

100%

RENEWABLE ENERGY NOW

Energy Justice



What's in this module?

Activities

1 video
1 podcast
6 readings
1 activity
3 project options

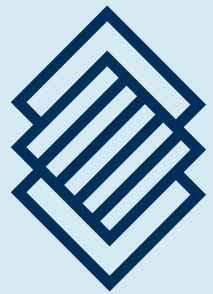
Contents

This module includes content from the Initiative for Energy Justice, energy justice activists, policy makers, scientists, and community members. The module contains three parts: an introduction to energy justice, an overview of the American energy system, and perspectives on energy justice. It follows with a number of optional projects.

Key Resources

- [MIT Interview with Shalanda Baker](#)
- [Energy Justice Initiative](#)
- [MIT Renewable Energy Clinic](#)

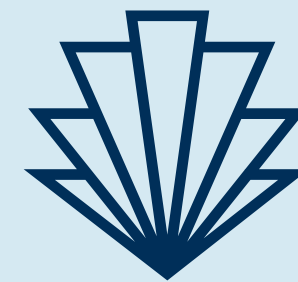
Agenda and Learning Objectives



Understand energy justice in policy, research, science, and technology



Discover local and international energy justice case studies



Understand the importance of energy justice in climate justice



Identify how you can implement energy justice in your work and life

What is Energy Justice?



"Renewable Energy Development in the California Desert"
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Energy justice emphasizes equitable energy transitions for marginalized communities and including communities in energy policy research, discussion, development, and implementation.

It aims to understand the socio-political and historical factors that determine what energy people use, why they use it, how much they consume, and where they access it from.



"Renewable Energy Development in the California Desert" by mypubliclands is licensed under CC BY 2.0.

Baskin, K. (2021, January 27). Why energy justice is a rising priority for policymakers. MIT Sloan. <https://mitsloan.mit.edu/ideas-made-to-matter/why-energy-justice-a-rising-priority-policymakers>

Discuss the following questions with a partner:

1. Do you think this energy justice explanation is complete?
What would you add?
2. Can you think of examples of energy justice in your community, country, or the world?
3. How do you think energy justice can help the climate justice movement?
4. How do science and technology impact social justice?
5. How can energy developments be more equitable?

For more information on the just energy transition, see [our module here](#)

For background on climate justice, see [the intro module here](#)

The Energy Justice Movement

Analyze this [timeline](#) of Environmental Justice from the Congressional Black Caucus Foundation.

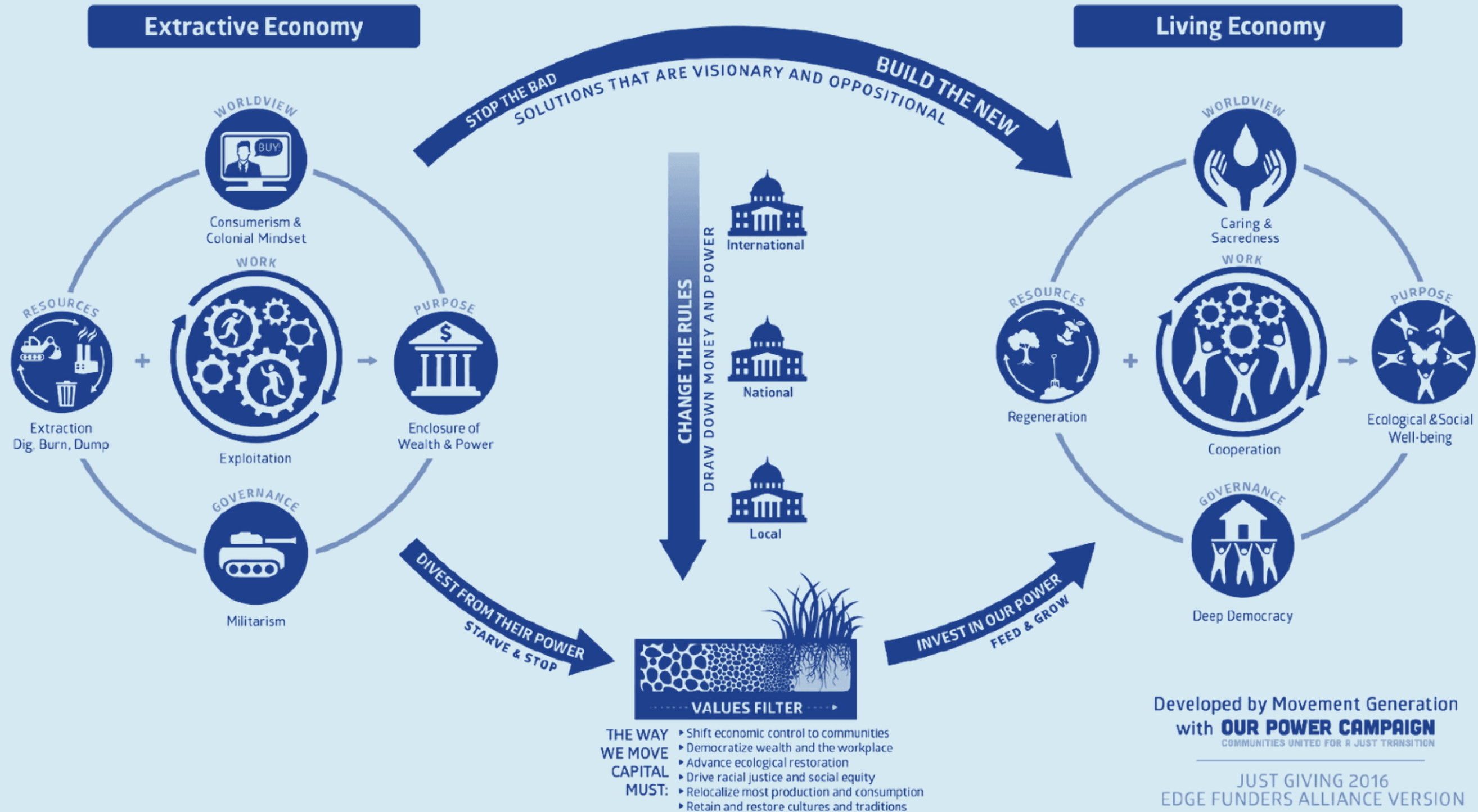
Discuss:

- When did Energy Justice start as a sub-movement of Environmental Justice?
- How is Energy Justice similar and dissimilar to Environmental and Climate Justice?
- What events are pivotal to energy justice?



A STRATEGY FRAMEWORK FOR JUST TRANSITION

RESIST — RETHINK — RESTRUCTURE



For more information on the just energy transition, click [here](#)

[Initiative for Energy Justice](#)

Energy Justice Policy Areas

Access to Energy

- Including connection to the grid, as well as access to affordable and functional renewable energy as a human right

Utility Structure

- The transition to renewables does not have to follow the centralized grid model

Community Solar Energy

- Allowing communities to collectively address their energy needs with renewables

Net Energy Metering

- Policy to encourage rooftop solar by crediting customers for solar energy they produce on their bill

100% Renewable Energy

- The goal of 100% or near 100% renewable energy in cities and towns can be met through many paths and sectors

