



# NetZero Task Force Working Session

## Cambridge Net Zero Task Force

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Principal, Integral Group

September 17<sup>th</sup> 2014

# Agenda:

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- 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

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- 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

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- 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



# The Actions

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## 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

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## 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

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## 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

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## 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

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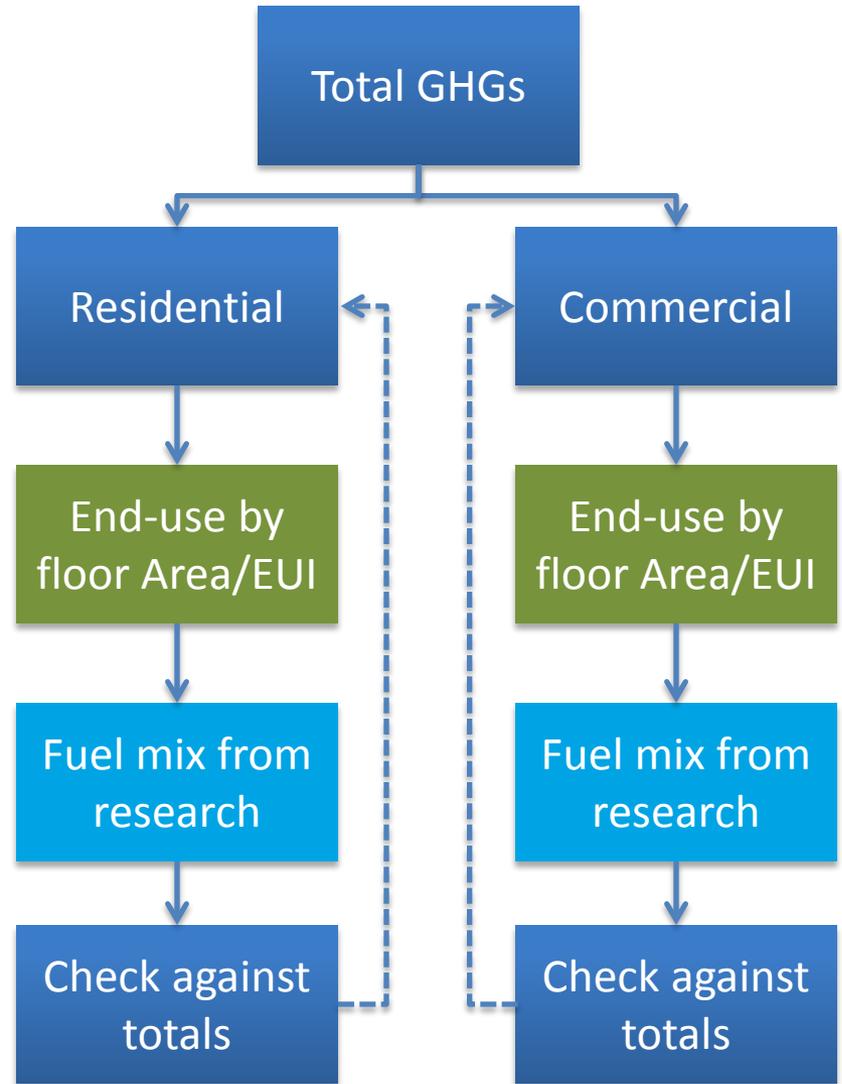
- **Adopt a data tracking platform to track progress over time**
- **Utility Engagement**
- **Expand capacity within the City**
- **Identify any 3<sup>rd</sup> party resources needed:** to support program development and execution.
- **Develop training/education programs for staff:** so they are best 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
- 1<sup>st</sup> 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

