

CARBON FREE BOSTON SOCIAL EQUITY ADVISORY GROUP

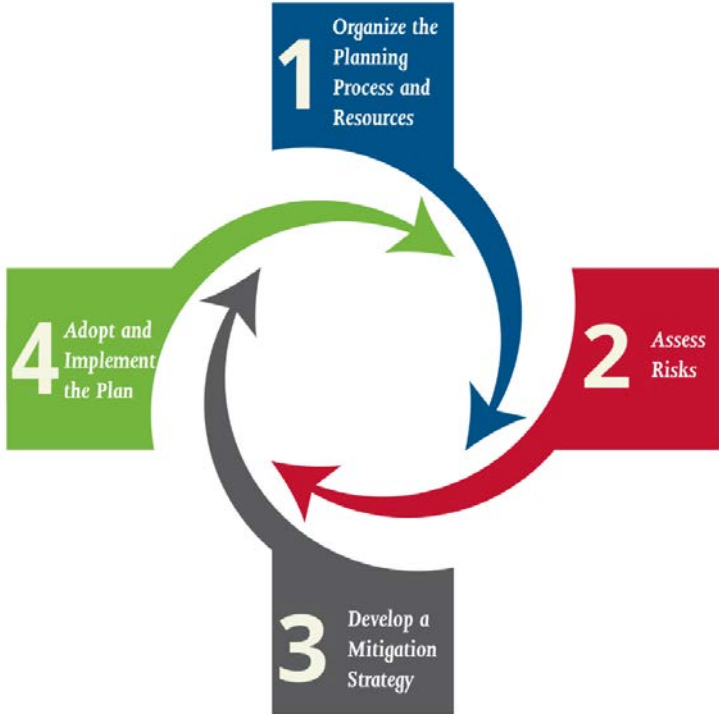
Prepared by All Aces, Inc.

TOPIC	DESCRIPTION
<p>AGENDA</p>	<p>Welcome</p> <p>Introductions</p> <ul style="list-style-type: none"> ➤ Name ➤ Organization ➤ Hopes for Carbon Free Boston Process <p>Carbon Free Boston Overview</p> <ul style="list-style-type: none"> ➤ Social Equity Advisory Group Role ➤ Partners Involved in Carbon Free Boston ➤ Carbon Free Boston Products & Par-ties ➤ Structure of Carbon Free Boston Modeling Platform <p>Mitigation Planning Process</p> <ul style="list-style-type: none"> ➤ Overview of FEMA Framework for Mitigation Planning ➤ Alignment of Carbon Free Boston Report with Process <p>CFB Policy Key Questions</p> <p>For Each Sector (Buildings, Energy, Transportation, and Waste):</p> <ul style="list-style-type: none"> ➤ What are the potential equity impacts of the specific polices we are evaluating that reduce GHG emissions in the City of Boston? ➤ How should policies be designed/adjusted for equity impacts? ➤ What indicators do we need to measure/monitor progress?
<p>SOCIAL EQUITY ADVISORY GROUP PURPOSE</p>	<p>Advise and ensure that the overall technical aspects of the model to reduce GHG emissions in the City of Boston incorporates social equity.</p> <ul style="list-style-type: none"> ➤ Review the existing policies in the transportation, buildings, energy, and waste sector models and identify any additional policies having affirmative equity implications. ➤ Identify the social equity costs and benefits associated with policies that will be evaluated in the transportation, buildings, energy, and waste sector models. ➤ Determine the extent to which social equity can be explicitly represented in the modeling framework. ➤ Identify relevant experience in other cities in regards to the social equity implications of GHG mitigation. ➤ Identify key social equity connections and feedbacks among policies in the transportation, buildings, energy, and waste sectors. ➤ Provide an open and transparent forum to discuss issues related to addressing social equity in conjunction with reducing GHG emissions.