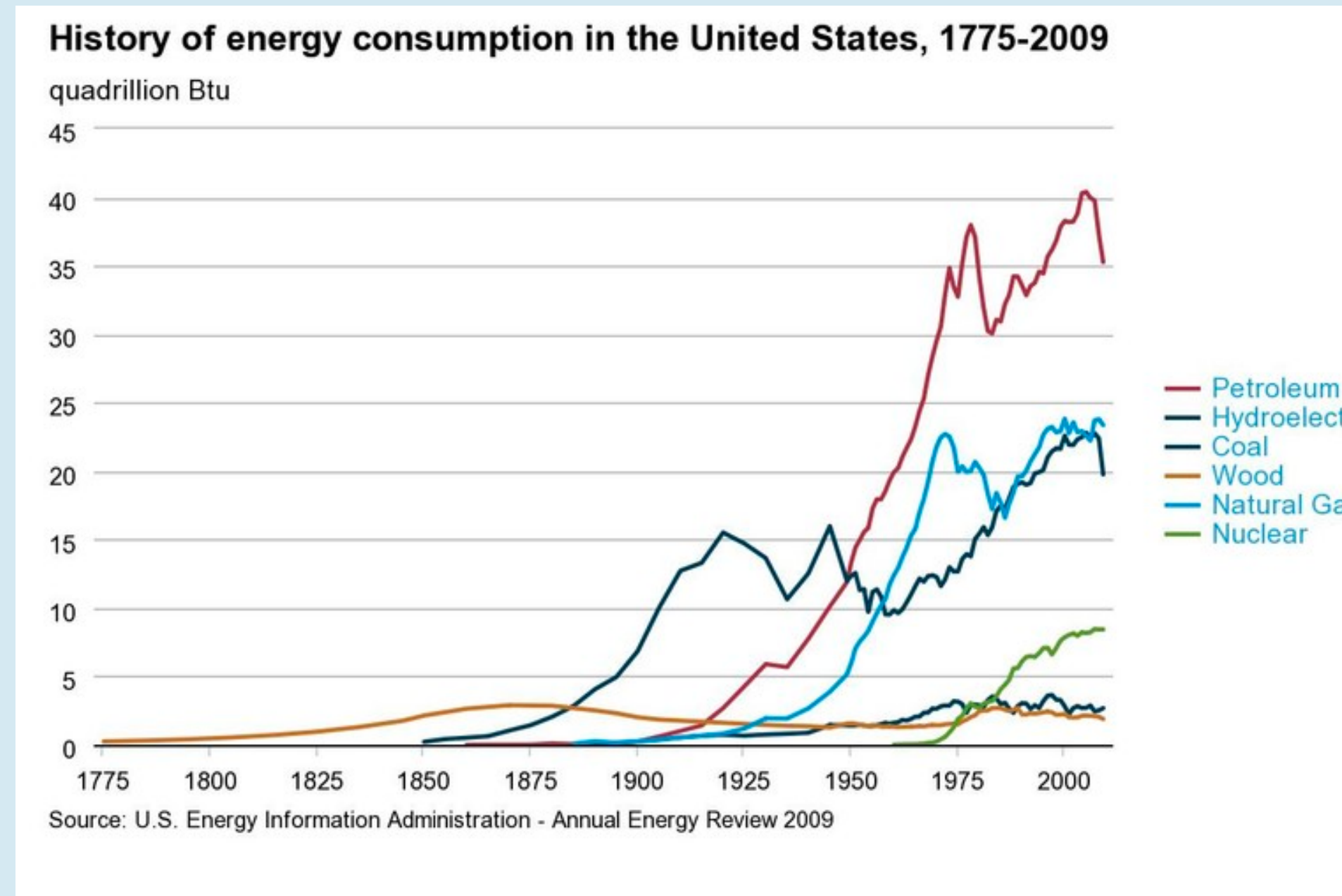
Initiative for Energy Justice

The American Energy System



"Cheoah Hydroelectric Dam Graham Co NC" by
Dantripphoto is licensed under CC BY-SA 3.0.

History of Energy in the U.S.

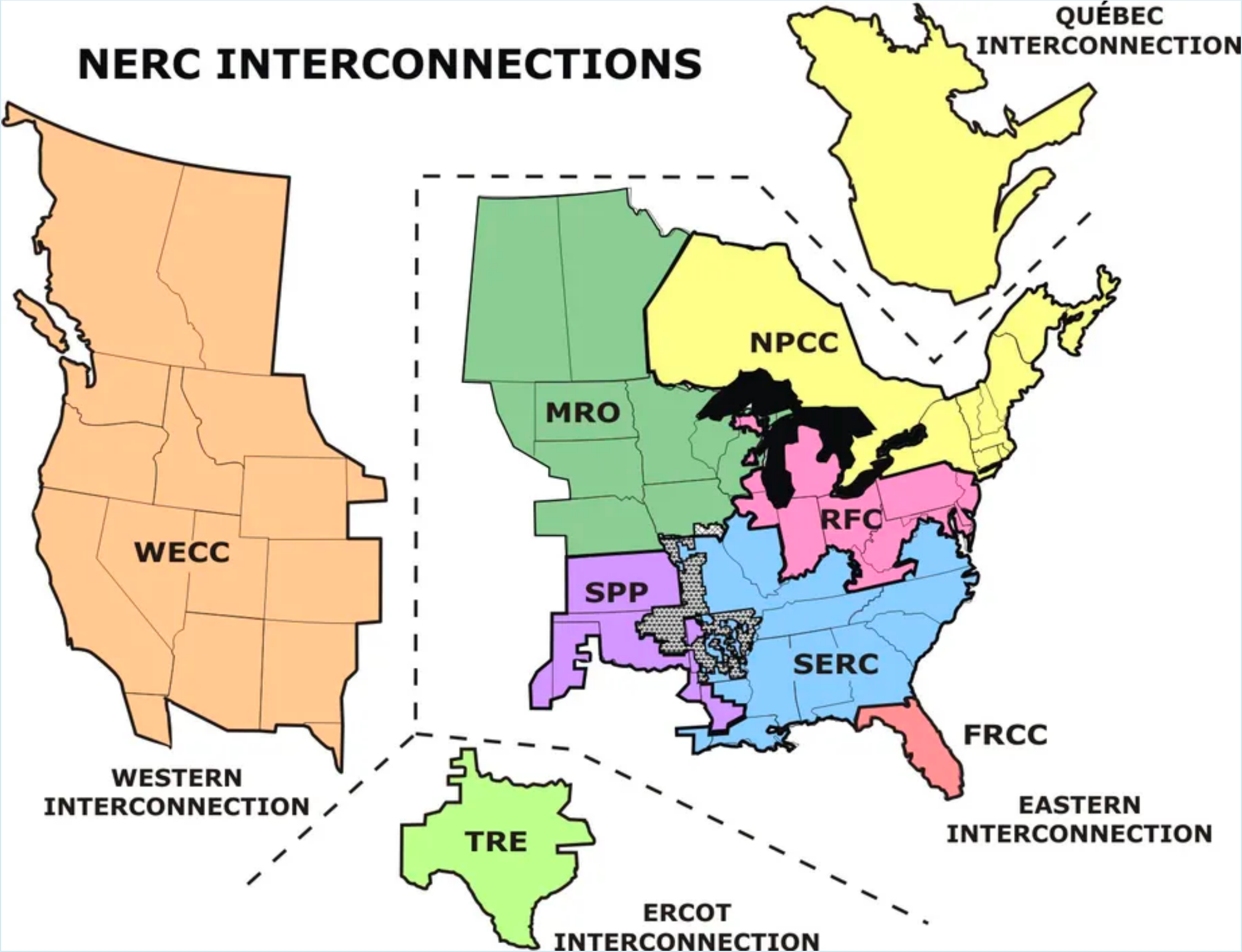


Energy demands have been on the rise throughout history. Since the 1950s, most of the energy consumption in the U.S. has come from petroleum.

The U.S. Energy System

- The U.S. has a divided energy system with the Eastern, Western, and Texas power grids.
- While in each group, power is shared, grids cannot easily send energy to locations outside of their area.
- Within each grid, different regions receive power from a handful of companies.
- In the next slides, we will compare Massachusetts and Nebraska's electric grids.

