



**EQUITY IN A  
CLEAN ENERGY  
ECONOMY**

# National Workshop Equity in a Clean Energy Economy

August 25<sup>th</sup> – 26<sup>th</sup>, 2022





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# Weaving Energy Equity into Utility Customer-Side Programs



# Weaving Energy Equity Into Utility Customer-Side Programs



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Managing Partner



# Intro to Equity Metrics

August 26, 2022

# ECEE Organizing Principles



## Equitable

- Improving universal access, including clean energy
- Ensuring inclusion in strategy/decisions (procedural equity)
- Ensuring fair division of costs and benefits (distributive equity)



## Clean

- Significantly reducing carbon emissions and other pollutants
- Adapting to and mitigating negative climate change impacts
- Promoting sustainable approaches to serving at-risk customers



## Resilient

- Keeping the lights on and maintaining power quality
- Adapting grid for distributed generation and smart tech
- Providing greater resiliency for vulnerable communities



## Affordable

- Lowering energy burden on at-risk customers
- Providing greater access to financing and consumer credit
- Evaluating clean energy investments on rates and rate design

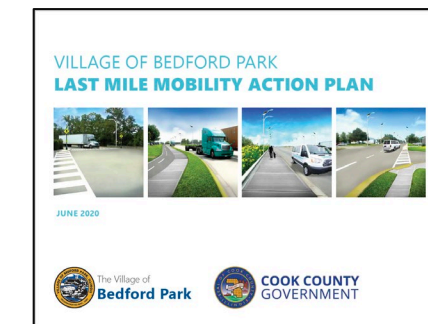
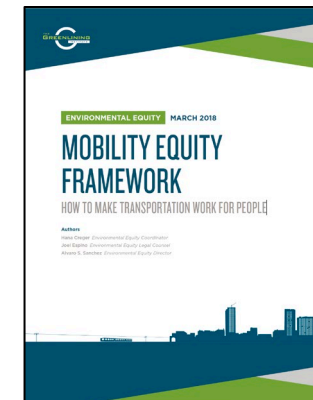
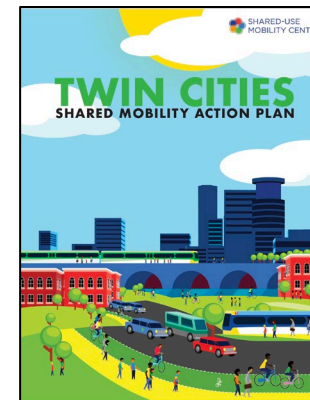
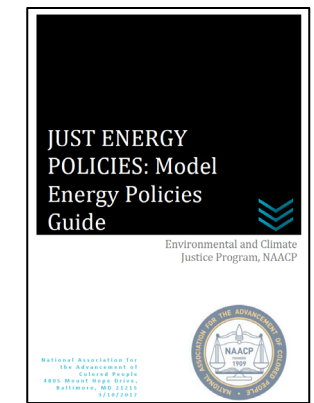
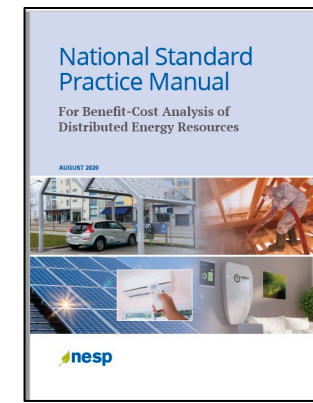
# Conceptual Frameworks

In September 2021, ECEE presented an overview of equity analysis work

Seven frameworks were featured:

- Equity was a central premise
- Frameworks can be used for various purposes
- Solid metrics (key performance indicators) were identified

	Society	Region/ Utility	Community	Individual
Equitable				
Clean				
Resilient				
Affordable				



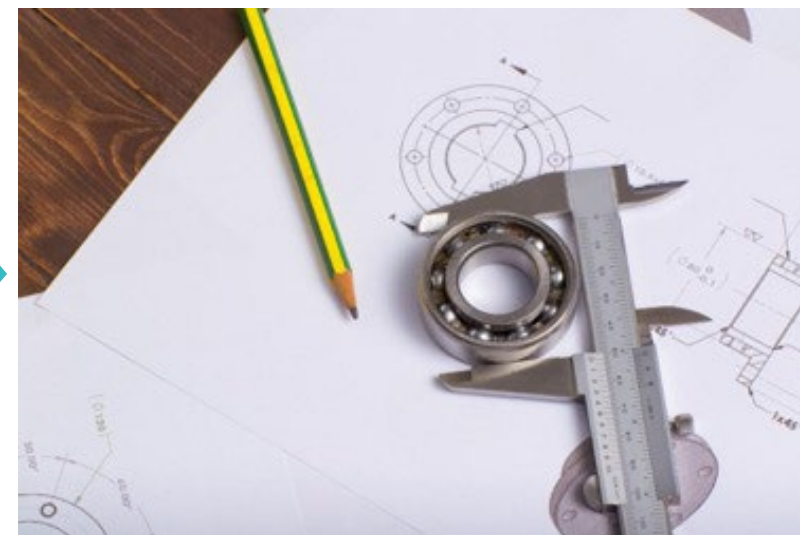
# Moving from Concept to Application

## Conceptual Framework

	Society	Region/ Utility	Community	Individual
Equitable				
Clean				
Resilient				
Affordable				

*Move from  
Concept to  
Application*

## Application & Metrics



***Framework assists with prioritization, planning, and evaluation as part of a portfolio of clean energy options focused on at-risk customers and realities***

Source: "Delivering on Equity Goals: Conceptual Frameworks and Metrics" Webinar for the Equity in a Clean Energy Economy Collaborative. September 22, 2021.

