



COLLABORATIVE MODELS TO SCALE UP CLIMATE ACTION AND RESILIENCY EFFORTS

SCUP54 | JULY 2019

STEVEN



SMITHGROUP

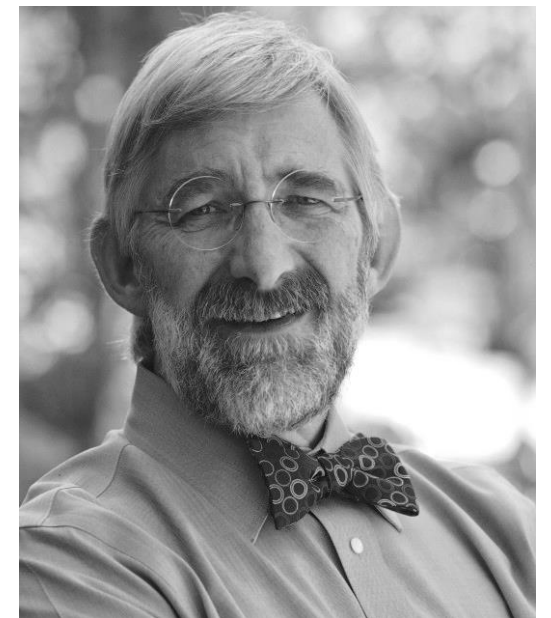
WENDELL



BETH



DENNIS



**STATE OF CLIMATE
AND RESILIENCY
COMMITMENTS IN HiEd.**



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

440 ACTIVE CLIMATE LEADERSHIP COMMITMENT SIGNATORIES



3



105



332

CROSS-UNIVERSITY RESEARCH PAPERS

“Higher Education’s Role in Adapting to a Changing Climate”



Higher Education's Role in Adapting to a Changing Climate

What is Climate Adaptation?

The current concentration of carbon dioxide in the atmosphere is more than 390 parts per million (ppm) – well over the previous peaks of about 280ppm over the past 800,000 years. To preserve relatively stable climatic conditions, we need to keep the concentration of CO₂ below 350ppm. While efforts are underway to return to those levels, it is clear that we will inevitably experience the impacts of climate change within our lifetimes — indeed, we already are.

The federal Interagency Climate Change Adaptation Task Force noted in its interim progress report to the White House in 2010 that “Climate change impacts pose significant social, economic, and environmental risks to the United States and the global community. As documented in the latest U.S. National Climate Assessment (NCA) report, *Global Climate Change Impacts in the United States*, and the National Research Council’s report series on *America’s Climate Choices*, communities across the Nation are already experiencing a range of climatic changes, including more frequent and extreme precipitation events, longer wildfire seasons, reduced snowpack, extreme heat events, increasing ocean temperatures, and rising sea levels. The impacts from these changes are affecting livelihoods, infrastructure, ecosystems, food production, energy supply, national security, and the cultural heritage of populations and communities. Certain communities and ecological systems are particularly vulnerable to these impacts. We know enough about climate risks to take actions now that ensure a safer, more resilient and prosperous future.” (CEQ, 2011, p.2).

The term climate adaptation refers to the need for society to prepare for these “core system” climate impacts that have become unavoidable. A technical definition of adaptation is “adjustment in natural or human systems to a new or changing environment that exploits beneficial opportunities or moderates negative effects” (NRC, 2010, p.19).

Also referred to as ‘climate preparedness’ or ‘climate resilience,’ in practice, climate adaptation means preparing for and responding to increased infrastructure vulnerability, public health

Spotlight 1: Adapting “Core Systems” for Climate Resilience

The following are some ways that governments and organizations are adapting core systems:

- **Transportation:** Raising roads and runways; increasing culvert sizes; strengthening bridges
- **Agriculture:** Shifting to drought resistant crop varieties; re-training farmers; emphasizing local agriculture
- **Business:** Examining and altering supply chains; increasing transparency and disclosure regarding climate risk
- **Infrastructure:** Ensuring current public investments are informed by climate change trends and projections
- **Water:** Increasing protection for wetlands; installing permeable pavement, green roofs, and rain and water gardens
- **Energy:** Protecting or moving production and distribution facilities/equipment vulnerable to flooding, extreme heat, drought or weather events
- **Public Health:** Identifying ways to reduce urban heat island effect; assessing vulnerabilities to emergency response systems in the face of extreme weather
- **Ecosystems:** Planning for movement of habitat, changes in local plants and animals; sea level rise
- **Land Use:** Changing building codes; planning “retreat” from sea level rise

Second Nature

The best supporting organizations of the American College & University Presidents' Climate Commitment
147 Townsend Drive, Suite 200 | Boston, MA 02114 | (617) 752-0800 | www.secondnature.org | www.presidentsclimatecommitment.org | info@secondnature.org

7

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



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

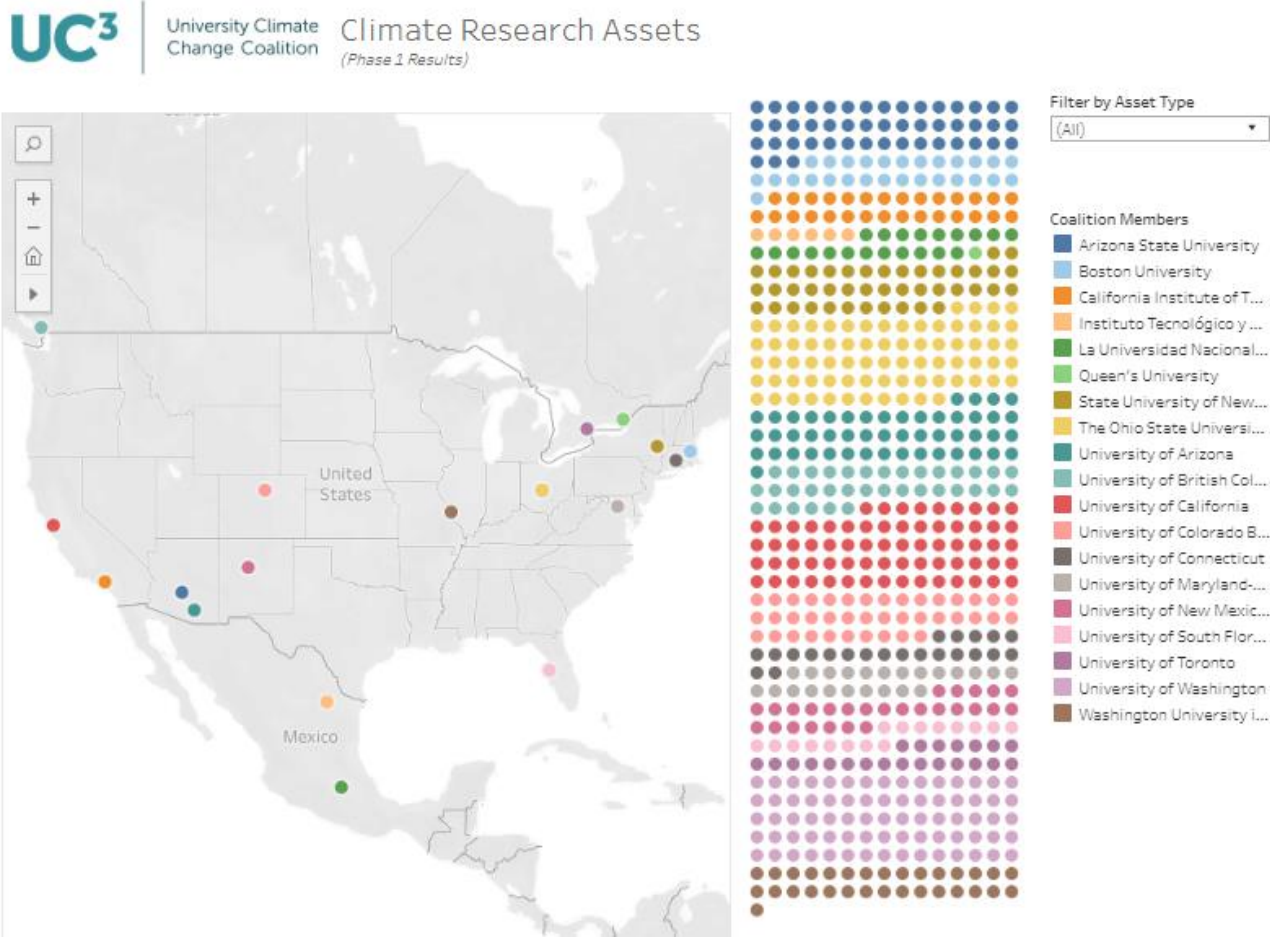
Universities from the United States, Canada, and Mexico committing to helping local communities transition to a low-carbon future

UC3

University Climate Change Coalition

Climate Research Assets
(Phase 1 Results)

The University Climate Change Coalition is working to identify climate assets at each campus to facilitate more transparency and ease of collaboration with external stakeholders. Use the link below to explore the beta version of the data and dashboard.



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.

GREEN SCHOOLLIST SERVE

(GRNSCH-L)

BROWN UNIVERSITY

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GRNSCH-L Home Page

GRNSCH-L@LISTSERV.BROWN.EDU

🏠 LISTSERV Archives

GRNSCH-L

This discussion list has served campus sustainability professionals in the exchange of ideas and information since 1992. Change settings, search archives at listserv.brown.edu/?A0=GRNSCH-L.

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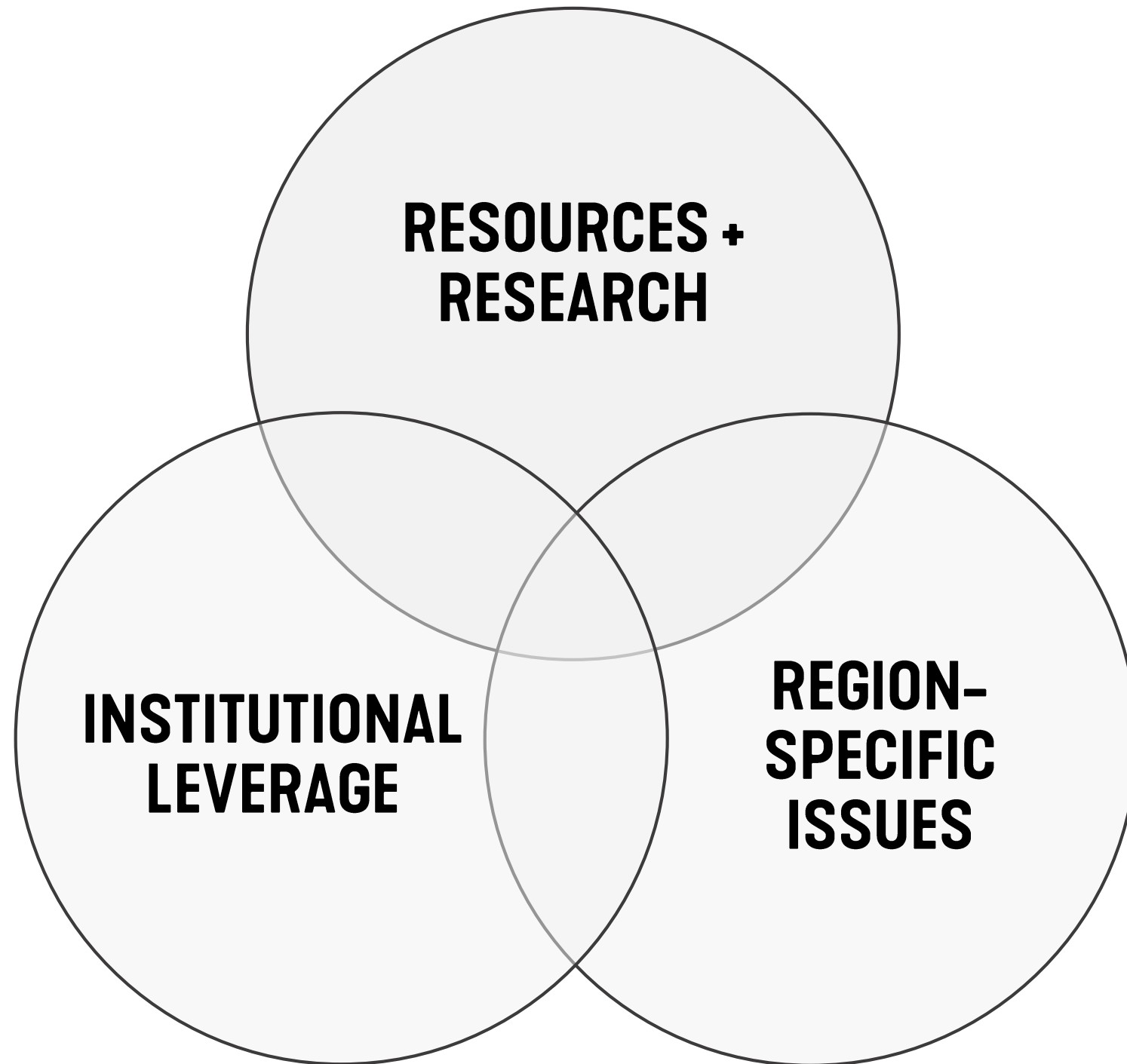
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GRNSCH-L Listserve	
! 📄 📧 🏠 From	
> Eco-Reps Networking/Session at AASHE:	1 item(s)
> EcoRepsNational! 📧:	2 item(s)
> ECOS Online Forum- March 12 at 6PM Central Europe, 12PM East Coast, 9AM Pacific:	1 item(s)
> Ecosystem services webinar:	1 item(s)
> Education and Outreach position at George Mason University:	1 item(s)
> Education-Sector Focussed Info Session - Tuesday, June 12, 2pm ET, Harvard Executive Education for Sustainability Leadership:	1 item(s)
> Effect of Adding Enviromental Science programs on Enrollment Numbers:	9 item(s)
> Electric Buses:	2 item(s)
> Electric Kick Scooter Policies:	4 item(s)
> Electric Vehicle Charging Station Policies:	1 item(s)
> Electrical sub meters to energy star portfolio manager:	4 item(s)
> Electronic Time Reporting:	1 item(s)
> Eliminating plastic bags:	2 item(s)
> Emergency/Guaranteed Ride Home Programs:	4 item(s)
> Endicott College Director of Sustainability Job Posting:	1 item(s)
> Energy and Sustainability Master Planning Partners:	1 item(s)
> energy and water project tracking:	1 item(s)
> Energy and/or Sustainability organizational structure at your institution ?:	2 item(s)
> Energy Budget Models:	2 item(s)
> Energy Costs for Colleges & Universities:	7 item(s)
> Energy Dashboards:	2 item(s)
> Energy Efficient Food Service Machinery:	1 item(s)
> energy manager job description:	2 item(s)
> Energy Manager Position:	2 item(s)
> Energy Manager, Smith and Amherst College:	1 item(s)
> Energy Monitoring:	1 item(s)
> Energy Olympics Inquiry:	2 item(s)
> Energy Workshop for Students:	3 item(s)
> Engaging Board of Trustees in Sustainability:	3 item(s)
> Engaging facilities staff in sustainability:	5 item(s)
> Engaging students in climate advocacy, an info session with Citizens' Climate Lobby:	2 item(s)
> Enrolling: 9-Day Course in Fukushima, Japan - Disaster Mitigation & Nuclear to Renewable Transitions:	1 item(s)
> Enterprise fleet mgmt, GHG reduction goals?:	1 item(s)
> Entry-Level Sustainability Fellowship at University of Mississippi:	1 item(s)

