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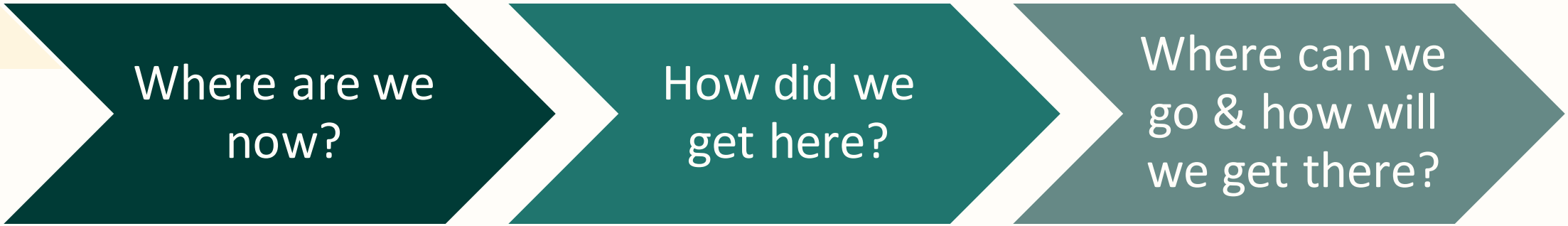
Utilities 101

Presentation Overview



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Where are we now?

- What is an Electric Utility?
- Types of Electric Utilities
- The Current System: Injustice and Insecurity

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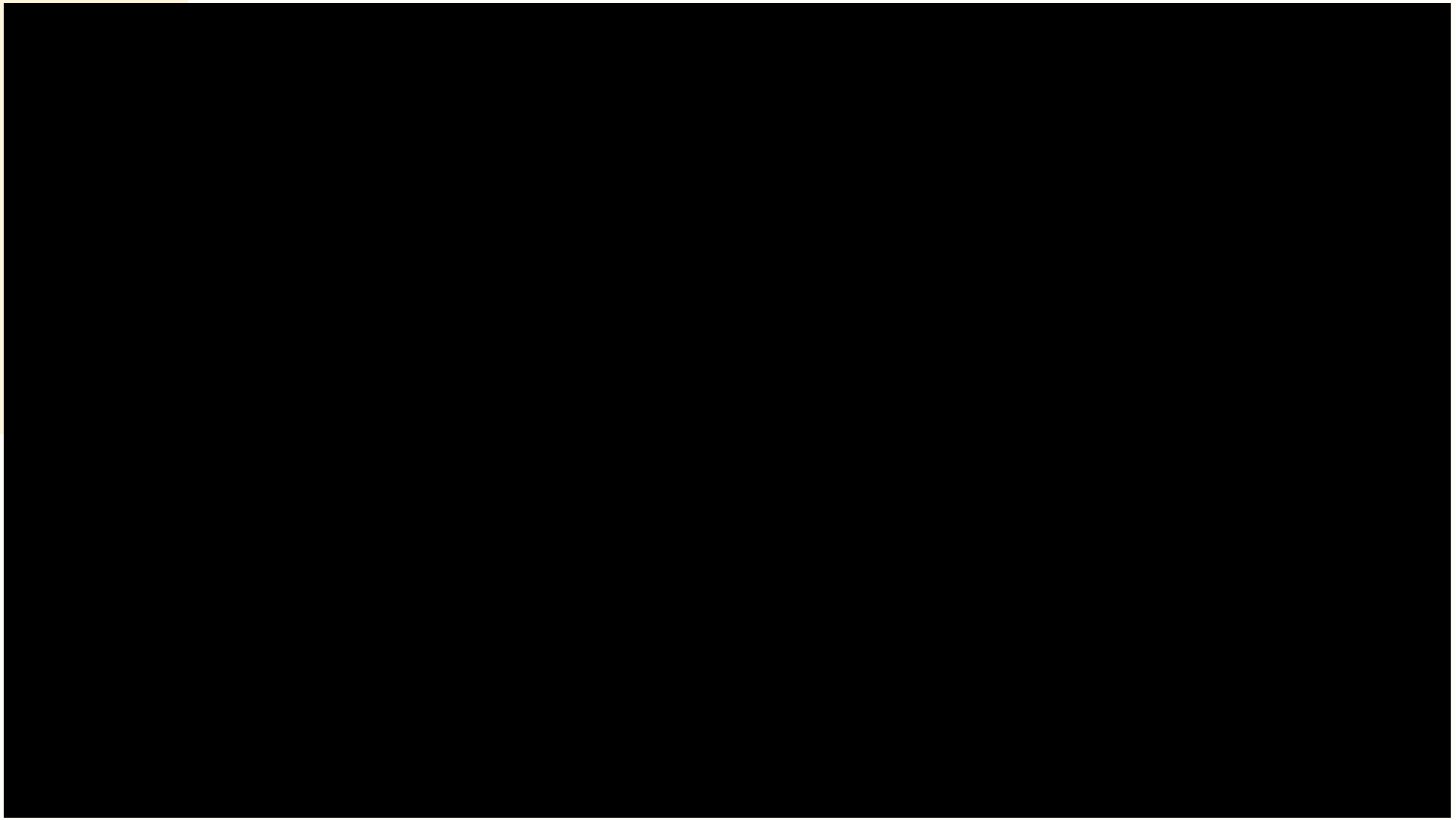
What is an electric utility?

Electric utility: a company that generates and distributes electricity.



Types of Electric Utilities

Type of Utility	Definition from EIA	Financial/Management model
Investor-Owned Utility (IOU)	Large electric distributor that issues stock owned by shareholders.	Private company owned by stakeholders and managed by a board-appointed team of private sector employees. **GOAL: Optimize return on investment for stakeholders.**
Co-operatively-Owned Utility (Co-ops)	Not-for-profit, member-owned utilities that are most common in rural areas.	Member-owned and managed, not-for-profit. **GOAL: Optimize benefits for local customers.**
Publicly-Owned Utility (POU)	Federal-, state-, or municipal-run utility.	Owned by local gov't and/or customers of the utility. Managed by local officials or employees. **GOAL: Optimize benefits for local customers.**

