ENERGY ACTION NETWORK

EAN and Equity: An Initial Investigation
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Executive Summary

This paper presents a snapshot of ongoing discussions about exploring and operationalizing equity within the Energy Action Network (EAN), with the following purpose and scope:

- Based on its mission, staffing, and structure, how might EAN promote equity around energy and climate issues in Vermont?

- Specifically, what indicators and metrics might EAN develop to measure progress around energy and climate equity in Vermont, and what convenings and conversations might EAN facilitate to support measurable progress toward achieving energy and climate equity in Vermont?

- What practices and processes might EAN employ to enhance equity in the context of its collaborative Network and backbone staff operations?

The findings and recommendations presented here are based on an initial review of equity literature with a focus on principles and practices of equity in the energy and climate arena—and on conversations with EAN staff, Board members, Senior Fellows, and equity leaders at seven EAN Network member organizations.[i]

The first section of the paper provides principles and definitions of equity, with a focus on energy equity and equitable greenhouse gas reduction. The second section presents six case studies that illustrate approaches to equity at selected organizations and agencies. The third section summarizes observations and recommendations from consultations with EAN Network member organizations. The fourth section identifies five areas for further consideration and development for EAN:

1. Leverage the capacity, influence, and membership of EAN Network members on equity.
2. Build on best available data and existing metrics for the 2020 Annual Progress Report for Vermont; add and modify/improve metrics over time.
3. Support a participatory and sustained commitment to energy and climate equity in Vermont using all of EAN's Network tools and capacities.
4. Engage in an internal process to advance equity at EAN.
5. Areas for further research.

The endnotes provide links to sources cited in this paper to support further exploration and development of equity metrics and practices at EAN.

Section I: Equity frameworks and definitions

This section briefly summarizes equity definitions and frameworks selected for their relevance to identifying and tracking equity indicators related to energy and climate in Vermont. It concludes with five top takeaways about how to conceptualize energy equity in a Vermont context.

Equity definitions

Equity differs from equality, although both strategies aim to promote fairness. Equality is treating everyone the same—in other words, equality is when everyone has access to and/or receives the same amount of something (food, medicine, opportunity), despite their existing needs or assets. Equality aims to promote fairness, but it can only work if everyone starts from the same place and needs the same help.[ii,iii]

Equity is about each of us getting what we need to survive or succeed—access to opportunity, networks, resources, and supports—*based on where we are and where we want to go*.[iv] To achieve equity is to create the conditions that enable "just and fair inclusion into a society in which all can participate, prosper, and reach their full potential."[v,vi] Equity implies the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically.[vii]

Energy equity is based on the principle that all people should have access to reliable, safe, and affordable sources of energy; protection from a disproportionate share of negative impacts or externalities associated with building and operating our energy supply and distribution systems; and equitable distribution of and access to benefits from these systems.[viii] Energy equity would also mean that energy decision-making procedures are fair and that stakeholders have access to information and participation in said procedures.[ix]

A central challenge for defining a path toward energy equity is that it must be done in the context of repairing our planet's environmental resources, which are both finite and stressed from decades of abuse, while simultaneously envisioning and enacting deep reforms to humanity's moral systems, which are ill-equipped to handle the complexity and expansiveness of modern-day energy problems, especially climate change.[x] This challenge requires innovative thinking as questions around equity and morality are seldom explicit in contemporary energy planning and analysis.[xi]

Frameworks

Equity and energy justice

Sovacool and Dworkin provide a decision making tool intended to assist planners and consumers in making more informed energy choices, in which the central energy justice principles are: availability,

affordability, due process, good governance, prudence, intergenerational equity, intragenerational equity, and responsibility.[xii] They describe the procedural and distributive elements of what they call "energy justice:"

- Procedural justice: how decisions are made, and who is involved and has influence in making and implementing decisions[xiii]; "procedural justice…has four important elements: (1) access to information; (2) access to and meaningful participation in decision making; (3) lack of bias on the part of decision-makers; and (4) access to legal processes for achieving redress."[xiv]
- Distributive justice: economic justice or the distribution of material outcomes or public goods; the distributions of benefits and burdens resulting from the economic, political, and social frameworks that each society has—its laws, institutions, policies, etc. Some possible criteria of distribution are equity, equality, and need. Fair allocation of resources, or distributive justice, is crucial to the stability of a society and the well-being of its members.[xv]

Equity and sustainability

Sustainability seeks to balance economic, social, and environmental goals, and to make explicit the tradeoffs between them. The Urban Sustainability Directors Network (USDN) speaks of "an equity lens for sustainability," and identifies four overlapping elements of equity:[xvi]

- 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 do not result in unfair burdens on future generations.

Equity, economics, and well-being

Equity is a key component of well-being and, as such, benefits from consideration of well-being principles and metrics. The Robert Wood Johnson Foundation (RWJF) has dedicated resources to analyzing and operationalizing well-being, which they define as "the comprehensive view of how individuals and communities experience and evaluate their lives, including their physical and mental health and having the skills and opportunities to construct meaningful futures." [xvii,xviii,xix]
Principles for well-being:

- Incorporate insights from psychology, sociology, economics, public health, and other disciplines. Metrics encompass not only objective factors like income, but also people's self-

reported life satisfaction. Looking beyond objective data is vital, because simply checking off data boxes does not mean that an individual will experience well-being.

- Include a sensitivity to profound impacts of issues such as social isolation, injustice, and the larger natural world—shifting our attention and action toward our interconnectedness.[xx]

Kate Raworth also offers an approach[xxi] to setting equity and well-being—which she defines as enabling every person to lead a life of dignity and opportunity—in the context of safeguarding the integrity of Earth's life-supporting systems.

Equity, health, environment and climate

Equity, health and environmental quality are closely linked, as amplified by emerging analysis of vulnerability to climate and coronavirus. People who live in places with compromised environmental quality (polluted air, water, land) suffer more health conditions than people in other locations. Long-term exposure to toxins has been linked to chronic health conditions and cancers. Because of the prevalence of underlying health conditions in these populations, the same people are vulnerable to extreme weather events and disease outbreaks, which will become more prevalent and/or will be exacerbated by climate instability.

Operationalizing energy and climate equity in Vermont

Conversations conducted during the course of preparing this paper yielded five top messages around how to apply principles of equity to energy equity and equitable greenhouse gas reduction in Vermont.

