

FOUNDATIONAL MODULE

Energy Justice



CLIMATE JUSTICE
INSTRUCTIONAL
— TOOLKIT —

What's in this module?

Description

This module includes content from energy justice activists, policy makers, scientists, community organizations, and other individuals. The module contains an introduction to energy justice, an overview of the U.S. energy system, special topics in energy justice, perspectives on energy justice, energy justice conflict, and information on the Just Transition.

Contents

7 parts
3 videos
1 podcast
3 readings
9 activities
3 project options

Key Resources

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

"Cropped best Large 100% renewable energy now OLB LED light panels raft up and refinery at Luminary flotilla at Break Free PNW 2016 _photo by Alex Garland img_2100" by Backbone Campaign is licensed under CC BY 2.0.

100% RENEWABLE ENERGY NOW

100% RENEWABLE ENERGY NOW

Learning Objectives

01

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

02

Discover local and international energy justice case studies

03

Understand and **analyze** the Just Transition framework

04

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

Introduction to Energy Justice

PART 1



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

What is Energy Justice?

Definition

Energy justice emphasizes equitable energy transitions for marginalized communities and including communities in energy policy research, discussion, development, and implementation.

Objective

Energy justice 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.



Initial Discussion of Energy Justice

Discuss these questions in small groups

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

For more see the [Just Transition](#) and [Intro to Climate Justice](#) modules



ACTIVITY #1

THE HISTORY OF THE ENERGY JUSTICE MOVEMENT

Browse and analyze

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

Discussion questions

- 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?



Energy Justice Policy Areas

01

Access to energy

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

02

Utility structure

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

03

Community solar energy

Allowing communities to collectively address their energy needs with renewables.

04

Net energy metering

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

05

100% renewable energy

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

The U.S. Energy System

PART 2



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

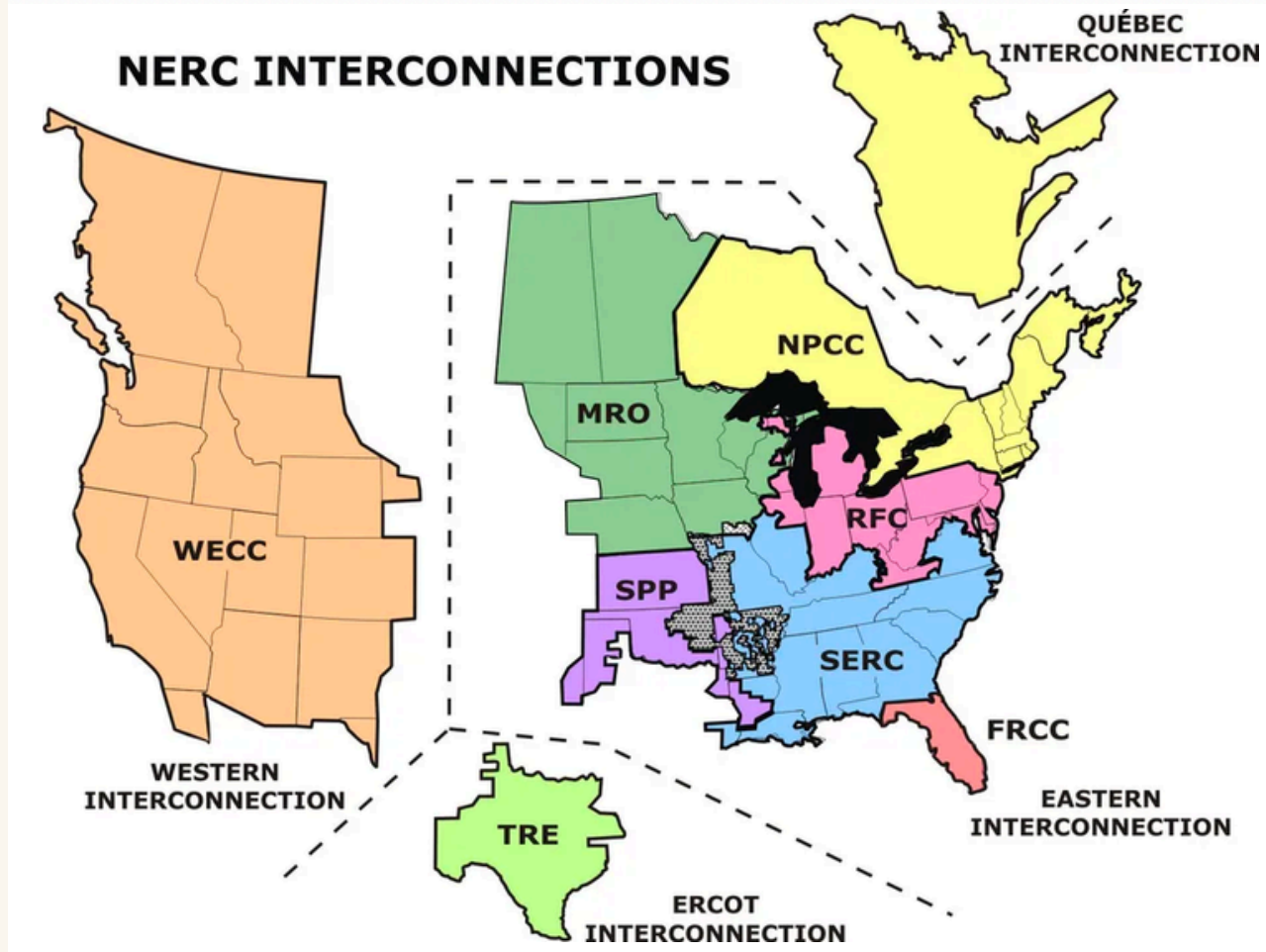
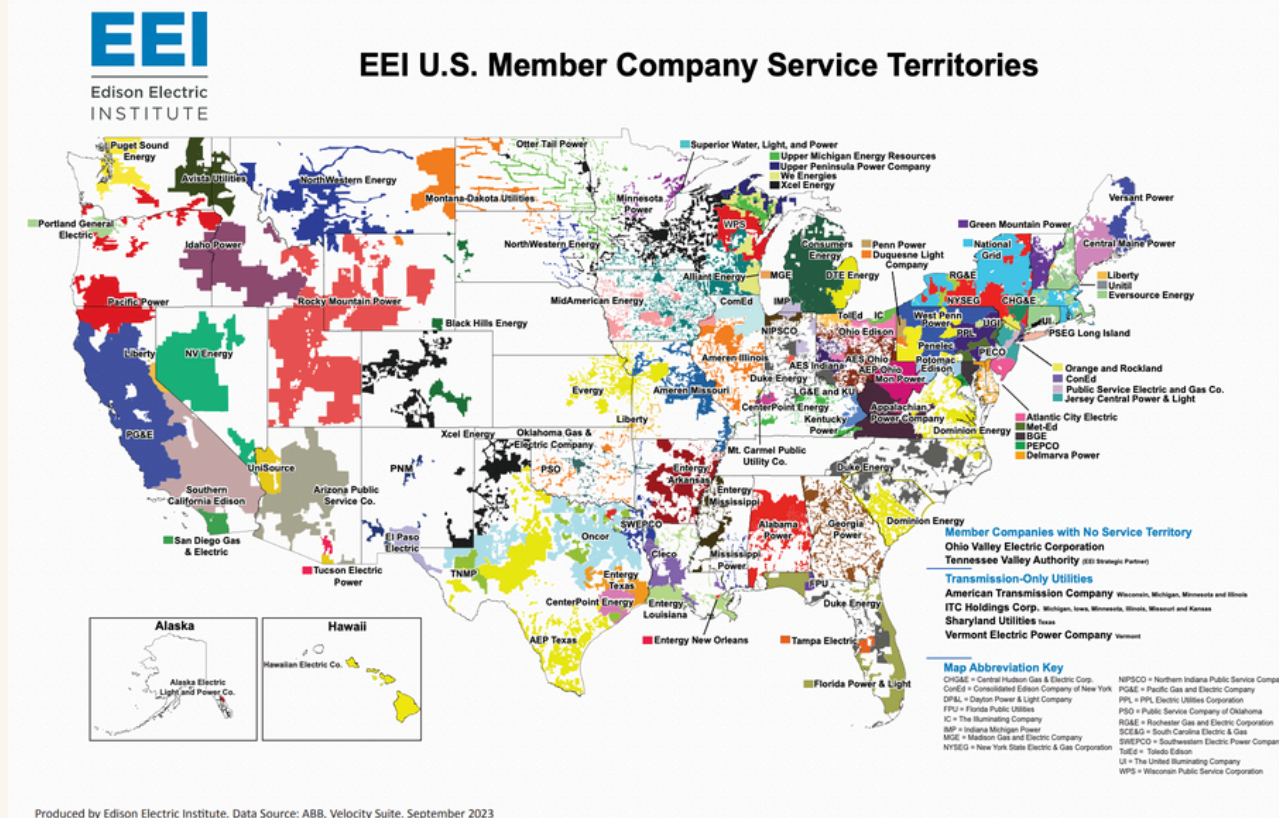
The Basics

