Equity and Environmental Justice

Opportunities for Engagement

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Agenda – Contents

- Definitions
- Dimensions of Equity
- Environmental Justice and Permitting
- Community Engagement
- Justice40/Government Grants
- EDIG Overview

Definitions

Types of Justice

Distributive justice, or economic justice, is about members of society getting a "fair share" of the benefits and resources available.

Procedural justice is concerned with making and implementing decisions according to fair processes that ensure "fair treatment" including access to decisionmakers and the ability to participate.

Recognition justice is about understanding historical, cultural, and institutional factors and as well as respecting peoples' assumptions, values, and knowledge.

Restorative justice, or corrective justice, is about putting things back as they should be or would have been.

Just – impartial, ethical, unbiased

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Overlapping Concepts

Social Justice	Energy Justice	Environmental Justice	Climate Justice	Just Transition
• Fairness in the distribution of wealth, opportunities, and privileges within a society	• 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 disproportionately harmed by the energy system	• The just treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies	• Relating the causes and effects of climate change to environmental and social justice	• Achieving a transition to more sustainable economies whereby workers and communities to not bear an inordinate cost or burden from the transition

Equity – fairness in the distribution of burdens and benefits

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What is a disadvantaged community?

A *disadvantaged or underserved community* may include one or more of the following variables:

Low income; high persistent poverty

High unemployment or underemployment

High housing cost burden and/or substandard housing

High transportation burden and/or low access

High energy cost burden and low energy access

Disproportionate impacts from climate change

Access to healthcare

Job lost through the energy transition

Proximity to industrial land uses, waste, and pollution

Linguistic isolation

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The new Federal definition

■ "Environmental justice" means the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment so that people:

- are fully protected from disproportionate and adverse human health and environmental effects (including risks) and hazards, including those related to climate change, the cumulative impacts of environmental and other burdens, and the legacy of racism or other structural or systemic barriers; and

- have equitable access to a healthy, sustainable, and resilient environment in which to live, play, work, learn, grow, worship, and engage in cultural and subsistence practices

There is a lot to parse here

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Dimensions of Equity

Dimensions of Equity

energy affordability, burden, poverty, insecurity

response time, access to resources, needs fulfilled

energy efficiency, program design, rate design

access to information, ability to provide input and participate in decision making