1. The first is that equity is about guaranteed and durable access to reliable, safe, and affordable sources of energy; and, that to ensure continuous progress, equity should be an integrated and interdependent part of any policy or program to prevent future policymakers from going backward (for example although a rebate might provide *access* to technologies meant to advance equitable greenhouse gas reductions, rebates can be cut during economic downturns, or with a change in leadership).
2. The second is that energy supply and distribution systems should be designed to ensure an equitable distribution of benefits. They should improve affordability, comfort, and choices for everyone.
3. The third is that energy systems should be built and operated to ensure equitable protection from a disproportionate share of negative impacts or externalities, minimizing safety, health, and economic impacts equitably.
4. The fourth is that, to be truly equitable, energy procedures and processes must be inclusive, reinforcing a sense of belonging and ensuring that all those who are potentially affected have access to information and a voice in decision-making.
5. And finally, the application of equity principles would lead to a dramatic reduction in greenhouse gases to ensure inter-species and intergenerational equity.

<div align="center">**Section II: Case studies**</div>

Six case studies were developed to provide additional guidance to EAN about how energy equity principles can be put into practice: two of these profile the equity efforts of Networks allied with EAN, and four highlight the equity approaches of state and local government agencies tasked with equity.

<u>Case Study #1: RE-AMP</u>

The RE-AMP Network[xxii] consists of over 130 nonprofits and foundations across eight Midwestern states working on climate change and energy policy with the goal to equitably eliminate greenhouse gas emissions in the Midwest by 2050. The mission of the RE-AMP Network is to set collective strategy and enable collaboration on climate solutions in the Midwest. RE-AMP does this by connecting diverse perspectives, harnessing everyone's unique expertise in spaces for intentional strategy-setting, and building the capacity for excellent implementation. Six values guide their work: *Collaboration, Community, Democracy, Equity, Justice, and Scientific Rigor.*

The Steering Committee, which sets the strategic direction of the Network, has adopted the Jemez Principles for Democratic Organizing[xxiii] and the following statement on equity to inform their strategy setting.

> *We must rapidly transition to an equitable clean energy economy for a healthy climate, people, and other living beings. Our work to combat climate change must ensure that the structures perpetuating and exacerbating inequity are transformed. We must use processes that are centered around sharing power, influence and resources to bring about equitable outcomes. In devising proposed solutions, the voices of those most affected by climate change should be prioritized and supported— ensuring a meaningful role in shaping policy. To achieve this, we must first recognize key injustices in current energy and land use systems such as the inequitable health impacts of fossil fuel usage and the economic drain of energy and transportation costs on individuals and communities. We must also acknowledge the root causes of climate change that include among others: colonialism, slavery, genocide of indigenous people, private ownership of energy and the concentration of wealth and power in the hands of too few. When power shifts to people, we transform our future together for generations to come.*

Gail Francis, Strategic Director at RE-AMP, offered this summary of RE-AMP's principles and practices related to equity:[xxiv]

- Adopting and trying to train up on the Jemez Principles.
- Focusing on relationship-building.
- Establishing a statement on equity (see above).
- Establishing guiding principles for how we set benchmarks (will be ready to share soon).

- Naming core values that guide our work as a whole: *Collaboration, Community, Democracy, Equity, Justice, and Scientific Rigor.*
- Building trainings related to equity into as much of our in-person time as possible, almost always at the front end.
- Using a point system[xxv] for some of our grantmaking that prevents us from greenlighting work that is weak on equity.
- RE-AMP has contracted with outside analysts twice, once in 2014 and again last year, to help us see new ways to think and work related to becoming equitable in our actions and having more equitable outcomes.

Sarah Ann Shanahan, Director of Community Management, further encouraged consideration of the framing and language that used to incorporate equity. "We used to talk about *reducing GHGs and equity*. Now we talk about *equitably eliminating GHGs*." That subtle language change made a big difference in the way RE-AMP members and staff think about the work.

Case Study #2: Vermont Farm to Plate

Sarah Danly, Vermont Farm to Plate[xxvi] (F2P) Network Manager, has been leading the organization in creating an equity workplan as part of Farm to Plate's programmatic three-year strategic plan. She shared the following observations, which have been lightly edited in this summary. [xxvii]

Processes adopted by Farm to Plate to incorporate equity into decision making

F2P created an equity plan document that would serve as a resource at recurring staff meetings. Although having a separate document is helpful and necessary, the document has not been checked as frequently as the stated commitment to equity originally envisioned; in other words, creating a statement of equity, and the intention to follow it, are not sufficient steps to ensure that equity is kept front of mind.

Two process suggestions from the equity workplan are:

1) Make the process (for both presenters and applicants) for the Farm to Plate Annual Gathering more inclusive. Having the full group conversation immediately after the event happened was super helpful in developing concrete suggestions. Some specific suggestions include:
   a. Additional guidance in requests-for-proposals (RFPs) around diversity of panelists.
   b. Include a gender pronoun question in registration.
   c. Add equity language to "conversation expectations" slides.
   d. Training for Network leadership on how to interrupt/intervene; assign a trained facilitator to each breakout session room.
   e. Explore techniques for including more voices in Gathering plenary.
   f. Workshop on best practices for multilingual panels.

2) Adapting F2P group annual workplan and F2P project templates. These templates use a results-based accountability (RBA) framework, and include prompts such as "how much will you do," "how well will you do it," and "will anyone be better off." A new prompt—"*who* will be better off"—will be added to these templates to encourage team leads to articulate not only who the beneficiaries will be, but also who *wouldn't* be able to benefit – or in other words, what resources and privilege people would already need in order to be able to benefit. Responses to this new prompt will be considered in decisions about what work to support and fund.

Metrics used by Farm to Plate to indicate and/or measure equity in operations and outcomes:

In addition to the aforementioned supplement to RBA prompts, F2P is planning to create metrics for the new F2P plan for 2021 onward. They want to move beyond conventional economic development metrics like gross sales and number of jobs, and revamp key metrics (e.g. food access and workforce). Specifically:

1) Michigan State University created a guide on equity indicators for the food system that F2P is hoping to draw on.[xxviii]
2) F2P is considering two levels of indicators, with the secondary "level" being outcomes that F2P stands in solidarity with, and are recognized as extremely closely related to F2P's work, even if they are not indicators directly affected by F2P's own work. An example would be tracking/acknowledging median wage across demographic groups, and equity of access to education, as supplemental indicators to those on food system education and employment that are more directly in F2P's wheelhouse. If F2P determines that tracking secondary indicators is too much of a lift, or is not actually helpful, F2P will, at a minimum, find a way to acknowledge this data in the narrative created as context for the indicators that F2P chooses to track.