History of the U.S. energy system

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.

Structure of the U.S. energy grids

- The U.S. has a divided energy system with the Eastern, Western, and Texas power grids
- While power is shared within each grids, grids cannot easily send energy to locations in other grids
- Within each grid, different regions receive power from a handful of companies



CASE STUDY # 1

COMPARING ENERGY SYSTEMS: MA V. NE

Massachusetts

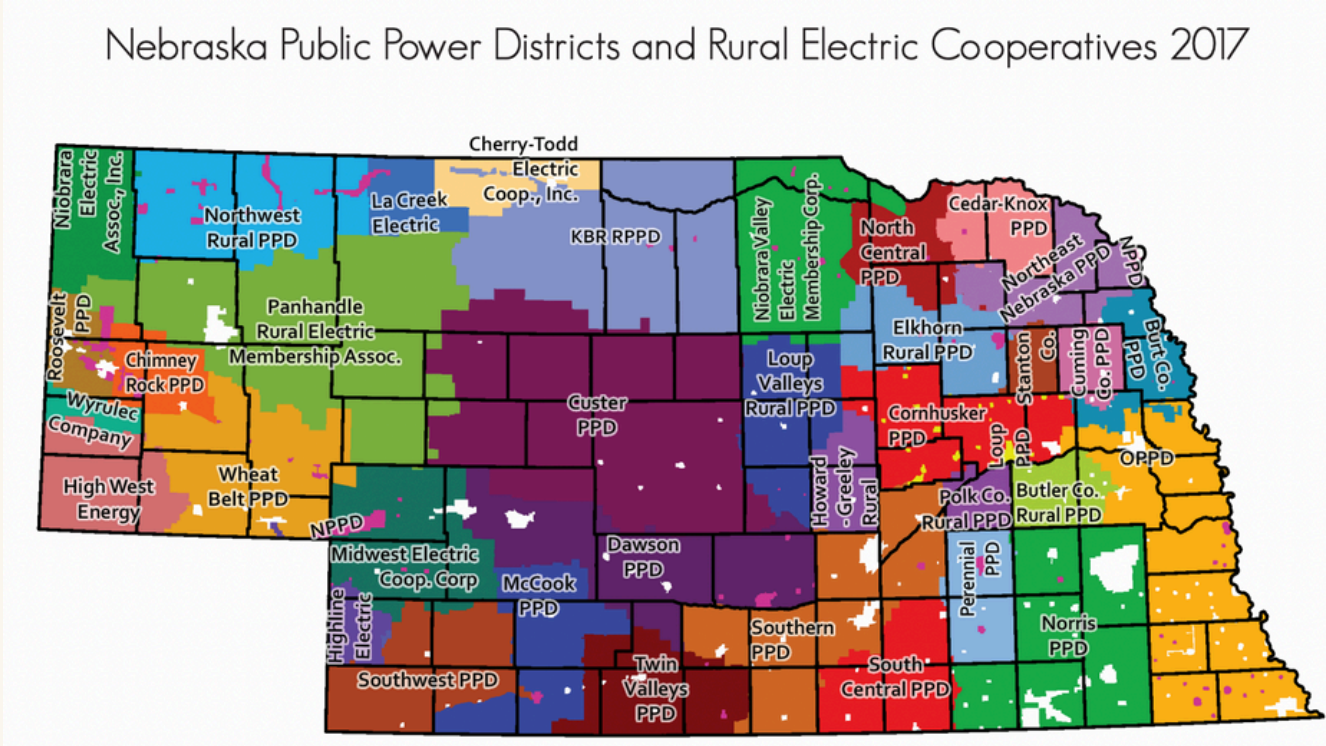
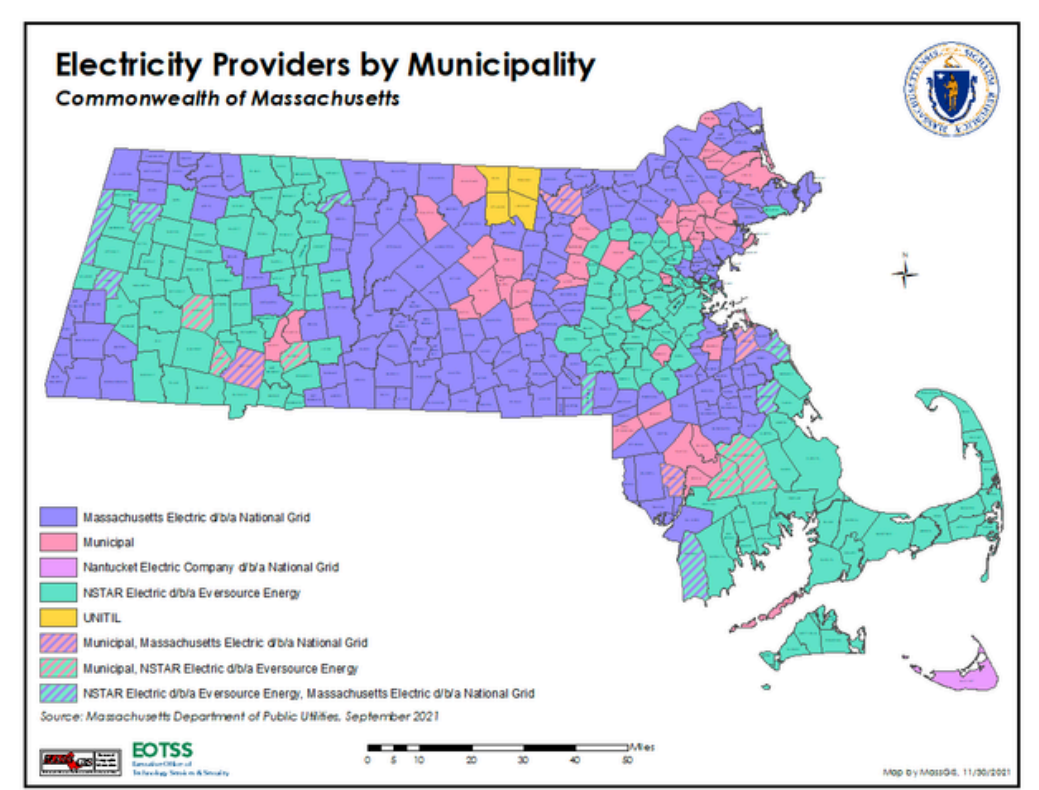
Energy in MA is provided by Eversource, National Grid, UNITIL, and municipal electric companies, which are all registered with the Federal Energy Regulatory Commission.