# General Findings and Common Gaps

## Findings

- Lots of great work being done
- Related topics are commonly featured in mainstream media now as well as academic, advocacy, and thought leadership publications
- Much of the public cares about climate disruption and wants a transition to a clean energy economy and supports equity and environmental justice. However, few see or understand the interdependencies.
- Blind spots among passionate and expert advocates are common
- Holistic approaches are very evident in transformation of food supply chain and offer guidance for energy equity

## Gaps in the Sources

- Big picture energy transition studies rarely address low-to moderate income impact, social justice, or equity concerns
- Sources often have very creative concepts for supporting underserved residents beyond just energy to build more livable communities
- Only a few sources consider operational issues that could result in costs to other consumers
- Source often acknowledge that low-income people have historically been overlooked by traditional environmental movements, they often fail to give reasons why, or to suggest specific strategies to change this

Source: "Delivering on Equity Goals: Conceptual Frameworks and Metrics" Judith Schwartz, September 22, 2021.



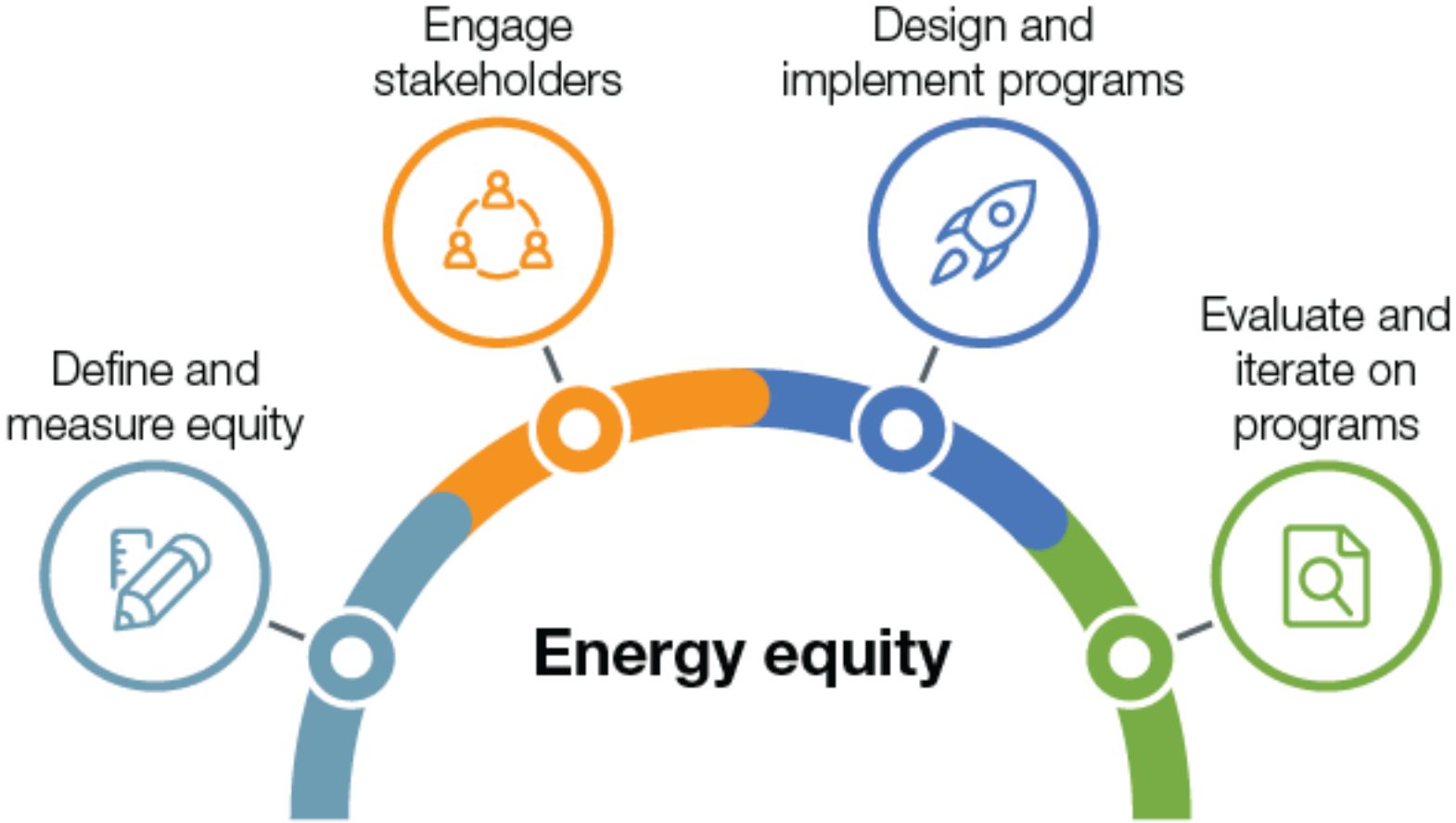
# Weaving Energy Equity Into Utility Customer-Side Programs

