

# Aligning the Regional Electricity Grid with State and City Climate Goals

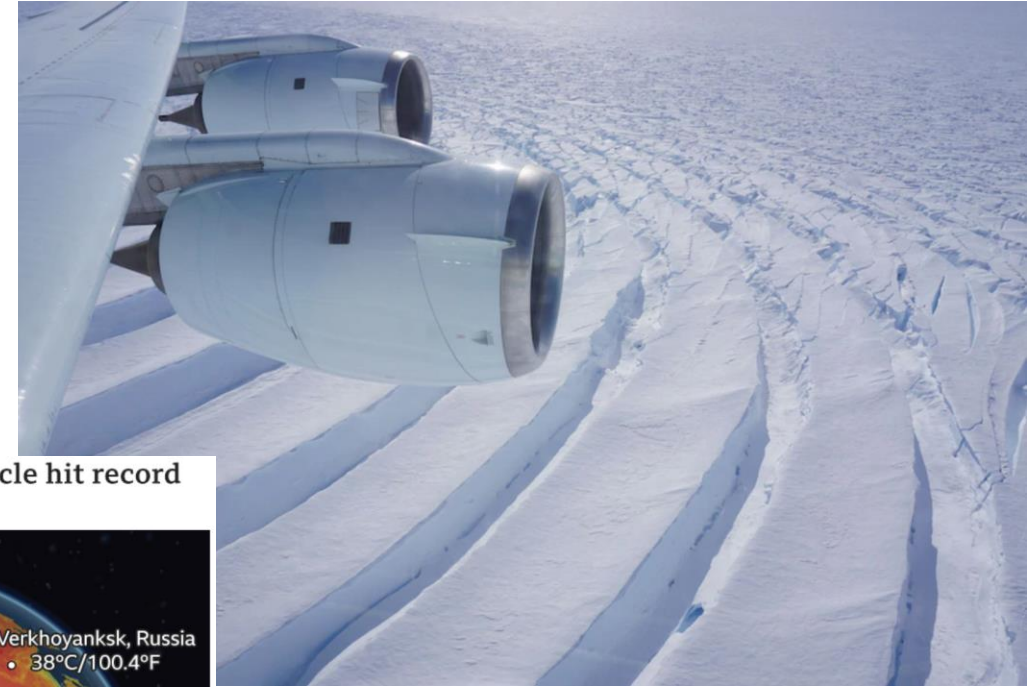
John Cleveland, Executive Director

Boston Green Ribbon Commission

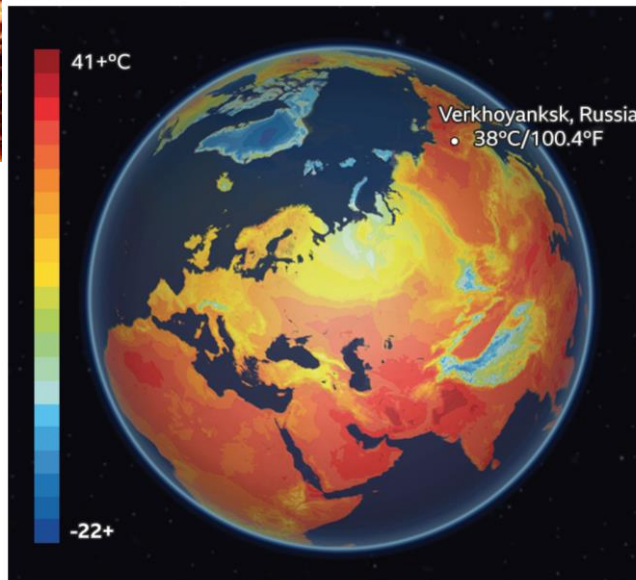
ISO-NE Consumer Liaison Group, Sept. 17, 2020



# The Emergency is Accelerating – Urgency Is Of The Essence



Temperatures in the Arctic Circle hit record levels



Source: BBC Weather

BBC





# Green Ribbon Commission and Membership

***Mission:*** Accelerate the implementation of the City's Climate Action Plan by convening, organizing, and enabling leaders from Boston's key sectors.