access to clean energy, energy services

distribution of impacts or environmental footprint, community impacts

clean energy jobs, supply chain diversity, economic development

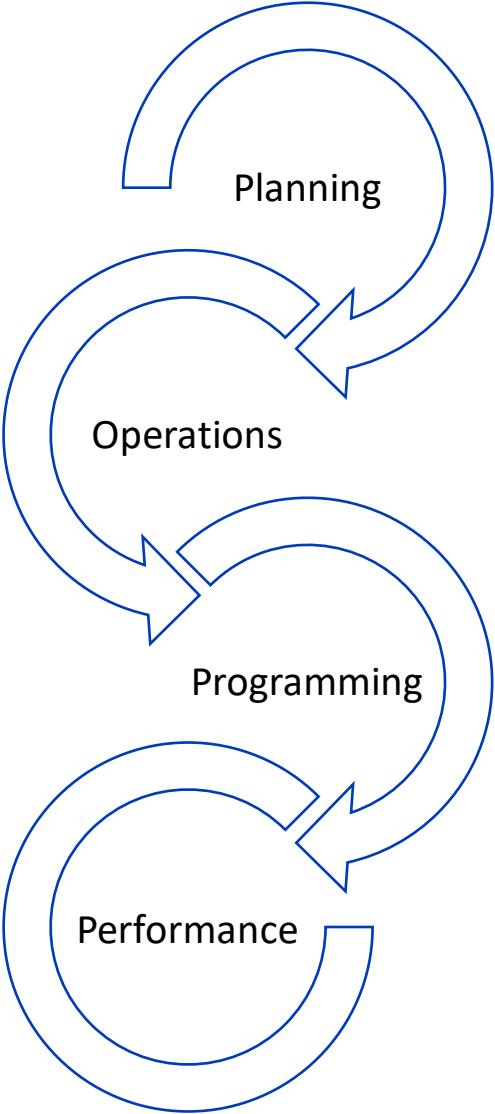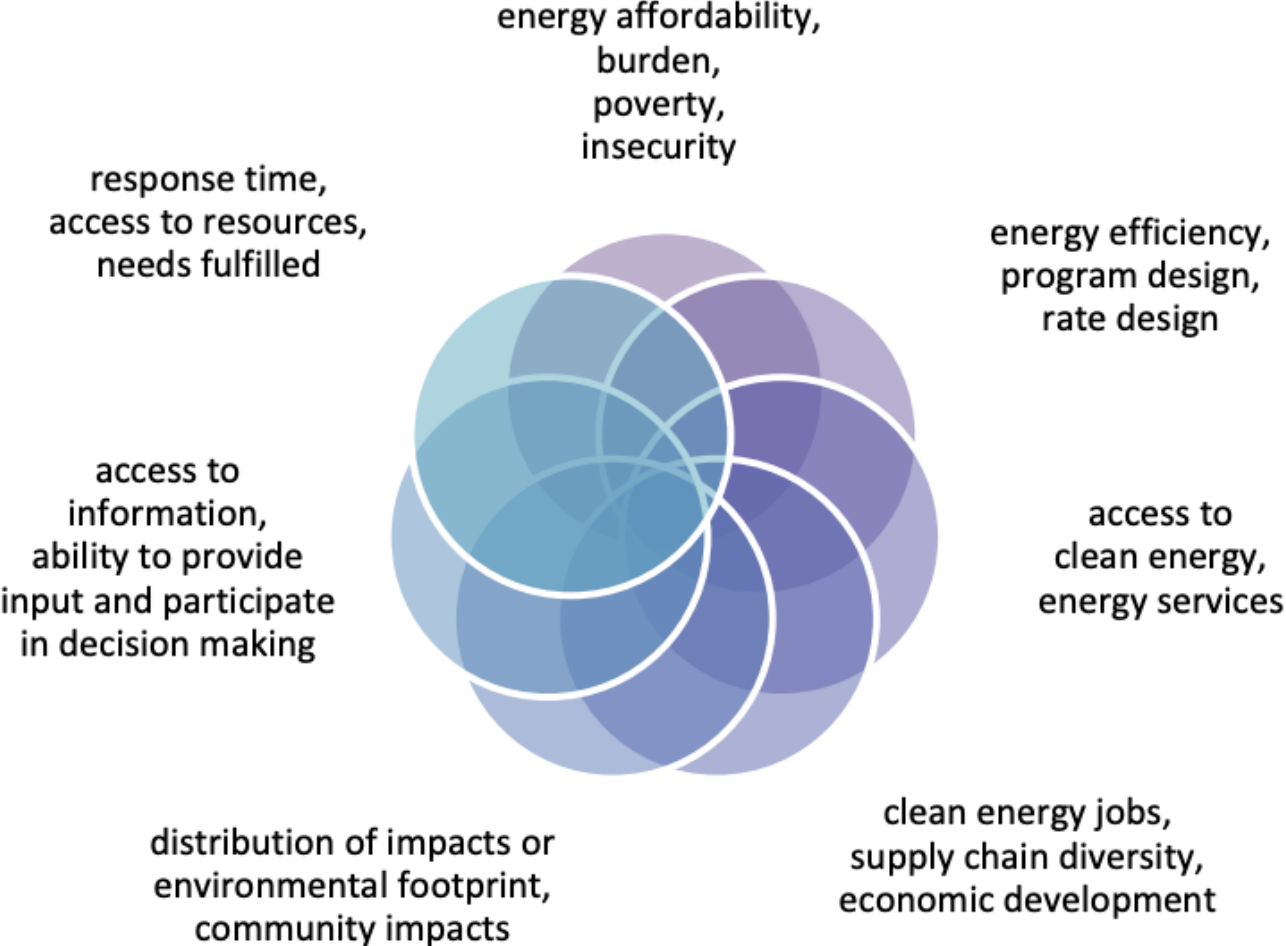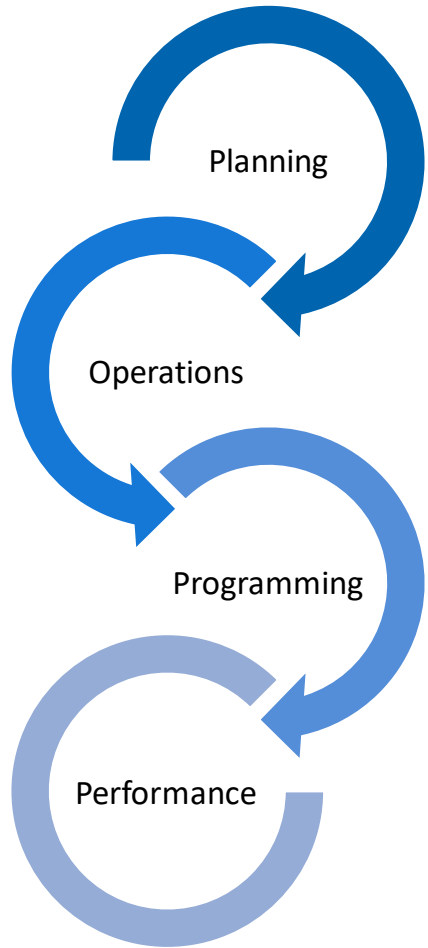Planning

Operations

Programming

Performance

Figure 1: Measuring Equity in the Energy Sector, EPRI, Palo Alto, CA, 2023, 3002026909
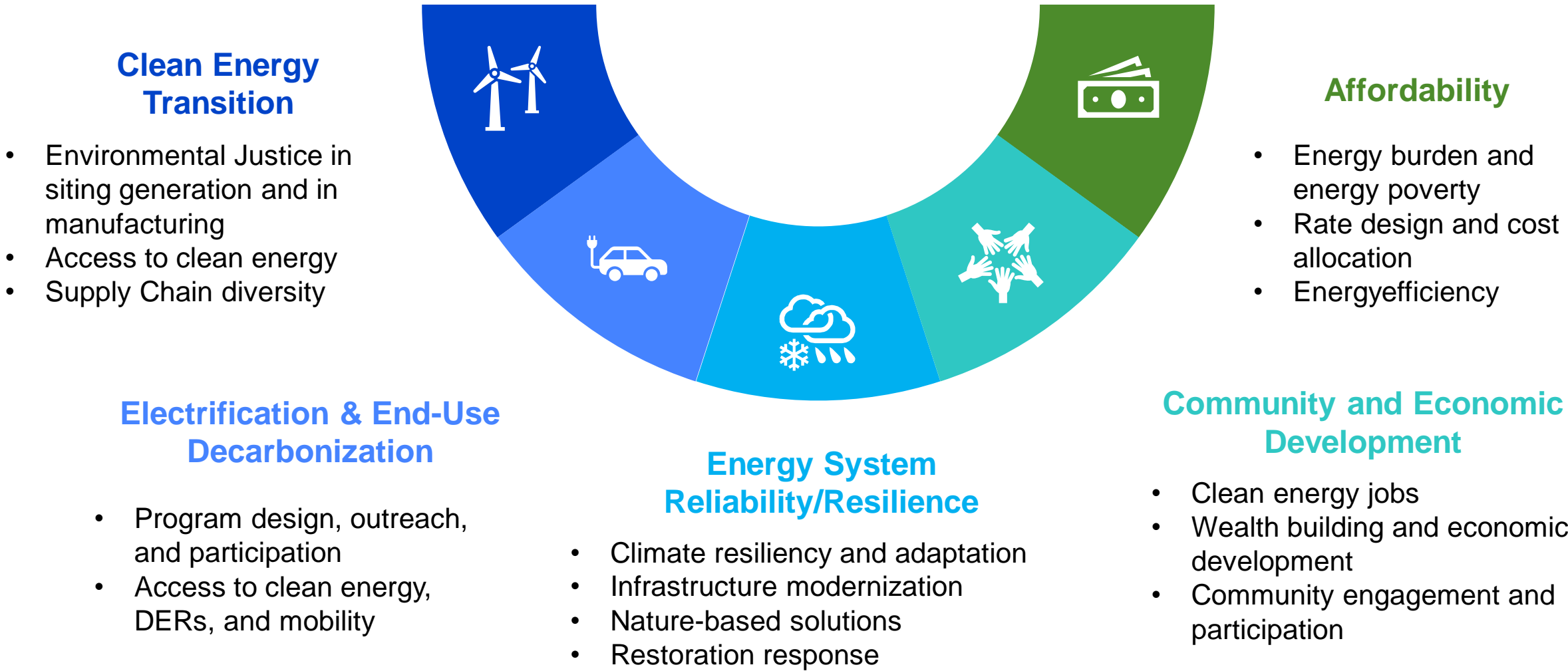
Deeper Dive