Guidelines to promote equity at Vermont Farm to Plate

Farm to Plate has always included equity as the first of its guiding values.[xxix] However, they have come to feel this is not specific enough. One of the tasks identified in F2P's equity workplan is to expand on this value with an actual definition and more language about what it actually looks like to build equity. Additionally, they will consider equity in designing communications (e.g., Young Farmer story, food access opinion piece, feature story on food justice work) and review confirmation language for joining the F2P Network.

F2P has had ongoing and not fully resolved conversations about whether to form an equity task force / equity working group within the F2P network. There are some good arguments in favor of it and there is certainly value in providing a space for conversation fully focused on equity. However, to date at least, they have determined this is not likely the most effective or appropriate way to address equity in the Network. In the past they have attempted to have "Cross-cutting groups" that interface with all the other working groups, but in practice they did not end up actually interfacing. They really do not want issues of equity to be siloed into a group that consists only of people who are already concerned about it (which could happen if they had a separate Equity team) and then to hand off

equity conversations to that group. F2P is instead working to integrate equity into the workplan of each other existing group.

Likewise, F2P is trying to conscientiously avoid having equity show up only in the most obvious topic areas (e.g., the link between equity and food access is more commonly understood, so there can be a tendency whenever equity is raised to limit the conversation only to its food access aspect or to think that the food access group is the natural home for that conversation). They actively try to counter that by keeping on the table the links between equity and F2P's other topic areas like farmland access, business ownership, financing support, educational opportunities, etc.

Additional recommendations for EAN

F2P has found it helpful in putting together their equity workplan to look retroactively at previous projects and assess what should have been done to better integrate equity considerations. They haven't done this comprehensively for every single past project, but as an example, they looked back at the work of our workforce development group and realized that a document they had published that profiles individuals with food system careers does not include a single person of color. They now have an action item, and have earmarked intern funding, to update that resource to better reflect the diversity of Vermont food system workers.

State and local government case studies

A summary of good practices and recommendations for strengthening equity in sustainability programs can be found in USDN's Equity in Sustainability: An Equity Scan of Local Government Sustainability Programs.[xxx] The document offers several tools and guides as models for practitioners wanting to conduct an equity analysis. The case studies on California's CELICA program and the California Energy Commission's implementation of CA State Law AB350, were recommended by EAN Senior Fellow Linda McGinnis. The final case studies on the City of Portland's Climate Action Plan Equity Implementation Guide and the City of Seattle's Race and Social Justice Initiative are profiled in this document (a third case study, the Seattle Public Utilities Equity Planning Toolkit[xxxi] provides tools specific to electric utilities).

Case Study #3: State of California CELICA partner profile[xxxii]

Partners in the U.S. Department of Energy's Clean Energy for Low Income Communities Accelerator (CELICA) used metrics to help set a baseline from which they can track progress and impact, prioritize energy-saving services for low-income households according to need, determine program needs, and track performance across a multitude of energy programs focused on the low-income residential housing sector. Efforts to measure success by CELICA partners focused on the following questions related to program targets, success indicators, and metrics:

- How should indicators be revised to improve measurement of energy efficiency and renewable energy access, investment, and resilience for low-income communities and other disadvantaged communities?
- How can the indicators best leverage existing equity indicators and data?

- Which agency, organization, or program administrator(s) should take the lead for each indicator?
- How can local priorities be most effectively integrated into the indicators?

The chart below presents metrics explored by CELICA partners (Connecticut, California, and Minnesota):

Indicator	Metrics
Energy Efficiency Savings	Energy (MWh, MCF, MMBtu) and cost savings ($) for customers in aggregate or by low-income household served
Low-Income Parity	Savings across low-income and market rate programs (% of total savings)
	Market penetration rate by income band (% AMI, % FPL) statewide and in each census tract
Participation	Number of households served (#) or percent of eligible households served (%)
	Percent of participants at various income levels (% AMI, % FPL)
Housing Type	Percent participation by housing type (#'s by single family, mobile and multifamily housing of different sizes and types e.g., restricted, naturally affordable and market rate multifamily)
Program Resources	Total funding leveraged for energy efficiency, health and safety, and solar ($ by source and purpose)
	Amount of investment financed -- housing tax credit projects, on-bill programs, etc. ($)
Energy Burden	Amount that energy burden decreased (% reduction in % of income paid for energy bills) for participating low-income households
Health & Safety	Number of homes not served due to health and safety issues and percentage that receive referrals and ultimately return for service (% homes and % frequency of health and safety issues cited)
	Health and safety issues abated (# of homes with % frequency issues abated)
Workforce Development	Number of jobs created (# by job type)
	Participation of low-income residents in the energy efficiency and renewable energy workforce (# of local workers trained and # placed into energy efficiency and renewable energy jobs)

Case Study #4: California Energy Commission: State Law AB350

As part of the implementation of state law AB350, the California Energy Commission (CEC) was tasked with leading the development of a state strategy for low-income energy equity issues. After conducting a stakeholder engagement process as part of meeting mandates for California Senate Bill 350's Low-Income Barriers Study, CEC commissioners adopted a report in late 2016, in which they specifically examined access, investment, and resiliency of low-income and otherwise disadvantaged communities.

The CEC used energy equity indicators to create recommendations, establish a baseline, and track progress on the performance of energy efficiency and renewable energy programs in low-income and disadvantaged communities. This approach requires collection and synthesis of data across a wide variety of sources to develop a solid foundation for tracking progress over time. CEC used information and resources provided by DOE's LEAD Tool to quantify the energy burden faced by residents of each county and municipality in the state and to identify where interventions were needed to reduce the use of non-renewable heating fuels and associated health impacts. To track progress on legislated low-income energy programs, CEC chose to measure success in low-income and disadvantaged communities by quantifying progress in three areas: 1) access, 2) investment, and 3) resiliency.

Access
- Number Served: a) Establish regional outreach and technical assistance one-stop shop pilots; and b) Investigate consumer protection issues for low-income customers and small businesses in disadvantaged communities.
- Small Business Contracts: Conduct a follow-up study for increasing contracting opportunities for small businesses located in disadvantaged communities
- Energy Efficiency and Renewable Energy Jobs: Formulate a statewide energy efficiency, renewable energy, and workforce development strategy

Investment
- Amount Invested: a) Fund research and development to enable targeted benefits for low-income customers and disadvantaged communities; and b) Enhance housing tax credits for projects to include energy upgrades during rehabilitation
- Energy Efficiency Savings: Develop a new financing pilot program to encourage investment for low-income customers
- Rooftop Solar PV: Expand funding for solar PV and solar thermal offerings for low-income customers

Resilience
- High Energy Bills: Encourage collaboration with community-based organizations in new and existing programs
- Health and Safety Abated: Organize a multiagency task force to facilitate coordination across state-administered programs

- Community Energy Resilience: Enable community solar offerings for low-income customers

Case Study #5: City of Portland, ORxxxiii

Since 1990, Portland has welcomed 38 percent more people and 34 percent more jobs while carbon emissions have fallen 38 percent on a per person basis. In 1993, Portland became the first city in the United States to adopt a local plan to address climate change. Since then, while carbon emissions have increased nationally, Portland and Multnomah County have achieved significant declines in emissions. In 2014, total emissions were 21% below 1990 levels. Recently, however, local carbon reductions have plateaued and will require bold new action and investments to reduce emissions to net zero by 2050, the goal of the Paris Climate Agreement.xxxiv
As Portland increasingly contends with heat waves, droughts, flooding and other extreme weather events, awareness of the need to take action on climate change has grown, yet recognition of the connection between climate action and social equity has often been absent. In the face of projected population increases and changing demographics, the need for a more broad-based movement is apparent.