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

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State University Systems



State systems can leverage climate decisions under their brand, distributing policy to all connected campuses

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Research + Resource



By conducting cross-university research efforts, universities can save both time and money

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Networking + Storytelling



Storytelling networks can create large collaboratives that share ideas and best practice

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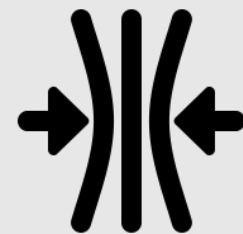
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Resiliency + Climate Adaption



Collaboratives focused on resiliency and climate adaptation work proactively, planning for future scenarios

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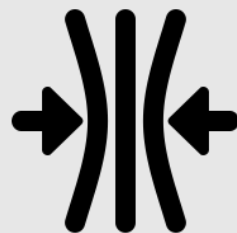
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Resiliency + Climate Adaption

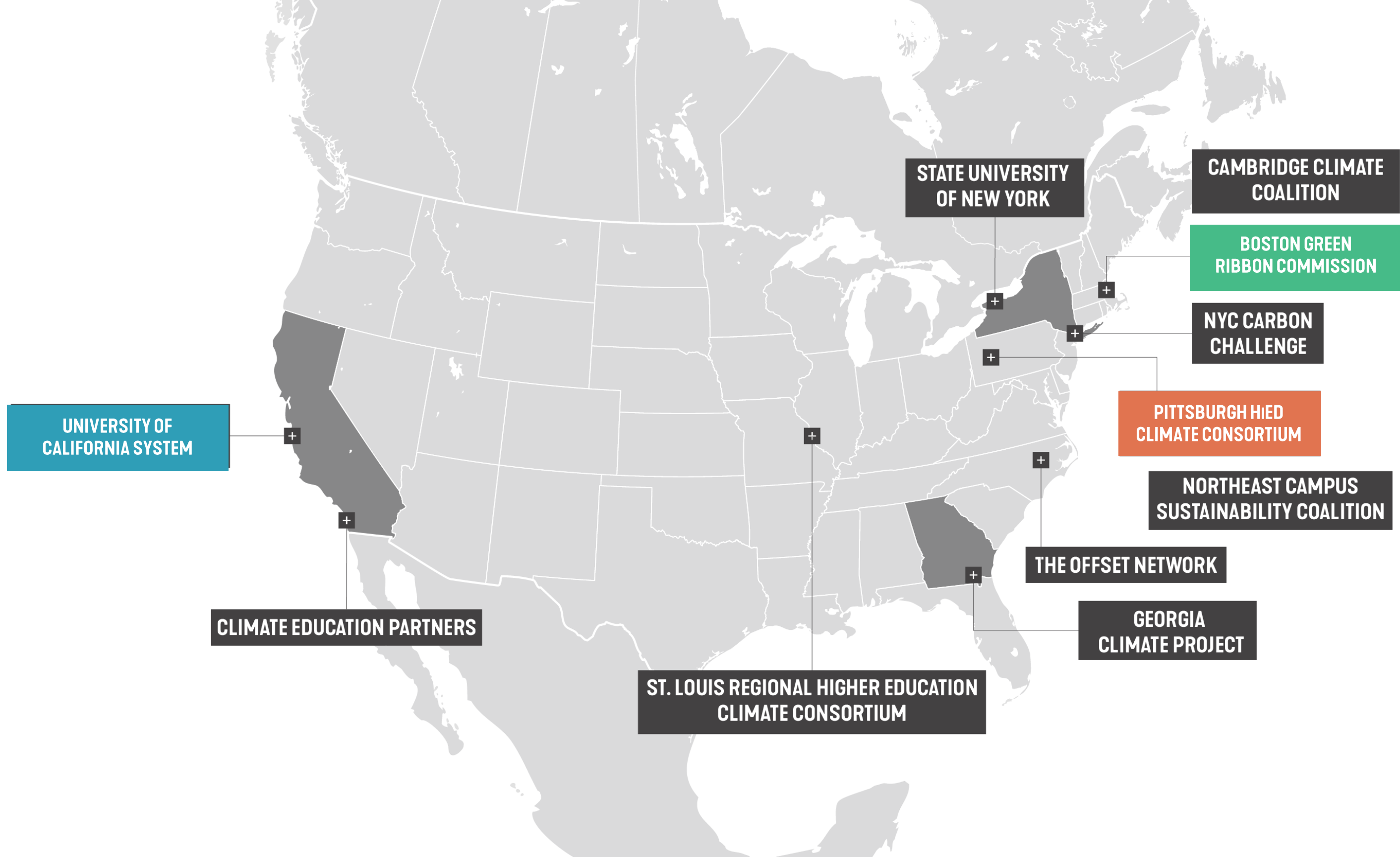


Collaboratives focused on resiliency and climate adaptation work proactively, planning for future scenarios

Carbon Reduction + Offset



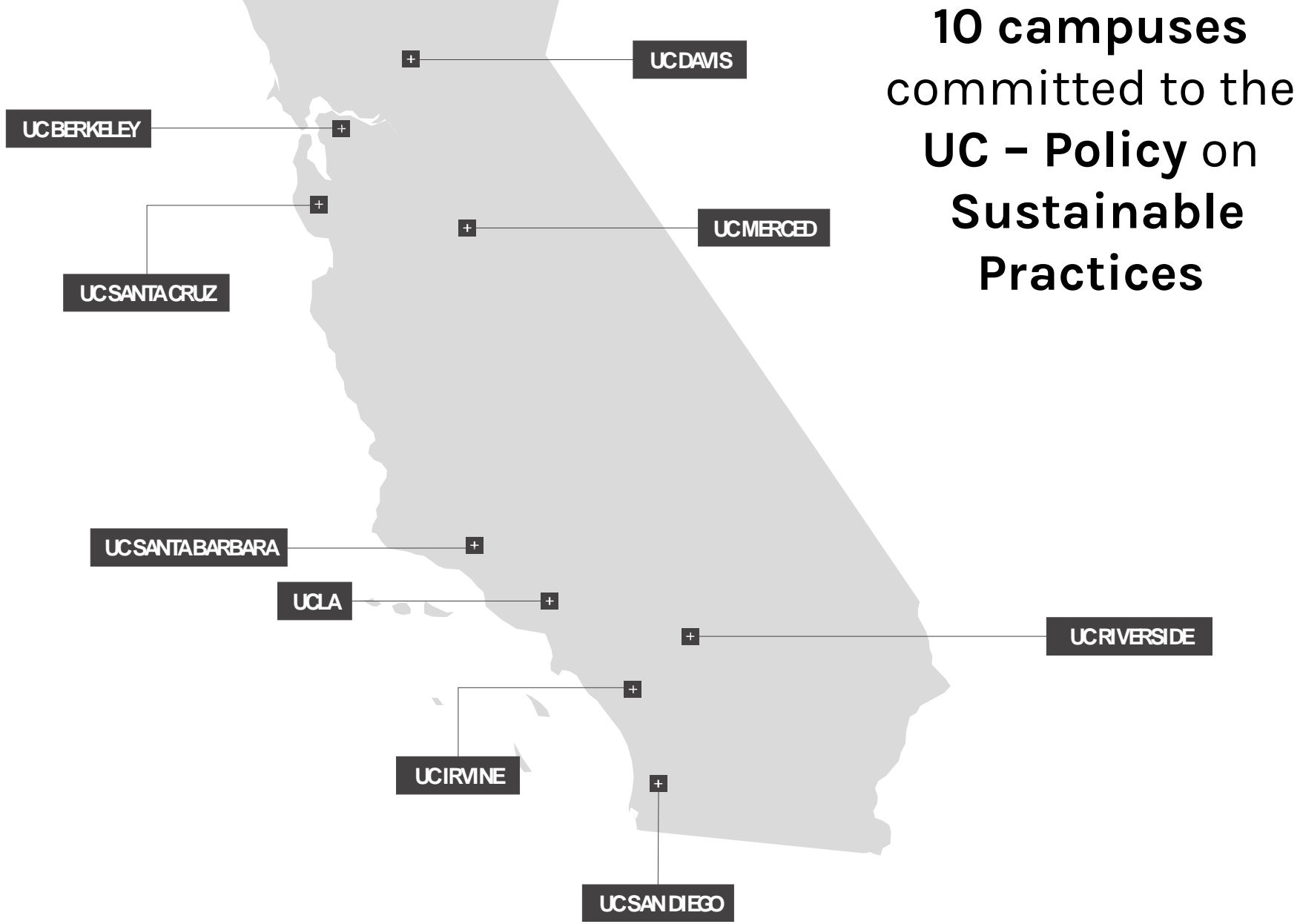
Collaboratives focused on carbon reduction and climate offsets work planning to offset present carbon emissions



An aerial photograph of a university campus, featuring various buildings, green spaces, and a winding path. The entire image is overlaid with a semi-transparent blue filter. The text "UNIVERSITY OF CALIFORNIA SYSTEM" is centered in white, bold, sans-serif capital letters.

UNIVERSITY OF CALIFORNIA SYSTEM

UNIVERSITY OF CALIFORNIA SYSTEM



10 campuses
committed to the
UC – Policy on
Sustainable
Practices

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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1 of 36

...nine areas of
on, climate protection,
mentally preferable
.

...e(Inpatient Revenue)
n Revenue + Inpatient

...cing activities. For the
within a specific product

Recycle and the
nversion includes:
able of converting post-
s, green fuels like
include combustion.
materials into usable heat
ical conversion other
process must include
ting system to recover
rials that are otherwise
is that exclusively
ilities, and other facilities
orting and recovery

number of all person trip
for telecommuting,
the South Coast Air

Code of Regulations
y will have net zero
ed to scope 1 direct
ned by The Climate
rican College and
utrality will be achieved
ossible and using
s emissions.
conversion of chemical
matter is oxidized with

2 of 36

UNIVERSITY
OF
CALIFORNIA

Office
of the
President



WHY DO COLLEGES AND UNIVERSITIES COLLABORATE?

