



Energy Justice and Justice40: Tools for an Equitable Transition

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U.S. DEPARTMENT OF
ENERGY

OFFICE OF
ECONOMIC IMPACT AND DIVERSITY

Overview

What is energy justice?

Discussion Question: What aspects of energy justice matter in the energy transition?

BREAK

What is Justice40?

How are we applying the tenets of energy justice to the BIL implementation process?

DISCUSSION



NO MAS TRASNACIONALES
EN EL ISTMO
(DAXAQUEÑO)

¡¡ALTO!!
A la Política
energética
desde arriba

NO.
NO A LOS PROYECTOS DE
MUERTE
EN EL ISTMO

Esta Tierra
está en subasta
para el BID.
transnacionales

POLO POLO

atletica

Oaxaca. Windiest place on Earth.

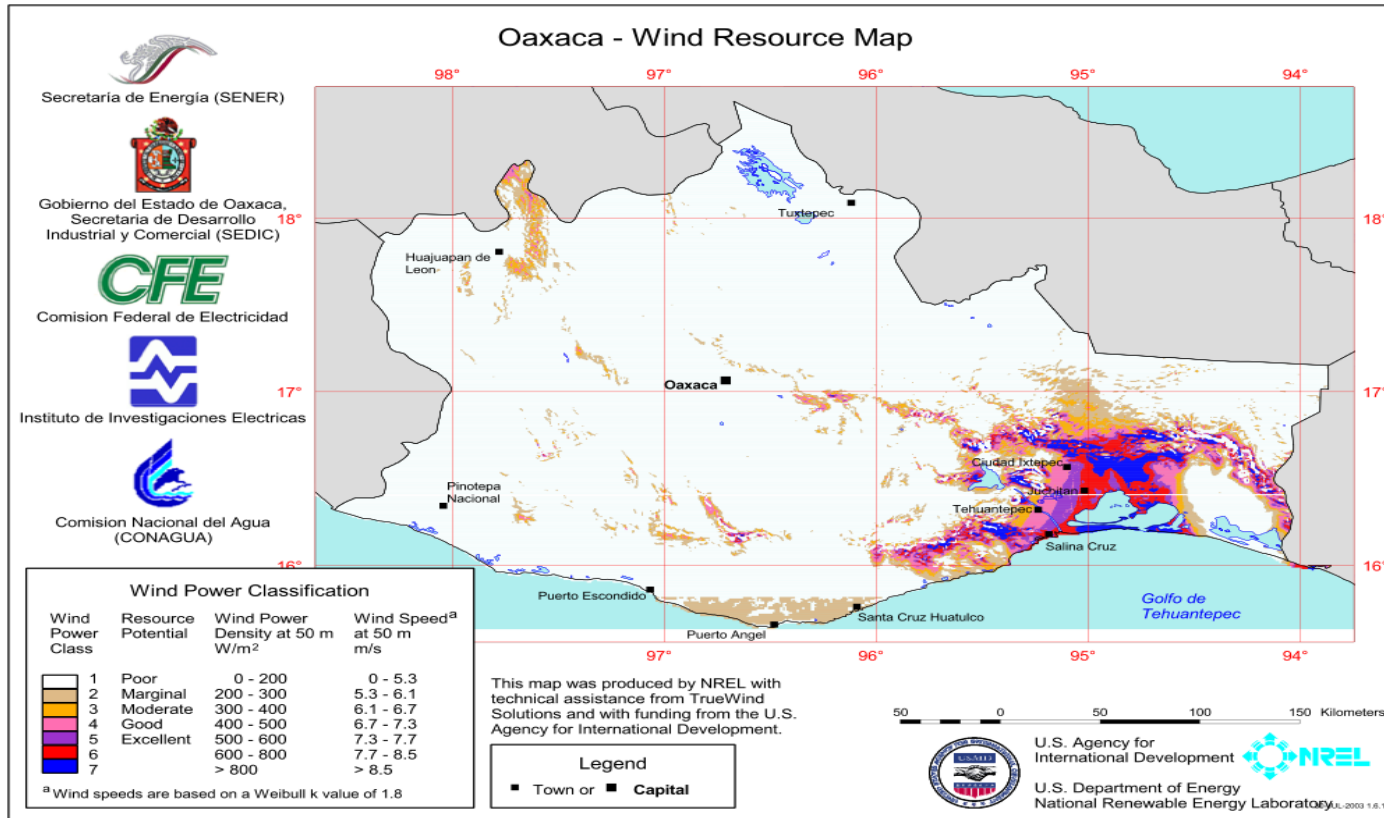



Figure 6-1




I MATTER!

COVID-19 and Environmental Justice

Results: We found that an increase of only 1 $\mu\text{g}/\text{m}^3$ in $\text{PM}_{2.5}$ is associated with an 8% increase in the COVID-19 death rate (95% confidence interval [CI]: 2%, 15%). The results were statistically significant and robust to secondary and sensitivity analyses.



Conclusions: A small increase in long-term exposure to $\text{PM}_{2.5}$ leads to a large increase in the COVID-19 death rate. Despite the inherent limitations of the ecological study design, our results

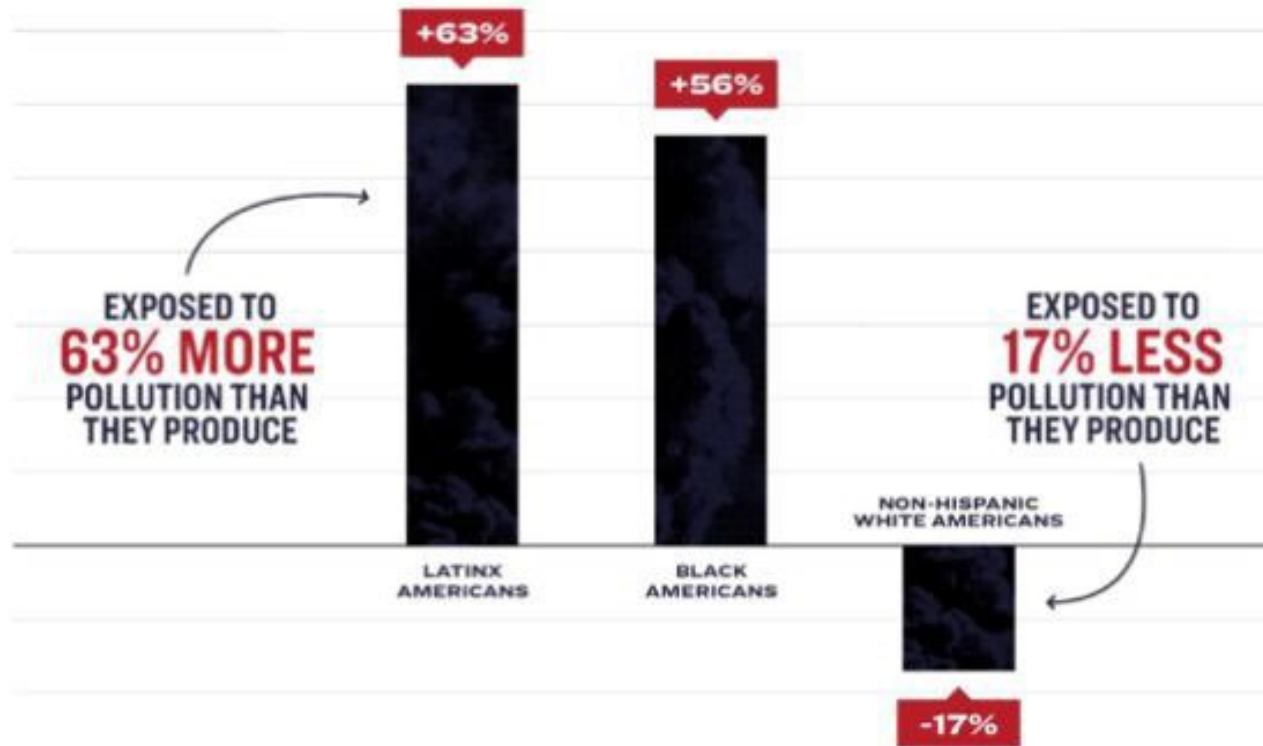


2

underscore the importance of continuing to enforce existing air pollution regulations to protect human health both during and after the COVID-19 crisis. The data and code are publicly available so our analyses can be updated routinely.

Black and Latinx Communities are Exposed to More Pollution Than They Produce

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).

SHARE

RESEARCH ARTICLE | SCIENCE POLICY



PM_{2.5} pollutants disproportionately and systemically affect people of color in the United States

Christopher W. Tessum^{1,*}, David A. Paoella^{2,†}, Sarah E. Chambliss³, Joshua S. Apte^{4,5}, Jason D. Hill⁶ and Julian D. ...