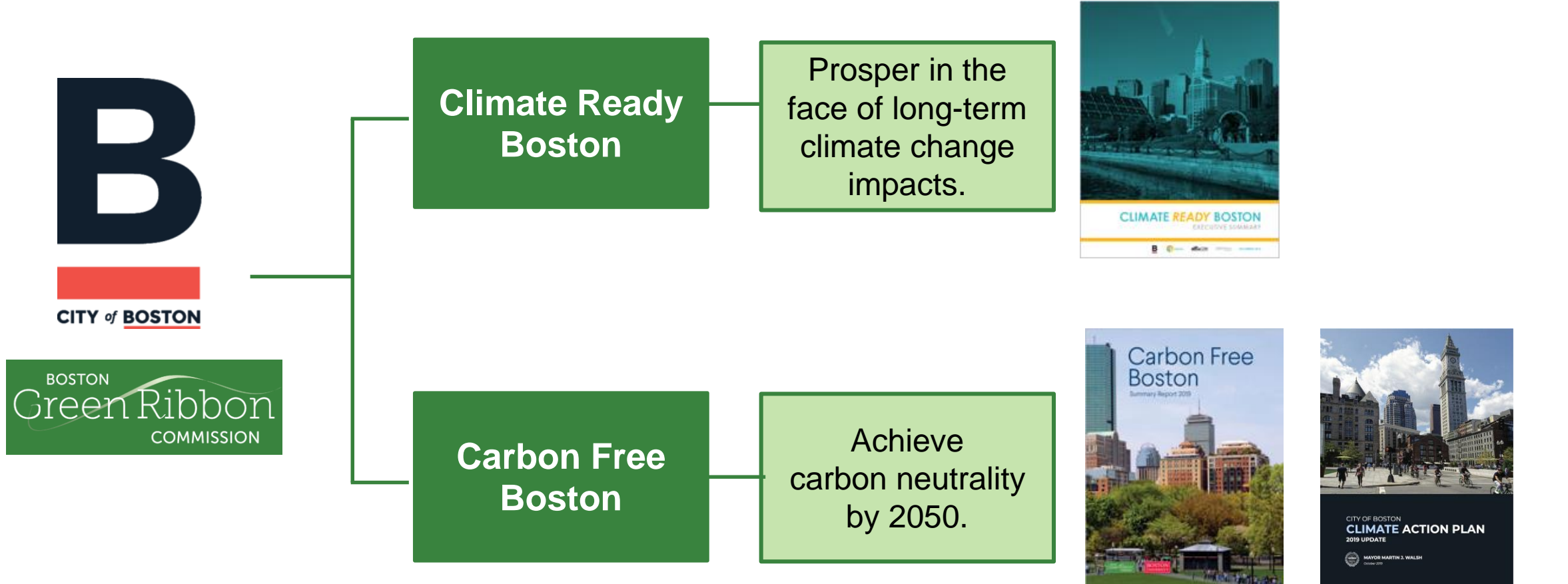
- Higher Education
- Health Care
- Commercial Real Estate
- Hospitality
- Finance and Insurance
- Construction
- Cultural Institutions
- Utilities
- Clean Energy
- Philanthropy
- State Government
- Faith
- Local NGOs
- International NGOs