- Our social responsibility as a public research university
- “Bending the curve” of rising GHG emissions
- We improve our ideas through critical feedback and others’ best practices

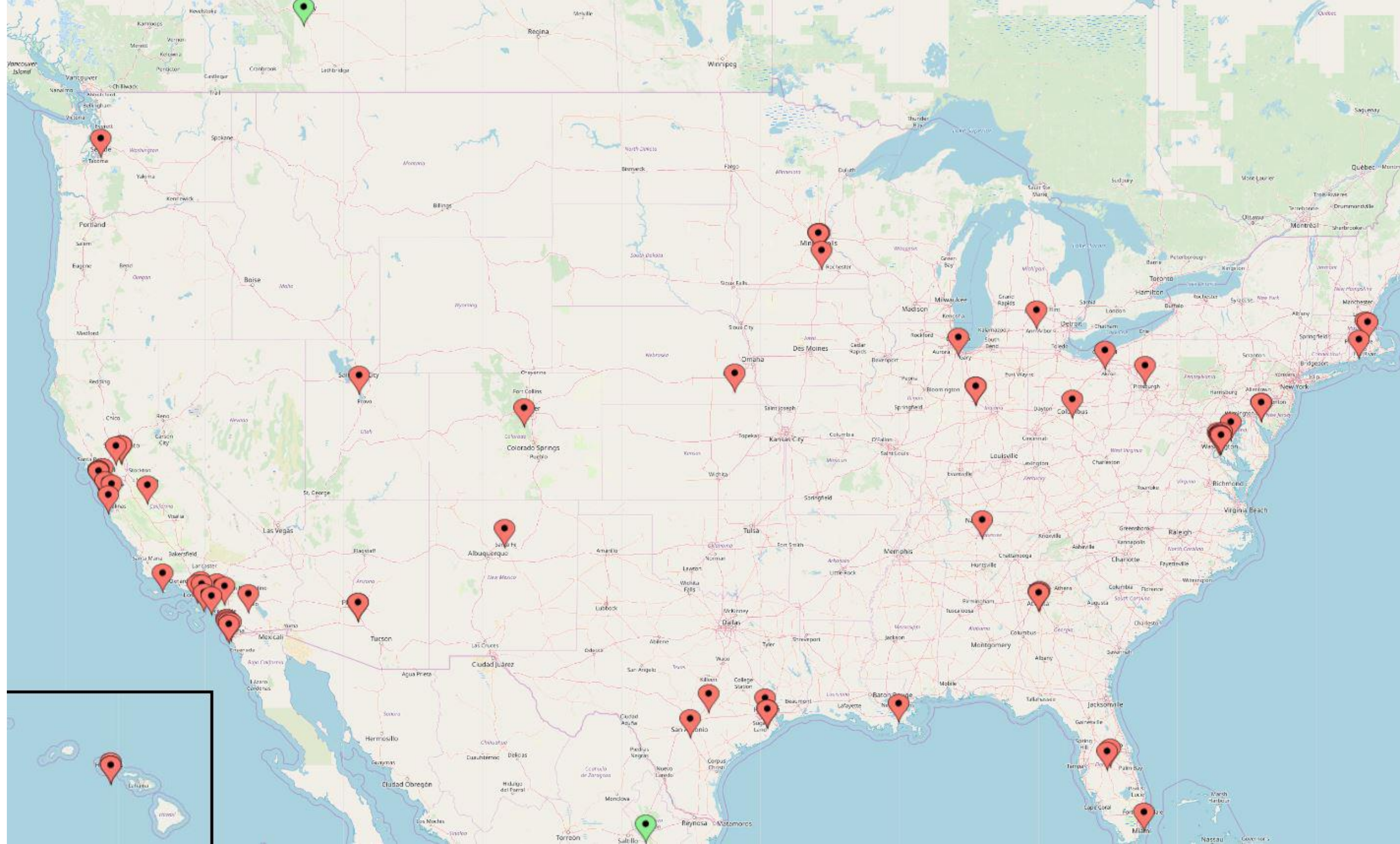


WHAT DO WE COLLABORATE ABOUT?

- Climate action plans
- Building more efficient buildings
- Deep energy efficiency and de-carbonization
- Other sustainability actions



DEEP ENERGY EFFICIENCY AND DE-CARBONIZATION







The Society for College
and University Planning



National Association of College and
University Business Officers



DESIGNING FOR LIFE-CYCLE PERFORMANCE

University of California, Irvine Construction Standards and Costs

The University of California, Irvine pursues performance goals in new construction and applies quality standards that affect the costs of capital projects. Construction costs are not “high” or “low” in the abstract, but rather in relation to specific quality standards and the design solutions, means, and methods used to attain these standards. Thus, evaluating whether construction costs are appropriate involves determining whether:

- Quality standards are excessive, insufficient, or appropriate;
- Resultant project costs are reasonable compared to projects with essentially the same quality parameters.

“Quality” encompasses the durability of building systems and finishes; the robustness and life-cycle performance of building systems; the aesthetics of materials, their composition, and their detailing; and the resource sustainability and efficiency of the building as an overall system.

Overall Goals and Quality Standards

UCI, in order to support distinguished research and academic programs, builds facilities of high quality. As such, UCI facilities are designed to convey the “look and feel,” as well as embody the inherent construction quality, of the best facilities of other UC campuses, leading public universities, and other research institutions with whom we compete for faculty, students, sponsored research, and general reputation.

Since 1992, new buildings have been designed to achieve five broad goals:

1. New buildings must “create a place,” rather than constitute stand-alone objects – forming social, aesthetic, contextually sensitive relationships with neighboring buildings and the larger campus.
2. New buildings reinforce a consistent design framework of classical contextual architecture, applied in ways that convey a feeling of permanence and quality, and interpreted in ways that meet the contemporary and changing needs of a modern research university.
3. New buildings employ materials, systems, and design features that will forestall the expense of major maintenance (defined as >1 percent of value) for at least 20 years.
4. New buildings attain exemplary sustainability performance – at least LEED Gold and outperforming California’s Title 24 energy efficiency standards by as much as 50 percent.
5. Capital construction projects are designed and delivered within the approved project budget, scope, and schedule.

UCI

University of California, Irvine Construction Standards and Costs

Overall Goals and Quality Standards

Building Organization and Massing

Design Concepts that Work Synergistically for Laboratory Buildings

Structural and Foundation Systems

Building Mechanical Systems

Management of Solar Heat Gain

Roofing and Flashings

Site Development

Exterior Cladding and Interior Finishes

Priorities and Trade-Offs

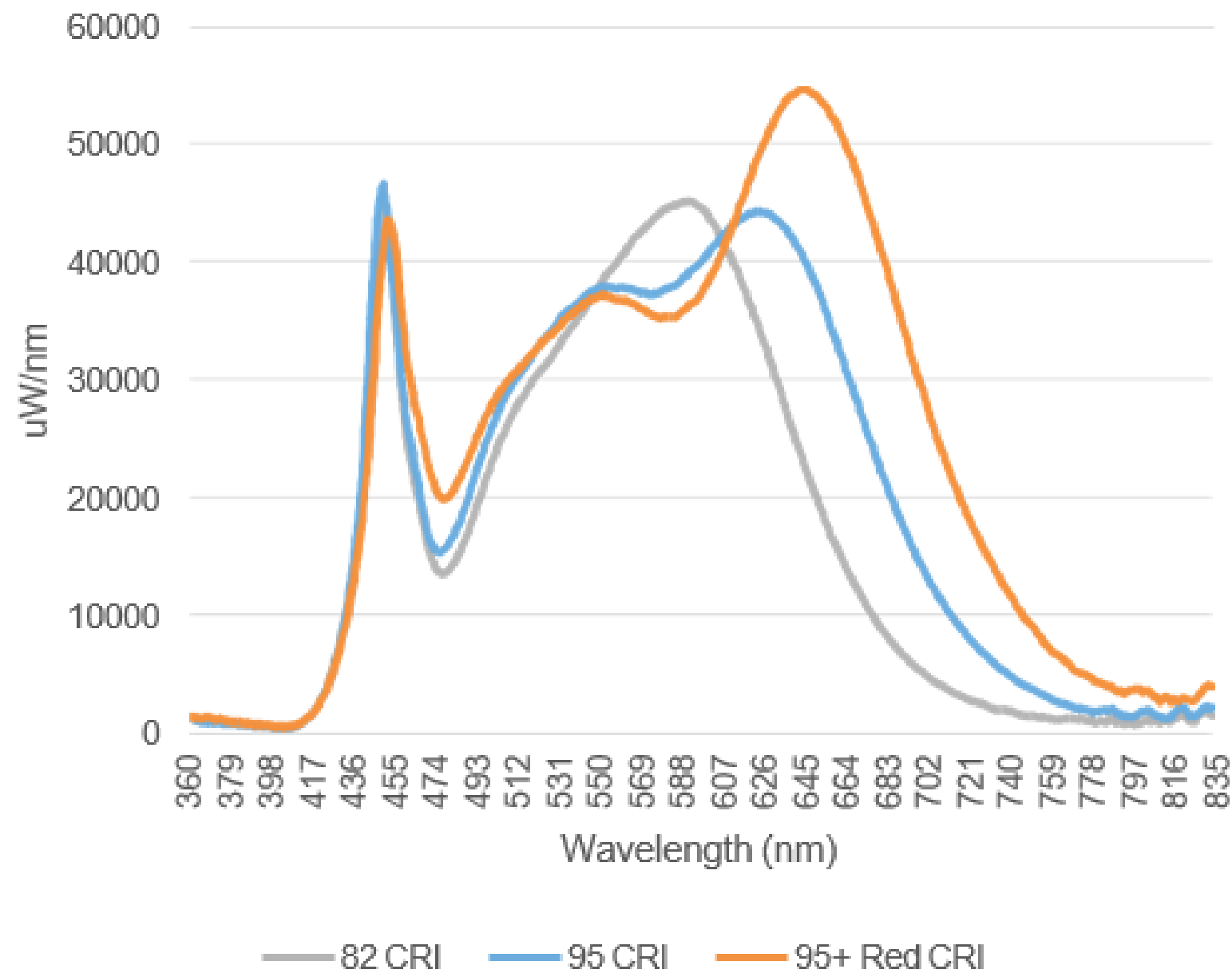
Benefits and Cost-Control Strategies

Results

PILOT TO EVALUATE WHETHER HIGH-CRI LIGHTING IMPROVES CLINICAL ASSESSMENT

FLUORESCENT VS. HIGH-CRI LED LIGHTING

Spectral Distribution of Different CRI Light Sources



OTHER CLINICAL CANDIDATES (BESIDES DERMATOLOGY) FOR HIGH CRI-LIGHTING

PRIMARY CARE

Critical analysis of skin color can provide early signs of ill health, including cyanosis, jaundice, uremia, anemia.

INTENSIVE CARE

ICU, NICU, PICU, Step-Down Unit, and Burn Unit low-CRI lighting may let subtle changes in tissue perfusion go unnoticed until the patient's medical and surgical welfare is compromised. Certain ICU drugs that could compromise circulation and tissue perfusion makes the case for high-CRI lighting. Detection of subtle changes in skin color that can occur with titration of these drugs enables early intervention to avoid tissue damage, costly treatment, and additional length-of-stay.

HOSPITAL CARE

Accurate assessment of skin color is required in patients who are status post skin flaps (pink, blue, white), and patients with vascular compromise of limbs (vasculitis, embolic, cocaine).



HOSPITAL PATIENT ROOM LIGHTING PILOT

**CAN PATIENTS LEAVE THE HOSPITAL HEALTHIER SOONER IF LIGHTING
DOES NOT INTERFERE WITH CIRCADIAN RHYTHMS?**



CONVERT CENTRAL COOLING TOWERS TO RECLAIMED WATER

SAVES 80 MILLION GALLONS/YEAR

SAVES 81,766 kWh/YEAR

COLLABORATIVE PROJECT WITH IRVINE RANCH WATER DISTRICT



IRVINE RANCH WATER DISTRICT

- Approximately \$1.5 million for pipelines
- Cost recovered through lower cost of water and funds from Metropolitan Water District (MWD)



UC IRVINE

- Approximately \$1 million for Central Plant improvements
- IRWD funding the improvements
- Will continue to pay potable rate
- Less than 10 years to recover capital cost

BEST PRACTICE BORROWED FROM THE OHIO STATE UNIVERSITY

SPEEDS UP LAB RENOVATIONS

MINIMIZES COST OF LAB RENOVATIONS





wcbrase@uci.edu

UCI University of
California, Irvine

An aerial photograph of the Boston skyline, featuring numerous skyscrapers and dense urban development. The entire image is covered with a semi-transparent green filter. Centered over the image is the text "BOSTON GREEN RIBBON COMMISSION" in a bold, white, sans-serif font, arranged in two lines.