Ben Nathan, E Source

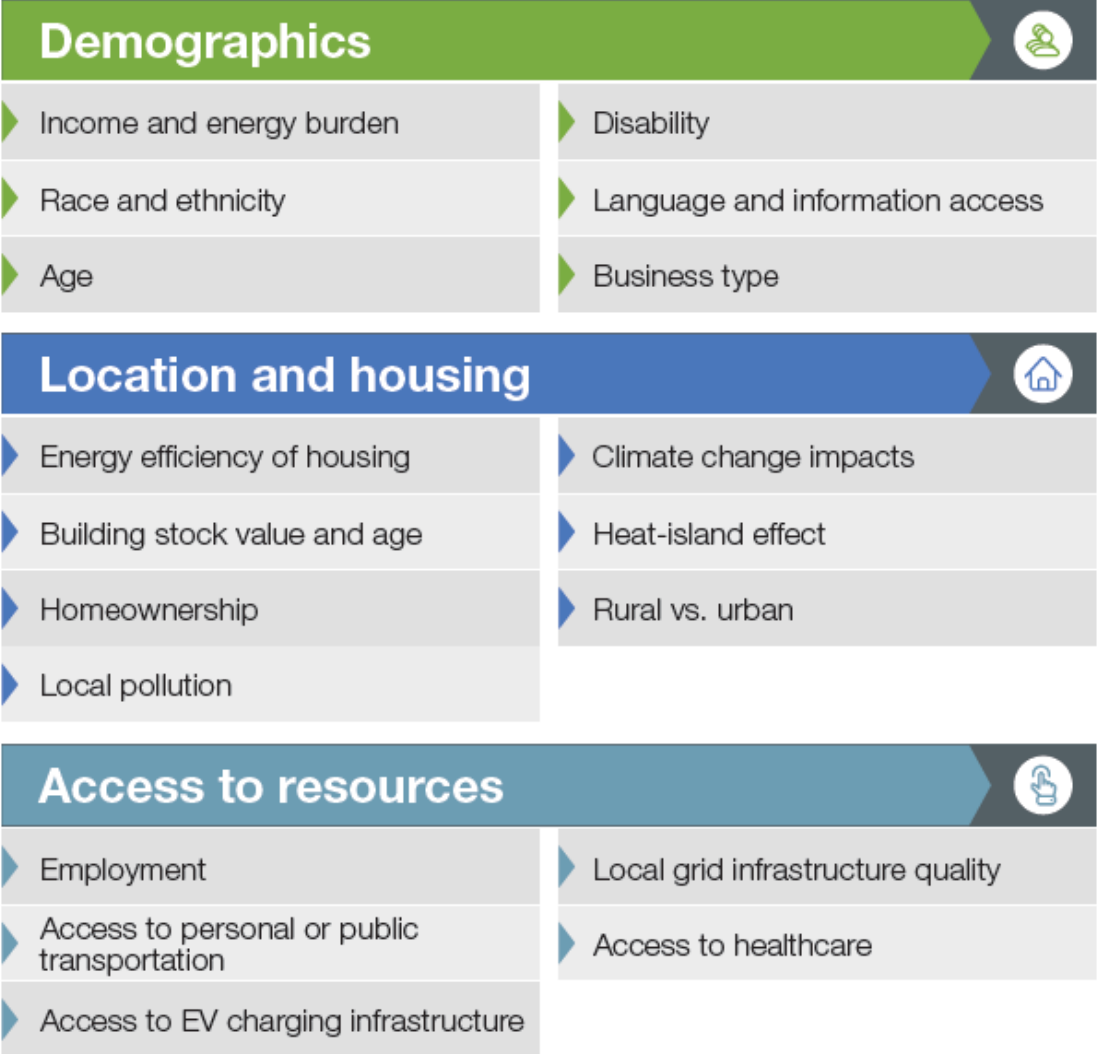
Ezell Watson III, Oregon Public Utility Commission