+ See all authors and affiliations

Science Advances 28 Apr 2021:
Vol. 7, no. 18, eabf4491
DOI: 10.1126/sciadv.abf4491

[Article](#)[Figures & Data](#)[Info & Metrics](#)[eLetters](#)[PDF](#)

Abstract

Energy Burden and Energy Insecurity

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

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

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

The United States of Energy Insecurity

Energy insecurity is the inability to adequately meet household energy needs, and includes physical, economic, and behavioral dimensions that lead to or exacerbate adverse health issues

(Hernandez, 2016)

Economic Policy

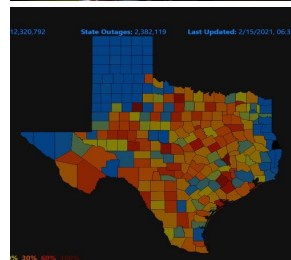
Millions of Americans risk losing power and water as massive, unpaid utility bills pile up

More than 179 million people may be at risk for shut-offs as many state protections end.



TEXAS NEWS

Texas power outages: How the largest energy-producing state in the US failed in freezing temperatures



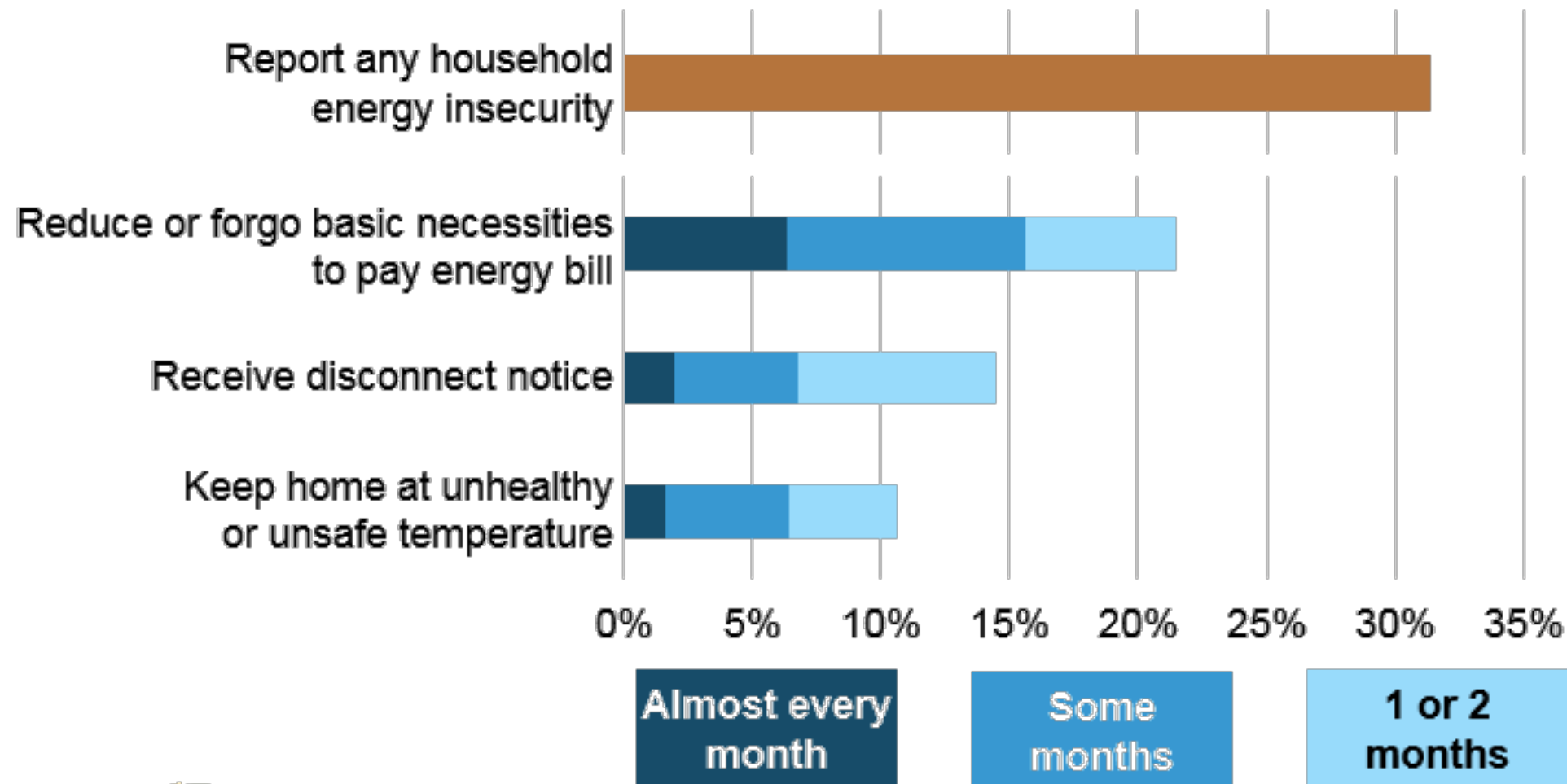
Mother, 83, son 60, found dead in cold home on Detroit's west side; police investigate

Miriam Marini Detroit Free Press
Published 5:51 p.m. ET Jan. 22, 2020 | Updated 7:26 p.m. ET Jan. 22, 2020

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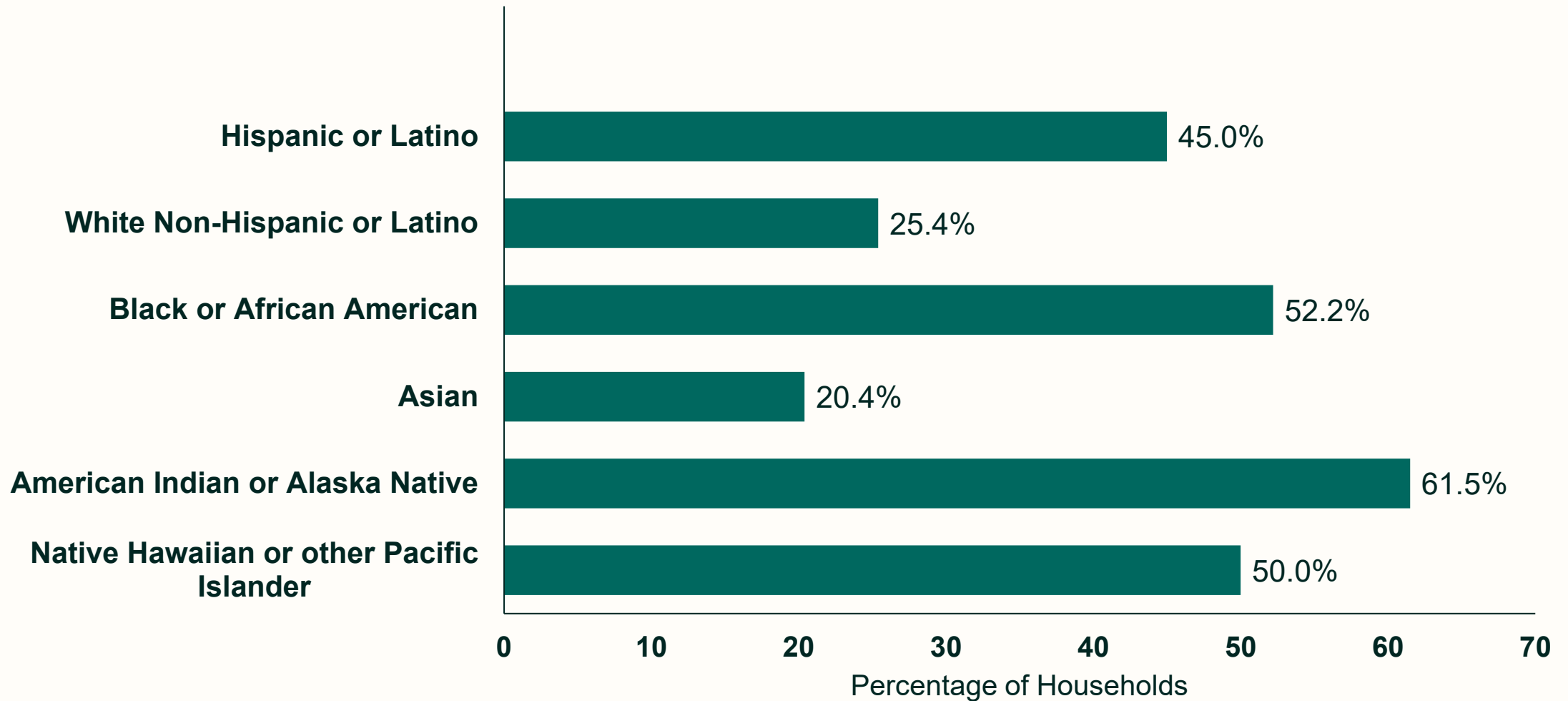


Households experiencing household energy insecure situations, 2015 percent of households



