COLLABORATIVE MODELS TO SCALE UP CLIMATE ACTION AND RESILIENCY EFFORTS

SECOND NATURE | FEB 2020

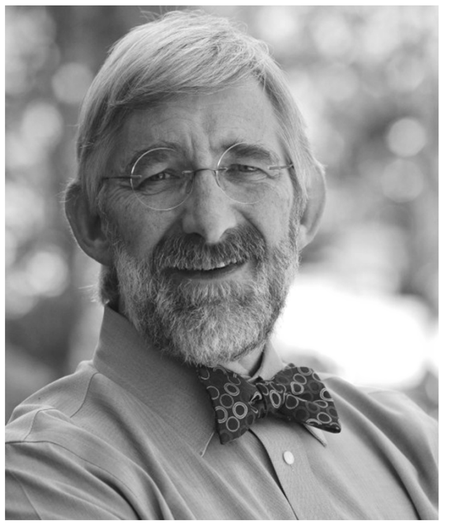
STEVEN

SMITHGROUP

AURORA

University of Pittsburgh

DENNIS



BOSTON UNIVERSITY

CIANNAT

EMORY UNIVERSITY

STATE OF CLIMATE AND RESILIENCY COMMITMENTS IN HiEd.

Second Nature

Strategic Plan

2019-2022

IMPERATIVE
TO EXPONENTIALLY DRIVE CLIMATE PROGRESS

FOUR STRATEGIC GOALS:

FOR IMPLEMENTATION DURING 2019 – 2022

1. ***ACCELERATE*** signatory and network performance through both responsive and proactive services

2. ***IMPROVE*** Second Nature's signatory and network administrative systems

3. ***LEAD*** higher education's cross-sector, subnational climate action

4. ***TEST*** programmatic and institutional growth opportunities with Second Nature's climate services

447 ACTIVE CLIMATE LEADERSHIP COMMITMENT SIGNATORIES

5

111

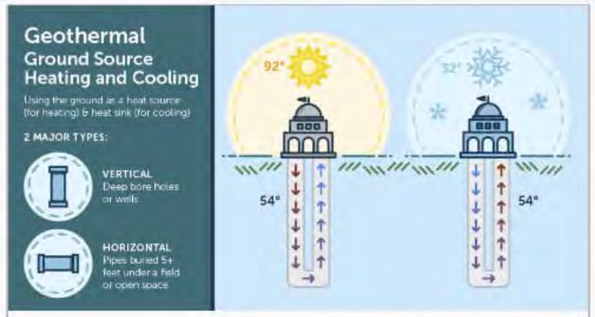
321

Second Nature | Solutions Center

Carbon Offsets

CARBON OFFSETS

Large | Small Net Cost | Doable
< 1 year | Low / None | Hmm... Okay.



Geothermal Ground Source Heating and Cooling

ALTERNATIVE SUPPLY SYSTEMS, ENERGY SUPPLY

Enormous | Net Savings | A Big Lift
10 years + | Low / None | That's pretty cool.

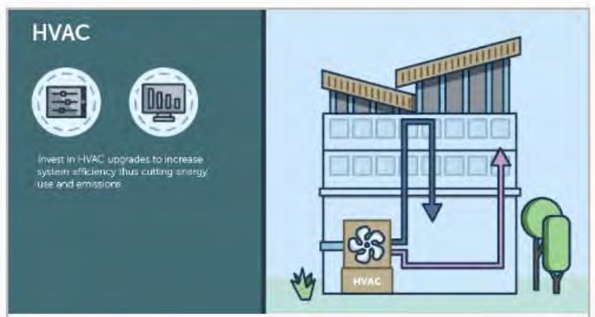
Green Labs

ENERGY DEMAND, ENERGY EFFICIENCY

Large | Net Savings | Some Challenges
1-2 years | Moderate | That's pretty cool.

High-performance Building Standards

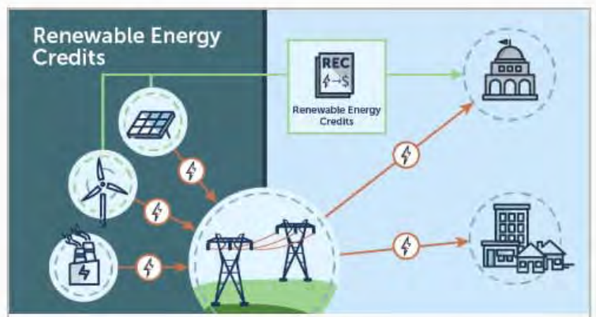
Large | Neutral | Difficult
2-5 years | Low / None | Wow, amazing project!



HVAC

ENERGY DEMAND, ENERGY EFFICIENCY

Large | Net Savings | Some Challenges
1-2 years | Moderate | Yawn



Renewable Energy Credits (RECs)

ENERGY SUPPLY, RENEWABLE ENERGY CREDITS

Enormous | Small Net Cost | Doable
< 1 year | Low / None | Hmm... Okay.

CROSS-UNIVERSITY RESEARCH PAPERS

"Higher Education's Role in Adapting to a Changing Climate"

Driven by Second Nature and Clean Air, the paper received input by higher education stakeholders from:

- University of Arizona
- Tufts University
- Alfred State College
- Ithaca College
- Louisiana State University
- Antioch University New England
- University of Massachusetts, Amherst
- Columbia University
- Paul Smith's College of Arts and Sciences
- Bristol Community College

aashe
The Association for the Advancement of Sustainability in Higher Education

stars®
a program of **aashe**

332

Participants with active ratings

OP-1: GREENHOUSE GAS EMISSIONS

Part 1 - INVENTORY

Publicly available greenhouse gas (GHG) emissions inventory

Part 2 – REDUCED GHG PER BASELINE

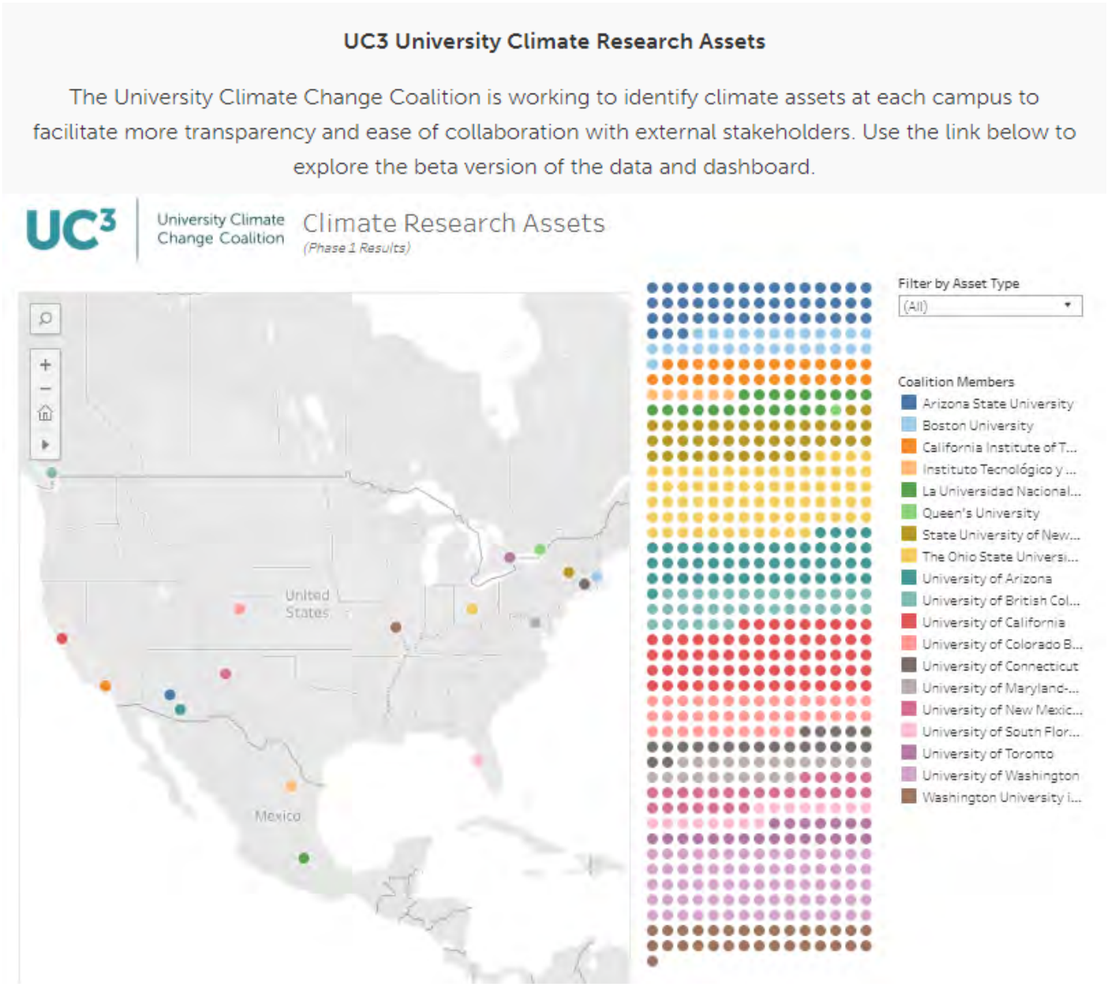
Institution reduced its adjusted net emissions.

Part 3 – LESS THAN A MIN THRESHOLD

Institution's emissions less than the minimum performance threshold

THE UNIVERSITY CLIMATE CHANGE COALITION (UC3)

CROSS-NATIONAL



Universities from **the United States, Canada, and Mexico committing to helping local communities transition to a low-carbon future**

UC3 PURPOSE

UC3 provides thought leadership on and fosters a **robust exchange of best practices and lessons learned** in pursuit of reducing greenhouse emissions and building community resilience.

They share this knowledge with fellow coalition members, the higher education sector, their communities, and partners in the public and private sectors by serving as models for climate solutions and re-examining the scientific community's research agenda to accelerate place-based climate action.

UC3 GUIDING PRINCIPLES

- **Build institutional consensus** to pursue cross-sector climate work by bringing together liaisons from academia, operations, and administration (via the institutional liaisons).
- **Identify & convene local, cross-sector stakeholders** by holding a cross-sector forum.
- **Share knowledge across institutions via monthly meetings, coalition events, public events and other networking opportunities.**
- **Identify and evaluate research** priorities and gaps in the climate solutions research agenda.
- **Collaborate cross-sectorally** and build cross-sector partnerships to accelerate solutions.

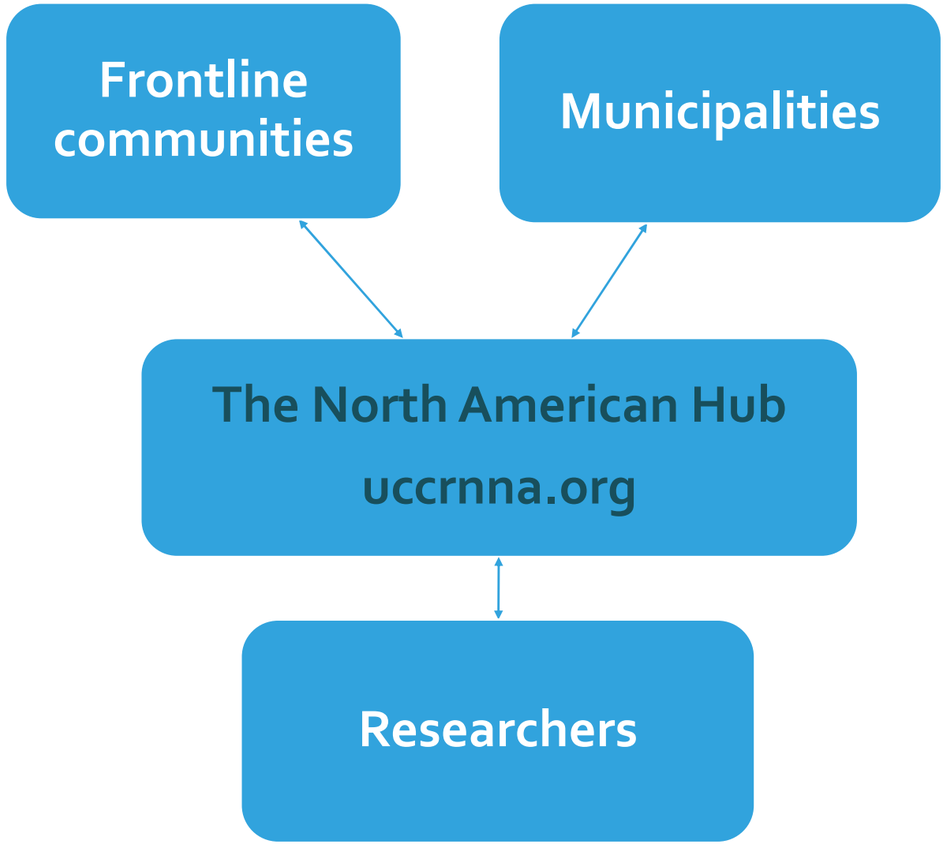
UC³ | University Climate Change Coalition

2019 IMPACT REPORT

URBAN CLIMATE CHANGE RESEARCH NETWORK

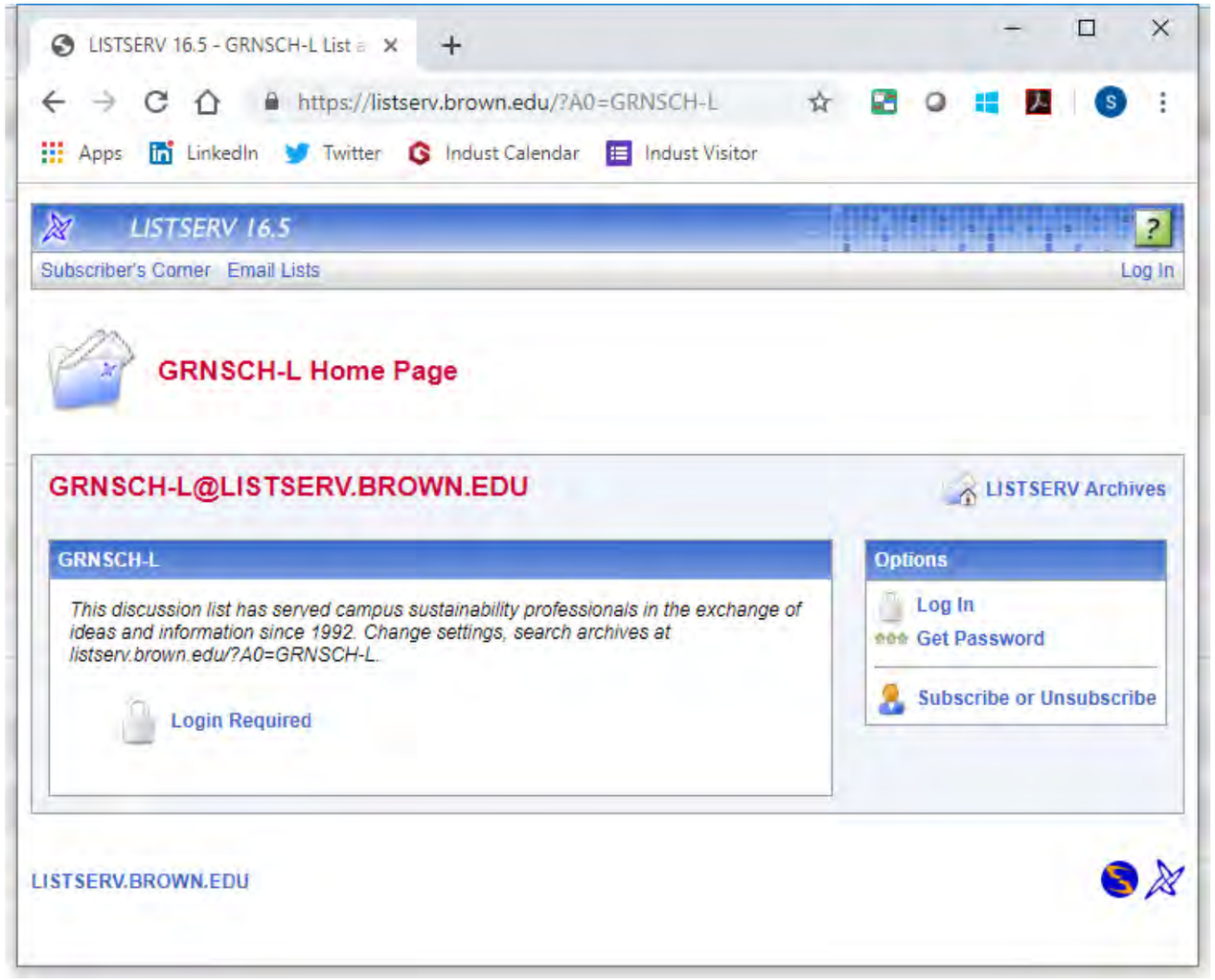
URBAN CLIMATE CHANGE RESEARCH NETWORK

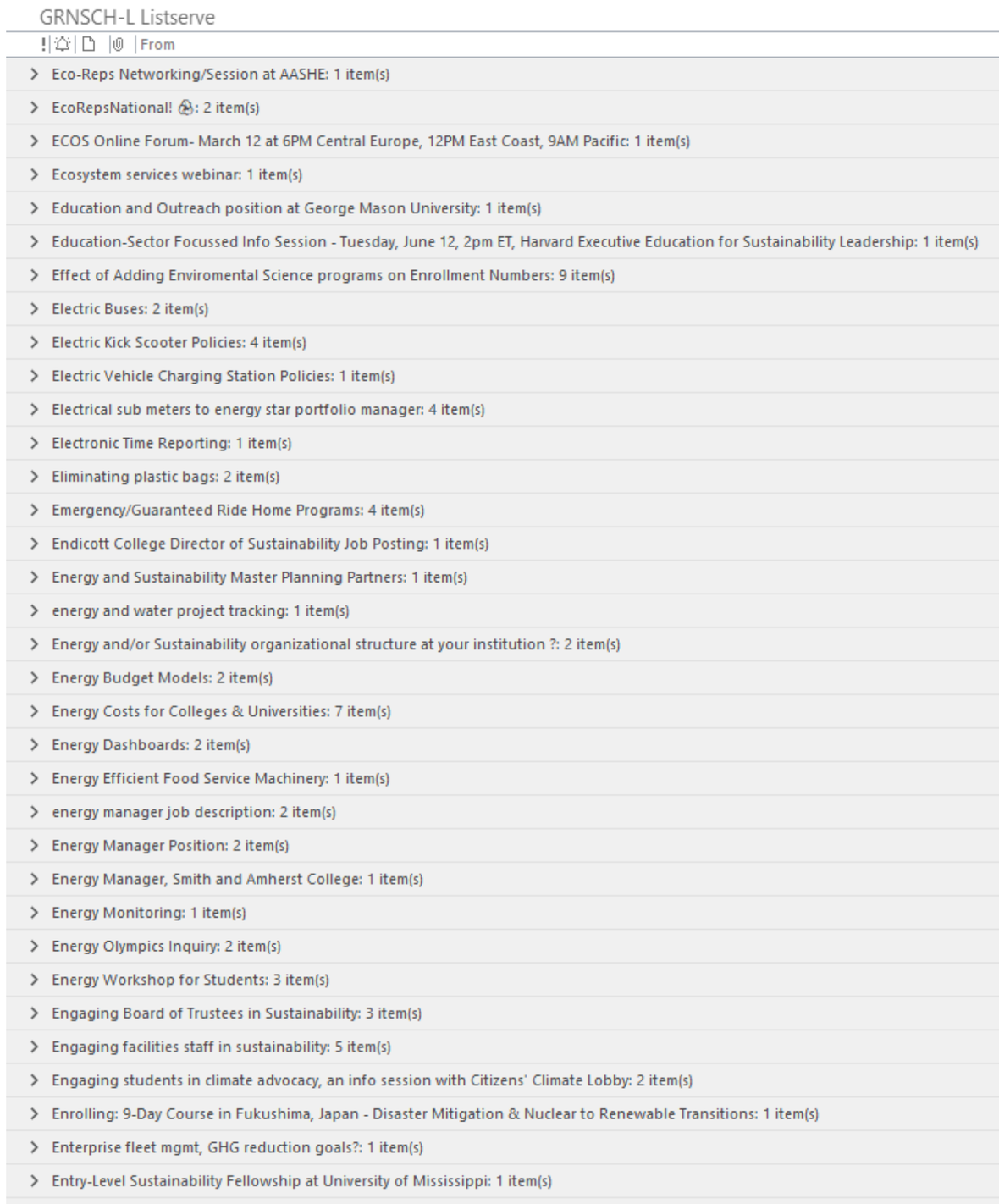
- A consortium of > 1000 individuals dedicated to the analysis of climate change mitigation and adaptation from an urban perspective.
- Includes scholars and experts from universities and research organizations, spanning a broad range of expertise



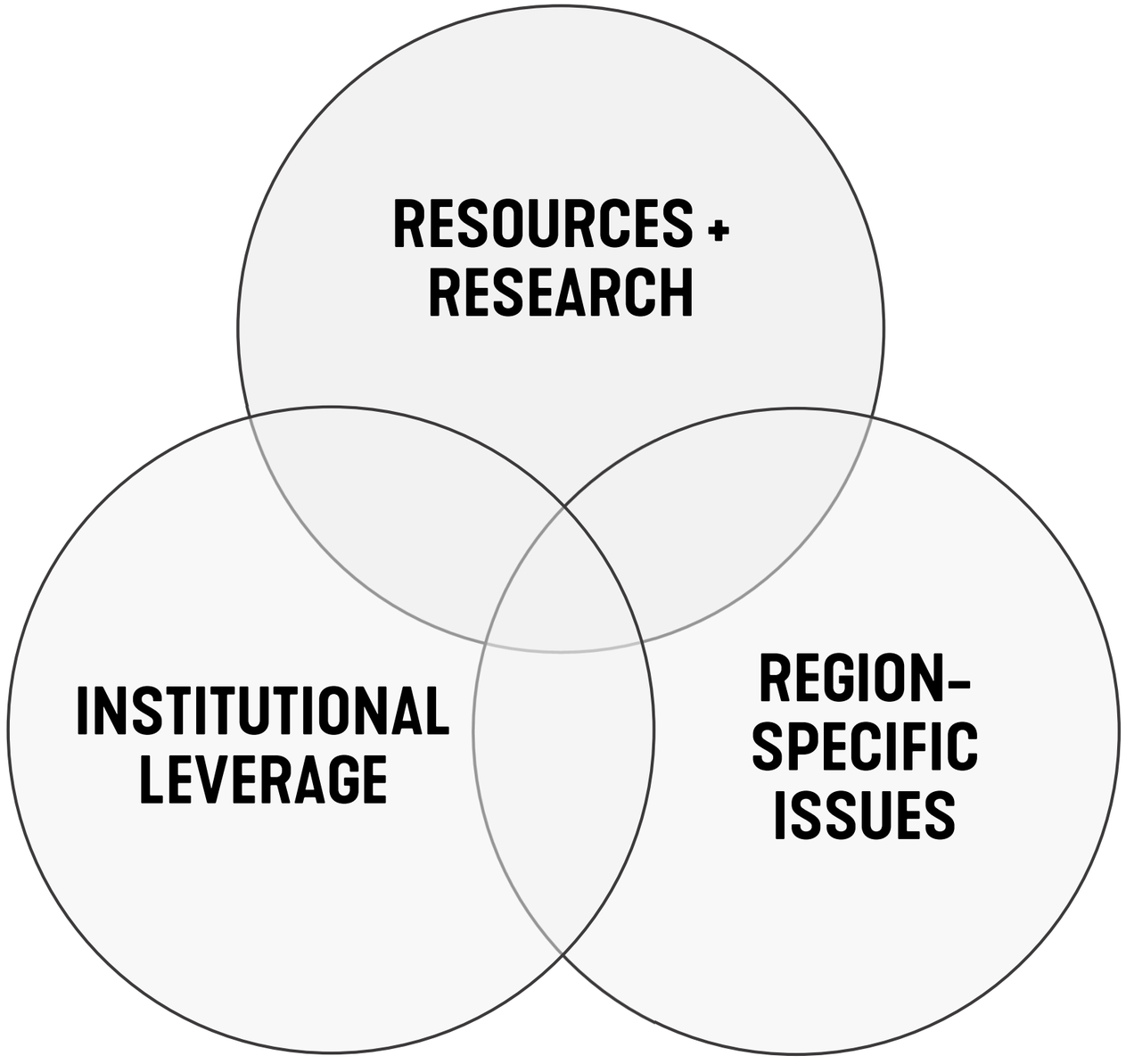
GREEN SCHOOLLIST SERVE (GRNSCH-L)

BROWN UNIVERSITY





WHY IS TOGETHER BETTER?



