Incorporating Justice40 Principles Into the Energy Efficiency and Conservation Block Grant Program

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Photo by Dennis Schroeder, NREL 55200

Contents

Justice40 at a Glance

What is Justice40?

"…the Director of the Office of Management and Budget, and the National Climate Advisor, in consultation with the Advisory Council, shall jointly publish recommendations on **how certain Federal investments** might be made toward a goal that **40 percent of the overall benefits flow** to **disadvantaged communities**."

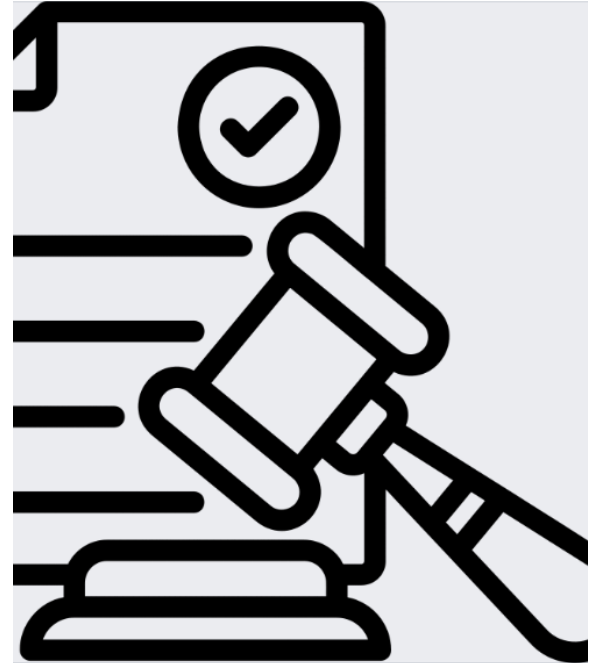- Executive Order 14008, Section 223, Jan. 27, 2021

Illustration from Canva, https://www.canva.com/icons/MAFZ88tqNi0-legal-icon/

Why Justice40?

- To enable **energy justice.**
- Seek **equity** in **social and economic participation** in the energy system.
- **Remediate social, economic, and health burdens on "frontline communities"** and explicitly centering their concerns.
- Aims to make **energy more accessible, affordable, clean, and democratically managed** for all communities.

Illustration from Initiative for Energy Justice

Definitions

Definitions

- Disadvantaged communities (DACs)
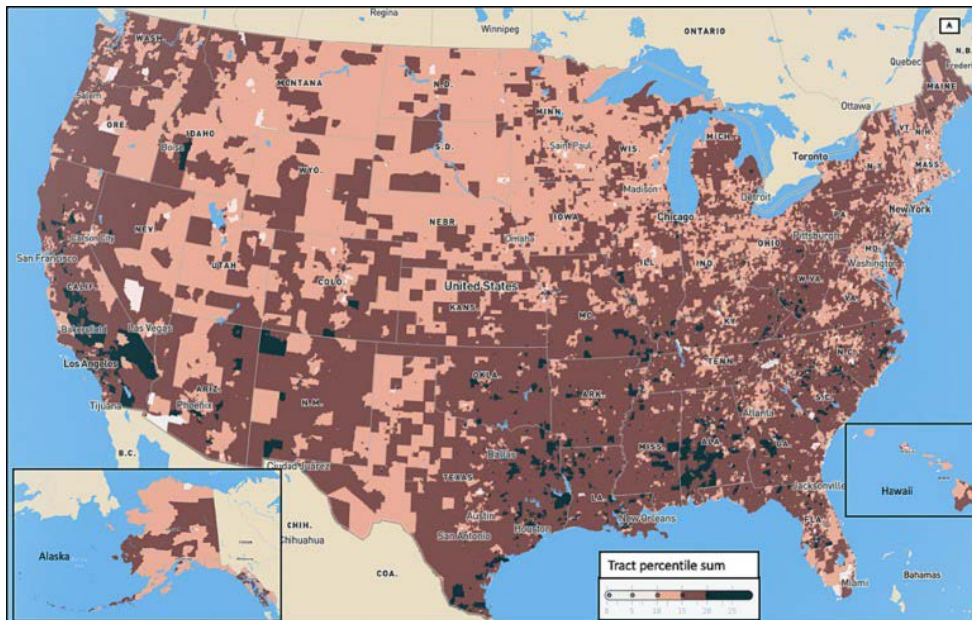- Benefits
- Relevant metrics.

Illustration from Popovich, Natalie, Anjuli Jain Figueroa, Deborah Ann Sunter, and Monisha Shah. 2024. Identifying disadvantaged communities in the United States: An energy-oriented mapping tool that aggregates environmental and socioeconomic burdens. Energy Research & Social Science, Volume 109. https://doi.org/10.1016/j.erss.2023.103391. https://www.sciencedirect.com/science/article/pii/S2214629623004516

Defining DACs

Community

- A group of individuals living in geographic proximity (such as census tract).