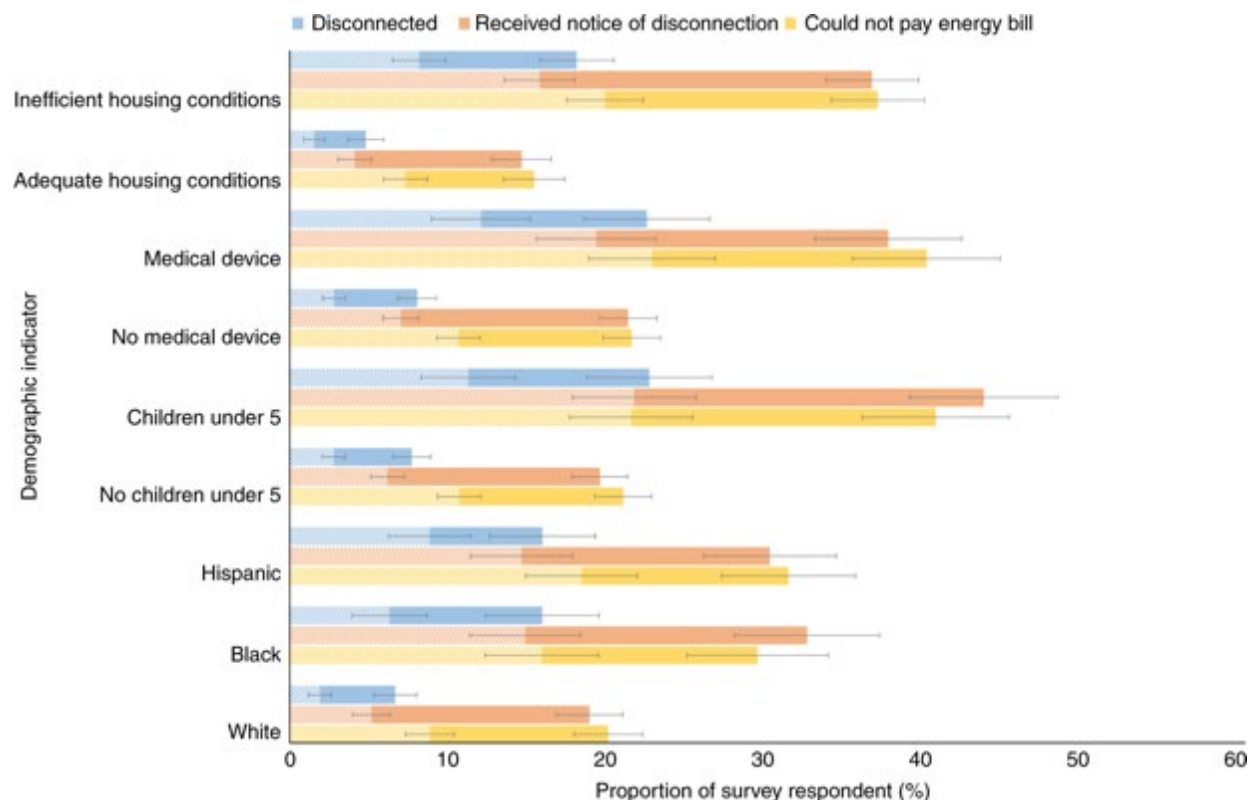
Source: U.S. Energy Information Administration, Residential Energy Consumption Survey 2015

Shares of Households Experiencing Energy Insecurity by Race/Ethnicity, 2015



The pandemic worsened energy insecurity.

- Disparities grew during the COVID-19 pandemic
- A higher prevalence of energy insecurity during the early period of the COVID-19 pandemic
- Groups experiencing worsened levels of energy insecurity
 - Inefficient housing conditions
 - Medical devices
 - Children under 5
 - Hispanic
 - Black



Energy Insecurity

“For moratoria on utility disconnections, COVID-19 infection rates could have been reduced by 8.7% and deaths by 14.8%.”

Jowers et al. (2021).

Inequitable Clean Energy Access

- Same median household income – “Black- and Hispanic-majority census tracts have installed less rooftop PV compared with no-majority tracts by 69 and 30%, respectively...white-majority census tracts have installed 21% more.”
- Same home ownership – “Black- and Hispanic-majority census tracts have installed less rooftop PV compared with no-majority census tracts by 61 and 45%, respectively...white-majority census tracts have installed 37% more.”

Sunter, Castellanos, and Kammen (2019).



Terri Gruca  @TerriG_KVUE · Feb 15



A tale of two cities - on the right is downtown Austin - to the left East Austin. Look who has power. @KVUE



 244

 4.6K

 9.5K



Resilience

“Our results show that areas with a high share of minority population **were more than four times as likely to suffer a blackout** than predominantly white areas. Income status of areas did not appear to be a strong factor in the share of blackouts. The presence of hospitals or police and fire stations – critical facilities – in a CBG reduces the chances of blackouts by around 0%-6%, a small difference that does not otherwise explain the disparity among communities. Further work is needed to explain what drives these disparities.”

Carvallo, et al. (2021).

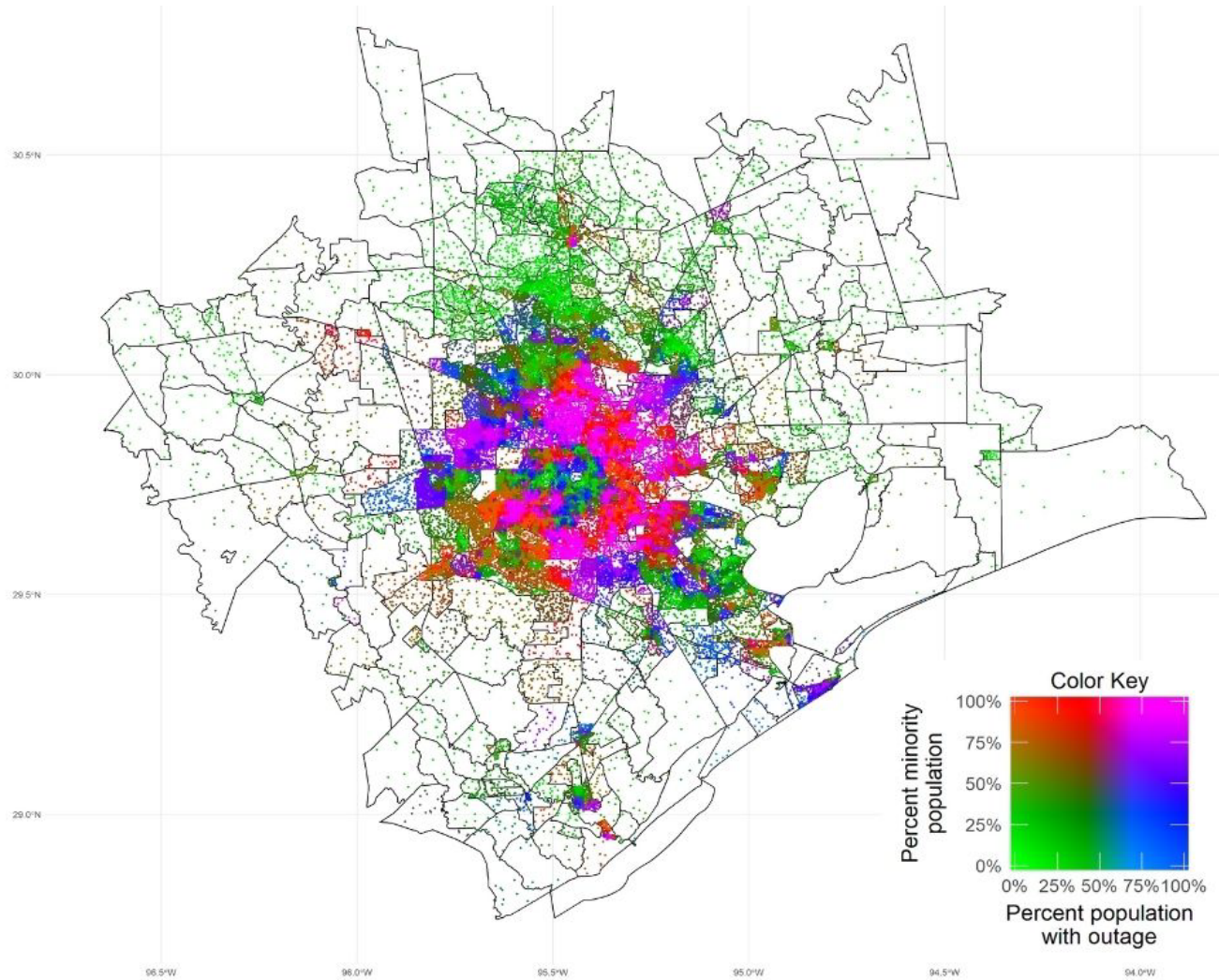


Figure 1. Map of the Houston, TX, Metropolitan Statistical Area showing proportions with blackouts and minority populations during the winter storms of February 14-18, 2021. Each dot represents 100 people.

Carvallo, et al. (2021).

Clean Energy Jobs

- Minorities underrepresented in clean energy workforce.
- Latinx workers more likely to hold construction jobs in the industry.
- Black workers make up 8% of clean energy employees but are 13% of overall US workforce.

<https://e2.org/wp-content/uploads/2021/09/E2-ASE-AABE-EEFA-BOSS-Diversity-Report-2021.pdf>



...VIR!