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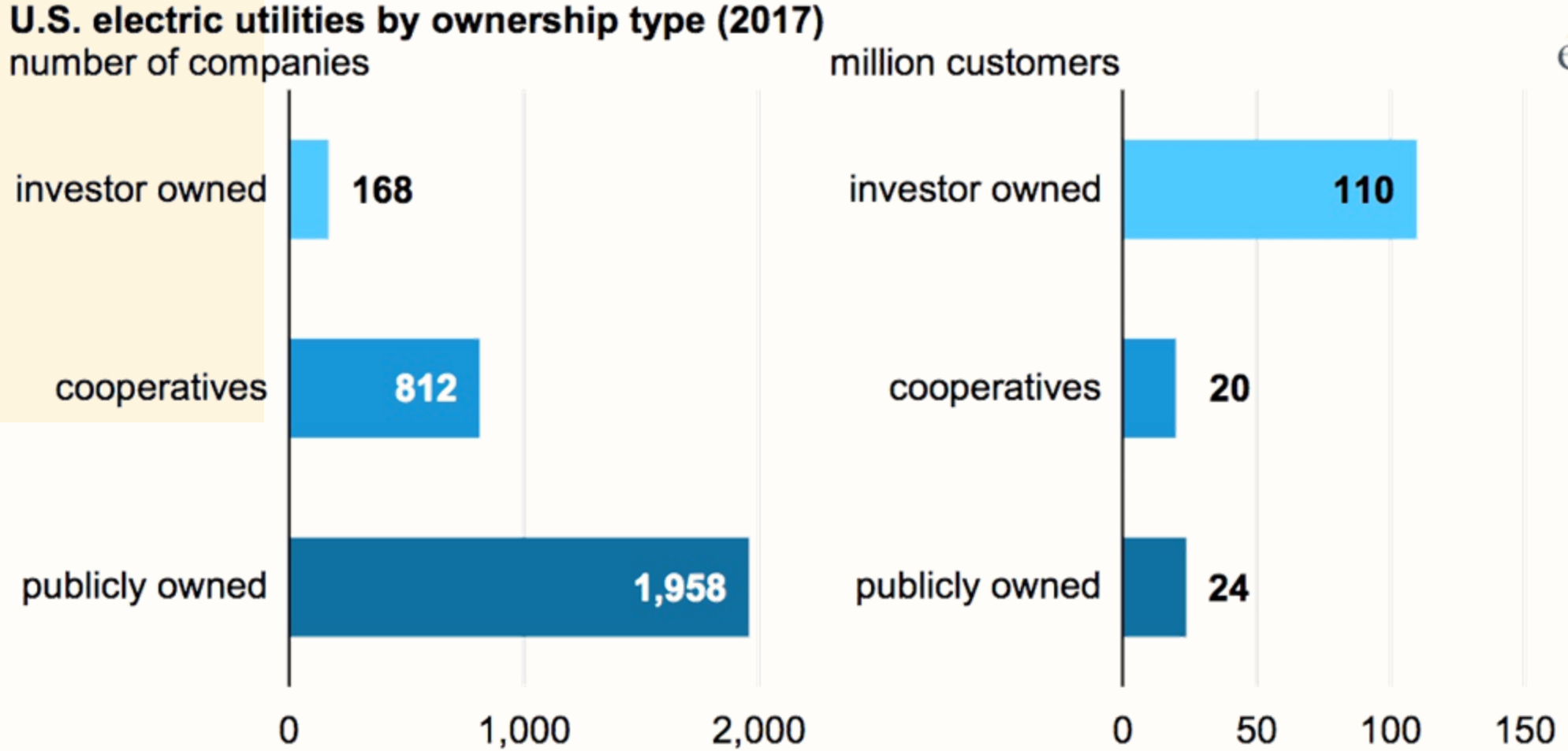

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The Current System: Injustice

https://www.naacp.org/climate-justice-resources/just-energy/
https://grist.org/climate-energy/one-big-march-lots-of-little-messages/
https://www.zinnedproject.org/materials/teaching-blockadia-movement-against-fossil-fuels

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The Current System: Injustice

Energy Injustice: a lack of equity in both social and economic participation in the energy system that reinforces the social, economic, and health burdens produced by the energy system.

https://www.clf.org/blog/fracked-gas-dead-end-new-england
https://iejusa.org/section-1-defining-energy-justice/

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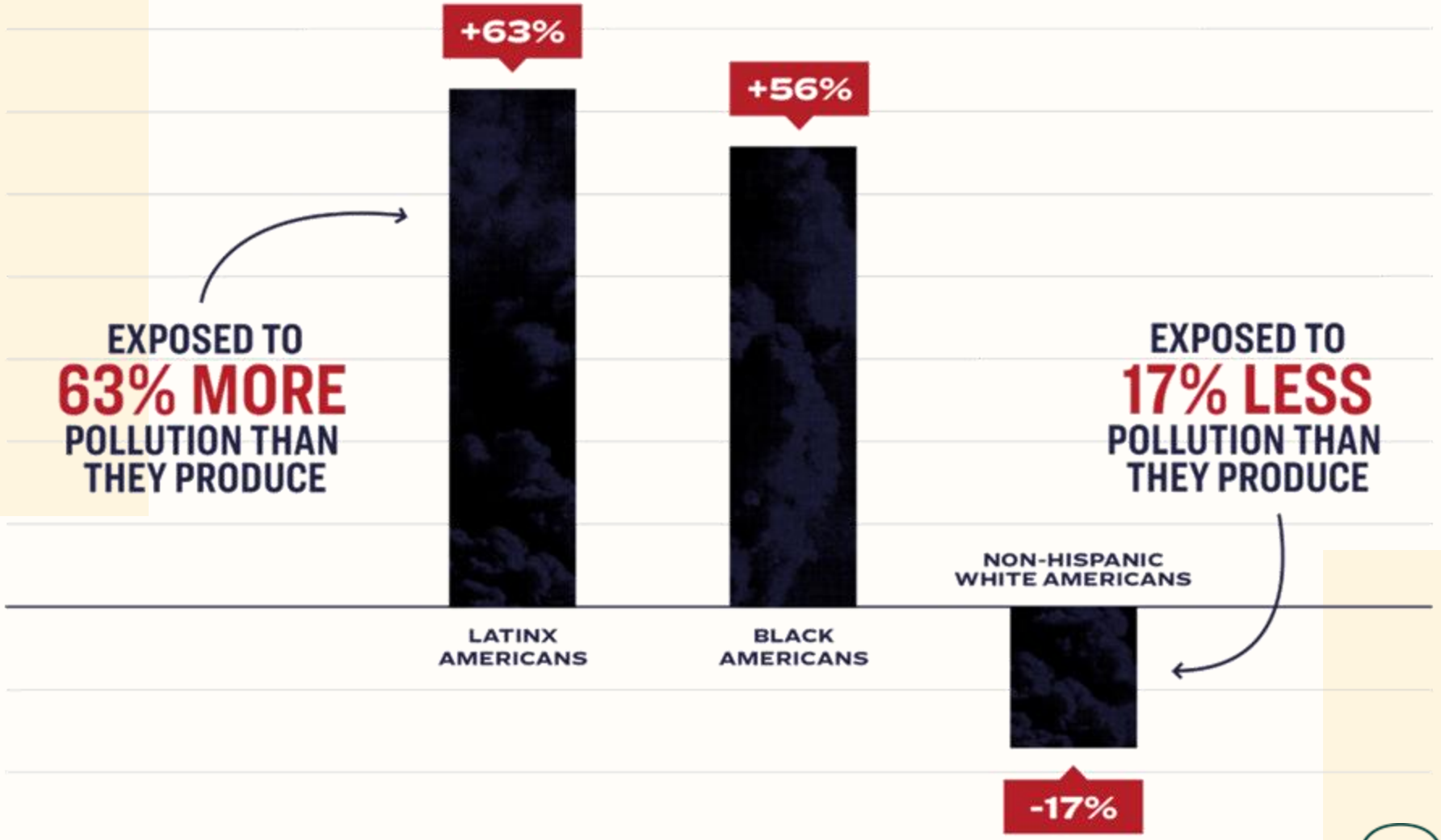
POLLUTION EXPOSURE BY POPULATION (2003–2015)



