

Measuring Climate Equity

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Applied Economics Clinic

www.aeclinic.org



Applied Economics Clinic

Economic and Policy Analysis of Energy, Environment and Equity

Applied Economics Clinic (AEC)

AEC is a 501(c)(3) non-profit consulting group based in Arlington, Massachusetts. Founded in 2017, the Clinic provides expert testimony, analysis, modeling, policy briefs, and reports for public interest groups on the topics of energy, environment, consumer protection, and equity.

Our mission is to:

1. Provide low cost and (when we receive foundation grants) pro bono expert services to public interest groups on the topics of energy, environment, consumer protection, and equity.
2. Train the next generation of expert technical witnesses and analysts by providing applied, on-the-job learning experiences to graduate students in related fields.
3. Work proactively to support and promote diversity in the fields of economics, engineering, math and sciences.



Presentation Agenda

- Introducing Climate Equity
- AEC's Climate and Social Equity Framework
- Metrics for Climate Equity



Introducing Climate Equity



Climate Equity

Climate Equity: remedying the disproportionate effects of climate change and environmental injustice.



Image Credit: University of Maryland School of Public Health. May 6, 2021. Available at: <https://sph.umd.edu/news/struggle-legislate-environmental-justice>



Why Consider Equity in Climate Planning?

In planning for climate adaptation, emissions mitigation, and the transition to a new green economy, cities and towns **must**:

- Recognize implications and consequences
- Consider vulnerable populations
- Plan and implement actionable metrics



AEC's Climate and Social Equity Framework



AEC's Climate and Social Equity Framework

AEC's Climate and Social Equity framework offers guidance on how to consider social equity in climate planning.

Using AEC's assessment framework helps guide a process that:

- considers current and historical contexts;
- prioritizes equitable outcomes; and
- is reactive and flexible.



AEC's Climate and Social Equity Framework



Equity Checklist

The checklist provides a method to ensure a robust treatment of climate and social equity.



Dimensions

Social equity cuts across many dimensions, each of which requires consideration.



Pitfalls

Each equity dimension has common equity pitfalls that should be acknowledged, addressed, and intentionally mitigated should they arise.





Equity Checklist

An equity checklist helps to center equity considerations in planning, implementation and evaluation.

Some examples of equity checklist items include:

- Social equity requires **inclusive** planning and decision-making
- Establish baseline equity context and determine **data availability**
- Plan carefully to focus on equity outcomes and avoid **unintended consequences**
- Include inclusive, equitable practices from **start-to-finish**



Dimensions

Equity must be considered across as many dimensions as possible.

Equity cuts across four primary dimensions:

- 1. Stages of Policy:** planning/agenda setting, implementation, evaluation
- 2. Sectors:** buildings, transportation, energy, agriculture
- 3. Communities:** race/ethnicity, housing status, primary language spoken
- 4. Intergenerational:** current vs future generational needs, ecological sustainability



Pitfalls

Equity cuts across multiple dimensions, each of which entails common equity pitfalls.

Examples of pitfalls include:

1. Stages of policy: evaluation

- Inadequate community engagement

2. Sectors: buildings

- Displacement

3. Communities: low-to-no income

- Energy Insecurity

4. Intergenerational: current vs future generational needs

- Myopic Policy



Metrics for Climate Equity



Equity Metrics

Types of metrics:

1. **Outcome Metrics:** measures in absolute terms
2. **Distributional Dimensions:** outcomes by dimensions
3. **Process Metrics:** measures inclusion and representation
4. **Structural Metrics:** looks at systemic accountability



Example: Energy Efficiency for All

The goal: an energy efficiency program that benefits all customers equitably

1. **Outcome Metric:** dollars saved through energy efficiency measures
2. **Distributional Dimensions:** average dollars saved through energy efficiency measures by home renter/owner status
3. **Process Metric:** tracking participation at public meetings for energy efficiency planning
4. **Structural Metric:** having publicly-available, disaggregated data on energy efficiency program participation and meaningfully incorporating community feedback to improve program performance



Additional Applications of AEC's Climate and Social Equity Framework

- [Carbon Free Boston](#): assessed how the City of Boston's plan for carbon neutrality will impact socially vulnerable populations
- [Cambridge, Massachusetts](#): providing equity input and considerations during the Net Zero Task Force's development of the next Net Zero Action Plan
- [State of Maine's Governor's Energy Office](#): assessed the needs of Maine's underserved communities and potential equity benefits and challenges of the state's renewable energy transition
- **American Council for an Energy-Efficiency Economy**: assessing how equity is being considered and measured in energy efficiency programs (forthcoming)



Conclusions

- Equity from **start to finish**
- **Accountability** = transparency + accessibility
- Inclusion of plans, metrics, and community engagement
- Importance of **disaggregated data**
- **Additional efforts will be required**



Thank you!

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Additional Materials



1. Outcome Metrics

Outcome Metrics measure whether equity goals were met in *absolute terms*.

- Were program goals met?
- Were there any unintended consequences?
- Does the policy need iteration?

Due to data lag, measurements of some outcome metrics may not be available until some time has elapsed



2. Distributional Dimensions

Distributional Dimensions measure the *distribution* of equity gains/losses across different groups of society in comparative terms.

- Who gained and who lost in the program's target community?
- Are policy gains/losses equitably distributed?
- Are existing vulnerabilities exacerbated by the policy, or new disparities created?

Data availability plays a major role in comparing benefits and losses across different communities



3. Process Metrics

Process Metrics measure *inclusion* and *representation* over all stages of policy development.

- Is institutional feasibility accounted for?
- Did you facilitate stakeholder participation? Who participated?
- How was stakeholder/community input used?

Also includes reviewing membership of decision-making bodies for community representation



4. Structural Metrics

Structural Metrics consider **accountability** and **systemic barriers** to achieving equity goals.

- Has necessary data been identified/collected?
- Is progress towards equity goals being measured and publicly communicated?
- Are there plans in place if equity goals are not met? Will the community be engaged?

Transparency and public engagement are key to accountability