- A geographically dispersed set of individuals (such as migrant workers or Native Americans).

Where either type of group experiences common conditions.

Illustration from Canva

Defining DACs

Fossil Dependance	Energy Burden	Environmental and Climate Hazards	Socio-Economic Vulnerabilities
Diesel particulate matter exposure.	Traffic proximity and volume, energy burden, $PM_{2.5}$ exposure, housing cost burden, proximity to major highways, household vehicle access, proximity to ports, and housing units without access to transit.	Proximity to Risk Management Plan facilities, proximity to National Priorities List sites, wastewater discharge, and proximity to Treatment, Storage and Disposal Facilities sites.	Percentage of households at or below 150% of the Federal Poverty Line, percentage of households at or below 200% of the Federal Poverty Line, unemployment rate, median household income, and percentage of adults over age 25 without a high school diploma.

A full list is available here.

Defining DACs

Disadvantaged Community

A community that is deemed as disadvantaged based on cumulative burden for 36 indicators at the census tract level.

To be considered a DAC under the U.S. Department of Energy definition, a census tract must rank **in or above the 80th percentile** of the **cumulative sum of the 36 burden indicators** for its state and have **at least 30% of households classified as low-income**.
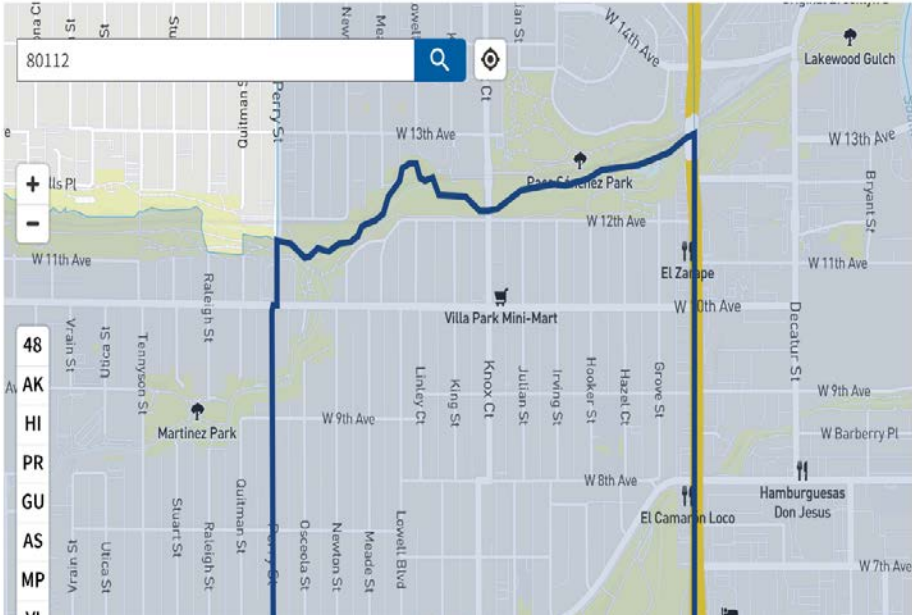
Defining DACs

How do we determine this?

To be considered a DAC under the U.S. Department of Energy definition, a census tract must rank **in or above the 80th percentile** of the **cumulative sum of the 36 burden indicators** for its state and have **at least 30% of households classified as low-income**.

Tools

The Council on Environmental Quality's **Climate and Economic Justice Screening Tool**.

Image from the Council on Environmental Quality

Tools

Climate change —

Expected agriculture loss rate
Economic loss to agricultural value resulting from natural hazards each year

-- missing data

Expected building loss rate
Economic loss to building value resulting from natural hazards each year

84th not above 90th percentile

Expected population loss rate
Fatalities and injuries resulting from natural hazards each year

40th not above 90th percentile

Projected flood risk
Projected risk to properties from projected floods, from tides, rain, riverine and storm

5th not above 90th percentile

Energy —

Energy cost
Average annual energy costs divided by household income

21st not above 90th percentile

PM2.5 in the air
Level of inhalable particles, 2.5 micrometers or smaller

43rd not above 90th percentile

AND

Low income
People in households where income is less than or equal to twice the federal poverty level, not including students enrolled in higher ed

62nd not above 65th percentile

Health —

Asthma
Share of people who have been told they have asthma

46th not above 90th percentile

Diabetes
Share of people ages 18 years and older who have diabetes other than diabetes during pregnancy

35th not above 90th percentile

Heart disease
Share of people ages 18 years and older who have been told they have heart disease