Source: Christopher W. Tessum et al., "Inequity in consumption of goods and services adds to racial–ethnic disparities in air pollution exposure," Proceedings of the National Academy of Sciences (March 2019).

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The Current System: Burden and Insecurity

Energy Burden: Percentage of household income that goes toward energy costs.

The lower your income, the more you spend on energy.

Energy Insecurity: Lacking reliable access to uninterrupted energy sources at an affordable price.

https://www.aceee.org/press/2016/04/report-energy-burden-low-income
https://www.iea.org/topics/energy-security

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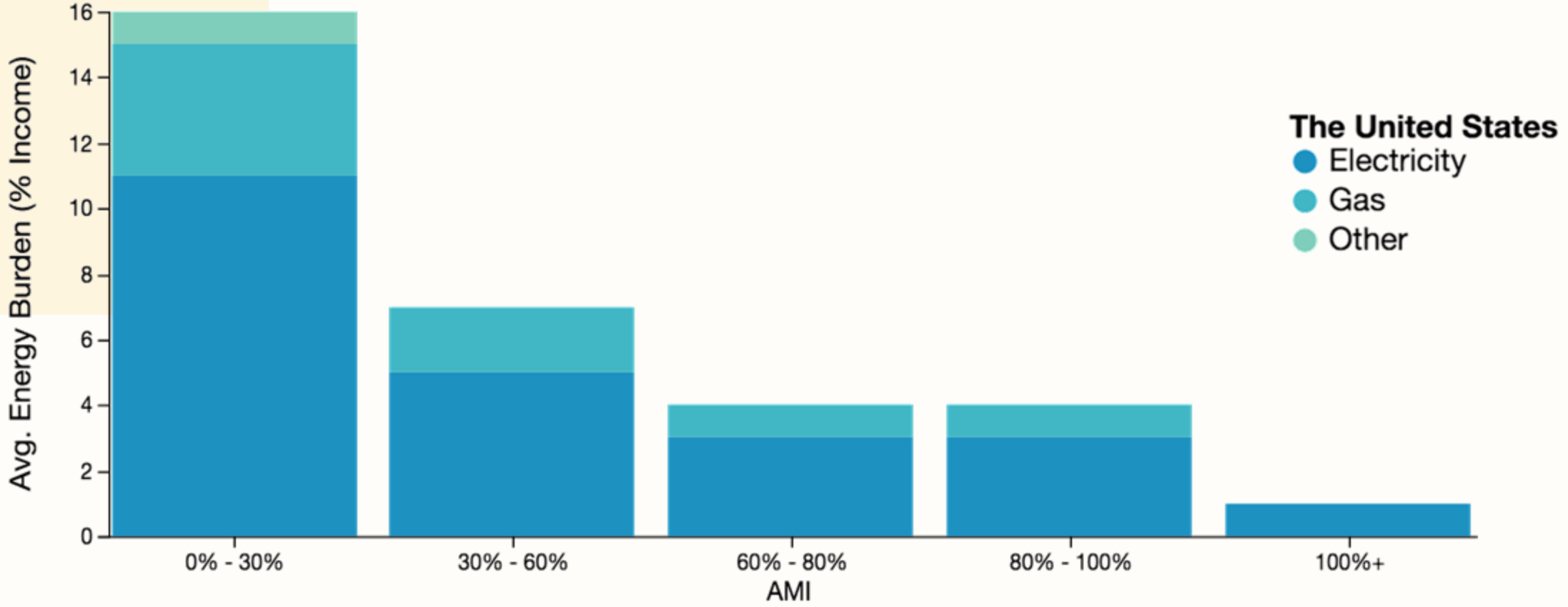
Avg. Energy Burden (% Income) for the United States



Low-Income Energy Affordability Data Tool Chart Export (https://www.energy.gov/eere/slsc/maps/lead-tool
Exported On: 6/8/2020
AMI: 0% - 30%, 30% - 60%, 60% - 80%, 80% - 100%, 100%+
Building Age: Before 1940, 1940 - 59, 1960 - 79, 1980 - 99, 2000 - 09, 2010+
Fuel Type: Utility Gas, Bottled Gas, Electricity, Fuel Oil, Coal, Wood, Solar, Other, None
Building Type: 1 unit detached, 1 unit attached, 2 units, 3 - 4 units, 5 - 9 units, 10 - 19 units, 20 - 49 units, 50+ unit
Rent/Own: Renter-occupied, Owner-occupied