A Divided Grid

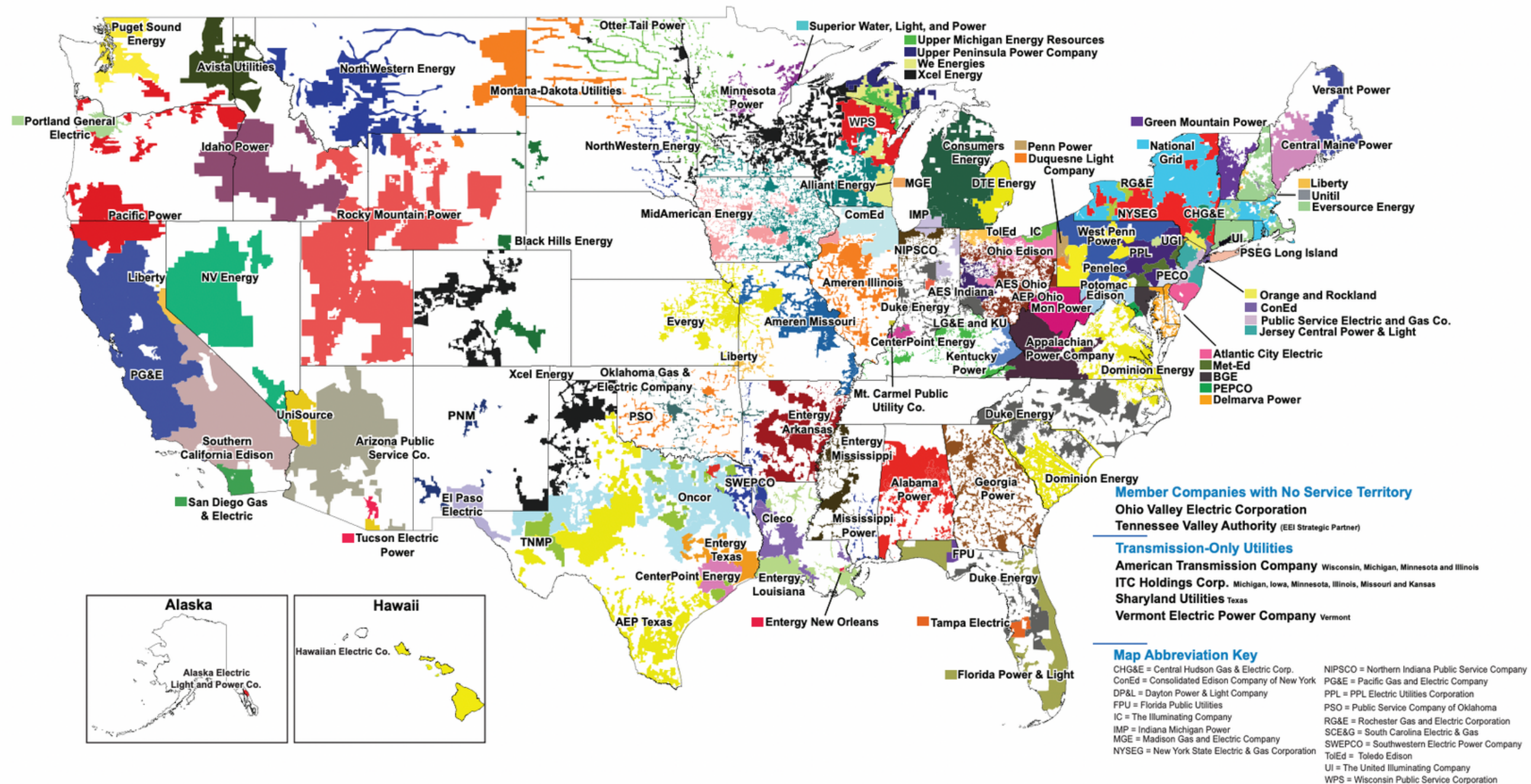


<https://www.vox.com/energy-and-environment/2018/8/3/17638246/national-energy-grid-renewables-transmission>

Companies Providing Power



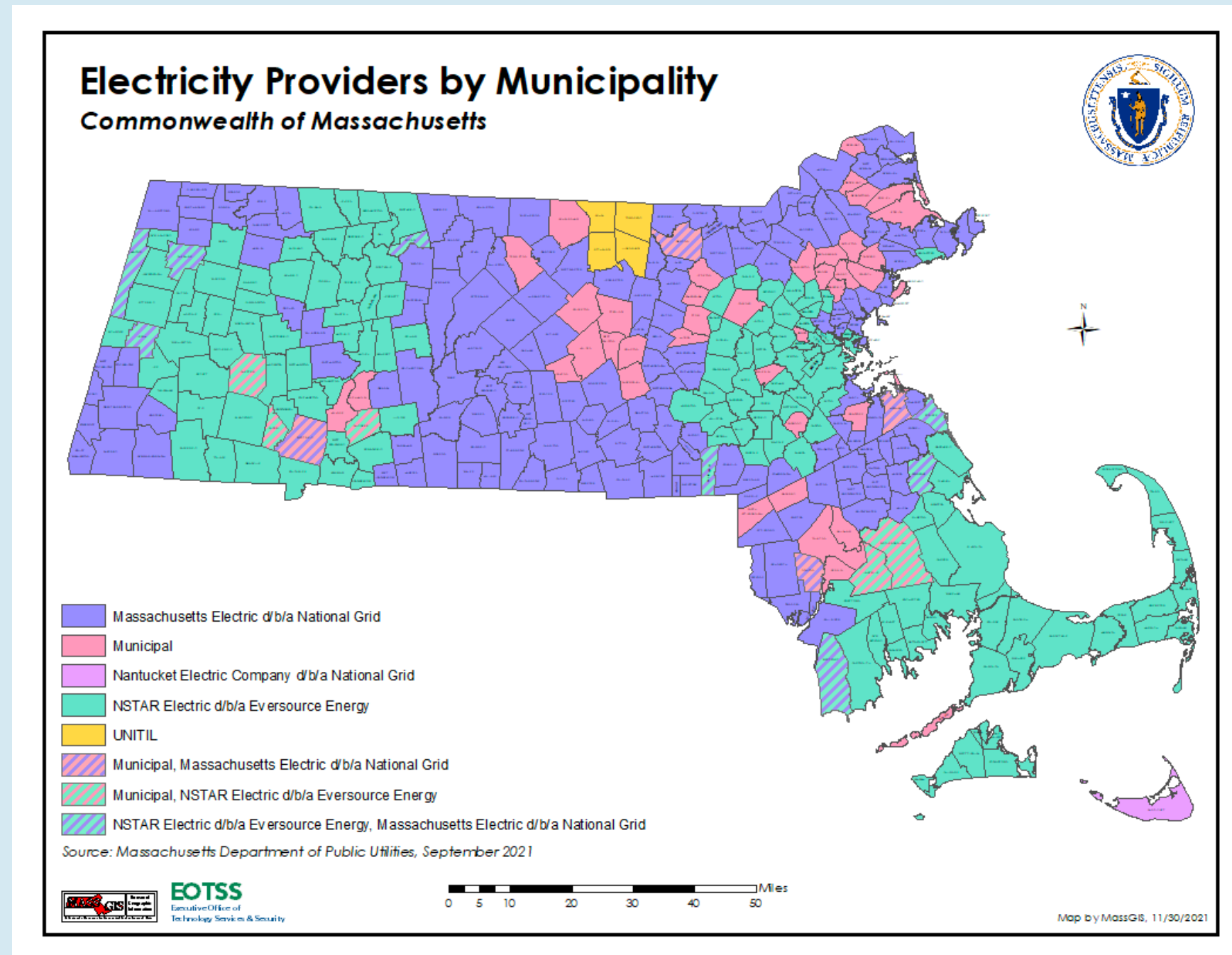
EEI U.S. Member Company Service Territories