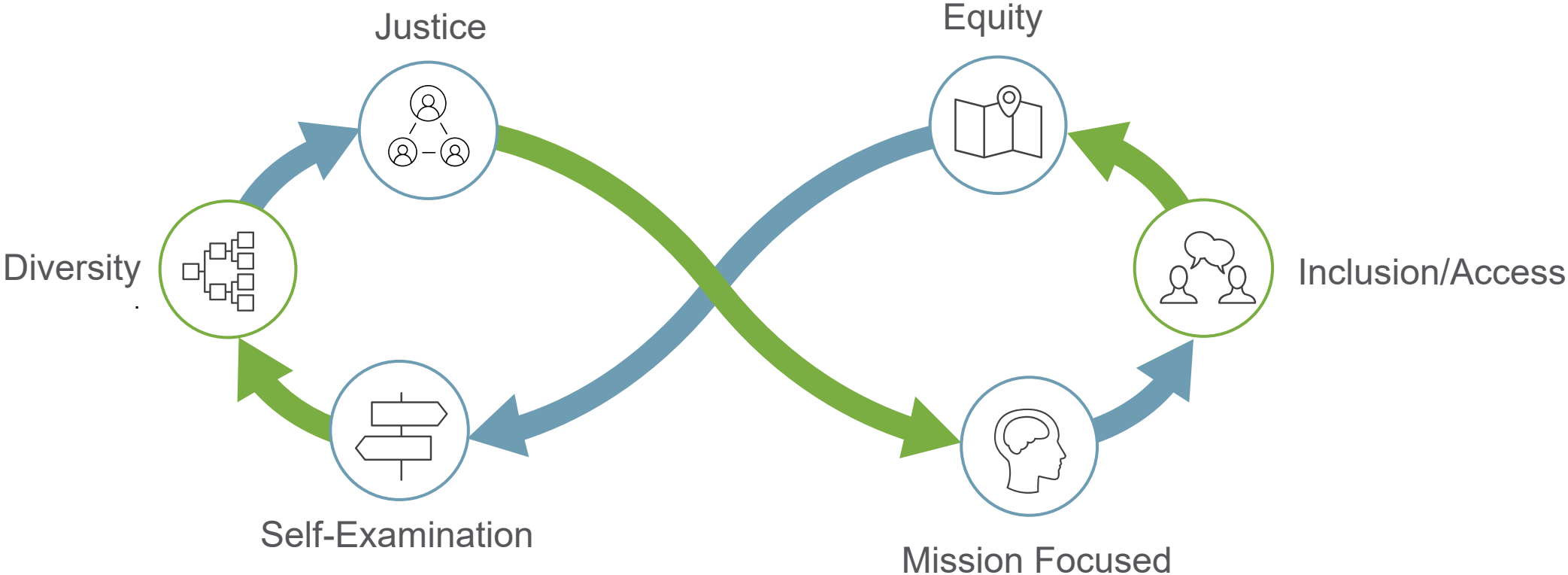
# E Source's energy equity framework



# Define and measure equity

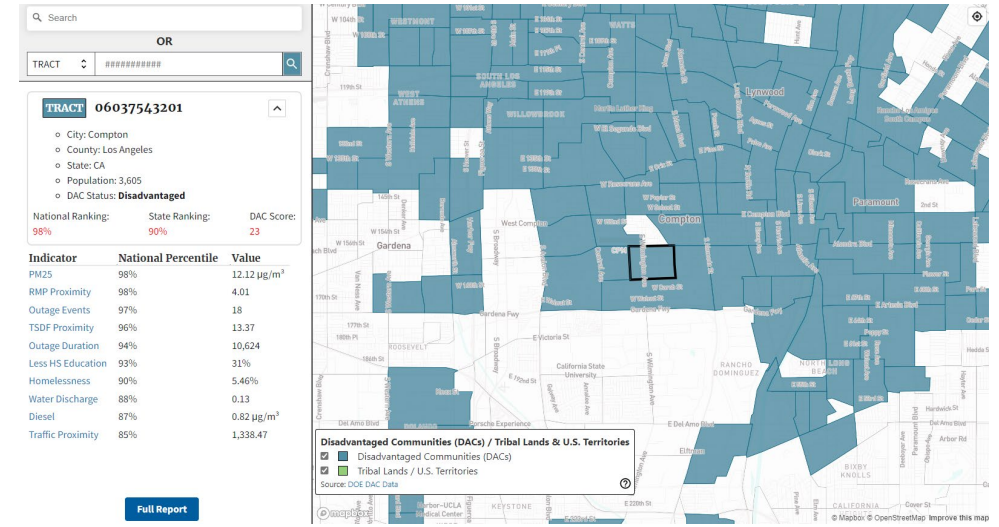


# Dimensions of Equity (The JEDI)

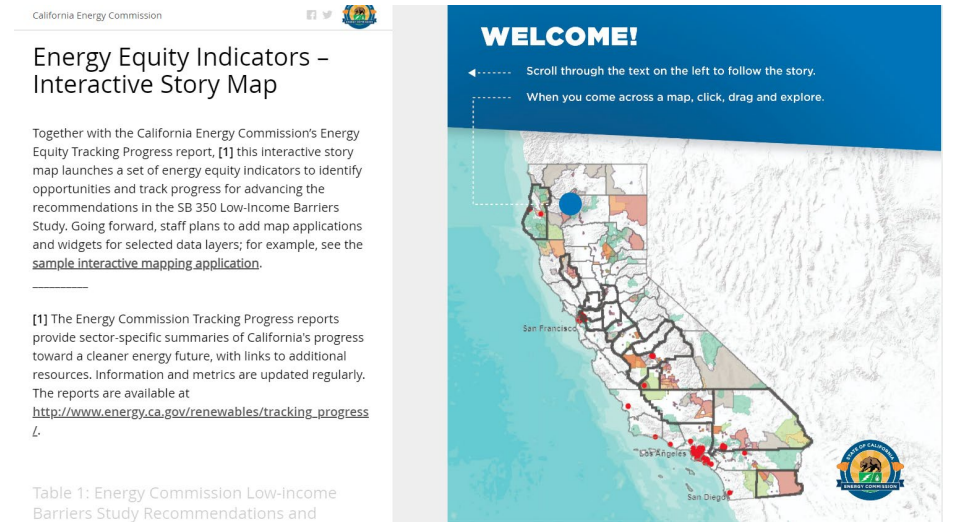


# Equity metrics

- California's [Energy Equity Indicators](#) uses census tract-level GIS mapping and environmental, health, and socioeconomic data to identify disadvantaged communities that are targeted through utility programs.
- US DOE's [Justice40 Initiative](#) disadvantaged communities includes 36 burden indicators collected at the census tract level. It maps communities through the [Energy Justice Dashboard](#).
- [The New York Climate Justice Working Group](#) identified 45 different "indicators" based on income, race, employment, homeownership, pollutants and health, and potential climate risks.