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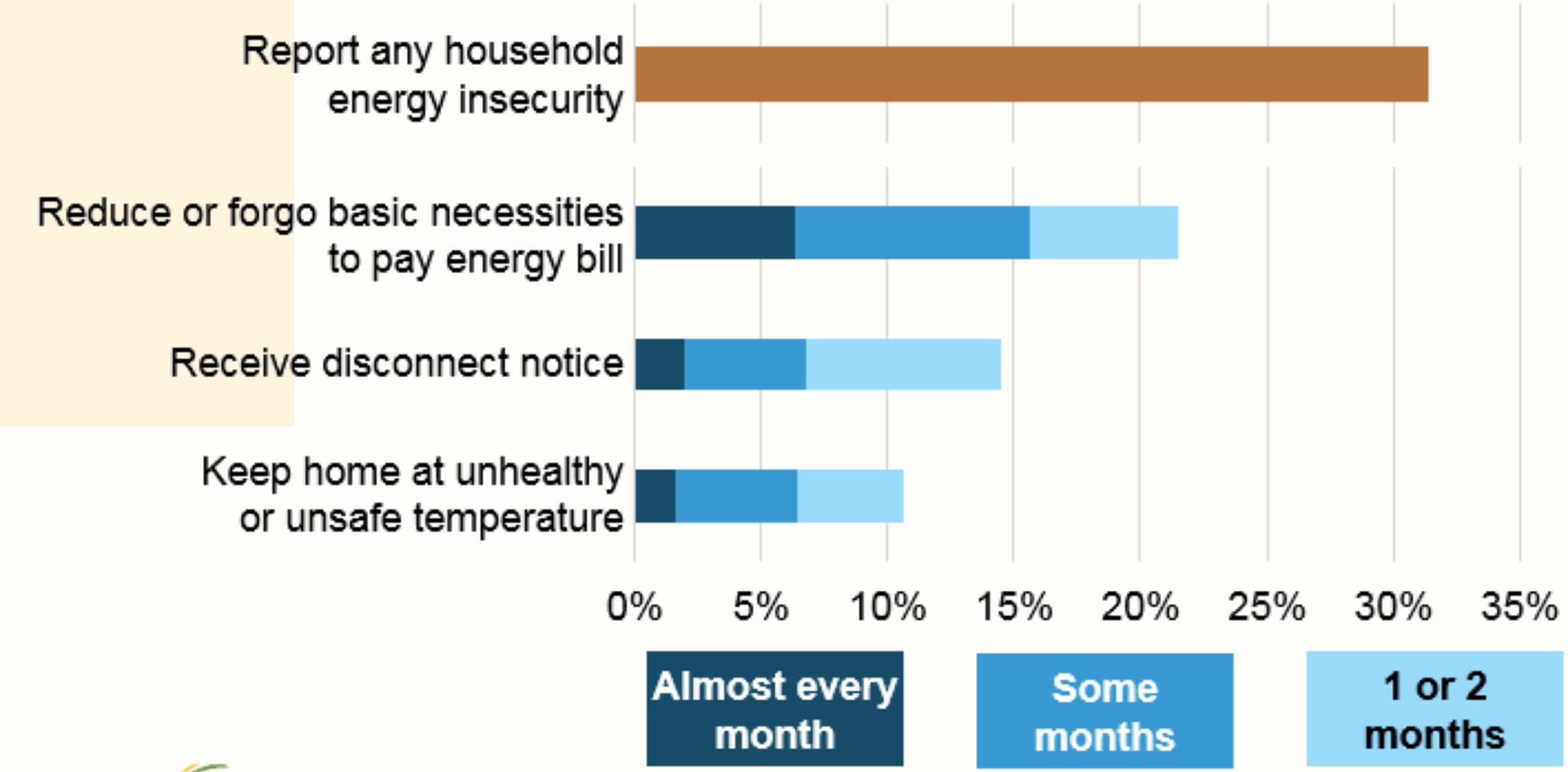
Households experiencing household energy insecure situations, 2015

percent of households



eia Source: U.S. Energy Information Administration, Residential Energy Consumption Survey 2015

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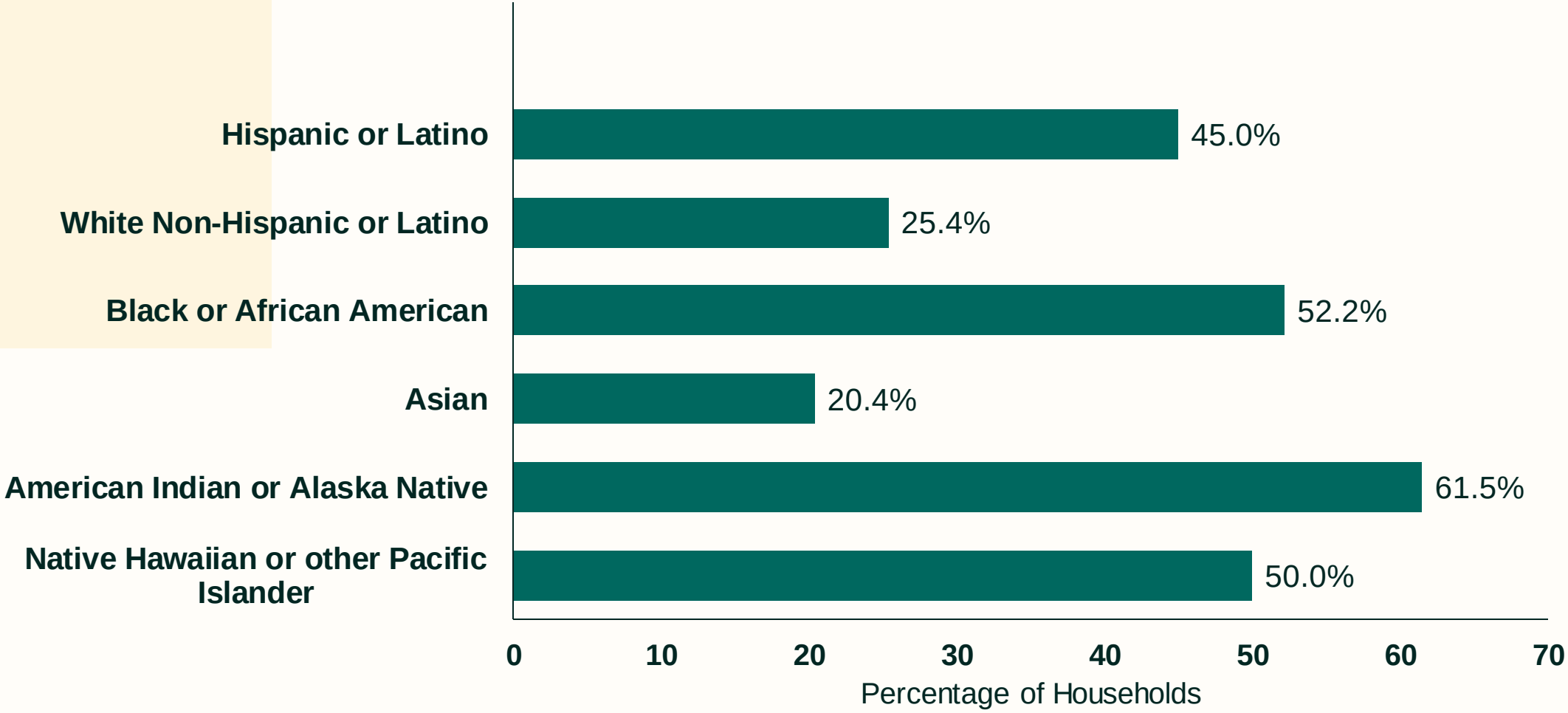
Shares of Households by Race Experiencing Energy Insecurity, 2015