BOSTON GREEN RIBBON COMMISSION



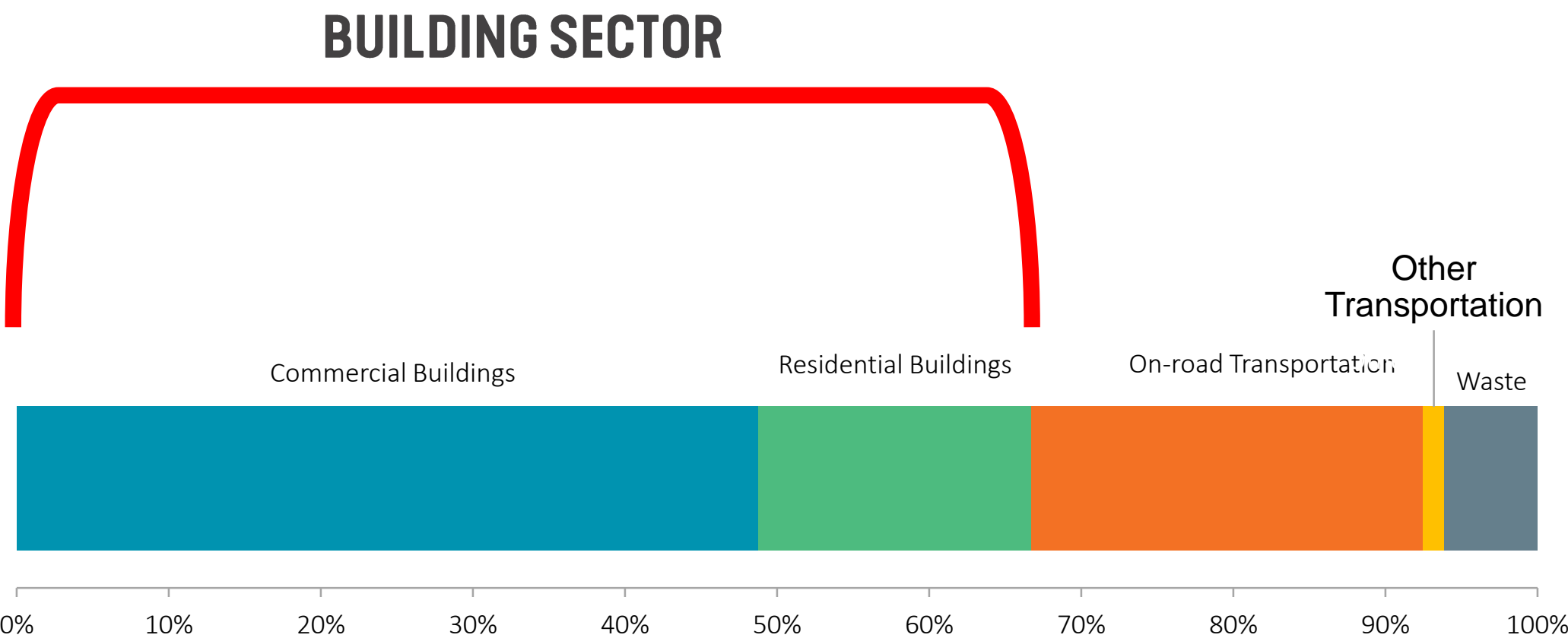
The mission of the Green Ribbon Commission is to convene leaders from Boston's key sectors to support the outcomes of the City's Climate Action Plan.

COMMON AGENDA

BOSTON'S GREENHOUSE GAS EMISSIONS

GHG REDUCTION CHALLENGE

- 2015: 7.2 Million MTCO₂e
- 2/3s in Building Sector
- 85% of building stock projected in 2050 already exists

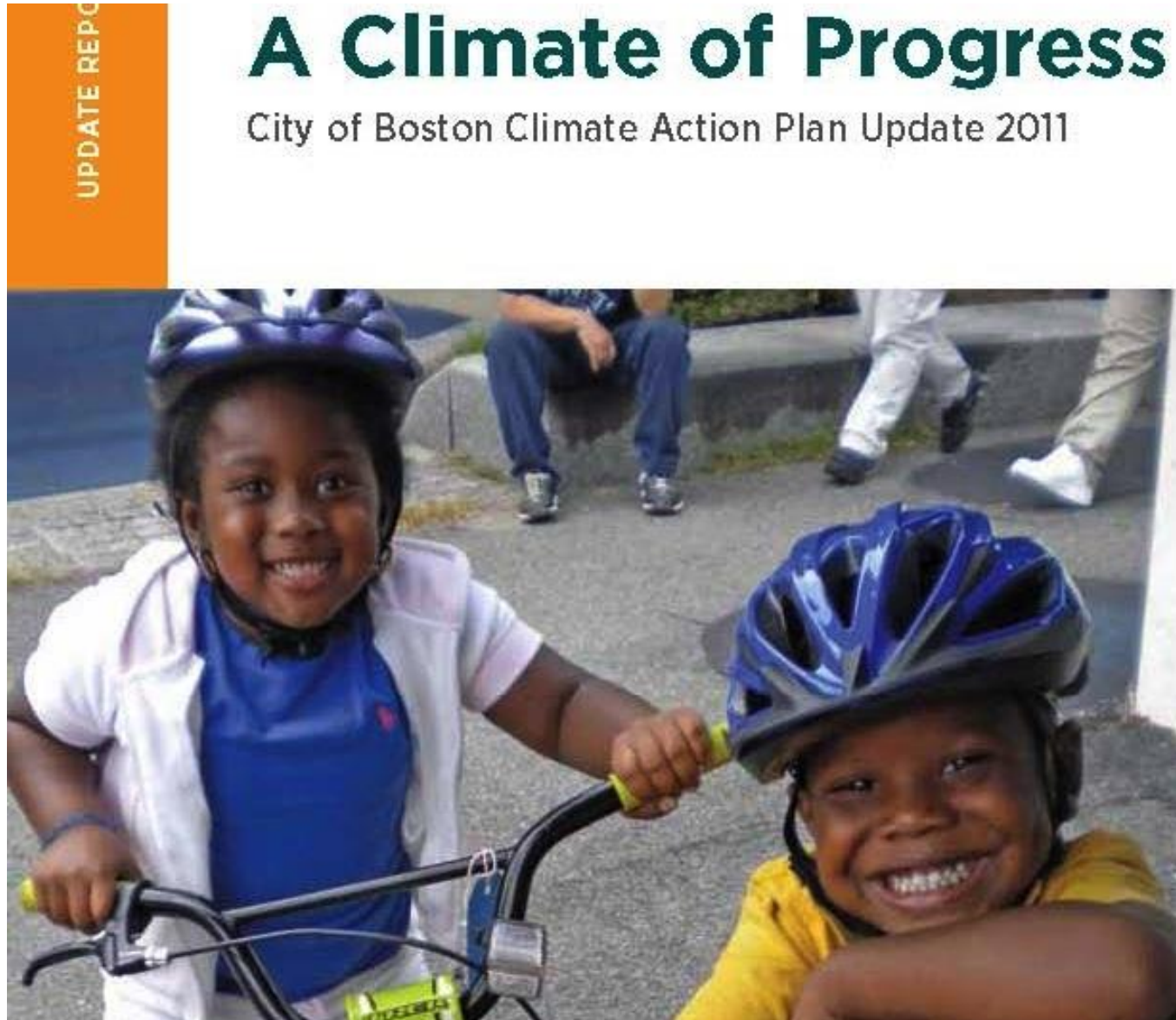


COMMON AGENDA

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



COMMON AGENDA

COLLABORATION

- Subject Working Groups
 - Transportation
 - Climate Preparedness
 - 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

ENGAGE in Boston's Climate Action Planning

Monday, March 24, 5:30 pm
GSU Backcourt



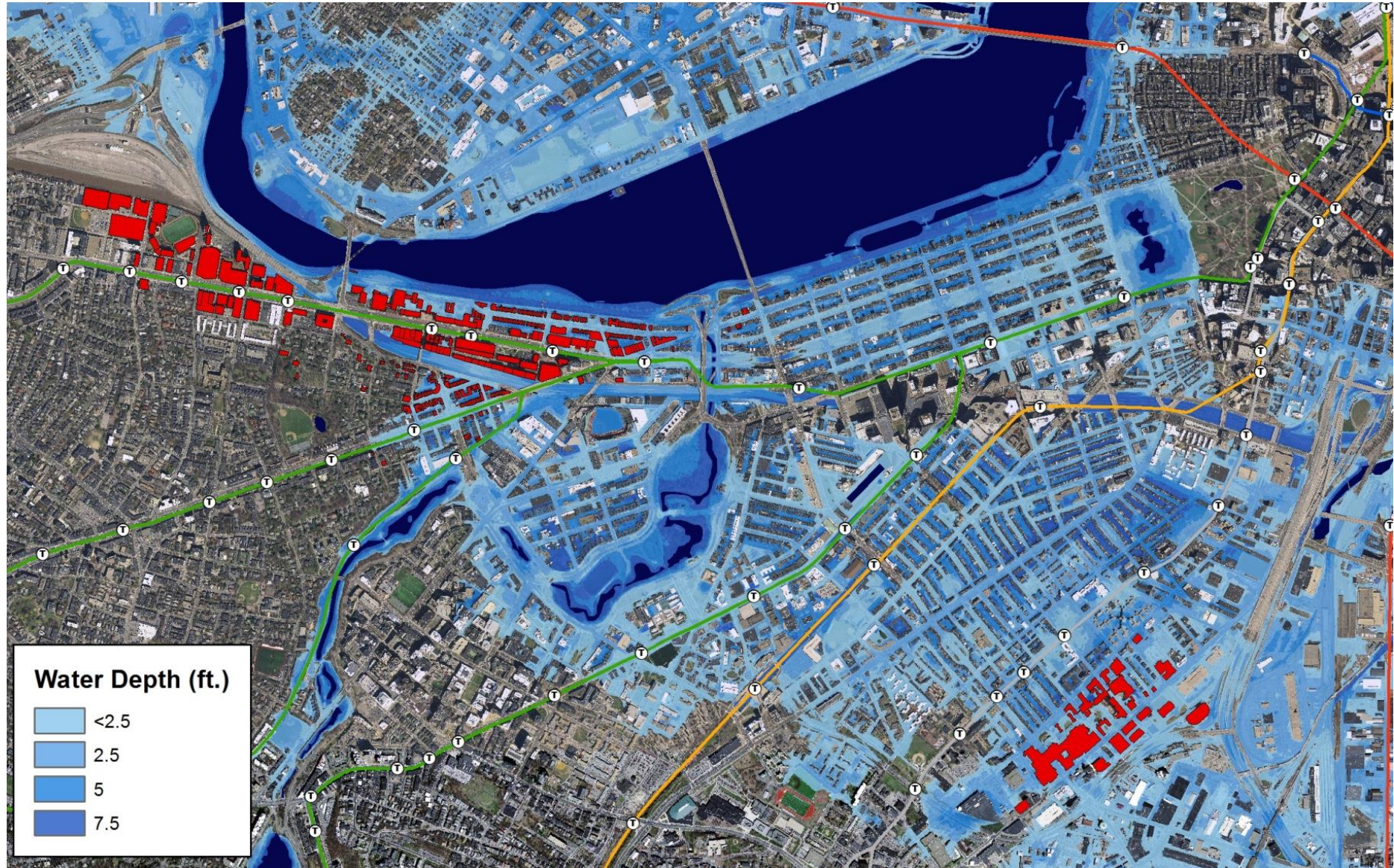
sustainability @ BU
It's what you do.



