STRATEGIES AND GOOD PRACTICES TO SUPPORT ROBUST STAKEHOLDER ENGAGEMENT IN MULTI-SECTOR ENERGY TRANSITION PLANNING

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Strategies and Good Practices To Support Robust Stakeholder Engagement in Multi-Sector Energy Transition Planning

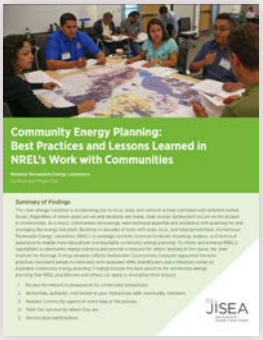
The United States Agency for International Development (USAID) and the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) are collaborating with partners around the world to address critical aspects of deploying advanced clean energy systems, including renewable energy integration and energy storage, grid modernization, energy efficiency, power sector resilience, and sustainable transport. Addressing climate change is a top priority for USAID as part of the U.S. government's renewed and strengthened commitments to building climate resilience and helping limit global warming to 1.5°C, as called for under the Paris Agreement.[1] To meet this important goal, the USAID-NREL Partnership is expanding its capabilities to collaborate with country partners on multi-sector energy transition planning through application of cutting-edge technical and engineering approaches designed to evaluate transformative clean energy pathways, including up to 100% renewable and net-zero emission energy systems.

This document discusses strategies and good practices to facilitate diverse stakeholder engagement and inclusive decision-making within the context of complex energy system modernization studies and multi-sector energy transition planning, drawing upon the knowledge and expertise of numerous USAID, NREL, and other U.S. Department of Energy laboratory practitioners with international and domestic energy-planning experience. Examples of multi-sector energy transition analyses from the United States are included in this document to draw out relevant lessons learned and experience for the USAID-NREL Partnership; strategies and good practices will be updated over time as new insights emerge through collaboration with international partners and stakeholders. Considerations included within this document can also be used to support stakeholder engagement at the sector level (e.g., for power, transport, buildings), in addition to integrated approaches.

Recognizing that there is no singular or best approach to stakeholder engagement or collaboration on energy transition topics and that engagement practices should remain adaptable to the context at hand, this guidance document seeks to provide practical considerations for USAID-NREL programs to:

- Identify and engage diverse stakeholder and community groups early in program development
- Enable participatory input and inclusive decision-making throughout the energy transition planning process.

What Is Stakeholder Engagement?



For the purposes of this document, stakeholder engagement is defined as the process of collaborating with diverse institutions, agencies, public ministries, representative demographic or industry groups, academia, nonprofits, or other organizations responsible for energy decision-making, investment, or planning, and/or who will be impacted by the implementation or outcomes of energy decisions at the national or subnational level. This process necessarily differs from community engagement, which is a context-specific approach to translating community voices, needs, and lived experiences into actionable energy strategies. These are distinct but mutually complementary and important processes to support effective implementation of multi-sector energy transitions at scale. While community engagement is not discussed in detail in this document, this paper will draw on examples of U.S. energy planning that have implemented both stakeholder and community engagement practices in work program implementation.

Community Energy Planning: Best Practices and Lessons Learned in NREL's Work with Communities (www.nrel.gov/docs/fy22osti/82937.pdf) provides additional insight, considerations, and links to analysis tools from NREL's work on community-led energy planning in the United States.

1 USAID. 2022. Climate Strategy 2022-2030. https://www.usaid.gov/sites/default/files/2022-11/USAID-Climate-Strategy-2022-2030.pdf.