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Strategies to Reduce Greenhouse Gases in <u>Buildings</u>	<ul style="list-style-type: none"> ➤ Require carbon neutral energy for new buildings ➤ Require retrofitting of existing buildings ➤ Establish minimum energy standards for rental housing ➤ Require conversion of CHP systems to renewables ➤ Provide incentives for carbon reduction in buildings 										
Strategies to Reduce Greenhouse Gases in <u>Energy Sector</u>	<ul style="list-style-type: none"> ➤ Tax energy and/or carbon ➤ Institute congestion pricing ➤ Institute new parking pricing ➤ Improve biking and walking infrastructure ➤ Invest in new public transit capacity ➤ Incentivize the adoption of EVs 										
Strategies to Reduce Greenhouse Gases in <u>Transportation</u>	<ul style="list-style-type: none"> ➤ Develop and expand no-carbon district energy systems ➤ Incentivize renewable energy generation in the city ➤ Expand purchase of RECs ➤ Provide clean power purchasing options ➤ Adopt renewable energy procurement ➤ Support local use of bio-gas 										
Strategies to Reduce Greenhouse Gases in <u>Waste</u>	<ul style="list-style-type: none"> ➤ Mandate organics recycling ➤ Impose pay-as-you throw fee ➤ Bans or fees or hard to recycle materials ➤ Product & packaging fees ➤ Require items to be reusable, recyclable or compostable ➤ Neighborhood Drop Off Centers ➤ Public Space Recycling ➤ Mandatory ordinance, reinforcement and enforcement 										
Quantifying Social Equity of Carbon Mitigation Strategies	<table border="1"> <thead> <tr> <th>Metric Name</th> <th>What it Measures</th> </tr> </thead> <tbody> <tr> <td>Poverty headcount ratio</td> <td>Ratio of population below a poverty line</td> </tr> <tr> <td>Gini coefficient</td> <td>Level of income/consumption inequality</td> </tr> <tr> <td>Energy Gini</td> <td>Level of energy consumption inequality in kWh</td> </tr> <tr> <td>Kuznet ratio</td> <td>Level of inequality between the wealthiest and poorest</td> </tr> </tbody> </table> <p><i>These categories were used in the primary analysis of this report. The following were additional categories considered.</i></p>	Metric Name	What it Measures	Poverty headcount ratio	Ratio of population below a poverty line	Gini coefficient	Level of income/consumption inequality	Energy Gini	Level of energy consumption inequality in kWh	Kuznet ratio	Level of inequality between the wealthiest and poorest
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<p>ADDITIONAL CONTEXT & SUPPLEMENTAL INFORMATION</p>	<p style="text-align: center;">Mitigation Planning Process</p>  <p>Social Equity in Action A framework to plan for and evaluate policies, programs, and other actions to identify and mitigate inequitable outcomes.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #c00000; color: white;"> <th colspan="3" style="text-align: center; padding: 5px;">UNDERSTAND INEQUITABLE OUTCOMES</th> </tr> <tr style="background-color: #c00000; color: white;"> <th colspan="3" style="text-align: center; padding: 5px;">IMPACT</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="padding: 5px;"> <p>1 DO POLICIES & PROGRAMS HAVE THE SAME IMPACT FOR ALL GROUPS? Differences in outcomes that disproportionately impact specific groups are usually a signal that there are shortcomings in procedures, access, or quality.</p> </td> </tr> <tr style="background-color: #c00000; color: white;"> <th colspan="3" style="text-align: center; padding: 5px;">ANALYZE RELATED PROCESS(ES)</th> </tr> <tr> <td style="width: 33%; padding: 5px;"> <p style="text-align: center;">PROCEDURES</p> <p>2 ARE ALL GROUPS PROVIDED THE SAME RIGHTS, TREATMENT, & ELIGIBILITY REQUIREMENTS?</p> </td> <td style="width: 33%; padding: 5px;"> <p style="text-align: center;">ACCESS</p> <p>3 DO ALL GROUPS HAVE ACCESS TO & RECEIVE THE SAME SERVICES?</p> </td> <td style="width: 33%; padding: 5px;"> <p style="text-align: center;">QUALITY</p> <p>4 DO ALL GROUPS CONSISTENTLY RECEIVE THE SAME QUALITY OF SERVICES?</p> </td> </tr> <tr style="background-color: #c00000; color: white;"> <th colspan="3" style="text-align: center; padding: 5px;">TAKE & SUSTAIN ACTION</th> </tr> <tr> <td style="padding: 5px;"> <p style="text-align: center;">CHANGE</p> <p>5 WHAT WILL WE CHANGE TO ADDRESS IDENTIFIED PROCEDURAL, ACCESS, OR QUALITY ISSUES?</p> </td> <td style="padding: 5px;"> <p style="text-align: center;">ENGAGEMENT</p> <p>6 HOW WILL WE ENGAGE & PARTNER WITH GROUPS & COMMUNITIES MOST IMPACTED BY THE POLICY/PROGRAM?</p> </td> <td style="padding: 5px;"> <p style="text-align: center;">ACCOUNTABILITY</p> <p>7 HOW WILL WE MEASURE & REPORT PROGRESS?</p> </td> </tr> </tbody> </table>	UNDERSTAND INEQUITABLE OUTCOMES			IMPACT			<p>1 DO POLICIES & PROGRAMS HAVE THE SAME IMPACT FOR ALL GROUPS? Differences in outcomes that disproportionately impact specific groups are usually a signal that there are shortcomings in procedures, access, or quality.</p>			ANALYZE RELATED PROCESS(ES)			<p style="text-align: center;">PROCEDURES</p> <p>2 ARE ALL GROUPS PROVIDED THE SAME RIGHTS, TREATMENT, & ELIGIBILITY REQUIREMENTS?</p>	<p style="text-align: center;">ACCESS</p> <p>3 DO ALL GROUPS HAVE ACCESS TO & RECEIVE THE SAME SERVICES?</p>	<p style="text-align: center;">QUALITY</p> <p>4 DO ALL GROUPS CONSISTENTLY RECEIVE THE SAME QUALITY OF SERVICES?</p>	TAKE & SUSTAIN ACTION			<p style="text-align: center;">CHANGE</p> <p>5 WHAT WILL WE CHANGE TO ADDRESS IDENTIFIED PROCEDURAL, ACCESS, OR QUALITY ISSUES?</p>	<p style="text-align: center;">ENGAGEMENT</p> <p>6 HOW WILL WE ENGAGE & PARTNER WITH GROUPS & COMMUNITIES MOST IMPACTED BY THE POLICY/PROGRAM?</p>	<p style="text-align: center;">ACCOUNTABILITY</p> <p>7 HOW WILL WE MEASURE & REPORT PROGRESS?</p>
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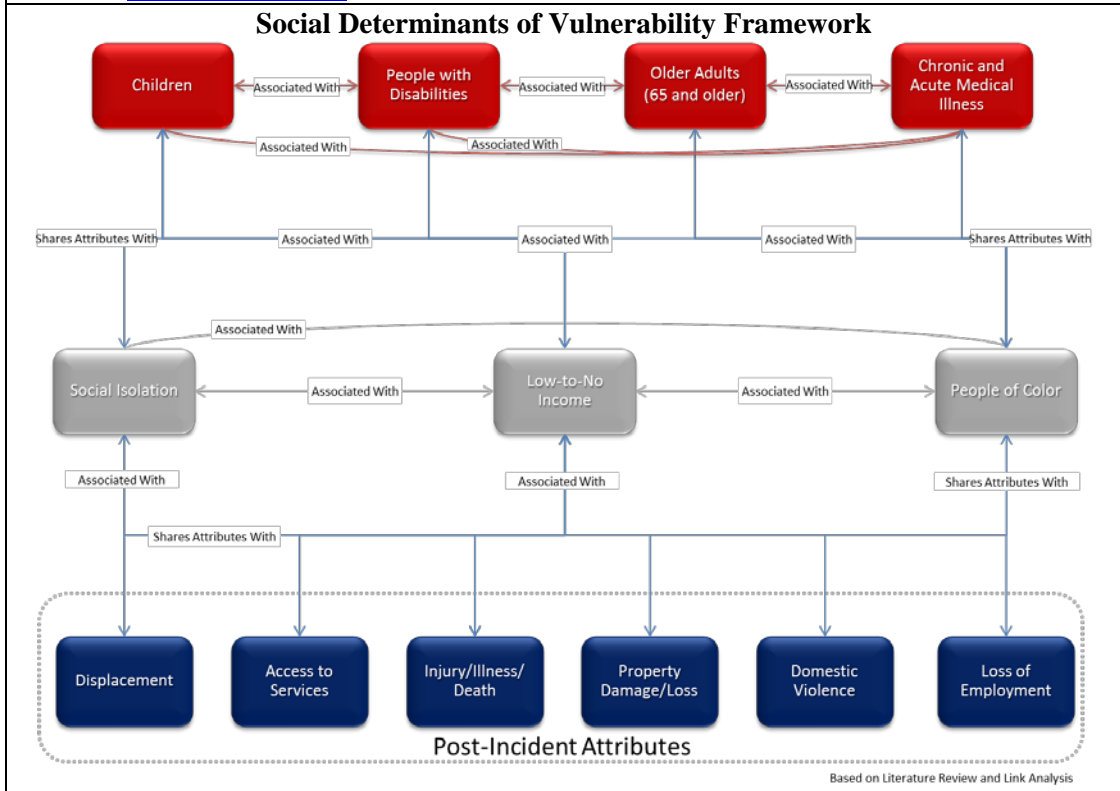


