtilityDive*

April 17

Shallenberger (2018). "[Arizona rooftop solar leases exempt from property tax, court rules](#)" *UtilityDive*

Balaskovitz (2017). "[Michigan bill looks to clarify tax exemptions for distributed generation projects](#)" *Energy News Network*

Martinez (2019). "[Martinez: Clean energy must be affordable for all.](#)" *Lansing State Journal*

Starghill (2019). "[Opinion | Solar lobbyists seek subsidies at expense of low-income Michiganders](#)" *Bridge*

Ross, M. (2019). [Ann Arbor reacts to new solar panel property tax exemption law](#) *MLive*

Bowman (2018). "[HOAs rain on homeowners' solar parade, residents' property rights](#)" *IndyStar*

Optional

NCSL's Solar Policy Toolkit: <http://www.ncsl.org/research/energy/solar-policy-toolbox.aspx>

Solar United Neighbors' website: <https://www.solarunitedneighbors.org/learn-the-issues/>

Dec 8: Final class

Today we'll wrap everything up.