Evolving Energy Systems Require New Approaches To Achieve Human-Centered Results

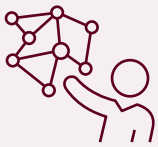
Achieving global climate goals and transitioning to cleaner, more reliable, affordable, resilient, and equitable energy systems is transforming how policymakers, energy planners, and other decision makers approach long-term energy planning and clean energy implementation. In the past, specific government ministries or public agencies have been responsible for policy development, target-setting, and implementing discrete energy sector programs such as transportation or power sector planning—a fragmented approach that cannot support holistic evaluation of the complex opportunities and challenges associated with multi-sector decarbonization at scale. Technology change, dynamic sector interdependencies, and the need to optimize across multiple interacting criteria (including specific economic, social, and technology goals) are transforming the global energy ecosystem from traditional top-down planning models toward an inclusive and interactive process of decision-making.

Planning for, designing, and ultimately implementing clean energy solutions that span economic sectors and support human-centered development outcomes over the long term will require an unprecedented level of institutional collaboration and coordinated decision-making. Transformative energy actions represent an opportunity to contribute to and support several interrelated and often mutually reinforcing goals across the spectrum of climate mitigation and adaptation, resilience, and socio-economic development, while at the same time introducing new questions about social inclusion, energy equity and justice, and human well-being. Questions to consider when planning for multi-sector energy transitions might include:

- What type of clean energy technologies and solutions might be needed to achieve technical, economic, and social priorities and goals?
- Who will have access to the benefits of clean energy transformation at scale (jobs, economic development, environmental quality, well-being) and how will those benefits be accrued? At what pace?
- What are the anticipated costs of the clean energy transition (and who will pay them)? Who might be harmed or put at risk for harm?
- What types of people and institutions will be empowered to make decisions about the future of energy?
- Are there opportunities to address historical economic, environmental, or energy-related injustices in the design of modernized energy systems? How do gender, age, socio-economic status, disability, and other demographic characteristics influence individual and community-level lived experience with existing energy infrastructure?
- How can impacted communities or appropriate representatives be meaningfully engaged in decisions about the future?

The clean energy transition will necessarily look different across countries, reflective of the unique needs, priorities, and available resources within specific development contexts. Robust and inclusive stakeholder engagement is one of many tools that energy sector planners and technical experts can implement to expand the range of expertise, decision-making authority, and perspectives included in forward-looking and transformative energy decision-making processes.

What Is a Multi-Sector Energy Transition Study?



The Los Angeles 100 (LA100) Renewable Energy Study is one example of multi-sector analysis that supported evaluation of technical and engineering pathways to achieve ambitious clean energy targets. NREL provided rigorous integrated engineering-economic analysis to the Los Angeles Department of Water and Power to evaluate pathways to achieve Los Angeles's goal of reliable, 100% clean electricity by 2035 across the buildings, transportation, and electric power sectors. For LA100, NREL evaluated a range of future scenarios to equip decision makers with answers to these questions:

- As more Angelenos adopt energy technologies like electric vehicles and air conditioning, how might that change total demand for electricity throughout Los Angeles?
- What could Los Angeles's future grid look like? Does reaching 100% mean big changes locally—like building new transmission lines or power plants?
- How can Los Angeles make sure that the new system is reliable under extreme events like fires and heat waves?
- What about impacts on jobs, the local economy, air quality, public health, and environmental justice?
- And what might all of this cost?

Read more about the LA100 study approach and results at: www.nrel.gov/analysis/los-angeles-100-percent-renewable-study.html.

Identifying and Engaging Key Stakeholders

Understanding and characterizing the unique and context-specific landscape of relevant stakeholders is a critical first step in implementing a thoughtful and inclusive engagement process. Working with in-country partners, core collaborators, local energy or social science experts, nonprofit and community groups, and other organizations within the reach of USAID-NREL networks can help identify key stakeholder groups.

When working with country partners on multi-sector energy transition planning, the following types of institutions and organizations might be considered core collaborators or key decision makers:

- National and subnational government ministries that have purview over or provide input to energy, transport, buildings, industry, environmental, and power sector policy and planning

- Regulatory agencies
- Government-owned and private companies with major holdings in energy, transport, buildings, and industrial sectors
- Renewable energy project developers
- Electricity transmission and distribution system operators
- Local research institutions and universities
- Consumer advocacy groups
- Public health officials
- Environmental and social scientists
- Representatives of local residents and business owners
- Nongovernmental or civil society organizations
- Trusted local community groups
- Labor organizations and workforce development institutions.

