BROADLY BENEFICIAL CLEAN ENERGY PLANNING
Developing Processes, Indicators, Scenarios and Policies for Equitable And Inclusive Decarbonization

Session 1: Stage-setting and baseline data

APRIL 30, 2020

Funded by:
Introductions – training team

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*Greenlink Analytics*

Jon Crowe  
*USDN*
Introductions – Who are you?

Using Mentimeter

1. Point a web-browser to http://menti.com

2. Enter this code: 29 59 81

3. Answer the question

4. (When you’ve submitted your answer, please keep that browser window open. We’ll be using it throughout the session.)

Note on data-use: we might use some of the information you enter for our own project-evaluation purposes, but all data are anonymous. Any data we use cannot be attributed to you or your employer.
Poll: Who are you?

Mentimeter poll – word cloud:
Enter three words that describe your personal values

Mentimeter poll – word cloud:
Enter three words that describe your community’s values

Discussion:
Reflections on differences/similarities
Overall outline of training series

Session 1: Stage-setting and baseline data
- Concepts and methods for equity-focused planning
- Overview of scenario-based planning
- Choosing indicators
- Obtaining data to measure indicators

Session 2: Defining and testing scenarios
- Interpreting and communicating baseline data
- Defining and modeling scenarios
- Evaluating scenarios

Session 3: Turning scenarios into policies
- Understanding scenario outcomes
- Identifying and prioritizing and policies and programs
- Preparing for implementation

Scenario Planning “test exercise” (Level 1 cities only)
- Select indicators
- Review baseline
- Select scenarios
- Review scenario outcomes
A few definitions

Clean energy
renewable energy + energy efficiency

Scenario planning
planning by comparing alternative plausible futures

Equity
fairness in procedures, the distribution of benefits and burdens, structural accountability, and generational impact

Equity definition from USDN, *Equity in Sustainability: An Equity Scan of Local Government Sustainability Programs*
Objectives for today

By the end of today’s session, you should...

• Understand concepts and methods for equity-focused planning

• Understand the broad outlines of the scenario-based energy-planning process

• Understand the role of indicators in scenario planning and in supporting a stakeholder-driven, equitable planning process

• Feel ready to work with stakeholders in choosing meaningful indicators
Poll: Overall pre-quiz

Mentimeter poll – word cloud:

In single words or short phrases, what are some of your professional goals for your clean energy planning process?

Mentimeter poll – Numerical score 0-10:

How confident are you about your ability to guide an equitable scenario planning process?
Why "Broadly Beneficial"?

Most ambitious, long-term plans fail. *Why?*

**Mayors’ Climate Protection Agreement**
- Launched 2005
- 1,000+ U.S. mayors pledged to 7% GHG reduction from 1990 levels by 2012
- Near 0% success rate
- Top down, executive driven, visible, PR win. Limited community support. Uneven commitment and capacity to build support and implement.

**The Greening of Detroit free trees program**
- Small program since 1989; expanded tree planting budget and geographic reach in 2014
- Unexpectedly high “no” rate for free trees
- Historical distrust of city government on trees; outsider-driven program outreach
- Cautionary tale on the “arrogance” of white environmentalists. History and representation matter.

Sources: [US Conference of Mayors](https://www.usmayors.org), [National Review](https://www.nationalreview.com), [Greentech Media](https://www.greentechmedia.com), [metropolitics.org](https://metropolitics.org), [CityLab](https://www.citylab.com).
Why "Broadly Beneficial"?

Plans that succeed with implementation build a broadly shared agenda and a broad, sustained base of support.

This requires:

1. Meaningful participation of a diversity of communities and institutions in shaping the future
2. Recognition of differentials in power, needs and perspectives
3. Seeking creative solutions to create new value, focused on what matters to people, not just rearranging business as usual
4. Equitable distribution of costs and benefits

Similar findings from management research:

- Diverse teams solve problems more effectively and faster
- The most successful organizations prioritize inclusivity to create Generative Teams
- Generative Teams are cognitively diverse and psychologically safe

Sources: Bourke & Espedido 2019; Reynolds & Lewis 2017; Reynolds & Lewis 2018
Our theory of change

Information is power

scenario planning
- Partially frees process from biases & blindspots
- Promotes foresight, not forecasting
- Encourages cross-sector communication
- Structures iterative solution development

Values and voice provide direction

equity lens
- Diversity of voices produces larger solution-space
- Identifying and measuring what matters
- Broader inclusion and more equitable distribution of benefits
- More durable public and political support