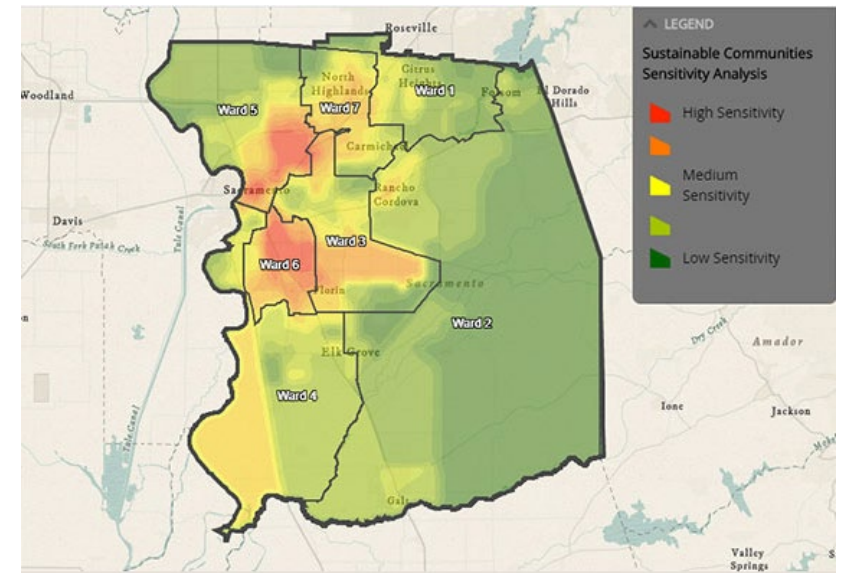
US DOE's Energy Justice Dashboard



California's Energy Equity Indicators

# Equity metric strategies

- SMUD's [Sustainable Communities](#) uses heat mapping to indicate underserved local areas by lack of community development, income, housing, employment opportunities, transportation, medical treatment, nutrition, education and clean environment.
- The City of Longmont, Colorado surveyed its residents on energy burden, affordability, and awareness in its [Just Transition](#) program. It held listening groups and reviewed data to identify places that might not have access to electricity to shape its equitable climate action goals.
- Consumers Energy analyzed how its energy efficiency pilot programs might impact certain communities differently. It found that it could have the greatest impact on older neighborhoods with low-income residents. These neighborhoods historically had highly loaded systems, high energy use, and a high percentage of older and inefficient building stock.



SMUD's Resource Priorities Map

# The E Source approach to more equitably serve LMI customers



Data-driven LMI  
customer cohort  
creation

Apply E Source's data science approach to utility customer data to develop "like" groups of LMI customers



Ethnographic market  
research with LMI  
cohorts

Bring LMI cohorts to life through ethnographic market research



Collaborative design  
thinking workshop

Generate customer-centric solution concepts based on customer wants, needs, and challenges identified

# Common characteristics of being in a cohort that struggles the most

- Higher weather sensitivity in gas and electric use
- Larger energy burden (bill-income ratio)
- More likely to contact the utility
- Higher bill and payment amounts



# Why ethnographic research?

- It's used to understand people's beliefs, experiences, attitudes, behaviors, and interactions
- It brings in the human element to contextualize what we see in the data
- It helps us develop empathy for our customers
- It helps us avoid making assumptions or treating all customers the same





**What problems are you trying to solve  
for your customers?**

# Engage stakeholders



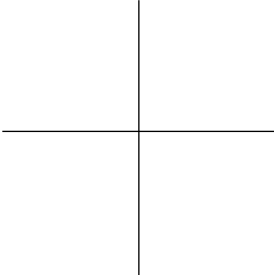
# Equity-focused partnerships

## PSE’s [Equity Advisory Group](#)

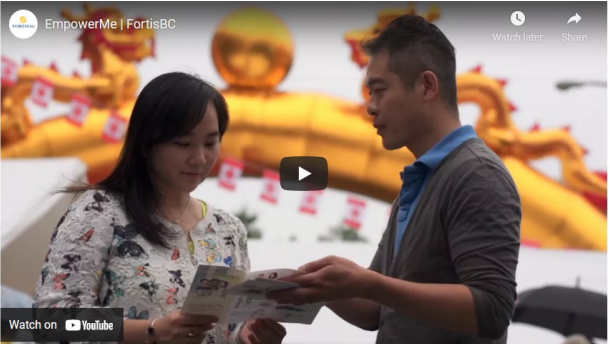
- Defines how the PSE addresses equity
- Provides input and feedback on planning documents
- Supports community engagement activities