Nebraska

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

Takeaways

- Energy in both NE and MA comes from a number of sources, but their grids are organized differently
- Different power systems and monopolized power providers leave the US vulnerable to grid failures as climate change increases 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



ACTIVITY #2

U.S. ENERGY SYSTEM WRAP-UP READING

Read

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

Post-reading discussion questions

- 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?

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



Special Topics in Energy Justice

PART 3



Energy Insecurity

Who it affects

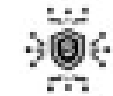
Addressing energy insecurity is a key issue for energy justice activists because it affects hundreds of thousands of people in the U.S.

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

Concentrated Disadvantage: compounding burdens of poverty and intersecting socioeconomic disparities



Poverty



No Insurance



Female Headed Households



Receive Public Assistance



Disabled

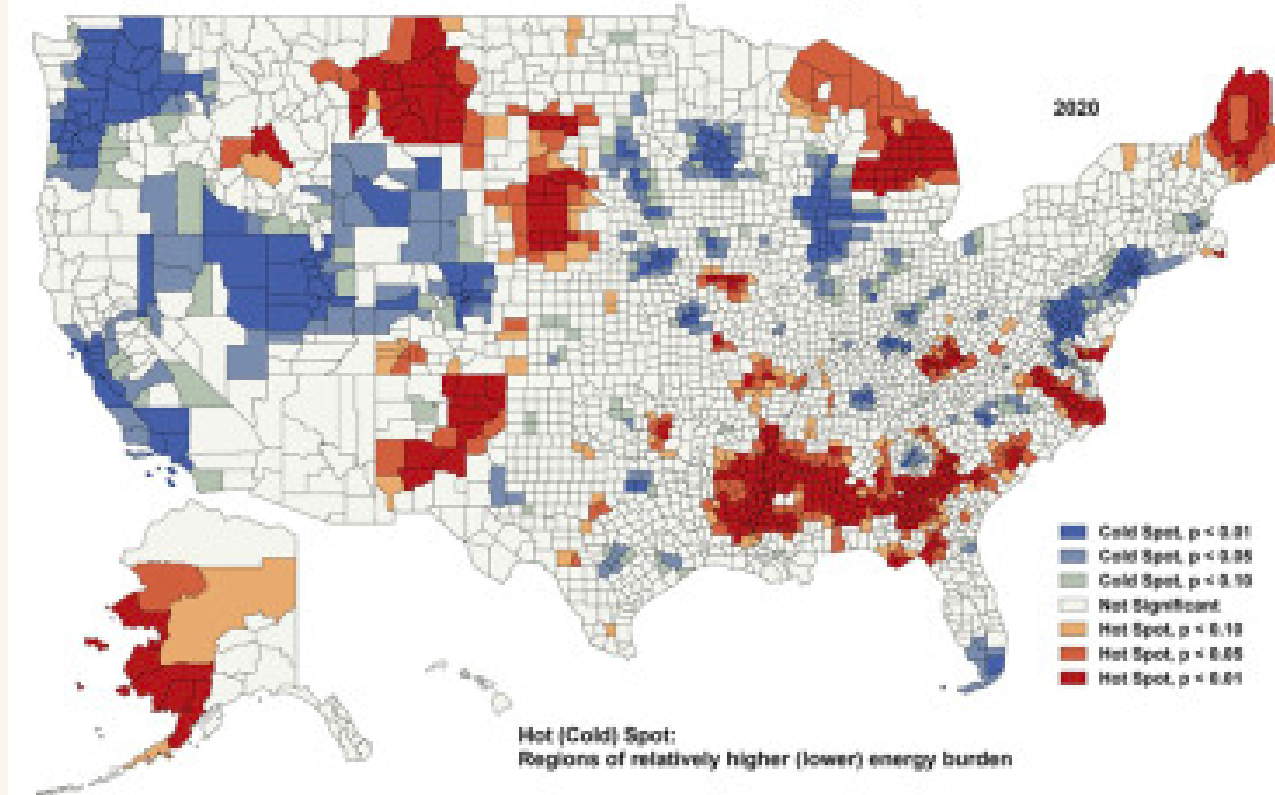


And More

Spatial heterogeneity: uneven geographic distribution of people, services and resources



Spatial inequalities in Energy Burden: financial inability of households to pay utility bills is uneven across the U.S.



Community Solar Energy

What is community solar energy?