Our theory of change
A training series about intersections

• Unique content on
  • Quantitative data and future scenarios for stakeholder engagement
  • Spatial data for energy planning
  • Infusing equity-centered indicators/actions into energy planning

• But, because this is an “advanced course,” a lot of foundational material is left out
  • Deep dive on equity – wrestling with justice and injustice in energy and climate
  • History of exclusion and contested values in city and energy planning
  • Data options and sources
  • Modeling options and tools

• Annotated list with additional resources forthcoming
## Components of Equitable Clean Energy Scenario Planning

<table>
<thead>
<tr>
<th>Planning component</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals</td>
<td>What are your government's and/or community's goals?</td>
</tr>
<tr>
<td>Structure</td>
<td>Who are your stakeholders? What is their formal role?</td>
</tr>
<tr>
<td>Process</td>
<td>How do you assure stakeholders are listened to?</td>
</tr>
<tr>
<td>Indicators</td>
<td>What are stakeholders' values and concerns?</td>
</tr>
<tr>
<td>Baseline</td>
<td>Where are you now?</td>
</tr>
<tr>
<td>Scenarios</td>
<td>What are your possible pathways?</td>
</tr>
<tr>
<td></td>
<td>• What actions do you want to consider?</td>
</tr>
<tr>
<td></td>
<td>• How do you design them equitably?</td>
</tr>
<tr>
<td>Impacts</td>
<td>What are the likely outcomes?</td>
</tr>
<tr>
<td>Policies and programs</td>
<td>How do you design and implement the actions?</td>
</tr>
<tr>
<td>Distributional design</td>
<td>Who benefits? Who pays?</td>
</tr>
</tbody>
</table>
Equity-focused clean energy planning
Why equity matters in energy planning

Economic, social and environmental costs of energy services have greater impact on frontline, marginalized and vulnerable communities

INCOME
Low-income urban households have more than 2x the energy burden of the average urban household: 7.2% vs 3.5% of income¹

RACE
Neighborhoods With More People of Color Pay Higher Energy Bills²

NEIGHBORHOOD
Frontline residents live in neighborhoods with highest environmental health hazards³

HOUSING
Frontline residents live in homes that are older, less efficient and less healthy

¹. https://www.aceee.org/research-report/u1602
Consideration of equity in clean energy policies is growing in some cities

Equity-driven actions in *City Clean Energy Scorecard*

- Equity-driven planning
  - Community engagement
  - Decision making
  - Accountability

- Buildings
  - Incentives and financing for efficient buildings and solar
  - Energy efficiency workforce development
  - Renewable energy workforce development

- Utilities
  - Low-income energy efficiency programs
  - Multifamily energy efficiency programs

- Transportation
  - Low income housing around transit
  - Low income access to high quality transit
  - Subsidized access to efficient transportation options

ACEEE, *2019 City Clean Energy Scorecard*. 
Three kinds of equity & inclusion

Engagement of a wide range of communities and stakeholders – “Procedural”

Equity

We need all three to create better solutions, build more durable support and generate broader benefits

Benefits of action as equitably distributed as possible – “Distributional”

Fairness and accessibility in design, decisions and delivery – “Structural”

Today we will focus on Process. The next two sessions examine Policy and Impact.

Source: C40 & WRI, https://resourcecentre.c40.org/resources/inclusive-climate-action
*Transgenerational (consideration of future generations) is a fourth dimension of equity (USDN/Park 2014)
Integrating Clean Energy Goals with an Equity Vision

• Clean energy goals are defined differently in different cities

• Stakeholders have their own primary interests

• Planning processes with **clean energy as the “what”** can be designed with **equity lens as the “how”**

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Example vision and priorities:

<table>
<thead>
<tr>
<th>Priorities</th>
<th>01</th>
<th>02</th>
<th>03</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% of Atlantans have a right to 100% clean energy</td>
<td>Energy equity must be a priority</td>
<td>Investments in energy efficiency must be increased</td>
<td>Local investments in renewable energy must be prioritized over investments outside of the Atlanta Metro</td>
</tr>
</tbody>
</table>

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Source: City of Atlanta, [Clean Energy Atlanta plan](https://www.cityofatlanta.net/care/clean-energy-atlanta-plan).
Poll: What are your residents’ priorities?

Mentimeter poll – word cloud:
Please enter three words describing your perception of residents’ top priorities for your city’s energy policy. (One word per priority.)