# Structure of the Green Ribbon Commission

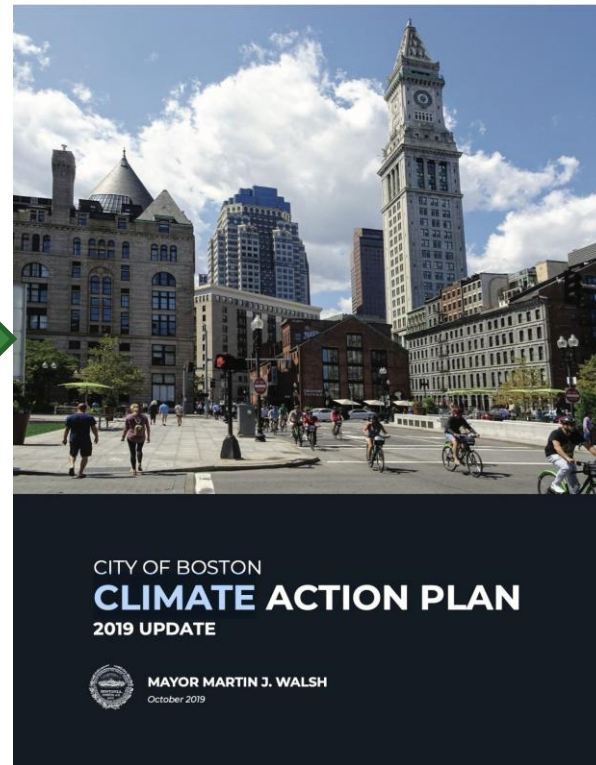
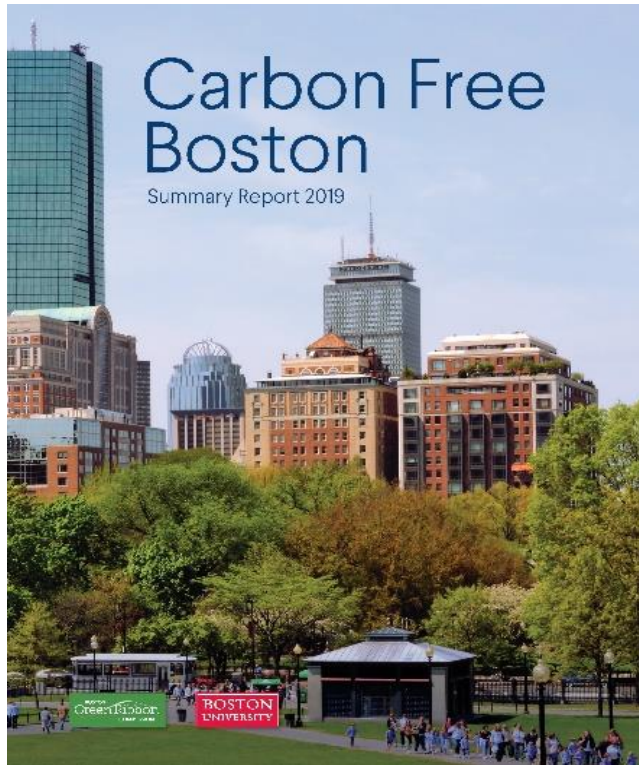




