NetZero Task Force Working Session

Cambridge Net Zero Task Force

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Principal, Integral Group

September 17th 2014
Agenda:

5:00 Introduction
5:40 GHG Savings Model for Cambridge
6:00 Breakout session
7:00 Break
7:15 Report back from break out groups
8:00 Discussion
8:45 Public comment
9:00 Close
NZTF Objectives

• Broad-based agreement from the Task Force and key stakeholders on a methodology, strategy, targets, and timeline for achieving net zero emissions, including agreement on the definition of the scope of net zero for the purposes of this initiatives.

• A comprehensive list of recommendations outlining a set of short-term (1-3 years) actions and a set of longer-term (4-10 years) actions. These recommendations will include direction on regulation, planning measures, incentives, and renewable energy generation initiatives that are within Cambridge’s direct control.

• The projected impacts of each action (to assist in decision-making and implementation of the recommendations, and in tracking and reporting progress and impacts of each action over time).

• Identification of roles and responsibilities associated with each of the recommended action, including who (i.e. City, state gov't, stakeholder group) will lead and/or support implementation of each.
NZTF Objectives

• A comprehensive list of additional, promising action areas that require further research.

• Identification of resource needs to begin work on short-term actions and high-priority research topics.

• Commitments of support or alignment from partners who are critical to the success of the plan.

• Agreement on an ongoing communication, reporting and accountability strategy.
Proposed Work Plan

1st Meeting

Series of Short Primers:
- NZ Best Practices
- Current State Policy review
- Building Energy Primer
- Renewable Energy

Working Groups set up
- Initial workshops
- Some Consultant support for analysis
- Consistent inputs

long list of ideas generated

Alignment & Analysis of Options

Prioritization

Testing of options

Early Actions

Working Groups formed

Public & Stakeholder Input

Public Events

Research

Recommendations

1st Meeting

Winter Spring Summer Fall
The Actions

Energy Sources & Offsets Working Group

• Go beyond rooftop solar; exploit all available renewable resources to the fullest extent
  • Promote fuel switching, city owned solar, DE projects

• Develop adequate energy storage to support maximum build out of renewables
  • Storage in locations and vehicles,

• Position Cambridge to be a test bed for microgrids and grid modernization
  • Partnerships for grid-modernization

• Provide alternatives for residents to participate in local solar projects
  • Community Solar Projects
The Actions

Behaviour Change Working Group

- Cambridge launches a comprehensive and pervasive communications campaign that touches everyone living, working or studying in Cambridge
  - Communications network & improved engagement

- Cambridge property owners and tenants engage utility programs
  - Promote utility programs

- Building industry professionals (and property owner/management companies)
  - Collaborate with partners

- Competitions, challenges & rewards drive progress towards ZNE

- The ‘cool’ factor of technology is exploited to engage people

- Building performance data is leveraged to drive EE and behavior change.
The Actions

Incentives & Finance Working Group

• Create a new source of funding for incentives

• Prioritize incentives to reduce energy consumption in all sectors
  • Provide additional incentives to augment utility programs

• Work with private sector property owners to develop internal programs

• Work with private sector property owners to develop internal programs

• Develop nonfinancial incentives for new development projects

• Make carbon tangible

• Develop competition, recognition and awards programs
The Actions

Regulation & Planning Working Group

• Regulations drive maximum engagement in energy efficiency and renewables across all sectors

• New districts or overlays are created, dedicated for specific clean energy uses

• Tenant guides & Green Leases

• Leverage funding sources to require new elements
The Over-Arching Actions

• Adopt a data tracking platform to track progress over time

• Utility Engagement

• Expand capacity within the City

• **Identify any 3rd party resources needed**: to support program development and execution.

• **Develop training/education programs for staff**: so they are best prepared to support new programs.

• Engage in regional advocacy
The Model

Community Emissions and Savings Model

Expressed in GHG’s: 1,037,193 tonnes

- Goal to break out emissions by sector and end use
- 1st step separate commercial and residential
- Use floor space and EUI to break out end use
- Use national and local research to determine fuel mix
The Model

Growth Scenarios:

Emissions out to 2040 are held flat
- Greening of conventional power supply
- Replacement of equipment

Growth is held constant at 2%
- 1% replacement
- 1% “new” floor area

What is the action? How much/many What are the savings?

Potential Participation =savings

Regulation incentives Renewables
The Model

Growth Scenarios:

• Model is only a planning tool intended to show trends

• Savings and participation estimates are supported by our experience and where possible research

• Some strategies are not able to be modelled (education)

What is the action? How much/many What are the savings?
The Model

Community Emissions and Savings Model

Expressed in GHG’s: 1,037,193 tonnes

Cambridge Net-Zero Plan

Reductions 1,037,193
Renewable Energy 508

31% remaining deficit
Cambridge Savings & Renewables

NZTF Savings Renewable & Remaining Emissions

- Savings: 48%
- Renewables: 21%
- Remaining Emissions: 31%
Breakdown of Strategies

NetZero Task Reductions

- Residential Retrofits: 22%
- New Residential: 6%
- Grid Renewables: 20%
- Cambridge Renewables: 11%
- New Commercial: 12%
- Commercial Retrofits: 29%
Cambridge Net-Zero Plan

- Incentives and retrofit programs
- Market saturation of incentives
- NZE new construction + Deep Retrofits + Solar

Reductions 1,037,193
Renewable Energy 508
Small Group Exercise
Breakout Groups

Renewables
Facilitator: Iram Farooq
• Jane Carbone
• Shawn Hesse
• Marc Hoffman
• Paul Lyons
• Julie Newman

Existing Buildings
Facilitator: Barbra Batshalom
• Caitriona Cooke
• Henrietta Davis
• Bill Kane
• Barun Singh

New Construction
Facilitator: Dave Ramslie
• Joe Maguire
• Jaclyn Olsen
• Tom Sieniewicz
• Quinton Zondervan
guest panelists:

Christina Halfpenny
Director, Energy Efficiency Division
Massachusetts Dept. of Energy Resources

Luke Falk
Sustainability Manager
Related Companies

Ralph DiNola
Executive Director
New Buildings Institute

+ public review of ideas
Public comment invited on the ideas & preliminary recommendations of Cambridge's Net Zero Task Force

HOSTED BY:
City of Cambridge

WHERE:
Main Library, Lecture Hall
449 Broadway

WHEN:
Tuesday, September 23rd
6:00 PM - 8:30 PM

RSVP + QUESTIONS?
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JOIN US FOR A DISCUSSION
Getting towards Net Zero

FEATURING //
EXPERT PANELISTS, BIG IDEAS
for Reducing Carbon Emissions from Buildings

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