I Have
Asthma

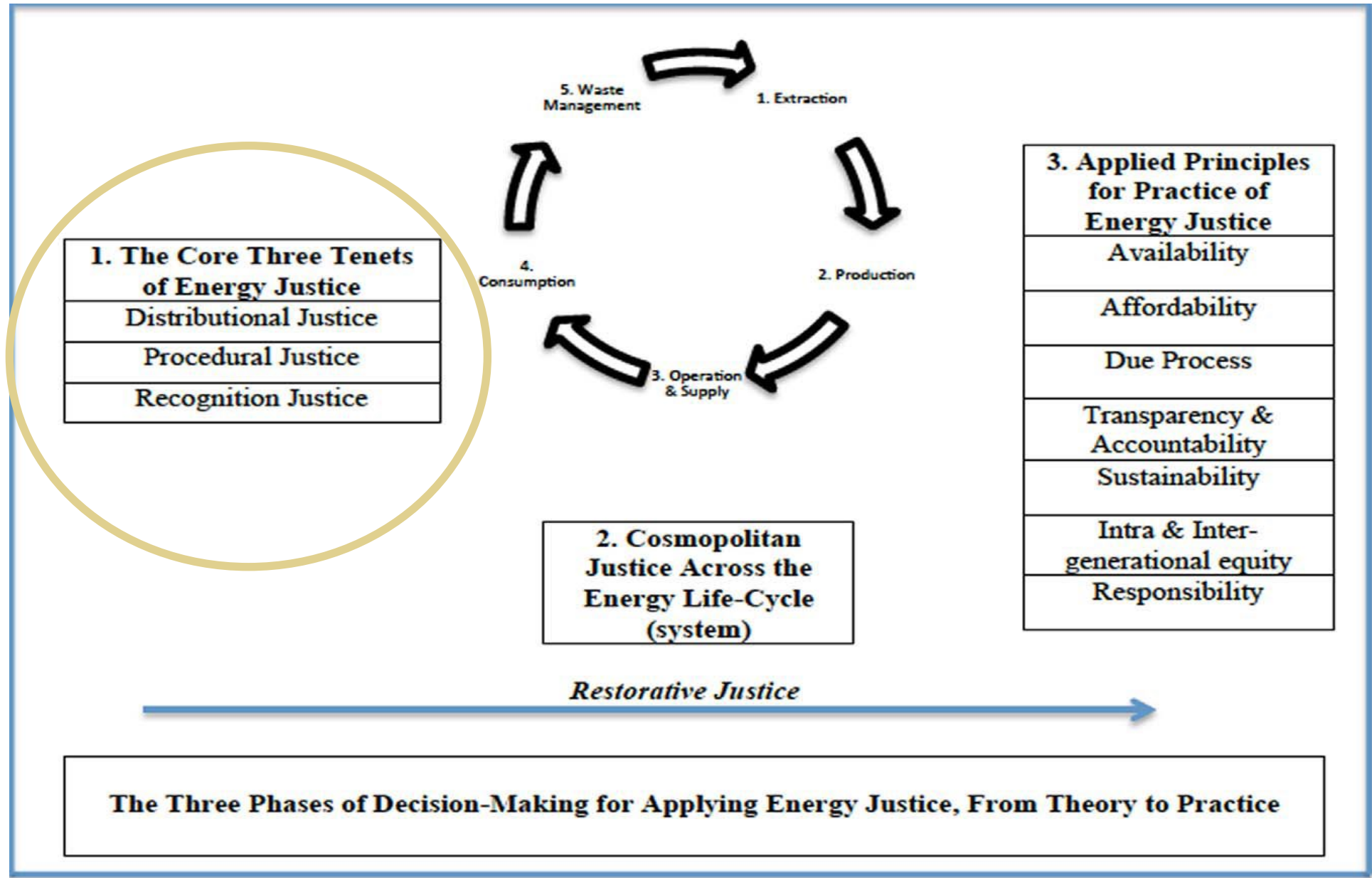
What is energy justice?

Energy justice refers to the goal of achieving **equity** in both the **social** and **economic** participation in the energy system, while also **remediating** social, economic, and health **burdens** on those historically harmed by the energy system (“frontline communities”).

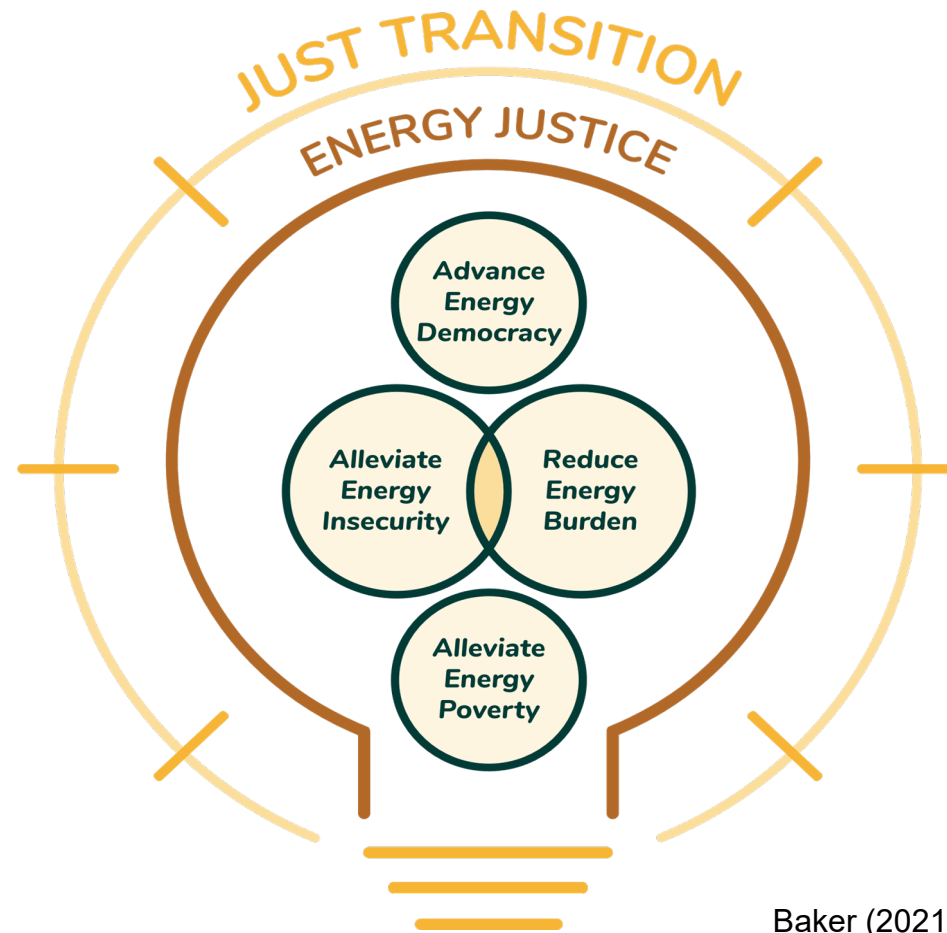
Energy justice explicitly **centers** the concerns of frontline communities and aims to make energy more accessible, affordable, clean, and democratically managed for all communities.



Initiative for Energy Justice (2019).

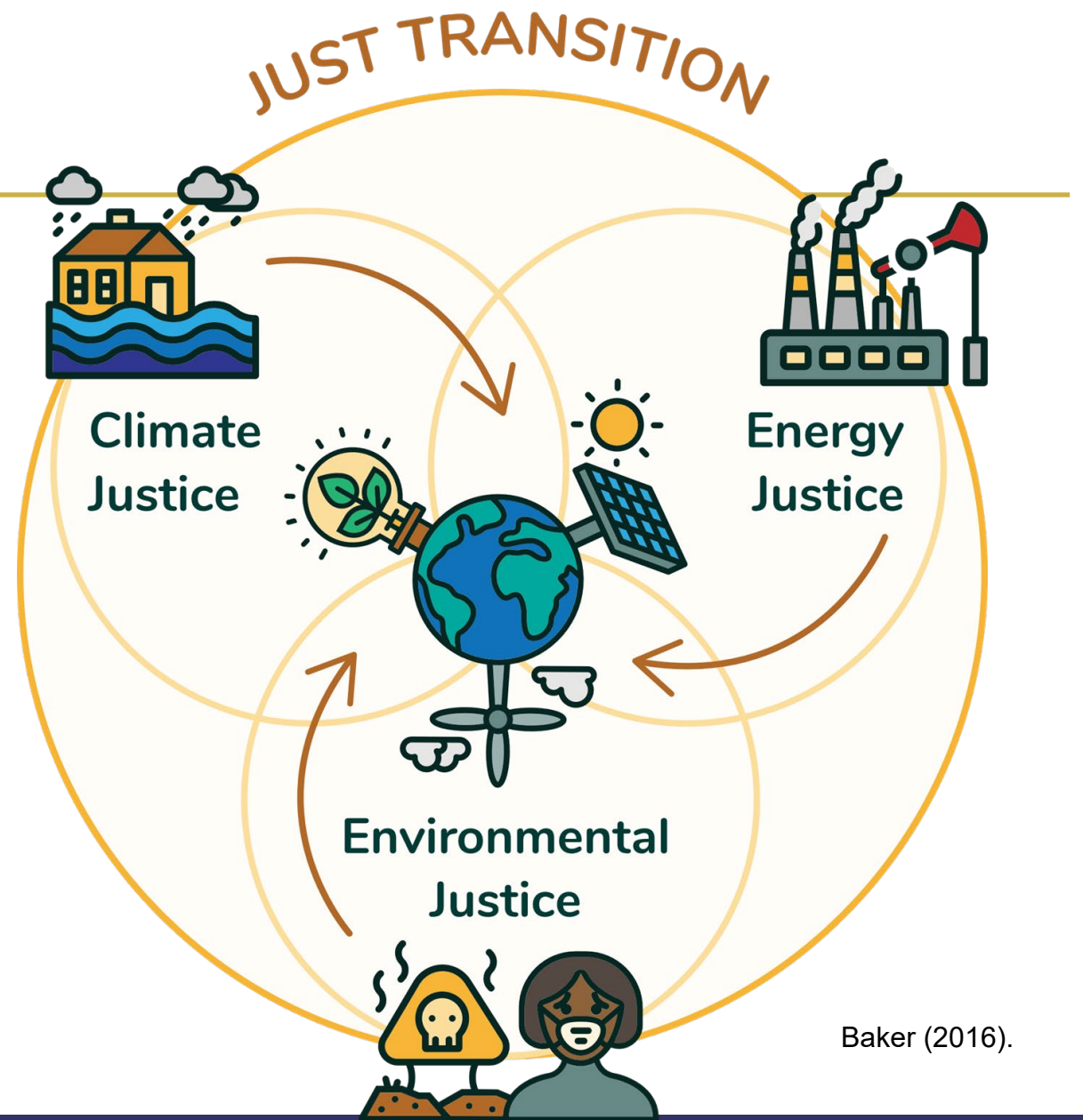


What are the aims of energy justice?