- Planning
  - Integrated Resource and System Planning
  - Affordability, Community/Workforce Development and Environmental Justice
- Operations
  - Grid modernization investments
  - Outage restoration priorities
  - Resilience of vulnerable/under-resourced communities
- Programming
  - Design and implementation for energy efficiency/weatherization and bill support
  - Access and Affordability
- Performance
  - Internal performance evaluation
  - External reporting and communications

How do we measure disproportionately distributed impacts?

How can we plan to avoid or mitigate inequitable impact distribution?

How can we measure and report on progress creating a more equitable future?

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Equitable Decarbonization

Clean Energy Transition

- Environmental Justice in siting generation and in manufacturing
- Access to clean energy
- Supply Chain diversity

Affordability

- Energy burden and energy poverty
- Rate design and cost allocation
- Energyefficiency

Electrification & End-Use Decarbonization

- Program design, outreach, and participation
- Access to clean energy, DERs, and mobility

Energy System Reliability/Resilience

- Climate resiliency and adaptation
- Infrastructure modernization
- Nature-based solutions
- Restoration response

Community and Economic Development

- Clean energy jobs
- Wealth building and economic development
- Community engagement and participation

The expectations to address equity are growing and the clean energy transition is rife with opportunities to advance equity

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Renewable (wind and solar) and Battery Storage

Impacts

- Public health and safety risks from adverse events
- Noise and other disruptions from constriction
- Incompatible land use and visual intrusion depressing property values
- Disproportionate benefit of clean energy dispatched to other communities
- Altered stormwater runoff
- Impacts to sacred or culturally significant resources
- Competition for agricultural lands
- Concern over wind turbine noise and flicker
- Impacts to wildlife and ecosystems

Opportunities

- Capacity building for first responders and community members in case of adverse event
- Increased resilience in vulnerable communities
- Proactive involvement in siting and development projects
- Greenspace and access designed for community needs
- Internships, apprenticeships, and jobs for underrepresented groups
- Community ownership and/or compensation
- Access to low-cost clean energy
- Efficient land use through co-location and multi-use (eg agrivoltaics)

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Environmental Justice and Permitting

How to do an EJ Analysis for NEPA (and similar)

- Collect demographic data to identify disadvantaged communities using screening tools and ground truthing
- Involve the affected communities in the decision-making process
  - Meaningful involvement entails consequential consideration making a difference in the outcome
- Document the views of the impacted populations on the project and proposed mitigation

- Consider social, economic, and environmental effects of avoiding or mitigating the adverse effects
  - Include significant information about the environmental, socioeconomic, and cultural impacts
  - Assess the cumulative environmental and health impacts on communities along the route
- Identify disproportionately high and adverse impacts
- Discern if any mitigation or alternatives would reduce these impacts

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Mapping Tools

- Mapping and visualizing EJ data is essential in helping people understand the unequal environmental and health burden in their own and surrounding neighborhoods.
- Each EJ mapping and screening tool uses unique sets of environmental and socioeconomic indicators relevant to EJ both based on the availability of the data and specific concerns relevant for the geographic location.
- These tools are evolving and improve by considering additional relevant variables and incorporating new data.

CEQ Climate and Economic Justice Screening Tool

DOE Energy Justice Mapping Tool - Disadvantaged Communities Reporter

EPA EJSCREEN

CDC Social Vulnerability Index

To help identify communities that experience disproportionate risk/impacts

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Example EPA EJScreen Community Report