The City of Portland and Multnomah County's prior climate action plans focused on reducing carbon emissions while lacking discussion of who benefits and who is burdened. The absence of such an assessment resulted in missed opportunities to share the co-benefits that can result from climate action efforts. Co-benefits are positive impacts other than carbon emissions reduction that occur as a result of climate change mitigation. Such positive impacts can include increased access to greenspace, more pedestrian and bike-friendly communities that encourage active transportation, and the creation of green jobs that can stimulate the local economy.

Furthermore, communities of color and low-income populations in Portland have been under-served by programs and investments and under-represented in decision making on climate policy. Lack of low-carbon, safe transportation options, inefficient housing, and the inability to afford healthy food are examples of disparities experienced by these communities that result in fewer benefits from climate action opportunities.

These inequities primarily result from ongoing institutional racial bias and historical discriminatory practices that have resulted in the inequitable distribution of resources and access to opportunities.xxxv
The City has developed the following equity considerations for proposed actions:

1. Disproportionate impacts: Does the proposed action generate burdens (including costs), either directly or indirectly, to communities of color or low-income populations? If yes, are there opportunities to mitigate these impacts?
2. Shared benefits: Can the benefits of the proposed action be targeted in progressive ways to reduce historical or current disparities?

3. Accessibility: Are the benefits of the proposed action broadly accessible to households and businesses throughout the community — particularly communities of color, low-income populations, and minority, women, and emerging small businesses?
4. Engagement: Does the proposed action engage and empower communities of color and low-income populations in a meaningful, authentic and culturally appropriate manner?
5. Capacity building: Does the proposed action help build community capacity through funding, an expanded knowledge base or other resources?
6. Alignment and partnership: Does the proposed action align with and support existing communities of color and low-income population priorities, creating an opportunity to leverage resources and build collaborative partnerships?
7. Relationship building: Does the proposed action help foster the building of effective, long-term relationships and trust between diverse communities and local government?
8. Economic opportunity and staff diversity: Does the proposed action support communities of color and low-income populations through workforce development, contracting opportunities or the increased diversity of city and county staff?
9. Accountability: Does the proposed action have appropriate accountability mechanisms to ensure that communities of color, low-income populations, or other vulnerable communities will equitably benefit and not be disproportionately harmed?

Case Study #6: City of Seattle Race and Social Justice Initiative[xxxvi]

The Seattle Race and Social Justice Initiative (RSJI) is a citywide effort to end institutionalized racism and race-based disparities in City government. RSJI builds on the work of the civil rights movement and the ongoing efforts of individuals and groups in Seattle to confront racism. The Initiative's long-term goal is to change the underlying system that creates race-based disparities in the community and to achieve racial equity.

Guiding principles: (Adopted from the People's Institute for Survival and Beyond)

- Undoing racism
- Sharing culture
- Learning from history
- Maintaining accountability
- Analyzing power
- Undoing Internalized Racial Oppression
- Identifying and analyzing manifestations of racism
- Developing leadership
- Networking
- Gatekeeping

Strategies:

1. Build an anti-racist network within City government. Shift internal practices and develop decision making skills that eliminate institutional and structural racism.
2. Transform the internal government culture of the City toward one rooted in racial justice, humanistic relationships, belonging and wellbeing.
3. Align our racial justice efforts with local community organizing and strengthen relationships with communities most impacted by structural racism.
4. Work in relationship with national and regional racial justice leaders from all communities and sectors to advance racial justice.

Section III: Observations and recommendations from EAN Network members

Six Energy Action Network members provided observations and recommendations for EAN based on the experience of their organizations: Jennifer Green of Burlington Electric Department (BED), Andrea Cohen of Vermont Electric Cooperative (VEC), Kelly Lucci of VEIC (VEIC), Paul Zabriskie of Capstone (Capstone), Jenna Koloski of the Vermont Council on Rural Development (VCRD), and Steph Yu of the Public Assets Institute (Public Assets).xxxvii This section summarizes their collective responses to three questions that served to guide those conversations:xxxviii

- Do you have one or more working definitions for equity? If not for equity generally, what about for energy equity or equitable greenhouse gas reduction, more specifically?
- What metrics have you observed and/or applied that have been valuable to identifying and/or measuring equity in outcomes (either at the program or population level)?
- Have you developed processes or guidelines for incorporating equity into your organizational culture and through your organization's program(s)? If so, could you share them?

Equity defined: Equity is about (economic/political economic) access; equity is embodied in inclusion and a sense of community. Systemic equity solutions are required to address systemic inequities. Equity is not a topic that lends itself well to checkboxes. Equity is supported by fair distribution of costs (equitable is not equal).

Focusing on low and medium-income households as an equity strategy:

- Renewable energy laws and programs are often built on an assumption that beneficiaries will have available capital and qualify for tax credits. This approach *favors people of means* who can pay upfront for something and receive a tax credit later (this implies a certain level of liquidity and taxable income, which is often unearned or "passive" income).
- A challenge of providing the lower-income community with more sustainable energy options is the mobility of this community, and the higher percentage of renters and people living in multi-family units than the general population. This community is not going to invest in options that provide longer term payback (e.g., investing in home weatherization or cold climate heat pumps).
- A rebate that stands alone is something that can be cut in economic downturns, or just with a change in leadership. Instead, equity should be an integrated and interdependent part of any program to prevent future policymakers from going backward.
- For regulated utilities*, equitable delivery* is a contractual obligation, based on quantifiable performance indicators identified by the State and PUC (i.e., to deliver total resource benefits (energy savings across fuel, electric and water) to all parts of the state (at a minimum level defined by a benchmark).
- Challenge with increasing costs of electricity just because it's cleaner; if clean electricity costs more, this is a disincentive to invest in clean electricity. The goal of strategic electrification is to move people toward electric transportation and heating/cooling, while keeping rates down.

