Climate and Environment Working Group: Meeting 3
July 19, 2017

ENVISION CAMBRIDGE

Agenda

Process Overview

Review Revised Goals

Present and Discuss Indicators and Targets

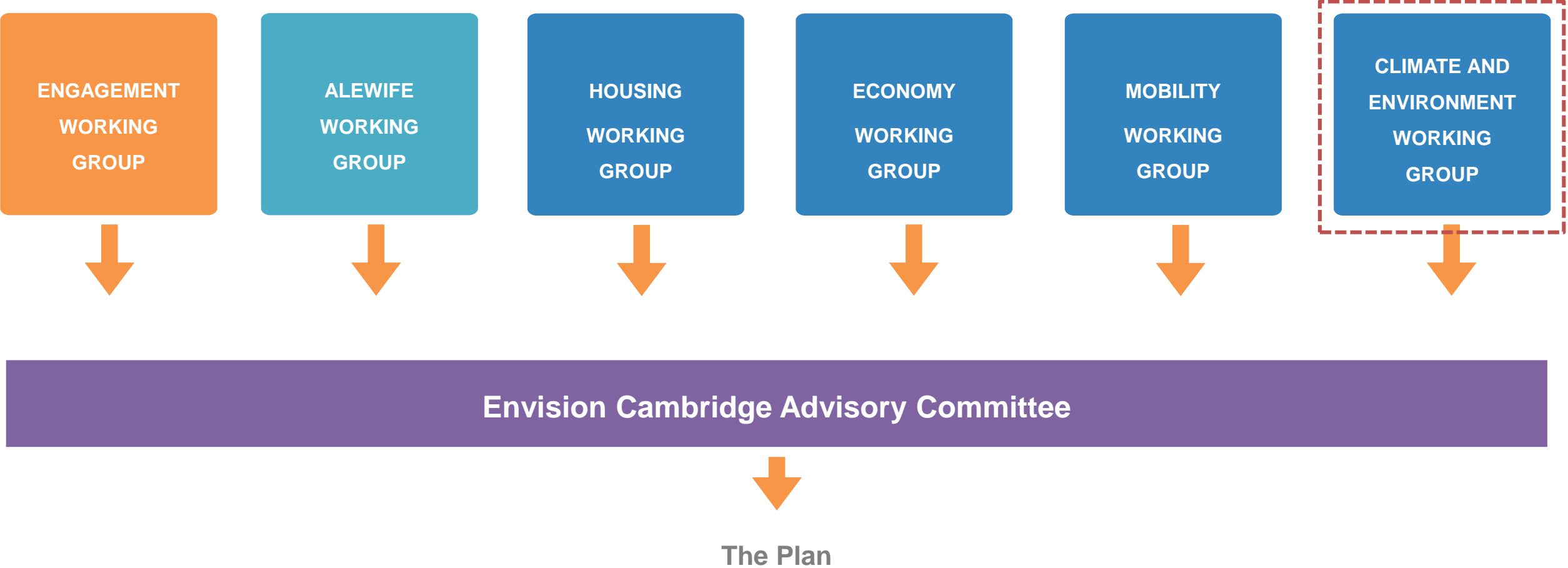**Review and Revise Proposed Strategies and Actions**
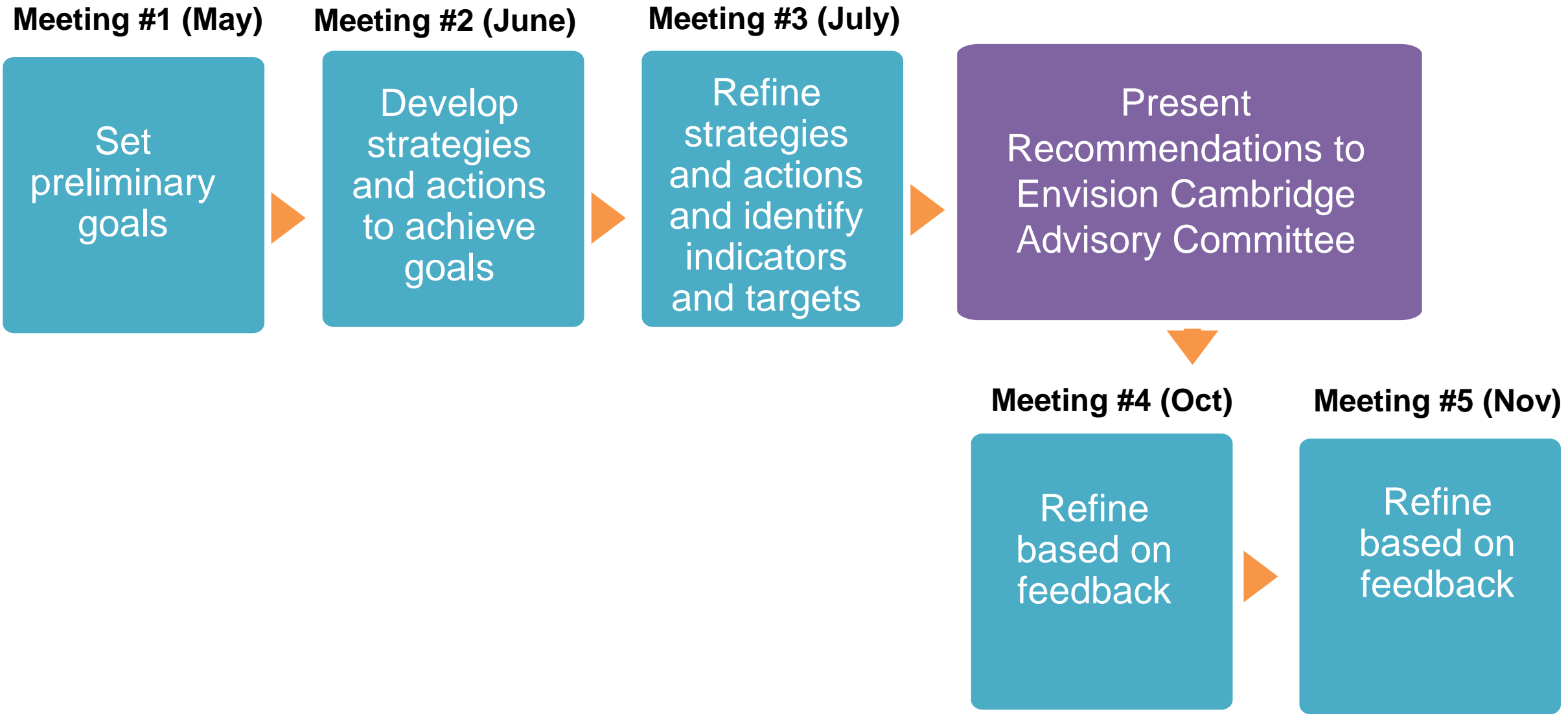
Next Steps

