



June 1, 2016 Meeting Materials

“The mission of the Boston Green Ribbon Commission is to convene leaders from Boston’s key sectors to support the outcomes of the City’s Climate Action Plan.”

MEETING AGENDA

- 8:00** **Welcome and Introduction of New Members**
- 8:05** **Mayor Walsh Remarks and Presentation of 2016 Carbon Cup Awards**
- 8:20** **Climate Ready Boston – Planning for Long Term Climate Resilience**
- Initiative Phases and Deliverables
 - Illustrative Focus Area: Seaport District
 - Mayor and GRC Member Discussion
- 9:20** **Carbon Free Boston Initiative – Planning for Long Term Decarbonization**
- Initiative Purpose, Outcomes and Timelines
 - The GRC Carbon Free Boston Working Group
 - GRC Member Discussion
- 9:50** **GRC Updates**
- 10:00** **Adjourn**

Introduction of New GRC Members

NEW GRC MEMBERS



Kathy Abbott
CEO, Boston Harbor Now



Thomas F. Brostrøm
General Manager North America Wind Power
DONG Energy



Tom Nedell
Senior Vice President & Chief Financial Officer
Northeastern University



John Fish
CEO, Suffolk Construction

(Welcome Back!)

Remarks By Mayor Walsh

CARBON CUP PRESENTATIONS



The Carbon Free Boston Initiative

EXACTLY HOW ARE WE GOING TO DO THIS?

25% by 2020



6,200 feet

80% by 2050



29,000 feet

THE URGENCY OF STARTING NOW

"If you just plan to 2030 and say, 'I'll think about it again after that,' you're almost guaranteed to be on the wrong path, because you would do certain things in the short term that make no sense if you understand where you really need to go by 2050."

Jeffrey Sachs, Director, UN Deep Decarbonization Pathways Project



"Where capital goes over the next 5 years will decide whether we can tackle climate change and what our quality of life is for the next century. We cannot be deciding in 2030 whether we are investing in high carbon content energy sources. We need to do that now."



If we invest in the wrong fuel sources in the next 5-10 years, we will not be able to reach our 2050 goals."

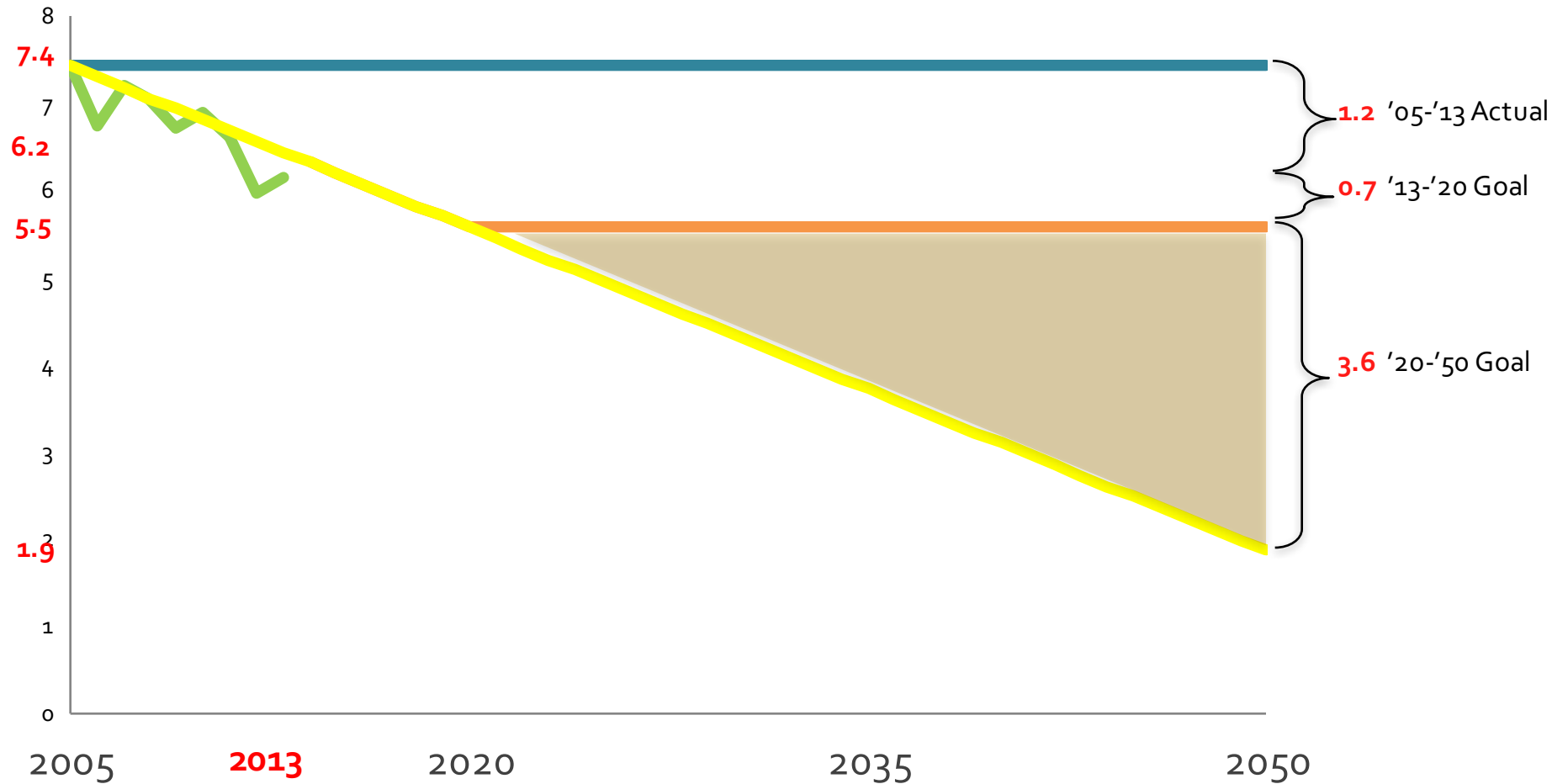
Christiana Figueres, Executive Secretary, UN Framework Convention on Climate Change