Metrics for tracking energy equity:

- # of fuel assistance beneficiaries
- # of homes weatherized
- # of multi-family housing occupants who benefited from improved energy efficiency.
- The degree to which energy burden is reduced (VEIC Energy Burden analysis and metrics).
- Access to energy saving technologies.
- The degree to which low-income people—and renters—can and do take advantage of incentives and services (weatherization, heat pumps, etc.); who takes advantage of energy transformation projects? For Tier 3: Ask people to disclose income categories when they access these incentives.
- How many lower income people participate in net metering projects?
- Level of incentive in relation to income.
- Total incentives spent vs total lifetime benefits achieved (savings and benefit over time). Specifically, when tracking deliverables: customer lifetime savings (e.g., refrigerator lasts a certain number of years, track each of these by zip code, customer lifetime savings in Social Vulnerability Index (SVI) communities/customer lifetime savings.).
- Total low-income investment (as compared to the spending target).
- Income in relation to energy costs.
- For regulated utilities, metrics for equitable delivery of services include: certain % of utility's budget (range: electric 15%, thermal 20%); minimum level of program benefits to lower income (80% or less of median income); impact of efficiency charge; ensure that lower income households receive more back than they are paying in.

Racial equity: There is an ongoing process of trying to get Vermont data disaggregated by race (Public Assets). Data questions recommended for consideration of racial equity (from *Racial Equity Framework*, Center on Budget and Policy Priorities) include:

- Is there data available about your issue?
- Is the data broken down by race/ethnicity, particularly at the state level?
- Is the data you want to use the best available when disaggregated by race? For example, note small sample sizes of any groups (ex. Native American communities), collapsing several ethnic groups together (ex. various Asian American communities) and other issues.
- Can you think outside the box to figure out racial impact by region, or drill down to impacts in parts of a state? For example, you could look at a given indicator in counties with high populations of a given group.
- Are you correctly differentiating between income levels and/or social class and race, making sure not to conflate the two?
- Have you looked for unconventional data sources? Such as universities, research groups, academics, interest groups, advocates, etc.?

Equity in process: Considerations and recommendations

- Decision making and decision making power. Who is on the energy committee? Who is sitting at the PUC? Do people feel like they're engaged and part of our energy future? Or feel like they're getting left behind? Participation and leadership and where power lies.
- Both electricity suppliers and regulators could benefit from thinking about equity principles, listening to understand and respond, and being inclusive.
- Challenge in quantifying outcomes of community initiatives; the primary measure is related to participation in process. How many people benefit from community infrastructure? Metrics for outcomes tend to rely on anecdotal information supported by concrete numbers.

<center>**Section IV: Recommendations for EAN**</center>

1) **Leverage the capacity, influence, and membership of EAN Network members on equity.**

EAN is in a unique position to monitor the cumulative effectiveness of approaches taken by Network members as they relate to energy and climate equity, to identify gaps in understanding about equity, and to support collective guidance on best practices (also see recommendations for research #5 below).

2) **Build on best available data and existing metrics for the 2020 APR; add and modify/improve metrics over time**.

For the 2020 Annual Progress Report, EAN should commit to collect, analyze, and present the best available data regarding energy equity, disaggregating initially by income level and geography and, when data become available, by other criteria (such as ethnicity). EAN should commit to highlighting and advancing equitable greenhouse gas reduction strategies (in the 2020 Annual Progress Report and also via other analysis and Network communications) and providing metrics to track whether greenhouse gas emissions reduction efforts in Vermont are progressive, and not regressive, in terms of costs, benefits, and access.

One category of existing metrics relevant to energy equity and equitable greenhouse gas reduction in Vermont is that defined by consideration of "energy burden."

- VEIC has provided Vermont with a highly respected and widely used metric of energy burden that tracks energy costs as informed by income level and geography, and provides insight into opportunity costs, or the tradeoffs some Vermonters must make between staying warm, taking essential trips to work, school, and services, and paying for food, housing, and health care.

- VEIC has also been adapting the CDC's Social Vulnerability Indices, which were originally designed to reveal geographic patterns of potential vulnerability to disaster.xxxix

A second category of metrics for consideration is around processes and practices for beneficial electrification. The goal of beneficial electrification is to move people toward electric transportation and heating/cooling, while keeping rates down. There are research questions to explore around how equitable Vermont's programs around beneficial electrification have been or could be.

- For example, who takes advantage of Tier 3 and other incentives, rebates and grants? Renewable energy laws and programs are often built on an assumption that beneficiaries will have available capital and qualify for tax credits.

A third category of metrics is around participation, leadership, and decision making; questions to help define and develop these metrics could include:

- Where does decision making power lie now? Who is on the energy committee? Who is sitting at the PUC? Do people feel like they're engaged and part of Vermont's energy future?

And how do we ensure that everyone has access to information, a voice in decision-making, and the opportunity to define and lead processes around energy and climate in Vermont?

To the extent there are costs to reduce greenhouse gas emissions in Vermont, an equitable approach would require that costs be primarily the responsibility of those who are most able to afford to take action (i.e. upper income Vermonters, landlords who manage five or more buildings, etc.). This may suggest a focus on policy and regulatory designs aimed at the point of purchase of new equipment, such as feebate programs for vehicles and heating systems. Emissions reduction measures with upfront costs and lifetime savings should be progressively incentivized and especially targeted via grants to lower- and middle-income Vermonters who lack discretionary financial capital, so that upper-income Vermonters are not the only ones benefitting from energy and money saving measures and technologies.

Specific metrics to consider include:

Aggregate energy costs: Both total energy expenditures and expenditures by specific energy use (transportation, thermal, and electricity) for households by geography/town (currently done by VEIC); income/ income quintile (summer intern project); and race/ ethnicity.

Energy burden: Both total and sectoral (transportation, thermal, and electricity) energy expenditures *as a share of income* by geography/town, income/ income quintile, and race. VEIC's energy burden analysis and more recent work applying CDC's Social Vulnerability Indicators to energy equity in Vermont can be adapted to EAN's purposes.[xl]

Transportation: Track new vs. used EV registration. Consider analysis of time spent meeting basic needs and the impact of shared mobility; i.e., do lower income Vermonters spend a disproportionate number of hours traveling for goods, services, and work, because they rely on public transit? What is the impact of those "lost hours" in terms of earning potential, and time available to be with children and the community?

Heating: Heating fuel usage by geography and income (Are lower income Vermonters disproportionately dependent on higher cost options, as anecdotal information suggests?).