Good Practices

Identify and understand partner priorities. Work closely with in-country partners and core collaborators to understand their goals, priorities, potential concerns, and preferred approaches for engaging diverse stakeholder groups.

Conduct appropriate background research. Collaborate with in-country partners, local energy experts, and other relevant organizations to identify key stakeholder groups and institutions that should be included in the energy transition planning process. Work with partners and collaborators to understand stakeholder group preferences, needs, potential concerns, authorities, capacities, influence, expertise, and relative ability to engage. USAID implementing partners and other local organizations might also have established contacts and relationships across the energy sector that can help with understanding the stakeholder landscape and unique needs.

Co-define the objectives and purpose of the stakeholder engagement process. Objectives for stakeholder engagement activities will vary from project to project; work with partners to think critically about what the stakeholder engagement process is meant to achieve. What decisions are being made, and how will stakeholder input be used?

Develop a thoughtful and inclusive outreach approach. Work with in-country partners and core collaborators to determine effective methods for reaching out to and engaging key stakeholders in scoping and planning discussions. This could include determining the right combination of in-person visits, virtual introductory meetings, round tables, focus groups, or other measures that would be most appropriate for reaching specific stakeholders based on their capacity and role. Consider hiring a local firm with established contacts to conduct the stakeholder outreach.

Lead with objective, unbiased analysis. Engage a well-respected, neutral, or third-party technical institution that can provide trusted analysis and objective decision support to multiple stakeholder groups. This can help ensure that technical analysis, modeling, and other results generated during the planning process are perceived as credible and trustworthy. Institutions that might play this role could include national universities or technical institutions, independent scientific councils or advisory institutions, and independent research organizations. NREL and other U.S. Department of Energy labs will also be expected to play this role and might consider deeper collaboration or partnerships with other such technical institutions during program development and implementation.

Inclusive Energy Pathway Design

Technical and engineering models (and the data that comprise them) are inherently limited in their complexity and ability to capture the full richness of the social, economic, and political systems from which human energy experiences and potential choices are derived. Enabling diverse groups of stakeholders to weigh in on and properly critique modeling and analysis that support energy decision-making can help resolve potential design limitations, mitigate the risk of systemic bias or unintended outcomes, anticipate potential blind spots, and ensure results are grounded in reality.

For example, lack of gender-disaggregated data is a barrier to inclusive transportation and mobility planning. A **2022 study** (wagner.nyu.edu/files/faculty/publications/Pink Tax Report 2.10.22.pdf) found that while women and caregivers are more likely to travel with strollers, wheelchairs, or groceries, energy planners often do not account for the unique needs of this demographic when designing clean mobility solutions. Public transit fares are levied per person, rather than per party, reasonable accommodations for car seats in rideshare and public transit options are limited or do not exist, and trips with multiple stops (e.g., grocery stores, clinics, and doctor appointments) are harder to plan for using public transit, among other examples. Transport decarbonization models and pathways that assume women and caregivers will be just as likely to adopt clean mobility solutions as other demographics might lend an incomplete or inaccurate picture, creating an unintentional blind spot in transportation plans. Engaging diverse and representative stakeholder groups can help support sustainable mobility planning that is more effective and adequately accounts for the unique needs of women, caregivers, and other demographic groups that future transportation intends to serve.

Read more about just and sustainable mobility: *Just and Sustainable Mobility Transition in the Transport Sector: A Conceptual Framework and Gender-Mainstreaming Case Studies,* www.nrel.gov/docs/fy24osti/87449.pdf.