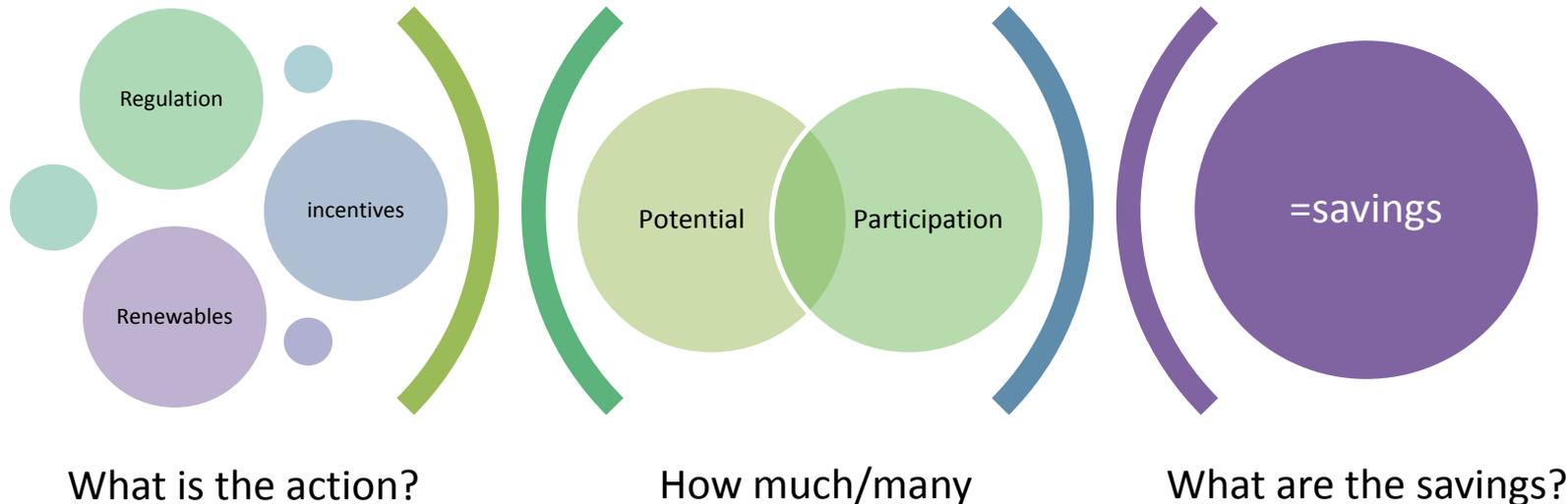
## Growth Scenarios:

Emissions out to 2040 are held flat

- Greening of conventional power supply
- Replacement of equipment

Growth is held constant at 2%

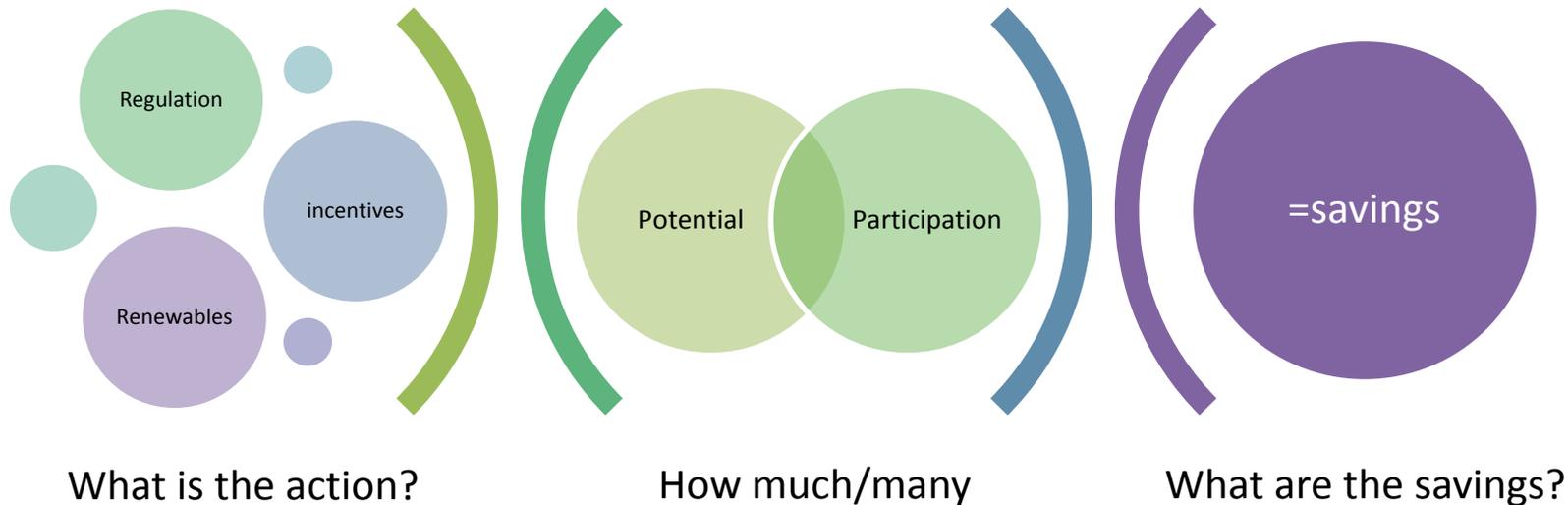
- 1% replacement
- 1% “new” floor area



# The Model

## Growth Scenarios:

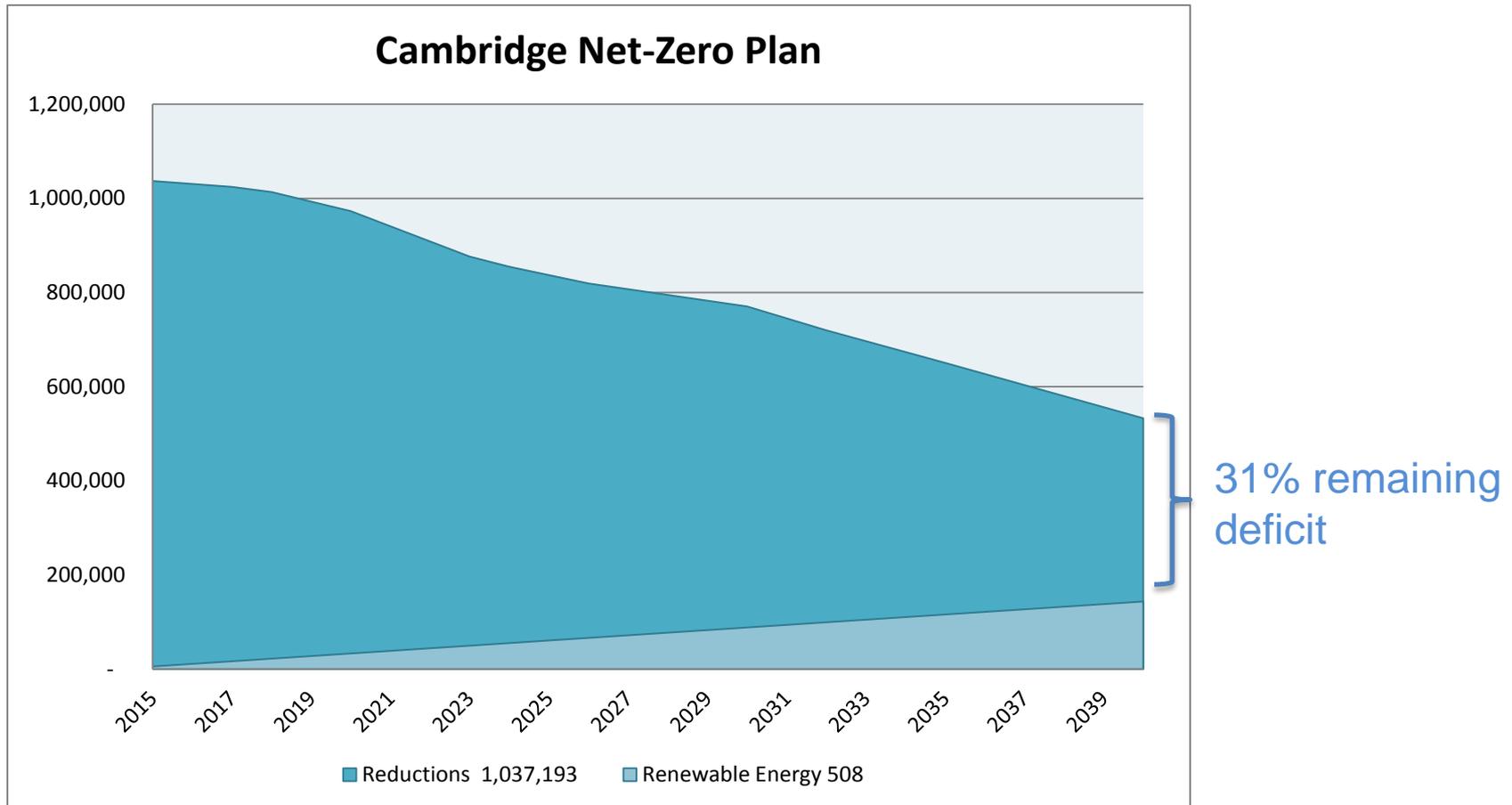
- Model is only a planning tool intended to show trends
- Savings and participation estimates are supported by our experience and where possible research
- Some strategies are not able to be modelled (education)