# GRC Helps Boston Organize to Meet its Climate Challenges



# Carbon Free Boston Planning Documents

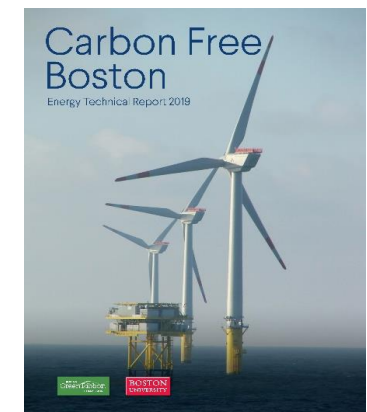
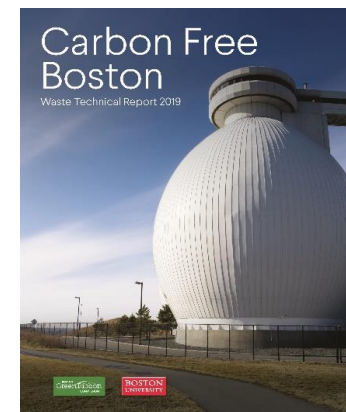
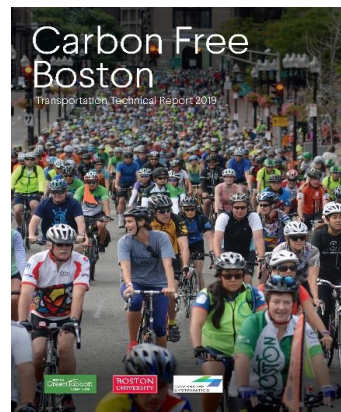
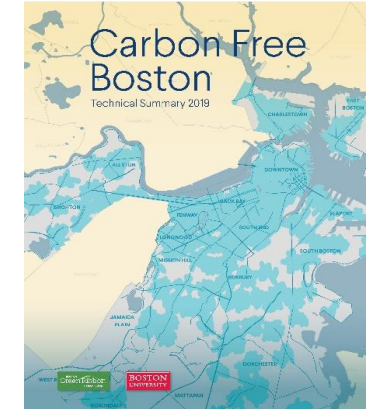
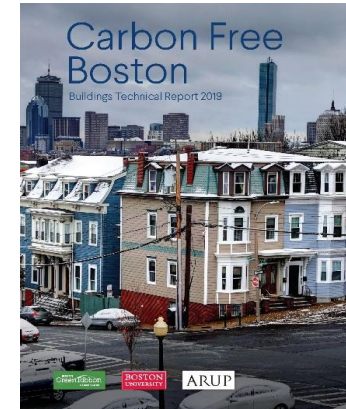
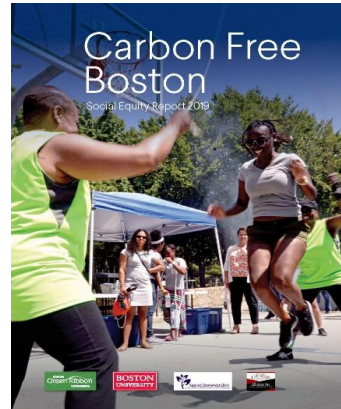
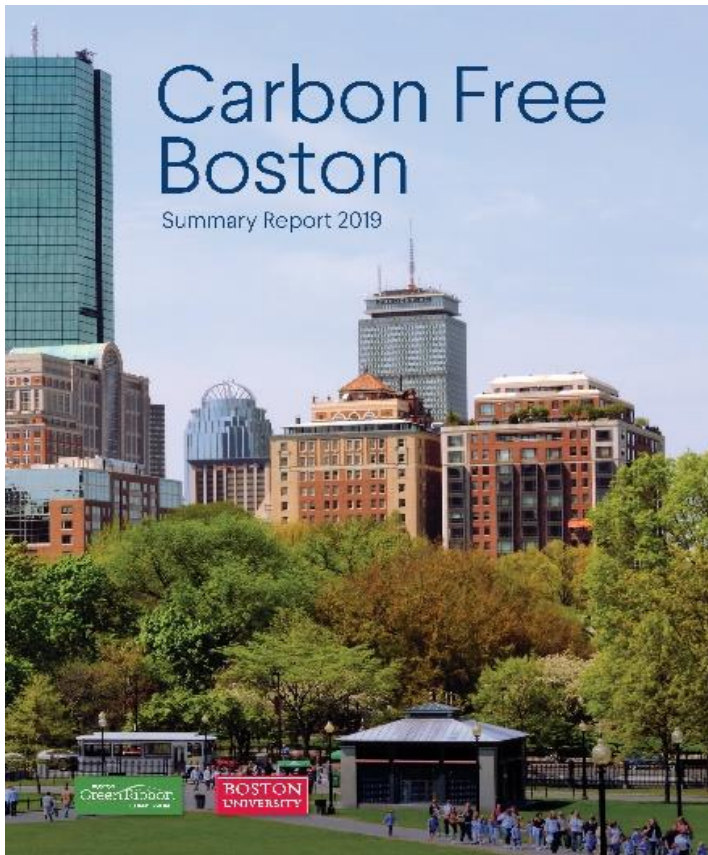


**“The 2019 Climate Action Plan Update details the specific actions we will take over the next five years to significantly cut emissions across all sectors of city life in order to reach our ultimate goal of carbon neutrality.”**



# The Carbon Free Boston Reports

Available online: <http://sites.bu.edu/cfb/carbon-free-boston-report-released>





# Three Mutually Reinforcing Strategies



Reduce demand for energy and maximize energy efficiency



Electrify all activity to maximum extent feasible



Use GHG-free fuels and electricity

# Strong Policy Mandates and Incentives Will Be Required

## BUILDINGS

- ZNC Requirements for New Construction
- Emissions Performance Standards for Existing Buildings
- Financing & TA for Buildings Not Subject to Policy Mandates