Enabling Participatory Input and Inclusive Decision-Making: The Role of an Advisory Committee

While different USAID-NREL partners or country contexts will require unique approaches to convening stakeholders and structuring the process for stakeholder input, this section discusses the role of an advisory and/or steering committee as an example of the type of forum that can be used to promote generative discussion and critical review of the scope, objectives, and expected outcomes from a multi-sector energy transition planning process. An advisory and/or steering committee might be responsible for providing strategic direction and guidance to the research and/or planning and design team by providing input, ideas, comments, feedback, and direction throughout the work program.

An advisory and/or steering committee might be composed of representatives from diverse energy sector institutions, agencies, public ministries, representative demographic or industry groups, academia, nonprofits, or other organizations noted in the section above who are responsible for energy decision-making, investment, and planning

Combining Stakeholder and Community Engagement Strategies: LA100 Equity Strategies as an Example

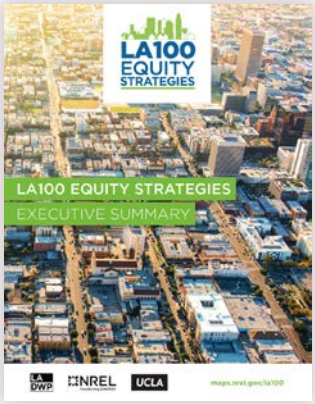
LA100 Equity Strategies is a collaborative effort between the Los Angeles Department of Water and Power, NREL, the University of California Los Angeles, and Kearns & West to incorporate research and analysis to achieve specific, community-prioritized, and equitable outcomes from the clean energy transition outlined in the LA100 study. LA100 Equity Strategies employs an interdisciplinary approach utilizing distinct—but connected—research efforts informed and guided by the project steering committee, which met monthly through the duration of the project.

LA100 Equity Strategies is groundbreaking in its methodology, which centers equity throughout the project. To develop community-informed equity strategies, the project team integrated community engagement and guidance, with robust modeling and analysis organized around three tenets of justice:

- Recognition justice: Seeks to understand and address past and current energy inequities within Los Angeles.
- Procedural justice: Ensures Angelenos are actively engaged partners throughout the project, co-design the analysis, and shape the resulting equity strategies.
- Distributional justice: Ensures a just and equitable distribution of benefits and burdens of the clean energy transition.

The teams started by identifying and engaging with leaders of community-based organizations and then with community members to understand their aspirations and challenges and identify solutions to meet the energy needs of their communities.

- An advisory committee, including representatives from city of Los Angeles departments, the mayor's office, city council member offices, unions, and local organizations, met bi-monthly. The purpose of the advisory committee was to share program and policy knowledge and to facilitate cross-sector interagency coordination.
- A steering committee, composed of leaders from 14 community-based organizations who are active in energy and environmental justice, met monthly through the duration of the project to provide guidance to the analysis teams. They also collaborated to design listening sessions with their community members to elicit community knowledge.
- NREL conducted 15 community listening sessions to gather and analyze information on the challenges Angelenos face with regards to the energy transition and their visions and aspirations for their families and communities.



Steering committee members identified five priorities for equitable energy transitions. Each equity strategy option addresses one or more of these community-identified priorities:

- Inclusive community involvement
- Affordability and burdens
- Access to and use of energy technologies, programs, and infrastructure
- Health, safety, and community resilience
- Jobs and workforce development.

Based on community engagement and the LA100 analysis, NREL identified potential focus areas for strategy development, from which steering committee members—with Los Angeles Department of Water and Power input—prioritized the following:

- Low-income energy bill affordability
- Housing weatherization, resilience, and access to safe home temperatures
- Community and rooftop solar and storage
- Equitable household transportation electrification
- Truck electrification for improved air quality and health outcomes
- Distribution grid upgrades for resilience and access.