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



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COMMITMENT

TOPICS

PROGRAMS

ACTION

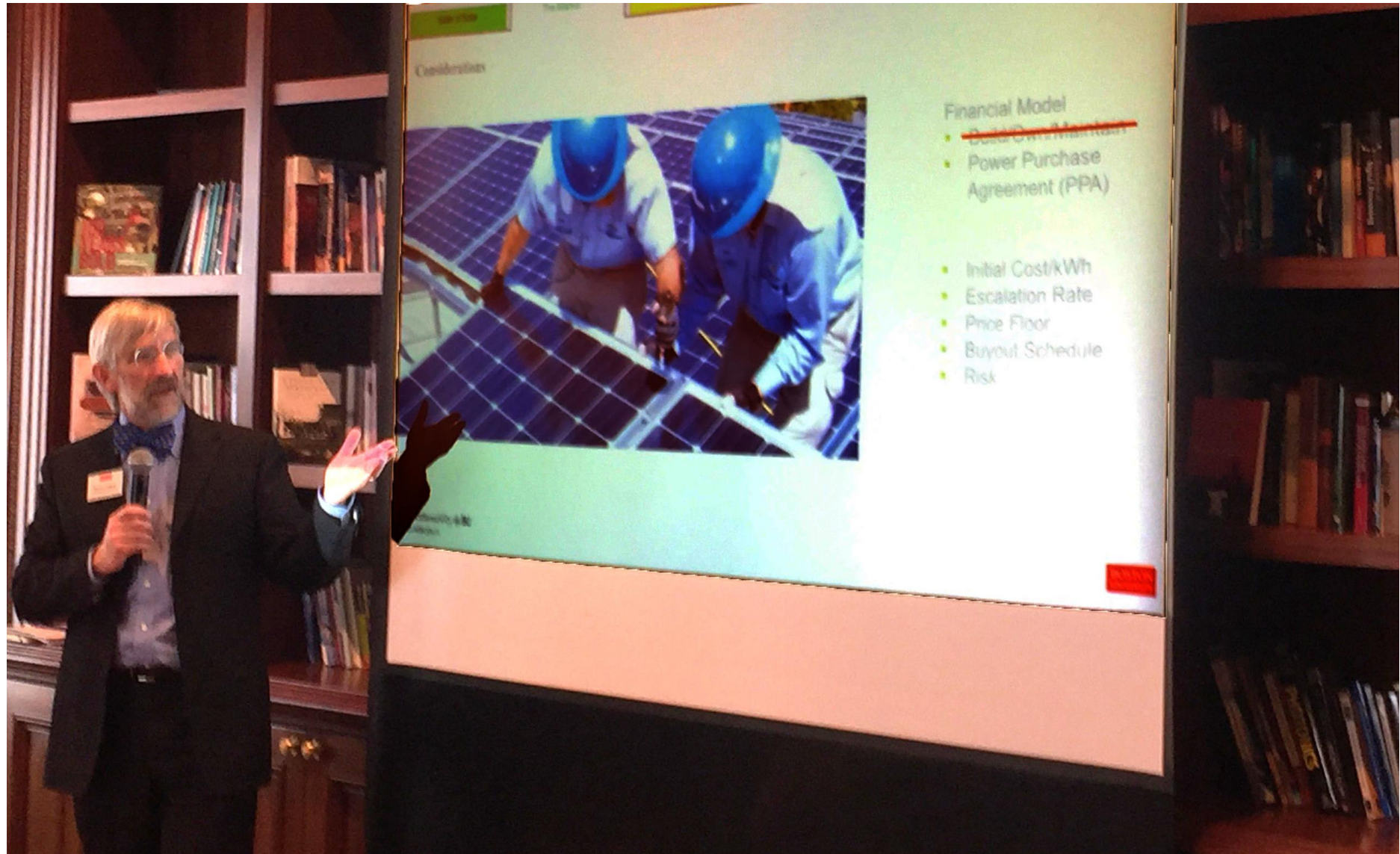


REINFORCING ACTIVITIES

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

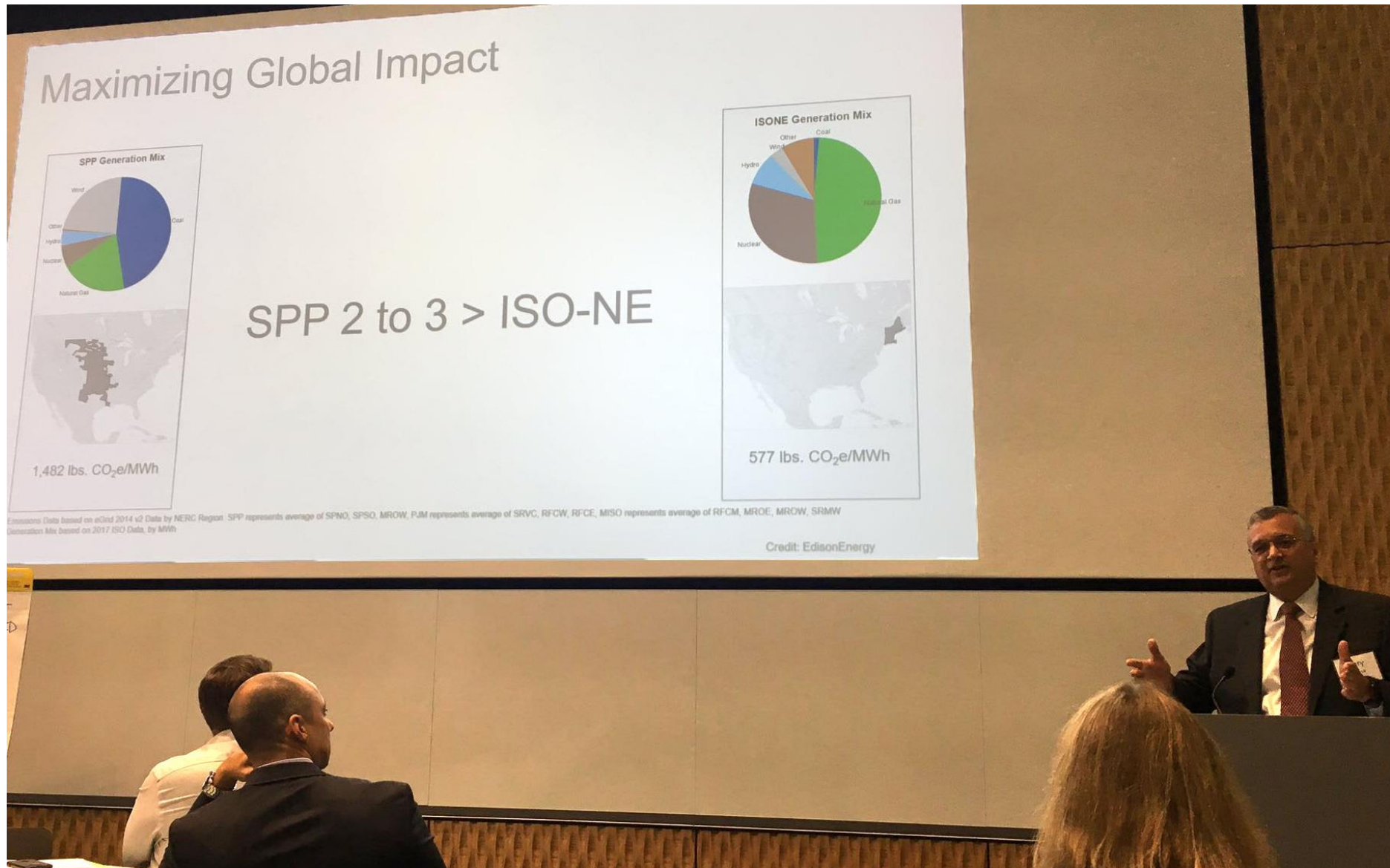


REINFORCING ACTIVITIES

CONVENINGS

8. First Movers

- 1/2 day
- Cross sector event
- Renewable Energy
- Energy Efficiency
- Geothermal (GSHP)



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

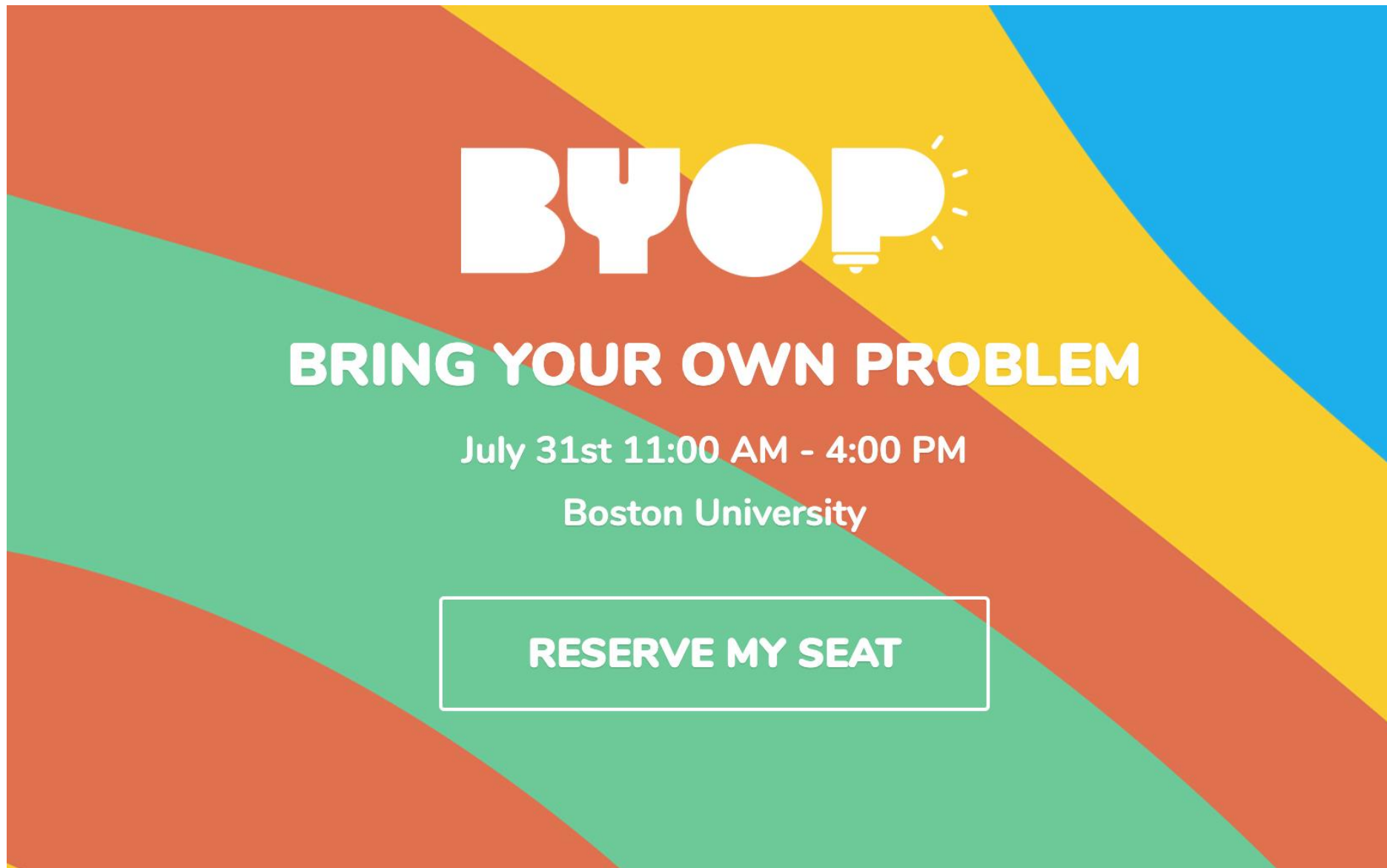


REINFORCING ACTIVITIES

CONVENINGS

10. Bring Your Own Problem

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

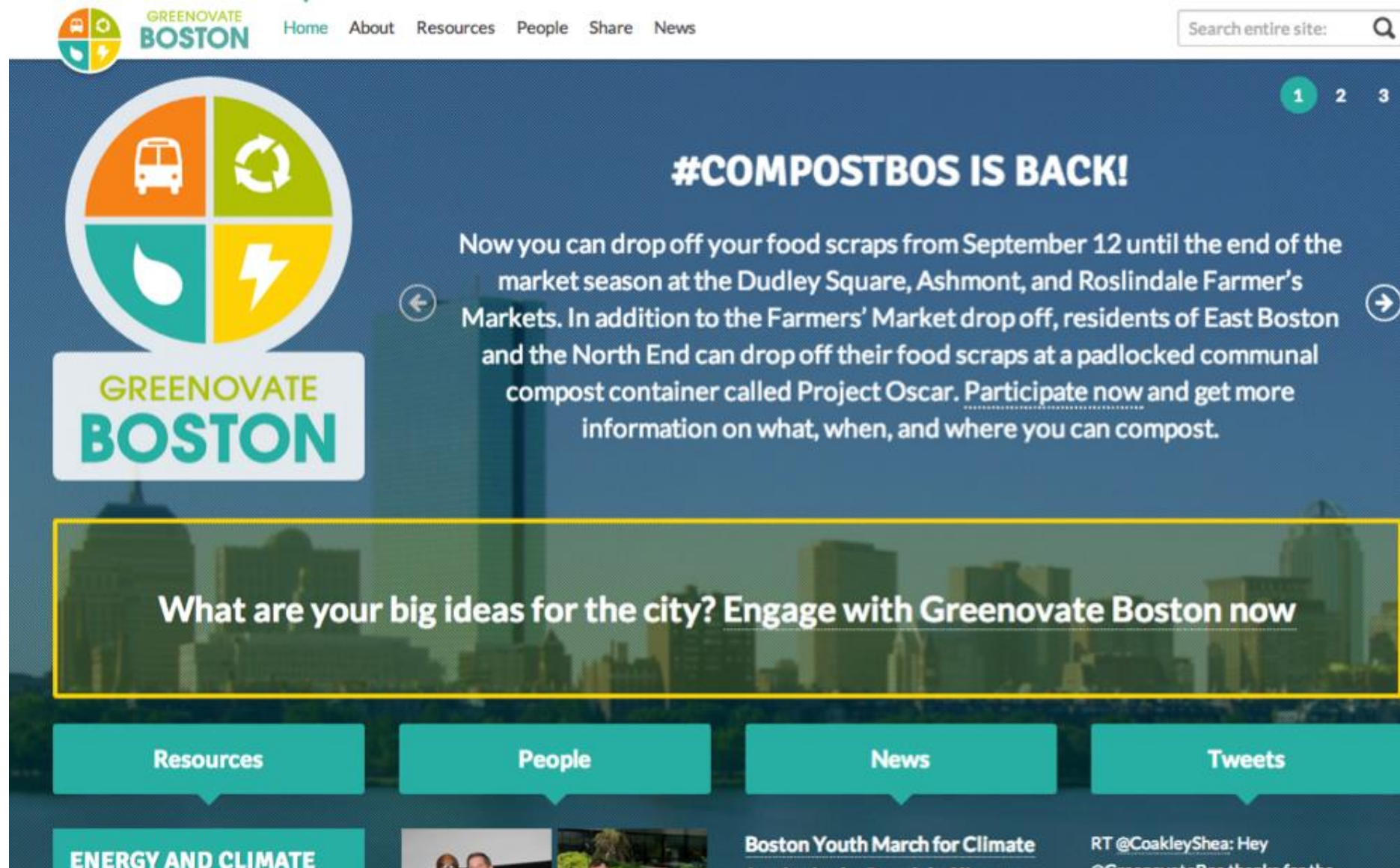


CONTINUOUS COMMUNICATIONS

CONTINUOUS COMMUNICATIONS

ENGAGE THE COMMUNITY

- Memorable Concepts
 - Physical presence
 - Web presence
 - Interactive
 - Social



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



FreeHdWallpapers.com

RESULTS / SHARED MEASUREMENT

BUILDING ENERGY REPORTING & DISCLOSURE ORDINANCE (BERDO)

EXECUTION

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



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

Bank of America 



tBf The Boston
Foundation
INNOVATION. INFORMATION. IMPACT.