## TRANSPORTATION

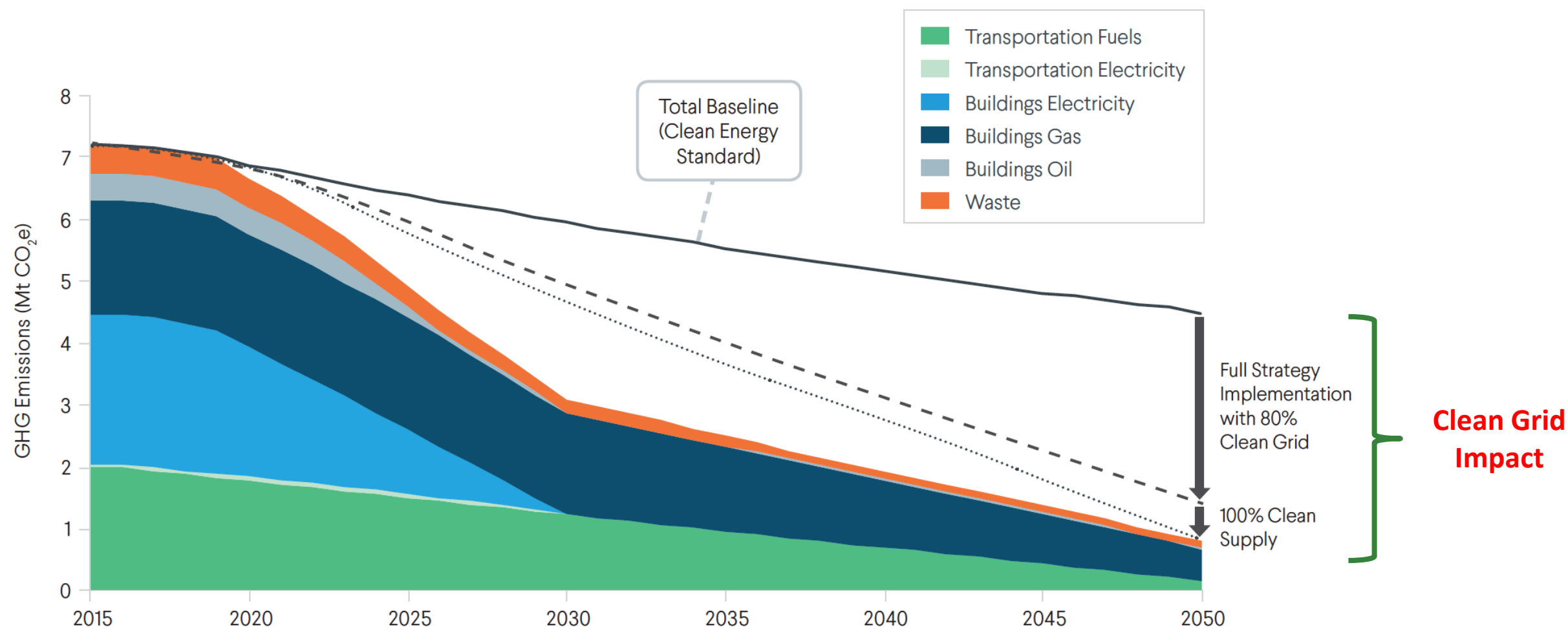
- Mode Shift to Transit and Active Transportation
- Citywide Zero Emissions Vehicles Mandates