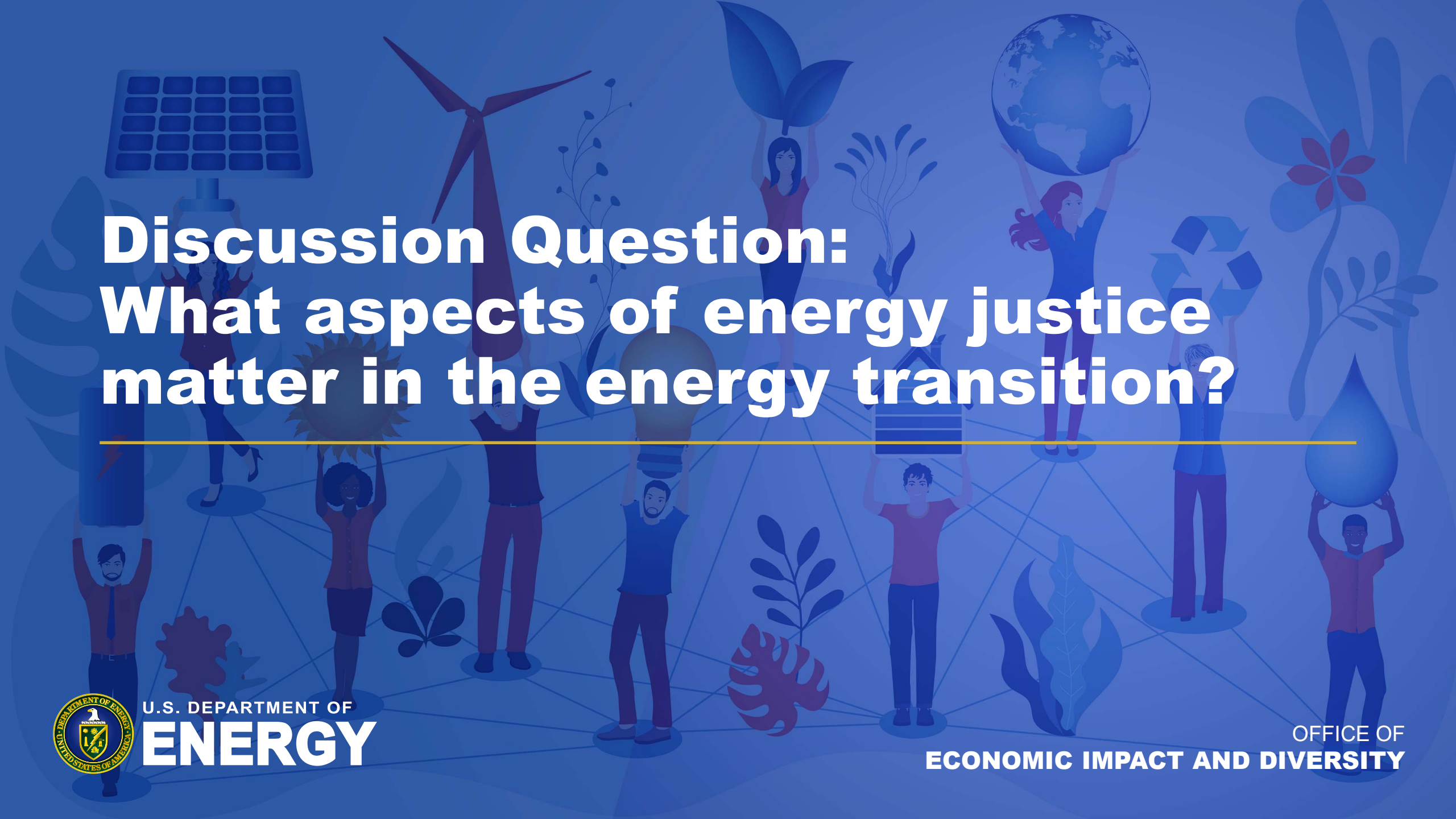


Baker (2021).

Energy Justice connects to Environmental Justice and Climate Justice



Baker (2016).

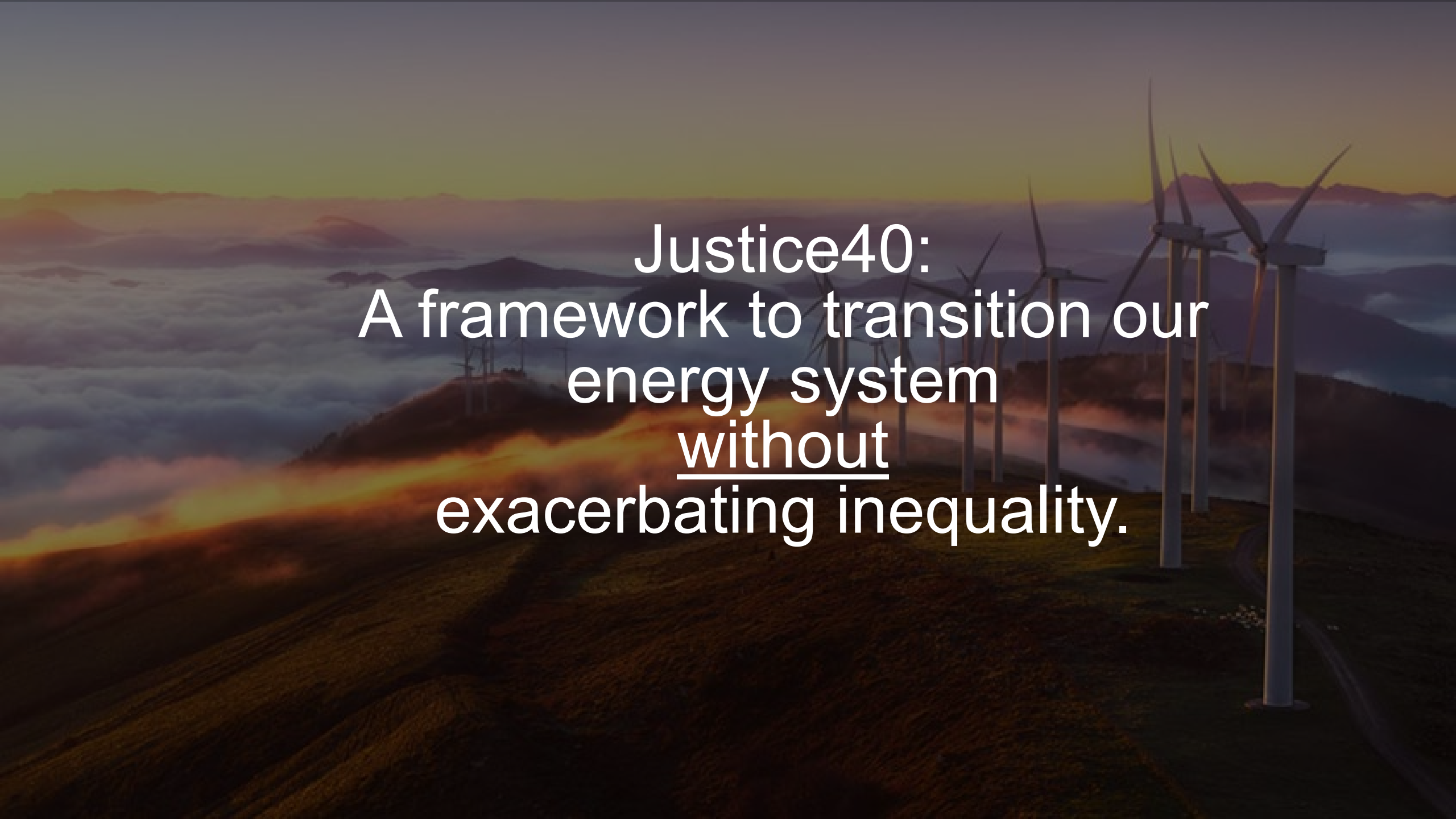


Discussion Question: What aspects of energy justice matter in the energy transition?