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https://ips-dc.org/report-energy-efficiency-with-justice/

Summary

- IOUs currently dominate the energy landscape in the US
- Low income and communities of color bear disproportionate negative impacts from our current energy system
  - Environmental and health impacts
  - Energy burdens
  - Energy insecurity

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How did we get here?

- Economic Factors
- The Regulatory Compact
- Key Moments in Utility History
- Utility Incentive Structure
- What's Changed?

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Economic Factors

Economies of Scale

- The electrification of America was driven by steam generation, which displays "economies of scale."
- **Economies of scale:** reductions in cost as a result of increased production (the bigger, the better).

Natural Monopolies

- To have competing utilities would be wasteful as the benefits of economies of scale would not be realized (for companies and customers).
- This made utilities **natural monopolies.**

https://grist.org/climate-energy/utilities-for-dummies-how-they-work-and-why-that-needs-to-change/
https://www.thebalance.com/economies-of-scale-3305926

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The Regulatory Compact

In the first decades of the 20th century, public power was growing fast. IOUs were desperate to make private utilities more appealing, so they endorsed a plan for close regulation through state commissions.

How it works:

In exchange for a monopoly in a service area, a utility is subject to the rulings of a Public Utility Commission (PUC) to determine rates, where and how much it can invest, and its profit margin, which, should be reasonable.

This arrangement intends to ensure that reliable, low-cost electricity is available to all in the area.

This overall system of regulation and governance is known as **the regulatory compact**.

https://grist.org/climate-energy/utilities-for-dummies-how-they-work-and-why-that-needs-to-change/
https://energycentral.com/c/iu/understanding-regulatory-compact
https://blog.aee.net/how-do-electric-utilities-make-money

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Key Moments in Utility History

1935 – Public Utility Holding Company Act & Federal Power Act

- Gave communities the right to set up their own public utility if IOU service was unsatisfactory.

1936 – Rural Electrification Act

- Established the Rural Electrification Administration.
- Provided federal funds at low interest to co-ops and public entities to expand electric infrastructure to the American countryside.

1992 – Energy Policy Act

- Exempted energy wholesalers from PUHCA, increasing choice.

Richardson, Alan, and John Kelly. "The Relevance and Importance of Public Power in the United States." *Natural Resources & Environment*, vol. 19, no. 3, 2005, pp. 54–59. *JSTOR*, www.jstor.org/stable/40924589. Accessed 11 June 2020.

Nicholson, Vincent D. "The Rural Electrification Act of 1936." *The Journal of Land & Public Utility Economics*, vol. 12, no. 3, 1936, pp. 317–318. *JSTOR*, www.jstor.org/stable/3158479. Accessed 11 June 2020.

Cannon, Brian Q. "Power Relations: Western Rural Electric Cooperatives and the New Deal." *The Western Historical Quarterly*, vol. 31, no. 2, 2000, pp. 133–160. *JSTOR*, www.jstor.org/stable/970060. Accessed 11 June 2020.

Utility Incentive Structure

- More is more: **More** power plants means **more** money.
- Most of an IOU's profits are generated via returns on investments, not through providing quality service.
- The regulatory compact limits competition for most IOUs.

https://grist.org/climate-energy/utilities-for-dummies-how-they-work-and-why-that-needs-to-change/

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What's Changed?

Reduced Demand: the primary concern of utilities and customers was once expanding electrification. Now, a variety of factors are causing the demand for energy to plateau or even fall.

Causes

Energy Efficiency

Demand Response

Distributed Generation

What this means for IOUs

Because the IOU business model is fueled by expansion, a decrease in demand for energy is a threat to profits.

Where can we go?

Reduced demand is necessary to protect our communities and the environment, but the Investor-Owned model disincentivizes it. It's time to explore other options.

https://www.epa.gov/energy/distributed-generation-electricity-and-its-environmental-impacts#about
https://grist.org/climate-energy/utilities-for-dummies-how-they-work-and-why-that-needs-to-change/

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Summary

- Utilities formed natural monopolies because of their economies of scale.
- The regulatory compact allows IOUs to function as monopolies while being regulated by state commissions.
- IOUs make money through investments in energy infrastructure, not for providing quality service.
- Today the demand for energy is falling.

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Where can we go & how will we get there?

- The Just Transition Framework
- Alternatives to IOUs
- Other Developments

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The Just Transition Framework

Just Transition: “a transition away from the fossil-fuel economy to a new economy; democratic governance; and ecological resilience” that provides “dignified, productive, and ecologically sustainable livelihoods.”

This includes:

- Transitioning the power and control over the means of energy production into the hands of the community
- Ensuring fair and equitable distribution of the benefits and burdens of energy production activities
- Centering the concerns of marginalized communities

https://climatejusticealliance.org/just-transition/
https://iejusa.org/section-1-defining-energy-justice/