THE "80X50" CHALLENGE

GHG Emissions

Millions of Metric
Tonnes

GHG Emissions Reductions



- Actual Emissions 2005 - 2013
- 2020 Goal
- 2050 Goal Pace

PURPOSE

The “Carbon Free Boston” initiative will signal the need to transition from old, dirty carbon-based fuels to 100% clean and renewable energy sources in every sector of the economy. It will require us to change how we create and distribute electricity, how we heat our homes and offices, how we transport people and goods, and how we handle waste.

- Establish feasible scenarios for 2050 that result in an 80%+ reduction in GHG emissions
- Develop interim goals and initiatives through 2030 that are aligned with the long-term goal

ELEMENTS

- **Modeling Platform**
 - Workable de-carbonization pathways by emissions source
 - Ability to analyze interactions across sectors
- **Sector Pathways**
 - Energy Supply, Transportation, Buildings, Waste
 - Prioritization & Feasibility
 - Implementation Pathway
- **Climate Action Plan Update**
 - Strategies for Inclusion in the City Climate Action Plan Update in 2018
 - Build vision and strategic engagement across sectors

TWO IMPORTANT MODELING CAPABILITIES

- **Composition of Emitting Sector Capital Assets**
 - What composition of capital assets (e.g. electricity generators, vehicles, buildings, etc.) is needed to make emissions reductions targets feasible?
- **How to Incentivize Change in Sectors**
 - What are the policies, incentives and investments that are capable of driving the desired transformation in emitting sectors?

EXAMPLES OF STRATEGY CHOICES

Strategy Area	Important Choices
Electricity Decarbonization	<ul style="list-style-type: none">• What level of decarbonization do we need to target for our electricity system in 2030 to hit the 2050 targets?
Electrification	<ul style="list-style-type: none">• What is the impact of heating and transportation electrification on the grid?
Natural Gas	<ul style="list-style-type: none">• What is the scenario for the role of natural gas use in 2030 and 2050?
Buildings and Development	<ul style="list-style-type: none">• What schedule of new and existing building code upgrades is needed to achieve efficiency targets and how do these get integrated into Imagine Boston 2030?
Transportation	<ul style="list-style-type: none">• How do we reduce Vehicle Miles Traveled and decarbonize fuel sources for any remaining transport?
Prioritized Carbon Use	<ul style="list-style-type: none">• What are the prioritized uses of carbon fuels in 2050 – for those important societal goals that are the most difficult to decarbonize?

TIMELINE



GRC CARBON FREE BOSTON WORKING GROUP

Confirmed Members

- Mindy Lubber
(Chair)
- Amos Hostetter
- Alex Liftman
- Joe Grimaldi
- Robert Brown
- Israel Ruiz
- Katie Lapp

Working Group Roles

- Feedback on de-carbonization scenarios
- Feedback on 2030 targets and strategies
- Advice on advancing needed policy changes

Other GRC Updates

- **European Climate Innovations Tour**
- **Renewable Energy Leadership Prize**

CLIMATE INNOVATIONS TOUR – JUNE 11-18

Purpose: Build relationships with leading-edge European cities to inform Boston and the Commonwealth's climate adaptation and mitigation strategies.

Stakeholders

- City of Boston
- Commonwealth
- Legislature
- Business
- Higher Education
- Philanthropy