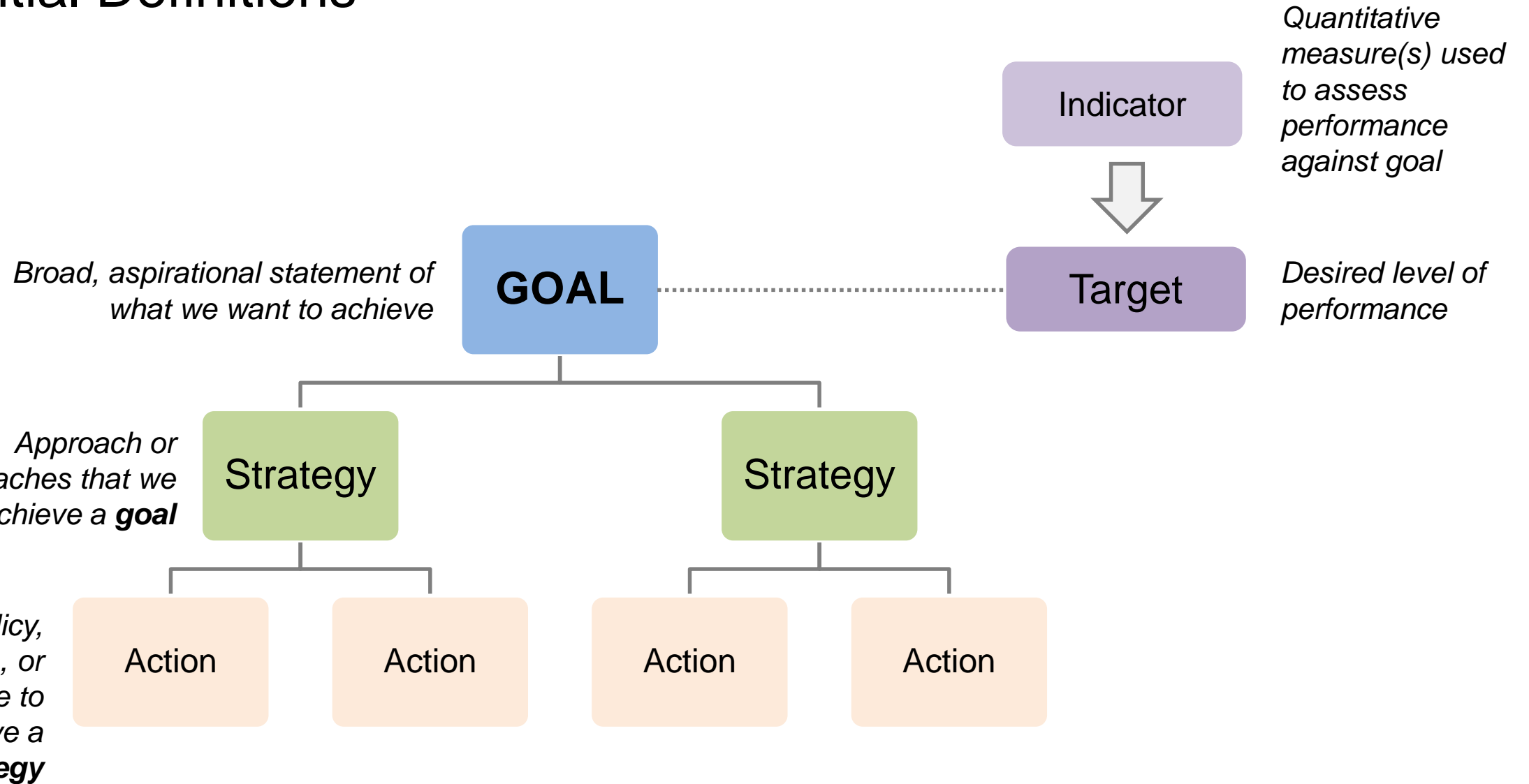# Process Overview

Climate and Environment Working Group's Role

Six working groups will provide input to the Envision Cambridge Advisory Committee for plan development.

| ENGAGEMENT WORKING GROUP | ALEWIFE WORKING GROUP | HOUSING WORKING GROUP | ECONOMY WORKING GROUP | MOBILITY WORKING GROUP | CLIMATE AND ENVIRONMENT WORKING GROUP |

Envision Cambridge Advisory Committee

The Plan

2017 Working Group Schedule

Meeting #1 (May)

Set preliminary goals

Meeting #2 (June)

Develop strategies and actions to achieve goals

Meeting #3 (July)

Refine strategies and actions and identify indicators and targets

Present Recommendations to Envision Cambridge Advisory Committee

Meeting #4 (Oct)

Refine based on feedback

Meeting #5 (Nov)

Refine based on feedback

Essential Definitions

Essential Definitions: Example

GOAL

Achieve carbon neutrality.

Strategy

Transition away from fossil fuels.

Action

Connect property owners with information on solar photovoltaic systems.

Indicator

% citywide energy consumption from local renewable energy generation.

Target

Achieve 60 MW solar generating capacity in Cambridge by 2020 and 160 MW by 2040.

Structure of Today's Session

Exercise 1. Revised Goals	Present and confirm the revised goals	*10 minutes*
Exercise 2. Identify indicators and set preliminary targets	Present existing and proposed indicators and targets, and agree upon new ones	*75 minutes*
Stretch Break	N/A	*10 minutes*
Exercise 3. Refine strategies and actions	Review and revise the strategies and actions proposed during/since Working Group #2. Prioritize based on targets and indicators discussion.	*45 minutes*