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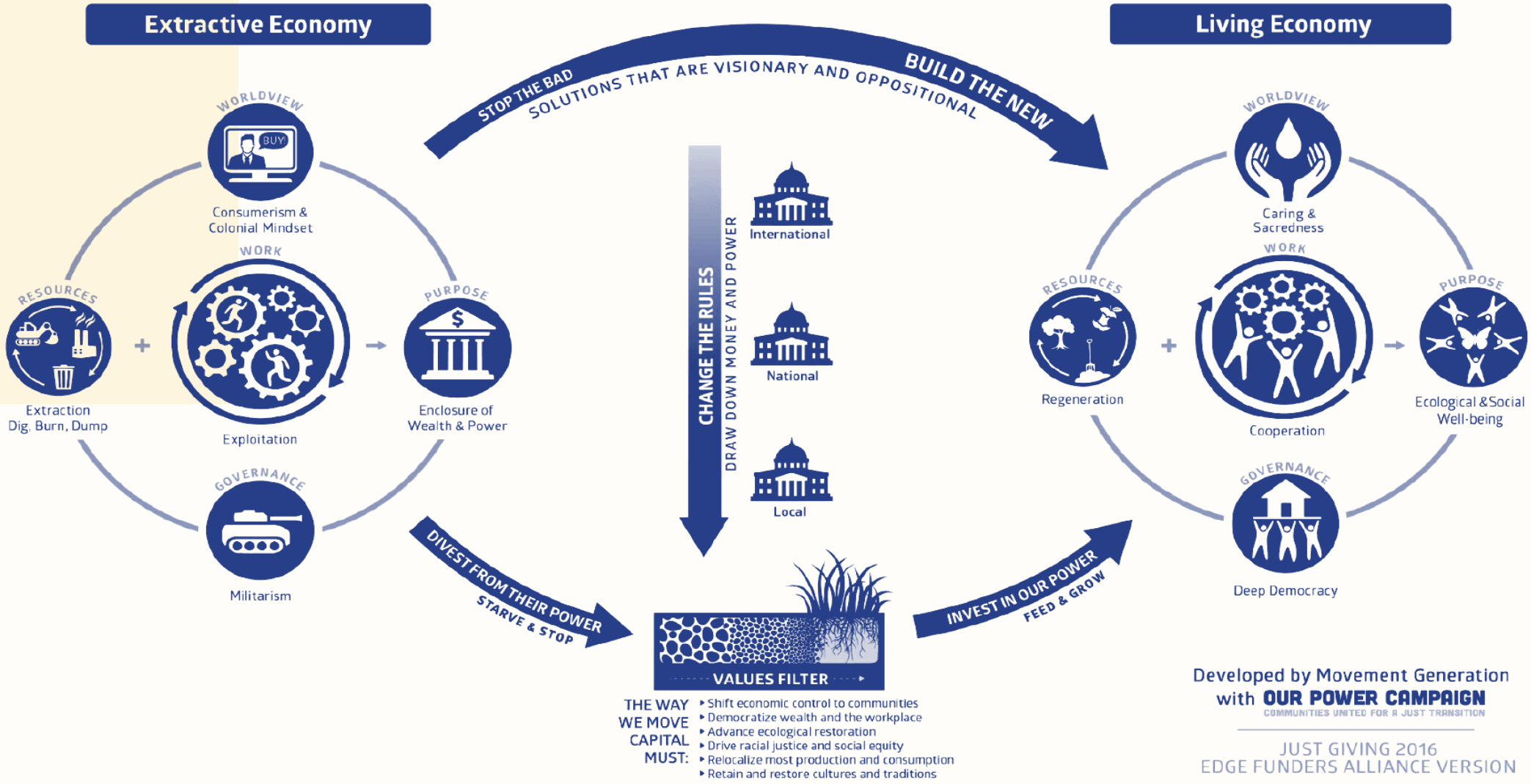
A STRATEGY FRAMEWORK FOR JUST TRANSITION

RESIST — RETHINK — RESTRUCTURE



Developed by Movement Generation
with **OUR POWER CAMPAIGN**
COMMUNITIES UNITED FOR A JUST TRANSITION

JUST GIVING 2016
EDGE FUNDERS ALLIANCE VERSION

https://climatejusticealliance.org/just-transition/

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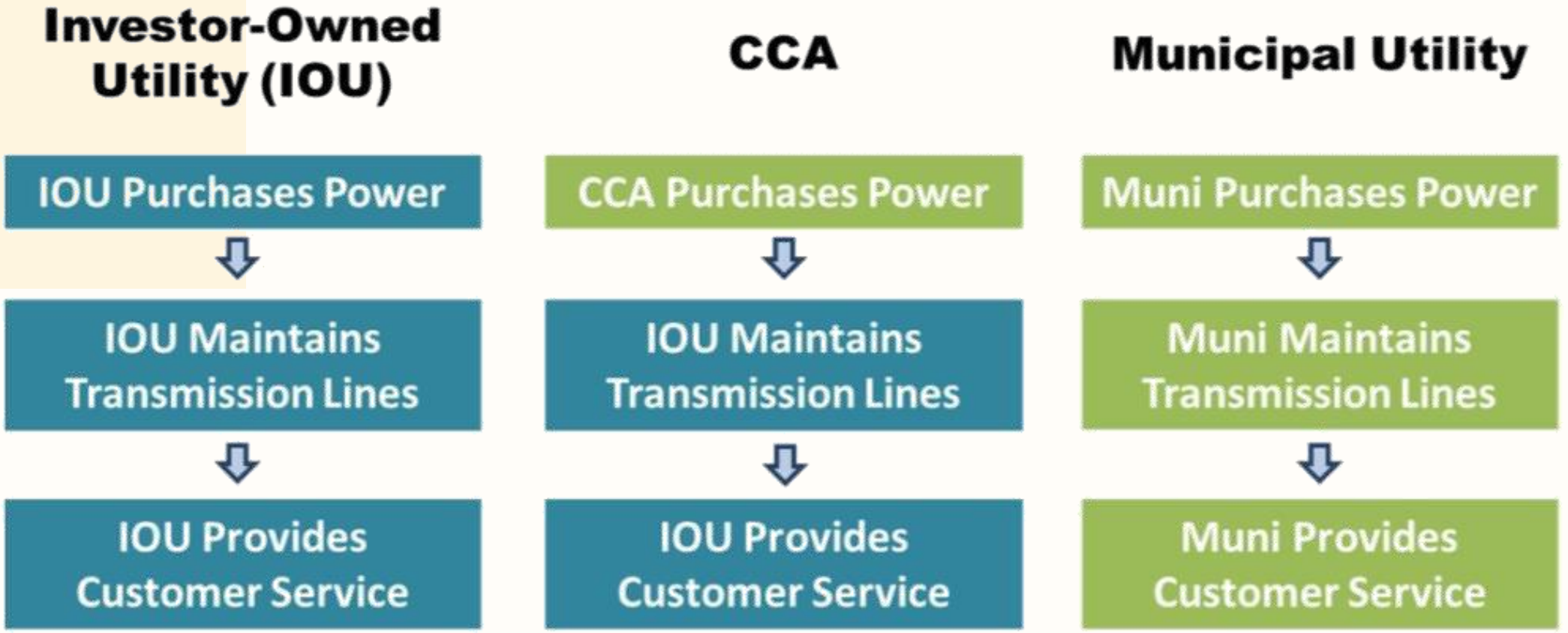
Alternatives to IOUs



https://www.nrel.gov/state-local-tribal/blog/posts/community-choice-aggregation-cca-helping-communities-reach-renewable-energy-goals.html

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Alternatives to IOUs: CCAs

Community Choice Aggregation (CCA):

programs through which consumers "aggregate" their buying power to purchase energy from an alternative supplier, with the existing utility continuing to provide distribution and transmission services.