## Austin’s [Community Climate Ambassadors](#)

- 12 ambassadors from different communities
- Host conversations about climate issues in communities
- City uses ambassadors’ findings to shape [Climate Equity Plan](#)



### Empower Me



Empower Me is one-on-one energy conservation program that is specifically for South Asian, Chinese, Korean and Persian families who are interested in creating a safer and more comfortable home while reducing energy bills. The program is delivered in the participant’s native language and focuses on



FortisBC [Empower Me](#)

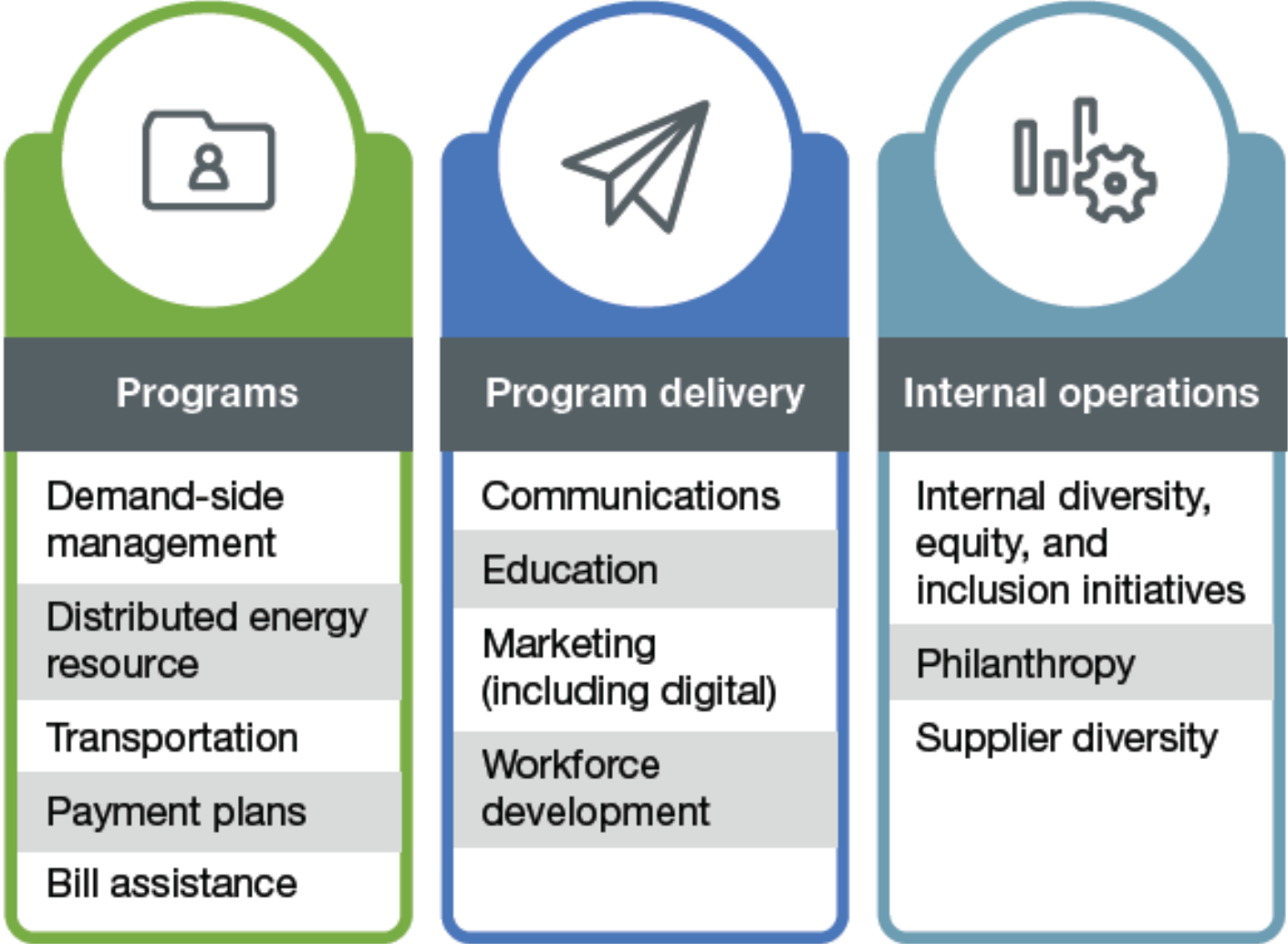


SoCalGas [CLEO](#)



**How are you engaging key internal and external stakeholders to advance energy equity?**

# Design and implement programs



# Equity-focused customer-side programs

## Energy efficiency

- Indigenous weatherization and efficiency: [IESO](#)
- Small business financing: [Energize Connecticut](#)

