

Framework for an equitable energy supply transformation



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MCG is a Boston-based sustainability consulting firm specializing in renewable energy policy, strategy development, and climate change planning. Since 2008, MCG has supported local-level renewable energy policy, procurement, training, and engagement initiatives in over 200 communities across all 50 states, and has assisted state and national governments around the world with development of clean energy initiatives.



The Innovation Network for Communities (INC) is a national non-profit organization focused on helping cities achieve carbon neutrality and long-term resilience to climate disruptions.

FRAMEWORK FOR EQUITABLE ENERGY SUPPLY TRANSFORMATION

BACKGROUND

This framework can help cities embed equity in city energy supply system transformation to low- or zero-carbon sources. It presents a set of questions grouped by theme for city staff to consider when developing plans and policies for transforming their energy supply to meet their climate goals.

The framework is part of a larger project providing research-based solutions for cities in two areas: (1) developing an energy systems primer that characterizes processes and practices of city energy supply transformation for city staff and funders and (2) conducting a needs assessment to determine what forms of support would be most valuable to help cities accelerate their energy system transformation. This framework is meant to inform and support both aspects of the project and provide an accessible resource for cities and funders for incorporating equity and energy transformation.

Box 4: Four Types of Equity

The framework uses the Urban Sustainability Directors Network (USDN) definition of four types of equity for sustainability planning, decision-making, and program and policy design.ⁱ These four aspects of equity are often overlapping, but the different points of intersection between energy supply transformation and equity outlined in the framework will necessarily emphasize different types of equity. The USDN definitions are:

Procedural (Inclusion): inclusive, accessible, authentic engagement and representation in the process to develop or implement programs or policies.

Distributional (Access): programs and policies result in fair distributions of benefits and burdens across all segments of a community, prioritizing those with highest need.

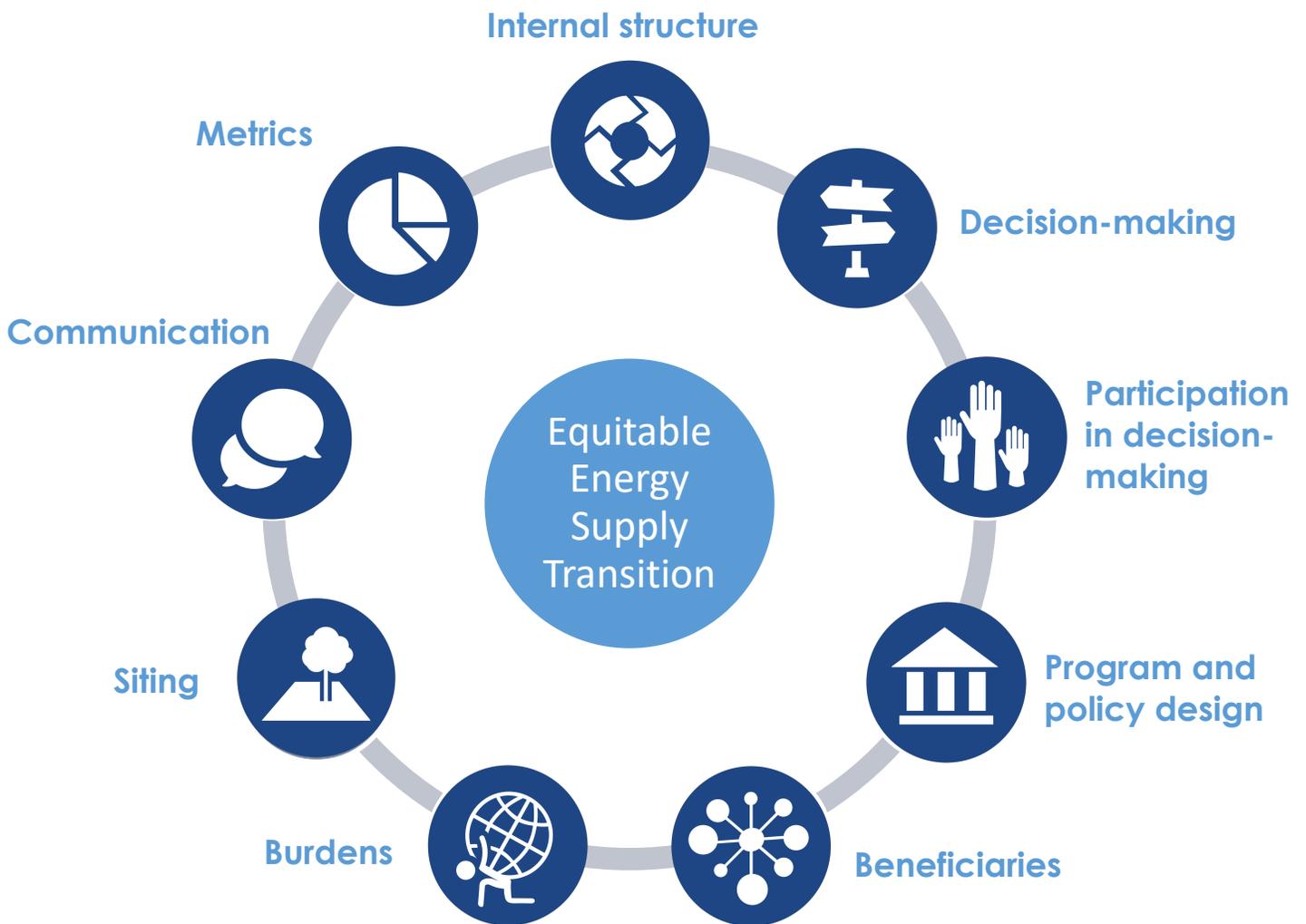
Structural: decision-makers institutionalize accountability; decisions are made with a recognition of the historical, cultural, and institutional dynamics and structures that have routinely advantaged privileged groups in society and resulted in chronic, cumulative disadvantage for subordinated groups.