Universities working in tandem can share best practice, leverage scale, and increase influence to achieve **goals faster and more cost efficiently.**

TYPES OF HIGHER ED. CLIMATE COLLABORATIVES

City Partnerships

Formal partnerships with cities means that universities can advise city climate policy, and vice versa

TYPES OF HIGHER ED. CLIMATE COLLABORATIVES

City Partnerships	State University Systems
Formal partnerships with cities means that universities can advise city climate policy, and vice versa	State systems can leverage climate decisions under their brand, distributing policy to all connected campuses

TYPES OF HIGHER ED. CLIMATE COLLABORATIVES

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Formal partnerships with cities means that universities can advise city climate policy, and vice versa	State systems can leverage climate decisions under their brand, distributing policy to all connected campuses	By conducting cross-university research efforts, universities can save both time and money

TYPES OF HIGHER ED. CLIMATE COLLABORATIVES

City Partnerships	State University Systems	Research + Resource	Networking + Storytelling
Formal partnerships with cities means that universities can advise city climate policy, and vice versa	State systems can leverage climate decisions under their brand, distributing policy to all connected campuses	By conducting cross-university research efforts, universities can save both time and money	Storytelling networks can create large collaboratives that share ideas and best practice

TYPES OF HIGHER ED. CLIMATE COLLABORATIVES

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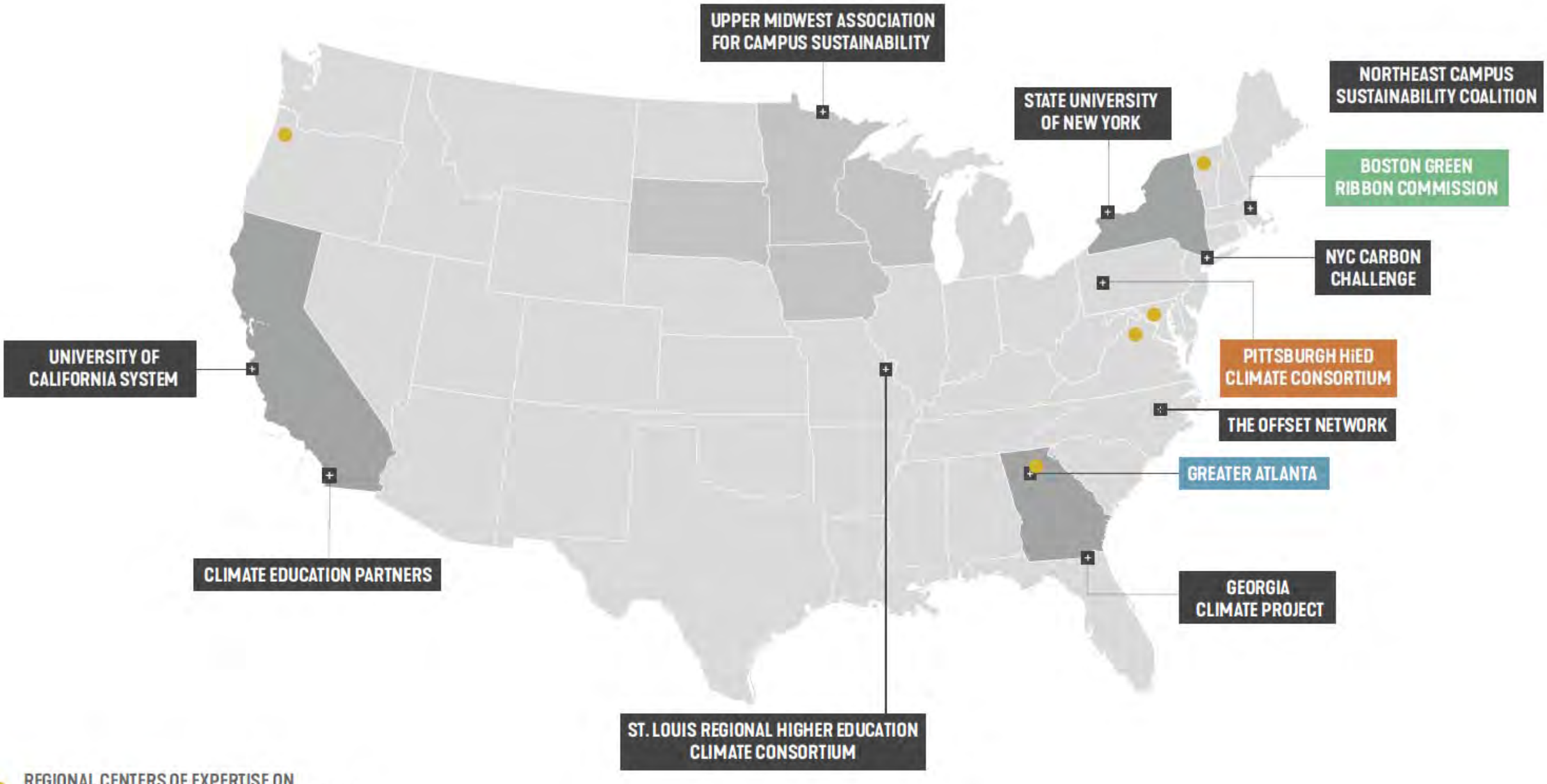
TYPES OF HIGHER ED. CLIMATE COLLABORATIVES

City Partnerships	State University Systems	Research + Resource	Networking + Storytelling	Resiliency + Climate Adaption	Carbon Reduction + Offset
					
Formal partnerships with cities means that universities can advise city climate policy, and vice versa	State systems can leverage climate decisions under their brand, distributing policy to all connected campuses	By conducting cross-university research efforts, universities can save both time and money	Storytelling networks can create large collaboratives that share ideas and best practice	Collaboratives focused on resiliency and climate adaptation work proactively, planning for future scenarios	Collaboratives focused on carbon reduction and climate offsets work planning to offset present carbon emissions


UPPER MIDWEST ASSOCIATION FOR CAMPUS SUSTAINABILITY
STATE UNIVERSITY OF NEW YORK
NORTHEAST CAMPUS SUSTAINABILITY COALITION
BOSTON GREEN RIBBON COMMISSION
NYC CARBON CHALLENGE
PITTSBURGH HiED CLIMATE CONSORTIUM
THE OFFSET NETWORK
GREATER ATLANTA
GEORGIA CLIMATE PROJECT
UNIVERSITY OF CALIFORNIA SYSTEM
CLIMATE EDUCATION PARTNERS
ST. LOUIS REGIONAL HIGHER EDUCATION CLIMATE CONSORTIUM
REGIONAL CENTERS OF EXPERTISE ON EDUCATION FOR SUSTAINABLE DEVELOPMENT

PITTSBURGH HECC

(HIGHER ED CLIMATE CONSORTIUM)

CITY OF PITTSBURGH'S CLIMATE GOALS

2030 GOALS:

CITY OPERATIONS

100% renewable elect.

100% fossil fuel free fleet

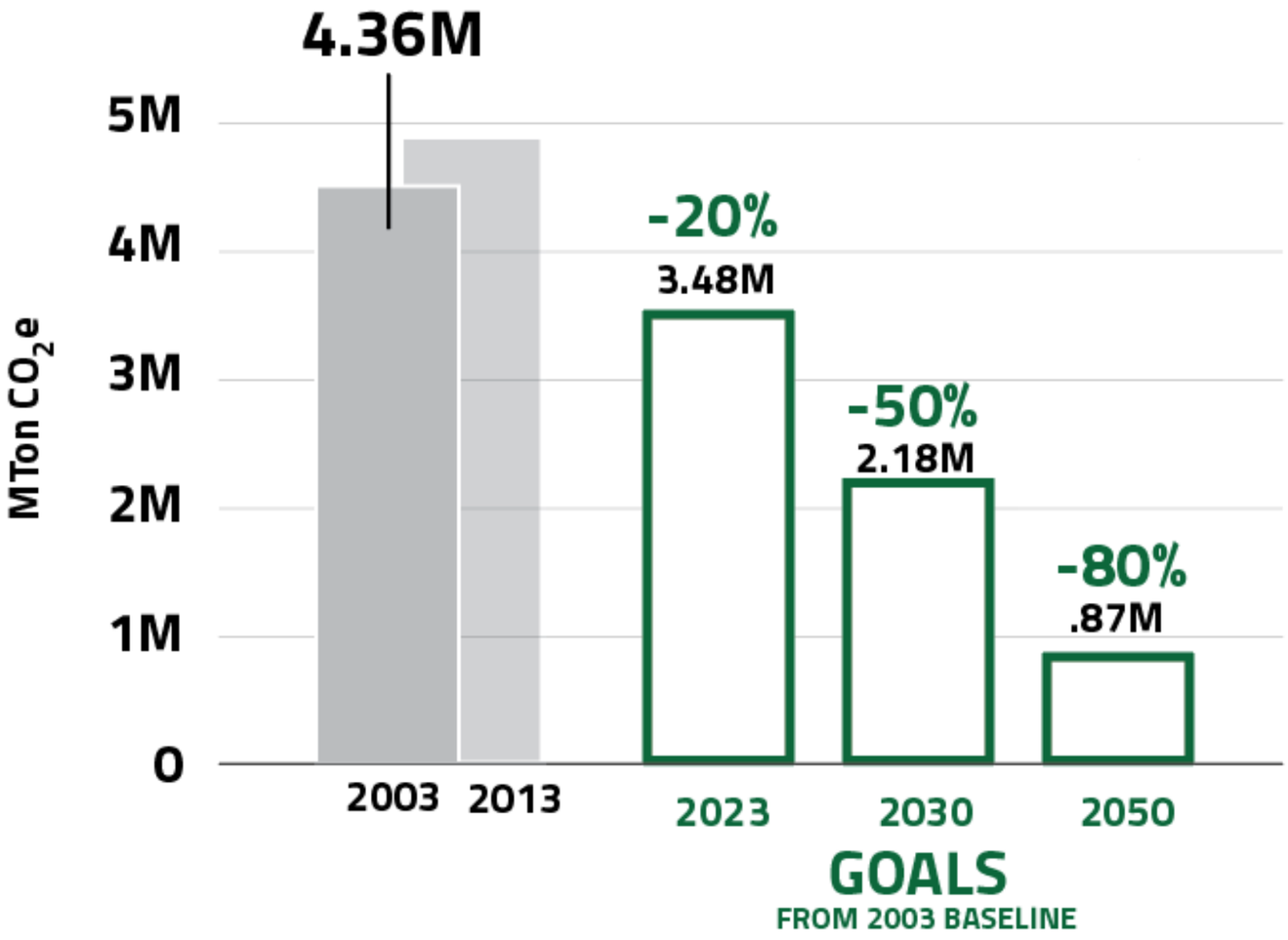
Divestment of City pensions

CITY OF PITTSBURGH

50% energy & water use

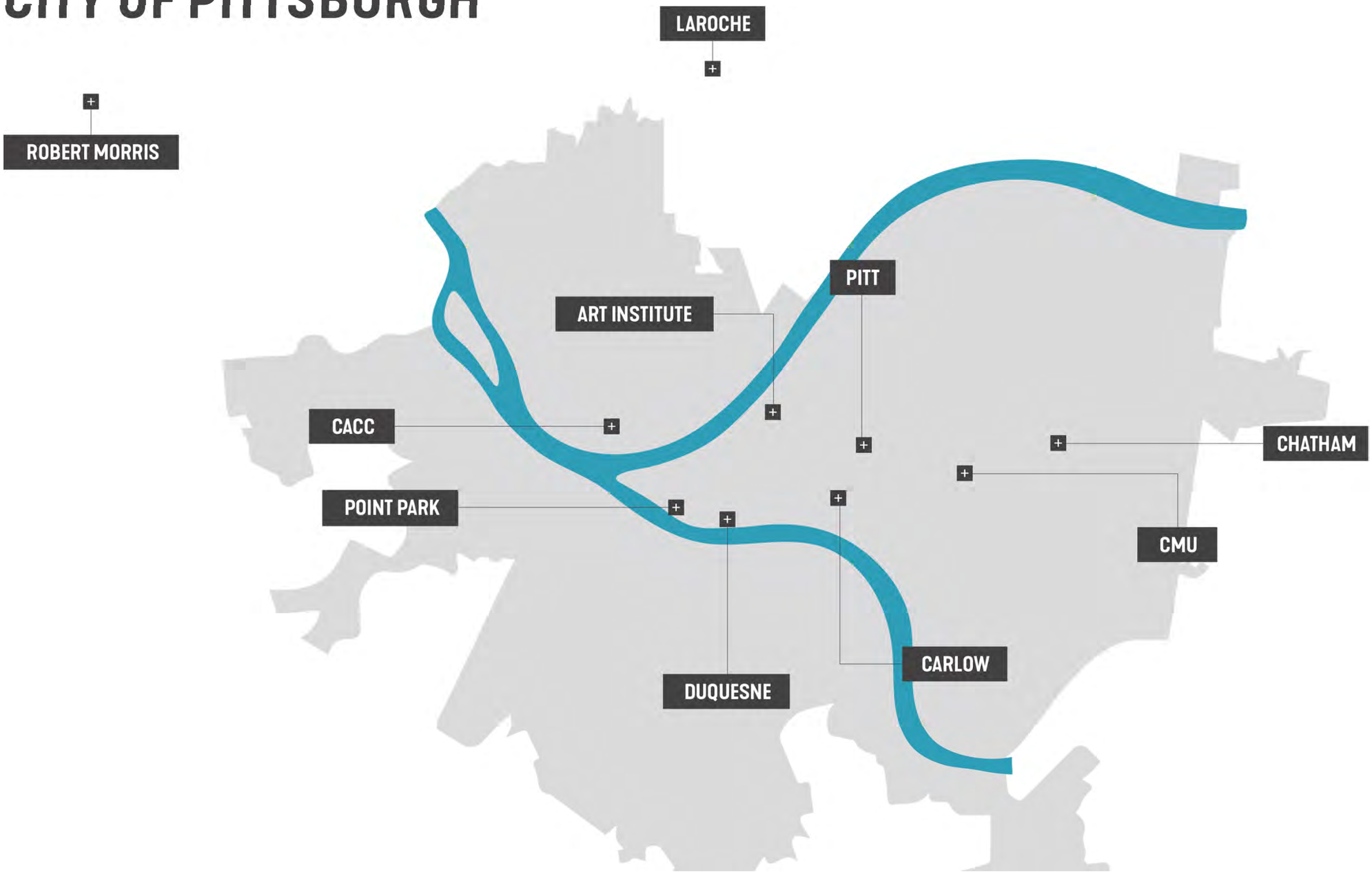
50% transport emission

Zero waste



20% GHG REDUCTION BY 2023
50% GHG REDUCTION BY 2030
80% GHG REDUCTION BY 2050

HIGHER ED CLIMATE CONSORTIUM
CITY OF PITTSBURGH



STUDENT POPULATION	
PITT	28,600
CCAC	26,800
CMU	14,500
DUQUESNE	9,300
ART INSTITUTE	6,200
ROBERT MOR.	5,200
POINT PARK	4,100
CHATHAM	2,300
CARLOW	2,300
LAROCHE	1,500

HIGHER ED CLIMATE CONSORTIUM
CITY OF PITTSBURGH

HECC MISSION:

REDUCE THE GHGs OF PITTSBURGH

…by actively engaging all Pittsburgh region colleges and universities to:

1) **COLLABORATE,**
2) **SHARE INFORMATION, AND**
3) **SET GOALS REGARDING:**
   - research agenda
   - education curricula,
   - operations,
   - outreach activities, and
   - commitments that reduce GHG emissions

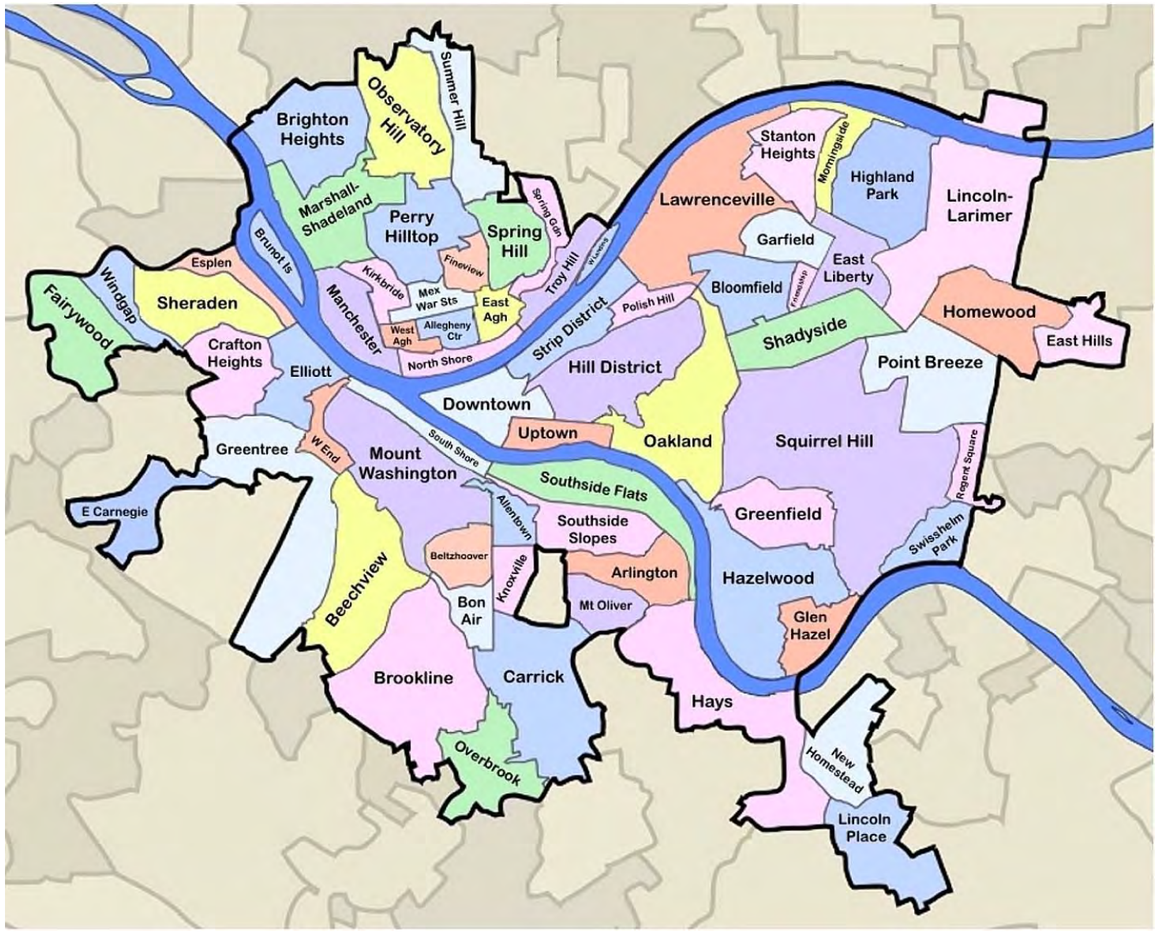
University of Pittsburgh
CCAC
Carnegie Mellon University
La Roche College
POINT PARK UNIVERSITY
chatham UNIVERSITY
DUQUESNE UNIVERSITY
CARLOW UNIVERSITY
PennState Center Pittsburgh
ROBERT MORRIS UNIVERSITY

HECC COMMITMENT & BENEFITS

- Willingness to share!
- Shared inventory methodology
- Consensus on calculator
  (CA-CP, now SIMAP)
- All schools conducted baseline
- Shared GHG process (comparability)
- Data sharing
- 2030 District reporting
- Group resources and information sharing
- Learning tours
- Volunteer opportunities for students

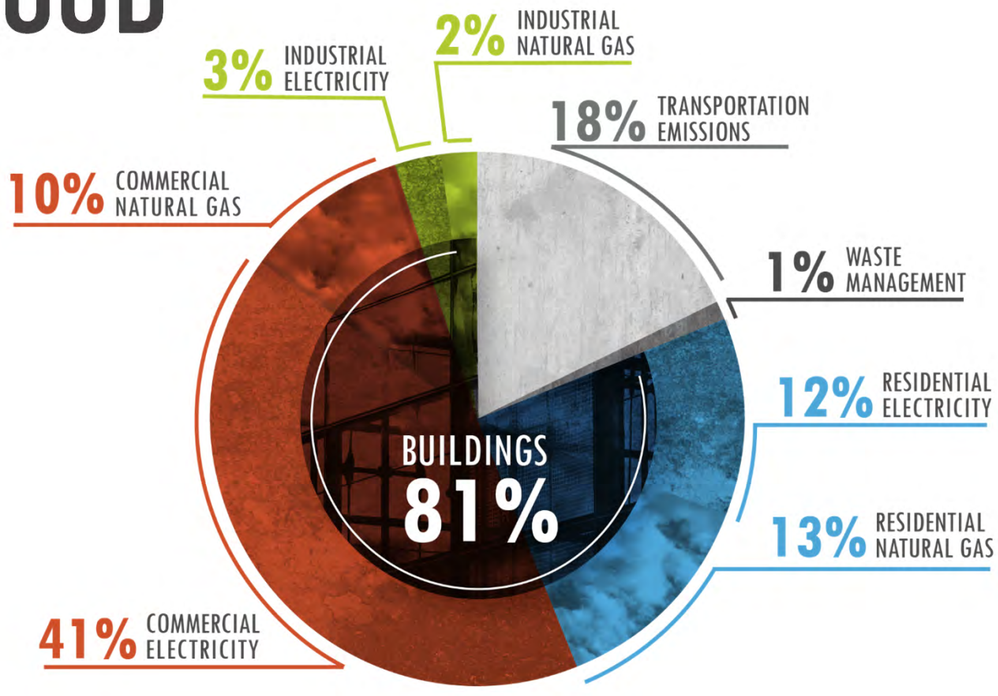
SIMAP
SUSTAINABILITY INDICATOR MANAGEMENT & ANALYSIS PLATFORM

PITTSBURGH'S OAKLAND NEIGHBORHOOD



Challenges

- Long-Term Residential Communities
- Diverse Businesses
- Energy Use



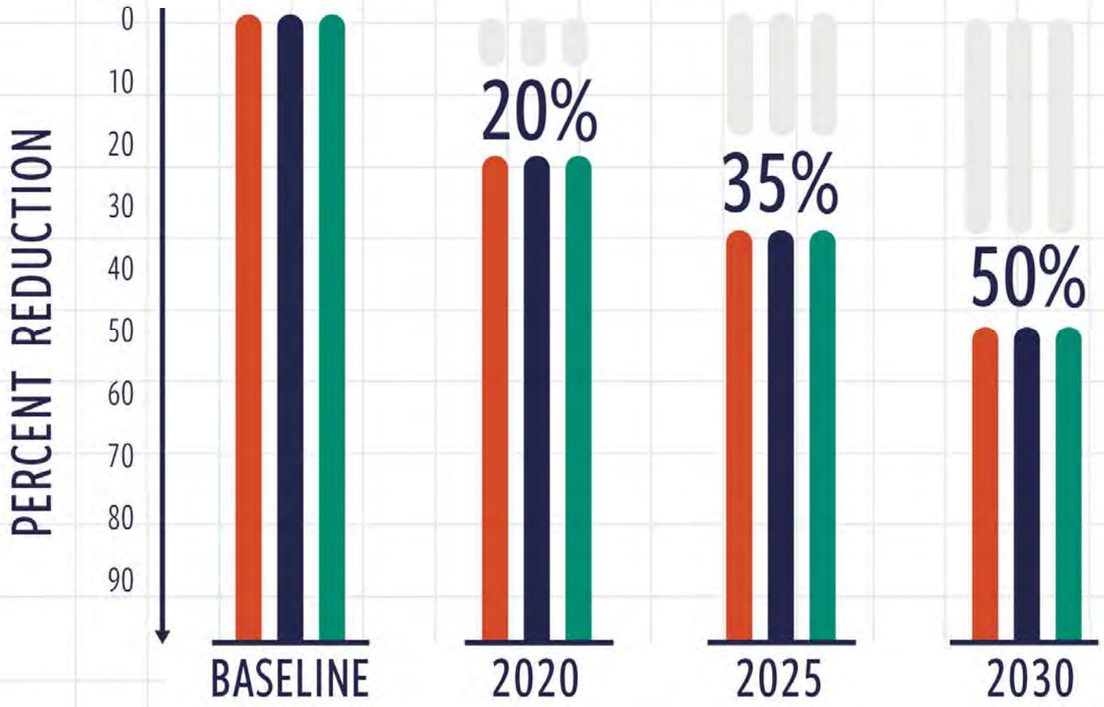
City of Pittsburgh's Greenhouse Gas Breakdown - 2013