Revised Goals

What We Heard (Working Group 2)

- Goals should omit mention of specific strategies, so as not to limit our possibilities

- Even though it is difficult to measure, we are concerned about embodied carbon and believe in carbon sequestration ought to be a GHG mitigation strategy

- Add explicit consideration of:

  - *Human health, specifically as it relates to soil, air, and material toxicity (as well as at-large)*

  - *Vegetation (as opposed to "plants")*

Revised Draft Goals

Goal A. Safeguard the lives and livelihoods of Cambridge community members, particularly those that are at disproportionate risk of climate change and environmental impacts
*Goal B. Meaningfully engage **and share the benefits** of strengthening the City's climate and environment initiatives with the entire Cambridge community (residents, institutions, and businesses)*
*Goal C. Preserve and enhance Cambridge's natural environment, including the preservation of open space, habitats and ~~plants~~ vegetation, and the reduction of air, light, noise, **and toxic** pollution*
Goal D. Achieve carbon neutrality ~~by reducing consumption, increasing energy efficiency, and transitioning away from the use of fossil fuels in order to reduce the Cambridge community's impact on a changing climate~~
Goal E. Maintain sustainable water resources by taking action to reduce potable water usage, manage stormwater runoff, and improve the quality of surface water and groundwater
Goal F. Minimize waste generation and eliminate waste to landfill