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

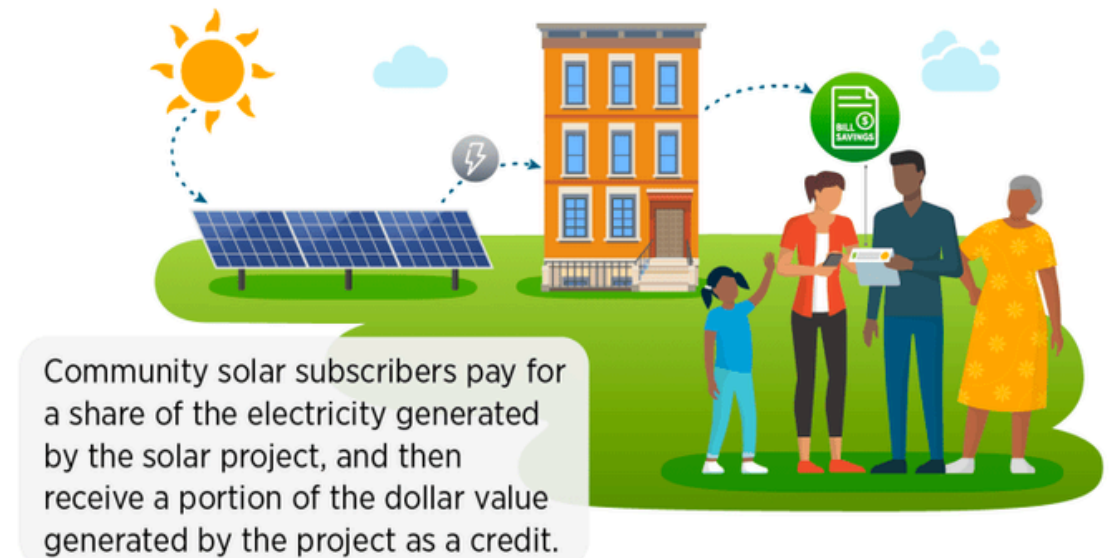
Instead of placing the burden on individuals to fund and maintain their own solar, community energy projects work for many people.

More Information

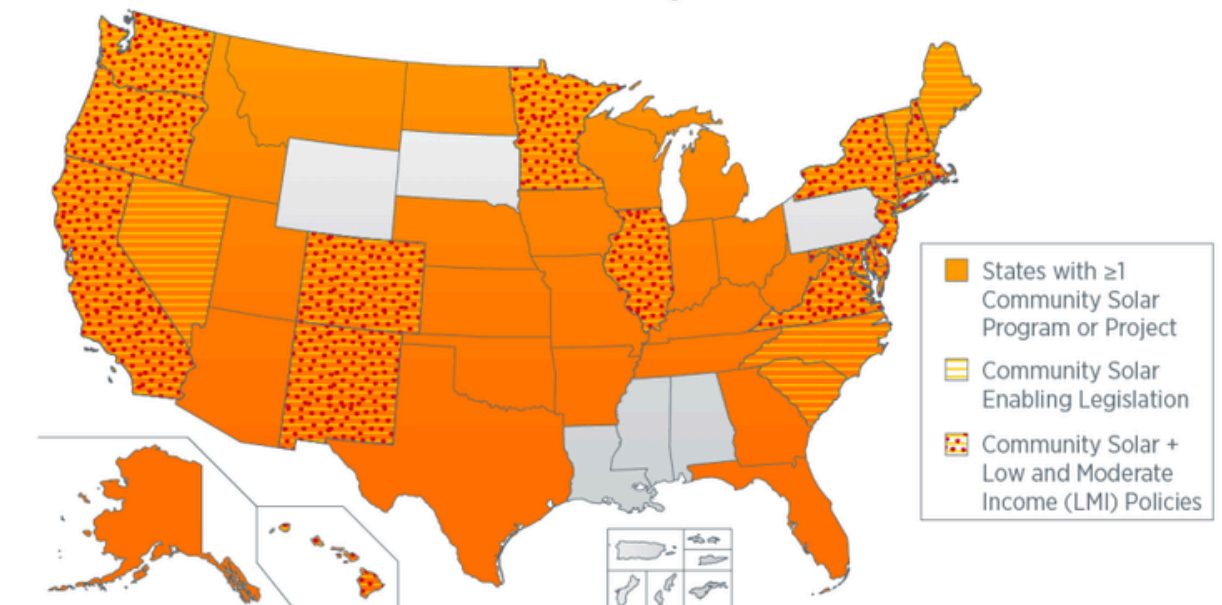
- See [Native Renewables](#) for information on Native Community Energy Projects
- [US DOE Community Solar Basics](#)

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.



Where is community solar available?



ACTIVITY #3

INTRODUCING DR. SHALANDA BAKER

Watch

[MIT Energy Justice with US DOE's Dr. Shalanda Baker](#)

Read

[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?