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE
ENVIRONMENTAL BURDEN INDICATORS			
Particulate Matter 2.5 $(\mu g/m^3)$			
Ozone (ppb)			
Nitrogen Dioxide (NO_2) (ppbv)			
Diesel Particulate Matter $(\mu g/m^3)$			
Toxic Releases to Air (toxicity-weighted concentration)			
Traffic Proximity (daily traffic count/distance to road)			
Lead Paint (% Pre-1960 Housing)			
Superfund Proximity (site count/km distance)			
RMP Facility Proximity (facility count/km distance)			
Hazardous Waste Proximity (facility count/km distance)			
Underground Storage Tanks (count/km^2)			
Wastewater Discharge (toxicity-weighted concentration/m distance)			
Drinking Water Non-Compliance (points)			
SOCIOECONOMIC INDICATORS			
Demographic Index USA			
Supplemental Demographi			
Demographic Index State			
Supplemental Demographi			
People of Color			
Low Income			
Unemployment Rate			
Limited English Speaking Households			
Less Than High School Education			
Under Age 5	8%	6%	70
Over Age 64	21%	18%	62
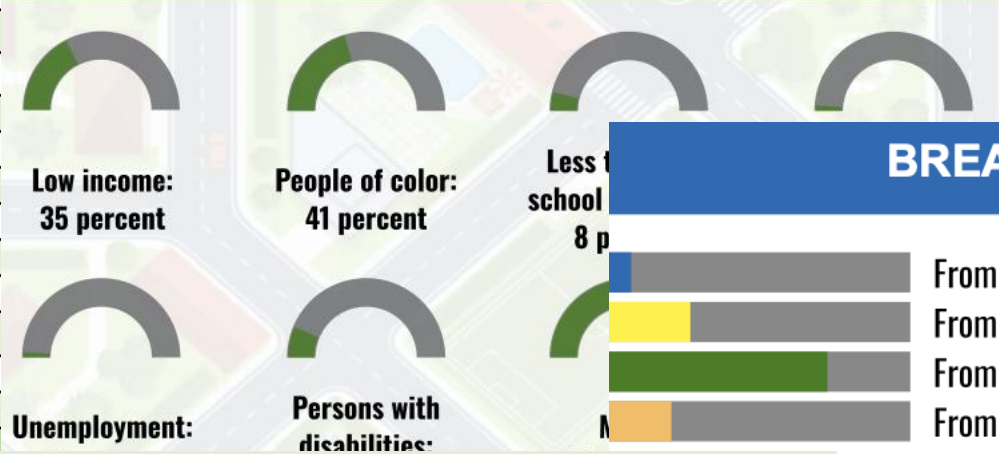
INDICATOR	VALUE	STATE AVERAGE
Low Life Expectancy	23%	18%
Heart Disease	7.3	6.2
Asthma	9.8	9.1
Cancer	8.1	7.3
Persons with Disabilities	13.3%	12.3%

COMMUNITY INFORMATION

Low income: 35 percent

People of color: 41 percent

Less t... school... 8 p...

Unemployment:

Persons with disabilities:

77 years $36,...

Average life expectancy

Per capita income

Nu... hous... 1...

Selected location contains American Indian Reservation Lands* .... Yes
Selected location contains a "Justice40 (CEJST)" disadvantaged community .... No
Selected location contains an EPA IRA disadvantaged community .... Yes

BREAKDOWN BY AGE

From Ages 1 to 4	8%
From Ages 1 to 18	27%
From Ages 18 and up	73%
From Ages 65 and up	21%

ENGLISH SPEAKING BREAKDOWN

Speak Spanish	60%
Speak Other Indo-European Languages	0%
Speak Asian-Pacific Island Languages	40%
Speak Other Languages	0%

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Key factors in siting emitting generation

- Demographics
  - Low-income households
  - Unemployment
  - Limited English
  - Less than HS education
  - Age (<5, >64)
- Environmental Factors
  - Air pollution (ozone, PM, NOx, toxics)
  - Water discharges
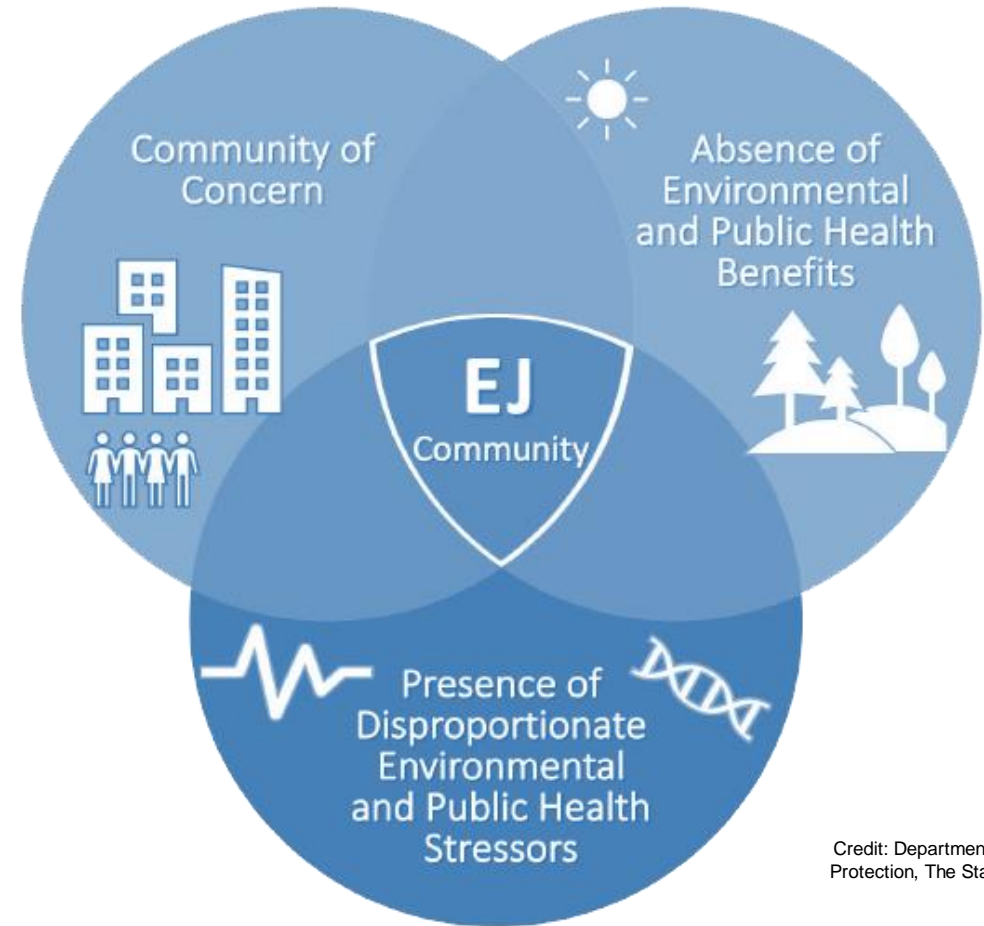 - Superfund and waste exposure
  - Traffic