## ENERGY

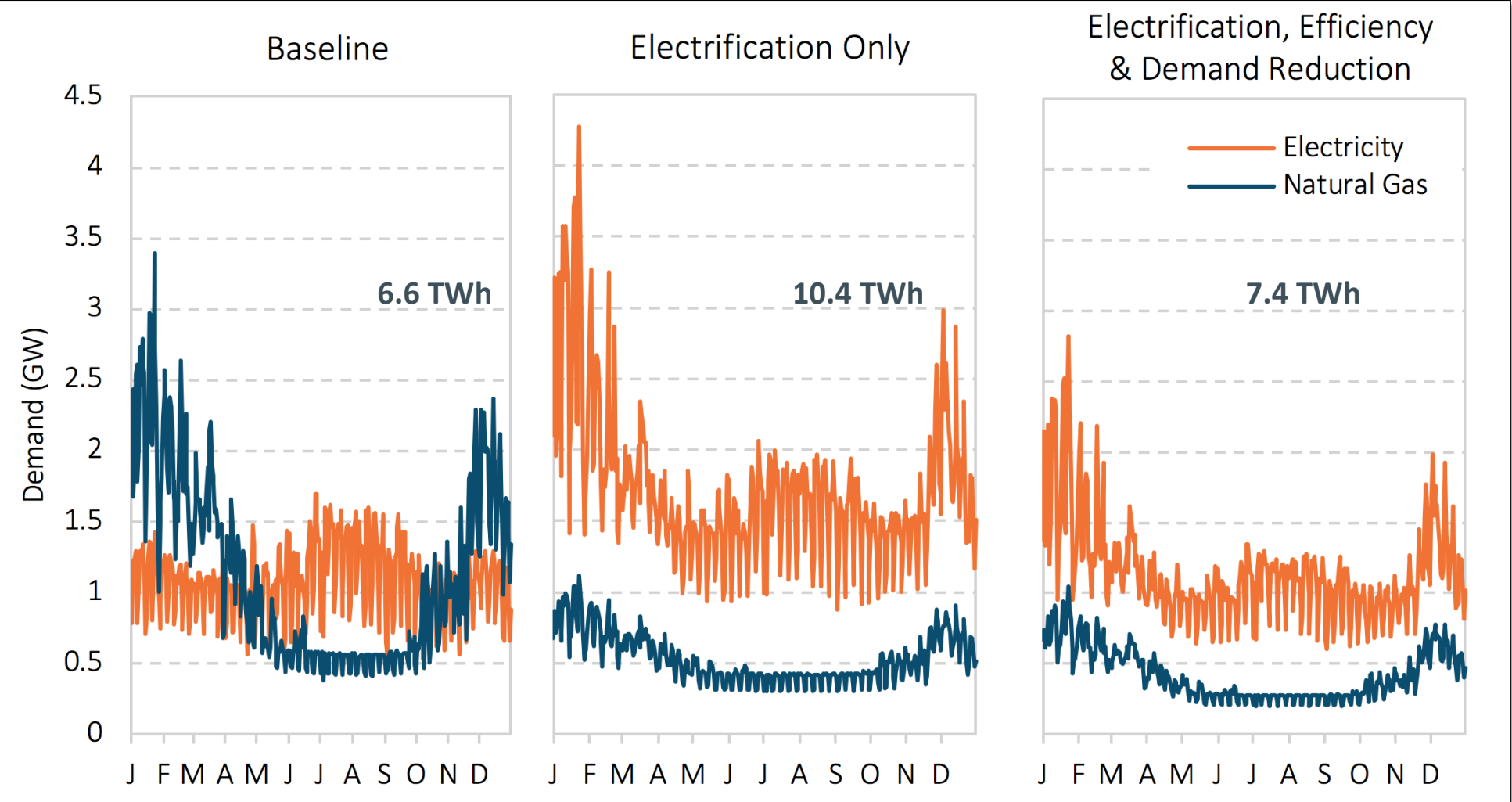
- Community Choice Energy
- Decarbonize District Systems
- Clean the Regional Grid



# Boston's Pathway to Carbon Neutrality Requires a Clean Grid



# Electrification Impacts – Why Efficiency Matters





# GRC Renewable Energy Purchasing Network

## Purpose:

- To help Boston-area large energy consumers make strategic choices on clean energy purchasing.
- To use network member experiences to remove market barriers to clean energy purchasing.

## ACTIVITIES

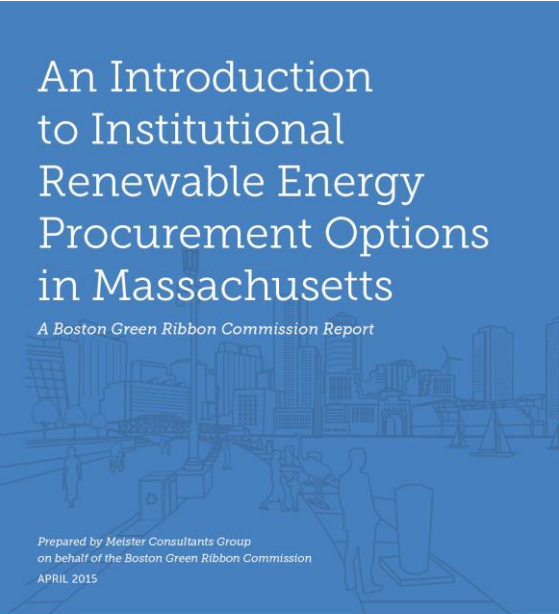
- Member educational events and best practice sharing
- Renewable Energy Leadership Prize (\$100,000)
- Facilitation of collaborative renewable energy purchasing agreements (PPAs & VPPAs)

# Information Products

An Introduction to Institutional Renewable Energy Procurement Options in Massachusetts