Dr. Shalanda Baker

Case Studies: Perspectives on Energy Justice

PART 4



CASE STUDY #1

INDIGENOUS PERSPECTIVE

Listen

Jihan Gearon: Towards a Just
Transition

Discuss

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

Executive Director, Black Mesa Water
Coalition

CASE STUDY #2

RURAL PERSPECTIVE

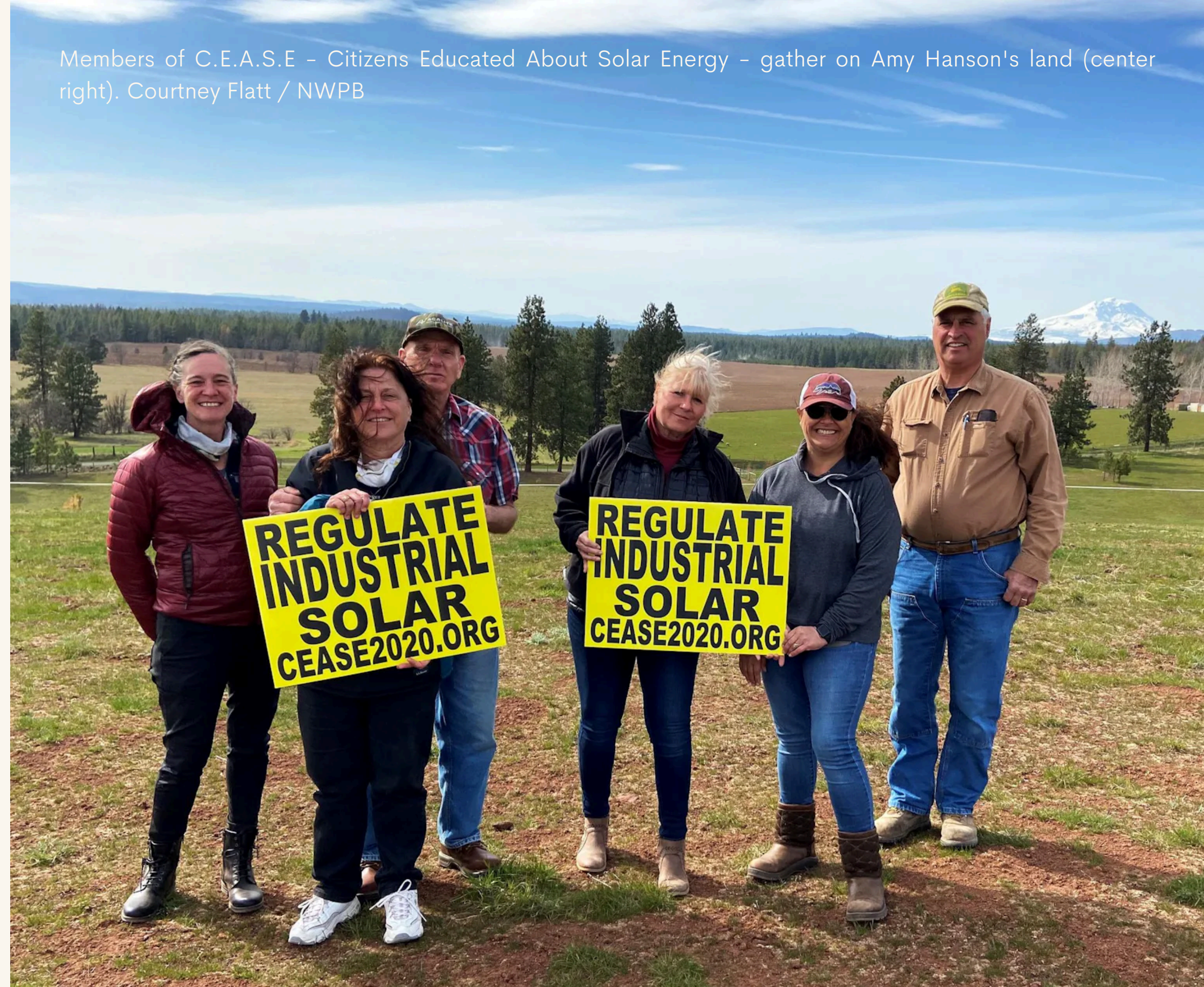
Watch

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

Discuss

- What is the conflict arising in rural areas over clean energy?
- What do you see as a potential solution to this problem?

Members of C.E.A.S.E – Citizens Educated About Solar Energy – gather on Amy Hanson's land (center right). Courtney Flatt / NWPB



CASE STUDY #3

INTERNATIONAL PERSPECTIVE





Watch

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


Discuss

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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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.

CASE STUDY #4

LOCAL PERSPECTIVE

Read

The Little City That Could: For Chelsea, Massachusetts, a new microgrid means energy resilience.

Discuss

- How has the community had to fight to build a microgrid?
- What does energy resilience mean for vulnerable communities?

Chelsea as seen from across the creek in East Boston, both industrial communities vulnerable to flooding.
Ryan Christopher Jones



ACTIVITY #4

COMPARING PERSPECTIVES

Choose a case study

Split into 4 groups, and choose one of the perspectives on energy justice from slides 18–21 to review as a group.

Share out with the class

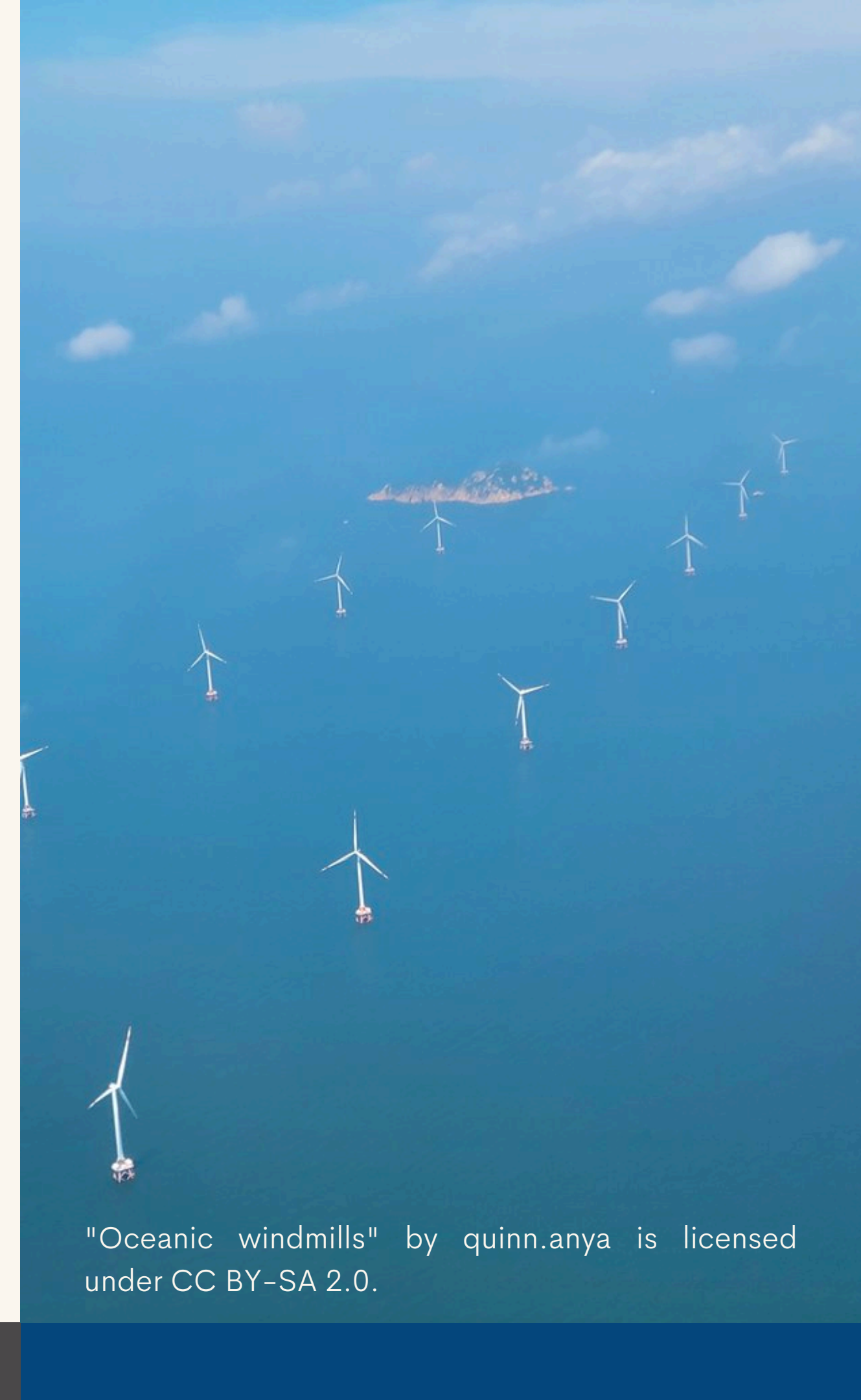
Compare the similarities and differences of each discussed perspective. What leads to the differences in people's opinions and perspectives on energy justice and how it is implemented? How can we remediate conflicting beliefs?