Opportunities

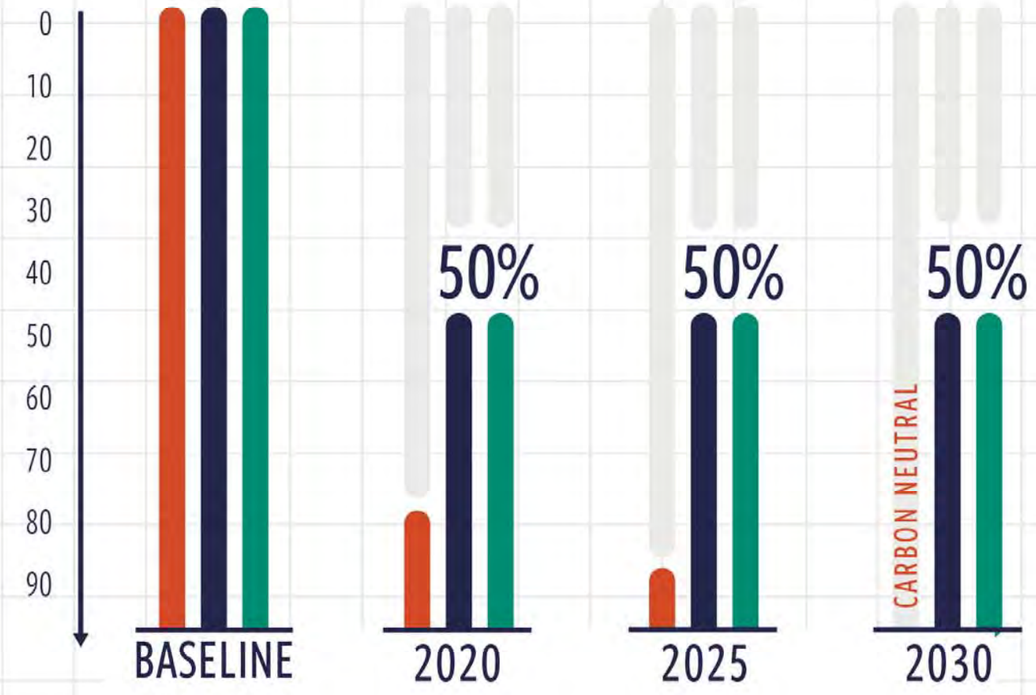
- Leverage Ability
- Transportation
- Housing
- Stormwater Management
- Resilience Planning
- Green Power Purchase Price
- Resiliency Planning
- Food, Waste, and Clothing

2030 CHALLENGE GOALS

EXISTING BUILDINGS



NEW BUILDINGS & RENOVATIONS

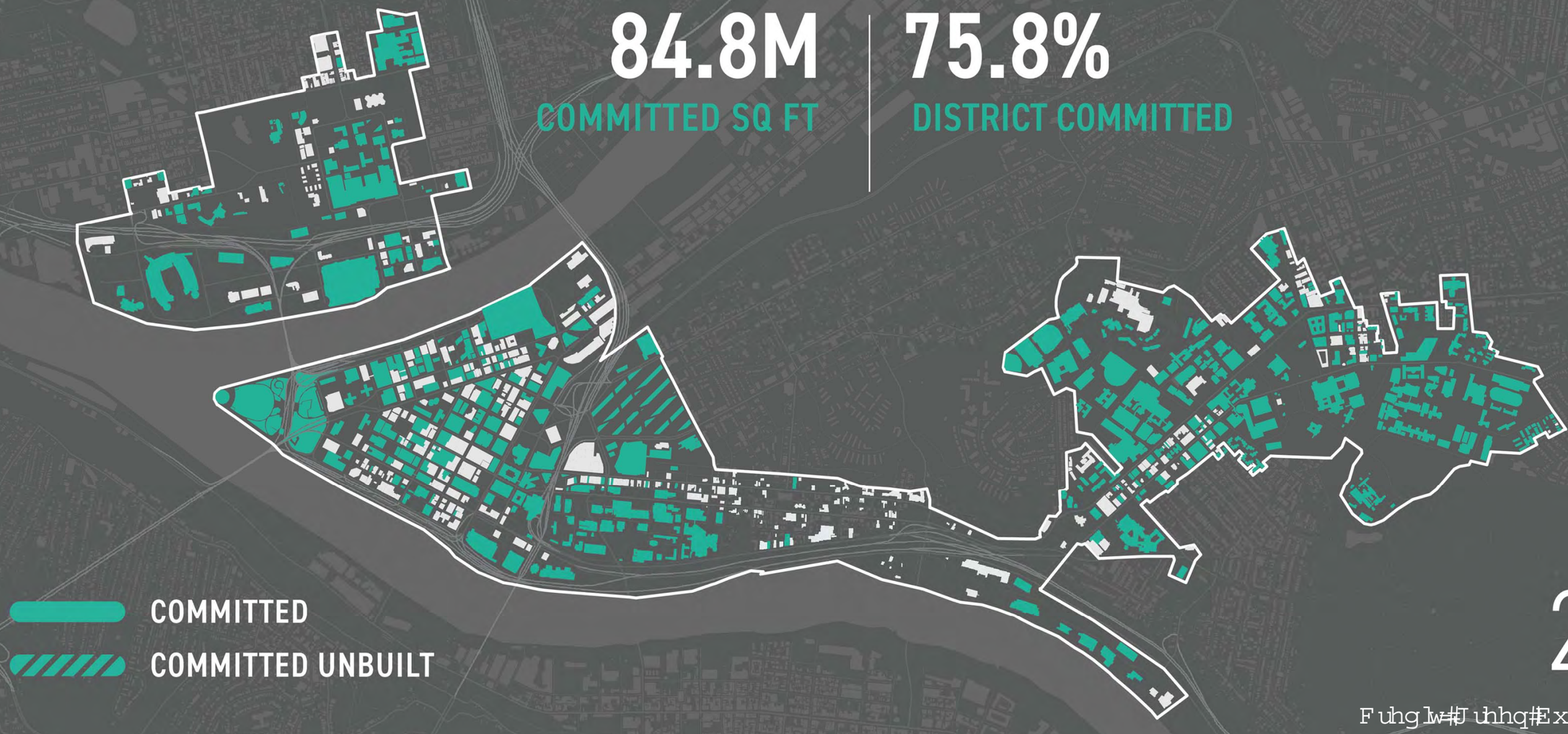


Green Building Alliance

540 BUILDINGS COMMITTED

84.8M
COMMITTED SQ FT

75.8%
DISTRICT COMMITTED



COMMITTED

COMMITTED UNBUILT

2019

PITTSBURGH 2030 DISTRICT®

2018 ENERGY REDUCTION

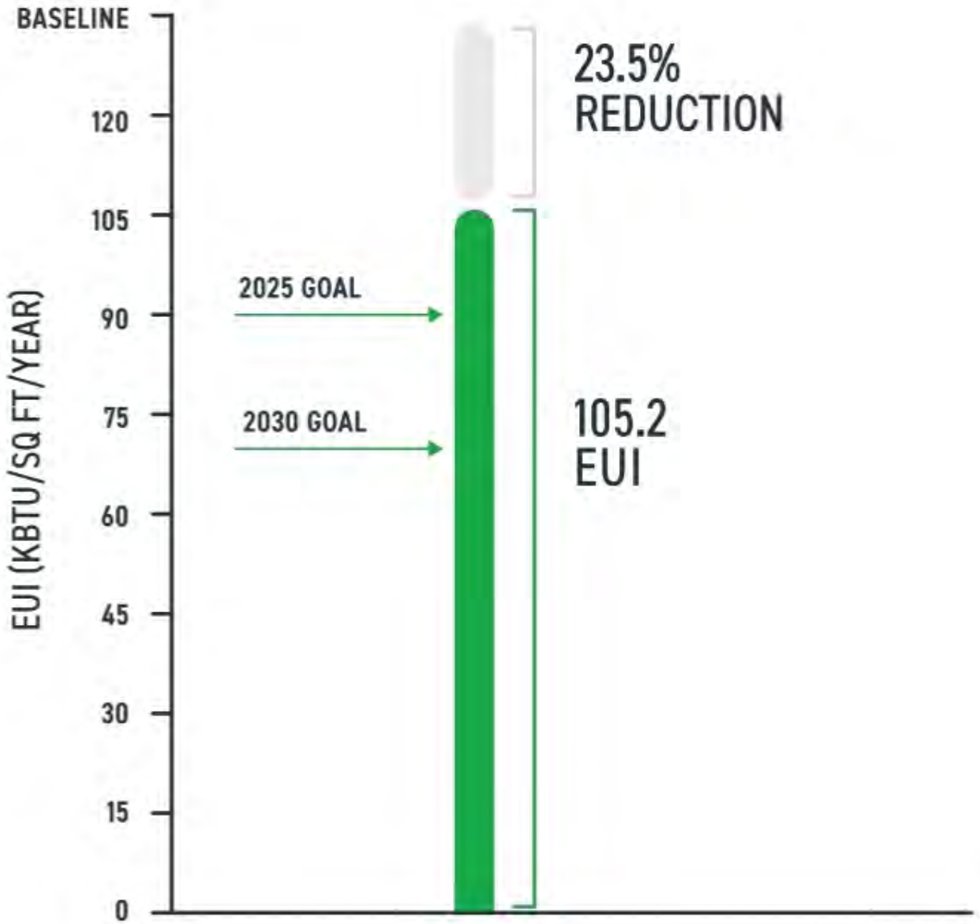


figure 3

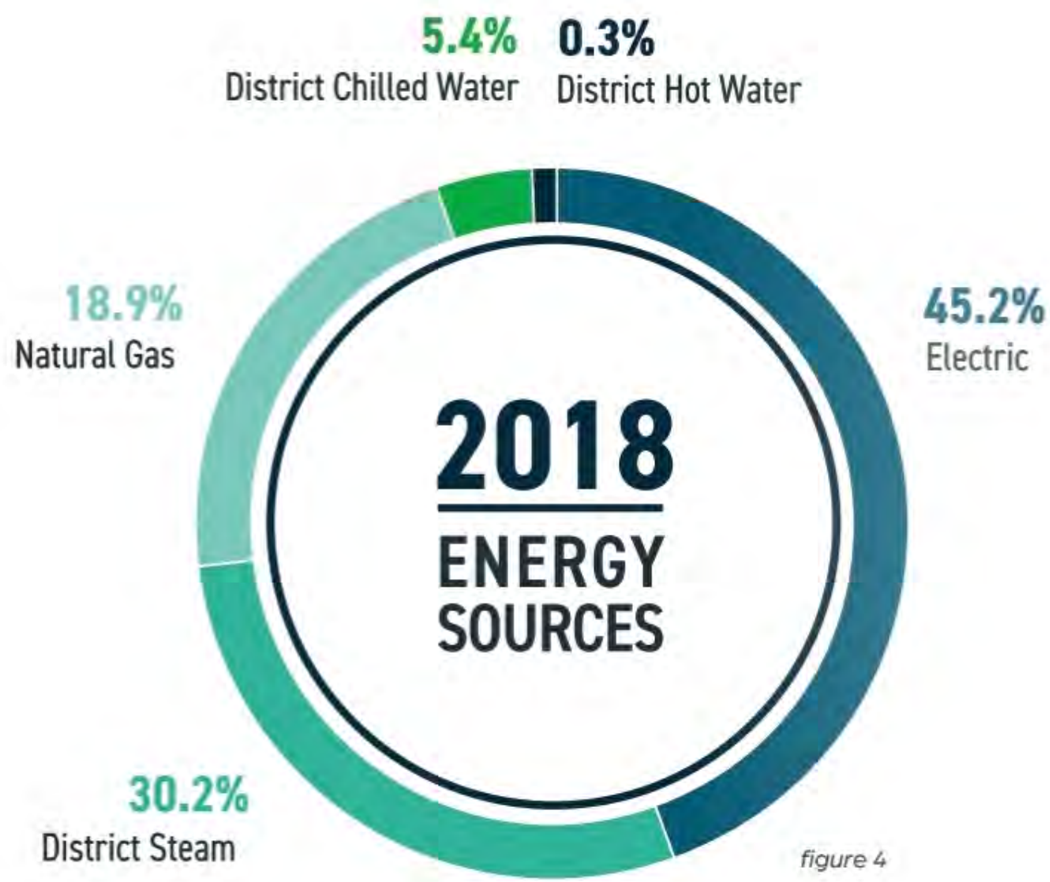
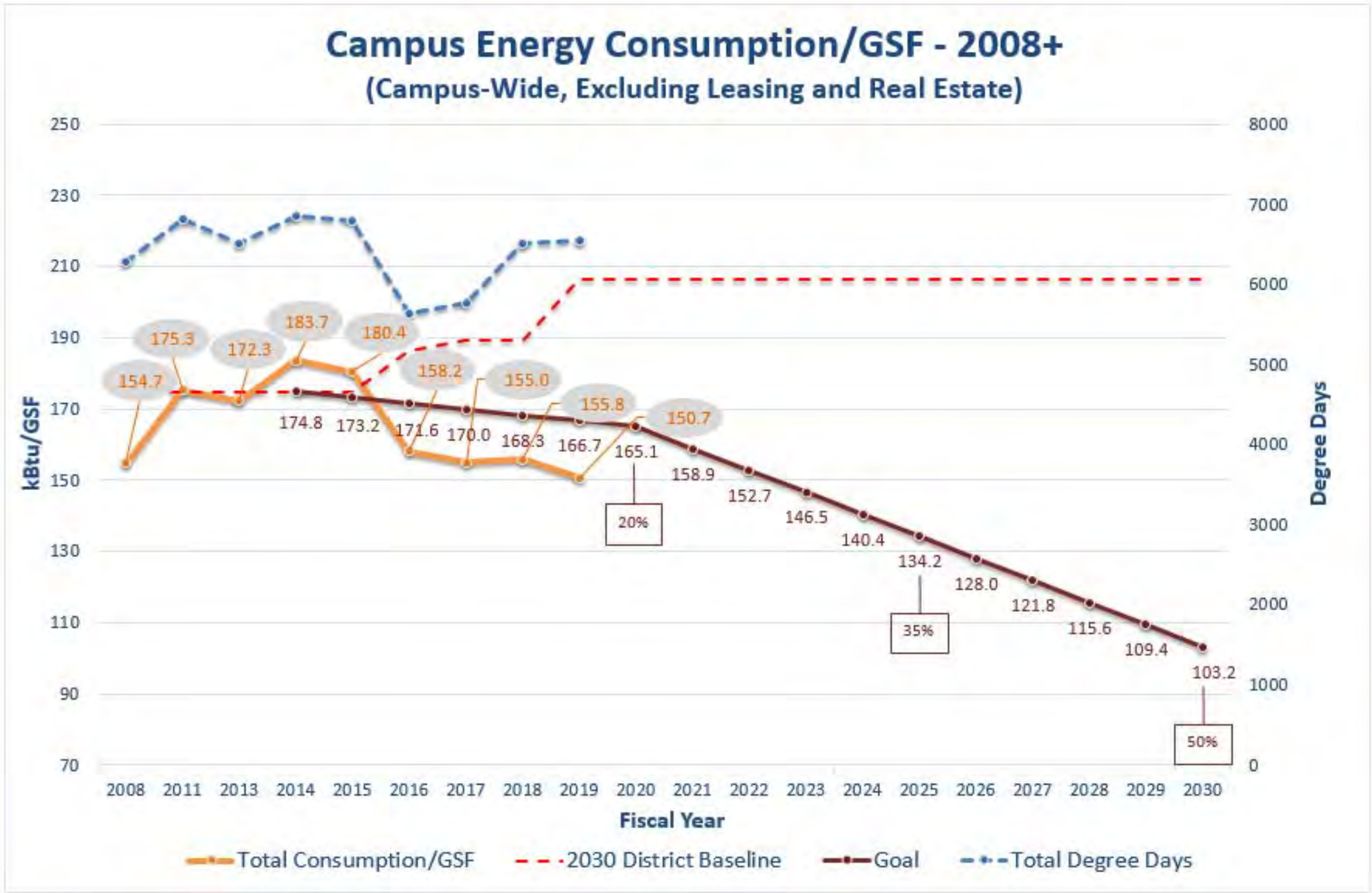


figure 4

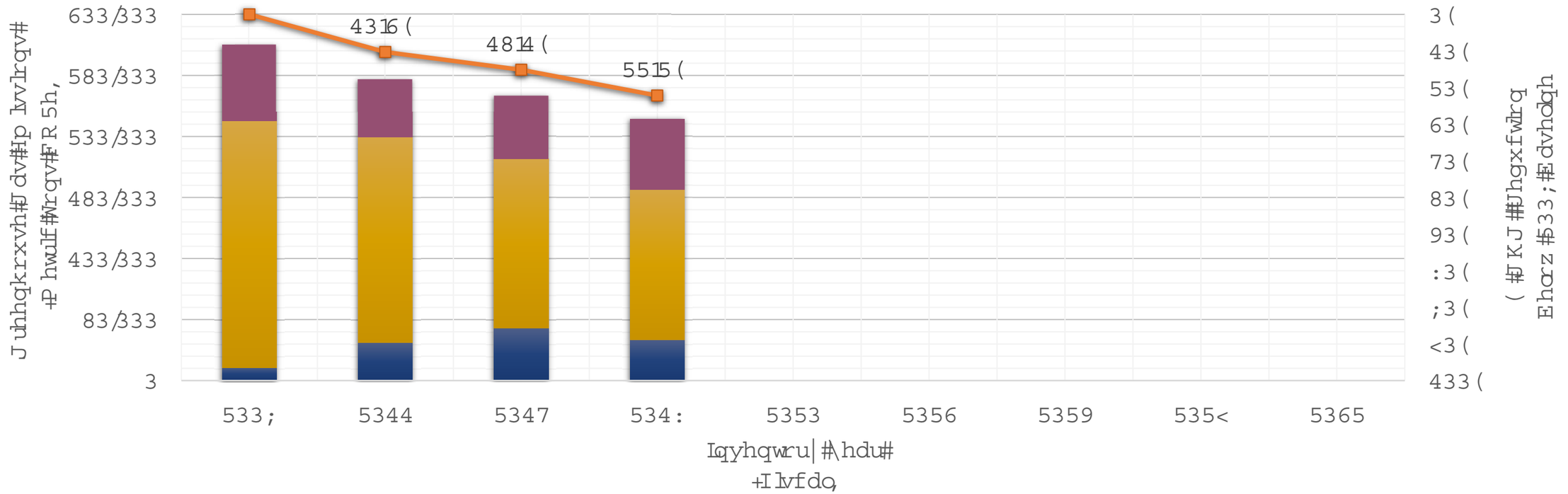
University of Pittsburgh



Note: The 2030 District adjusted the Aggregate Baseline in FY 2019.