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	Vulnerability Factors Related to Climate Change		
	Vulnerability Factor	Indicator	Data Source
	Households with air conditioning	Households with an air Conditioning unit	Roberts 2011a
	Population over 25 with a diploma	People over age 25 who have a high school diploma	U.S. Census, American Community Survey (2005-2009)
	Born outside the U.S.	People who were born outside the United States	U.S. Census, American Community Survey (2005-2009)
	Impervious areas	Land in the area that has an impervious surface (e.g. sidewalk or roof)	EPA 2001
	Residents living in institutions	Population living in "group quarters", including institutions like correctional facilities, nursing homes, and mental hospitals, college dormitories, military barracks, group homes, missions, and shelters.	U.S. Census, American Community Survey (2005- 2009)
	Households with limited English	Population 5 years and over who answered that they speak English less than "very well"	U.S. Census, American Community Survey (2005-2009)
	Households with no vehicle	Percentage of households with no vehicle available	U.S. Census, American Community Survey (2005-2009)
	People of color	People identifying as any other race or ethnicity besides white.	U.S. Census, American Community Survey (2005-2009)
	Households in poverty	Households with an income that is below 200% of the official federal poverty level	U.S. Census, American Community Survey (2005-2009)
	Pre-term births	Infants that were born before completing 37 weeks (about 8.5 months) of pregnancy	Roberts 2011b
	Renter-occupied households	Percent of households where people are renting	U.S. Census, American Community Survey (2005-2009)
	Over 65 and living alone	Percent of households occupied by someone over age 65 who lives alone	U.S. Census, American Community Survey (2005-2009)
	Tree canopy cover	Land covered by tree canopy	Calculated by Jessdale et al. using data from Nat'l Land Cover Dataset, 2001