Discussion:
Why did you submit the answers that you did?
Importance of deliberate stakeholder engagement
Minneapolis’s NRP and the importance of stakeholder-engagement design

Minneapolis’s Neighborhood Revitalization Program (1990-2008)

Mechanism: neighborhood organizations, with support from NRP staff...
- Created organizational structure
- Elicited priorities from neighbors
- Developed grant proposals
- Implemented plans
|-------------------|-------------------|-----------------------------|-------------------------------|----------------------|----------------------|----------------|----------------|-------------|--------------|----------------------|----------------------|-----------|-----------|------------------------|----------------|----------------|
NRP: outcomes dominated by homeowner interests

NRP and the importance of deliberate design and management of stakeholder-engagement

In Minneapolis, planning department staff tended to play a passive role, inhibited by their belief that democratic planning precluded their taking initiatives and shaping people’s opinions. ...The tension between democracy as practiced and equitable outcomes arises because citizen participants usually prefer policies that benefit owners more than renters. In general, middle-class homeowners are more likely to participate than lower-income renters and are more effective in doing so.

Susan Fainstein, The Just City

Who is the community? Expanding from a diversity focus to an inclusion approach

Diversity

- Community-based service and development organizations
- Neighborhood, ethnic and social organizations
- Religious organizations
- Social justice organizations
- Youth and recreational organizations
- Health and environmental organizations
- Labor organizations
- Business associations

Climate Justice coalitions

"Usual suspects"

- Professional organizations
- Volunteer organizations
- Unorganized (vocal)
- Unorganized (disengaged)

Inclusion

Free-tree "no"s

"Redirection" neighborhood residents

"Protection" neighborhood residents

Government agencies

Sources: Emerald Cities Collaborative, "Anchor-Community Engagement Workbook", and author's adaptation.
Stakeholder engagement at every stage

- Indicators & baseline
- Scenario development
- Scenario selection
- Action design & implementation
Good practices for stakeholder engagement

- Affirmatively recruit participants
  - Or participation is skewed toward those with high social capital

- Orient participants to technical concepts and issues
  - Or participants’ input is irrelevant to planners’ concerns

- Stakeholders choose/reject goals, indicators, etc
  - Or it’s consultation, not collaboration

- Discussions use vivid, meaningful terms
  - Or it’s hard for stakeholders to connect plans to their lives
### Who to affirmatively recruit?

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income level</td>
<td>Grouping or thresholds connected to earnings of labor and/or capital. Categories typically are defined related to the local/national economy.</td>
</tr>
<tr>
<td>Migrant status</td>
<td>Refers to the legal and immigration status of a person who changes their place of residence. Categories include locals, expatriates, documented or undocumented migrants, refugees and asylum seekers.</td>
</tr>
<tr>
<td>Gender</td>
<td>The socially constructed characteristics of women and men – such as norms, roles and relationships of and between groups of women and men. Categories typically include lesbian, gay, bisexual, transgender and intersex, and traditional biological sex categories of male and female.</td>
</tr>
<tr>
<td>Race and ethnicity</td>
<td>Race is defined as a category of humankind that shares certain distinctive physical traits. The term ethnicity is more broadly defined as large groups of people classed according to common racial, national, tribal, religious, linguistic, or cultural origin or background.</td>
</tr>
<tr>
<td>Religion</td>
<td>Religious or spiritual belief of preference, regardless of whether or not this belief is represented by an organized group, or affiliation with an organized group having specific religious or spiritual tenets.</td>
</tr>
<tr>
<td>Informality status</td>
<td>Relationship of individuals, households, activities or firms to the formal or informal economy, typically with respect to production, employment, consumption, housing and/or land.</td>
</tr>
<tr>
<td>Disability</td>
<td>Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective access to and participation in society on an equal basis with others.</td>
</tr>
<tr>
<td>Age</td>
<td>Chronological grouping based on years lived.</td>
</tr>
<tr>
<td>Working conditions</td>
<td>Working conditions cover a broad range of topics and issues, from working time (hours of work, rest periods, and work schedules) to remuneration, as well as the physical conditions and mental demands that exist in the workplace and job stress for workers in transitioning industries (e.g. fossil fuels).</td>
</tr>
</tbody>
</table>

Source: C40 Cities, Inclusive Climate Action Roadmap
## Levels of Public Engagement