Weatherization projects by income level: Is weatherization, thanks to the low-income weatherization program, currently the only economically "progressive" grant/ incentive-based energy program in VT?

Tier 3 and other incentives, rebates and grants: Who takes advantage of these incentives? To answer this question, any provider of an energy incentive, rebate, or grant given in VT should gather, at a minimum, the address (or town of residence); the annual household income (can be within a range of options so exact income is not requested); and the ethnicity of the recipient. Examples of such programs include: energy saver loan program; all EVT rebates; all Tier III incentives and rebates; any state programs (CEDF wood stove changeout, state EV incentives, etc.).

<u>Fuel cost and supply reliability</u>: Track supply disruptions and market price fluctuations of energy sources (electricity, natural gas, heating oil, wood, and transportation fuels) by zip code or town, and show different segments of the state's population where those impacts were greatest.

3) **Support a participatory and sustained commitment to energy and climate equity in Vermont through using all of EAN's Network tools and capacities.**

Through accessing and building capacity within the Network, EAN could support the type of participatory and sustained process that will be required to advance energy and climate equity in Vermont. Questions around defining and measuring the impact of the environmental externalities of energy production and distribution (air quality, health) and participation (support for broader representation in decision making forums around energy and climate issues) could be identified and initially measured in a qualitative way. Case studies developed for this assessment can support this effort through elucidating impact metrics that could be comparable at the state level and, ideally, at the regional or national level.[xli,xlii,xliii]

4) **Engage in an internal process to advance equity at EAN**.

How might EAN improve equity in Network processes (e.g., engaging organizations with important and underrepresented perspectives on energy equity and equitable energy emissions reductions; inviting new Network members)? What new processes might EAN create to engage more diverse perspectives?

Organizations engaged in collective impact initiatives should first consider and take action on *how they need to change from within by applying an equity lens to their own people and practices.* The five conditions (a common agenda, shared measurement systems, mutually reinforcing activities, continuous communication, and backbone support organizations) are missing a critical dimension: equity. The five conditions of collective impact, implemented without attention to equity, *are not enough* to create lasting change.[xliv] The process of embedding equity into organizational practices is ongoing and iterative, and requires intention.

Recommendations for good practices that emerged from the EAN Network members who participated in this research include:
- Form an Equity Committee with board and staff to lay out a plan for developing, implementing, and monitoring processes and guidelines, both within the organization and in external work products.
- Ensure that project proposal/evaluation templates explicitly consider access to projects (as a refinement to questions about project beneficiaries). Require project proponents to explicitly consider what resources and privilege are required to access project benefits, and consider responses in decision making about what work to support and fund. Questions for project proponents could include:
    - Who will be better off (as a qualifier for the question: will anyone be better off?)

- o Who will not be able to benefit (as a qualifier for the question: who will benefit?)
- Consider using or modifying USDN's 12 principles for equitable energy project design.xlv
- Prioritize co-working with organizations that can speak to equity as a value.
- Diversify board membership through recruiting more women and people of color.
- Train around issues of diversity, equity, inclusion, racism and privilege, avoiding tokenism.xlvi
- Balance the scope and type of events to support broad participation from different segments of the community across the political spectrum.

5) **Areas for further research**.

The following research questions were identified through the course of preparing this paper.

- One set of equity metrics that EAN and other Network members use is based on the energy burden work done by VEIC. The goal of this program is to identify energy-burdened towns and track whether state policies that target low income households are effectively reducing energy burden in these towns and/or statewide. According to the 2019 Vermont Energy Burden Report, state requirements "to invest in programs that reach low income households…are often in tension with aggressive statewide savings targets that encourage a focus on customers who have high energy expenditures, rather than those who have high energy burdens." Given EAN's mission, what analyses and/or metrics might we offer that would address this tension?
- One of the equity-related issues that several EAN Network members identified was around the issue of access. Network members also stated that, to achieve "true" equity, systemic issues such as access to capital to make energy investments (income equity), and access to influence the design and implementation of energy and climate policies and programs (political/power equity) must be addressed. What metrics might EAN suggest to measure Vermont's progress in addressing these and other systemic inequities?
- BED measures access to, and impact of, their programs in relation to targeted populations such as renters and residents of Section 8 housing and manufactured/mobile homes. Public Assets Institute is engaged in an ongoing process to acquire/develop metrics that allow disaggregation of economic and other information by race/ethnicity. To what extent can/should EAN measure programmatic impacts on different populations? Is there a way to track income, racial, and gender equity, and, if so, would this enhance EAN's presentation of the state's progress toward equity?
- We know that consumers discount tax credits by at least 20%, so the value of a Point of Sale program, even a mid-stream (dealers, suppliers, vendors) and upstream (OEMs) incentive is far greater. Would pushing all incentives to POS, midstream and upstream, depending on the technology and even in combination, be more effective?
- What is the equity impact of different cost effectiveness tests? EAN Senior Fellow Karen Glitman suggested this research project, which may be of interest to EAN.xlvii
- EAN could contribute an important perspective to the regional and national conversation on energy equity in rural areas, especially areas of rural poverty.

Endnotes

i The guiding questions for consultations with EAN Network members were: Do you have one or more working definitions for equity? If not for equity generally, what about for energy equity or equitable greenhouse gas reduction, more specifically? What metrics have you observed and/or applied that have been valuable to identifying and/or measuring equity in outcomes (either at the program or population level)? Have you developed processes or guidelines for incorporating equity into your organizational culture and through your organization's program(s)? If so, could you share them?

ii https://everydayfeminism.com/2014/09/equality-is-not-enough/

iii Personal communication: Karen Glitman, June 8, 2020.

iv https://ssir.org/articles/entry/what_the_heck_does_equity_mean
v https://ssir.org/articles/entry/the_equity_imperative_in_collective_impact#

vi https://ssir.org/articles/entry/what_the_heck_does_equity_mean

vii https://www.who.int/healthsystems/topics/equity/en/#:~:text=Equity%20is%20the%20absence%20of,economically%2C%20demographically%2C%20or%20geographically.

viii Personal communication: Leigh Seddon, June 10, 2020.