 **Barr**
Foundation

HENRY P. KENDALL FOUNDATION

bxp Boston
Properties



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

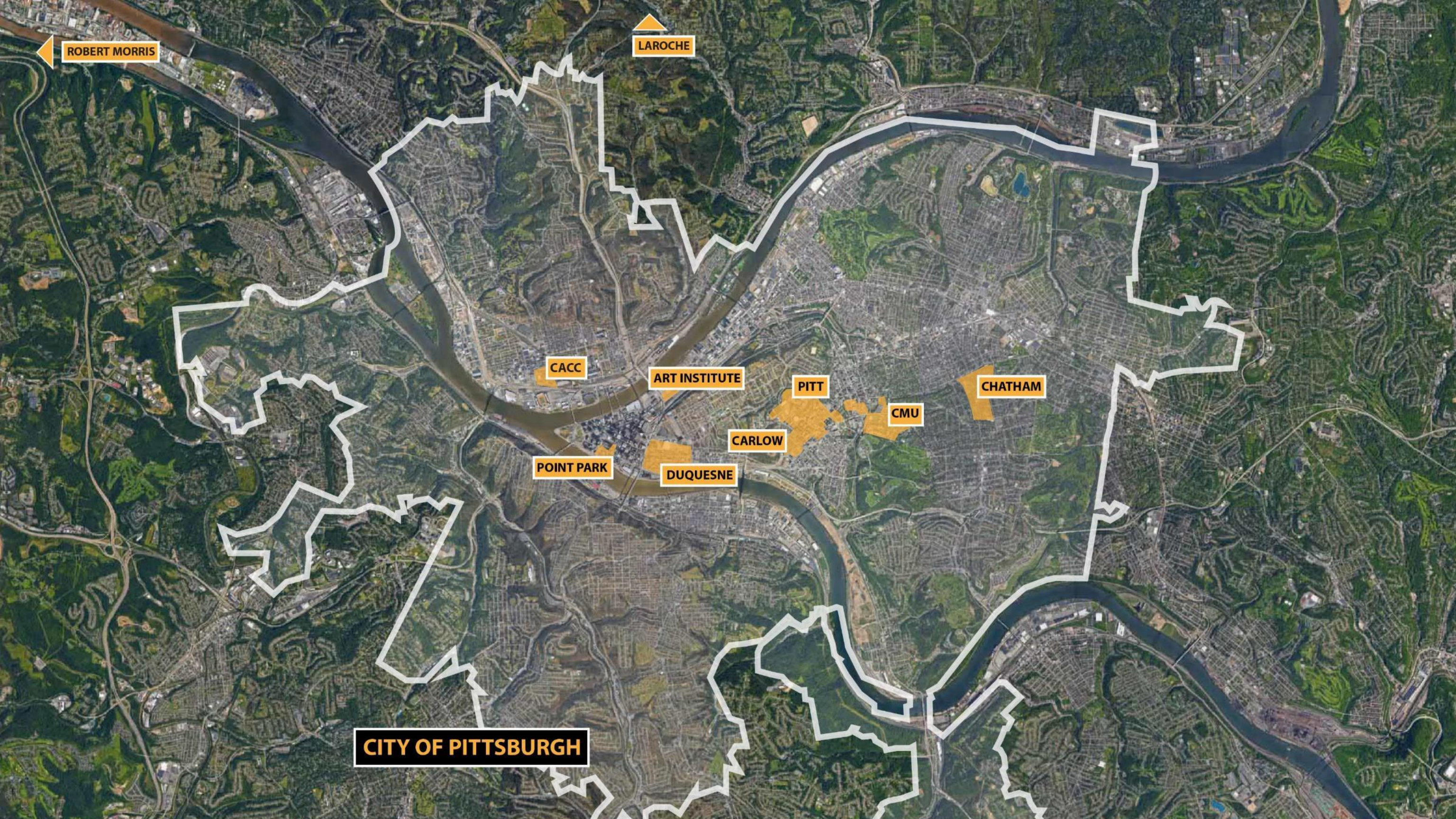
Dennis Carlberg
carlberg@bu.edu



The background of the image is a monochromatic orange-tinted photograph of the Pittsburgh skyline. A large suspension bridge, likely the Fort Pitt Bridge, dominates the center of the frame, with its two massive towers and intricate steel structure clearly visible. In the background, behind the bridge, several skyscrapers of the Pittsburgh city skyline rise against a hazy sky. The foreground shows the calm surface of the river, reflecting the bridge and the city. The overall tone is professional and institutional.

PITTSBURGH HECC

(HIGHER ED CLIMATE CONSORTIUM)



ROBERT MORRIS

LAROCHE

CACC

ART INSTITUTE

PITT

CHATHAM

CMU

CARLOW

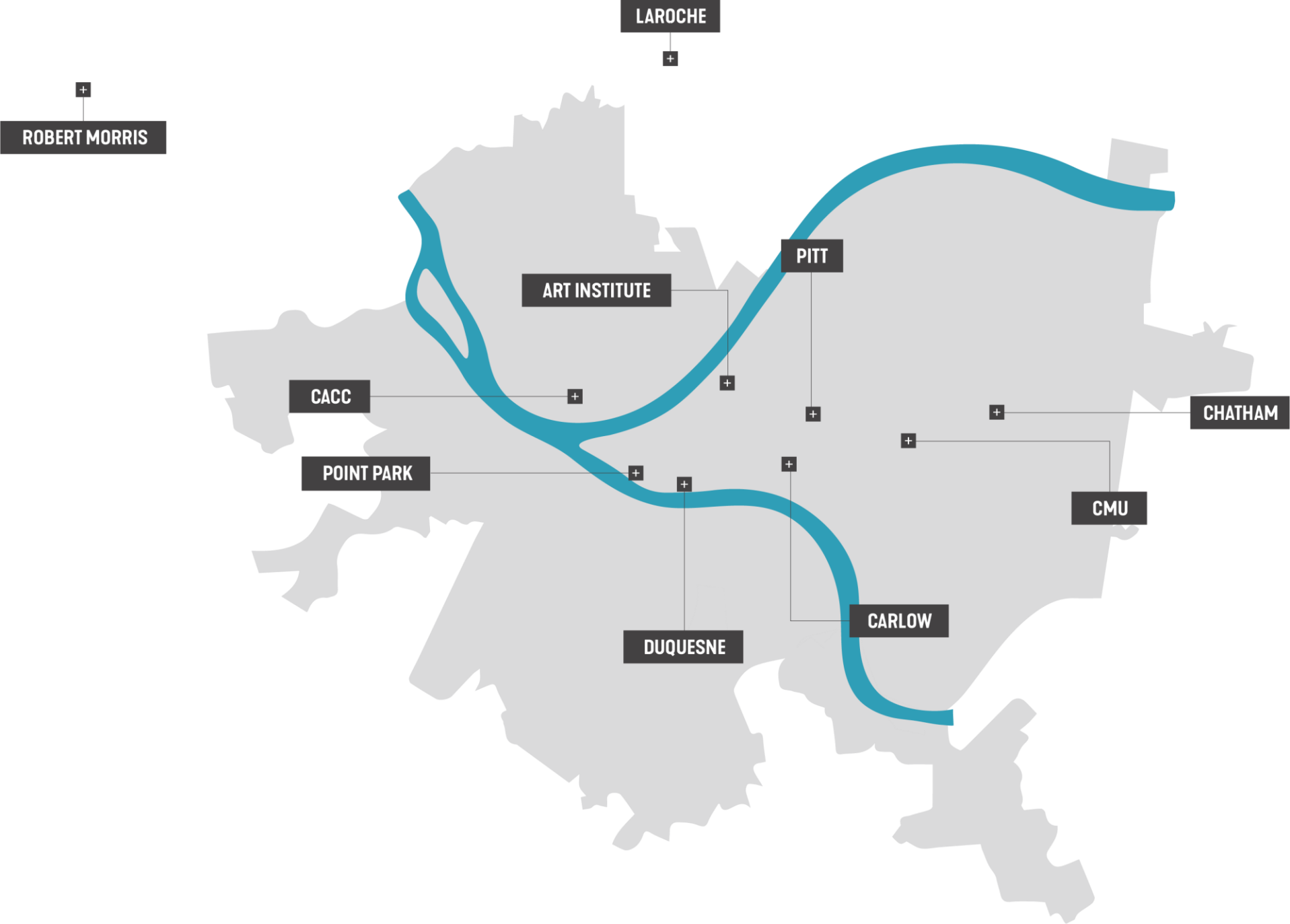
POINT PARK

DUQUESNE

CITY OF PITTSBURGH

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 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



University of
Pittsburgh

AI
The Art Institute
of Pittsburgh®



La Roche
COLLEGE

**Carnegie
Mellon
University**

ROBERT
MORRIS
UNIVERSITY



PennState Center
Pittsburgh

POINT PARK
UNIVERSITY

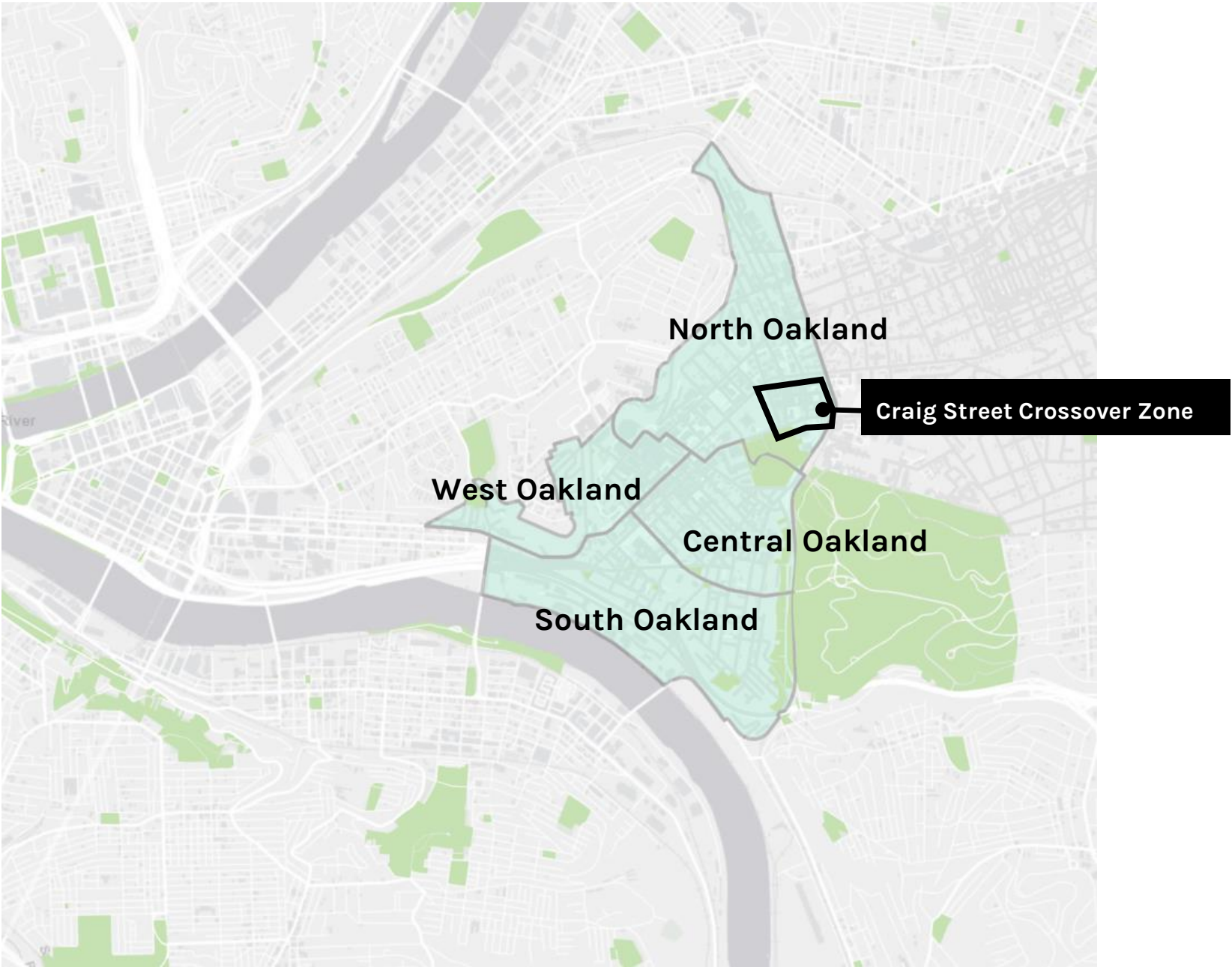
D DUQUESNE
UNIVERSITY

OAKLAND ECONOMIC DEVELOPMENT PLAN



The Oakland Economic Development and Urban Studies Request for Proposals seeks to investigate economic implications and growth associated with Oakland’s market trends, housing affordability, workforce training and business support. The RFP also seeks to understand the physical character of Oakland.

Tentative Completion: 2020/2021



ECODISTRICTS INCUBATOR – OAKLAND LEADING POSITIONING

The EcoDistricts Incubator brings together 13 communities and leaders to review protocol that advances community goals. This includes: Pittsburgh Innovation District, University of Pittsburgh, Carnegie Mellon University, University of Pittsburgh Medical Center, Oakland Community Development Corporation, and others.