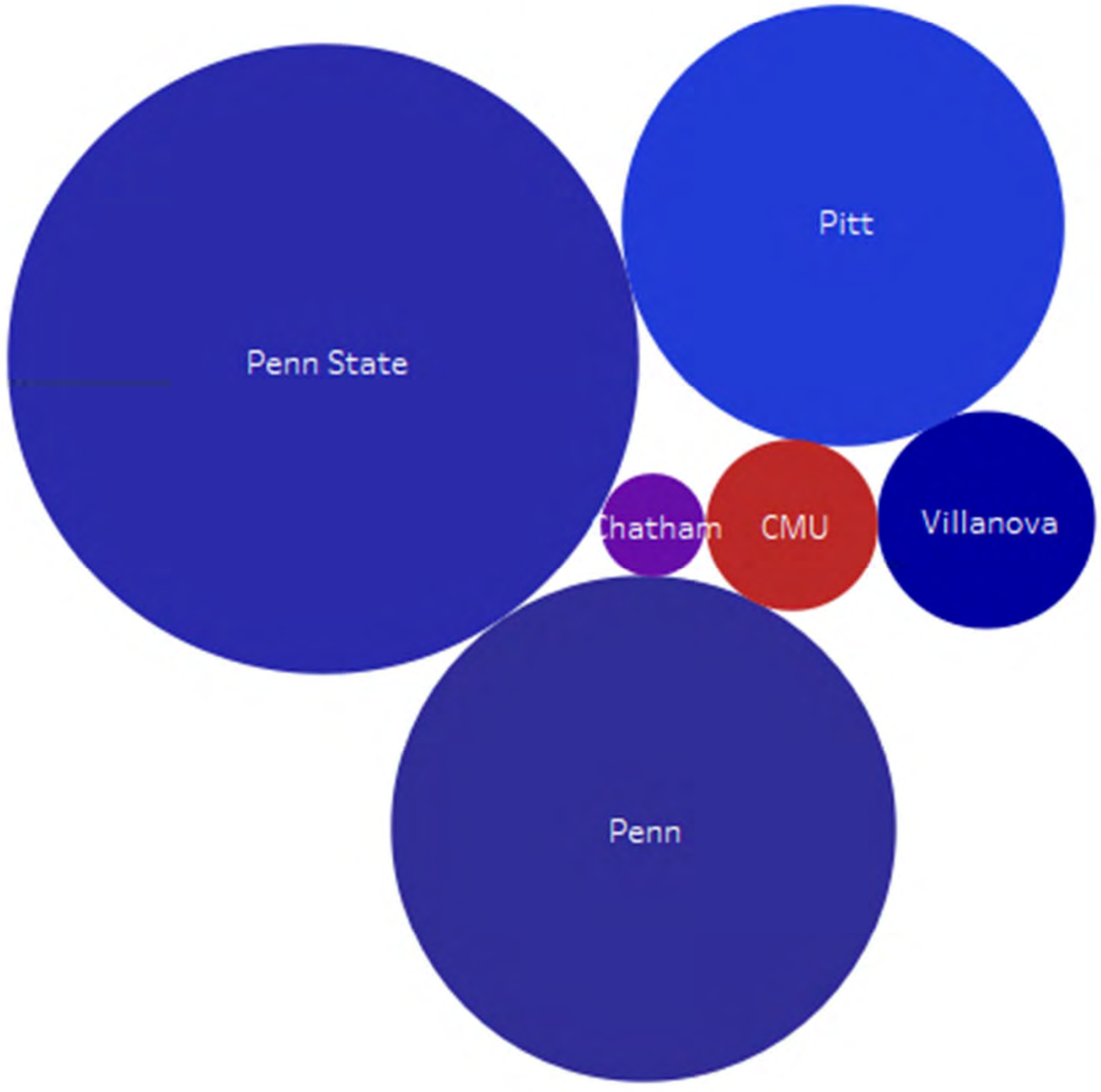
Pitt Greenhouse Gas Emissions

50% reductions in GHGs by 2030



Source: *University of Pittsburgh 2017 Greenhouse Gas Emissions Inventory*

University of Pittsburgh Greenhouse Gas Emissions Comparisons

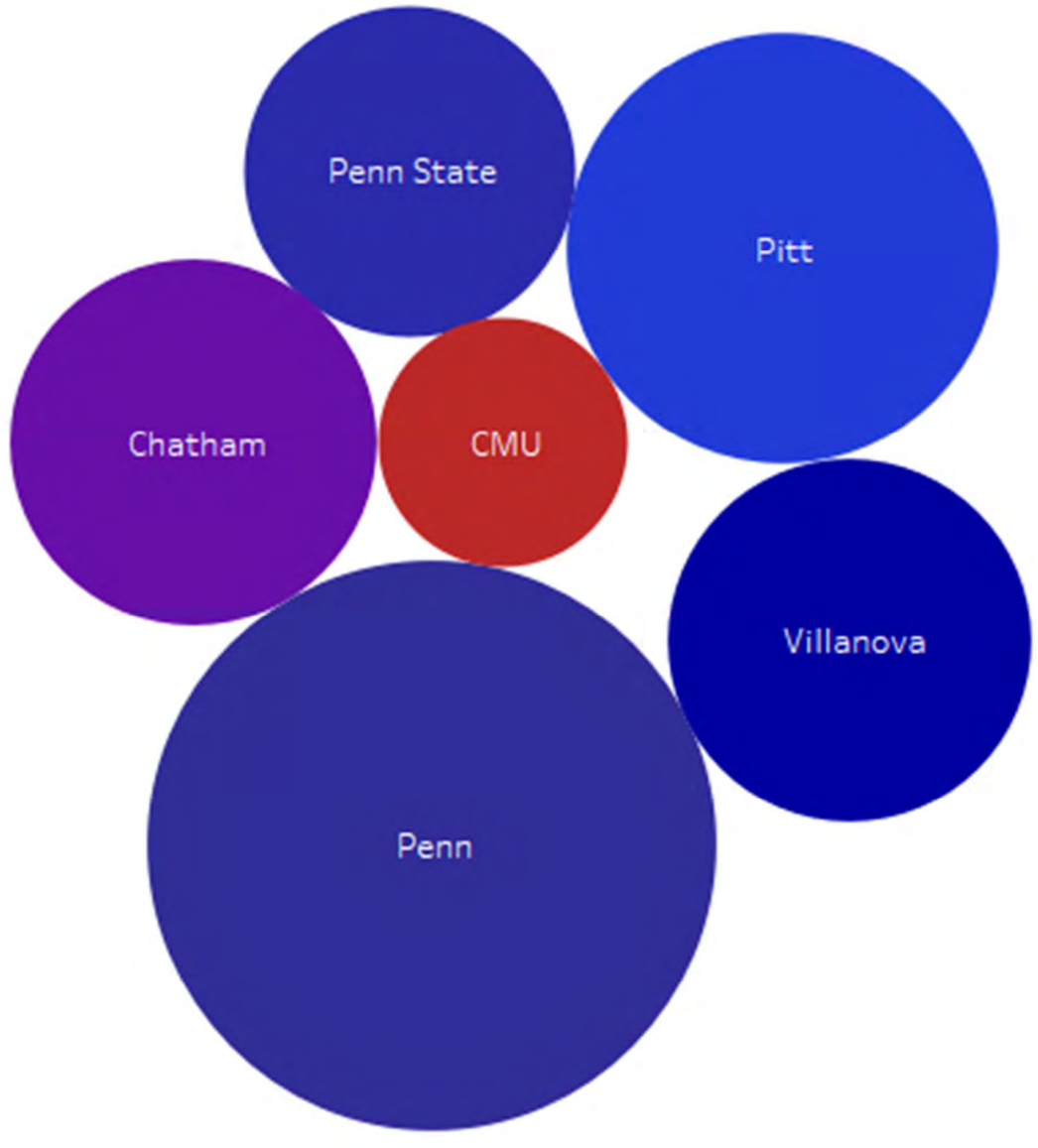


Select Institutions
Multiple values

Normalize by
Net Emissions

hover to interact and
compare trends

University of Pittsburgh Greenhouse Gas Emissions Comparisons



Select Institutions
Multiple values

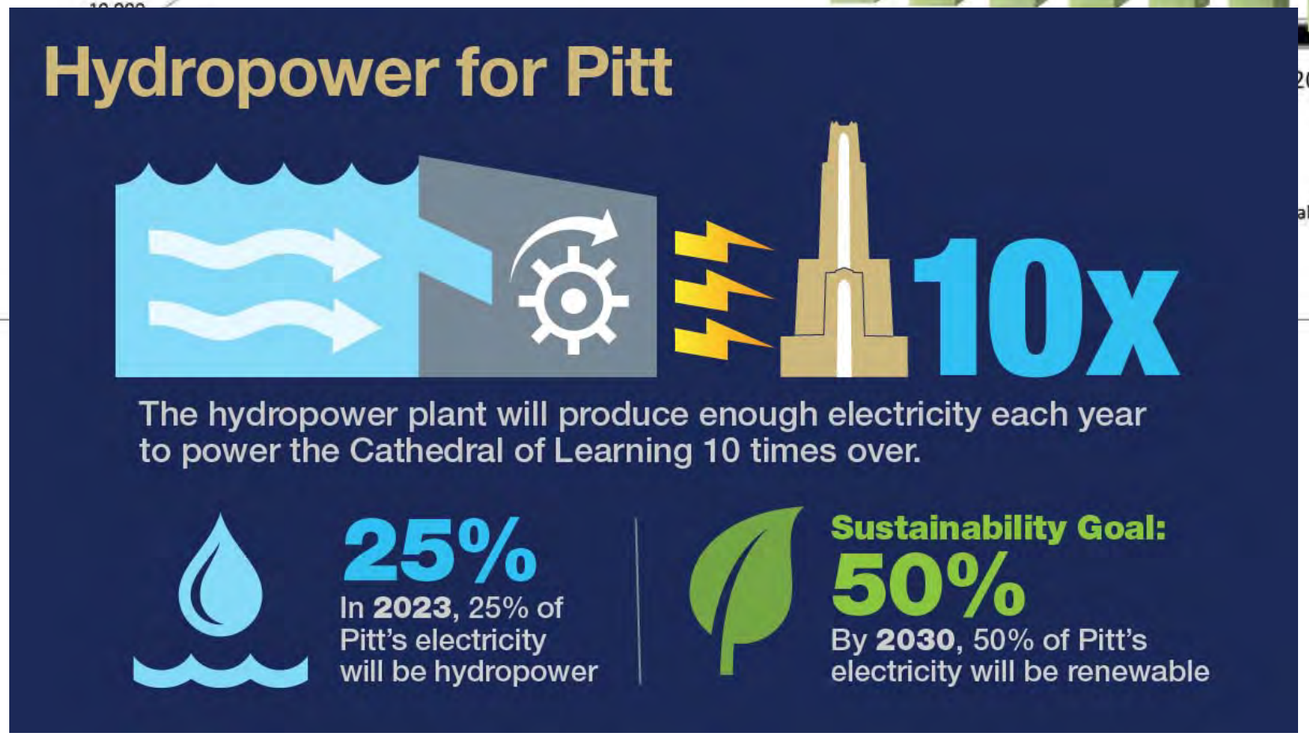
Normalize by
Full-Time Student

hover to interact and
compare trends

PENNSYLVANIA UNIVERSITIES W/ CARBON NEUTRAL COMMITMENTS

COLLEGE/UNIVERSITY	PLEDGE DATE	CARBON NEUTRAL BY	ENROLLMENT	COMMITMENT
Allegheny College	6/2/2016	2020	1,729	climate
Bucknell University	2/5/2008	2030	3,718	**carbon**
Chatham University	10/2/2015	2025	2,098	**carbon**
Community College of Philadelphia	10/9/2015	?	16,889	**carbon**
Dickinson University	1/10/2007	2020	2,357	climate
Drexel University	12/21/2010	?	15,481	**carbon**
Franklin & Marshall College	4/12/2007	2030	2,000	**carbon**
Gettysburg College	9/1/2007	2032	2,616	**carbon**
Haverford College	6/4/2007	2060	1,235	**carbon**
Lafayette College	1/8/2008	?	2,595	climate
Mercyhurst University	9/10/2007	2030	2,708	**carbon**
Messiah College	8/10/2007	2050	3,182	**carbon**
Millersville University of Pennsylvania	10/2/2015	2040	6,408	**carbon**
Montgomery County Community College	7/11/2007	?	3,870	**carbon**
Slippery Rock University	11/12/2009	2037	9,062	**carbon**
Swarthmore College	5/5/2010	2035	1,641	**carbon**
Thomas Jefferson University – East Falls	5/9/2011	2035	3,511	**carbon**
University of Pennsylvania	5/11/2007	2042	35,860	resilience
University of Pittsburgh	2/28/2020	2037	34,934	**carbon**
Ursinus College	8/24/2007	2060	1,565	**carbon**
Villanova University	5/17/2007	2050	9,085	**carbon**
Washington & Jefferson College	5/4/2007	2042	1,443	**carbon**
West Chester University of Pennsylvania	10/20/2010	2025	15,622	**carbon**


Renewables as a Portion of Electricity Mix Over Time
Megawatt Hours Used, Total Pittsburgh Campus)
140,000
130,000
120,000
110,000
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
2017
2018
2019
able Electricity - Tariff


Hydropower for Pitt
10x
The hydropower plant will produce enough electricity each year to power the Cathedral of Learning 10 times over.
25%
In 2023, 25% of Pitt's electricity will be hydropower
Sustainability Goal:
50%
By 2030, 50% of Pitt's electricity will be renewable


Measure 5
Design for Economy

Make My Trip Count 2015

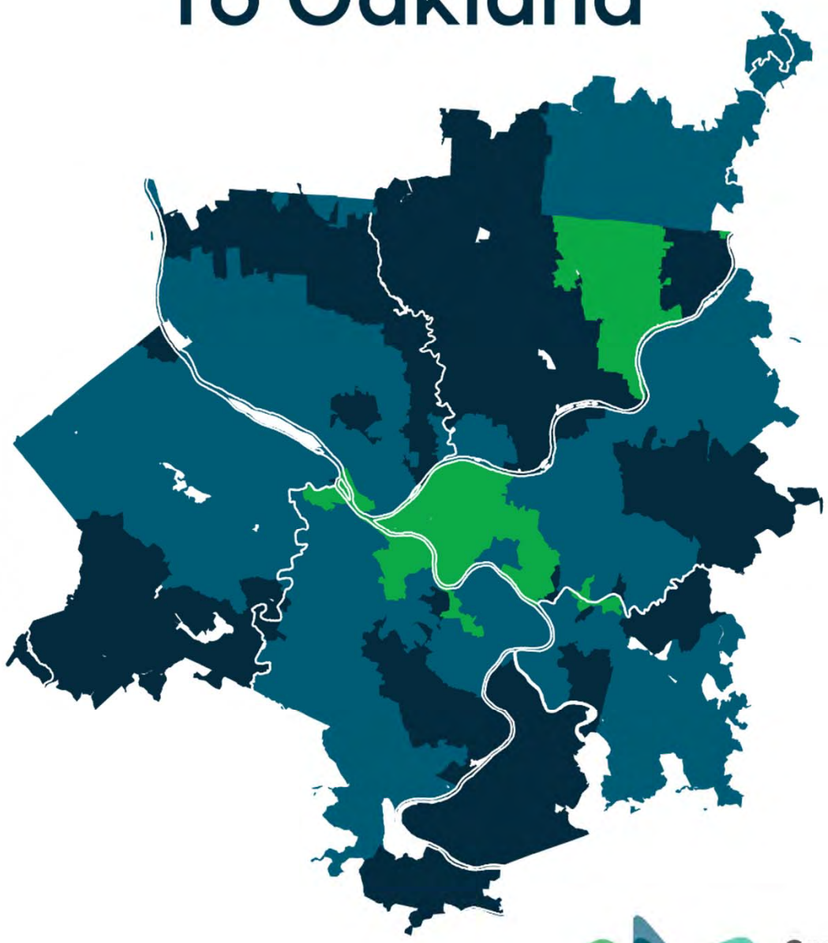
make my trip count 5348

Source: Green Building Alliance

Single Occupancy Vehicle Use

To Downtown

To Oakland



SOV Trips

- Less than 50%
- 50%–75%
- More than 75%

Source: Pittsburgh 2030 District 2018 Progress Report

PITTSBURGH NEEDS MORE EV CHARGING STATIONS

Source: EPRI, 2018 | US DOE EVI-Pro, 2018

Existing Pittsburgh Fleet:

- 1,823,800 total vehicles
- 1,400 EVs (0.08%)

Projected 2025 Pittsburgh Fleet:

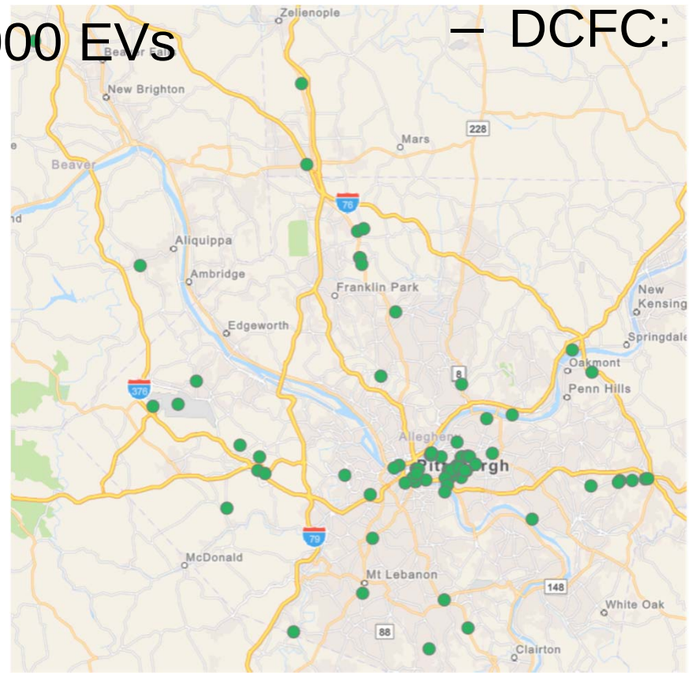
- 2025 = 1.9% of fleet; 35,000 EVs
- 2030 = 4.5% of fleet; 82,000 EVs
- 2035 = 8.3% of fleet, 150,000 EVs

Existing Pittsburgh Charging:

- Workplace L2: Unknown
- Public L2: 214 plugs
- DCFC: 43 plugs

Projected 2025 Pittsburgh Charging:

- Workplace L2: 800 plugs
- Public L2: 600 plugs
- DCFC: 110 plugs



DUQUESNE LIGHT CO.

EV PRESENT & FUTURE

Context

- **Port Authority**
  - 2 electric buses (out of 720)
- **City of Pittsburgh**
  - Fossil fuel free fleet by 2030
- **Commonwealth of Pennsylvania**
  - 25% state passenger car fleet BEV & PHEV by 2025.

Higher Ed EV Future

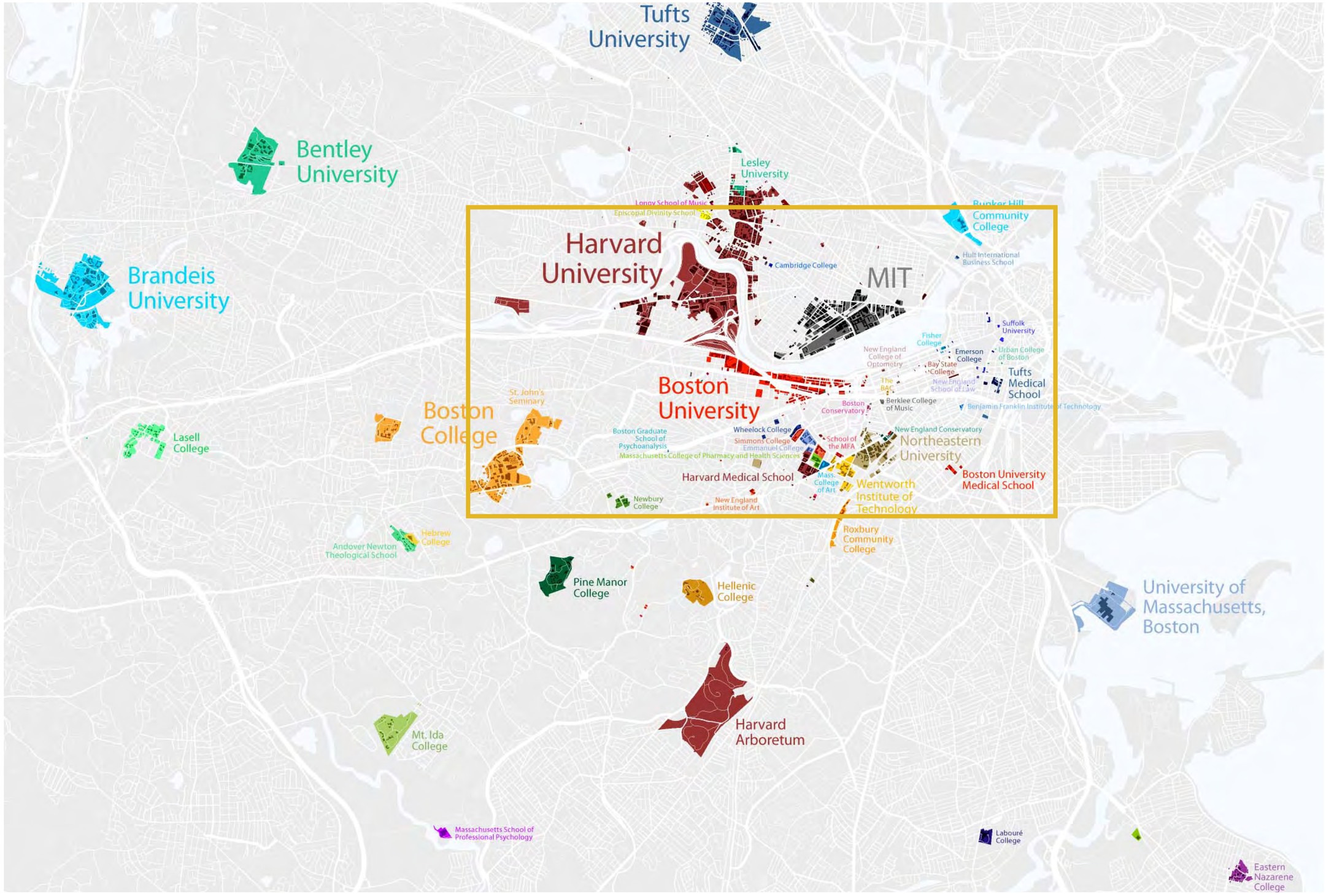
- Older Chargers
  - 2012 wave
  - New state-wide Funding
- **Fleets**
  - Vehicle types & uses
  - Seasons
- **Challenges:**
  - Pitt = 16 Shuttles, ~1 million rides
  - CMU, Chatham, UPMC also have shuttles

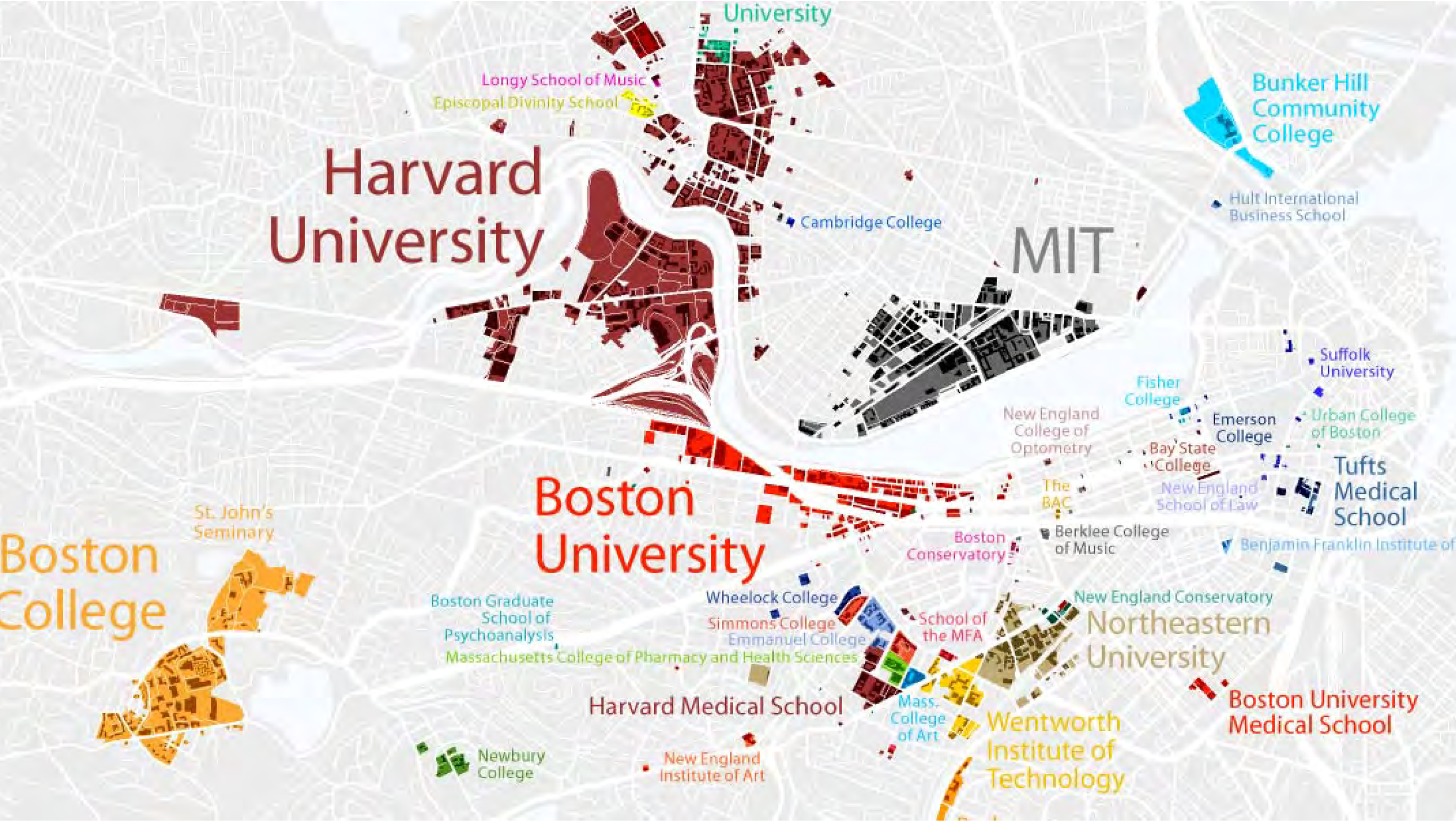
University of Pittsburgh

A LOT OF FRAMEWORKS!