19th not above 90th percentile

Low life expectancy
Average number of years a person can expect to live

50th not above 90th percentile

Images from the Council on Environmental Quality

Tools

Housing —

Historic underinvestment **Yes**
Census tracts with historically high barriers to accessing home loans

Housing cost **60th**
Share of households making less than 80% of the area median family income and spending more than 30% of income on housing
not above 90th percentile

Lack of green space **63rd**
Amount of land, not including crop land, that is covered with artificial materials like concrete or pavement
not above 90th percentile

Lack of indoor plumbing **77th**
Share of homes
not above 90th percentile

Legacy pollution —

Abandoned mine land **No**
Presence of one or more abandoned mine land within the tract

Formerly Used Defense Sites **--**
Presence of one or more Formerly Used Defense Site within the tract
missing data

Proximity to hazardous waste facilities **65th**
Count of hazardous waste facilities within 5 kilometers
not above 90th percentile

Proximity to Risk Management Plan facilities **91st**
Count of Risk Management Plan (RMP) facilities within 5 kilometers
above 90th percentile

Water and wastewater —

Underground storage tanks and releases **85th**
Formula of the density of leaking underground storage tanks and number of all active underground storage tanks within 1500 feet of the census tract boundaries
not above 90th percentile

Wastewater discharge **87th**
Modeled toxic concentrations at parts of streams within 500 meters
not above 90th percentile

AND

Low income **62nd**
People in households where income is less than or equal to twice the federal poverty level, not
not above 65th percentile

Tools

[Energy Justice Dashboard](#).

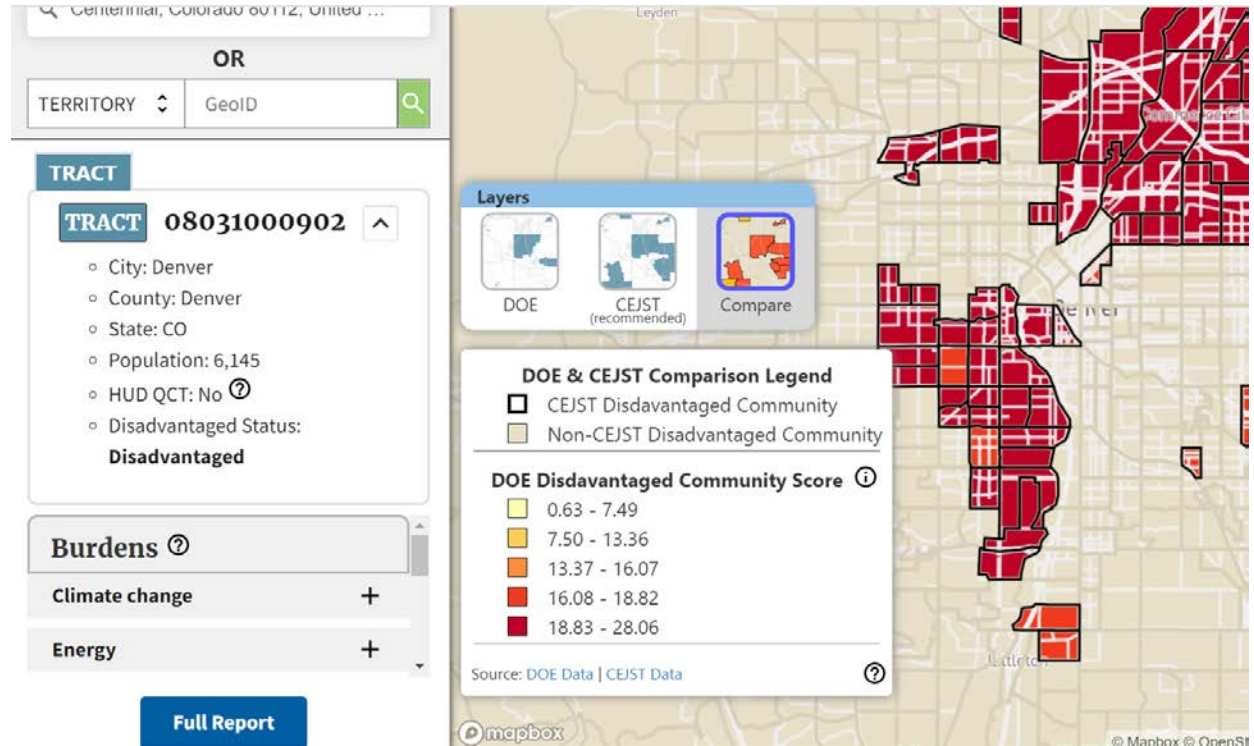

Image from Argonne National Laboratory

Tools

TRACT	**08031000902**
	○ City: Denver
	○ County: Denver
	○ State: CO
	○ Population: 6,145
	○ HUD QCT: No ⑦
	○ Disadvantaged Status: **Disadvantaged**

Contributes to the disadvantaged status.