Transgenerational: decisions consider generational impacts and don't result in unfair burdens on future generations.

FRAMEWORK: WHAT DOES EQUITABLE ENERGY TRANSFORMATION LOOK LIKE?

As communities across the country pursue aggressive renewables and greenhouse gas targets, the energy generation mix will evolve rapidly, driven by programmatic and policy shifts. The topics and questions below provide a framework for cities to use when planning for and implementing policies and programs to support their low-to no-carbon energy transition. The questions can help cities think through key ways to embed equity into a city's energy transformation.

Figure 1 - Overview of framework for equitable energy supply transformation





Internal structure

How is equity defined within the city and department?

Cities should begin by developing an understanding of their current context, and any internal and public-facing goals considering diversity, access, and inclusion. These existing objectives and values can be translated into larger programmatic efforts. Framing questions for internal discussions and dialogue can include:

- ⦿ Is equity part of the internal workplace?
- ⦿ Does the city have diversity and inclusion policies or goals for recruiting and retaining members of the workplace?
- ⦿ Are staff encouraged – or required – to consider equity in their internal departmental processes?
- ⦿ What equity training do city staff and partners have? What frameworks do they use for training?
- ⦿ Are departments benchmarked based on their progress toward equity training and improving internal outcomes?
- ⦿ Are internal equity frameworks or the training applied to the implementation of externally-facing programs for residents and businesses?



Decision-making

How does the city prioritize and make decisions about its energy policy and planning?

Sustainability or environment department staff, other city departments, elected officials, and stakeholders may all have differing levels of power and influence on decisions surrounding energy supply policy. An understanding of these dynamics is crucial when setting new targets or goals. Considerations include:

- ⦿ Is equity part of the city's decision-making process for energy transformation?
 - How is equity defined?
 - What are the city's goals and strategies for including equity, if any?
 - Is the city's leadership supportive of equity goals?
- ⦿ Does the city have a comprehensive plan for energy transformation or climate? If yes, do these plans include equity?
 - Is equity or energy transformation part of broader city plans or priorities?
 - In cases where priorities may conflict (e.g. cost effectiveness vs. equitable access), does the city have a way to prioritize?
- ⦿ What data or analysis does the city use to inform energy transformation decisions?



Participation in decision-making

Who can participate in decision-making processes?