# The Model

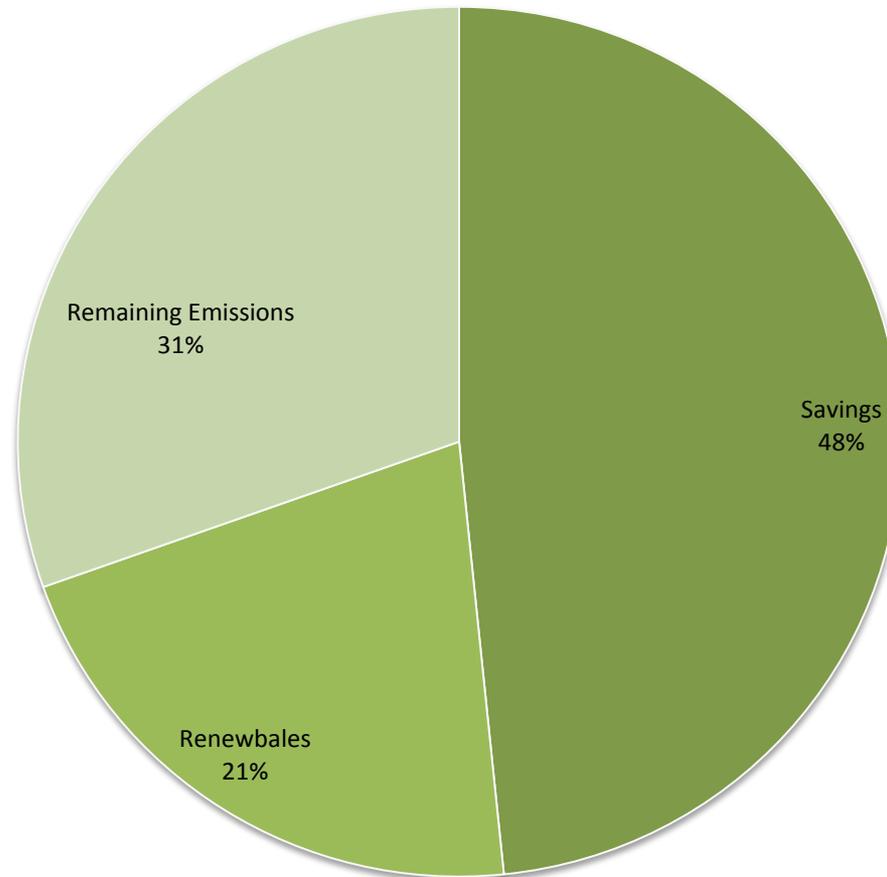
## Community Emissions and Savings Model