540

BUILDINGS
COMMITTED

84.8M
COMMITTED SQ FT

75.8%
DISTRICT COMMITTED

COMMITTED

COMMITTED UNBUILT

2019

PITTSBURGH'S CLIMATE GOALS

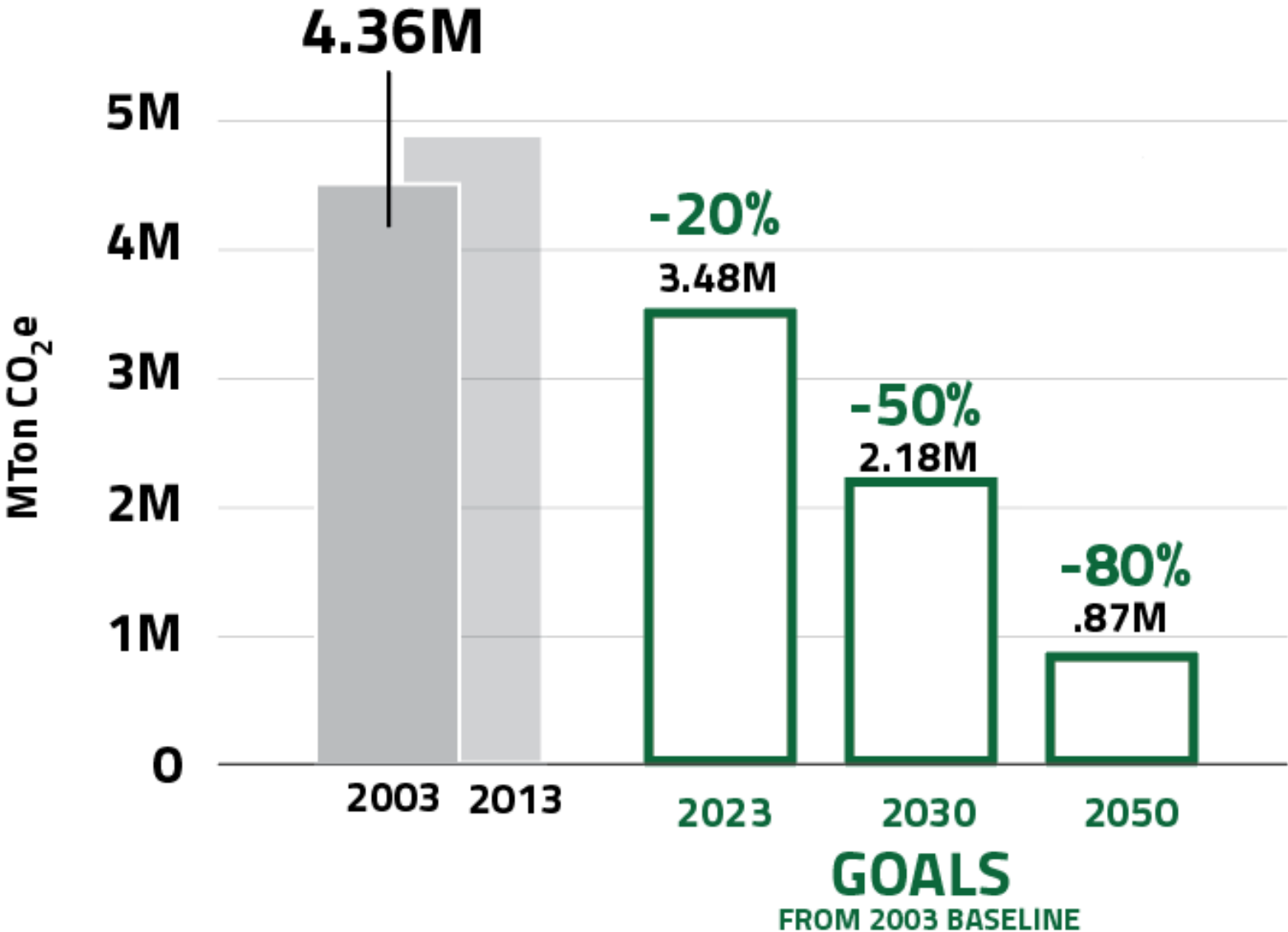
2030 GOALS:

CITY OPERATIONS

- 100% renewable elect.
- 100% fossil fuel free fleet
- Divestment of City pensions

CITY OF PITTSBURGH

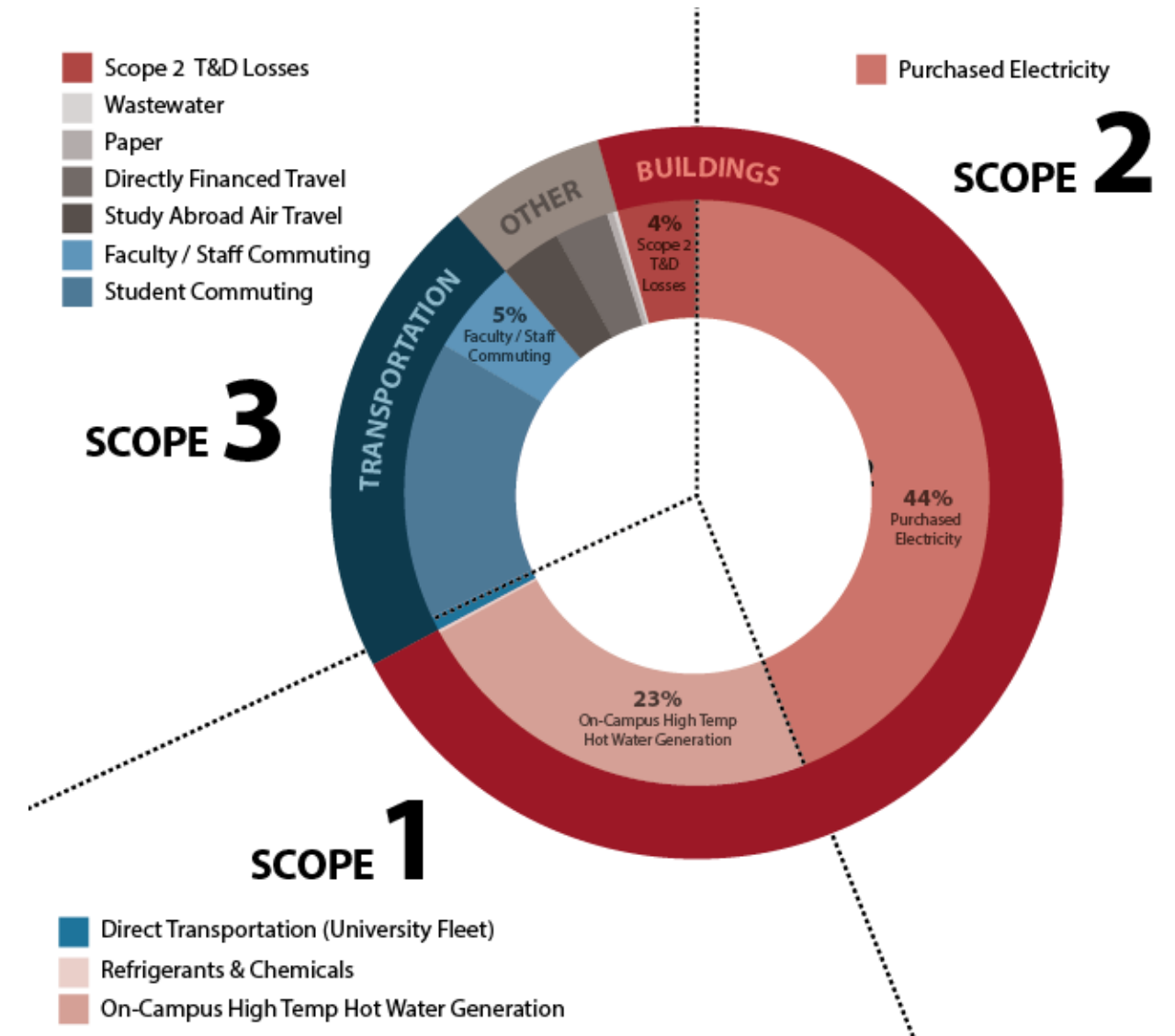
- 50% energy & water use
- 50% transport emission
- Zero waste



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

BENEFITS TO HECC SCHOOLS

- Shared GHG process (comparability)
- Group resources and information sharing
- Learning tours
- Volunteer opportunities for students



HECC COMMITMENT

- Willingness to share!
- Shared inventory methodology
- Consensus on calculator
(CA-CP, now SIMAP)
- All schools conducted baseline
- Data shared
- 2030 District reporting



UNIVERSITY OF PITTSBURGH – HYDROELECTRIC POWER



The Paradox
Reduction of Fossil Fuels

Reduction of Fish to an area seeing
increased fish population after decades of
industrial pollution

GREENER POWER

Hydropower for Pitt



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

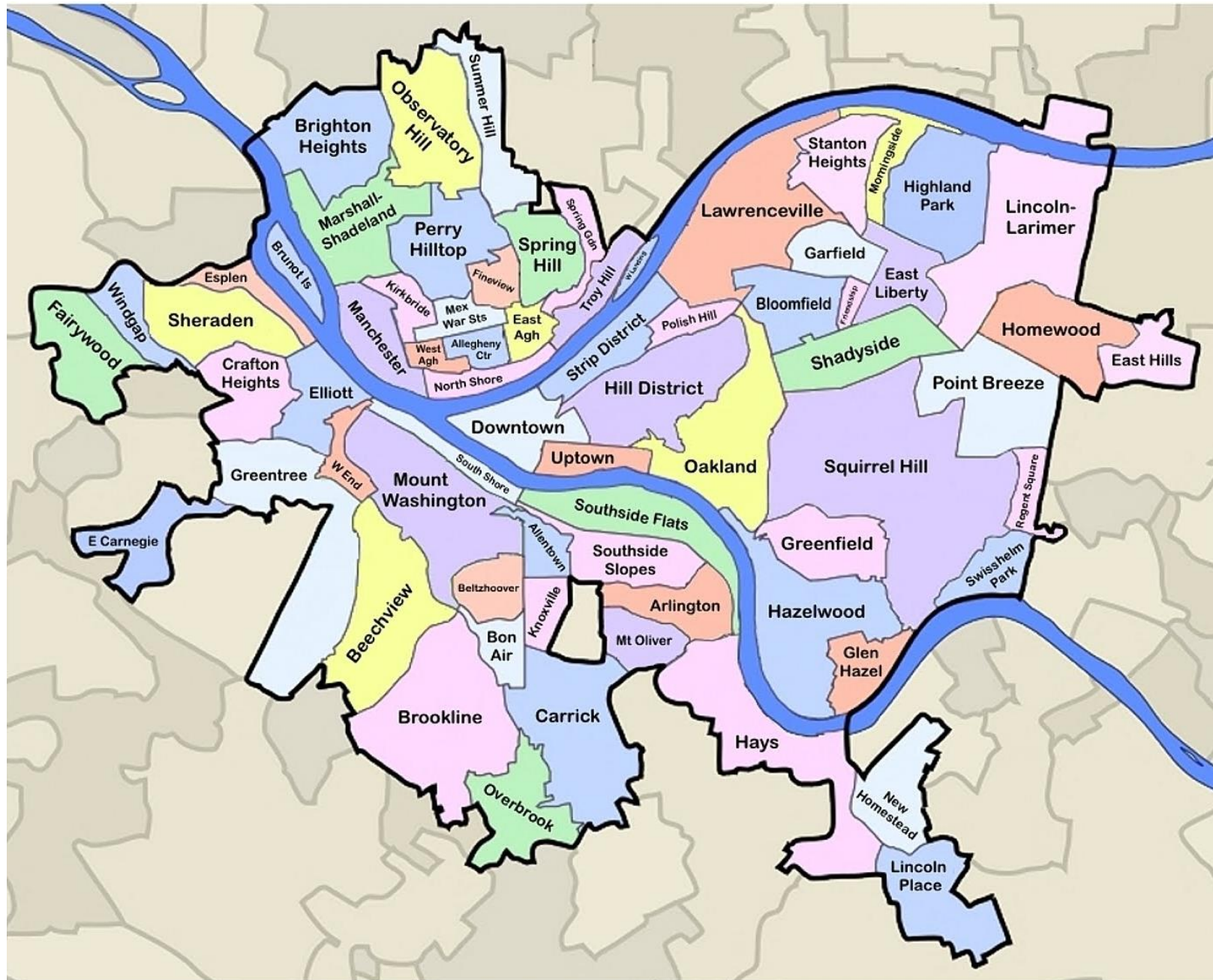


Sustainability Goal:

50%

By **2030**, 50% of Pitt's electricity will be renewable

OAKLAND AREA OF PITTSBURGH



Opportunities

- Leverage Ability
- Transportation
- Housing
- Storm water Management
- Resilience Planning
- Green Power Purchase Price
- Resiliency Planning
- Food waste and Clothing