Climate change		Housing		Transportation	
Indicator	**Value**	**Indicator**	**Value**	**Indicator**	**Value**
Expected agriculture loss rate	No Data	Historic underinvestment	YES	Diesel particulate matter exposure	90th
Expected building loss rate	84th	Housing cost	75th	Transportation barriers	34th
Expected population loss rate	41st	Lack of green space	65th		
Projected flood risk	11th	Lack of indoor plumbing	21st	Traffic proximity and volume	90th
Projected wildfire risk	33rd	Lead paint	97th		

Energy		Legacy pollution		Water and wastewater	
Indicator	**Value**	**Indicator**	**Value**	**Indicator**	**Value**
Energy cost	21st	Abandoned mine land	NO	Underground storage tanks and releases	81st
PM2.5 in the air	40th	Formerly Used Defense Sites	NO	Wastewater discharge	79th

Health		Proximity to hazardous waste facilities	55th	Workforce development	
Indicator	**Value**			**Indicator**	**Value**
Asthma	52nd	Proximity to Risk Management Plan facilities	90th	Linguistic isolation	28th
Diabetes	51st			Low median income	73rd
Heart disease	39th			Poverty	44th
Low life expectancy	39th	Proximity to Superfund sites	82nd	Unemployment	48th

Image from Argonne National Laboratory

Considering Energy Justice Advancements

U.S. Department of Energy Policy Priorities

Decrease in energy burden.

Decrease in environmental exposure and burden.

Increase in access to low-cost capital.

Increase in job creation, the clean energy job pipeline, and job training for individuals.

Increases in clean energy enterprise creation and contracting (e.g., minority-owned or disadvantaged business enterprises).

Increases in energy democracy, including community ownership.

Increased parity in clean energy technology access and adoption.

Increase in energy resilience

Metrics From Policy Priorities: an Example

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Increases in energy democracy, including community ownership.

Increased parity in clean energy technology access and adoption.

Increase in energy resilience.

Metrics From Policy Priorities: an Example

Retrofits	Transport	Government, Schools	Renewable Energy
Number of buildings retrofitted.	Number of alternative fuel vehicles purchased.	Number of energy-efficient HVAC units purchased and streetlights.	Number of photovoltaic, wind, or solar thermal systems installed.
Estimated retrofit savings.	Number of new alternative refueling stations installed.	Number of energy-efficient lights purchased.	Total capacity of systems installed.
Reduction in fuel consumption.	Length of sidewalks installed.	Number of efficient water heaters purchased.	Number of geothermal or hydropower systems.

Source: Energy Efficiency and Conservation Block Grant Program Blueprints.

Metrics From Policy Priorities: an Example

Building Codes and Standards	Energy Planning	Energy Audits	Training and Education
Number of new building codes adopted.	Number of Community Action Plans updated or completed.	Number of audits performed (investment and non-investment).	Number of organizations receiving technical assistance (Tribal, rural, DAC?).
	Number of policies developed or updated (DACs?).		Number of employees hired to further energy efficiency or sustainability.
	Number of greenhouse gas inventories completed.		Number of workshops or training sessions held.

What Does Implementation Look Like?

Justice40 in the Energy Efficiency and Conservation Block Grant Program: Key Questions

WHO are the people benefiting?

WHERE is the region benefiting located?

HOW are the people benefiting and **WHAT** activities are benefiting the community?

Example to Work Through

Lighting retrofit in community buildings: How do you center the community and design a program?

Photo from https://www.vanmeterinc.com/blog/lighting-retrofit

Example to Work Through

WHO?	Employees in the building.	
WHERE?	Local government building.	
WHAT?	LEDs because they save energy costs.	

Example to Work Through

WHO?	Employees in the building.	Low-income members in the community, highly energy burdened households.
WHERE?	Local government building.	Historically burdened neighborhood with people paying bills that are more than one-third of their rent.
WHAT?	LEDs because they save energy costs.	?????

Key Elements in Implementing Justice40

Who?

- Demographics: income, race, unemployment, non-native English speakers, and education levels.

- Household energy burden: percentage of monthly income spent on energy bills.

- Cultural sensitivities: historic significance and past injustices.

Illustration from Canva

Where?

- Climate vulnerabilities: sea level rise, heating and warming centers, and urban heat islands.

- Transportation: transportation costs and access, traffic volume, and proximity.

- Pollution: power plants, vehicle pollution, industrial pollution, and Superfund sites.

Illustration from Canva

How?

- Listen to all stakeholders, gather consensus, and receive frequent feedback.

- Narrow scope to a specific problem and consult stakeholders for unique solutions.

- Consult stakeholders on if solutions are feasible within time and budget.

Illustration from Canva

Q&A

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