GreenRoots volunteer Nohemi Lobato, pictured in front of the David Fitcher mural "Chelsea Resilient," was among the local activists pushing for a microgrid project. Ryan Christopher Jones



Energy Justice Conflict

PART 5



"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.

ACTIVITY #5

MIT ENERGY CONFLICT MITIGATION

Explore and review case studies

[MIT Renewable Energy Siting Clinic](#)

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?



The Just Transition

PART 6



Introduction

What is the Just Transition

The Just Transition is a vision-led, unifying and place-based set of principles, processes, and practices that build economic and political power to shift from an extractive economy to a regenerative economy.

The origins of the Just Transition

Just Transition strategies were created by low-income communities of color fighting against environmental injustice, aiming to phase out industries that bring disproportionate harm to the workforce.

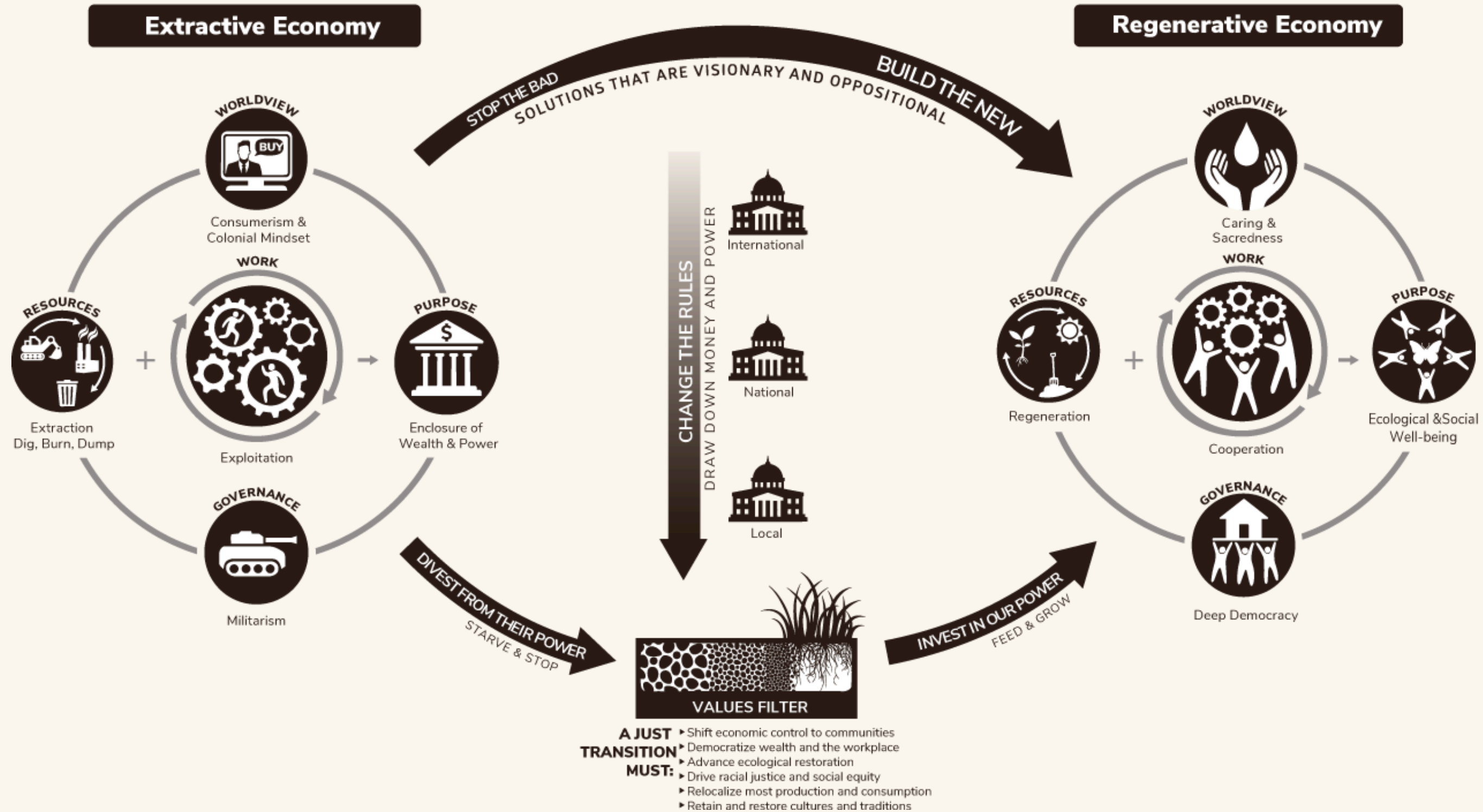
The goals of the Just Transition

- Shift economic control to communities
- Democratize wealth and the workplace
- Advance ecological restoration
- Drive racial and social equity
- Relocalize most production and consumption
- Retain and restore cultures and traditions



See the [Climate Justice Alliance website](#) to learn more

The Just Transition Framework



CJA's Principles of the Just Transition

Requires Regenerative Ecological Economics

Advance ecological resilience, reduce resource consumption, restore biodiversity and traditional ways of life, and undermine extractive economies that erode the ecological basis of our collective wellbeing.

Moves us Toward Buen Vivir

The rights of peoples, communities and nature must supersede the rights of the individual.

Creates Meaningful Work

A Just Transition centers on the development of human potential and creating opportunities for people to learn, grow, and develop to their full capacities and interests.

Retains Culture and Tradition

Just Transition must create inclusionary spaces for all traditions and cultures, recognizing them as integral to a healthy and vibrant economy.

Upholds Self Determination

The people who are most affected by the extractive economy have the resilience and expertise to be in the leadership of crafting solutions.

Embodies Local, Regional, National and International Solidarity

Our solutions call for local, regional, national and global solidarity that confronts imperialism and militarism.

Equitably Redistributes Resources and Power

Fights to reclaim capital and resources for the regeneration of geographies and sectors of the economy where these inequities are most pervasive.

Builds What We Need Now

We must build and flex the muscles needed to meet our communities needs.

ACTIVITY #6

REAL PEOPLE, REAL CHANGE: GLOBAL CASE STUDIES



Real People, Real Change Strategies for just energy transitions

GSI REPORT

Choose a country to read about

- Poland
- India
- Canada
- Indonesia
- Egypt
- Ukraine

Read your country's case study

Real people, Real Change (p.17-34)

Discussion questions

Work in groups of 3-4 with students who read about different countries. Work with each other to share information about the country you read about. Then, consider these questions:

- What stood out to you most?
- What similarities and differences are there in each countries experience?
- What kind of framework could be created for just transitions based on these case studies?

ACTIVITY #7

FOLLOW-UP ON THE PRINCIPLES OF THE JUST TRANSITION

Brainstorm

Individually brainstorm the principle that stands out to you most, considering these questions:

- How does this principle advance the Just Transition?
- How does it apply to your personal concerns? What about professional ones?
- Where/how have you seen this principle being acted upon?
- Does your institution do a good job of enacting it?