Cities

- Amsterdam
- Rotterdam
- Copenhagen
- Malmo

ITINERARY HIGHLIGHTS – AMSTERDAM

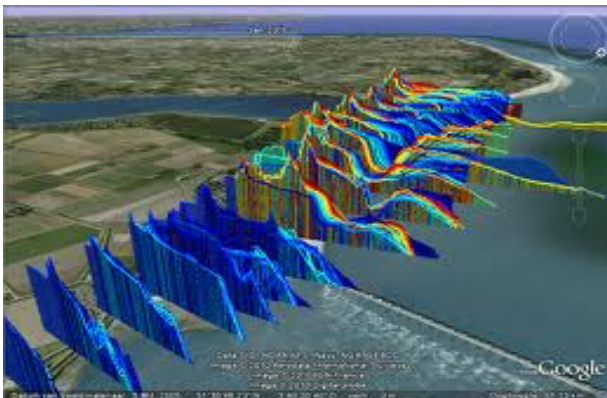
DELTARES:
Water Management Expertise



WATERGRAFSMEER:
Climate Adapted
Neighborhood



WATERNET:
Amsterdam Climate Planning



EDGE BUILDING: Greenest
Office Building in the World



ITINERARY HIGHLIGHTS -- ROTTERDAM

ZOHO:
Climate Adapted Neighborhood



DELTA COMMISSION:
National Water Planning

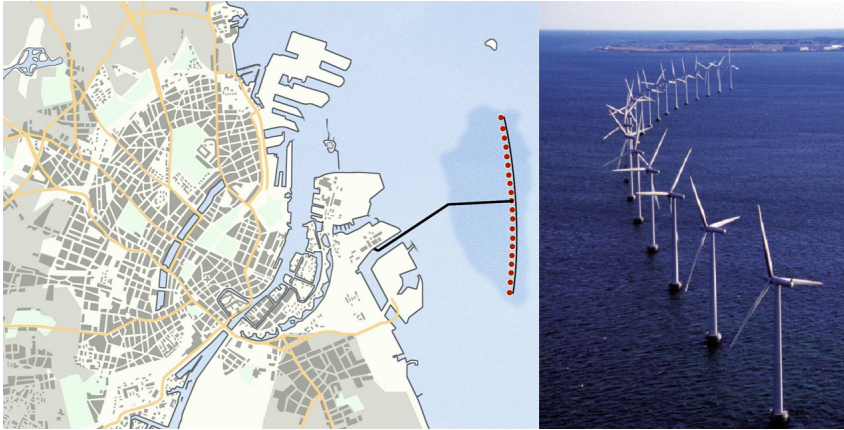


MAESLANT BARRIER:
Infrastructure for Flood Protection



ITINERARY HIGHLIGHTS – COPENHAGEN

**MIDDELGRUNDEN:
Offshore Wind Farm**



**HOFOR UTILITY:
District Heating System**



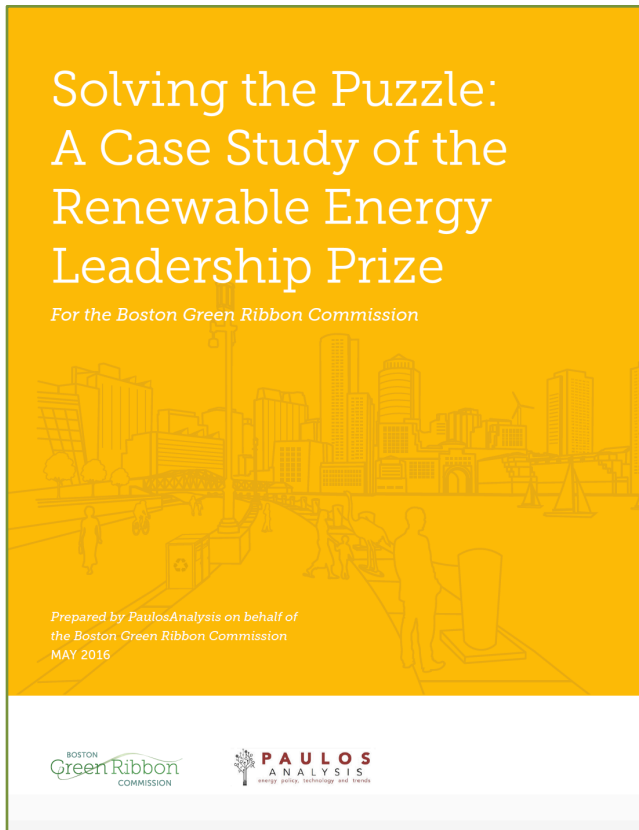
**VASTRA HAMNEN, MALMO SWEDEN:
District-Level Carbon Neutral Planning**



**HOFOR UTILITY:
District Cooling System**



RENEWABLE ENERGY LEADERSHIP PRIZE



Download the report at:

<http://www.greenribboncommission.org/document/1255-2/>

- **\$100,000 prize for best large scale renewable energy strategy (10 MW+)**
- **Prize awarded to PowerOptions for a collaborative PPA:**
 - ✓ **12 MW of wind power**
 - ✓ **Tufts, Endicott and Partners HealthCare as off-takers**
 - ✓ **Up to 45% of institutional power requirements**
- **Overall, the prize is likely to catalyze over **75 MW** of total new renewable energy purchasing**

Thank You!

BOSTON
Green Ribbon
COMMISSION

The logo for the Boston Green Ribbon Commission. It features the word "BOSTON" in a small, teal, sans-serif font at the top. Below it, the words "Green Ribbon" are written in a large, green, serif font. A thin, light green wavy line arches over the word "Ribbon". At the bottom, the word "COMMISSION" is written in a small, teal, sans-serif font.