Indicators and Targets

Effective Indicators

Effective indicators are…

- **Relevant;**
  they show you something about the system that you need to know

- **Easy to understand**,
  even by people who are not experts

- **Reliable;**
  you can trust the information that the indicator is providing

- **Based on accessible data**;
  the information is available or can be gathered while there is still time to act

Adapted from Sustainable Measures

Indicator Typologies

Driver (Pressure)	**State**	**Impact**	**Response**
describe developments in release of substances (emissions), physical and biological agents, the use of resources, and the use of land	describe the quantity and quality of physical phenomena, biological phenomena, and chemical phenomena in a certain area	describe how changes impact social and economic functions, such as adequate conditions for health, resource availability	describe how groups and individuals attempt to prevent, compensate, ameliorate or adapt to changes in the environment

• *GHG Emissions*	• *Tree Canopy*	• *Temp. Increase*	• *Electric Vehicles*
• *Water Consumption*	• *Phosphorous Levels*	• *Sea Level Rise*	• *Diversion Rates*
• *Open Space Acreage*	• *Ambient Noise*	• *Biodiversity*	• *Solar Capacity*

Adapted from the European Environment Agency

Proposed Indicators

Goal	Proposed Indicators for Envision Cambridge
A	Vulnerable populations displaced because of flooding (% of households)
A	Heat-related hospitalizations (annual hospitalizations per 100,000 people)
B	Climate change and sustainability curriculum taught in Cambridge Public Schools (hours of instruction)
B	Minority and low income household representation on Bicycle, Pedestrian, Planting and Environmental Justice Committees (%)
C	Population living within walking distance of a park (%)
C	Neighborhood-level tree canopy coverage (%)
C	Air, noise, light and soil pollution (PM2.5, Lden, NSB, # of sites)
D	Community-wide greenhouse gas emissions (Mt CO2e)
E	Separated Sewer System (%)
E	Drinking water quality (Index)
E	Bacterial water quality standards for swimming in the lower Charles River (%)
E	Potable water use (gallons/resident)
F	Waste generation (tons)
F	Waste to landfill (tons)

Existing Targets

Goal	Proposed Indicators for Envision Cambridge
D	Reduce greenhouse gas emissions from buildings 5% below 2015 levels by 2020.
D	Achieve carbon neutrality by 2050.
D	Reduce municipal GHG emissions 30-35% below 2008 levels by 2020; 2030 goal to be set by end of 2017.
D	Achieve 60 MW solar generating capacity in Cambridge by 2020 and 160 MW by 2040.
D	Procure 100% of municipal electricity consumption from on-site and off-site renewables by 2022.
D	Generate 5% of municipal electricity from on-site solar by 2020.
F	Reduce residential waste collected by the City trash service 30 percent from 2008 levels by 2020 and 80 percent by 2050.
F	Expand Curbside Compost Program to 25,000 households by 2019.

Proposed Targets

Goal	Proposed Targets for Envision Cambridge
A	Ensure no households would be displaced by major flooding events
A	Reduce to less than one hospitalization per 100,000 people
B	X hours of instruction in Grades K-12
B	Committee membership reflects the racial and socioeconomic diversity of Cambridge
C	Ensure 100% of Cambridge residents live within a 10-minute walk of park entrance or usable open space by 2050
C	Tree canopy expanded by X% , with at least Y% coverage in every neighborhood by 2050
C	X% reduction in all forms of pollution
D	Achieve carbon neutrality by 2050 (with sector-specific targets)
E	100% separated sewer system
E	100% of regulated compounds (lead, fluoride, etc.) have concentrations at or below "ideal" goal
E	Meet state bacterial standards for swimming 95% of the time
E	Reduce potable water used daily per capita, indoors and outdoors, to no more than X gallons
F	Reduce waste generation per capita by X% from 2008 levels by 2050.
F	Reduce waste collected by the City trash service [and private haulers] 30 percent from 2008 levels by 2020 and 80 percent by 2050

Strategies and Actions

(Discussion)

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