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	Under age 18	Population under age 18	U.S. Census, American Community Survey (2005–2009)
	Unemployment	Population 16 years and over able to work who are unemployed	U.S. Census, American Community Survey (2005–2009)
	Have jobs working outdoors	Percent of workers who work in agriculture, forestry, mining, or construction	U.S. Census, American Community Survey (2005–2009)
	Pregnancy	Percentage of women 15 to 50 years old who had a birth in the past 12 months	U.S. Census, American Community Survey (2005–2009)
	Food access	Access to full-service supermarkets according to Low Access Area measurement tool	The Reinvestment Fund 2010
	Youth fitness	Fraction of children that are overweight or obese in tract (i.e., fraction over 85th percentile for age and gender based on the CDC growth curves).	Ortega Hinojosa 2011

Source: Cooley, H., E. Moore, M. Heberger, and L. Allen (Pacific Institute). 2012. Social Vulnerability to Climate Change in California. California Energy Commission. Publication Number: [CEC-500-2012-013](#).



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	<p>Source: Martin, S. A. (2015). A framework to understand the relationship between social factors that reduce resilience in cities: Application to the city of Boston. <i>International Journal of Disaster Risk Reduction</i>, 12, 53–80. doi:10.1016/j.ijdr.2014.12.001.</p>

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