Produced by Edison Electric Institute. Data Source: ABB, Velocity Suite. September 2023

<https://www.eei.org/-/media/Project/EEI/Documents/About/EEI-Member-Map.pdf>

Closer look: Energy in Massachusetts

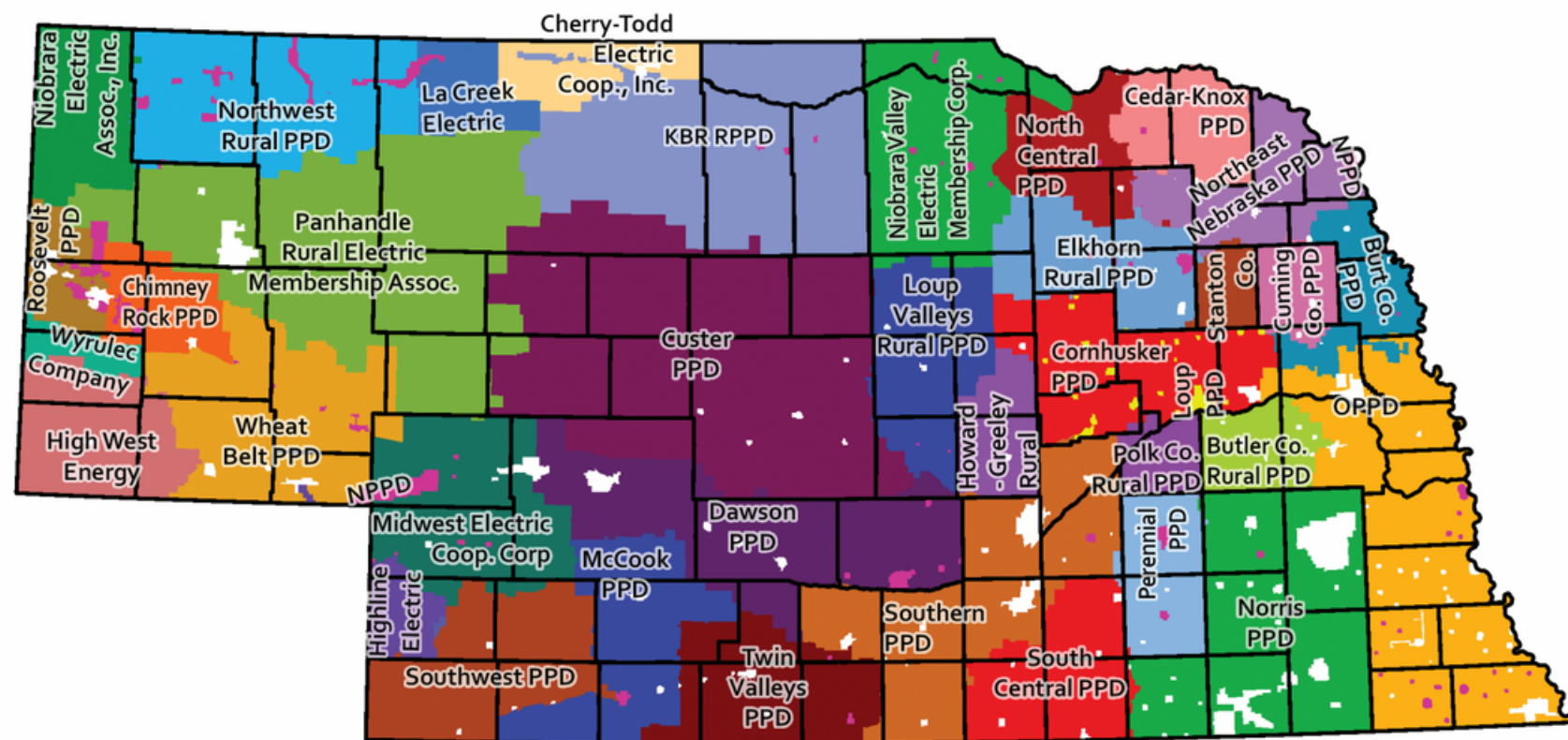


Energy in Massachusetts is provided by Eversource, National Grid, UNITIL, and municipal electric companies. These public utility companies are registered with the Federal Energy Regulatory Commission.

MassGIS Data: Public Utility Service Providers via Massachusetts Department of Public Utilities

Closer look: Energy in Nebraska

Nebraska Public Power Districts and Rural Electric Cooperatives 2017



Energy in Nebraska is provided by consumer-owned non-profit electric cooperatives, municipalities, and public power districts.

For more information, click [here](#).

[Nebraska Power Providers](#)

Comparing Energy & Seeing Vulnerabilities

Energy in both Nebraska and Massachusetts comes from a number of sources, but their grids are organized differently.

These different power systems and monopolized power providers leave the US vulnerable to grid failures as climate change causes more extreme weather events.

The grid's design leaves some people struggling for energy access, and makes it more difficult to electrify or make the switch to renewables.

U.S. Energy System Wrap-Up Reading

Reading

Power utilities are built for the 20th century. That's why they're flailing in the 21st.

Discussion

After reading, what are your thoughts on the current energy system in the U.S?

Do you agree with the author?

How do you think the energy system can be improved?

CLIMATE

Power utilities are built for the 20th century. That's why they're flailing in the 21st.



Utilities, basically. | (Shutterstock)

For all the recent media attention to power utilities, most coverage has been about symptoms rather than root causes. There's a **battle over rooftop solar** here, a **coal or nuke bailout** there, a **fight against efficiency** over there, but casual news consumers are offered no way of making sense of these battles or how they fit into a larger story. They're left with the vague impression that utilities hate clean energy out of sheer greed or malice. And that's not quite right.

Greed and malice are definitely involved. But they, too, are symptoms. No matter how individually virtuous utility executives may be, these running battles between utilities and clean energy will continue until the root problem is addressed and solved.