Expressed in GHG's: 1,037,193 tonnes



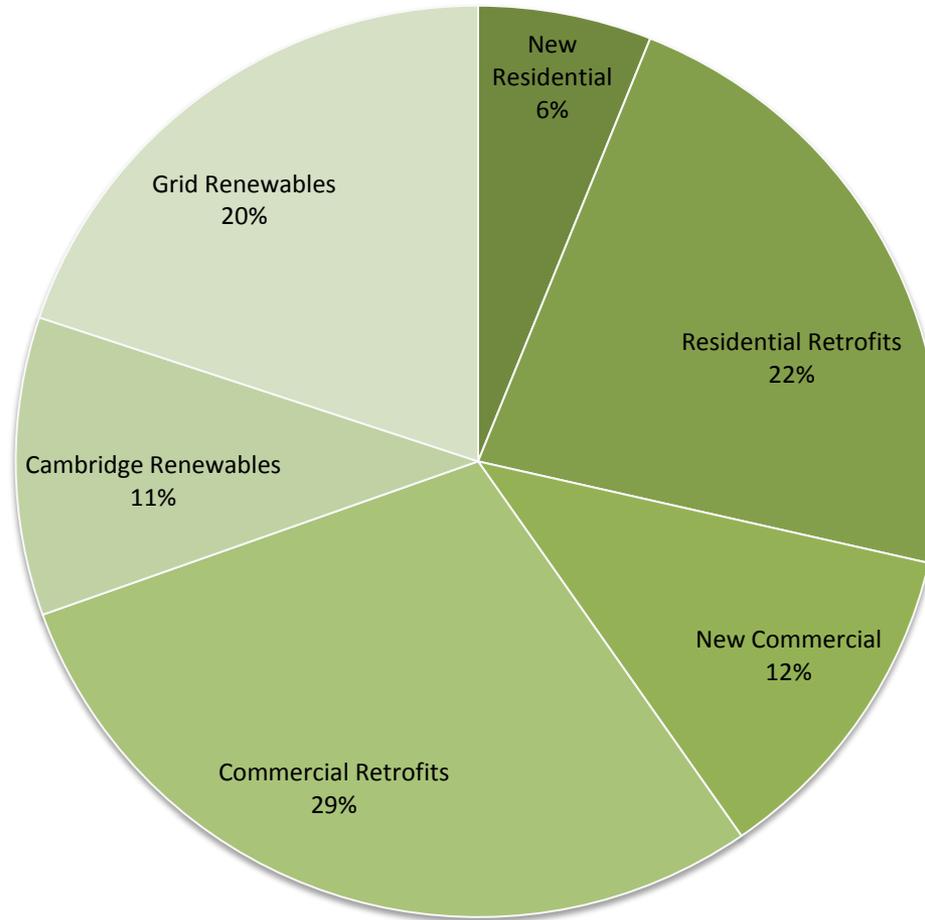
# Cambridge Savings & Renewables

## NZTF Savings Renewable & Remaining Emissions

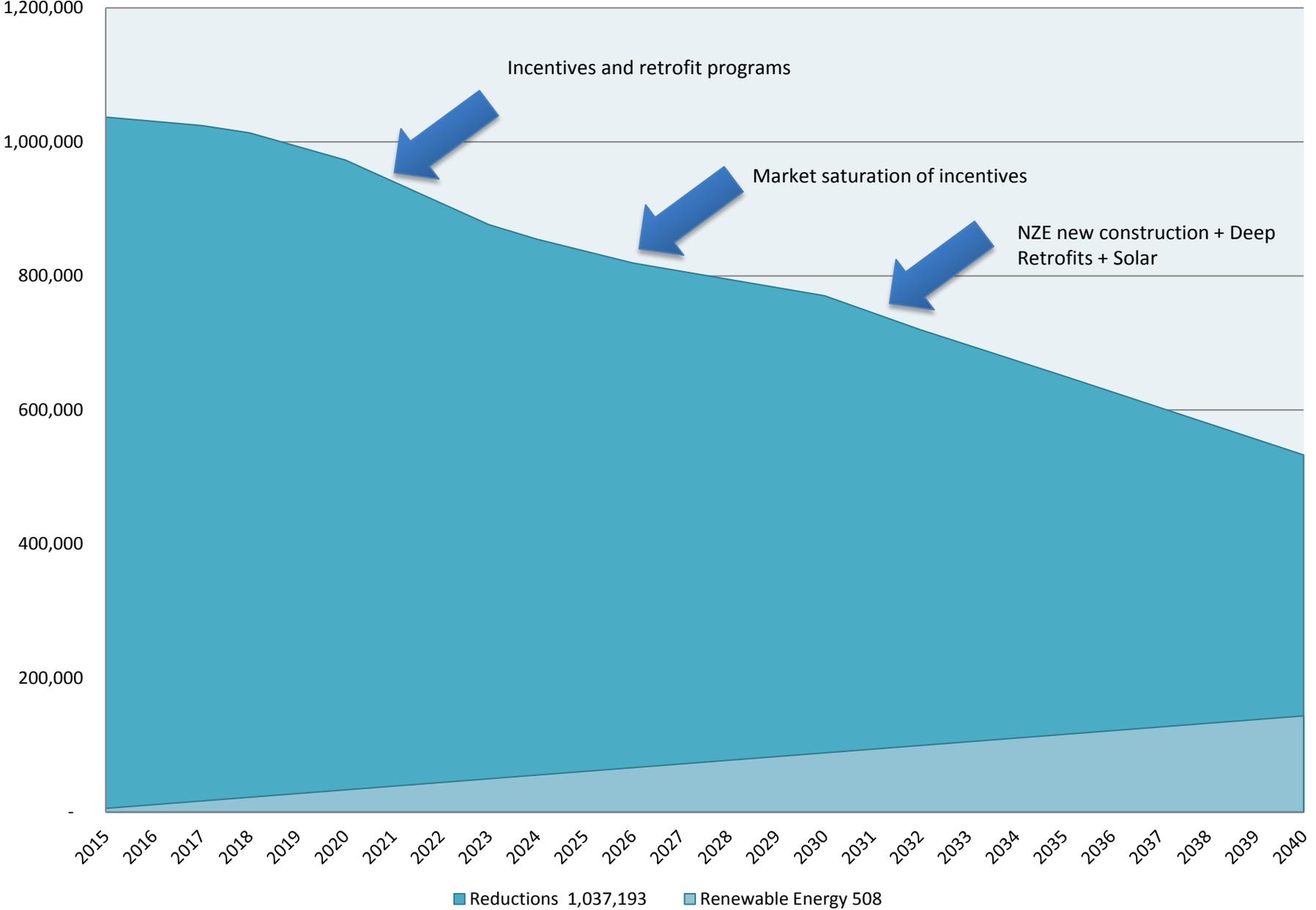


# Breakdown of Strategies

## NetZero Task Reductions



# Cambridge Net-Zero Plan



# Small Group Exercise



# Breakout Groups

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## 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?**  
Ellen Kokinda 617.349.4618  
ekokinda@cambridgema.gov

## JOIN US FOR A DISCUSSION

# Getting towards Net Zero

## FEATURING //

## EXPERT PANELISTS, BIG IDEAS

## for Reducing Carbon Emissions from Buildings

The City of Cambridge does not discriminate on the basis of disability. The City will provide auxiliary aids and services, written materials in alternative format and responsible modifications in policies and procedures to qualified individuals with disabilities upon request.