Share out

Participate in a 2 minute dyad, where in pairs you will each have 1 minute to talk about your thoughts about these principles. Listeners should not interject, and instead focus on being an active listener.



ACTIVITY #8

UNDERSTANDING WHAT THE JUST TRANSITION LOOKS LIKE THROUGH CASE STUDIES

Pick a case study

1. [Climate Conversation: An Appalachian Perspective on Just Transitions](#)
2. [Changing Woman: One Navajo's Fight for a Just Transition](#)
3. [Legacies of Coal: In Search of a Just Transition Panel](#)

Read this white paper

[Changes in the contribution of coal to tax revenues in Greene County, PA, 2010-2019](#)

Discussion questions

- How do they address the principles of the just transition?
- What are some ways each of these could improve? What communities, if any, were missing from the conversation?
- How do they talk about how the Just Transition has been helpful for different communities?
- What can governments, businesses, and institutions do to ethically engage resource stakeholders?

This activity can be structured as a mini-presentation, group discussion, or another dyad/triad so that each person learns about a case study they didn't look at.

ACTIVITY #9

DIVING DEEPER INTO THE JUST TRANSITION FRAMEWORK

Create a concept map

Construct a concept map of a Just Transition framework, centering the case study that you studied in Activity #8.

This activity builds off of Activity #8.



Beyond the Module

PART 7



Taking Action on a Just Transition

How does a Just Transition relate to your life?

Explore the "Take action by assessing + proposing climate action at your school" section of All We Can Save's "[Assignments to spark action](#)." The section can be found in the list of Level 2 (Taking action: Community level) assignments.

Research ways the Just Transition might be supported better by your institution

Guiding questions: What labs/groups on campus are focusing on Just Transition ideas already? Where should there be *more* conversations around these ideas?

Share out your ideas with the class and consider these questions

- How would you go about making these changes?
- Who would you have to convince, and what voices would you want to uplift?
- How would you reach out to different communities and stakeholders on campus to make this change realized?

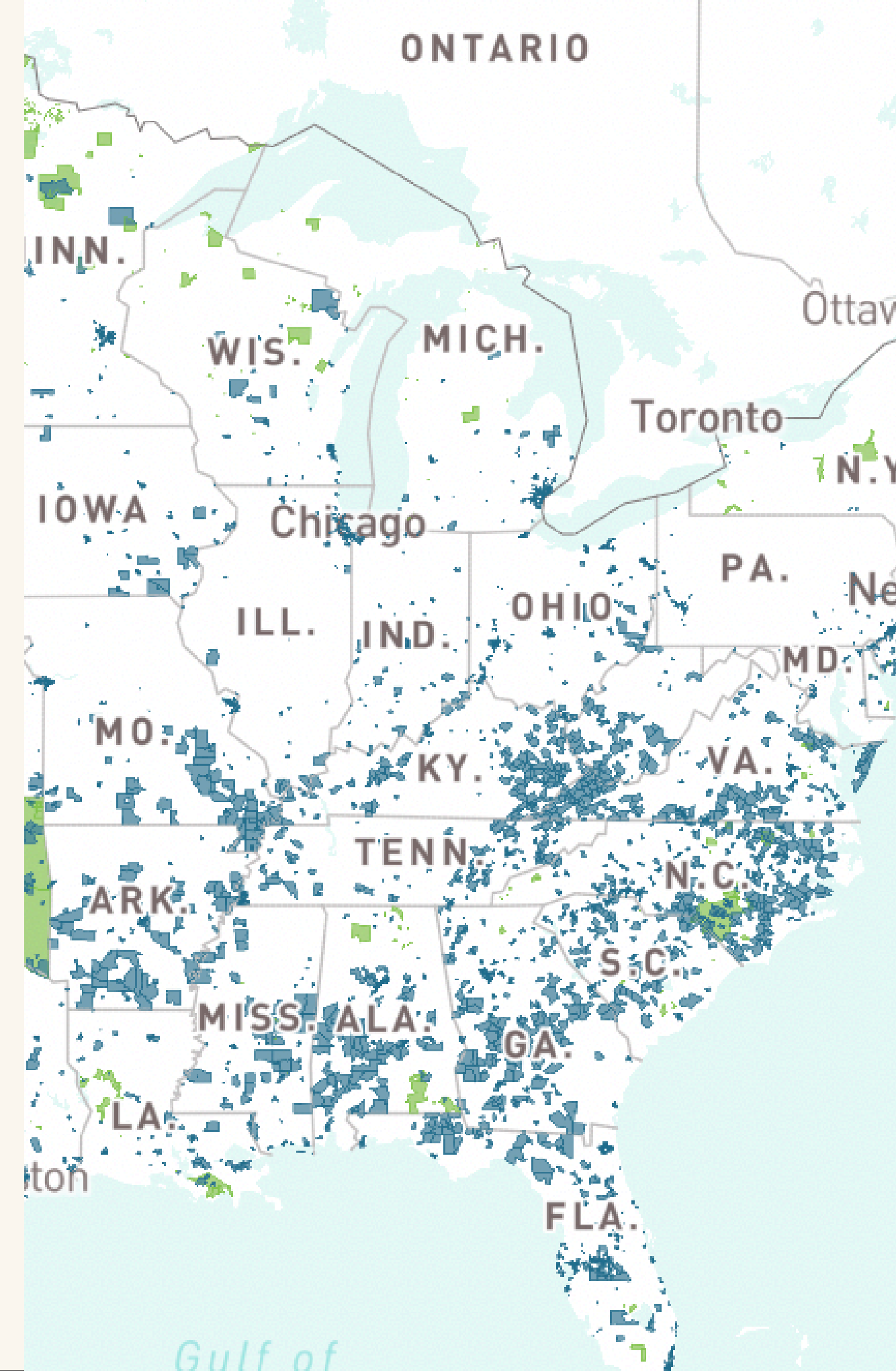
PROJECT OPTION #1

A US Energy Justice Dashboard Data Report

Prompt suggestion

Research socioeconomic, demographic, and industry data of the city/county using [DATA USA](#). Look at neighborhoods near each other or near you, what do you notice about energy burdens? What are the common themes of statistics in high energy burden communities?

Respond in a report analyzing one area with differing energy burdens.



PROJECT OPTION #2

Energy Policy Analysis

Prompt suggestion

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?