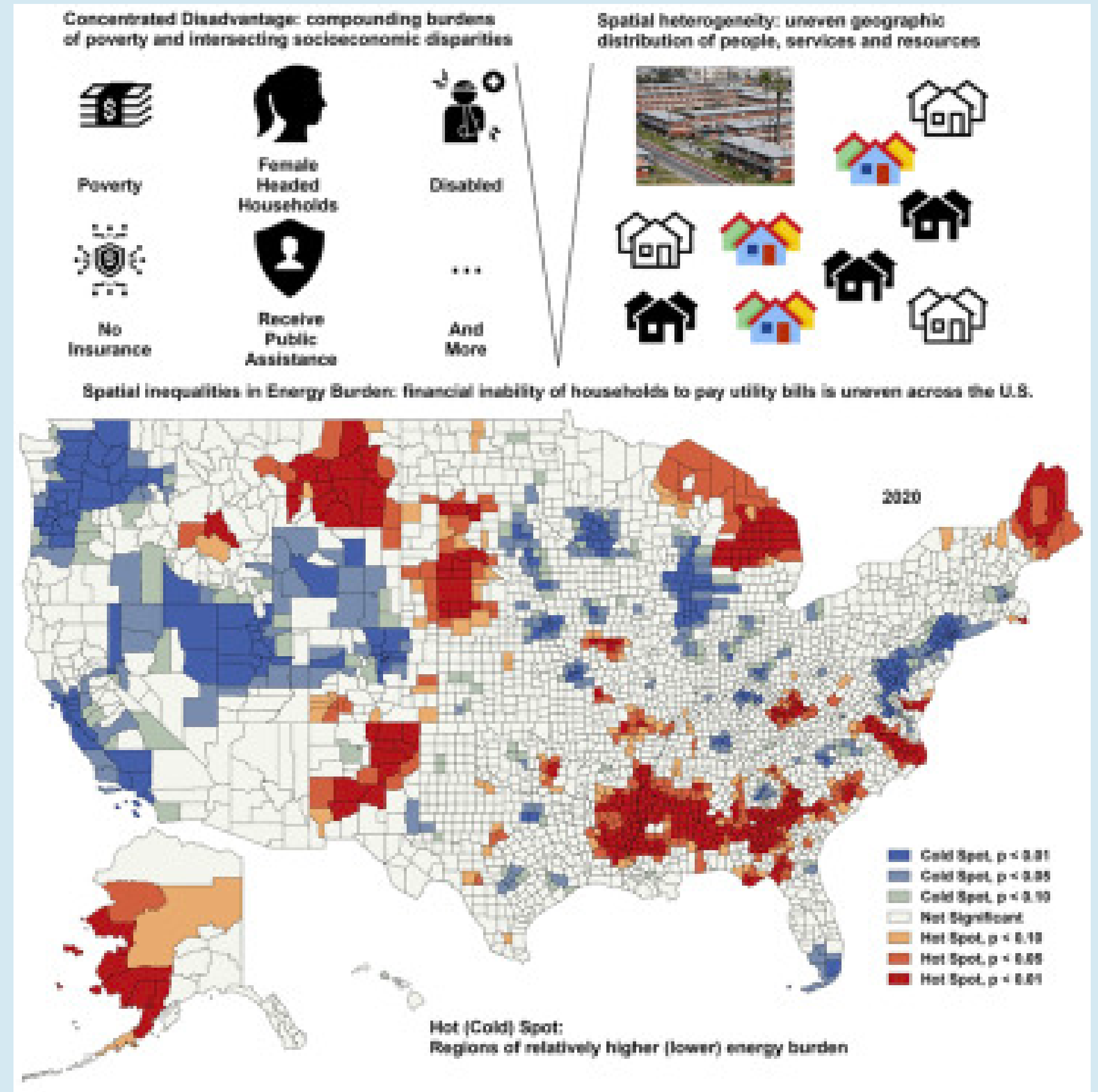
The root problem is simple: It's the way utilities are structured. They are monopoly providers of a whole bundle of electricity services in a given geographic area. But technology has evolved to the point that many of those services could be provided just as reliably, or better, by participants in competitive markets — if there were any such markets. Competitors keep trying to squeeze into the electricity space, and utilities keep using their monopoly power to try to

Energy Insecurity

Energy insecurity affects hundreds of thousands of people in the U.S.

Addressing energy insecurity is a key issue for energy justice activists.

How can we equitably and economically provide people with cleaner energy solutions?



Community Solar Energy

Community solar includes projects that benefit multiple energy consumers in one geographic location.

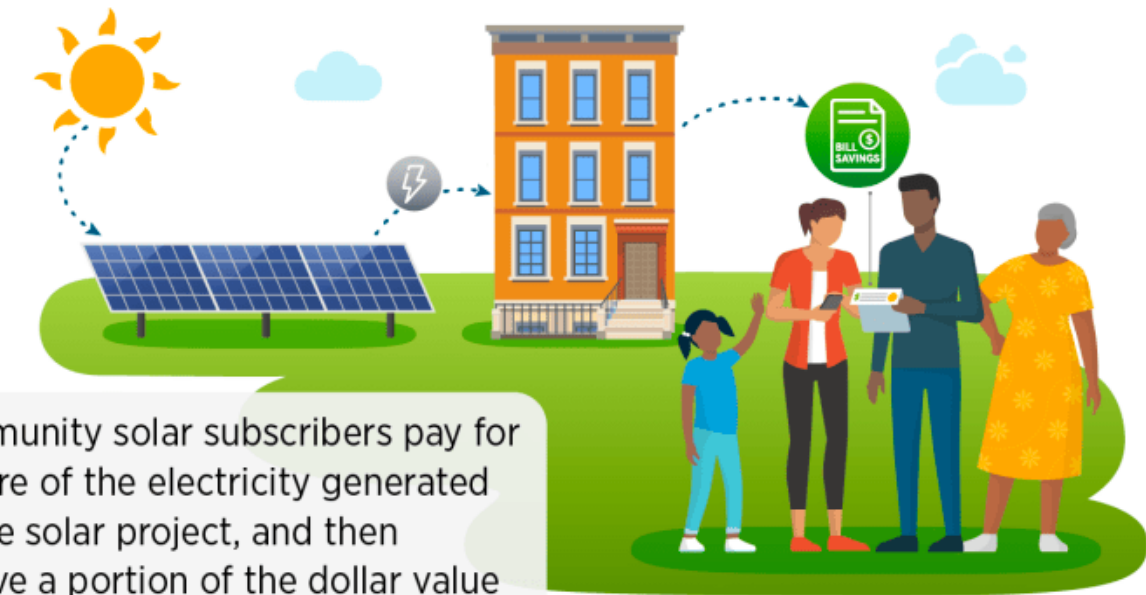
Instead of placing the burden on individuals to fund and maintain their own solar, community energy projects work for many people.

See [Native Renewables](#) for information on Native Community Energy Projects.

[US DOE Community Energy](#).

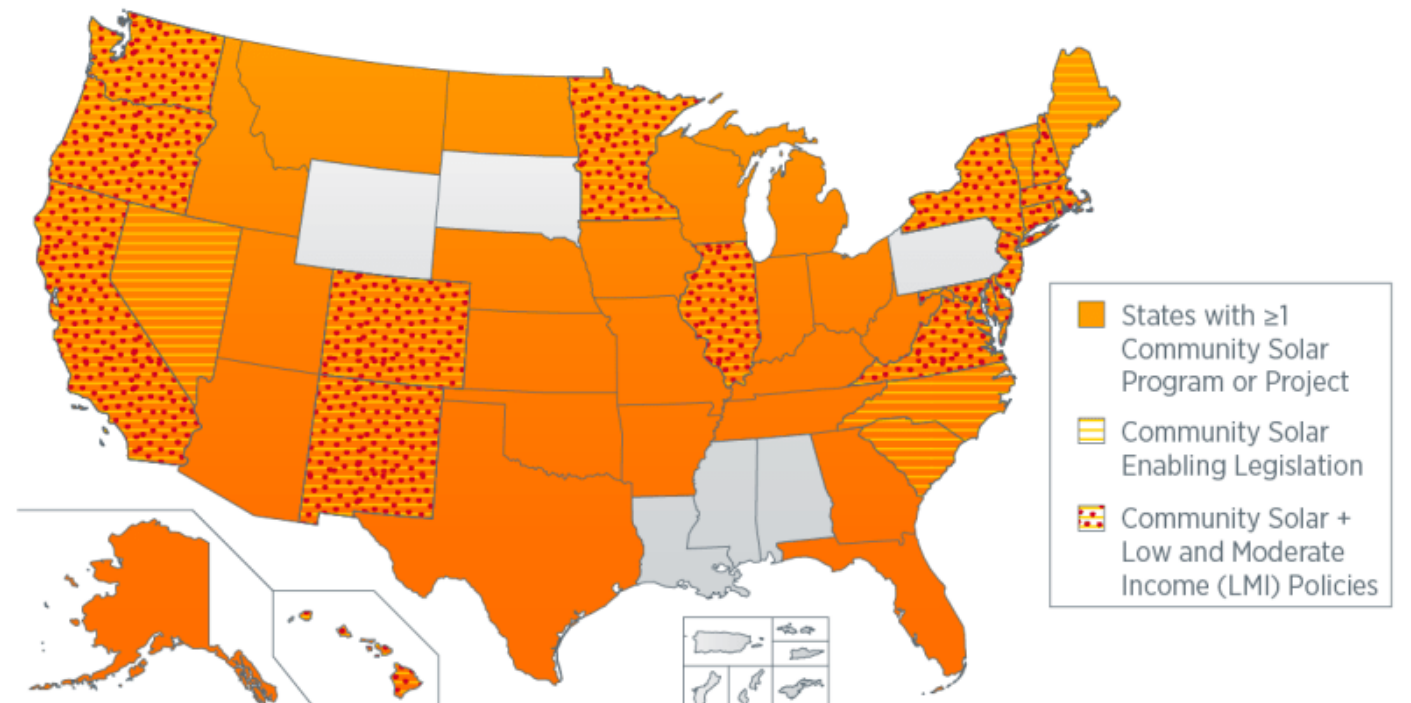
How does it work?