*A Boston Green Ribbon Commission Report*

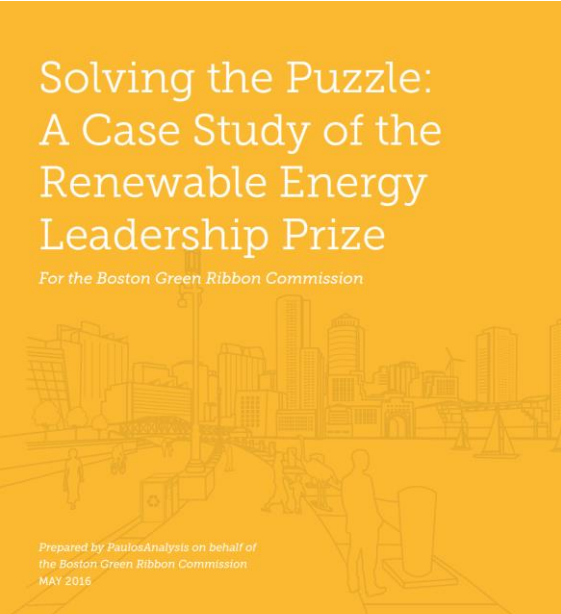
Prepared by Meister Consultants Group on behalf of the Boston Green Ribbon Commission  
APRIL 2015



Solving the Puzzle: A Case Study of the Renewable Energy Leadership Prize

*For the Boston Green Ribbon Commission*

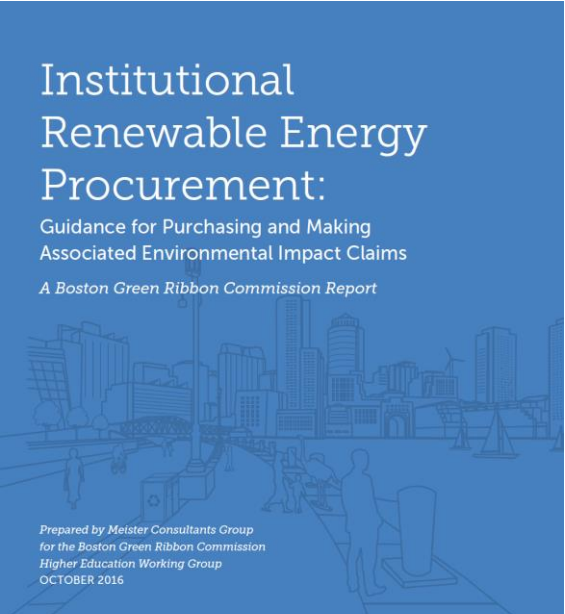
Prepared by Paulos Analysis on behalf of the Boston Green Ribbon Commission  
MAY 2015



Institutional Renewable Energy Procurement: Guidance for Purchasing and Making Associated Environmental Impact Claims

*A Boston Green Ribbon Commission Report*

Prepared by Meister Consultants Group for the Boston Green Ribbon Commission Higher Education Working Group  
OCTOBER 2016