<table>
<thead>
<tr>
<th>Stance Towards Community</th>
<th>Ignore</th>
<th>Inform</th>
<th>Consult</th>
<th>Involve</th>
<th>Collaborate</th>
<th>Defer To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact</td>
<td>Marginalization</td>
<td>Placation</td>
<td>Tokenization</td>
<td>Voice</td>
<td>Delegated Power</td>
<td>Community Ownership</td>
</tr>
<tr>
<td>Community Engagement Goals</td>
<td>Deny access to decision-making processes</td>
<td>Provide the community with relevant information</td>
<td>Gather input from the community</td>
<td>Ensure community needs and assets are integrated into process &amp; inform planning</td>
<td>Ensure community capacity to play a leadership role in implementation of decisions</td>
<td>Foster democratic participation and equity through community-driven decision-making; bridge divide between community &amp; governance</td>
</tr>
<tr>
<td>Message to Community</td>
<td>Your voice, needs &amp; interests do not matter</td>
<td>We will keep you informed</td>
<td>We care what you think</td>
<td>You are making us think (and therefore act) differently about the issue</td>
<td>Your leadership and expertise are critical to how we address the issue</td>
<td>It’s time to unlock collective power and capacity for transformative solutions</td>
</tr>
<tr>
<td>Activities</td>
<td>Closed door meeting, misinformation, systematic</td>
<td>Fact sheets, open houses, presentations, billboards, videos</td>
<td>Public comment, focus groups, community forums, surveys</td>
<td>Community organizing &amp; advocacy, house meetings, interactive workshops, polling, community forums</td>
<td>MOUs with community-based organizations, community organizing, citizen advisory committees, open planning forums with citizen polling</td>
<td>Community-driven planning, consensus building, participatory action research, participatory budgeting, cooperatives</td>
</tr>
</tbody>
</table>

Source: Movement Strategy Center, *The Spectrum of Community Engagement to Ownership*
Inclusive governance – low cost, high return

Who is represented in the decision-making bodies for your planning process?

- Include citizens or community organization representatives in Executive Board / Steering Committee
- Create a Citizen Advisory Committee with defined and substantial role
- Provide compensation for community time and focused input, pilots

**HousingNOLA**
- 10-year community-driven housing plan, convened and staffed by non-profit housing coalition, funded by community foundation
- Executive committee: local foundation, community development NGO, city agency, private bank

**King County Mobility Framework Equity Cabinet**
- Government convened advisory committee of 23 citizens and equity-focused community orgs
- Developed recommendations on principles and policies and will continue to advise as policymaking progresses

Sources: housingnola.org; King County; CityLab; Nelson\Nygaard
Poll: Stakeholder engagement

Menti-meter poll – multiple short answers:
What stakeholder engagement methods have you or your office used in your community?

Discussion:
What stakeholder engagement methods have worked well?
What methods have not worked well, and why?
Scenario-based energy planning
Scenario planning: definition

Strategic planning through the systematic generation of—and evaluation of—scenarios

Alternative plausible futures defined by imagining or modeling effects of a predefined set of variables
Scenario planning: general process

1. Assess the current situation
   - Select indicators that matter. Collect data.

2. Choose variables for defining scenarios
   - Identify what can be changed

3. Choose scenarios by exploring plausible combinations of the variables
   - Select changes to test

4. Examine and evaluate scenarios
   - Identify combination of changes that most improve indicators
Different actions result in different changes

Scenario-based planning: define different scenarios by varying actions, and evaluate those scenarios (and therefore the actions) by the outcomes.
Multiple variables—necessary but complicating

Using multiple indicators is important to assess outcomes. There can be trade-offs between indicators, with some improving while others worsen.
Choosing equity-centered indicators
Indicators should reflect values and goals

**Traditional energy planning**
- GWh demand
- GWh generated
- GWh saved
- Rates and tariffs
- Energy reliability
- Utility rate of return
- Territory scale

**Equity-focused energy planning**
- Energy bills
- Energy burden reduction
- CO2 reduction
- Air pollution reduction
- Spatial & demographic distribution
- Others?
Using data in stakeholder-responsive planning processes

• Data serves the process, not the other way around
  • Data does not define the community or its residents
  • Data does not define options
  • Data does not determine which solutions are best

• Community members do all of these things

• For data to serve the process, they should be
  • Accompanied by info on sources and methods
  • Expressed in meaningful terms and units
  • Subject to examination and acceptance by the stakeholders
How to choose good indicators with stakeholders