UNIVERSITIES NEEDED TO LEAD ON ALL OF THEM

BOSTON GREEN RIBBON COMMISSION


Tufts University
Bentley University
Brandeis University
Lesley University
Longy School of Music
Episcopal Divinity School
Bunker Hill Community College
Harvard University
Cambridge College
Hult International Business School
MIT
Suffolk University
Fisher College
New England College of Optometry
Emerson College
Bay State College
Urban College of Boston
The BAC
New England School of Law
Tufts Medical School
Boston University
Boston Conservatory
Berklee College of Music
Benjamin Franklin Institute of Technology
St. John's Seminary
Boston College
Boston Graduate School of Psychoanalysis
Wheelock College
New England Conservatory
Simmons College
Emmanuel College
School of the MFA
Northeastern University
Massachusetts College of Pharmacy and Health Sciences
Harvard Medical School
Mass. College of Art
Wentworth Institute of Technology
Boston University Medical School
Newbury College
New England Institute of Art
Roxbury Community College
Lasell College
Hebrew College
Andover Newton Theological School
Pine Manor College
Hellenic College
University of Massachusetts, Boston
Harvard Arboretum
Mt. Ida College
Massachusetts School of Professional Psychology
Labouré College
Eastern Nazarene College


University
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Harvard
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Cambridge College
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Bunker Hill
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Fisher
College
New England
College of
Optometry
Emerson
College
Urban College
of Boston
Bay State
College
The
BAC
New England
School of Law
Tufts
Medical
School
Boston
University
Berklee College
of Music
Boston
Conservatory
Benjamin Franklin Institute of
St. John's
Seminary
Boston
College
Boston Graduate
School of
Psychoanalysis
Wheelock College
Simmons College
Emmanuel College
Massachusetts College of Pharmacy and Health Sciences
School of
the MFA
New England Conservatory
Northeastern
University
Harvard Medical School
Mass.
College
of Art
Wentworth
Institute of
Technology
Boston University
Medical School
Newbury
College
New England
Institute of Art

BOSTON Green Ribbon COMMISSION

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

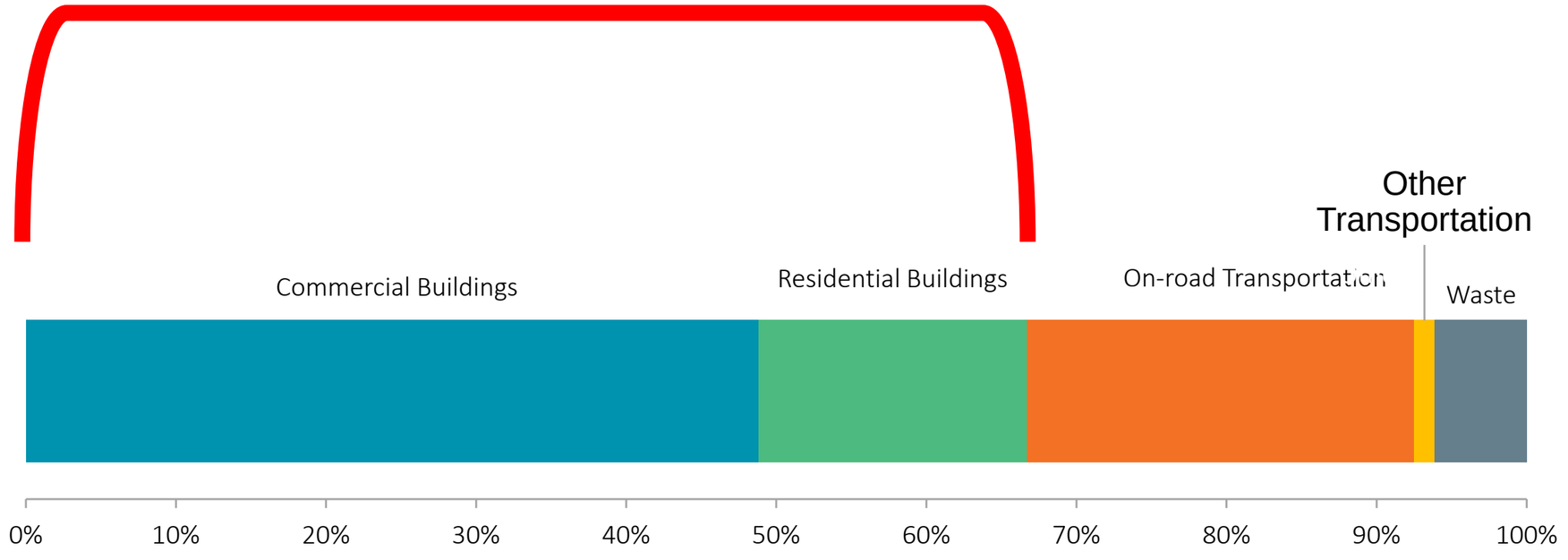
COMMON AGENDA

BOSTON'S GREENHOUSE GAS EMISSIONS

GHG REDUCTION CHALLENGE

- 2015: 7.2 Million $MTCO_2e$
- 2/3s in Building Sector
- 85% of building stock projected in 2050 already exists

BUILDING SECTOR

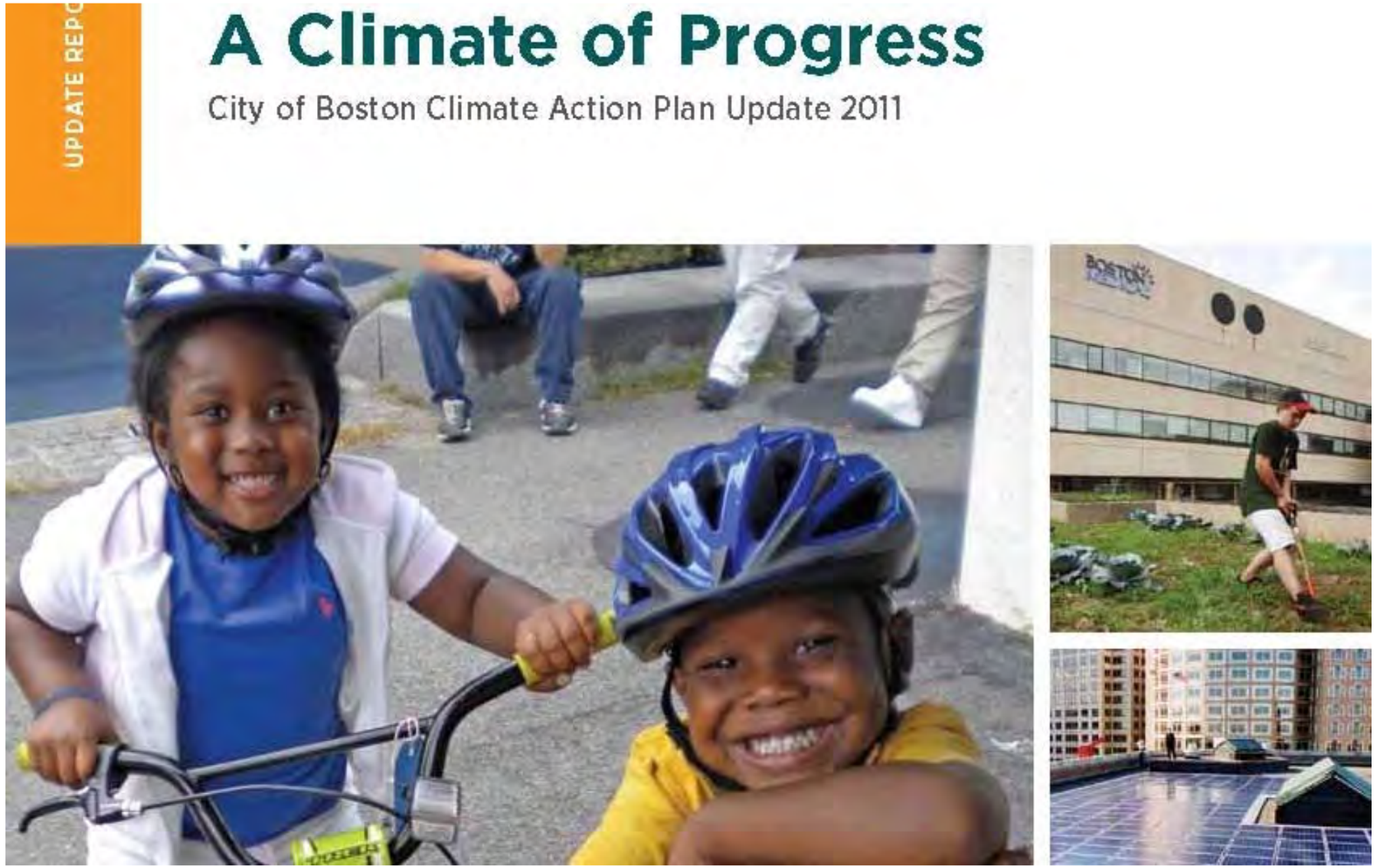


COMMON AGENDA

BOSTON CLIMATE ACTION PLAN

GHG REDUCTION TARGETS

- 2007 – Climate Action Plan
- 2005 Base Year
- 25% by 2020
- 80% by 2050
- 2016 update:
  - Carbon Free by 2050



COMMON AGENDA

LEADERSHIP

- Mayor
- 35 Largest Real Estate Holdings, Stakeholders, & Climate Leaders
- Sector Working Groups
  - Higher Ed
  - Commercial RE
  - Healthcare
  - Cultural Institutions

COMMON AGENDA

HIGHER ED WORKING GROUP

- Boston University
- Harvard University
- MIT
- Northeastern University
- UMass Boston

Affiliate members:

- Tufts University
- Emerson College

COMMON AGENDA

HIGHER ED WORKING GROUP

- Executive Group

Task Forces

- Climate Action Planning Support
- Research Collaboration
- Knowledge Transfer & Cross Sector Collaboration

COMMON AGENDA

COLLABORATION

- Subject Working Groups
  - Transportation
  - Climate Ready Boston
  - Carbon Free Boston
  - Greenovate Boston

REINFORCING ACTIVITIES

REINFORCING ACTIVITIES

1. High Level Engagement
   - Bi-annual meetings
2. Working Groups
   - Monthly meetings

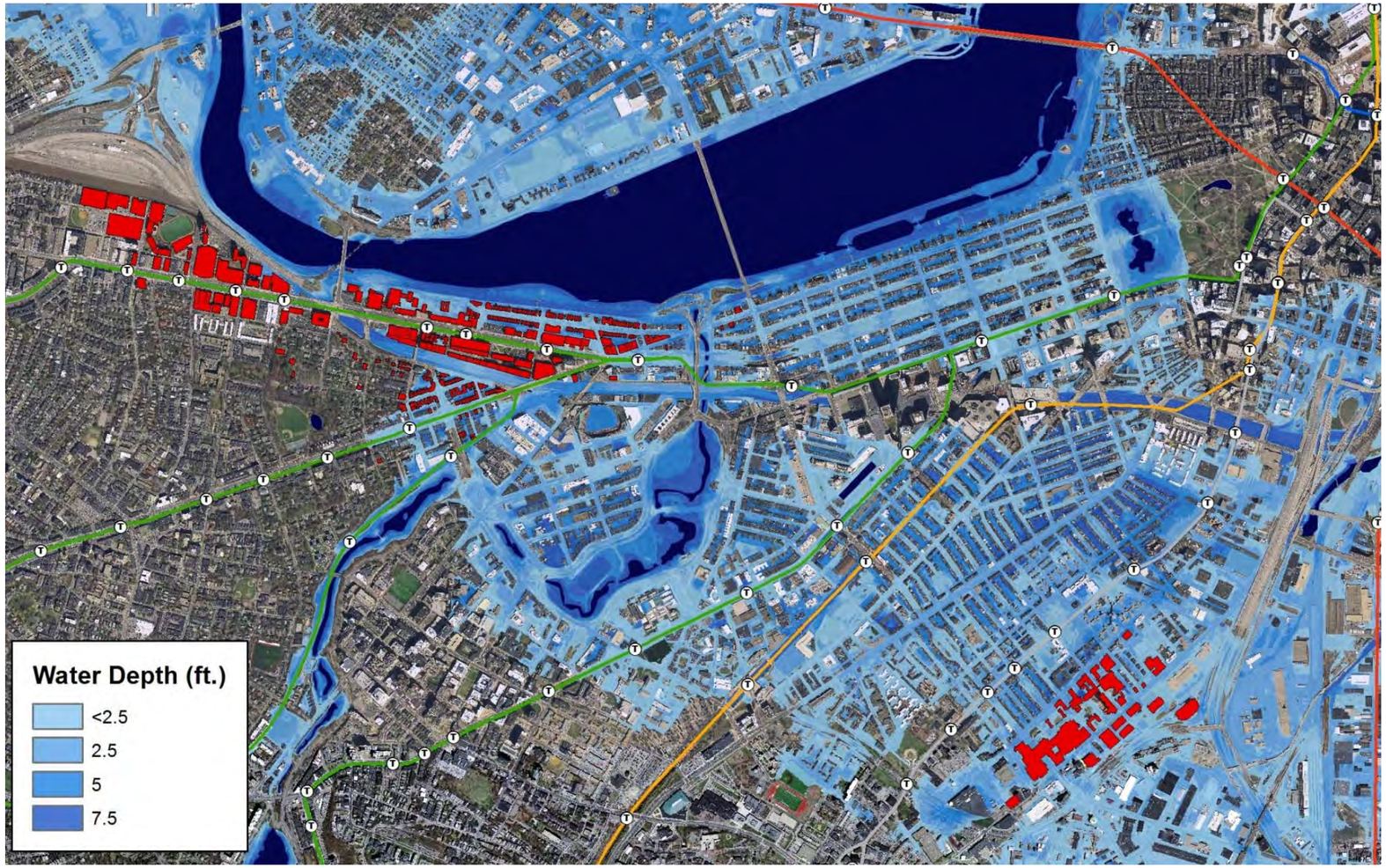
REINFORCING ACTIVITIES

1. High Level Engagement
   - Bi-annual meetings
2. Working Groups
   - Monthly meetings
3. Convenings - Climate Action Plan Update

REINFORCING ACTIVITIES

CONVENINGS

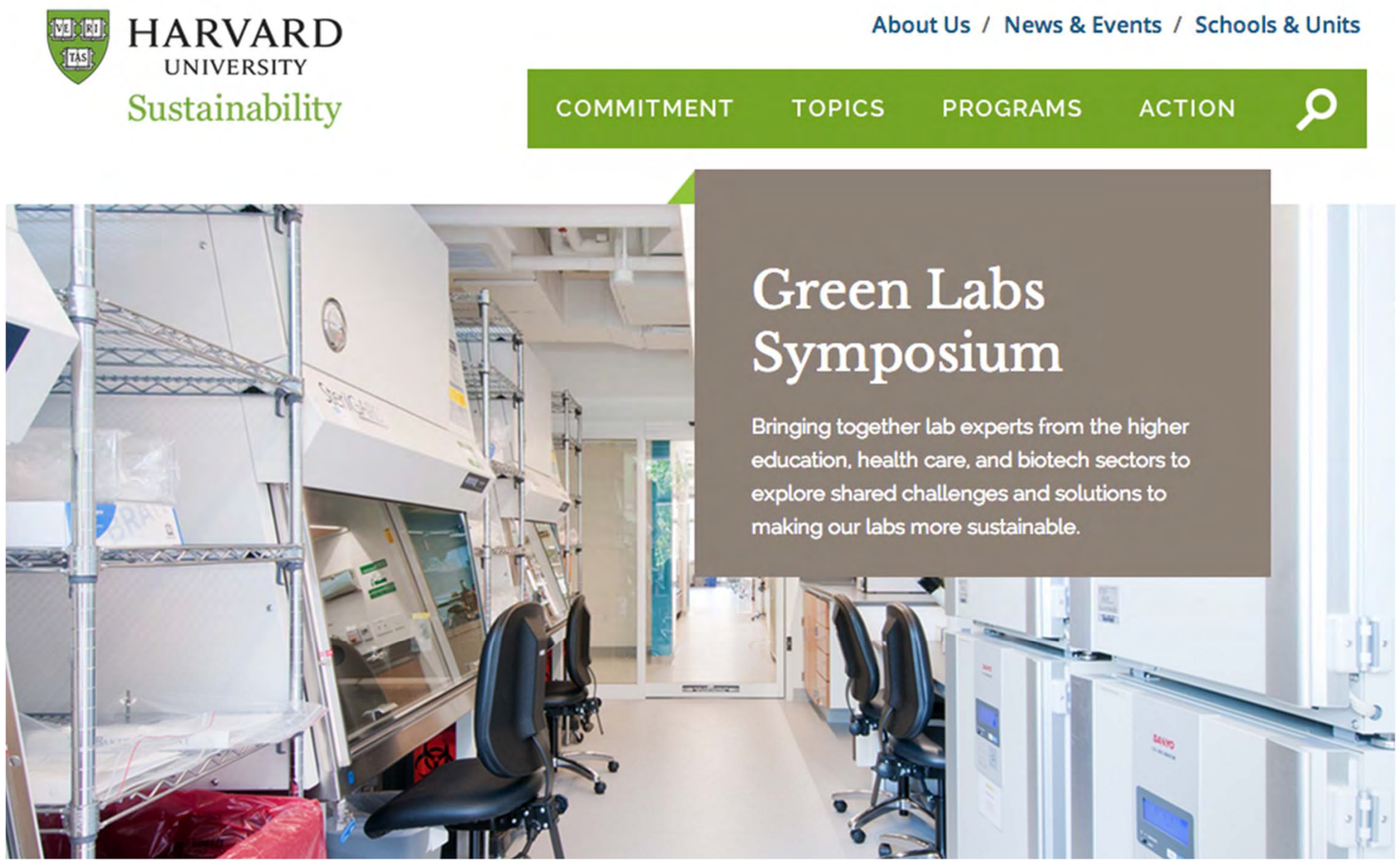
1. High Level Engagement
   - Bi-annual meetings
2. Working Groups
   - Monthly meetings
3. Climate Action Plan Update
4. Preparing for Climate Change
   - Sea level rise
   - Increased heat
   - Storm intensity
   - Resource Availability



REINFORCING ACTIVITIES

CONVENINGS

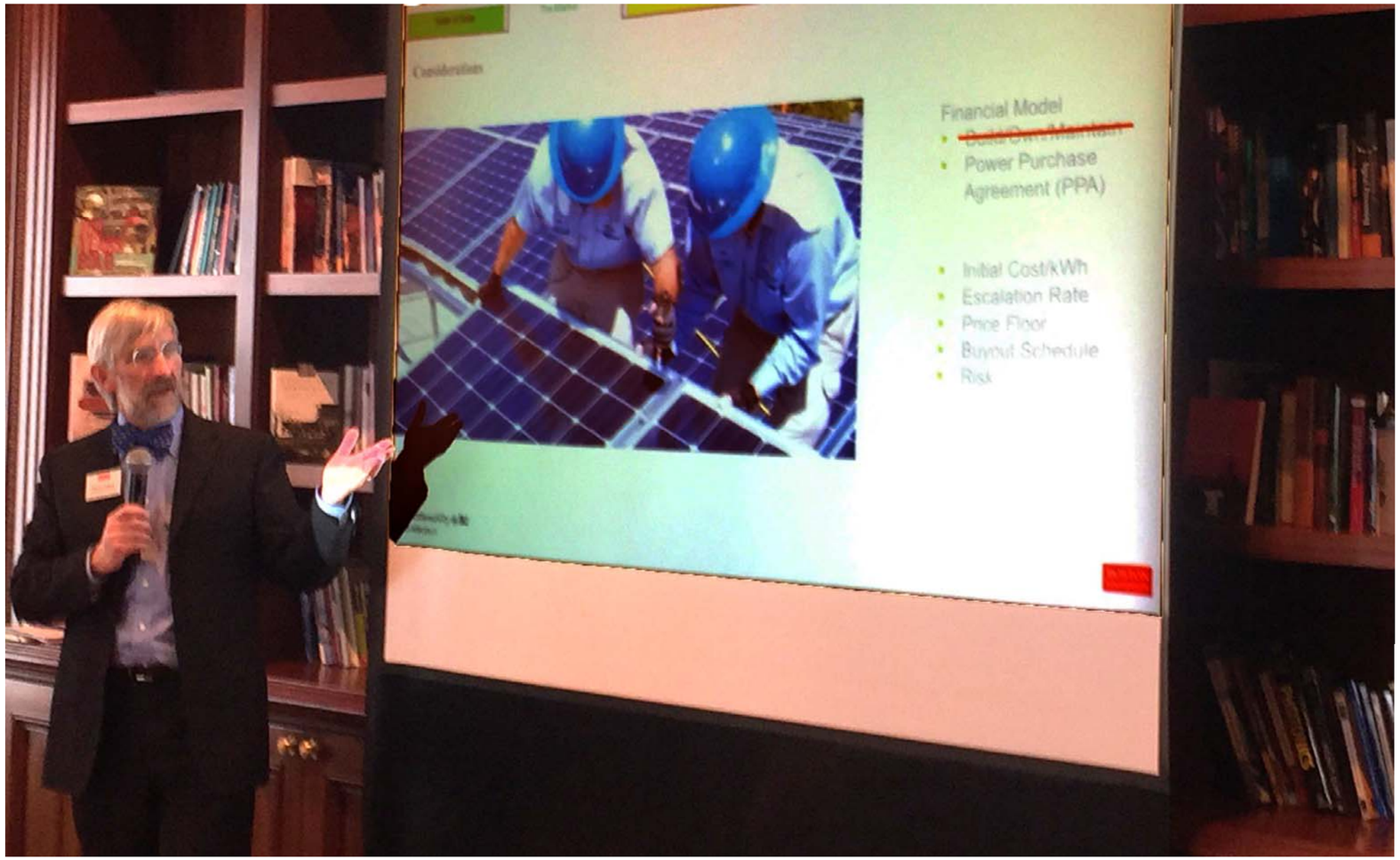
5. Green Labs Symposium
   - 1 day
   - Cross sector event
   - Wendell Brase et. El. UC Irvine
   - I²SL
   - Utilities



REINFORCING ACTIVITIES

CONVENINGS

6. Renewable Energy
   - Purchasing Network
   - ½ day Forum
   - Renewable Energy Prize
   - Full day Workshop
   - Outcomes
   - Endicott/Tufts aggregation
   - MIT/BMC/POSA aggregation
   - BU Wind