ix Tamara Steger, Making the Case for Environmental Justice in Central and Eastern Europe (Budapest: CEU Center for Environmental Law and Policy, March, 2007) as quoted in https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3447328

x "Human moral systems are not well attuned to address the crisis of climate change given its complexity, the difficulty of assigning blame, and our own complicity in causing it. Cognitively, climate change is abstract, complex, and non-linear, making it hard to predict the trajectory of future emissions pathways, and harder still to connect them with actual consequences on the ground. It becomes even more difficult when most of the impacts from climate change will occur in the future, making them temporally distant, and when those impacts are asymmetric, such as increased rainfall in some areas, and decreased rain in others. Climate change, moreover, is largely unintentional, making it relatively "blameless" and lacking features of intentional moral transgressions such as murder or cheating. In the case of climate change, there was never any real intention to do harm—and in some cases, there was the opposite, such as building coal-fired power stations to provide jobs, improve economic security, or expand access to modern energy services. Lastly, climate change must overcome our guilty bias; that is, humans don't like to feel guilty, and will derogate evidence of their own role in causing a problem. The implication is that individuals will work to avoid feelings of responsibility for climate change; some will even have optimistic biases, downgrading any negative information they receive and counterbalancing it with almost irrational exuberance." Per Espen Stoknes, Rethinking climate communications and the "psychological climate paradox", Energy Research & Social Science, Volume 1, March 2014, Pages 161-170 (as quoted in Sovacool and Dworkin, 2015).

xi Energy Justice: Conceptual Insights and Practical Applications. Benjamin K. Sovacool, Science Policy Research Unit; Department of Business Technology & Development, and Michael Dworkin, Vermont

Law School; September 3, 2015; Applied Energy 142 (2015) 435–444.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3447328

xii Energy Justice: Conceptual Insights and Practical Applications. Benjamin K. Sovacool, Science Policy Research Unit; Department of Business Technology & Development, and Michael Dworkin, Vermont Law School; September 3, 2015; Applied Energy 142 (2015) 435–444. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3447328

xiii If people believe procedures to be fair, they will be more likely to accept outcomes, even ones that they do not like. Implementing fair procedures is central to many dispute resolution procedures, including negotiation, mediation, arbitration, and adjudication. https://www.beyondintractability.org/essay/types_of_justice

xiv Gordon Walker, Environmental Justice: Concepts, Evidence, and Politics (London: Routledge, 2012).

xv https://www.beyondintractability.org/essay/types_of_justice

xvi https://sustainableconsumption.usdn.org/equity/overview

xvii https://www.rwjf.org/en/blog/2019/07/global-approaches-to-well-being-what-we-are-learning.html

xviii National Research Council. 2013. Subjective Well-Being: Measuring Happiness, Suffering, and Other Dimensions of Experience. Washington, DC: The National Academies Press. https://doi.org/10.17226/18548

xix RAND Corporation, "Measuring Wellbeing to Help Communities Thrive," https://www.rand.org/capabilities/solutions/measuring-wellbeing-to-help-communities-thrive.html

xx Using well-being assessments to guide decision-making, Bhutan has developed innovative natural resource and tourism policies and become the world's first carbon-negative country.

xxi https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(17)30028-1/fulltext

xxii https://www.reamp.org/

xxiii Jemez Principles for Democratic Organizing: https://www.ejnet.org/ej/jemez.pdf

xxiv Personal communication: Email exchange with the author dated May 4, 2020.

xxv https://docs.google.com/document/d/1c7-xnQLOrfa5CktSEpIipUeHeCRBhn9QpKGhGRh5ovg/edit

xxvi https://www.vtfarmtoplate.com/

xxvii Personal communication: Gail Frances, May 7, 2020.

xxviii https://www.canr.msu.edu/resources/measuring-racial-equity-in-the-food-system

xxix F2P Structure Doc_2018 Update.pdf

xxx https://sustainableconsumption.usdn.org/equity/overview

xxxi http://www.seattle.gov/Util/cs/groups/public/@spu/@diroff/documents/webcontent/3_036351.pdf

xxxii https://betterbuildingssolutioncenter.energy.gov/CELICA-Toolkit/metrics-and-indicators

xxxiii Climate Action Plan Equity Implementation Guide

xxxiv https://beta.portland.gov/bps/climate-action/history-and-key-documents-climate-planning-and-action-portland

xxxv https://beta.portland.gov/sites/default/files/2019-07/cap-equity-case-study-web29jul.pdf

xxxvi https://www.seattle.gov/rsji/about

xxxvii Individual discussions were hosted in late May and early June 2020 with four organizations and two responded via email. Participants included Jennifer Green of Burlington Electric Department (BED), Andrea Cohen of Vermont Electric Cooperative (VEC), Kelly Lucci of VEIC (VEIC), Paul Zabriskie of Capstone (Capstone), Jenna Koloski of the Vermont Council on Rural Development (VCRD), and Steph Yu of the Public Assets Institute (Public Assets).

xxxviii Answers to the question "Have you worked with a consultant or advisor outside your organization on defining, tracking, or implementing equity-related work?" are summarized in a separate document.

xxxix The CDC Social Vulnerability Indices track 15 metrics available through the US Census in four thematic areas: Socioeconomic Status (Below Poverty, Unemployed, Income, No High School Diploma); Household Composition and Disability (Age 65 or Older, Age 17 or Younger, Older Than Age 5 With a Disability, Single-Parent Households); Minority Status and Language (Minority, Speaks English "Less Than Well"); Housing and Transportation (Multiunit Structures, Mobile Homes, Crowding, No Vehicle, Group Quarters). The mapping of these data reveals geographic patterns of potential vulnerability to disaster that can be used in all phases of the disaster cycle: preparedness, response, recovery, and mitigation. The SVI database can assist public health officials to better prepare for and respond to emergency meteorological and geological events, disease outbreaks, and human-caused incidents.
xl Ibid.

xli Figure 1. A Framework for Understanding Human Well-Being (By Trené Hawkins, RWJF, with collaboration and input from Anita Chandra, RAND Corporation, and Carol Graham, Brookings Institution. Developed for the 2018 Robert Wood Johnson Foundation Bellagio Center Conference, Advancing Well-Being in an Inequitable World: Moving From Measurement to Action. Environment. Vector image credit: https://www.kisspng.com/png-energy-conservation-natural-environment-vectorene-163280/download-png.html)

Objective Well-being: Measures of objective well-being often use administrative and survey-based data to quantify and describe assets and occurrences at each level. These are:
- Based on predetermined criteria and often performed by external observation.
- Used to document phenomena that exist independent of subjective awareness, though not divorced from subjective value judgement.

Civic Well-being (Governance and Policies) Examples include:
- Evidence of inclusion or participatory democracy
- Historical context (e.g., institutional inequity)
- GDP

Community Well-being (Status, Amenities, Culture) Examples include:
- Number, quality, density, and use of built features, like parks or roads
- Crime rates
- Cultural norms and narratives

Individual Well-being Examples include:
- Household income
- Incidence of clinical outcomes or care utilization rates
- Social connections

Subjective Well-being: Measures of subjective well-being are usually collected at the individual level and generally describe satisfaction with or perception of features, behaviors, and events at the civic, community, and individual levels. This includes direct assessment (e.g., survey) or more passive monitoring (e.g., social media).
- Evaluative measures reflect an assessment of an individual's life as a whole and their satisfaction with it.
- Eudaimonic metrics express individual perceptions of meaning and purpose in their lives.
- Hedonic metrics are binary and measure individual emotional or affective states, such as feelings of pleasure or pain.
- Flourishing is often used to describe the ultimate outcome of subjective well-being.