## Distributed energy resources

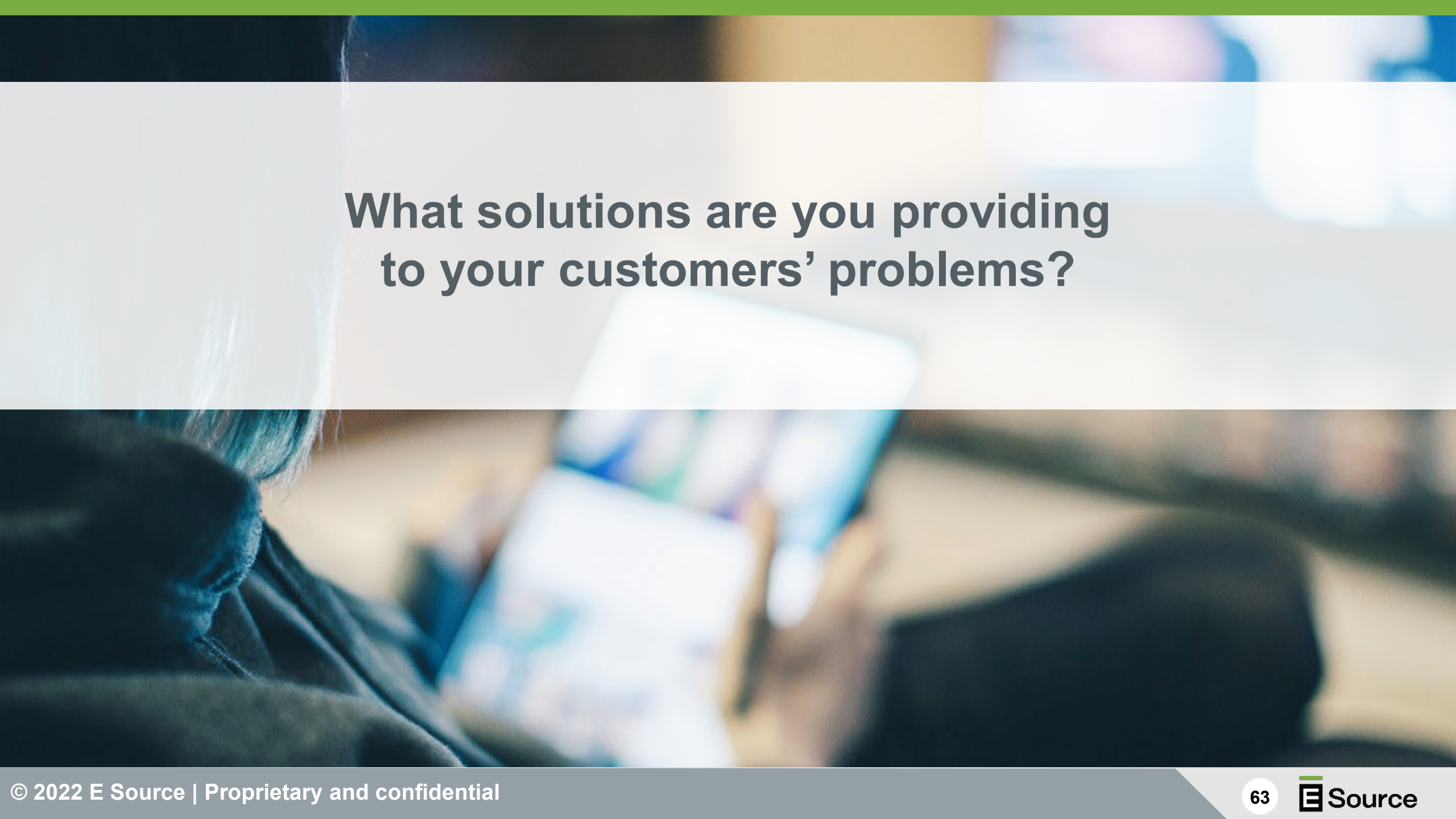
- Solar plus storage: [PG&E](#) and [Southern California Edison](#)
- Smart grids: [Portland General Electric](#)

## EVs and mobility

- Transportation electrification: [Xcel Energy](#) and [Seattle City Light](#)
- EV make-ready programs: [Con Edison](#) and [NYSEG](#)




Source: Con Edison




**What solutions are you providing  
to your customers' problems?**




# Evaluate, report, and iterate on programs

Utility benefits 	
▶ Peak load reduction	▶ Less debt written off
▶ Transmission and distribution savings	▶ Lower collection costs
▶ Reduced arrearages	▶ Fewer customer calls
▶ Reduced carrying costs	


Participant benefits 	
▶ Operation and maintenance cost savings	▶ Increased employee productivity
▶ Health benefits	▶ Increased property values
▶ Increased comfort	▶ Benefits to low-income customers

Societal benefits 	
▶ Public health and welfare	▶ Economic development
▶ Improved air quality	▶ Increased employment
▶ Water quality and quantity	▶ Energy security
▶ Fewer coal ash ponds and coal combustion residuals	▶ Benefits to low-income families

# Equity-focused evaluation and reporting

- Los Angeles Department of Water and Power's [Equity Metrics Data Initiative](#)
- Energy Trust of Oregon's [Progress toward diversity, equity and inclusion goals](#)
- Performance-based regulation at [Hawaii Energy](#). Ameren Illinois, ComEd, Consumers Energy, and DTE Energy are required to track and meet certain energy-equity metrics in their DSM portfolios to receive performance incentives from the state.



**How have you integrated equity considerations  
into your program evaluations?**

# Energy equity resources

## At E Source

- Visit [www.esource.com/energy-equity](http://www.esource.com/energy-equity) to learn about our energy equity resource and solutions for utilities, including our whitepaper [The energy-equity framework that benefits customers, utilities, and underserved communities](#).