REINFORCING ACTIVITIES

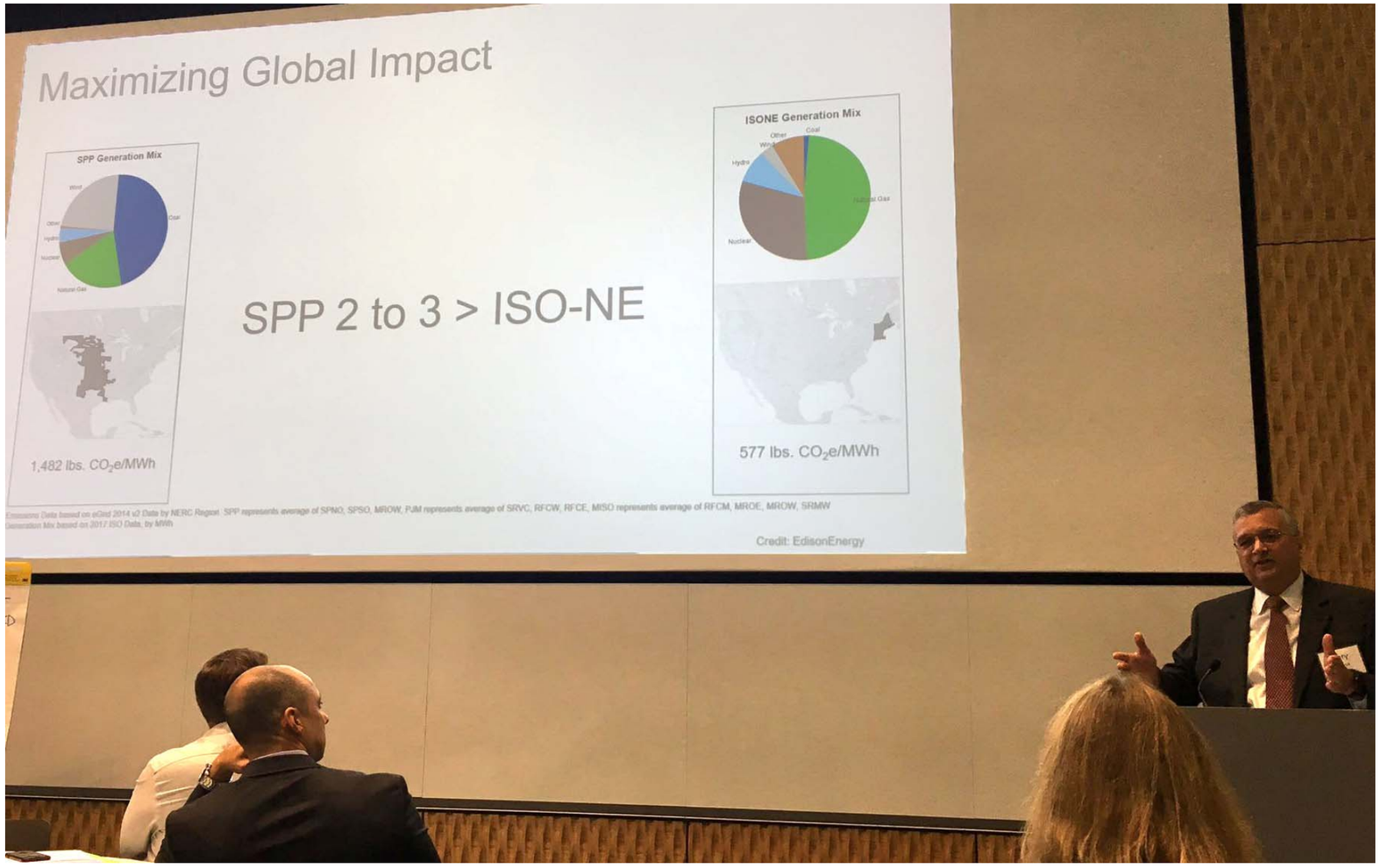
CONVENINGS

7. Public Health & Climate
   - 1 day
   - Cross sector event
   - City leaders
   - Gina McCarthy
   - Schools of Public Health
   - New York Times

REINFORCING ACTIVITIES

CONVENINGS

8. First Movers
   - 1/2 day
   - Cross sector event
   - Renewable Energy
   - Energy Efficiency
   - Thermal Geo-Exchange



REINFORCING ACTIVITIES

CONVENINGS

9. Large Scale Renewables

- 1 day
- Cross sector event
- Follow up to First Movers
- Criteria setting
- Deal structure
- Market factors
- Risk factors
- Outcomes

— Municipal aggregation for over 100 communities

— 6 real estate & healthcare

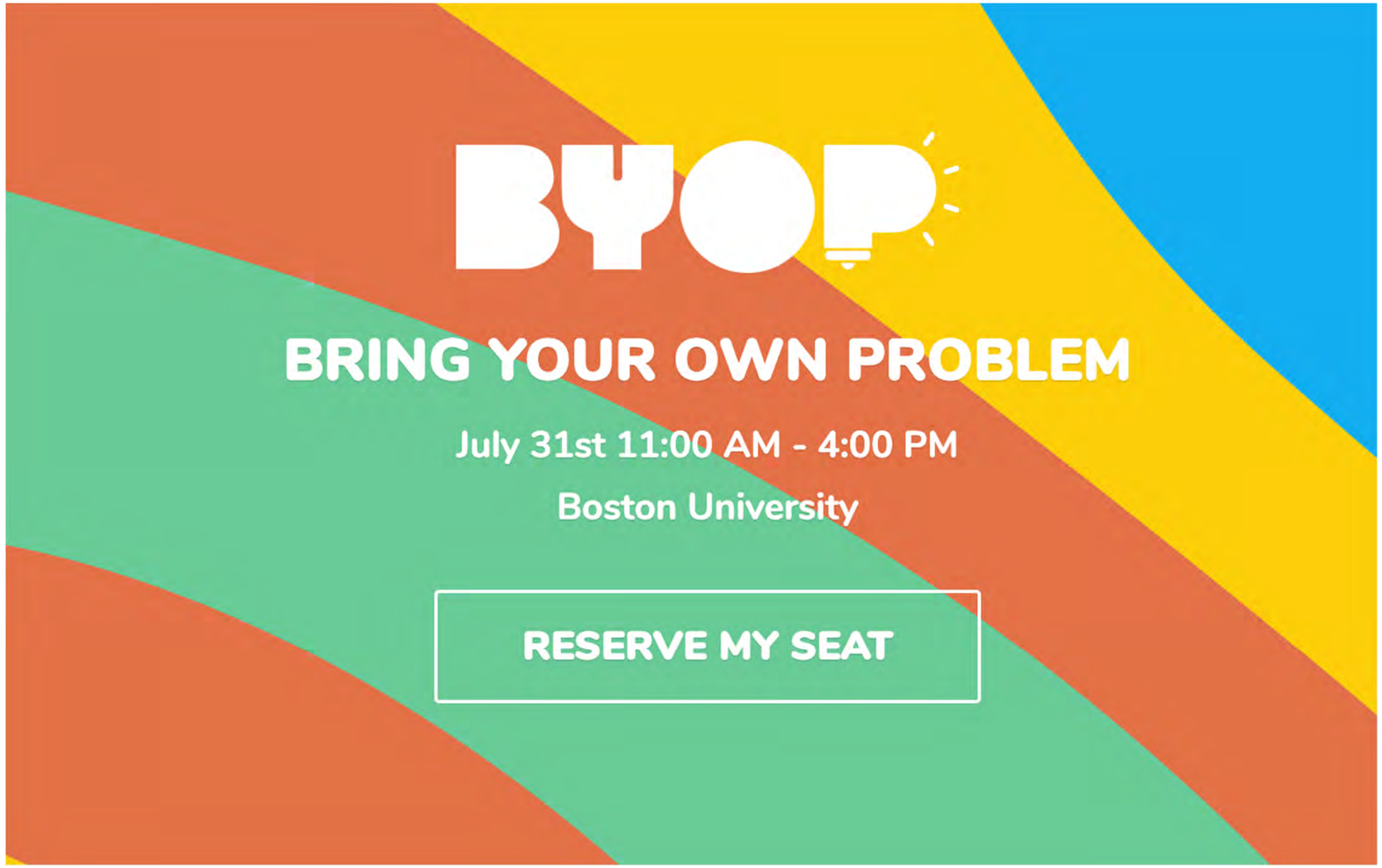
— 7 universities

REINFORCING ACTIVITIES

CONVENINGS

10. Bring Your Own Problem

- 1/2 day
- Higher Ed sector focus
- Second Nature
- ENGIE
- Ohio State University



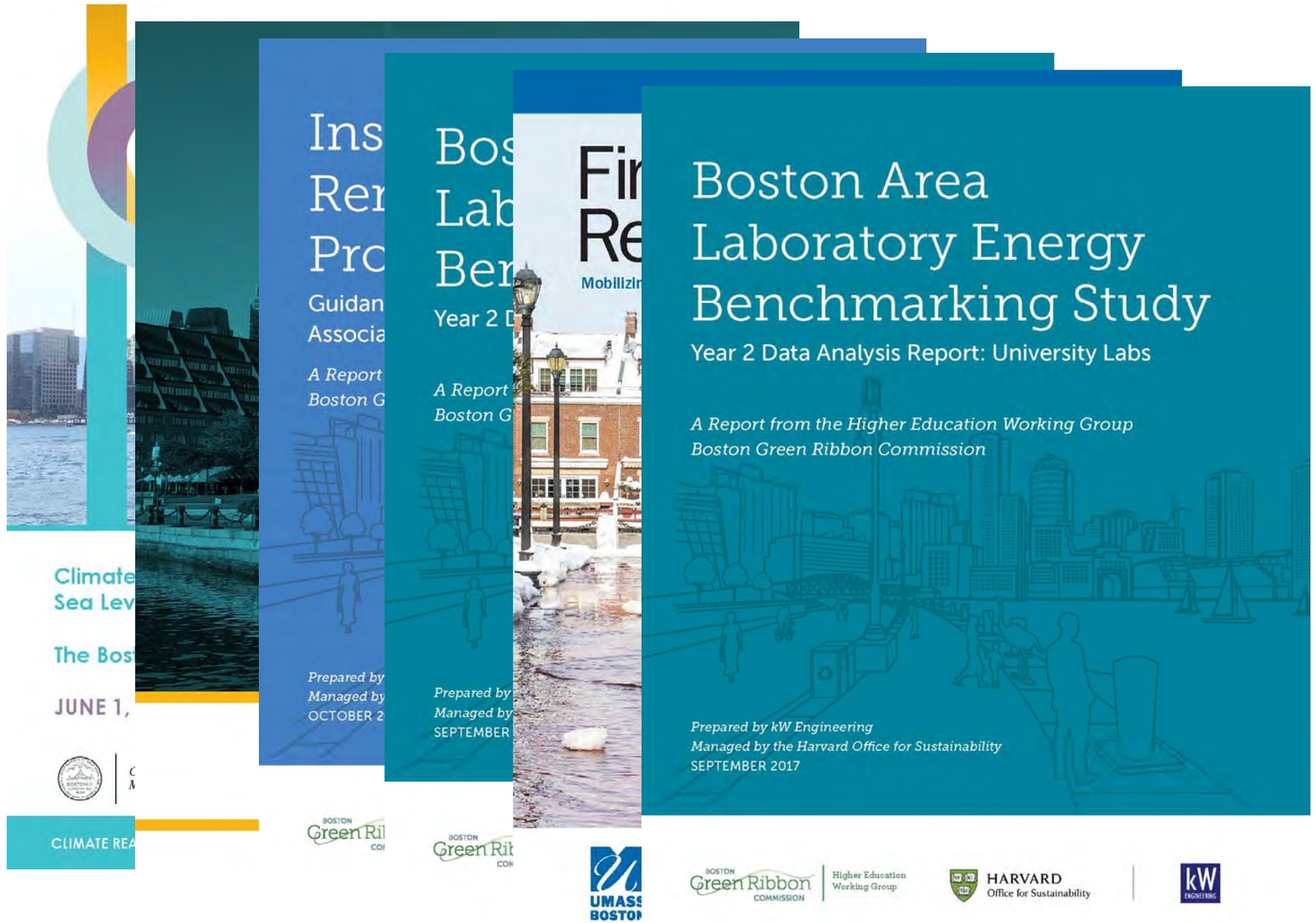
RESULTS / SHARED MEASUREMENT

RESULTS / SHARED MEASUREMENT

PLACED-BASED SCIENCE DRIVEN SOLUTIONS

RESULTS

- 2016
  - Boston Research Advisory Group (BRAG)
  - Climate Ready Boston
  - Renewable Energy Procurement
- 2017
  - Lab Energy Benchmarking
- 2018
  - Financing Climate Resilience
  - Lab Energy Update



RESULTS / SHARED MEASUREMENT

PLACED-BASED SCIENCE DRIVEN SOLUTIONS

RESULTS

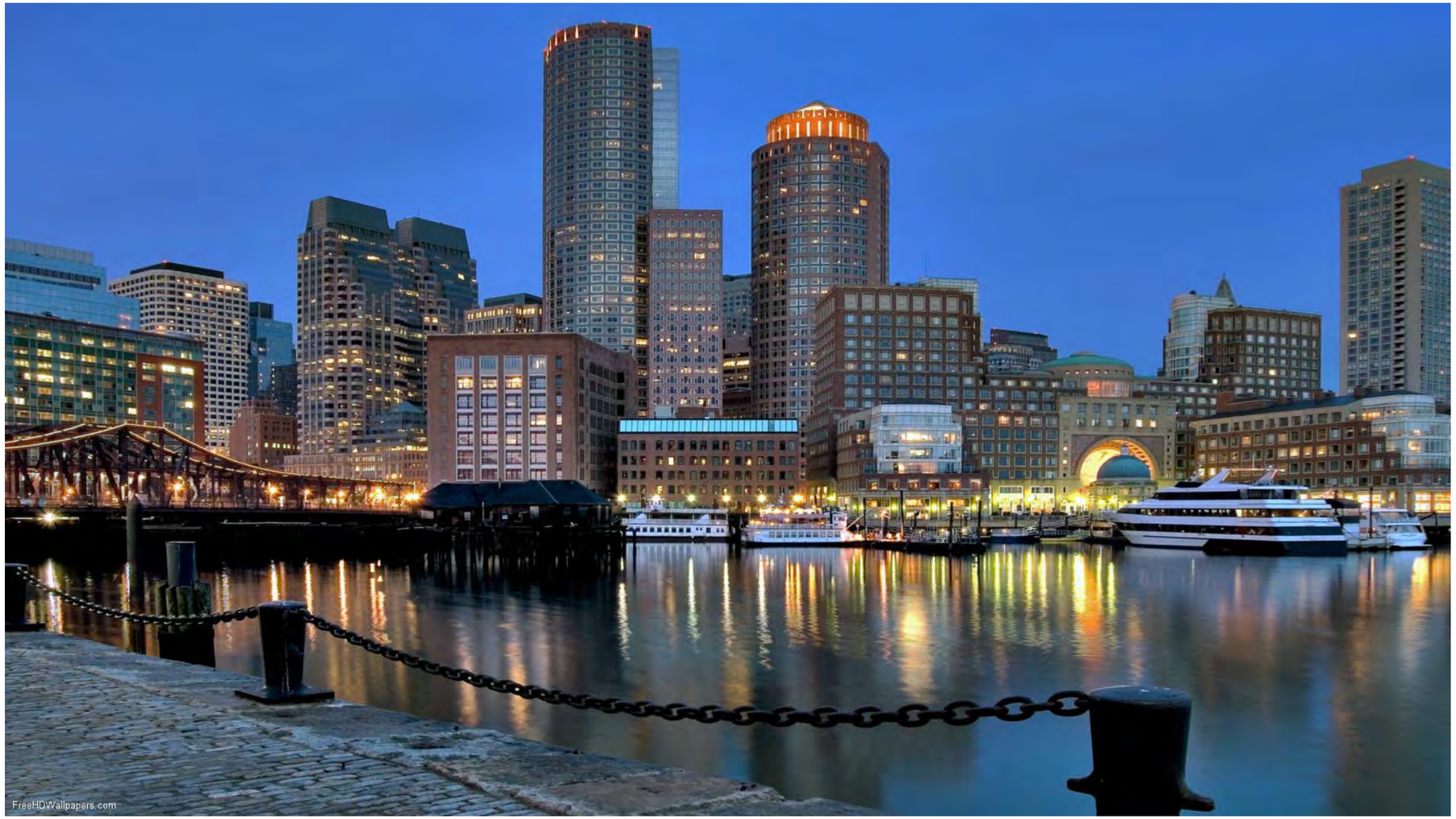
- 2018
  - Financing Climate Resilience
  - Lab Energy Benchmarking
  - Harbor Barrier Study
- 2019
  - Carbon Free Boston
  - Carbon Free Boston Social Equity
- 2020

RESULTS / SHARED MEASUREMENT

BUILDING ENERGY REPORTING & DISCLOSURE ORDINANCE (BERDO)

RESULTS

- Development
- Support
- Training

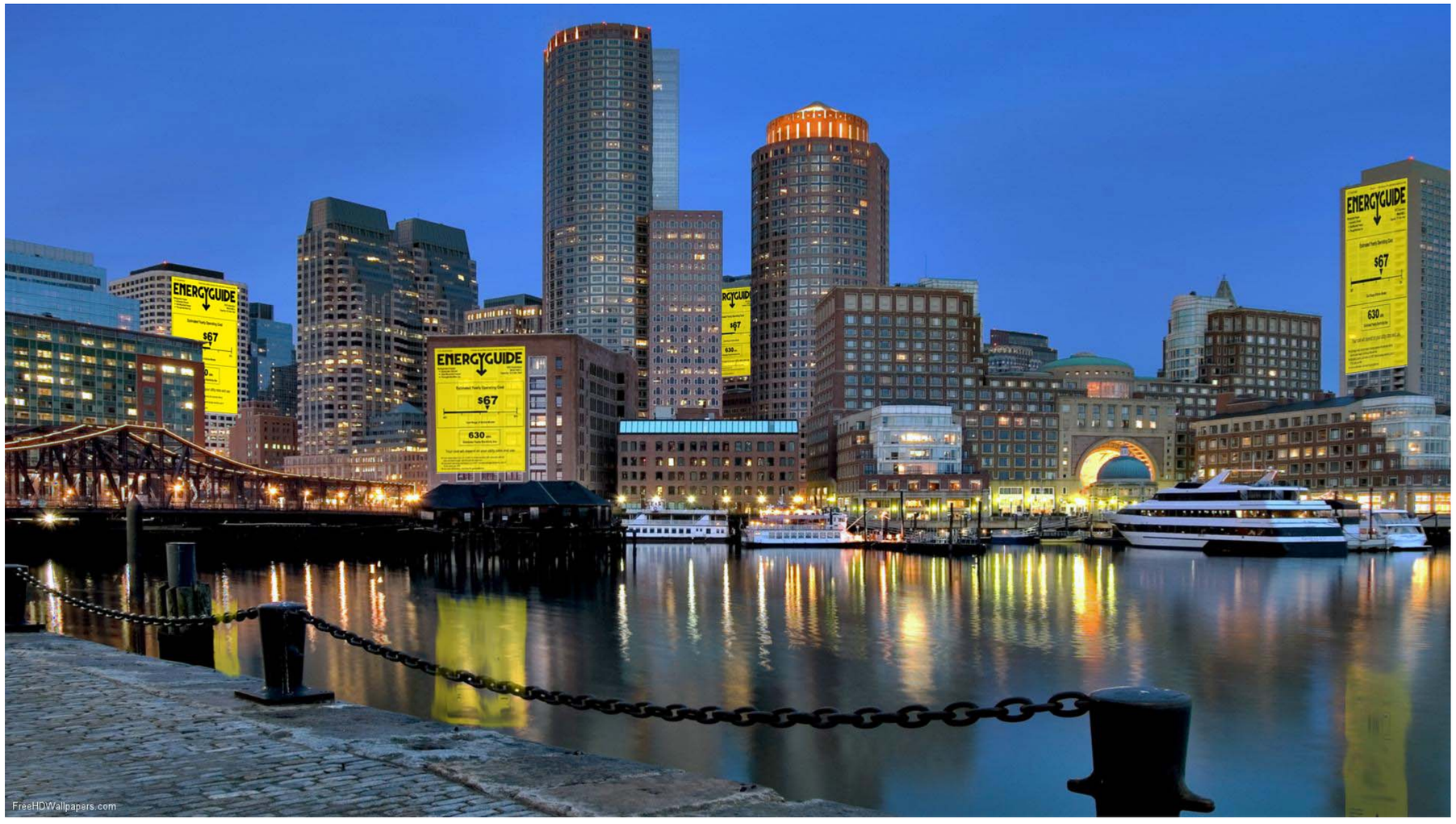


RESULTS / SHARED MEASUREMENT

BUILDING ENERGY REPORTING & DISCLOSURE ORDINANCE (BERDO)

EXECUTION

- Portfolio Manager
- Buildings over 35ksf
- 5 year cycle
- Energy Audits
- 15% EUI reduction
- Emerging Carbon Metric



BACKBONE SUPPORT

BACKBONE SUPPORT

- Dedicated Organization
  - Direction from the top
  - Skilled team
  - Financial support
- Organization
  - Working groups
  - Tasked to deliver
  - Develop programs

BACKBONE SUPPORT

SUPPORT

- Barr Foundation
- Bank of America
- The Grantham Foundation
- Henry P. Kendall Foundation
- The Boston Foundation
- Boston Properties
- Avalon Bay Communities
- Sherry and Alan Leventhal Family Foundation
- Equity Residential
- Arbella Insurance
- Eversource
- National Grid
- Turner Construction
- Orsted

BOSTON
Green Ribbon
COMMISSION

Creates the environment we need for us all to achieve our sustainability goals

BOSTON UNIVERSITY

BOSTON Green Ribbon COMMISSION

Dennis Carlberg
carlberg@bu.edu

GREATER ATLANTA RCE

HEALTHY EMORY, HEALTHY COMMUNITIES, HEALTHY PLANET

A comprehensive approach to sustainability

Academics | **Buildings** | **Climate & Air** | **Energy** | **Food & Dining** | **Grounds**

Purchasing | **Social Justice** | **Transportation** | **Waste** | **Water** | **Wellbeing**

PEACE

PARTNERSHIP

SUSTAINABLE DEVELOPMENT GOALS

PROSPERITY

PEOPLE

PLANET

UNITED NATIONS NAMES GREATER ATLANTA AN RCE

A Regional Centre of Expertise (RCE) for education on sustainable development (ESD) is a **network** of individuals, institutions, organizations, and experts who are:

committed to using formal, nonformal, and informal education as a collaborative tool for increasing collective impact to build a sustainable future.

REGIONAL CENTRE OF EXPERTISE ON EDUCATION FOR SUSTAINABLE DEVELOPMENT

ACKNOWLEDGED BY

UNITED NATIONS UNIVERSITY

Regional Centres of Expertise on Education for Sustainable Development

REGIONAL CENTRE OF EXPERTISE ON EDUCATION FOR SUSTAINABLE DEVELOPMENT

ACKNOWLEDGED BY

UNITED NATIONS UNIVERSITY

170+ GLOBAL RCES

www.rcenetwork.org


British Columbia
(North Cascades)
Saskatchewan
Peterborough Kawartha
Haliburton
Quebec
Greater Sudbury
Tantramar
Montreal
Grand Rapids
Greater Burlington
Greater Portland
Toronto
Shenandoah
Valley
Açores
Greater Atlanta
Georgetown
Borderlands Mexico-USA
Western Jalisco
Guatemala

NOW 7 IN US

GEORGIA CLIMATE PROJECT

GeorgiaClimateProject.org

What does a changing climate mean for Georgia?

And what can we do about it?

We're building a non-partisan statewide network to answer these questions.

Georgia can lead on this issue by managing the risks that come with a changing climate and seizing the opportunities that come with tackling this challenge head-on. **The Georgia Climate Project is designed to support this work.** Founded in 2018 by Emory University, the University of Georgia, and the Georgia Institute of Technology, it now includes nine colleges and universities, working in partnership with governmental, non-governmental, and private sector stakeholders across the state.