Community solar projects generate electricity from sunlight and the electricity flows to the electricity grid. Project owners can sell this power to their local utility.



Community solar subscribers pay for a share of the electricity generated by the solar project, and then receive a portion of the dollar value generated by the project as a credit.

Where is community solar available?





Watch: MIT Energy Justice with US DOE's Dr. Shalanda Baker

MIT's Robert Stoner discusses energy justice and Justice40 with Dr. Baker, the Director of the Office of Economic Impact and Diversity at the US Department of Energy in the Biden administration.

Follow up reading

In the video, Dr. Baker discussed the problem of energy justice in Oaxaca, Mexico

Read her paper, [Mexican Energy Reform, Climate Change, and Energy Justice in Indigenous Communities](#)

Discuss the video and the paper:

- How is energy justice a complicated issue?
- How is this demonstrated by wind farms in Oaxaca?
- How can we meet growth sustainably?

Shalanda H. Baker*

MEXICAN ENERGY REFORM, CLIMATE CHANGE, AND ENERGY JUSTICE IN INDIGENOUS COMMUNITIES

ABSTRACT

Mexico's recent energy reform portends a new era of private engagement in the oil and gas sectors. According to government officials and industry leaders, the opening of energy reserves for private development will spur economic growth and establish the country as a leader in the energy arena. This article examines whether the reforms could also lead to community-led growth in the renewable energy sector, specifically in Oaxaca, Mexico, which has been identified as one of the windiest places in the world and is currently already the site of extensive wind energy development. Building on my prior work exploring the impact of renewable energy development on indigenous communities in Oaxaca, this article presents a framework to explore the aspects of the energy reform that could lead to greater participation in renewable energy development by communities who have historically disproportionately borne the brunt of the country's energy development in the country. This article utilizes the theory of energy justice, which incorporates principles of environmental justice and climate justice as well as energy democracy, to consider whether opening the Mexican energy market to private participation and increased competition in the electricity sector could render communities more resilient in the face of climate change and better able to meet their energy needs.

Perspectives on energy justice



Indigenous Perspective

Listen to Jihan Gearon, Executive Director of Black Mesa Water Coalition, talk about the Just Transition and renewable energy.

BMWC has been working for just, renewable energy on the Navajo nation for over 20 years.

- How is the Navajo Nation working towards a Just Transition?



Jihan Gearon: Towards a Just Transition, KXCI

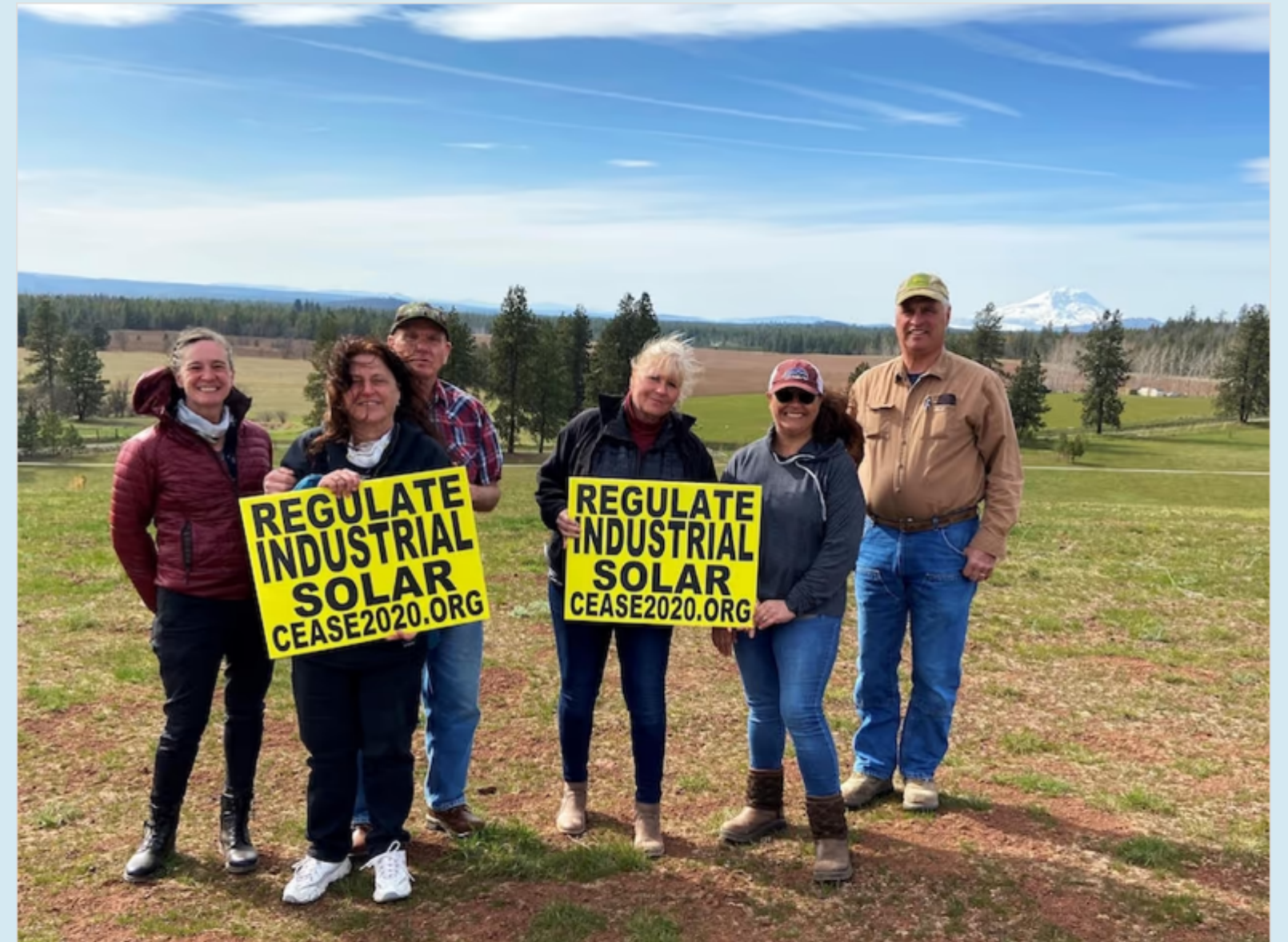


Rural Perspective

Read Even in the bright of day, some Central Washington residents have a solar energy 'nightmare'

What is the conflict arising in rural areas over clean energy?

After reading, what do you see as a potential solution to this problem?



Even in the bright of day, a solar-powered 'nightmare'

You can see Mount Adams rising from the horizon on a grassy hilltop on Amy Hanson's land. Farms reach out in most directions. Homes dot the landscape.

KUOW Public Radio / May 5, 2021

For more information on clean energy conflict mitigation, see slide 27

International Perspective



Read [Humanizing sociotechnical transitions through energy justice: An ethical framework for global transformative change](#)

What do the authors suggest for an ethical energy transformation?