Massachusetts
Clean Energy and
Climate Plan for
2025 and 2030

June 30, 2022



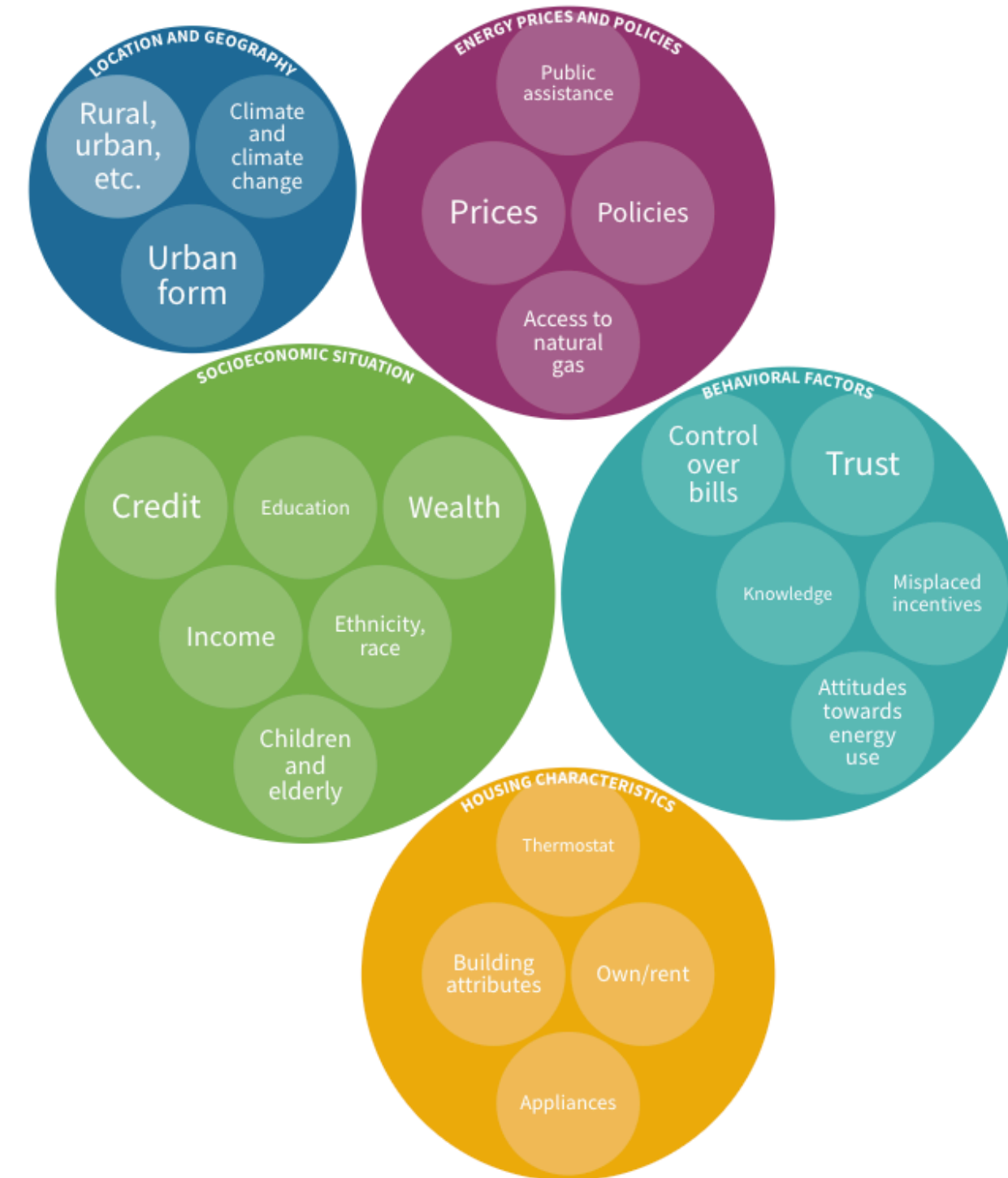
PROJECT OPTION #3

Energy Justice Data Visualization

Prompt suggestion

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

Then, have students explore their own energy justice question and create their own data visualization or story through research.



Additional Resources

- [Energy Justice Resources](#)
- [Just Energy: Reducing Pollution, Creating Jobs Toolkit](#)
- [Clean Energy Jobs](#)
- [Internships, Fellowships, Graduate and Postdoctoral Opportunities](#)
- [Fighting for Energy Justice](#)
- [Climate Justice Alliance's Just Transition: Framework for Change](#)

For more resources on climate and environmental justice: **Please explore other modules in the Climate Justice Instructional Toolkit.**



Module References

- Baker, S. H. (2016). Mexican Energy Reform, climate change, and Energy Justice in indigenous communities. UNM Digital Repository.
- Baskin, K. (2021, January 27). Why energy justice is a rising priority for policymakers. MIT Sloan.
- Chien-fei Chen, Jimmy Feng, Nikki Luke, Cheng-Pin Kuo, Joshua S. Fu, Localized energy burden, concentrated disadvantage, and the feminization of energy poverty, iScience, Volume 25, Issue 4, 2022, 104139, ISSN 2589-0042, <https://doi.org/10.1016/j.isci.2022.104139>.
- Climate Justice Alliance. (2023, March 15). Just Transition. Climatejusticealliance.org.
- ClimateX Team. (2017, November 8). Climate Conversations S2E1: An Appalachian Perspective on Just Transition. MIT Climate Portal.
- ClimateX Team. (2018, January 18). Climate Conversations S2E8: Indigenous Perspectives on Just Transitions. MIT Climate Portal.
- Department of Energy. How Does Solar Work?. Solar Energy Technologies Office.
- EI U.S. Member Company Service Territories. Edison Electric Institute. (2023).
- Initiative for Energy Justice. (2023, May 17).
- Flatt, C. (2021, May 5). Even in the bright of day, a solar-powered "nightmare." KUOW.
- Gass, P. (2019, April 8). In search of just transition: Examples from around the world. International Institute for Sustainable Development.
- Gearon, J. (2016). Jihan Gearon: Towards a just transition. KXCI.
- Kirsten Jenkins, Benjamin K. Sovacool, Darren McCauley, Humanizing sociotechnical transitions through energy justice: An ethical framework for global transformative change, Energy Policy, Volume 117, 2018, SSN 0301-4215, <https://doi.org/10.1016/j.enpol.2018.02.036>.
- Massachusetts Institute of Technology: Energy Justice. CERAWEEK 2023 On Demand - External. (n.d.).
- Parshley, L. (2023, April 18). The Little City That Could. Mother Jones.
- Shalanda H. Baker, Mexican Energy Reform, Climate Change, and Energy Justice in Indigenous Communities, 56 Nat. Res. J. 369 (2016).

Module References

- Solar Energy Technologies Office. (n.d.). [Community solar basics](#). Energy.gov.
- [Timeline](#). Black Congressional Caucus Foundation. (n.d.).
- [The history of energy in the United States](#). National Grid Group. (2022).
- [What is wind power?](#). WINDEXchange. (n.d.).
- Zinecker et. al. (2018, December). [Real People, Real Change – Strategies for just energy transitions](#). International Institute for Sustainable Development.