PRIORITIES

KEY PROJECTS

SCIENCE

Growing Georgia's knowledge base

Georgia Climate Research Roadmap: Over 40 experts identified and ranked the top 40 questions for which answers will benefit climate policymakers, practitioners, and scientists in the state. Released May 2018. Roadmap.GeorgiaClimateProject.org

STRONGER CONVERSATIONS

Creating a healthier dialogue on climate

Georgia Climate Stories: An interactive map that highlights personal stories of what climate change means for Georgians. The product features original storytelling as well as stories produced by media outlets. Released November 2019. Stories.GeorgiaClimateProject.org

SOLUTIONS

Shaping a positive vision for Georgia's future

Georgia Drawdown: Identifying the most promising solutions for carbon neutrality in Georgia; currently underway. GeorgiaDrawdown.org

Carbon Reduction Challenge: Teams of students partnering with organizations to develop strategies for reducing carbon footprints while saving money. CarbonReductionChallenge.org

STRONGER NETWORK

Bringing together experts across the state

2019 Georgia Climate Conference: The conference brought together more than 430 participants from more than 180 organizations across Georgia for the second-ever statewide convening on climate change. Conference.GeorgiaClimateProject.org

Photo credits, left to right: GA Dept of Ag, Stephen Nowland, Stephen Nowland, open license, Georgia Coastal Atlas

Academic Partners:

Emory University
Georgia Tech
University of Georgia
Agnes Scott College
Columbus State University
Georgia State University
Georgia Southern University
Spelman College — A Choice to Change the World
UNG University of North Georgia

Foundational support from: the Ray C. Anderson Foundation

@GAClimateProj | georgiaclimateproject | georgiaclimateproject

GEORGIA DRAWDOWN™

www.GeorgiaDrawdown.org

Launched by the Ray C. Anderson Foundation, Georgia Drawdown will bring a Georgia lens to the foundational work of Project Drawdown™, which identified 100 global solutions for reducing emissions to the point that levels of greenhouse gases in the atmosphere begin to decrease. As a first step, experts from the Georgia Institute of Technology, Emory University, the University of Georgia, and other partner organizations are **assessing each of the 100 global solutions to determine their impact in Georgia**. In addition, this group is exploring **other possible solutions** that are not on the global list. The team is looking not only at the emissions impacts, but also the benefits that go **"beyond carbon"**: providing new economic opportunities for the state, advancing equity, and improving health.

Leadership Team

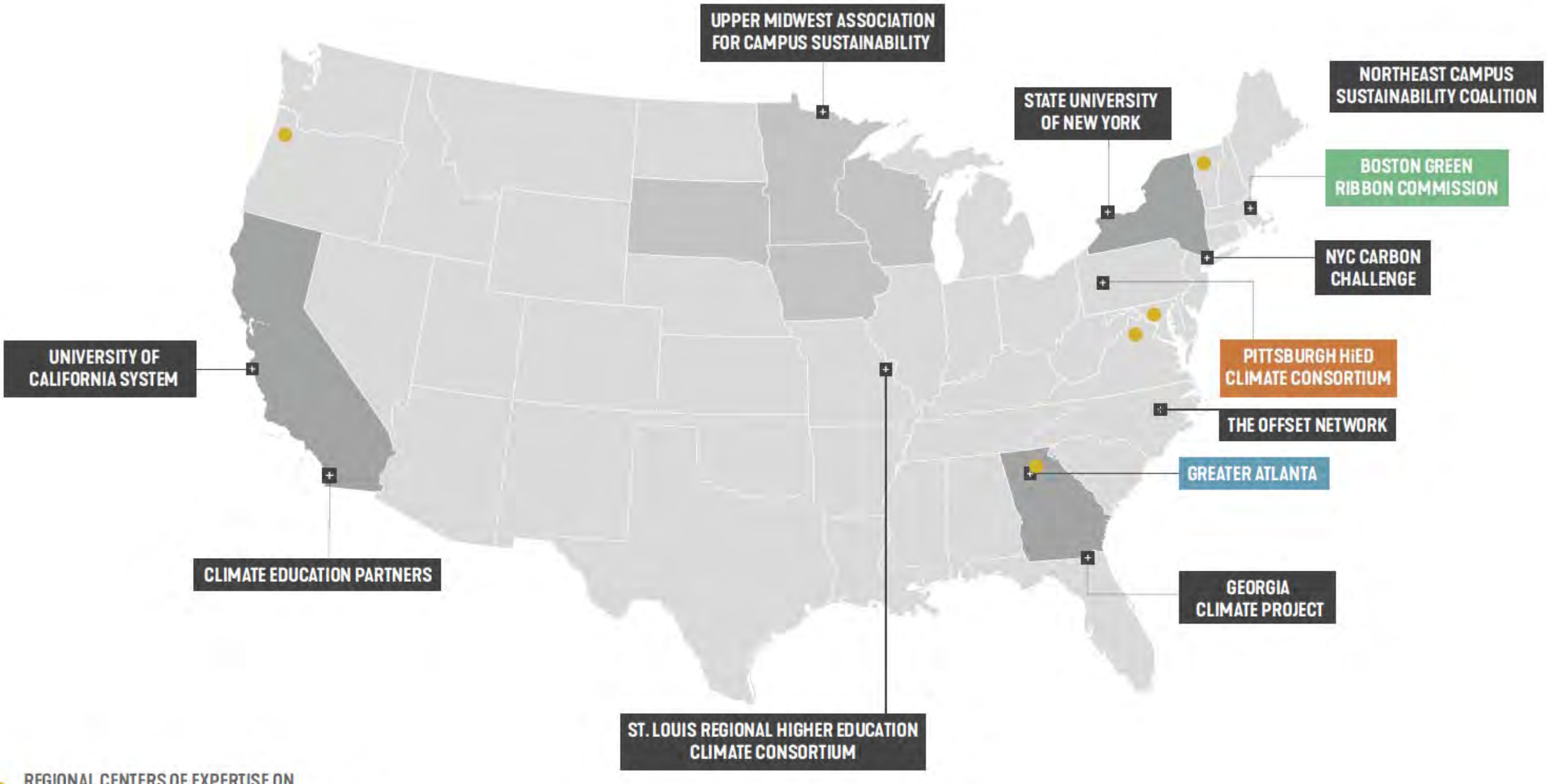
- **Marilyn Brown**, Regents' Professor and Director, Climate and Energy Policy Lab, Georgia Tech
- **Kim Cobb**, Professor and Director, Global Change Program, Georgia Tech
- **Michael Oxman**, Managing Director, Ray C. Anderson Center for Sustainable Business, Georgia Tech
- **Daniel Rochberg**, Instructor and Chief Strategy Officer, Climate@Emory, Emory University
- **Marshall Shepherd**, Professor and Director, Program in Atmospheric Sciences, UGA
- **Beril Toktay**, Professor and Director, Ray C. Anderson Center for Sustainable Business, Georgia Tech

Working Group Leads

- **Electricity Generation:** Marilyn Brown and Santiago Grijalva, Georgia Tech
- **Transportation**: Rich Simmons, Georgia Tech
- **Built Environment & Materials:** Dan Matisoff, Georgia Tech
- **Food Systems:** Sudhagar Mani and Jeff Mullen, UGA
- **Forestry and Land Use:** Puneet Dwivedi and Jacqueline Mohan, UGA
- **Beyond Carbon:** Michael Oxman and Laura Taylor, Georgia Tech; David Iwaniec, Georgia State

Timeline

Summer 2019 Initial Analysis → **November 2019** Workshop → **Spring 2020** Final Analysis


UPPER MIDWEST ASSOCIATION FOR CAMPUS SUSTAINABILITY
STATE UNIVERSITY OF NEW YORK
NORTHEAST CAMPUS SUSTAINABILITY COALITION
BOSTON GREEN RIBBON COMMISSION
NYC CARBON CHALLENGE
PITTSBURGH HiED CLIMATE CONSORTIUM
THE OFFSET NETWORK
GREATER ATLANTA
GEORGIA CLIMATE PROJECT
UNIVERSITY OF CALIFORNIA SYSTEM
CLIMATE EDUCATION PARTNERS
ST. LOUIS REGIONAL HIGHER EDUCATION CLIMATE CONSORTIUM
REGIONAL CENTERS OF EXPERTISE ON EDUCATION FOR SUSTAINABLE DEVELOPMENT

FOR PRINT

ST. LOUIS REGIONAL HIGHER EDUCATION SUSTAINABILITY CONSORTIUM (STL-HESC)

ST. LOUIS, MISSOURI

CITY STATE RESEARCH NETWORK RESIL'CY OFFSETS

Winter 2016 | STL-HESC Campus Sustainability Newsletter View this email in your browser

STL HIGHER ED SUSTAINABILITY CONSORTIUM

In this issue of the STL-HESC Campus Sustainability Newsletter we will be highlighting some of the fantastic upcoming events and learning opportunities to advance campus sustainability throughout the St. Louis region, including upcoming conferences, past workshops, and new projects underway. This newsletter highlights achievements, events, and programs that demonstrate the value, importance and benefits of greening our campus communities.

In this newsletter:

- AASHE Updates
- Recap: 2016 AASHE Conference & Expo - "Beyond the Campus"
- Regional Collaborative Partners Team Up to Host 2017 Collaborative Sustainability Summit
- Battle for the Boot Returns
- Registration for 2017 RecycleMania Now Open
- Green Shadow Program Now Accepting Spring Applications
- MOAPPA Conference Save the Date and Call For Papers
- STL-HESC Congratulates Peggy on Retirement
- EarthWays Center Welcomes Simon

Registration for 2017 RecycleMania Now Open

The 2017 RecycleMania competition is now open for registration. The competition will run from February 5th through April 1st with two Pre-Season weeks from January 22nd through February 4th. In addition, there will be a Tips & Case Studies Examples for RecycleMania Outreach Webinar on January 17th, as well as a Primer: Rules & Tracking Requirements on February 1st.

See below for details on registering

1. Register New School
Your school has never participated in the Annual RecycleMania Tournament
Steps to complete your registration:

1. Create an Account in Re-TRAC Connect
2. Login to account you just created
3. Complete 2017 RecycleMania Profile Information form!

2. Existing School - Have Existing Re-TRAC Connect Account
If you know the email and password for your schools account.
Steps to complete your registration:

1. Login to existing account
2. Complete 2017 RecycleMania Profile Information form!

3. Existing School – New Contact – Do Not Have Re-TRAC Connect Account
You don't have access or don't know your schools username or password
Steps to complete your registration:

1. Send email to helpline@recyclemaniacs.org and we'll help get you started!

Regional Collaborative Partners Team Up to Host 2017 Collaborative Sustainability Summit

Sponsorship

Collaborative Sustainability Summit
SETTING TARGETS FOR OUR SHARED FUTURE
April 5, 2017 Noon – 7:30 pm
Eric P. Newman Education Center
Washington University in St. Louis
www.onestl.org

As a region, we have a robust foundation for sustainability; a strong, collectively developed regional sustainability plan (OneSTL), a thorough City of St. Louis Sustainability Plan, and a multitude of initiatives dedicated to making St. Louis a more sustainable and resilient place. This conference seeks to move these frameworks forward by identifying specific targets and goals that lead to strategies to achieve a sustainable, equitable future.

This effort builds on OneSTL, and other plans and studies conducted across the region. Your financial support will help to bring everyone together to define regional goals for the future.

Topics
- Buildings, Land Use, & Community Development
- Water & Green Infrastructure
- Materials & Recycling
- Energy & Emissions
- Transportation
- Biodiversity
- Food

Outcomes
- SMART (Specific, Measurable, Achievable, Relevant, Time-oriented) goals
- A report that can serve as a reference point for planners, government officials and other decision makers to review and revise their plans and efforts
- Actions and strategies for achieving the SMART goals

The conference will be followed by a day-long work session with regional experts and stakeholders to discuss and recommend a set of goals, targets and strategies. A report will be created that documents the identified SMART goals and will serve as a reference point to implement and update OneSTL as well as other plans and efforts.

Missouri Gateway CHAPTER

Green Shadow Program Now Accepting Spring Applications

GREEN SHADOW
USGBC MISSOURI GATEWAY

We are looking for Mentors and Shadows to participate in the Green Shadow program.Apply by February 28, 2016 to be matched in the Fall 2016 semester.

Green Shadow Mentor Program

Green Shadow is a mentorship program developed by the USGBC-Missouri Gateway Chapter Higher Education committee to expose students and emerging professionals to green jobs within the Missouri Gateway territory through a **one day shadow** of local business people. Participating companies get access to local students interested in the industry without the financial commitment of an internship.

Mentors must have an active USGBC-Missouri Gateway Chapter membership and fill out an online application detailing their interest in becoming a Mentor and providing a list of activities in their typical

- Topics have included Consortium engagement with AASHE, networking with the Illinois Green Economy Network, and participation in Recyclemania. Semesterly coffee-talks address experiences like move-out, curriculum, and freshman orientation.

SOUTHERN ILLINOIS UNIVERSITY EDWARDSVILLE
St. Louis Community College
UMSL
SIU Southern Illinois University CARBONDALE
Webster UNIVERSITY
MISSOURI S&T
SAINT LOUIS UNIVERSITY
LEWIS&CLARK COMMUNITY COLLEGE
Washington University in St. Louis
MARYVILLE UNIVERSITY
PRINCIPIA COLLEGE

NYC CARBON CHALLENGE

CITY STATE RESEARCH NETWORK RESIL'CY OFFSETS

Established in 2007, the challenge was designed for universities and hospitals to reduce city GHG emissions **80% by 2050** (from 2005 baseline)

17 NYC universities committed to building-based GHG reductions through tracking and optimizing

NYC CARBON CHALLENGE

Barnard College, Columbia University
CUNY The City University of New York
The Cooper Union
Berkeley College
The New School
Wagner College
Fordham
Columbia University in the City of New York
The Rockefeller University
NYU
St. John's University
SVA NYC
FIT Fashion Institute of Technology
Pratt
Weill Cornell Medicine
Pace University

UNIVERSITY OF CALIFORNIA

UC– Policy on Sustainable Practices text components:

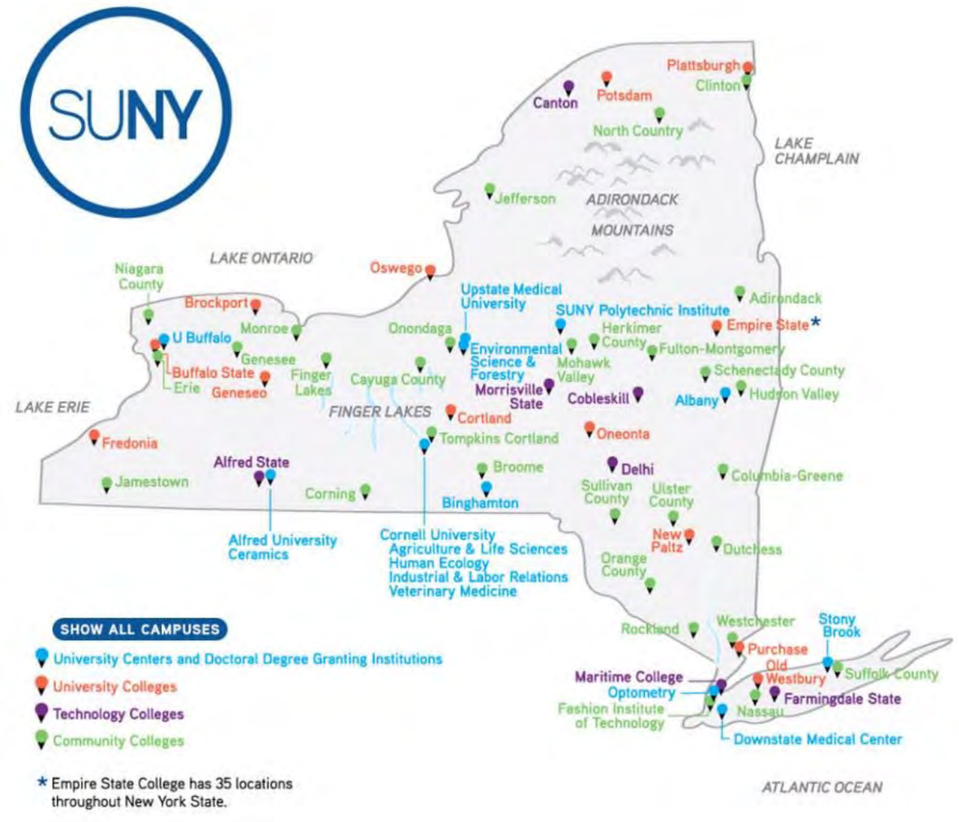
- Green Building Design
- Clean Energy
- Climate Protection
- Sustainable Transportation
- Sustainable Building Operations for Campuses
- Zero Waste
- Sustainable Procurement
- Sustainable Foodservices
- Sustainable Water Systems
- Sustainability at UC Health

"The University of California is committed to responsible stewardship of resources and to demonstrating leadership in sustainable business practices. The University's locations should be living laboratories for sustainability, contributing to the research and educational mission of the University"

STATE UNIVERSITY OF NEW YORK

CITY | STATE | RESEARCH | NETWORK | RESIL'CY | OFFSETS

64 campuses, altogether one of the state's largest energy consumers



ENERGY	FOOD	SUSTAINABILITY BENCHMARKING
Reduce SUNY's energy consumption by 30% by 2020 Brownfield to Brightfield: a project exploring placement of renewable energy installations on EPA brownfield sites	"SUNY Commits" to NY State Agriculture, an initiative intended to increase the quantity of local food procurement *Funded by the American Farm Trust's Farm to Institution NYS Initiative*	A workbook intended to implement a set of tiered guidelines for SUNY dining and retail purchasing

GEORGIA CLIMATE PROJECT

CITY | STATE | RESEARCH & EDUCATION | NETWORK | RESIL'CY | OFFSETS

The Georgia Climate Project is building a network of experts across the state to advance four strategic priorities.

Science

Synthesizing what is known and analyzing what is not in order to improve understanding of climate impacts and solutions in Georgia.

Learn more >

Stronger conversations

Fostering a constructive, nonpartisan discussion about how climate change affects Georgia and what can be done about it.

Learn more >

Solutions

Working with partners to enable Georgians to take practical steps to respond to climate change and its impacts.

Learn more >

Stronger network

Bringing together experts working to understand and act on climate.

Learn more >

Founding partners

Emory University — Climate@Emory

Georgia Tech

University of Georgia

Academic partners

Agnes Scott College

Georgia Southern University

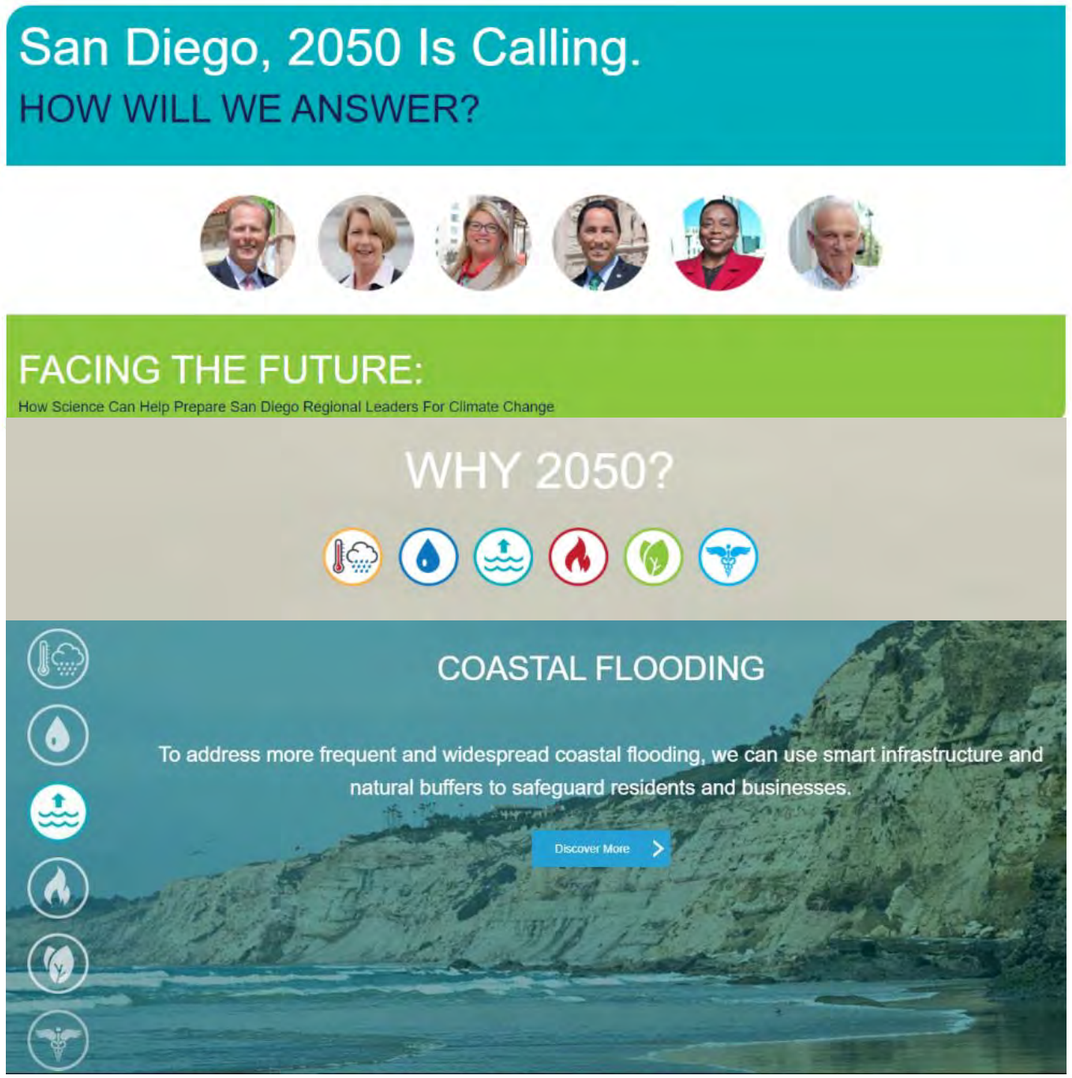
Spelman College — A Choice to Change the World

UNG — University of North Georgia

CLIMATE EDUCATION PARTNERS

SAN DIEGO, CA

CITY | STATE | RESEARCH & EDUCATION | NETWORK | RESIL'CY | OFFSETS



San Diego research and higher education institutions partnering to **educate San Diego leaders about climate change and its effect on the region's quality of life**

The coalition collects climate data, develops educational materials for community members, and models regional climate collaboration for replication by other communities

Scripps Institution of Oceanography, UCSD

California State University San Marcos

UCSF University of California San Francisco

The San Diego Foundation

UC San Diego

THE NORTHEAST CAMPUS SUSTAINABILITY CONSORTIUM (NECSC)

CITY STATE RESEARCH **NETWORK** **RESIL'CY** OFFSETS

A network of sustainability officers committed to meeting annually to advance education related to sustainability in higher education

Harvard · Cornell University · Princeton University · Boston University · Columbia University · Yale University · Carnegie Mellon University · Massachusetts Institute of Technology · Brown

Conference History

Since 2004, NECSC steering committee members have committed to hosting annual gatherings. As planning continues for the next 10 years, additional host institutions will emerge.