Humanizing sociotechnical transitions through energy justice: An ethical framework for global transformative change

Kirsten Jenkins^a  , Benjamin K. Sovacool^{b c}  , Darren McCauley^d 


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<https://doi.org/10.1016/j.enpol.2018.02.036> 

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Highlights


- Sociotechnical transitions studies must better explore questions of ethics and justice.
- Ethical considerations can be integrated at the niche, regime and landscape levels of analysis.
- Accessibility, affordability, energy security and sustainable development must be more rigorously investigated.

Local Perspective

Read the piece on [Energy Resilience in Chelsea, Massachusetts](#)

How has the community had to fight to build a microgrid?

What does energy resilience mean for vulnerable communities?



ELECTRIFY EVERYTHING

The Little City That Could

For Chelsea, Massachusetts, a new microgrid means energy resilience.

LOIS PARSHLEY | MAY+JUNE 2023 ISSUE

As GreenRoots' assistant executive director, María Belén Power helped lead the effort to build a microgrid in Chelsea. Ryan Christoph

[f](#) [t](#) [e](#) [p](#) [c](#)

The United States is on the brink of its most consequential transformation since the New Deal. Read more about what it takes to decarbonize the economy, and what stands in the way, here. Leer este artículo en español.

On a recent morning, researcher Dominick Dusseau offers a glimpse into the future of Chelsea, Massachusetts, a small, industrial city just across the Mystic River from Boston. On digital maps he displays over Zoom, great blue splashes cover large swaths of the city—areas where, by his calculations, climate-driven flooding is likely to occur. The maps depict a world where the locals who can least afford it will get hit the hardest.

Comparing Perspectives

Split the class into 4 groups.

Each will discuss one of the perspectives on energy justice from the previous slides.

Then, as a class, each group will share out and compare the similarities and differences of each discussed perspective.

What leads to the differences in people's opinions and perspectives on energy justice and how it is implemented? How can we remediate conflicting beliefs?



Energy Justice Conflict

"Oceanic windmills" by quinn.anya is licensed under CC BY-SA 2.0.

Renewable Energy Projects

Renewable energy isn't a simple transition:

- Community groups, Indigenous tribes, local conditions, and government interests all play a different role in the Just Transition

Discuss with a partner:

- What conflicts can you imagine arising from a transition to clean energy?
- How can we reconcile competing interests to promote clean energy without violating a community's rights?



"Cut carbon pollution, unlock clean energy - PeoplesClimate-Melb-IMG_8352" by John Englart (Takver) is licensed under CC BY-SA 2.0.

MIT Energy Conflict Mitigation

Explore the [MIT Renewable Energy Siting Clinic](#)

After reviewing some case studies, discuss as a class:

- What factors are most important for expanding renewable energy?
- What are the key conflicts you noticed?
- What concerns do people have?
- What are commonalities between the case studies on the map?
- Why mitigation?





Optional Projects

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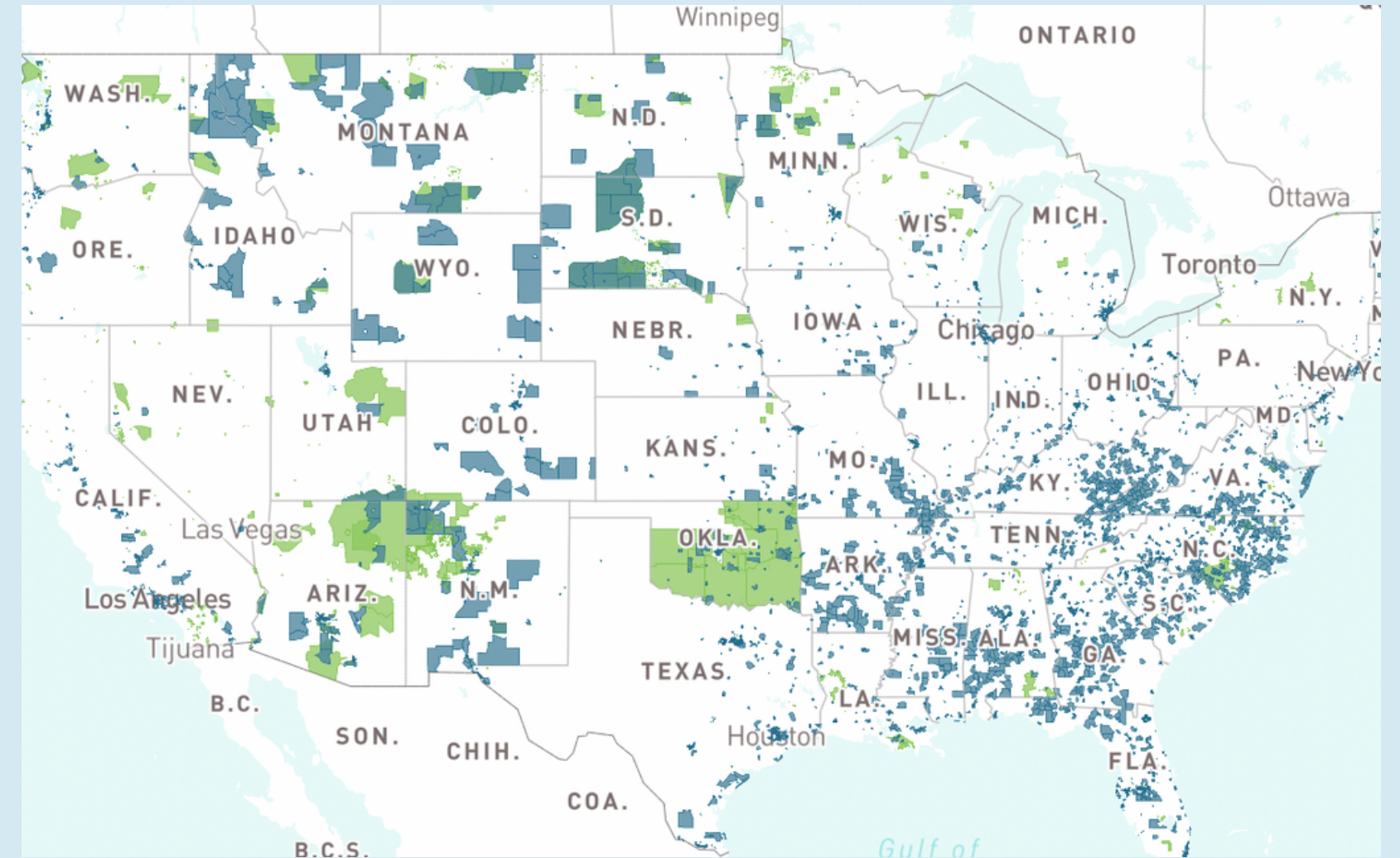
Optional Project 1

Explore the [United States Energy Justice Dashboard](#)