Start conversation about values and goals and how they relate to energy

Identify and articulate the impacts of energy on their lives

Choose indicators relevant to the impacts

Asthma incidence

Average electric bill

GHG emissions
Criteria for choosing good indicators

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Explanation</th>
<th>Weak examples</th>
<th>Strong examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurable</td>
<td>Reflected in attainable, credible, timely data</td>
<td>• Public health</td>
<td>• Asthma incidence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Equity</td>
<td>• Spatial correlation of energy-burden and poverty</td>
</tr>
<tr>
<td>Sensitive</td>
<td>Changes measurably in response to city energy-related action</td>
<td>• Heat-wave frequency</td>
<td>• GHG emissions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Interest rate</td>
<td>• Payback period</td>
</tr>
<tr>
<td>Relevant</td>
<td>Identified by stakeholders as impacting their lives in important ways</td>
<td>• Progress toward city pledge</td>
<td>• Avg electricity bill</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Program costs</td>
</tr>
<tr>
<td>Distinctive</td>
<td>Does not cover information addressed by the other indicators</td>
<td>• % homes using NG heat/stoves</td>
<td>• % homes using electric</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• % homes using electric heat/stoves</td>
<td>• % commercial buildings using electric</td>
</tr>
</tbody>
</table>


Obtaining data
## Baseline data: energy indicators and sources

<table>
<thead>
<tr>
<th>Energy profile</th>
<th>Energy cost</th>
<th>Efficiency, renewables</th>
<th>Utility info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy consumption data broken down by end-use sector (transportation, residential and commercial buildings, city and public sector, industry, electricity generation, heating, water, and waste)</td>
<td>Load profiles for residential and commercial buildings</td>
<td>Local transportation-fleet characteristics (vintage, efficiency, and vehicle type)</td>
<td>GHG emissions</td>
</tr>
<tr>
<td>Industrial-load data for major, local, industrial energy users</td>
<td>Average electricity rates (residential, commercial, and industrial)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local transportation-fleet characteristics (vintage, efficiency, and vehicle type)</td>
<td>Utility tariff structure</td>
<td>Wind and solar resource potential</td>
<td></td>
</tr>
<tr>
<td>GHG emissions</td>
<td>Average prevailing heating costs (residential, commercial, and industrial)</td>
<td>Potential for converting waste to energy</td>
<td>Potential for using biomass</td>
</tr>
<tr>
<td>Average electricity rates (residential, commercial, and industrial)</td>
<td>Efficiency opportunity estimates</td>
<td>Existing grid-mix by generation type (coal, natural gas, hydro, and non-hydro renewables)</td>
<td></td>
</tr>
<tr>
<td>Utility tariff structure</td>
<td>Wind and solar resource potential</td>
<td>Utility type (publicly owned [muni/co-op] vs. investor-owned utility)</td>
<td></td>
</tr>
<tr>
<td>Average prevailing heating costs (residential, commercial, and industrial)</td>
<td>Efficiency opportunity estimates</td>
<td>Current policies and rates applicable to renewable energy or distributed energy resources (e.g., net energy metering, capacity-based incentives, performance-based incentives, local tax incentives)</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sources:
- Rocky Mountain Institute, Community Energy Resource Guide (suggested variables); U.S. Dept of Energy, Guide to Community Energy Strategic Planning (suggested sources)
Baseline data: spatial demographic indicators and sources

<table>
<thead>
<tr>
<th>Demographic and social-wellbeing indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population size and density, and changes</td>
</tr>
<tr>
<td>Race, age, sex profiles</td>
</tr>
<tr>
<td>Poverty rate</td>
</tr>
<tr>
<td>Housing costs</td>
</tr>
<tr>
<td>Rental rates</td>
</tr>
<tr>
<td>Transportation modes</td>
</tr>
<tr>
<td>Commute times</td>
</tr>
<tr>
<td>Health insurance rates</td>
</tr>
<tr>
<td>Educational attainment</td>
</tr>
<tr>
<td>Incidences of various diseases and disorders</td>
</tr>
</tbody>
</table>

- US Census Bureau
- LEAD (US Dept of Energy)
- Housing + Transportation Affordability Index (Center for Neighborhood Technology)
Hierarchy of data quality

- Locally collected direct data
  - Example: Electricity consumption data obtained from power utility

- Locally collected proxy data
  - Example: Building mix from property data as proxy for stationary energy consumption

- Modeled data based on local parameters
  - Example: VMT modeled from local street lengths, vehicle license data, and/or strip counts

- Downscaled data
  - Example: Gasoline consumption downscaled from state gasoline-sales data

- Regional or national data
  - Example: Statewide solar-installation cost data
Poll: baseline data

Menti-meter poll – multiple short answers:
What sources of data have you found for energy and sustainability data for your community?