Power Generators

The CCA purchases electricity on behalf of the entire community from traditional or green power sources.

Utility

The existing utility continues to deliver the electricity using the same power lines and billing mechanisms.

End Users

Customers benefit by receiving lower cost power, often with higher green power contents and minimal effort.

- CCAs are also referred to as "municipal aggregation" as they are often run through local government agencies.
- "Muni-lite"

https://www.epa.gov/greenpower/community-choice-aggregation

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Alternatives to IOUs: CCAs

States with legislation authorizing the formation of CCAs:

California

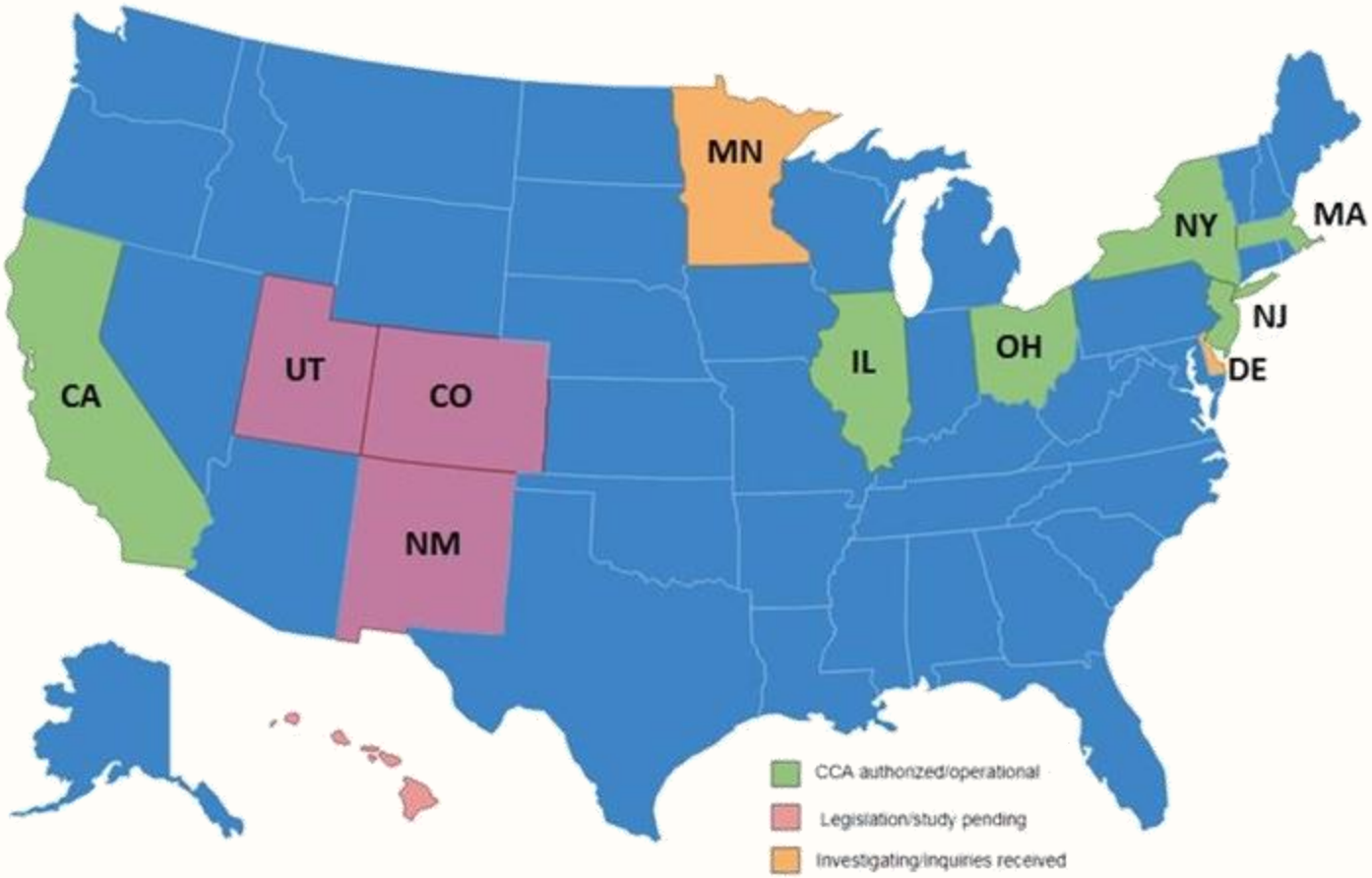
Illinois

Massachusetts

New Jersey

New York

Ohio



https://www.nrel.gov/state-local-tribal/blog/posts/community-choice-aggregation-cca-helping-communities-reach-renewable-energy-goals.html

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Alternatives to IOUs: Public Power

Municipalization:

the replacement of an investor owned utility (IOU) with a public utility owned by the municipality.

Unlike IOUs, municipal utilities are not-for-profit, owned by the communities they serve, and managed democratically through a city council or an elected or appointed board.

https://www.publicpower.org/municipalization
https://www.publicpower.org/blog/municipalization-setting-record-straight

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Alternatives to IOUs: Public Power

Benefits of Public Power

Local Control: Public power utilities are managed democratically.

Affordability: Residential customers of public power utilities pay 11% less than those of investor-owned utilities.

Reliability: Customers of public power utilities are likely to have power restored faster after outages.

Environmental Responsibility: 40% of public power is generated from non-carbon emitting sources.

Community Investment: Each year, $2 billion of public power utility revenues is invested directly back into the communities they serve.