EXAMPLE

Lincoln

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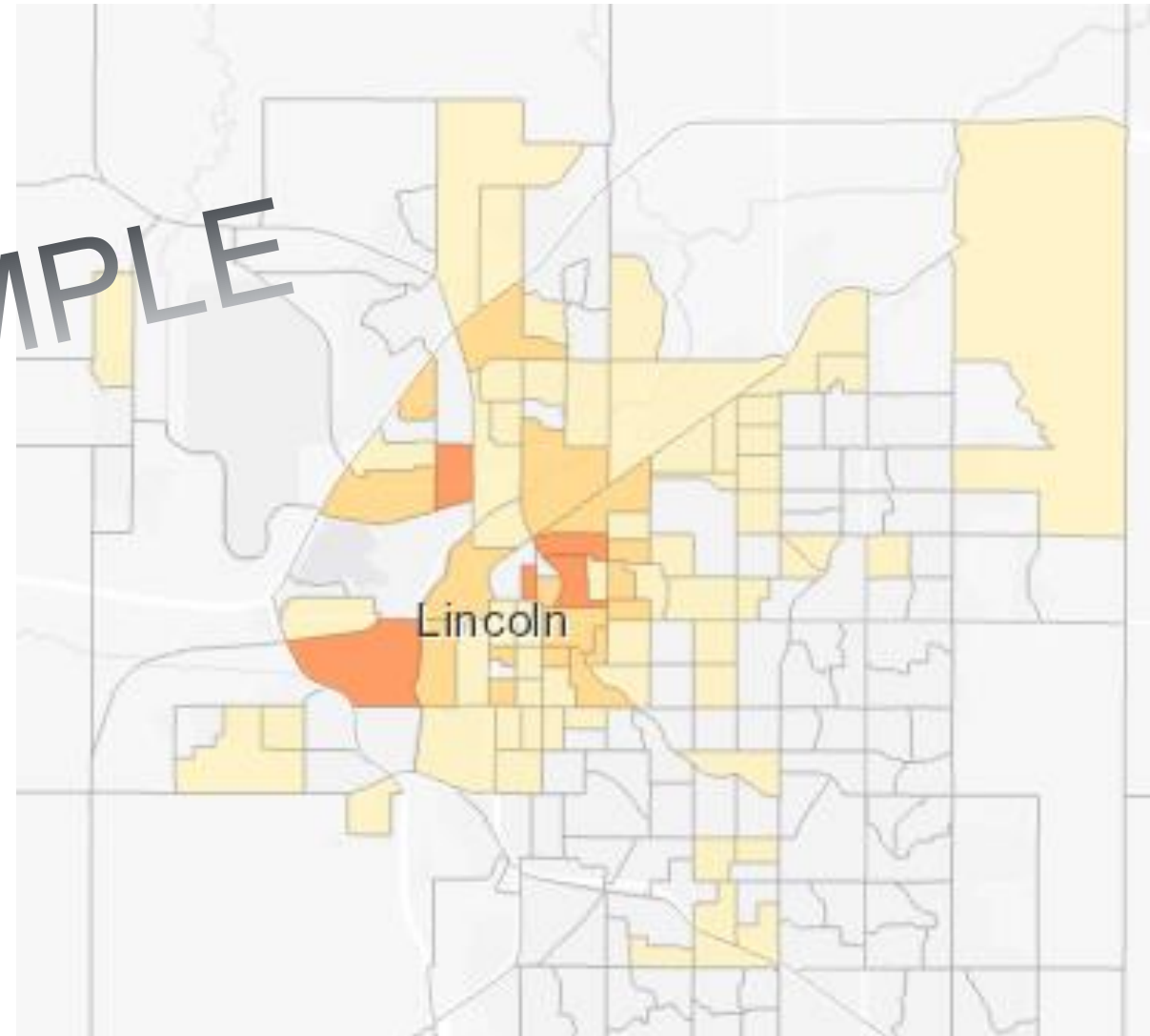
Cumulative Impacts

Cumulative impacts are defined as the totality of exposures to combinations of chemical and non-chemical stressors and their effects on health, well-being, and quality of life outcomes.

- Chemical stressors exist in environmental media and can cause adverse health effects (e.g., air pollutants, water contaminants).

- Non-chemical stressors can be found in the built, natural, and social environments (e.g., noise, socioeconomic disadvantages, lack of green space).

https://www.epa.gov/sciencematters/epa-researchers-release-cumulative-impacts-report-prioritizing-environmental-justice

Credit: Department of Environmental Protection, The State of New Jersey[4]

The presence of disproportionate burden and lack or absence of environmental and public health benefits need to be examined in light of historical and existing community concerns.

Understanding each community's unique past and present experience is essential in finding solutions.

Bring regulators along

- Meet with regulators at project outset
  - Their bandwidth may hinder their involvement
- Include them in community engagement invitations
  - They may not opt to attend but this will keep them aware
- Include initial screening information as well as subsequent activities and learnings in permit applications
  - Include in cover letter or an addendum if not in the application itself

Be sure to describe how environmental justice and community engagement were considered and influenced project plans and decisions