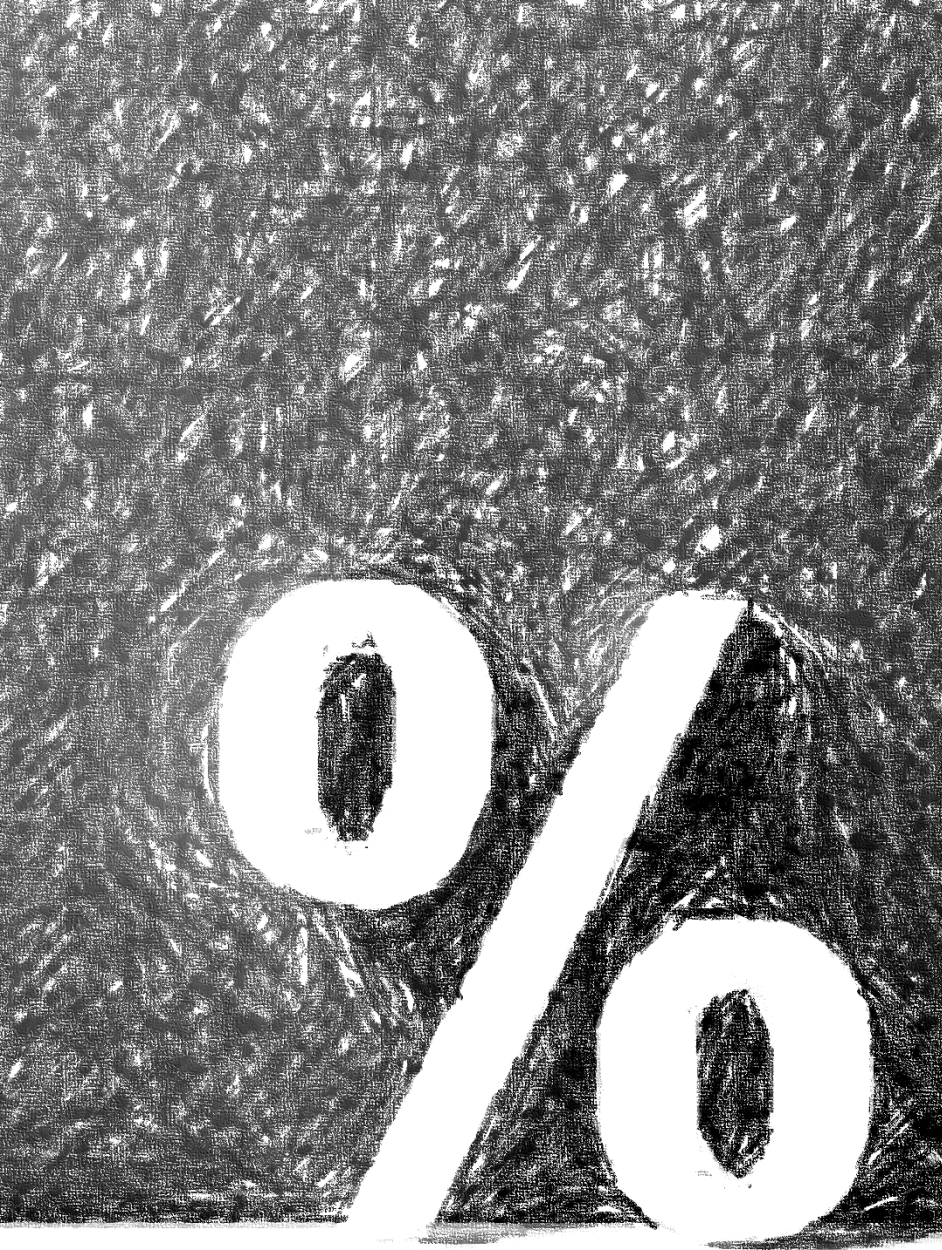


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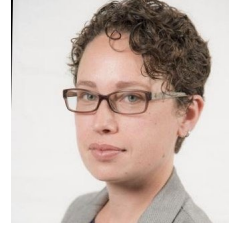
Justice40:
A framework to transition our
energy system
without
exacerbating inequality.



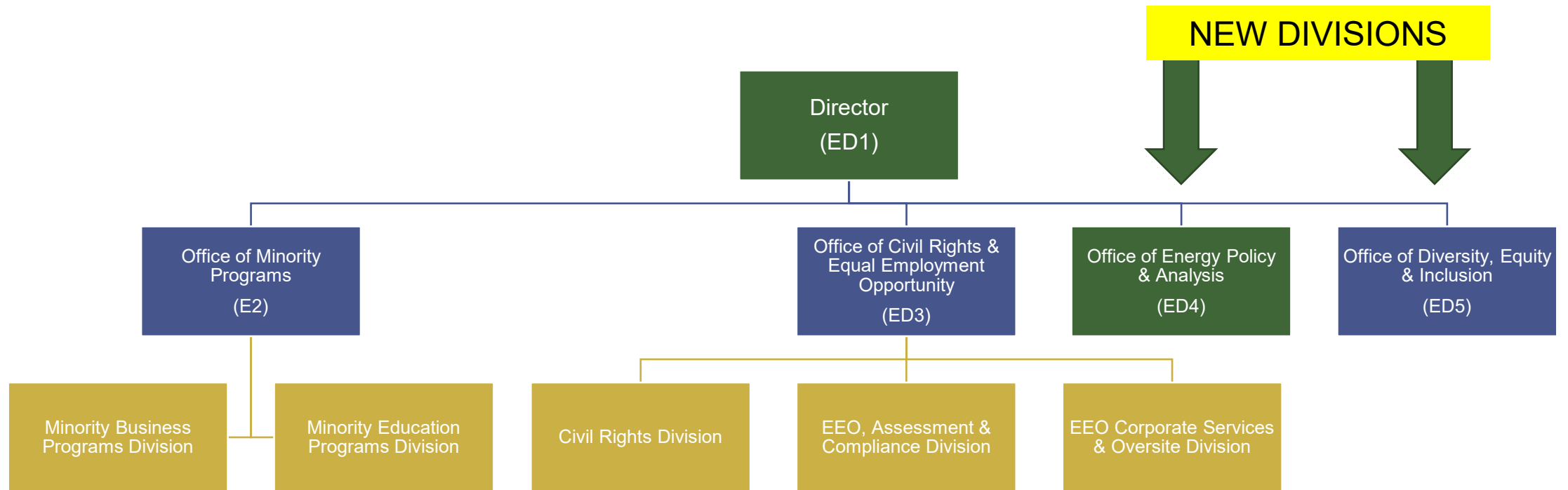
The Justice40 Initiative (Executive Order 14008)

40% of the overall benefits of certain Federal investments—including **investments in clean energy and energy efficiency; clean transit; affordable and sustainable housing; training and workforce development; the remediation and reduction of legacy pollution; and the development of clean water infrastructure**—must flow to disadvantaged communities.