In addition to gaining an understanding of the public officials who influence decision-making, cities should also consider ways to engage the public and other key stakeholders. For example, stakeholders and community groups can be highly engaged and participatory in consultations throughout policy development, or informed through outreach after policy decisions are largely complete. Joint decision-making or consensus-based efforts can offer a more inclusive power dynamic, increase community buy-in for energy programs, and produce positive outcomes. This level of effort requires staff commitment, time, and resources. Key questions to consider include:

- ⦿ What does community or stakeholder consultation for energy transformation look like?
- ⦿ Are engagement practices and processes transparent, accessible, and iterative (i.e. show learning and incorporation of feedback)?
- ⦿ Does the city use practices and resources to address participation challenges (e.g. accessible location and timing, providing transportation to event and childcare on-site, communicating in non-technical jargon, providing translation services, etc.)?
- ⦿ At which phases of program or plan development is there engagement?
 - Is there a process for ensuring residents or representatives of all backgrounds, neighborhoods, businesses, and community organizations can participate?



Program and policy design

How are clean energy programs and policies designed and who has access to participate?

Energy programs and policies (e.g. community choice aggregation or district energy) can enhance inclusivity and access through collaboration in design, public advisory committee(s) during implementation, targeted use of funding, or a variety of other mechanisms. Discussion questions include:

- ⦿ What approach does the city use to design programs? (e.g. collaborative, top-down, or bottom up approach)
 - Does the city work with or provide direct funding to community organizations to co-develop programs around clean energy?
- ⦿ Is land ownership part of determining program participation?
 - Can those who do not own land or property participate?
 - How does the city allocate its land for clean energy projects?
- ⦿ What is the cost to entry or to participate in a clean energy program?
 - Are subsidies or financing available to help those with lower incomes to participate?
 - How are up-front costs considered in determining participation?
 - Are the costs of the program spread evenly across the entire rate or tax base or structured progressively?

- Are the policies or programs considered within the jurisdiction of the city?
 - Can coordination at the regional or state level improve equity outcomes?
 - Is there a role for public-private partnerships, and if yes, is the partnership structured to ensure equitable outcomes?



Beneficiaries

Who gets the benefits and are they distributed equitably?

To support an understanding of project beneficiaries, cities can undertake a stakeholder mapping exercise to gain greater insights into how residents will interact with the proposed policy or program. The city can consider if environmental justice communities, communities of color, the elderly, low-income households, and other disadvantaged populations have been consulted and will benefit from the proposal, especially in cases where such action may be restorative from previous burdens. Questions to consider are:

- Does the program create local jobs, and if so how will people apply for and receive those jobs?
- Is workforce training or development part of a program?
- Who receives financial benefits of a program?
- Who receives environmental benefits and health benefits?
- Does the program consider and improve upon the location of past fossil fuel-based generation sources or other former harms?
- Are those who live near an energy source able to benefit from it?
- What is the reach of the energy benefits?
- Will the benefits change over time and if so, will this change who is impacted?



Burdens

Who bears the costs of energy generation and are they distributed equitably?

To support an understanding of potential project burdens, the city can undertake a stakeholder mapping exercise to gain greater insights into how residents will interact with the proposed policy or program. A benchmarking exercise or interviews can also be completed with community organizations or city staff in jurisdictions with similar active programs. Questions to ask include:

- Who bears the financial costs?
- Who bears the health costs?
- Who bears the environmental costs?
- Does the program exacerbate or mitigate existing disparities such as the digital divide, gentrification, access to jobs, and income inequality?
- Will the burdens change over time and if so, will this change who is impacted?



Siting

Where are renewables or other generation sources or systems sited (generation, transmission, distribution, etc.), particularly larger projects?

Cities should understand how and where energy and other infrastructure projects are sited, and where the benefits of such projects will flow within a community. Points of inquiry include:

- ⦿ Does the city have processes that measure which neighborhoods host various municipal assets for power, as well as other environmentally impactful services (e.g. landfills, water sanitation facilities, major roadways and trucking routes)?
- ⦿ What considerations are made in siting energy generation? Is the highest and best use for the land considered? Over what timeframe?
- ⦿ Can the local community directly access or make use of the generation?
- ⦿ Who is consulted during the siting? Can impacted residents help inform the choice?



Communication

How are energy transformation priorities communicated?

Education and outreach are crucial during both energy policy development and implementation. Cities need to consider the reach of marketing and outreach campaigns, as well as the accessibility of their program messaging:

- ⦿ Are diverse perspectives, cultural, and educational contexts taken into consideration when developing communication materials?
- ⦿ What channels are used to communicate with citizens?
- ⦿ Are translators and translations of materials available?
- ⦿ Are the messengers utilized strong, trusted community voices?



Metrics

What data or analysis is used to measure success?