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Community Engagement

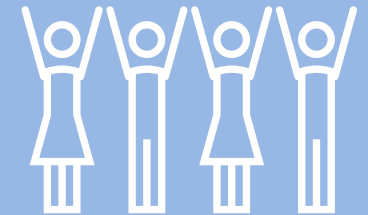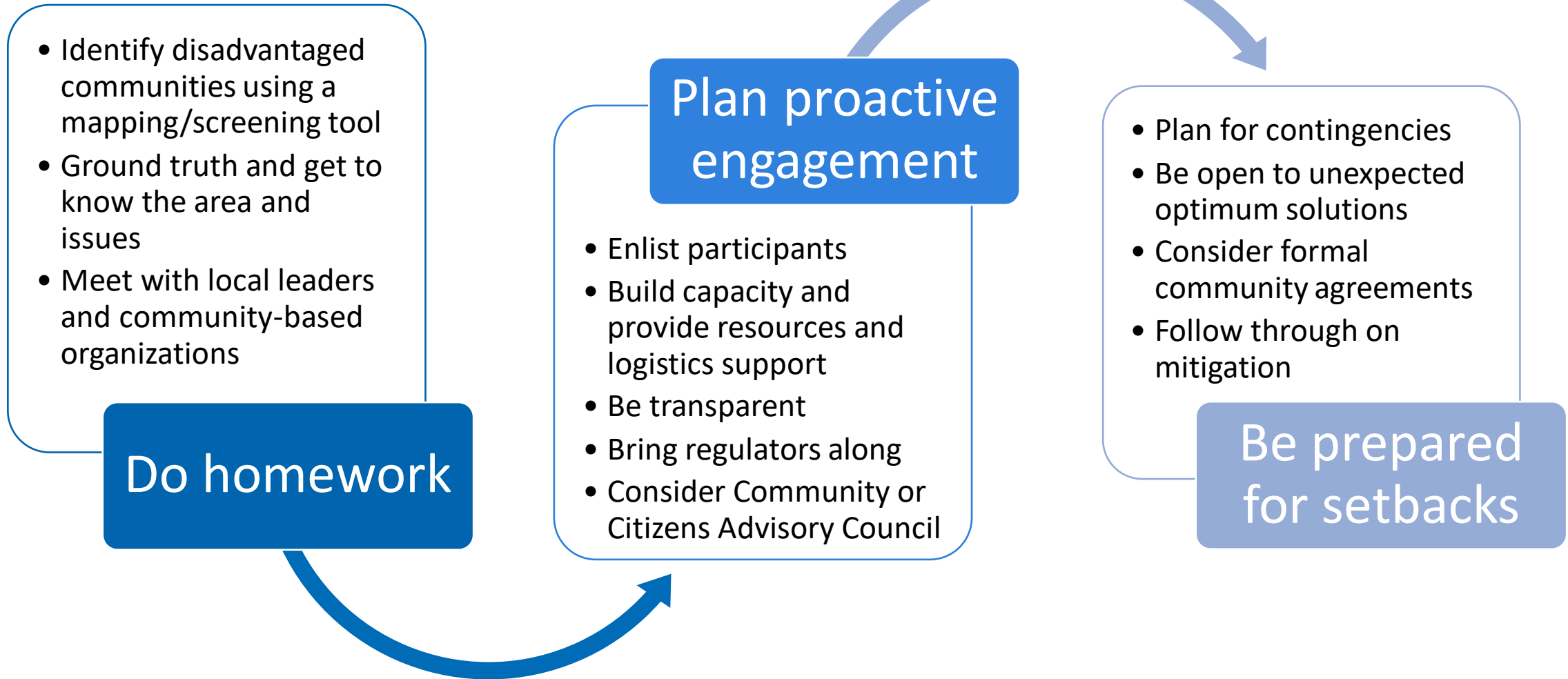# Environmental Justice Best Practices for Community Engagement
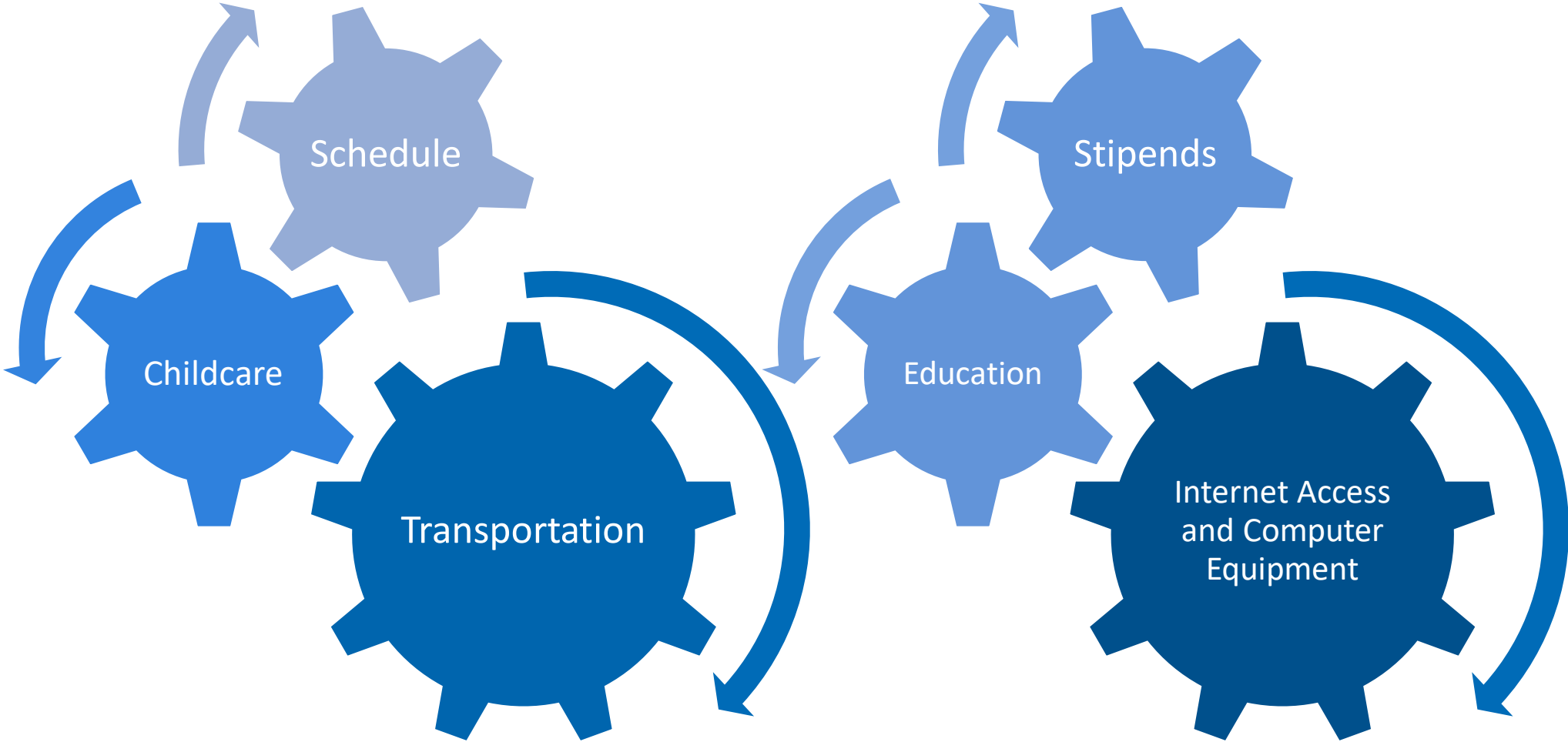