NREL conducted modeling and analysis using input from key stakeholder and community groups to identify potential strategies for more-equitable distribution of the benefits and burdens of the clean energy transition and quantify the potential costs and benefits of each strategy. **Read the full report at:** www.nrel.gov/docs/fy24osti/85947.pdf.

and/or will be impacted by the implementation or outcomes of energy decisions. All stakeholders responsible for implementing future programs should be involved from the beginning to ensure that planned investments are practical, effective, and implementable, and that stakeholders are fully informed of the costs and benefits of different options. In addition to providing decision-making and relevant local expertise to the research and planning process, committee representatives can also provide access to networks of community organizations that can support local input and data collection. Committee representatives can also provide input on the appropriate strategy and process for engaging communities in the energy transition planning process and act as important channels to foster open dialogue and education related to the energy transition.

Good Practices

Co-develop and document roles and responsibilities with in-country partners. USAID-NREL project leadership can collaborate with core in-country partner groups to document the key functions and expected responsibilities for participating institutions and representatives, including the role that the advisory and/or steering committee and potential additional working groups will be expected or empowered to play in directing, reviewing, validating, and accepting the study results. Share documentation early with collaborators to agree on scope, level of effort, and other key aspects of work program design. Questions to ask core in-country partners might include:

- What is the expected role of the advisory and/or steering committee in the energy planning process (e.g., defining energy transition priorities, providing input on scenario development, reviewing the technical feasibility of the options assessed, etc.)?
- How can advisory and/or steering committees contribute to the transparency and accountability of the energy planning process? What mechanisms or procedures can be put in place to ensure that decisions made by the committees are well-informed, fair, and responsive to the interests and concerns of various stakeholders?
- How should the composition of the advisory and/or steering committee be determined to promote diverse representation? What criteria or considerations should be taken into account when selecting members for the committee?
- How frequently will the committee(s) meet, and what will be the format for collaboration (e.g., in-person or virtual meetings)?
- Are additional working groups needed for more focused deliberation on specific topics and/or priorities?
- How will advisory and/or steering committee members be compensated for their time?

Consider extending nomination forms or participant requisitions. Once key stakeholder groups and organizations have been identified in collaboration with core partners, a standardized participation request form can help to explain the motivation and purpose of the proposed work program in plain language and articulate specific requests for participant input and time. Consider requesting that participating institutions nominate two or more representatives to the committee, with approval or direct engagement from upper-level leadership, to promote consistent engagement and institutional buy-in in the planning process.

Co-develop ground rules. Work with the advisory and/or steering committee to co-develop shared ground rules and cultural norms that will guide participation in the discussion and deliberation process. This could include asking representatives to:

- Participate in an active and focused manner and commit to the success of the process
- Interact respectfully with all other members, valuing all perspectives, and help to involve and include all members
- Seek solutions for all and help integrate each other's interests into creative solutions that address diverse needs

Photo by Werner Slocum, NREL 78378

Photo by Dennis Schroeder , NREL 65796

- Participate effectively, using open, frank communication within the advisory and/or steering committee
- Do not attribute discussions or perspectives to any individual member outside the committee
- Keep cell phones on silent and minimize screen time during meetings
- Champion the goals/outcomes of the project within their community.

Establish a shared vision for the future. At the outset of the study or energy transition planning process, advisory and/or steering committee representatives should work together to define the scope, objectives, and expected outcomes from committee activities, including alignment with or development of higher-level energy goals, priorities, and targets. Defining goals, objectives, and outcomes can be an iterative process, and the committee should be prepared to refine or change these parameters as needed and over time, providing regular touchpoints for confirmation, written feedback, and adaptation. For the advisory and/or steering committee, the preferred deliberation process is a collaborative process whereby committee members choose to cooperate to achieve shared and/or overlapping objectives, in support of the study, project, or planned investments. This includes using a consensus model to promote collaboration, utilizing shared leadership, and avoiding contentious voting.