2004	New Hampshire	2013	Maryland
2005	Massachusetts (Harvard)	2014	Rhode Island (Brown University)
2006	Connecticut	2015	Massachusetts (University of Massachusetts)
2007	Maine (Bowdoin College)	2016	Massachusetts (Wellesley College and Babson College)
2008	New Jersey (Princeton)	2017	New Hampshire (Dartmouth College)
2009	Vermont (Middlebury and the University of Vermont)	2018	Connecticut (Wesleyan University)
2010	Montreal (McGill University)	2019	Maine (University of Southern Maine)
2011	Pennsylvania (Carnegie Mellon)	2020	Montreal (McGill University)
2012	New York (Syracuse University)		

THE OFFSET NETWORK

CITY STATE RESEARCH & EDUCATION NETWORK RESIL'CY OFFSETS

A coalition of partners dedicated to sharing and creating **high quality resources, templates, and peer evaluation** for institutions interested in implementing carbon offset plans, especially for Scope 3 emissions

Duke Carbon Offsets Initiative
DUKE UNIVERSITY

Second Nature

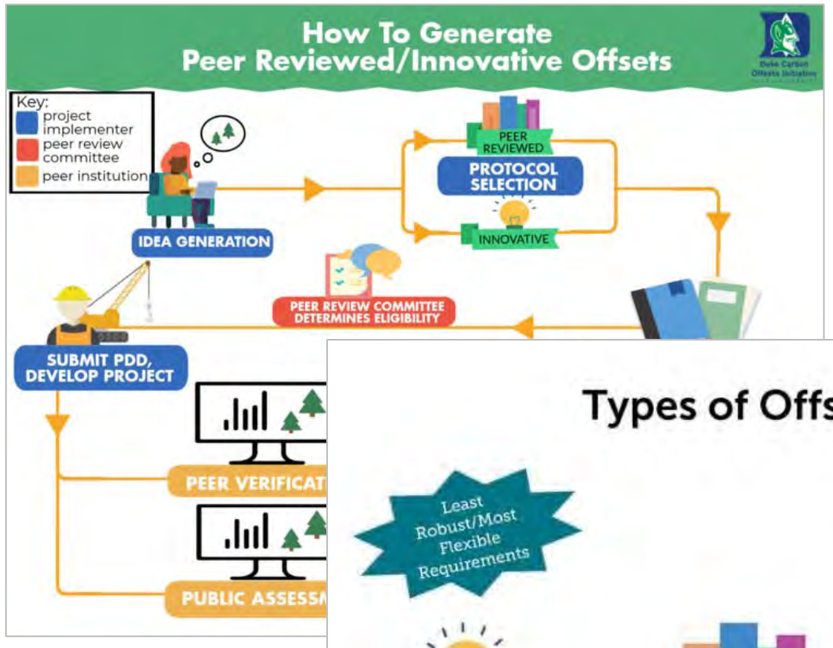
NEUTRALUF COALITION
DRIVING CHANGE

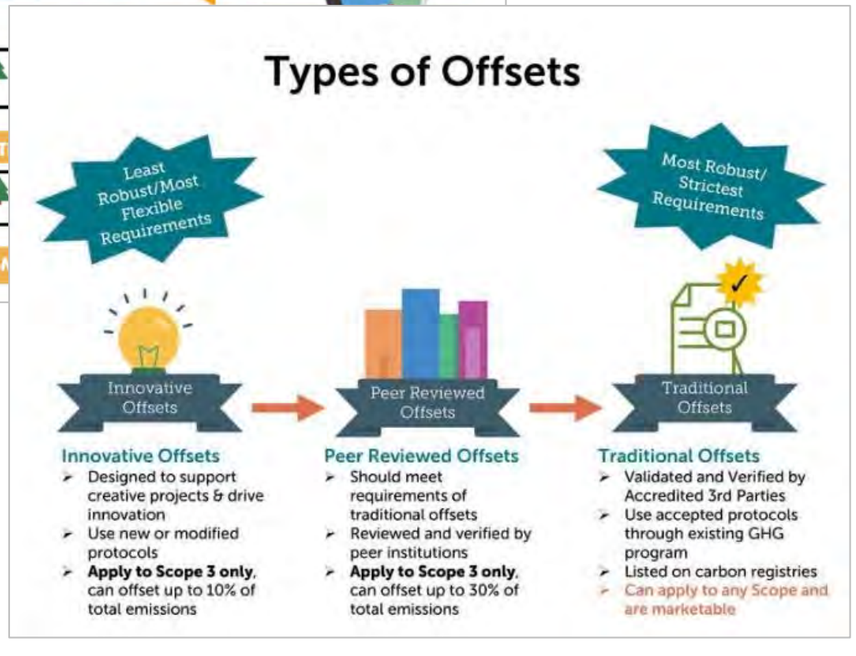
The Oberlin Project

AMERICAN UNIVERSITY
WASHINGTON, DC

ELON UNIVERSITY

EXAMPLE GUIDES FROM THE OFFSET NETWORK





CLIMATE RESILIENCE IN URBAN CAMPUSES AND COMMUNITIES (CRUX)

Multi-city partnership supported by a Kresge Foundation grant

Project goals include

- Implementing a **nationally-scalable strategy for climate resiliency** in communities and campuses
- Learning with and from the partners as they complete benchmarking by **creating a campus/community task force, and completing a resilience capacity assessment**

Partners

Institutions participating in CRUX include:

Los Angeles

- California State University, Northridge
- Los Angeles Valley College
- Northridge Vision
- Greater Valley Glen Neighborhood Council

Phoenix

- Arizona State University
- South Mountain Community College
- Habitat for Humanity Central Arizona

Portland

- Portland State University
- Mt. Hood Community College
- Portland Downtown Neighborhood Association
- City of Gresham
- City of Portland Bureau of Planning and Sustainability

ECOLEAGUE

CITY STATE RESEARCH & EDUCATION NETWORK RESIL'CY OFFSETS

EcoLeague

- Student Opportunities
- Faculty Opportunities
- Free xChange
- Eco-Reps
- Green Devil Certification
- EcoLeague

- **Consortium for Sustainability**
- EcoLeague Resources for Faculty

CONSORTIUM FOR SUSTAINABILITY

WHAT IS THE ECOLEAGUE?

The EcoLeague is the only college consortium in the United States dedicated to sustainability education and the active pursuit of environmental studies within a liberal-arts framework. Dickinson was inducted into the 12-year-old multischool consortium in 2014.

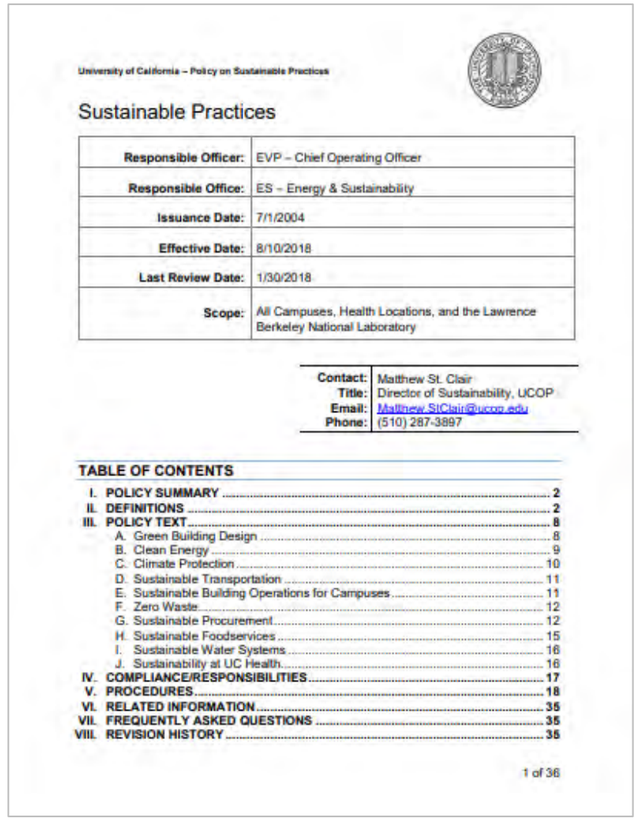
EcoLeague consortium members include:

- Alaska Pacific University,
- College of the Atlantic,
- Dickinson College,
- New College of Florida,
- Northland College, and
- Prescott College.

UNIVERSITY OF CALIFORNIA SYSTEM

10 campuses committed to the **UC – Policy** on **Sustainable Practices**

CITY | STATE | RESEARCH & EDUCATION | NETWORK | RESIL'CY | OFFSETS



University of California – Policy on Sustainable Practices

Sustainable Practices

Responsible Officer:	EVP – Chief Operating Officer
Responsible Office:	ES – Energy & Sustainability
Issuance Date:	7/1/2004
Effective Date:	8/10/2018
Last Review Date:	1/30/2018
Scope:	All Campuses, Health Locations, and the Lawrence Berkeley National Laboratory

Contact: Matthew St. Clair
Title: Director of Sustainability, UCOP
Email: Matthew.StClair@ucop.edu
Phone: (510) 287-3897

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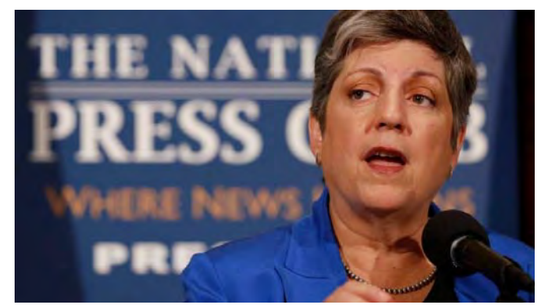
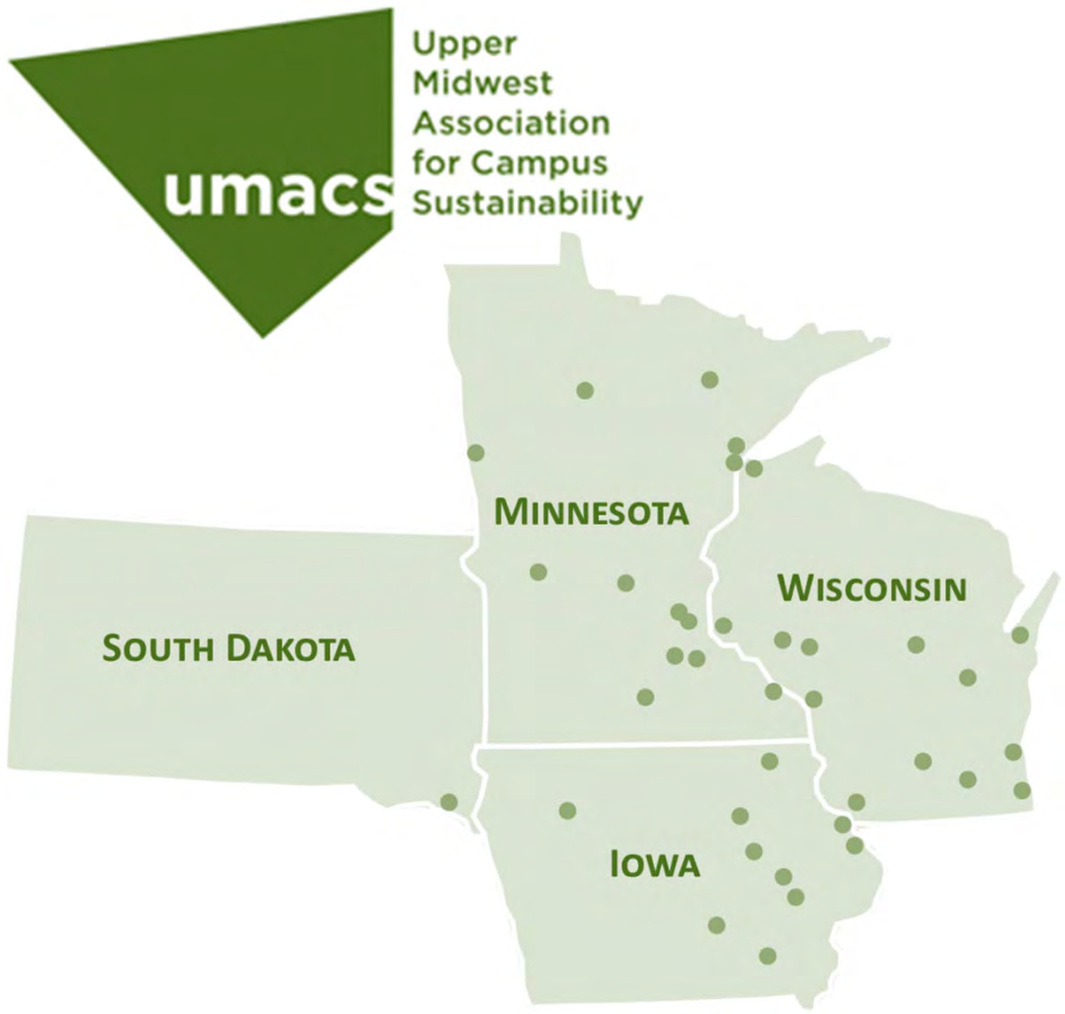
UNIVERSITY OF CALIFORNIA Office of the President



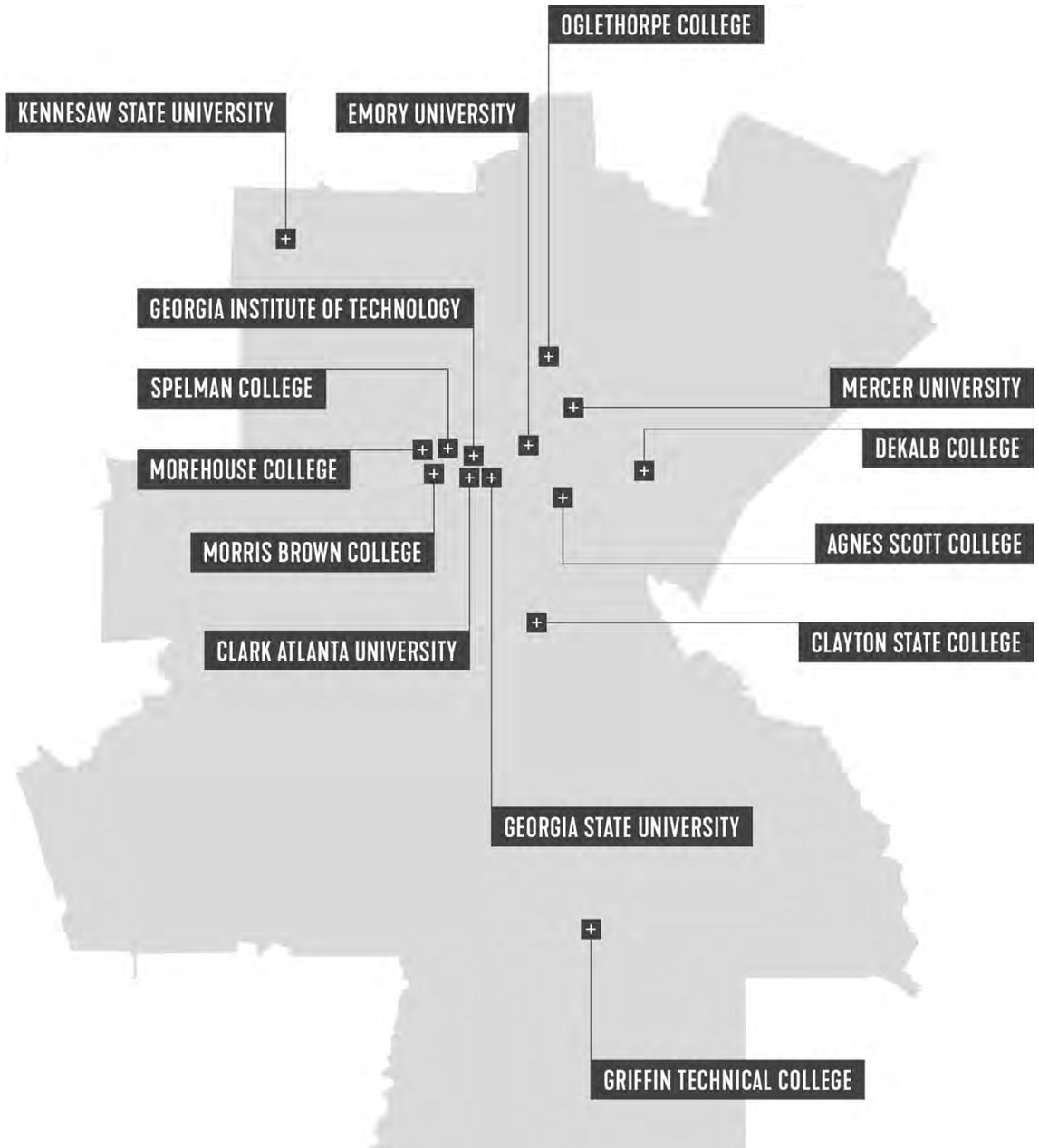
UPPER MIDWEST ASSOCIATION FOR CAMPUS SUSTAINABILITY

CITY STATE RESEARCH & EDUCATION NETWORK RESIL'CY OFFSETS



- Volunteer organization founded in 2005 to share information on sustainability between college campuses in the Midwest
  - Research, programming, facilities/maintenance
- Originally funded w/ grants from MN Office of Environmental Assistance and EPA
- Today, entirely volunteer-run

GREATER ATLANTA RCE



CITY STATE RESEARCH & EDUCATION NETWORK RESIL'CY OFFSETS

A Regional Centre of Expertise (RCE) for education on sustainable development (ESD) is a **network** of individuals, institutions, organizations, and experts who are:

committed to using formal, nonformal, and informal education as a collaborative tool for increasing collective impact to build a sustainable future.

REGIONAL CENTRE OF EXPERTISE ON EDUCATION FOR SUSTAINABLE DEVELOPMENT

ACKNOWLEDGED BY

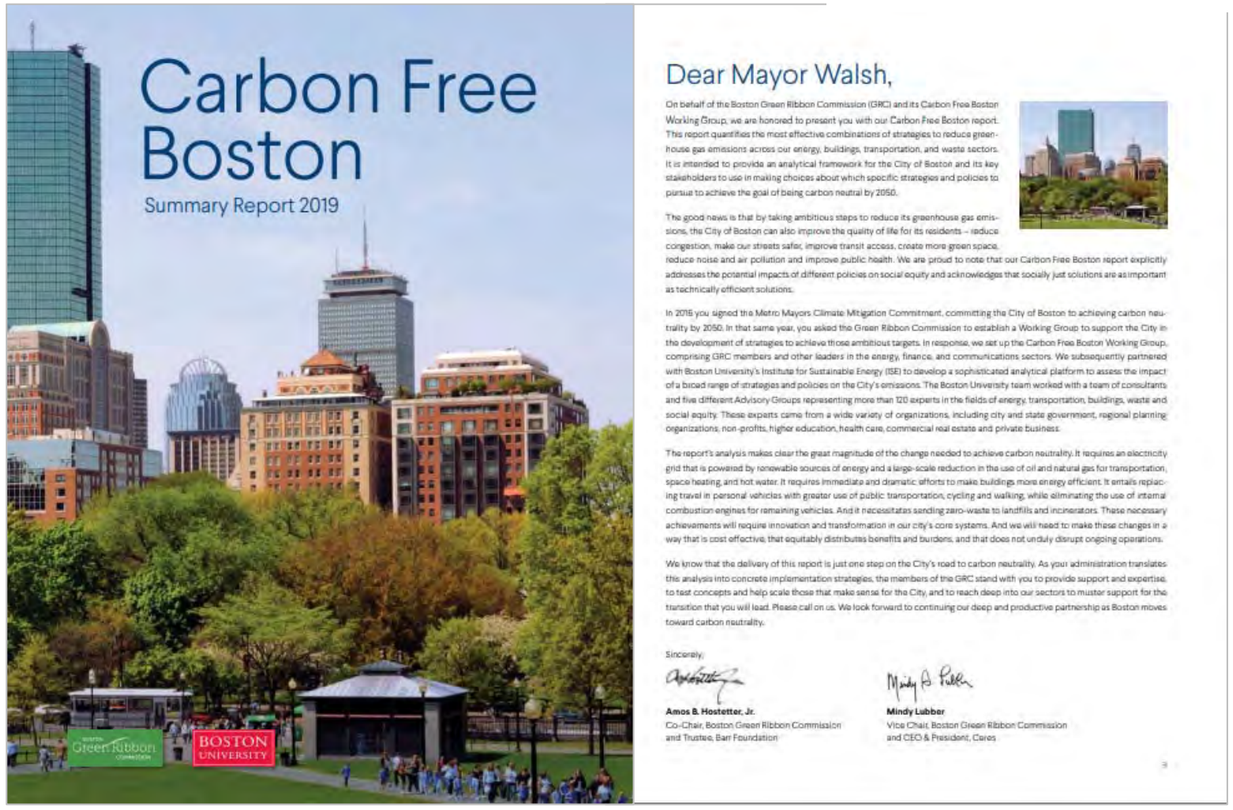
UNITED NATIONS UNIVERSITY

BOSTON GREEN RIBBON COMMISSION

BOSTON, MASSACHUSETTS

CITY STATE RESEARCH NETWORK RESIL'CY OFFSETS

CITY of BOSTON



Northeastern University

BOSTON HARBOR NOW

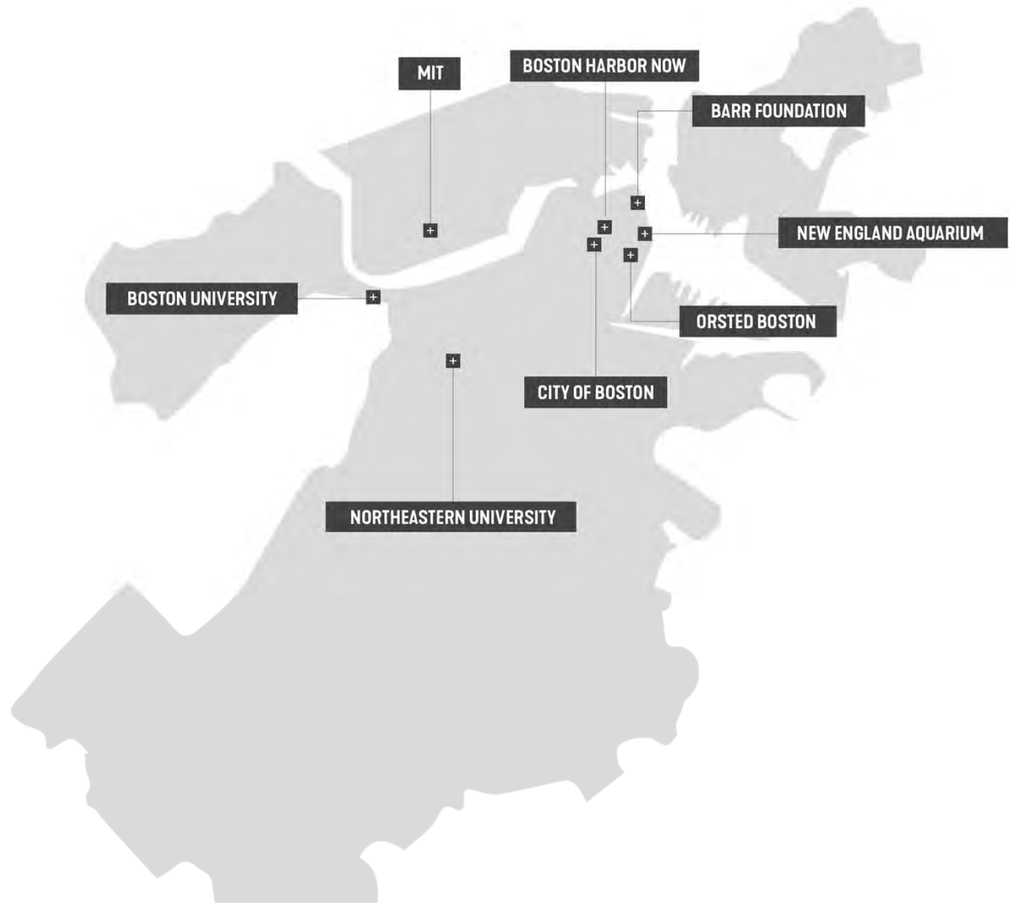
Ørsted

BOSTON UNIVERSITY

Massachusetts Institute of Technology

New England Aquarium

Businesses, institutions, and civic leaders **reporting and sharing climate action strategies aligning with the City's Climate Action Plan**



HIGHER ED CLIMATE CONSORTIUM
CITY OF PITTSBURGH

CITY STATE RESEARCH NETWORK RESIL'CY OFFSETS

HECC MISSION:
REDUCE THE GHG OF PITTSBURGH

…by actively engaging all Pittsburgh region colleges and universities to:

1. **COLLABORATE,**
2. **SHARE INFORMATION, AND**
3. **SET GOALS REGARDING:**
   - research agenda
   - education curricula,
   - operations,
   - outreach activities, and
   - commitments that reduce GHG emissions

chatham UNIVERSITY
Carlow University
University of Pittsburgh
The Art Institute of Pittsburgh
CCAC
La Roche COLLEGE
Carnegie Mellon University
ROBERT MORRIS UNIVERSITY
PennState Center Pittsburgh
DUQUESNE UNIVERSITY
POINT PARK UNIVERSITY