Listen

Inform

Engage

Collaborate

Empower

Community Engagement

- Identify disadvantaged communities using a mapping/screening tool
- Ground truth and get to know the area and issues
- Meet with local leaders and community-based organizations

Do homework

Plan proactive engagement

- Enlist participants
- Build capacity and provide resources and logistics support
- Be transparent
- Bring regulators along
- Consider Community or Citizens Advisory Council

- Plan for contingencies
- Be open to unexpected optimum solutions
- Consider formal community agreements
- Follow through on mitigation

Be prepared for setbacks

From **Informing** to **Involvement** to **Empowerment**

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Engagement – Capacity Building

Schedule

Childcare

Transportation

Stipends

Education

Internet Access and Computer Equipment

Passive Approaches May Not Yield Desired Results

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Tribal Relations

- Tribes are sovereign nations
  - Opportunities for ownership and/or income streams
- Some tribes have NEPA and/or environmental professionals
  - Several federal environmental laws authorize EPA to treat eligible federally recognized Indian tribes as a state (TAS) implementing and managing certain environmental programs and functions
  - Liaison, review permit applications and NEPA documents, comment, intervene

- Traditional Cultural Properties (TCPs)
  - Traditional religious and cultural importance
  - Determined by the community that values is
  - May be a landscape, water resource, or site

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Justice40 for Government Grants

J40 Expectations

- Community and Environmental Benefits
  - Sharing project benefits with disadvantaged, overburdened, and vulnerable communities
  - Relationship building and meaningful involvement
  - Cleaner environment, more compatible land uses, nature-based solutions
  - Relieve high energy burdens, provide mobility, increase electrification/decarbonization
  - Improved infrastructure, resilience and community development

- Quality Jobs & Economic Revitalization
  - Job creation and local supplier opportunities in clean energy, at prevailing wages, in the local community
  - Efforts to attract, train, and retain a skilled workforce (especially STEM)
  - Reach underserved and underrepresented populations
  - Opportunities for those have lost jobs due to fossil energy job displacements
  - Free and fair choice to join or form a union

Specific opportunities will vary by project

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Core elements of the J40 Implementation Strategy

- **Energy and Environmental Justice Assessment**
  - report all impacts inclusive of benefits, neutral/uncertain impacts, and disbenefits/harms
  - examine how these impacts are distributed among different groups of people and impacted communities

- **Implementation Strategy**
  - outline concrete steps to implement energy and environmental justice actions to maximize benefits and minimize harms/disbenefits
    - plan to measure, track, and report all project impacts
    - staffing and resource plan

Words in the plan/proposal need to match those in the FOA

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Assessing Equity and Environmental Justice

- **Identify** disadvantaged communities in the area impacted or influenced by the project.
- **Assess** the existing situation or energy infrastructure and how that may shift due to the project.
  - Characterize affected communities and focus on disadvantaged communities; describe legacy, current, cumulative, and future impacts and how these impacts manifest for communities at the 'fenceline' or for those otherwise experiencing the impacts, including disparate impacts
  - Cost benefit analyses should include environmental and health impacts as sell as socio-economic impacts on the affected communities
  - Consider relevant public health and industry data concerning the potential for multiple exposures or cumulative exposure to human health or environmental hazards for disproportionate effects
  - Cultural, social, occupational, historical, or economic factors may amplify effects
- **Determine** project's likely and realistic impacts and how to measure them

Impacts and benefits are place-based
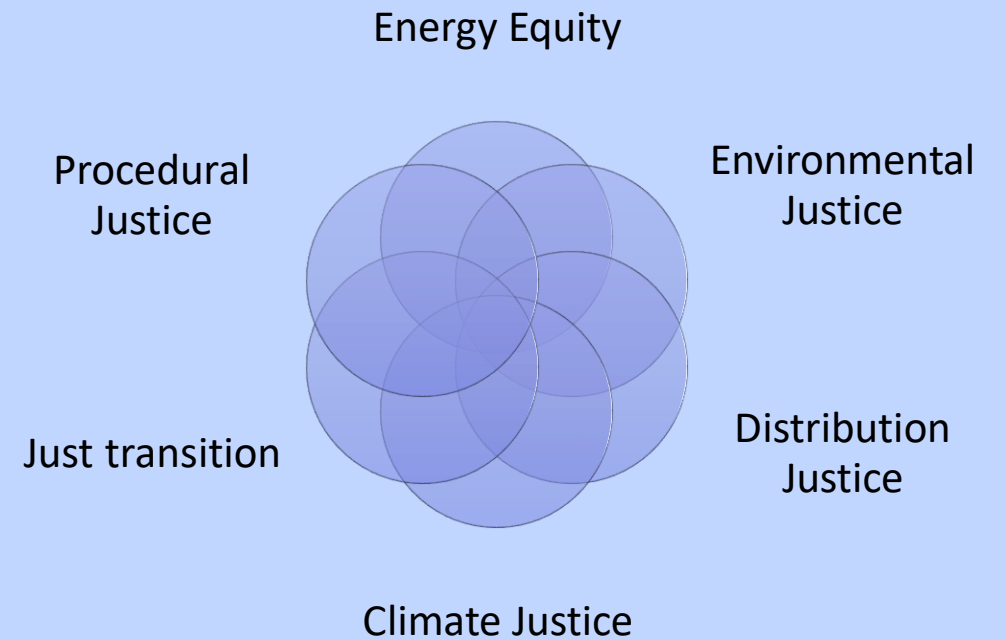
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EDIG Overview