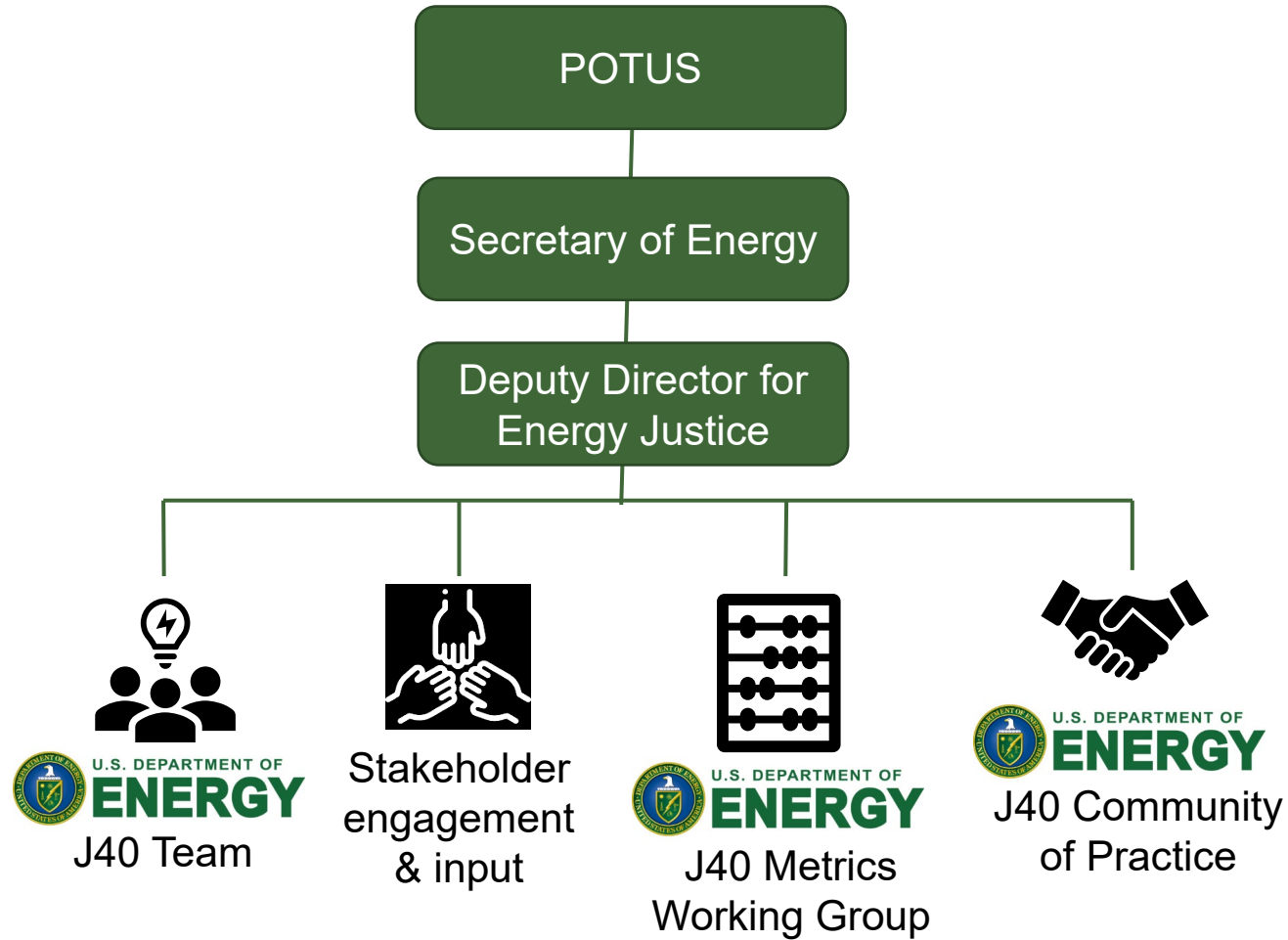
Justice40 Team: Past and Present



Office of Economic Impact and Diversity (ED)



Implementing Justice40



What does Justice40 Cover?

Covered Program

A Federal Government program that makes investments in one or more of the following seven areas:

- Climate change
- Clean energy and energy efficiency
- Clean transportation
- Affordable and sustainable housing
- Training and workforce development
- Remediation and reduction of legacy pollution
- Critical clean water and waste infrastructure

Covered Investment

A Federal investment in one or more of the following categories:

- Federal grant and procurement spending (including discretionary budget authority, direct/mandatory spending, and formula funding);
- Financing (including credit, loans, and guarantees);
- Programmatic Federal staffing costs (e.g. federal pay for staff that provide technical assistance)
- Direct financial benefits (including provision of goods and services); and
- Additional Federal investments under covered programs as determined by OMB.

Defining Disadvantaged Communities (DACs)

Community:

Either a group of individuals living in geographic proximity to one another, or

Geographically dispersed set of individuals (such as migrant workers or the formerly incarcerated) where either type of group experiences common conditions.



DOE Working Disadvantaged Community Definition

Cumulative Burden. Census tract must have at least 30% low-income households and rank in the 80th percentile of cumulative sum of 36 indicators, where each input is equally weighted. Rankings are state-relative.

ENERGY BURDEN (5)

- Transportation Burden
- Energy Burden
- Non-grid connected home heating fuel
- Power outages
- Duration of outages

FOSSIL DEPENDENCE (2)

- IWG coal jobs ratio
- IWG fossil energy jobs ratio

VULNERABLE POPULATIONS (19)

Housing burden	Renters*
Food desert	No internet
Job access (-)	Uninsured
Park access (-)	Disability
Commutes > 30 mins*	Incomplete plumbing
No vehicle*	Single parents
Unemployed	Mobile homes
Low Income*	Unhoused
No GED*	Age over 65*
Linguistic Isolation*	

ENVIRONMENTAL/ CLIMATE HAZARDS (10)

- Lead paint
- Diesel particulates
- Cancer
- Traffic volume
- Water discharge
- NPL sites
- RMP facilities
- TSD facilities
- FEMA climate risk
- PM 2.5

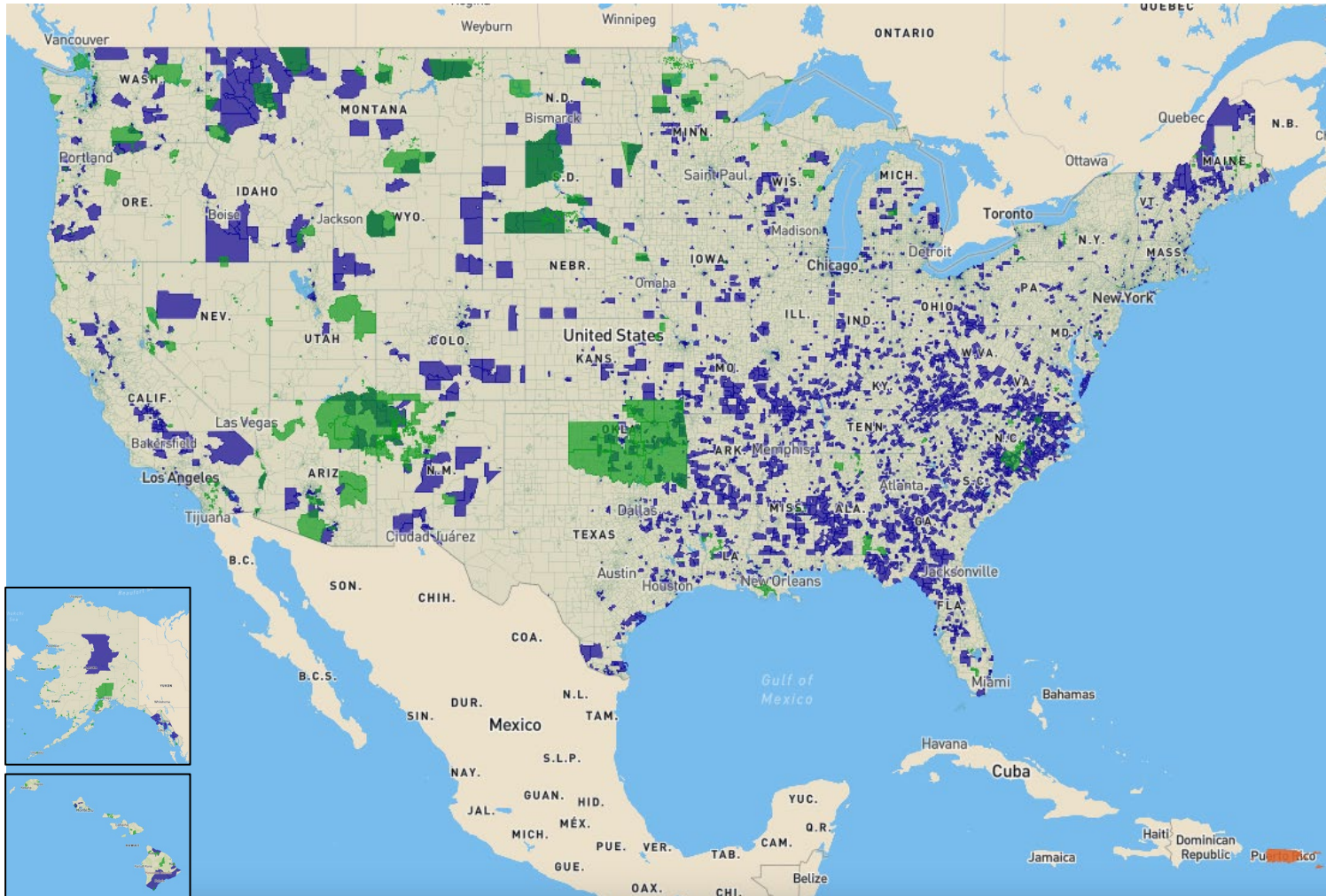
* Denotes that these variables are not inherently negative, but increase the vulnerability of the population to climate, environmental, and energy hazards

Distribution of DACs

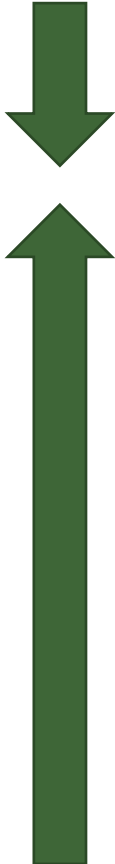
Qualifying census tracts: 13,581 (18.6%)

Additional native lands: 703 native populations in 858 locations

US territories: Virgin Islands, Northern Marianas, Guam, American Samoa, Puerto Rico