Recognize complexity and diversity within stakeholder groups. While priorities, needs, concerns, and challenges will differ across stakeholder and partner groups, these same preferences might differ or vary within organizations themselves. Take, for example, a large power utility organization—departments within this organization responsible for operating the power system control room and managing dispatch for the entire national grid might have different concerns about the large-scale integration of renewable energy than the chief financial officer, who could be more concerned with the ability of the utility organization to meet its financial obligations in a changing electricity market. Understanding and accounting for the internal variance and complexity of stakeholder needs can support a more robust and inclusive decision-making process across the board.

Establish a committee of diverse institutions and individuals. Work with core partners to evaluate the holistic composition of the advisory and/or steering committee, seeking a diversity of input, perspectives, experience, influence, power, and technical knowledge at both the institutional (e.g., the types of organizations that are included) and individual (e.g., gender, age, cultural background, etc.) level. Ensuring diversity of individual decision makers representing various stakeholder groups can strengthen collective intelligence, promote innovation, and improve problem-solving.

Do not assume that planning for the energy transition is a top-line priority for all stakeholders involved. Early discussions with representatives from key stakeholder groups should seek to understand differing organizational goals, priorities, needs, concerns, and challenges. It is possible (and in some cases likely) that organizational preferences and priorities will differ from (or even be wholly unrelated to) the higher-level goals and objectives of the energy transition planning process. This could include stakeholders with vested interest in maintaining existing energy systems and structures, organizations that consider the energy transition immaterial or tangential to their interests, and/or groups whose priorities intersect with aspects of the energy transition, but due to resource or other constraints, perceive energy decision-making as secondary to their primary mandate. Additionally, consider that planning for economy-wide net-zero or sector-specific decarbonization up front could be a sensitive topic and/or a non-starter, depending on the specific context in which the energy transition study is taking place and the ways in which the existing energy system is currently serving (or not serving) the needs of its population. For example, universal energy access and affordability, power system reliability, job retention, economic development goals, and/or impacts on local industry might supersede planning for 100% clean energy or net-zero emission systems.

Ensure equal opportunity to participate. Bring on a professional facilitator with relevant local or country experience who will maintain a neutral position during discussions, helping to manage and focus discussions and ensuring that all members have equal opportunity to participate. Committees with multilingual participants should also hire a professional (ideally local) translation team with energy sector experience. Additionally, consider creating flexible attendance options for committee representatives with conflicting family care, accessibility needs, travel barriers, or other requirements that might prevent them from engaging during in-person meetings. Some—and maybe all—committee representatives might need financial compensation to enable their participation in the process.

Come prepared. Arrange at least one, if not several, preparatory meetings prior to advisory and/or steering committee discussions to ensure that requests for input on technical elements of program design, analytical trade-offs, and other key study parameters are communicated clearly to the committee and that the meaning is accessible to participants with varying levels of technical expertise or experience. Circulate meeting agendas and requests for input well in advance of advisory committee sessions to ensure that meeting discussions are reflective of stakeholder needs and create adequate space for diverse input.

Document assumptions and agree on key metrics to guide and inform the process. Work with the advisory and/or steering committee to agree on key metrics that will guide and inform the energy transition planning process. Consistently document and validate data sources, model assumptions, and uncertainties throughout the work program. Be transparent about analytical trade-offs and how different assumptions and data inputs can influence or impact results. Ensure documentation is readily available to the committee representatives for feedback, comment, and consideration.

Conclusion

Working in collaboration with a wide range of partners and energy sector stakeholders to design and evaluate multi-sector energy transition pathways can help to improve collective judgment; more accurately define the problem space; support development of innovative, cross-sectoral solutions that effectively achieve energy and related goals; and ultimately ensure that decisions about the energy systems of the future are reflective of the needs and priorities of the people that will inhabit those systems. Mechanisms and approaches to engaging diverse stakeholder groups and decision makers in the energy transition planning process will differ based on the context and needs of the partners at hand; however, establishing a structure and process to foster open dialogue, diverse input, and inclusive decision-making can help support effective clean energy transition planning and implementation across sectors.

Contact Information

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Photo by Werner Slocum, NREL 58530

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