Equitable Decarbonization
INTEREST GROUP

Enhances understanding of the issues, risks, and opportunities associated with equity and equitable decarbonization through monthly meetings, webinars, and workshops

Develops resources, analytical tools, metrics, and decision-making support that can advance equity and support development and enhancement of equity and environmental justice programs

Collaborates to develop frameworks, understand maturity, share leading practices and incubate ideas for advancing an equitable clean energy transition

Energy Equity

Procedural Justice

Environmental Justice

Just transition

Distribution Justice

Climate Justice
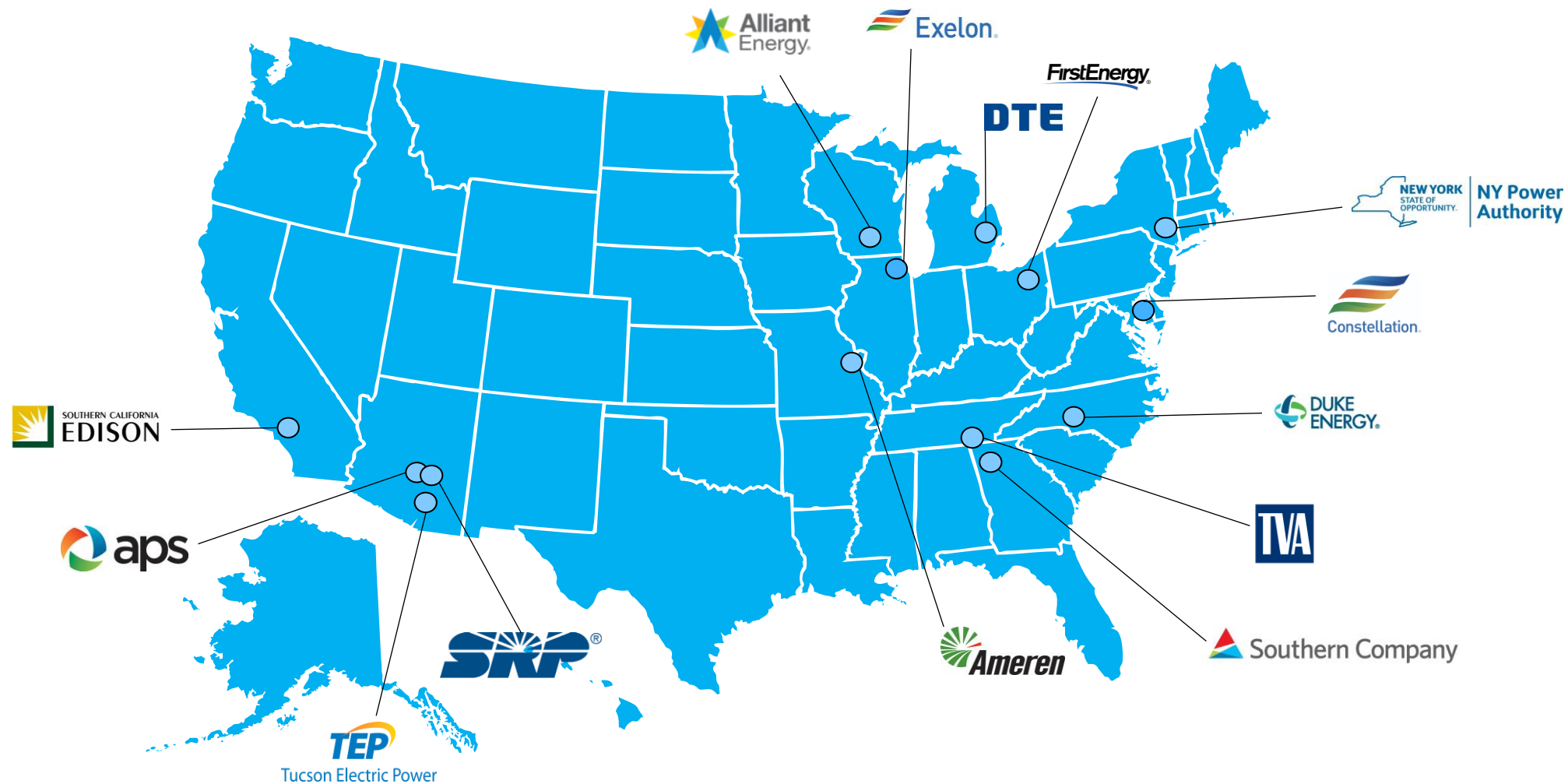
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Helping turn Concepts to Action

01 — **Awareness and training** through EPRI and company-provided resources centered around equity, environmental justice, and community engagement

02 — **Evaluate external drivers and internal policies, programs and resources** with support from skilled professionals

03 — **Design and execute programs and initiatives** with support from skilled professionals

04 — **Public commitments to equity**, environmental justice, and/or community engagement through company policies and frameworks

05 — **Design tailored programs resources** in response to the growing need for resources that are audience-, sector-, or community-tailored

06 — **Measure progress** of more equitable outcomes and meaningful engagement increasing community trust and acceptance

Advancing equity to enable a successful transition

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Sampling of Equity and EJ Resources

- [screening tools](#)

- [EEJ for coal plan repowering](#)

- [equitable decarbonization research roadmap](#)

- [climate vulnerability](#)

- [equitable electrification](#)

- [value of resilience](#)

- [environmental permitting](#)

- [equitable decarbonization](#)

- [navigable pdf describing equity across they energy system](#)

- [siting renewables and storage](#) and [energy delivery infrastructure](#)

- [community engagement leading practices report](#) and [community engagement brief](#)

- [equity metrics landscape](#) and [measuring energy justice](#)

- [equity and resilience](#)

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