Justice40 Policy Priorities

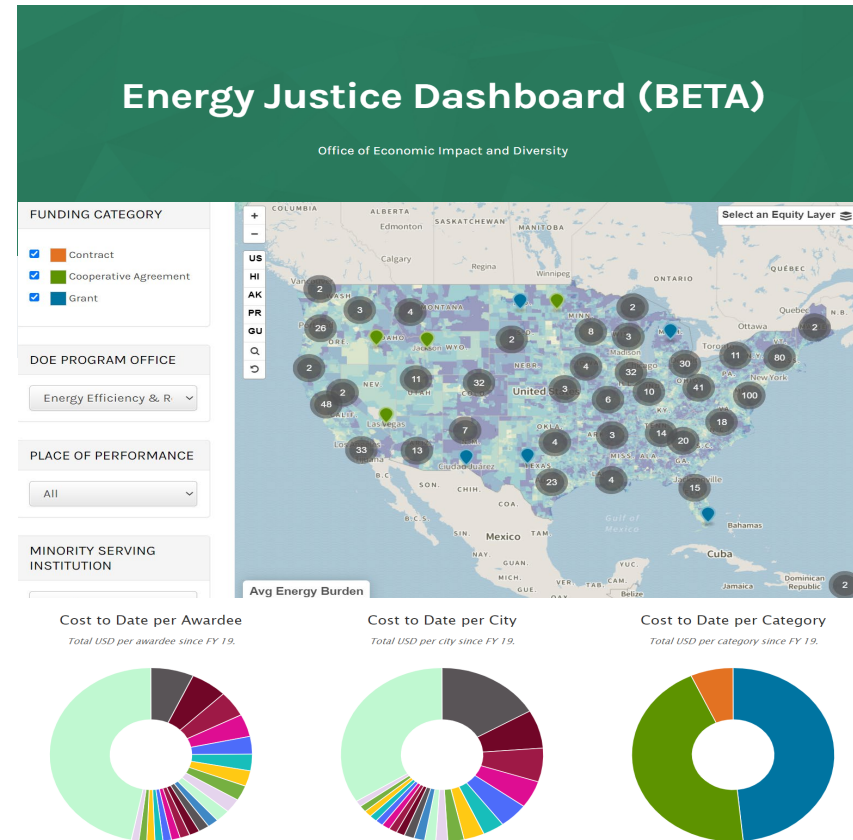
- 
1. **Decrease** energy burden in disadvantaged communities (DACs).
 2. **Decrease** environmental exposure and burdens for DACs
 3. **Increase** parity in clean energy technology (e.g., solar, storage) access and adoption in DACs.
 4. **Increase** access to low-cost capital in DACs.
 5. **Increase** clean energy enterprise creation and contracting (MBE/DBE) in DACs.
 6. **Increase** clean energy jobs, job pipeline, and job training for individuals from DACs.
 7. **Increase** energy resiliency in DACs.
 8. **Increase** energy democracy in DACs.

Energy Justice Dashboard (BETA): Day 100

Accountability & Transparency

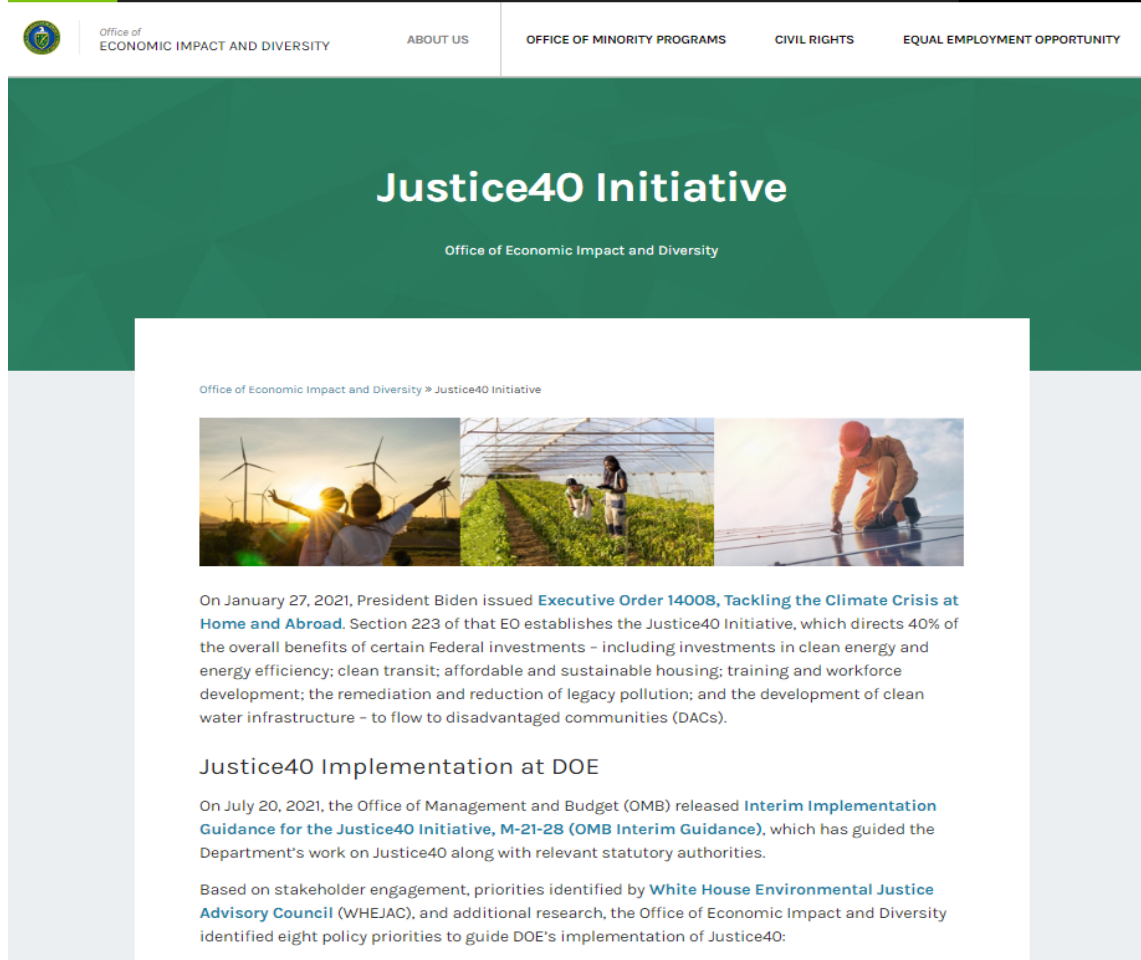
Energy Justice Dashboard (BETA)

A tool to measure and track DOE progress toward Justice40 and see investments in real time.



www.energy.gov/diversity/energy-justice-dashboard-beta

Justice40 Web Page: Released 4/14/22




Office of Economic Impact and Diversity

Justice40 Initiative

Office of Economic Impact and Diversity

Office of Economic Impact and Diversity » Justice40 Initiative



On January 27, 2021, President Biden issued [Executive Order 14008, Tackling the Climate Crisis at Home and Abroad](#). Section 223 of that EO establishes the Justice40 Initiative, which directs 40% of the overall benefits of certain Federal investments – including investments in clean energy and energy efficiency; clean transit; affordable and sustainable housing; training and workforce development; the remediation and reduction of legacy pollution; and the development of clean water infrastructure – to flow to disadvantaged communities (DACs).

Justice40 Implementation at DOE

On July 20, 2021, the Office of Management and Budget (OMB) released [Interim Implementation Guidance for the Justice40 Initiative, M-21-28 \(OMB Interim Guidance\)](#), which has guided the Department’s work on Justice40 along with relevant statutory authorities.

Based on stakeholder engagement, priorities identified by [White House Environmental Justice Advisory Council \(WHEJAC\)](#), and additional research, the Office of Economic Impact and Diversity identified eight policy priorities to guide DOE’s implementation of Justice40:

[Justice40 Initiative | Department of Energy](https://www.energy.gov/diversity/justice40-initiative)
www.energy.gov/diversity/justice40-initiative



**The BIL: Over
\$62B in
Climate
Investments**

Large BIL Investments

- Clean Energy Demonstrations
- Hydrogen
- Carbon Management
- Nuclear
- Transmission
- Battery Supply Chain



Our Collective Intervention




Procedural Justice: Listen to Communities on Day 1.

Procedural Justice Efforts at DOE

Robust stakeholder engagement with:

- Frontline communities
- Tribal Nations
- Industry
- States
- Non-governmental entities



**Distributive Justice:
Braid equity into
programs, policies,
procurement,
and hiring on Day 1.**

Distributive Justice Efforts at DOE

Funding Opportunity Design:

- Justice40 requirements for awardees
- Labor and quality jobs requirements
- Community benefits and Justice40 baked into scoring
- Incentives for partnerships with minority-serving institutions and diverse suppliers
- Emphasis on supplier diversity
- Community acceptance as a technical qualification

Recognition Justice: Recognize and Address Prior Harms



Image: MedPage Today



Image: Environmental Integrity Project

Recognition Justice Efforts at DOE

- Grant recipients must address environmental harms and hazards in project design
- DOE Justice40 communities reflect cumulative environmental, energy, social, and climate burden
- Longitudinal analysis of energy burden underway in ED to help inform DOE program design



Restorative Justice: Healing communities

Restorative Justice: Building on an Inequitable System

Challenge: Implementing BIL while addressing systemic inequality.

- No strong job pipeline for underrepresented populations
- No strong market for underrepresented enterprises
- Lack of access to capital for underrepresented enterprises
- Persistent disinvestment in communities

Opportunity: Use J40 as a vehicle to drive industry transformation.

- **J40 for industry and clean energy sector** with “first movers” across finance, manufacturing, and clean tech
- **Regional clustering** for job training and business incubation with philanthropic support
- Create DOE opportunities to incentivize private sector support for **accelerators and incubators**
- Develop **supplier-diversity model** for private sector with “first movers”

Discussion: How do we transform the landscape to facilitate equitable BIL implementation?





This is our moment.

**WE are the ones we've been
waiting for.**



Let's do this!

Shalanda H. Baker

Deputy Director for Energy Justice

Secretarial Advisor on Equity