**A BETTER CITY**

**INNOVATION THROUGH AGGREGATION**

**A CASE STUDY OF PARTNERSHIP TO PURCHASE RENEWABLE ENERGY**

CASE STUDY | APRIL 2017





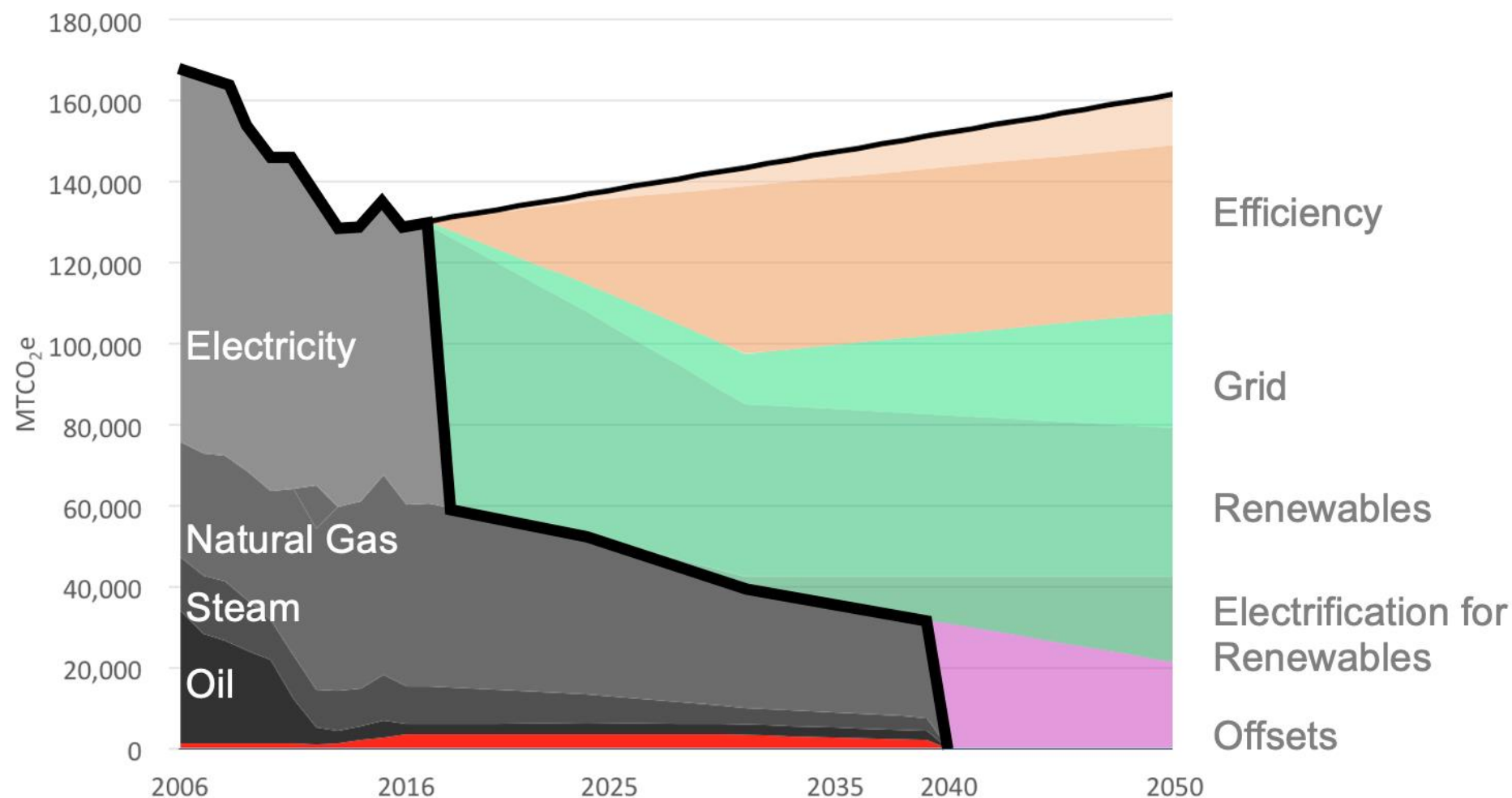
## Result: Largest Multi-Party VPPA in the U.S. (60 MW of Solar)



### Additional Large RE Purchases

- Boston University – 50 MW of wind (VPPA)
- Mass General Brigham – 20 MW of wind (in ISO-NE)

# Boston University – Zero Net Emissions by 2040



# The Ecosystem is Aligning Around a Clean Energy Future



- **Companies**
- **Institutions**
- **Municipalities**
- **Regions**
- **States**
- **Financial Markets**



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# Financial Markets Are Pivoting

**“Barclays Sets 2050 'Net Zero' Carbon Goal After Investor Pressure”**

**“Federal Report Warns of Financial Havoc From Climate Change”**

**“Major Investment Firm Dumps Exxon, Chevron And Rio Tinto Stock”**

**“Citing Climate Change, BlackRock Will Start Moving Away from Fossil Fuels; BlackRock Joins \$41 Trillion Investor Climate Campaign”**

**“JP Morgan, Bank of America, Wells Fargo, Goldman Sachs Back Launch of Climate Finance Center”**

# We Understand the Physics Matters!



# We Need ISO-NE As A Strong Regional Decarbonization Partner

- We need ISO-NE openly and strongly committed to creating a grid design that can maintain reliability with a predominantly clean energy mix
- This is the future; it is not a matter of “if”, but “how” & “when”
- Need to take a comprehensive and integrated approach; there is no silver bullet – address regional transmission, storage, demands of vehicle and thermal electrification; etc.



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## Potentially Useful Next Steps

- “**IMAPP 2**” – Reinvigorate the Integrating Markets and Public Policy Initiative
- Invest in the **Future of the Grid** analysis
- Develop a **Decarbonization Pathways Analysis** with multiple options and tools, including carbon pricing and solutions for attracting investment capital to non-emitting resources
- Vigorously engage the key stakeholders to get consensus and get solutions implemented

# Thank You

John Cleveland

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[www.greenribboncommission.org](http://www.greenribboncommission.org)

**We stand ready to support the  
ISO in whatever way is useful!**

BOSTON  
Green Ribbon  
COMMISSION

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