Data is necessary to measure program success, but also to justify program development. Equity-based programs may conflict with traditional cost-effectiveness tests for energy and with other political priorities. Collecting and designing methods to demonstrate the holistic benefits of more equitable decarbonization programs is key for program sustainability and adoption.

- ⦿ What types of data does the city collect or have access to?
- ⦿ What methodology is used to measure qualitative and quantitative outcomes? Does the city have equity indicators?
- ⦿ What is the current cost-effectiveness framework for community or utility programs, and does it include equity or societal considerations in its cost-benefit calculation?
- ⦿ How is program success defined? Are co-benefits considered?
- ⦿ How are health, environmental, and other societal outcomes documented?

EQUITY AND ENERGY PLANNING IN PRACTICE: LOS ANGELES DEPARTMENT OF WATER AND POWER'S SOLAR ROOFTOPS PROGRAM

The Los Angeles Department of Water and Power (LADWP) is the largest municipal utility in the country. In the first quarter of 2017, LADWP launched a new pilot program offering called Solar Rooftops.ⁱⁱ The program provides owner-occupied single story homes with rooftop solar PV systems at no-upfront cost to consumers. In exchange, the LADWP grid benefits from solar energy production and the city makes progress towards the Mayor’s goal of 35% renewable energy by 2020. Customers that allow the utility to lease their roof receive regular payments over a 20-year term.ⁱⁱⁱ The program is expected to support 300-400 installations. The program also includes a job training component for installing solar panels, designed to address LADWP’s aging workforce. This case example explores how the program corresponds with the major themes of the equity framework.

| Framework Element | Program Element |
|--|--|
| Internal Structure  | <p>The City of Los Angeles committed to link its climate work with efforts to alleviate poverty and improve equity. The City’s Chief Sustainability Officer articulated that sustainability requires addressing the city’s income inequality.^{iv} Program managers at LADWP shared that equity is something staff think about daily and they strive to help those in need while serving customers and meeting their renewable energy goals.^v</p> |
| Decision-making  | <p>LADWP has a five-member Board of Commissioners that votes on utility rates, renewable energy projects, and other items.^{vi} The City Council’s Energy and Environment Committee provides oversight and policy guidance to LADWP.</p> |
| Participation in Decision-making  | <p>The Board of Commissioners is appointed by the Mayor. These appointments are approved by elected City Council members. Thus, the Commissioners are not directly elected, but the Commissioners’ meetings are public and allow for public input. The public interest is also represented by the Ratepayer Advocate, who supported pilot testing the program and thinking about new and innovative ways to serve customers. The program design process included consulting internal stakeholders, reviewing research on best practices from the Solar Electric Power Association (SEPA), and using surveys and focus groups to solicit customer opinions.</p> |
| Program and Policy Design  | <p>The program is designed to serve the regions of the utility’s service territory that have received less benefits from solar. External outreach helped staff determine the program needed to be straight-forward in its structure and enticing to those with less disposable income. As such, participants’ utility accounts must be in good standing to participate, but the program requires no credit checks, up-front cost, or annual fees for participants. Customers are guaranteed compensation regardless of energy production and are not responsible for operations and maintenance of the panels. The utility maintains ownership of the solar system and leases roof space from the homeowner. The program was designed for owner-occupied single-family homes to ensure the benefits went directly to the occupants and streamlined local approval processes for rooftop PV on single-family homes.</p> |