## And elsewhere...

- **Academia** like the [Energy Equity Project](#) and [Initiative for Energy Justice](#)
- **Advocates** like [Energy Efficiency for All's Equity Working Group](#), [WE ACT for Environmental Justice](#), and the [Partnership for Southern Equity](#)
- **Allies** like the [Green & Healthy Homes Initiative](#) and [Urban Sustainability Directors Network](#)
- **Research organizations** like [ACEEE's Leading with Equity Initiative](#) and the [Pecan Street Center for Race, Energy & Climate Justice](#)
- **Regional Energy Efficiency Organizations**, like [Northeast Energy Efficiency Partnerships](#) and the [Southeast Energy Efficiency Alliance](#)
- **The federal government**, through the [US Department of Energy](#), the [US Environmental Protection Agency](#), and national labs like the [Pacific Northwest National Lab](#) and [National Renewable Energy Lab](#)

# E Source energy equity solutions

## Learn and connect

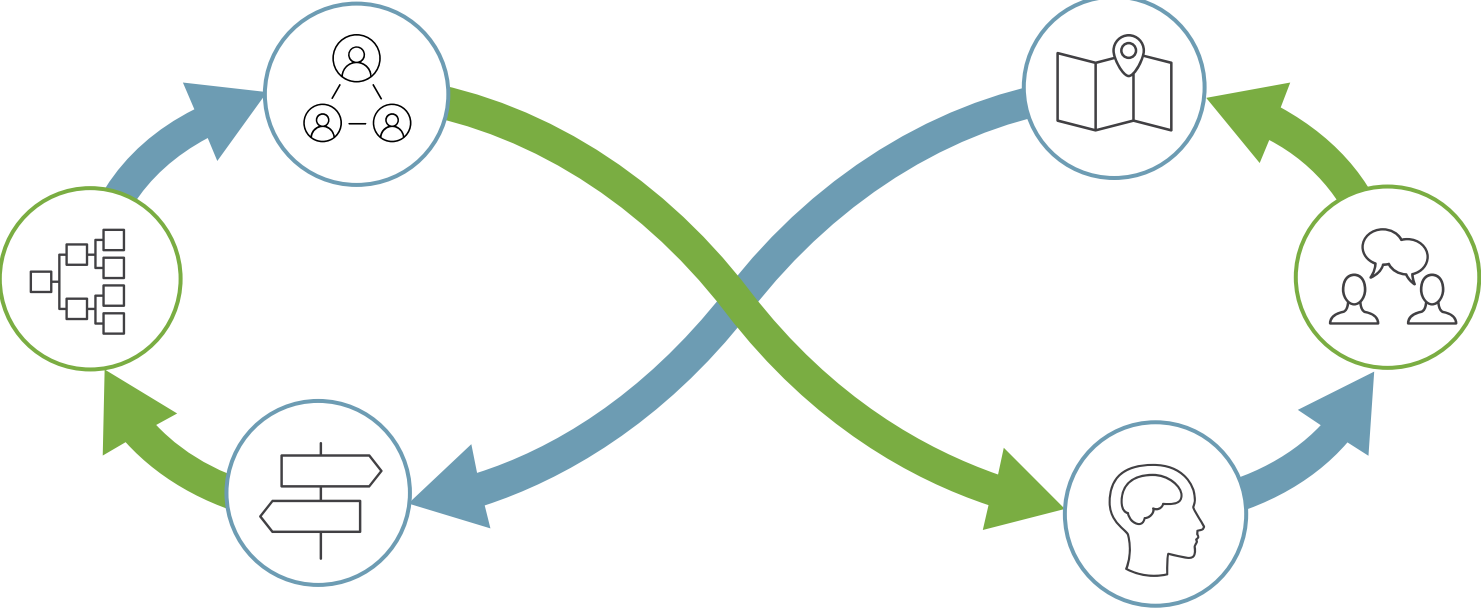
Get curated best practices about which strategies are working at leading utilities, from E Source [Research and Advisory](#) experts. And develop connections with your industry peers to share your experiences.

## Design

How might we better serve these cohorts?  
Leverage design thinking to design programs and implementation strategies focused on customer needs, with E Source [Management Consulting](#).

## Continuous innovation

Feed detailed data back into artificial-intelligence (AI) models for continual learning and innovation as your understanding of the customer deepens, with E Source [OneInform](#).



## Optimize

Go to market with a personalized approach. Use [data science](#) solutions to match the right customers with the right programs to achieve utility and equity goals.

## Understand with data

Create a digital replica of each customer, including their energy profile. E Source [data science](#) models cluster them into cohorts with common characteristics.

## Understand with VOC

Apply voice-of-the-customer (VOC) ethnographic research at the cohort level to humanize the data and bring the customers to life, with E Source [Market Research](#).

# Self-reflection





**What steps will we take going forward so that equity is at the forefront of our decisions?**

# DEFG

Customer Insights & Advisory Firm

An **E Source** Company

## Contacts

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*DEFG, An E Source Company, is a customer insights and advisory firm in the utility space. Through collaborative research, data analysis and peer-to-peer networking, we help our clients achieve ways to better serve their customers.*



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