Increased Choice

https://drive.google.com/file/d/0BxqkHpiiFq_eWk9QR1JwNFRDSndzZEVwRmtWZkZFcXdWWTBn/view
https://www.publicpower.org/system/files/documents/municipalizationpublic_power_for_your_community.pdf

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Alternatives to IOUs: Public Power

Public Power Success Stories:

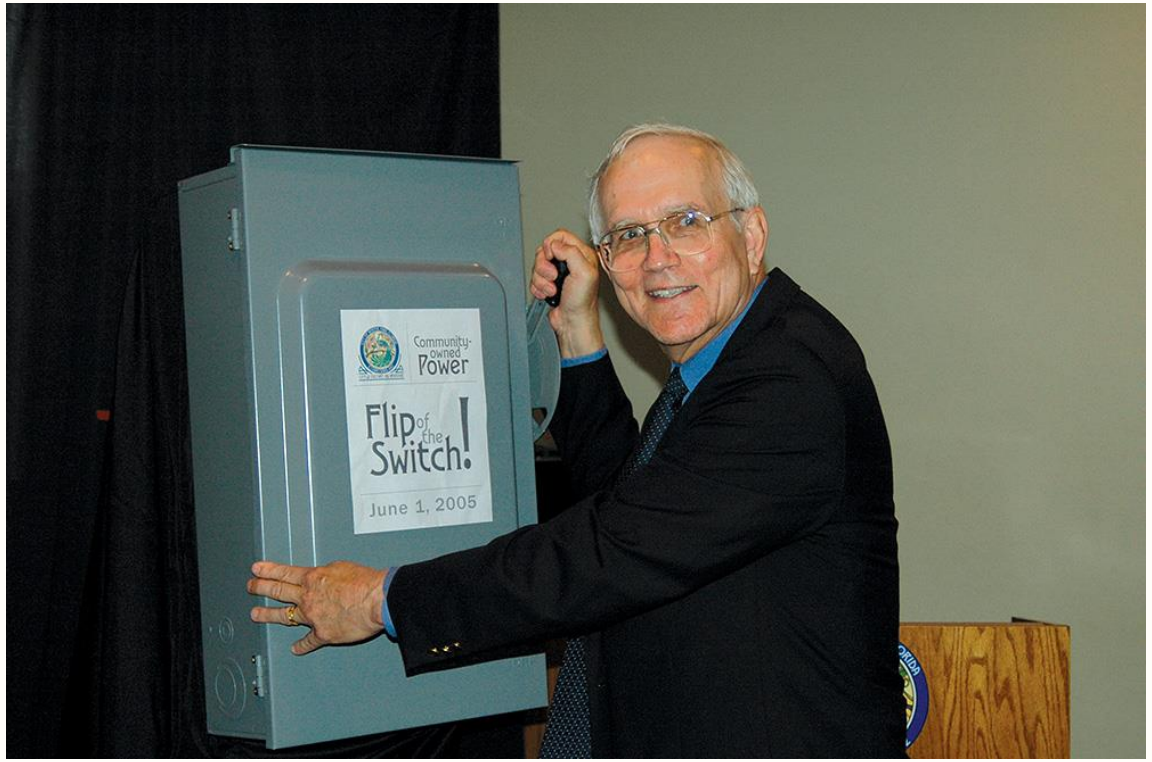
Communities across the country have already started taking power into their own hands, some more than a hundred years ago.

2,011 Public Power utilities exist in the United States today. Three examples of public power are:

Sacramento Municipal Utilities District

Clyde Light & Power

Winter Park Electric Utility Department



https://appvoices.org/2018/12/19/forming-a-municipal-utility/
https://www.publicpower.org/blog/municipalization-setting-record-straight

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Other Developments

Microgrids: localized grids that can operate autonomously.

- Improves energy resilience.

Community Solar: local solar facilities are shared among community subscribers who receive credit on their electricity bills for the energy generated.

- Expands access to solar.

https://microgridknowledge.com/microgrids-businesses
https://www.conedsolutions.com/community-solar-simplified//
https://www.energy.gov/oe/activities/technology-development/grid-modernization-and-smart-grid/role-microgrids-helping
https://www.seia.org/initiatives/community-solar

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Summary

- To achieve a just transition we must explore alternatives to Investor Owned Utilities.
- Municipalization tends to increase local control, lower rates, and improve service.
- Community Choice Aggregation offers some of these benefits without municipalizing fully.
- There are many promising new strategies to improve and democratize the grid, each with its own benefits and drawbacks.

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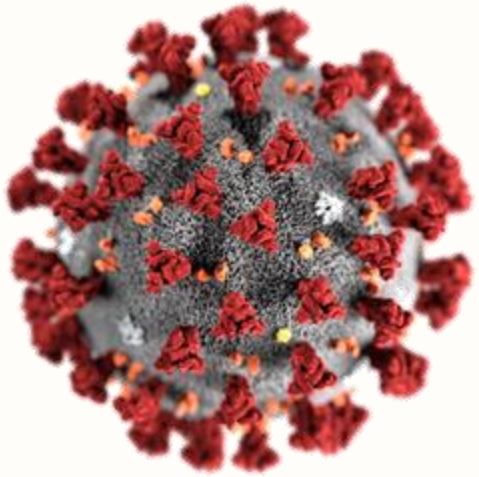
How does COVID-19 affect utilities?

- The COVID-19 pandemic and its economic consequences have left many unable to pay their electricity bills.
- Across the country, many PUCs have issued orders suspending non-payment shutoffs. Others are relying on utilities to take this step voluntarily.
- A primary concern for utilities is recovering revenue that will be lost over the course of the State of Emergency, while customers, advocates, and some regulatory bodies are searching for solutions for those who are unable to pay.



https://www.publicpower.org/topic/covid-19
https://www.naruc.org/compilation-of-covid-19-news-resources/state-response-tracker/
https://www.statnews.com/2020/02/11/disease-caused-by-the-novel-coronavirus-has-name-covid-19/

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Additional Resources

- **Electricity Explained: How Electricity is Delivered to Consumers**
  https://www.eia.gov/energyexplained/electricity/delivery-to-consumers.php
- **Utilities for Dummies: How they work and why that needs to change**
  https://grist.org/climate-energy/utilities-for-dummies-how-they-work-and-why-that-needs-to-change/
- **United States Electricity Industry Primer**
  https://www.energy.gov/sites/prod/files/2015/12/f28/united-states-electricity-industry-primer.pdf
- **How do Electric Utilities Make Money?**
  https://blog.aee.net/how-do-electric-utilities-make-money
- **NAACP Just Energy Policies and Practices Toolkit**
  https://www.naacp.org/climate-justice-resources/just-energy/
- **Power to the People: Winning Control of Electric Utilities**
  https://thenextsystem.org/learn/stories/power-people-winning-public-control-electric-utilities

Visit **iejusa.org** for a Utilities 101 guide, Utilities 201 materials on public power, an Energy Justice Workbook, and more.

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