| Framework Element | Program Element |
|--|--|
| <p data-bbox="256 233 399 260">Beneficiaries</p>  | <p data-bbox="477 233 1417 474">The program is open to all residential customers, including customers on lifeline and low-income rates, with accounts in good standing. The utility has given priority enrollment status to zip codes that have low solar participation. The LADWP used its data to classify city zip codes into areas with low, medium and high participation. The program offers utility credits of \$30 monthly, or a \$360 check annually over a 20-year period. The utility owns and maintains the system.^{vii} The program also creates local jobs for the Los Angeles community.</p> |
| <p data-bbox="280 485 375 512">Burdens</p>  | <p data-bbox="477 485 1417 793">The systems on homes in the Solar Rooftops program deliver all their energy to the grid, as opposed to offsetting participant bills through net metering. Thus, customers in the Solar Rooftops program are still contributing their share to the utility's rate base. However, there are cost implications for non-participating customers due to the operating costs of the program, but the size of the pilot and the targeting of zip codes with lower solar penetration likely minimize impact. The financial returns from the utility solar ownership model, however, are lower than other potential solar PV financing options. Participants may receive a lower return on investment than other pathways for going solar.^{viii}</p> |
| <p data-bbox="293 804 362 831">Siting</p>  | <p data-bbox="477 804 1417 972">The utility is prioritizing siting projects in neighborhoods with more limited access and participation in clean energy programs. It is pairing these efforts with offers for energy efficiency improvements. The utility also has provisions for the removal of systems at no cost to residents should they decide they no longer want to participate, move, or require roof upgrades.</p> |
| <p data-bbox="232 982 427 1010">Communications</p>  | <p data-bbox="477 982 1417 1115">The program collaborates with outreach efforts from a residential energy efficiency program to increase reach and leverage existing efforts. LADWP is tailoring marketing to reach target groups, leveraging community organizations as trusted messengers, and using emails and physical advertisements.</p> |
| <p data-bbox="285 1171 371 1199">Metrics</p>  | <p data-bbox="477 1171 1417 1409">The goal of the program is to, "expand access to solar savings for qualified LADWP residential customers who otherwise may not be able to use solar because of the high cost of installing panels."^{ix} The utility is also interested in improving its use of local solar energy as part of its carbon reduction strategy. The LADWP Commissioners approved an Equity Metrics Data Initiative in 2016 to track, measure, and report on how their programs and operations serve LA residents equitably by neighborhood.^x</p> |

ENDNOTES

ⁱ Angela Park. "Equity in Sustainability: An Equity Scan of Local Government Sustainability Programs." USDN, September 2014.

ⁱⁱ Los Angeles Department of Water and Power. (2017) "Solar Rooftops." Retrieved from: https://www.ladwp.com/ladwp/faces/ladwp/residential/r-gogreen/r-gg-commsolarprogram?_afrcsrf=3gl6quao7_4&_afrcLoop=519051941283307

ⁱⁱⁱ Walton, Robert. (November 29, 2016). Utility Dive. "In push to 33% renewables, Los Angeles launched low-income rooftop solar program." Retrieved from: <http://www.utilitydive.com/news/in-push-to-33-renewables-los-angeles-launches-low-income-rooftop-solar-pr/431229/>.

^{iv} Dovey, Rachel. (April 2015) 100 Resilient Cities, cross-posted from Next City. "Why L.A.'s ambitious sustainability plan is different." Retrieved from: <http://www.100resilientcities.org/blog/entry/why-l.a.s-ambitious-sustainability-plan-deserves#/-/>.

^v Interview with David Castro, Henry Gallegos, and Michael Buck of LADWP's Community Solar Program. (April 14, 2017).

^{vi} LAWDP. (2017) Board of Commissioners – Who We Are. Retrieved from: <https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-whoweare/a-wwa-boardofcommissioners>

^{vii} Los Angeles Department of Water and Power. (November 2016). "Rooftop Solar Program Guidelines." Retrieved from: https://www.ladwp.com/cs/idcplg?ldcService=GET_FILE&dDocName=OPLADWPCCB549807&RevisionSelectionMethod=LatestReleased

^{viii} Estimates based on [EnergySage](#) analysis for a 4 kW system in Los Angeles for loan, PPA, and ownership models. Net savings ranged from \$7,900 up to \$21,000 for a best case scenario. This compares to \$7,200 bill credits or cash over the 20-year term of the Solar Rooftops program. The Solar Rooftops program is for 2 kW to 3kW systems, meaning savings are also proportionately less based on system size than a 4 kW system.

^{ix} Los Angeles Department of Water and Power. (2017) "Solar Rooftops." Retrieved from: https://www.ladwp.com/ladwp/faces/ladwp/residential/r-gogreen/r-gg-commsolarprogram?_afrcsrf=3gl6quao7_4&_afrcLoop=519051941283307

^x Los Angeles Department of Water and Power. (August 2016). "Board of Water and Power Commissioners Approves Initiative to Ensure Equity of Water and Power Services across Los Angeles." Retrieved from: <http://www.ladwpnews.com/go/doc/1475/2875333/Board-of-Water-and-Power-Commissioners-Approves-Initiative-to-Ensure-Equity-of-Water-Power-Services-across-Los-Angeles>