Discussion:
What are your primary challenges in making use of the data you have available?
Case study:
Baseline Data on Energy Equity in Atlanta
Energy Equity

- Energy Burden
  - % of household income spent on utility

- Atlanta has 4th highest energy burden in U.S.
  - National average is 2.7% of income
  - Atlanta – up to 9.6% in some ZIP codes

- Paying utility bills is the #1 reason for taking out a payday loan.
Wrap-up
Homework

(all participants)

1. Start stakeholder engagement on indicators
   • What indicators for clean energy action are most important to stakeholders in your community?

2. Share your feedback on this session (5 minutes)
   • Please respond to the poll at https://bit.ly/broadly_feedback_1

Questions? Comments? – contact Eric.Mackres@wri.org
Session 2 – May 28, 3:30-5pm EST

Topics

• Interpreting and communicating baseline data
• Defining and modeling energy-policy scenarios
• Evaluating scenario outcomes

• Make sure the appointment is on your calendar
• Register in advance at https://wri.zoom.us/meeting/register/tJEsceyoqT4pG9bbm916sTVGxD9hBxwn2yNT
Sneak-peak of Level 1 city custom data for Session 2: Interactive baseline energy equity maps

Utility energy burden indicators

Example optional indicators
Homework

(Level 1 participants only)

1. Before the next session, Greenlink will provide you with a baseline dataset for your city for 2018 (or the most recent year available), which will include:
   • City-wide baseline indicators: Energy consumption and CO2 emissions by sector and fuel
   • Two maps by Census tract of total utility energy burden – median burden (% income) & # households in burden
   • Two maps by Census tract of your two chosen optional indicators.

2. Choose two optional indicators that you would most like mapped (from the list on the next slide)


4. In preparation for the next session, examine the data for insights into your community, particularly with respect to equity of utility energy burdens.
Optional indicators for mapping: Choose two

Demographics
Population
Racial composition
Educational attainment
Median age

Housing characteristics
Average household size
Households with children
Number of bedrooms
Eviction rates
House heating fuel (gas, electricity, renewables, etc.)
Mortgage status
Median property value
Percent of renters in a geography
Housing type, rented or owned (single family detached, multifamily, townhouse, etc.)

Transportation characteristics
Means of transportation
Travel time to work
Average commute to work (in minutes)

Income characteristics
Gini index of income inequality
Poverty status
Number of individuals utilizing the Supplemental Nutrition Assistance Program
Households with living costs exceeding 30% of their income

Health characteristics (for select cities)
Prevalence of arthritis
Prevalence of asthma
Prevalence of binge drinking
Prevalence of cancer (except skin cancer)
Prevalence of cholesterol screening
Prevalence of chronic obstructive pulmonary disease
Prevalence of colonoscopy and/or sigmoidoscopy
Prevalence of coronary heart disease
Prevalence of current lack of health insurance
Prevalence of diabetes
Prevalence of high blood pressure
Prevalence of high cholesterol
Prevalence of kidney disease
Prevalence of no leisure time physical activity
Prevalence of loss of teeth
Prevalence of mammography use
Prevalence of mental health of not good for equal to or greater than 14 days
Prevalence of obesity
Prevalence of PAP smear use
Prevalence of poor physical health
Prevalence of sleeping less than 7 hours
Prevalence of smoking
Prevalence of stroke
Prevalence of taking medication for high blood pressure
Prevalence of visits to the dentist
Prevalence of visits to doctors for routine checkups within the past year

https://greenlinkanalytics.org
See you in a few weeks!

Thanks to our partners:

And advisors and reviewers:
  • Allison Ashcroft, Canadian Urban Sustainability Practicioners
  • Matt Cox, Greenlink Analytics
  • Julie Curti, Metropolitan Area Planning Council (Boston)
  • Megan Day, National Renewable Energy Laboratory
  • Alex Dane, Natalie Elwell & Devashree Saha, World Resources Institute
  • Denise Fairchild, Emerald Cities Collaborative
  • Anthony Giancatarino, Movement Strategy Innovation Center
  • Rebecca Kiernan, City of Pittsburgh