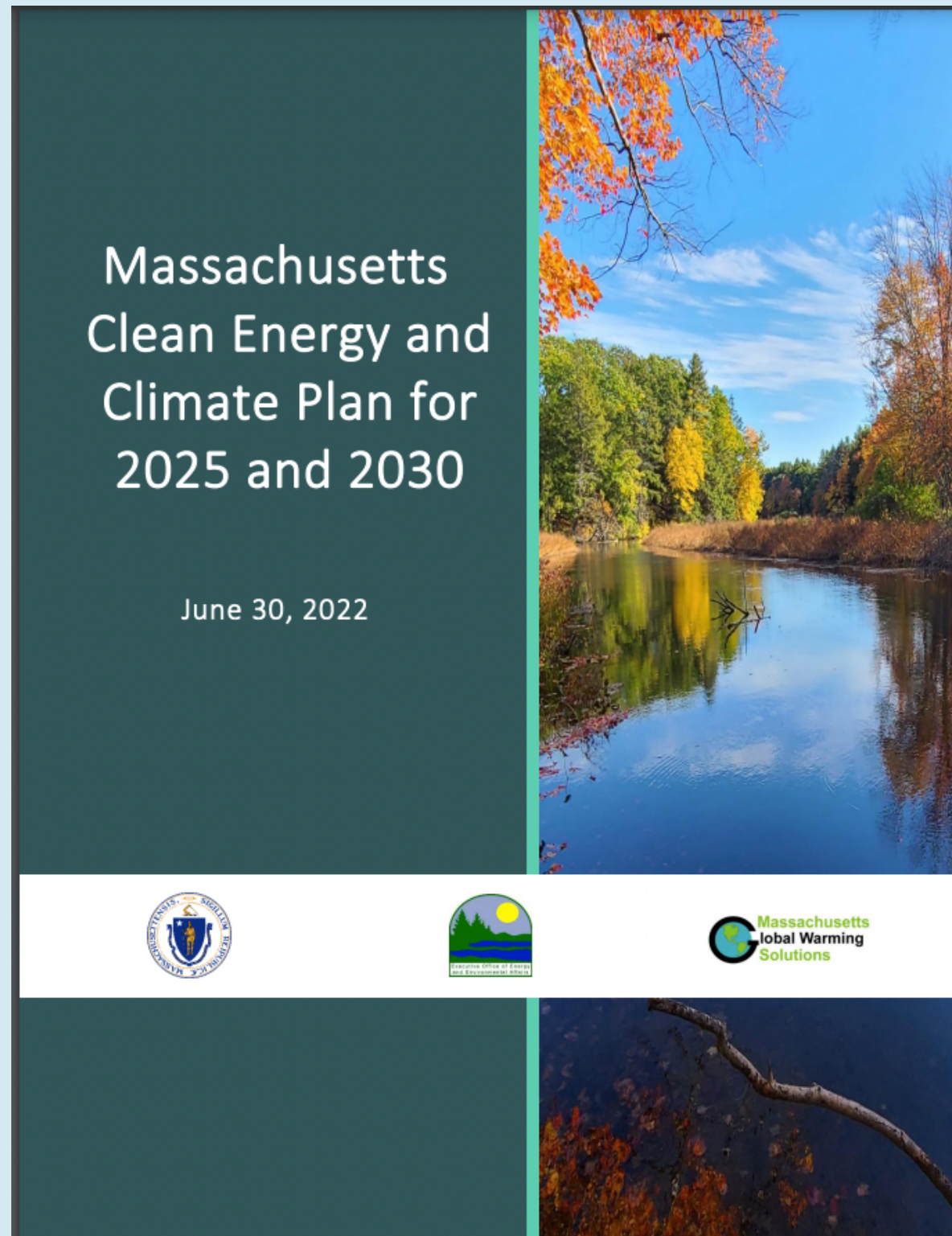
Look at neighborhoods near each other or near you, what do you notice about energy burdens?

Research socioeconomic, demographic, and industry data of the city/county using [DATA USA](#).

What are the common themes of statistics in high energy burden communities? Respond in a report analyzing one area with differing energy burdens.



Optional Project 2



Analyze this piece of energy policy with the Energy Justice Scorecard.

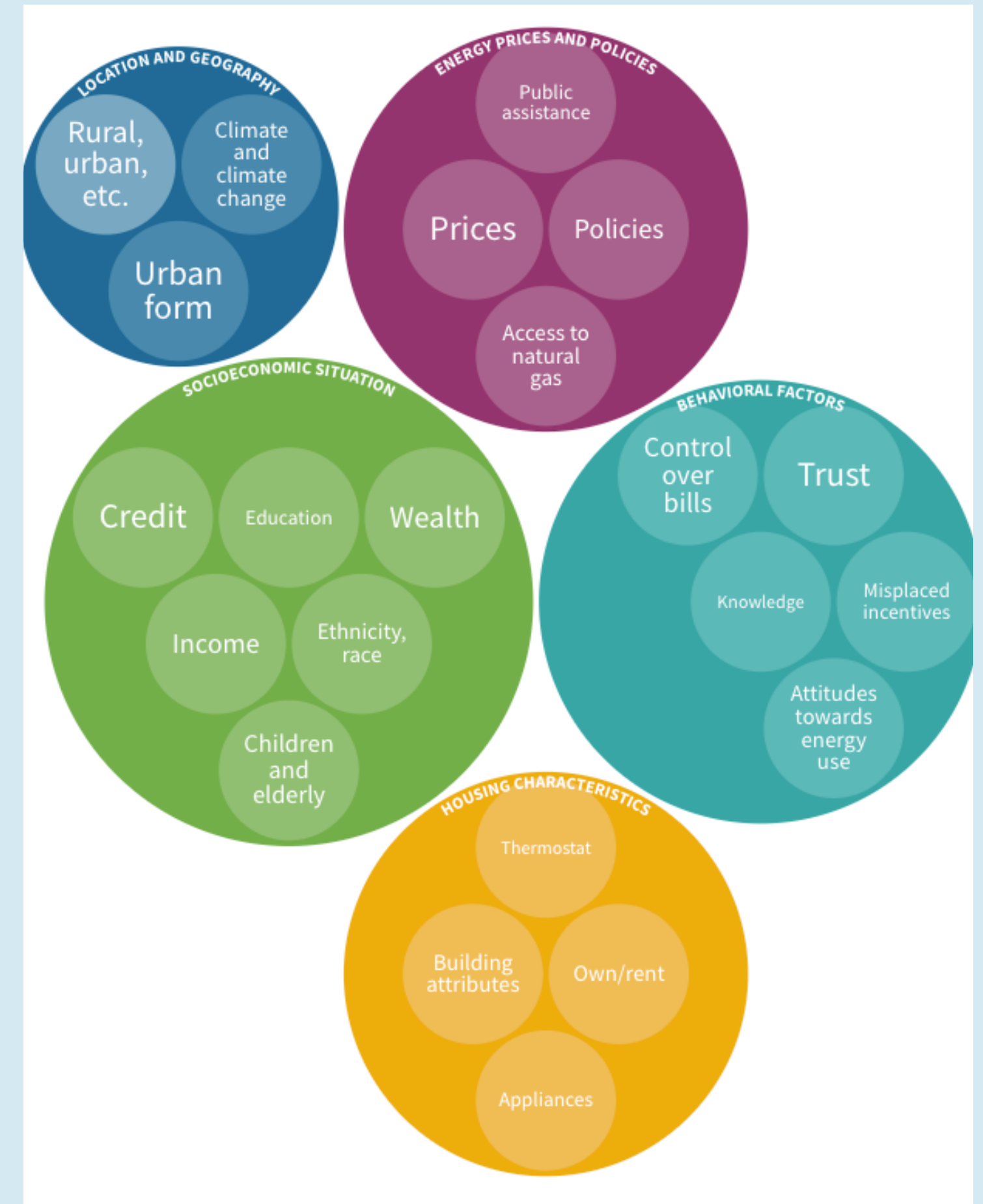
Share your rating with the people near you/with the class.

Where do you rate it the same? What aspects are different?

Optional Project 3

1. Break into groups and explore BU Energy Justice questions/case studies
2. Pose your question to class and explain how data is used to demonstrate issues of energy justice.

OPTION to have students explore their own energy justice question and create their own data visualization or story through research



Beyond the Module

Explore these resources. How can you help fight for energy justice in your life and work?

- [Energy Justice Resources](#)
- [Just Energy: Reducing Pollution, Creating Jobs Toolkit](#)
- [Clean Energy Jobs](#)
- [Internships, Fellowships, Graduate and Postdoctoral Opportunities](#)
- [Fighting for Energy Justice](#)

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