Civic Well-being (Governance and Policies) Examples include:
- Trust in government or perceived corruption

Community Well-being (Status, Amenities, Culture) Examples include:
- Satisfaction with quality or aesthetic of community features or impact on participation in desired activities
- Perceived safety

Individual Well-being Examples include:
- Ability to make choices about the direction of one's life course
- Access to health care and education
- Social connections/friendships

Well-being of Environment and Planet: Often represent the state of the larger ecosystem (including natural systems) and its impact on well-being; can include measures of sustainability

but also measures of environmental health and quality independent of potential to serve human needs.

xlii Energy Justice Decision-Making Tool (Principle: Explanation)

> Availability: People deserve sufficient energy resources of high quality
> Affordability: All people, including the poor, should pay no more than 10 percent of their income for energy services
> Due process: Countries should respect due process and human rights in their production and use of energy
> Good governance: All people should have access to high quality information about energy and the environment and fair, transparent, and accountable forms of energy decision-making
> Sustainability: Energy resources should not be depleted too quickly
> Intragenerational equity: All people have a right to fairly access energy services
> Intergenerational equity: Future generations have a right to enjoy a good life undisturbed by the damage our energy systems inflict on the world today
> Responsibility: All nations have a responsibility to protect the natural environment and minimize energy-related environmental threats

xliii Energy Equity Indicators: Adding to the Energy Commission's Tracking Progress reports, this report launches a set of energy equity indicators to identify opportunities and track progress for advancing the recommendations in the SB 350 Low-Income Barriers Study. This report includes nine indicators relating to clean energy access, investment, and resilience in California's low-income and disadvantaged communities. https://www.energy.ca.gov/sites/default/files/2019-12/energy_equity_indicators_ada.pdf

Energy Commission Low-Income Barriers Study Recommendations and Associated Indicators

1) Organizing a multiagency task force to facilitate coordination across state-administered programs: Health and safety issues abated
2) Enabling community solar offerings for low-income customers: Community energy resilience
3) Formulating a statewide clean energy labor and workforce development strategy: Clean energy jobs
4) Developing new financing pilot programs to encourage investment for low-income customers: Energy savings
5) Establishing common metrics and encouraging data sharing across agencies and programs: All Indicators
6) Expanding funding for photovoltaic and solar thermal offerings for low-income customers: Rooftop solar
7) Enhancing housing tax credits for projects to include energy upgrades during rehabilitation: Amount invested
8) Establishing regional outreach and technical assistance one-stop shop pilots: Number served
9) Investigating consumer protection issues for low-income customers and small businesses in disadvantaged communities: Number served

10) Encouraging collaboration with community-based organizations in new and existing programs: High energy bills
11) Funding research and development to enable targeted benefits for low-income customers and disadvantaged communities: Amount invested
12) Conducting a follow-up study for increasing contracting opportunities for small businesses located in disadvantaged communities: Small businesses

xliv https://ssir.org/articles/entry/the_equity_imperative_in_collective_impact#

xlv USDN Principles:

1. Listen and respond: Local governments should first listen to the communities they seek to serve. Program design should be as responsive as possible to the needs expressed by community members, and local government staff should be transparent about their resources. Ideally, this would build from preexisting community connections and engagement, and help define program goals.
2. Partner with trusted community organizations: Local governments should work with community organizations to design and deliver programs, and where applicable, help build the capacity of community organizations through the partnership.
3. Recognize structural racism: Programs targeting LMI households will not necessarily serve all disadvantaged populations. Racial analysis and baseline data must be part of an inclusive program design process to understand and address structural barriers that exist beyond income.
4. Efficiency first: Programs should ensure LMI households can access energy efficiency benefits as a key step to reducing energy burdens and increasing household health and comfort.
5. Reduce financial burdens: Programs should not add financial burdens for LMI households and should aim to reduce financial and other burdens.
6. Increase benefits: Programs should seek to deliver services beyond clean energy technologies and capitalize on co-benefits, such as job creation or community resilience for people of color, indigenous communities, and other historically underserved and underrepresented populations.
7. Make it easy: Program participation should be as easy as possible for any household with effective, efficient, and culturally competent program design, outreach, and delivery.
8. Integrate with other services: Wherever possible, programs should align with other services for LMI households.
9. Protect consumers and workers: Programs should have carefully considered consumer and workforce protection elements and consumer education to avoid unintended consequences.
10. Beyond carve-outs: Programs should do more than set aside a small portion of benefits for LMI households, and where possible, center the needs of LMI households and other historically underserved communities in program design and delivery.
11. Track progress: Programs should establish and assess against baseline equity data —both quantitative and qualitative —to inform program design, establish metrics, and track progress.
12. Long-term commitment: Programs should provide support for LMI households beyond installing a clean energy technology, and include structures for helping with technology service, upkeep, and repair.

Pp. 11-12. https://cadmusgroup.com/wp-content/uploads/2018/09/Cadmus-USDN-Equitable-Clean-Energy-Guidebook.pdf?utm_referrer=https%3A%2F%2Fcadmusgroup.com%2Fpapers-reports%2Fa-guidebook-on-equitable-clean-energy-program-design-for-local-governments-and-partners%2F

xlvi Recommended resources include:

- The Characteristics Of White Supremacy Culture (from Dismantling Racism: A Workbook for Social Change Groups, by Kenneth Jones and Tema Okun, ChangeWork, 2001. https://www.showingupforracialjustice.org/white-supremacy-culture-characteristics.html
- https://www.equityliteracy.org/equity-literacy
- *White Fragility* by Robin DiAngelo (and this presentation: https://www.youtube.com/watch?v=h7mzj0cVL0Q&feature=emb_title)

xlvii For an overview on cost effectiveness tests, see https://www.aceee.org/sites/default/files/he-ce-tests-121318.pdf. An additional resource is Woolf, T., C. Neme, M. Kushler, S. Schiller, and T. Eckman. 2017. National Standard Practice Manual for Assessing Cost-Effectiveness of Energy Efficiency Resources. Framingham, MA: NESP (National Efficiency Screening Project) nationalefficiencyscreening.org/national-standardpractice-manual/.