Challenges

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

THE COMMON MISSION:
**BUILDING CLIMATE RESILIENT
COMMUNITIES THROUGH HIGH-ED
PARTNERSHIPS**

CREATING CLIMATE COLLABORATIVES

UNDERSTAND CURRENT ENTITIES/ORGANIZATIONS FORMING ACTION

Complement or enhance current efforts in support of larger goals

FORM A BACKBONE ENTITY OR STEERING GROUP

Find other climate leaders in your community to lead the charge

ESTABLISH GOALS

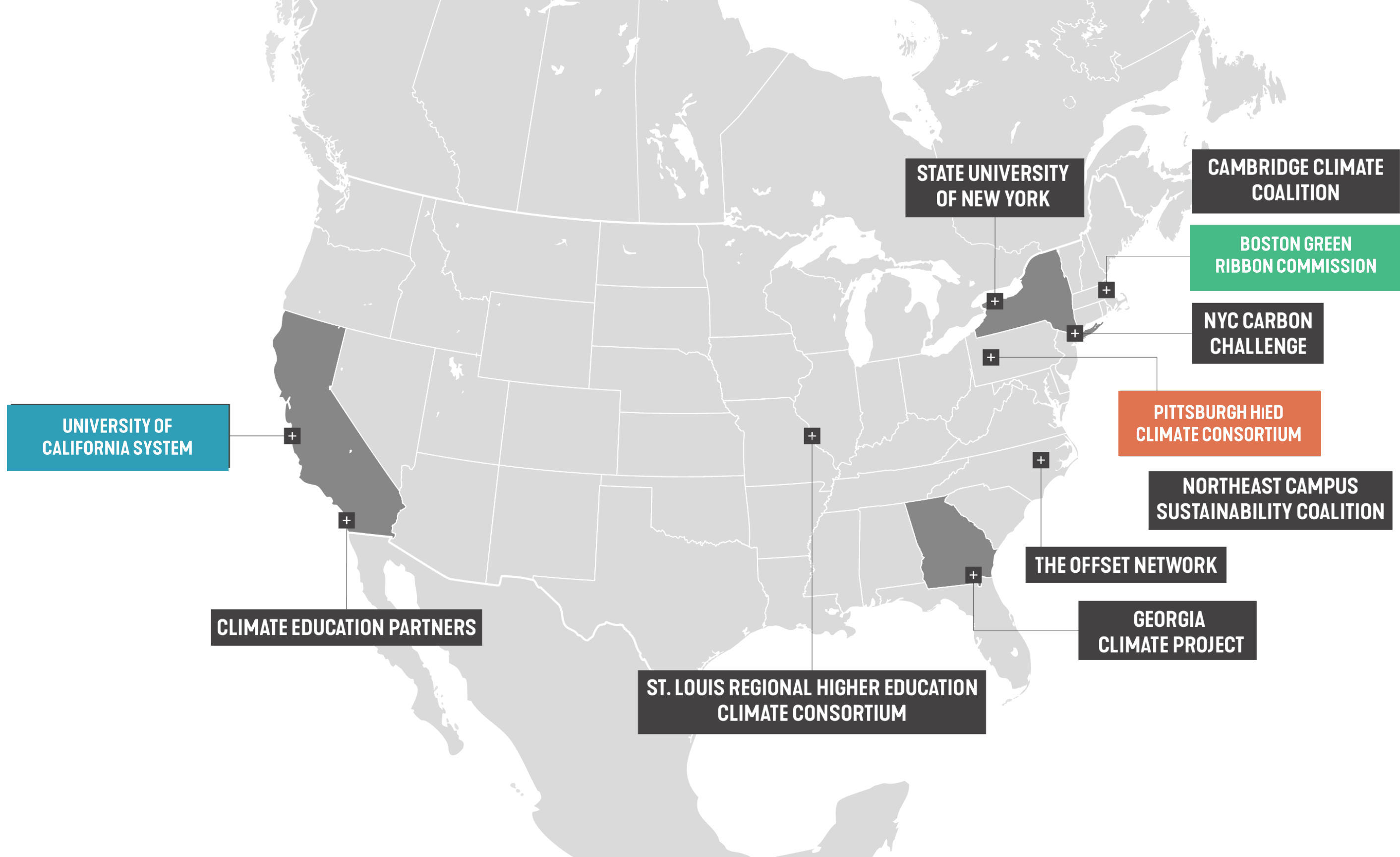
How does the collaborative connect to the city? Will they create tools, do research, discuss best practice, or a combination? What will leadership look like?

CONNECT

Inventory city stakeholders, local universities, and climate-centric organizations. Who are potential contributors? Who would benefit?

LEARN FROM OTHER CLIMATE COLLABORATIVES

Connect to other higher education climate collaboratives. What stories or recommendations do similar organizations have?



FOR PRINT

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

ST. LOUIS, MISSOURI



- 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.

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 Root Returns](#)
- [Registration for 2017 RecycleMania Now Open](#)
- [Green Shadow Program Now Accepting Spring Applications](#)
- [MOA/PPA Conference Save the Date and Call For Papers](#)
- [STL-HESC Celebrates 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 [Tios & 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-bound) goals
- A report that can serve as a reference point for planners, government officials and other decision makers to review and evolve 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

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



NYC CARBON CHALLENGE



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



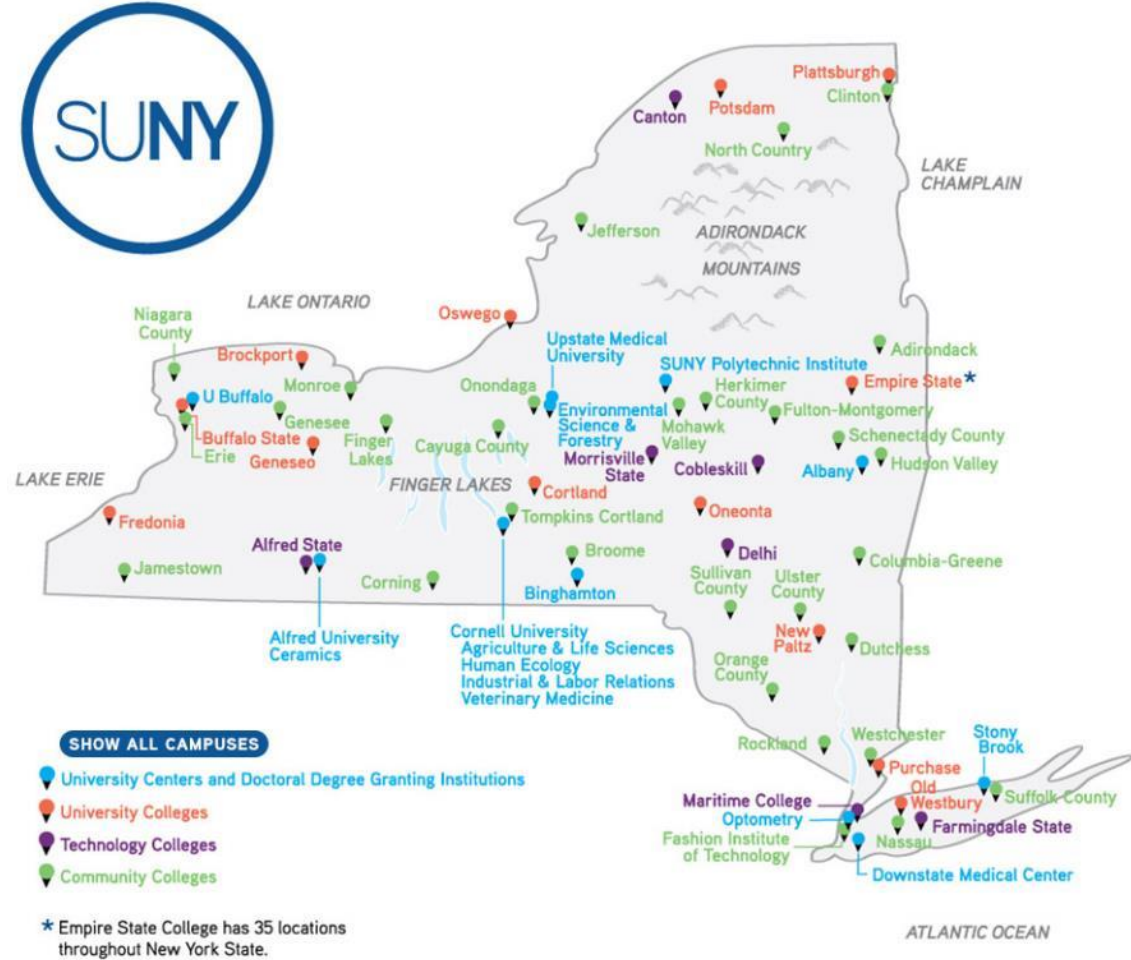
UC– Policy on Sustainable Practices text components:

- 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

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



ENERGY

Reduce SUNY’s energy consumption by 30% by 2020

Brownfield to Brightfield: a project exploring placement of renewable energy installations on EPA brownfield sites

FOOD

“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

SUSTAINABILITY BENCHMARKING

A workbook intended to implement a set of tiered guidelines for SUNY dining and retail purchasing

GEORGIA CLIMATE PROJECT



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



Academic partners



CLIMATE EDUCATION PARTNERS

SAN DIEGO, CA



San Diego, 2050 Is Calling.
HOW WILL WE ANSWER?



FACING THE FUTURE:
How Science Can Help Prepare San Diego Regional Leaders For Climate Change

WHY 2050?



COASTAL FLOODING

To address more frequent and widespread coastal flooding, we can use smart infrastructure and natural buffers to safeguard residents and businesses.

Discover More >

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



THE NORTHEAST CAMPUS SUSTAINABILITY CONSORTIUM (NECSC)



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



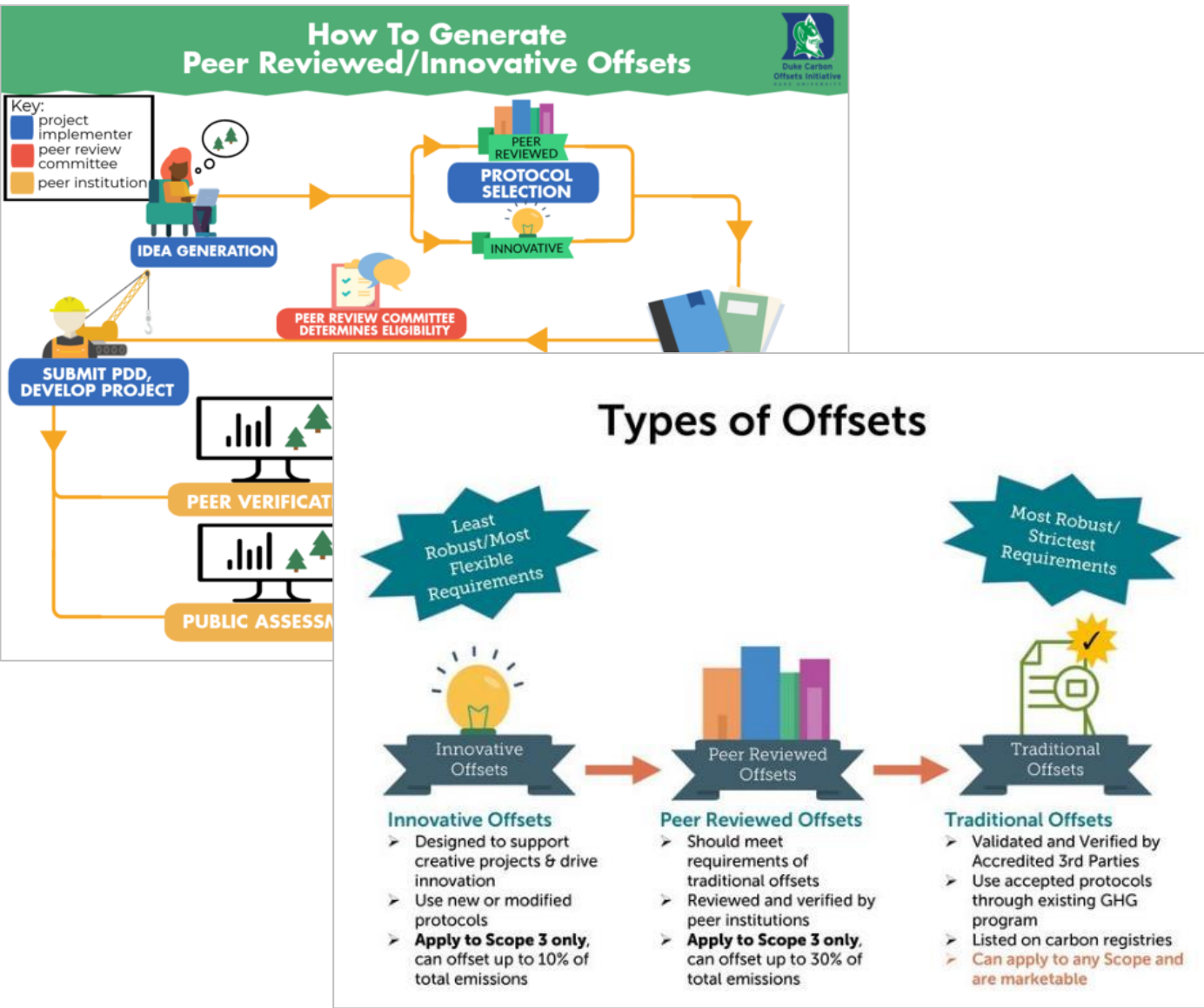
Conference History	
Since 2004, NECSC steering committee members have committed to hosting annual gatherings. As planning continues for the next 10 years, additional host institutions will emerge.	
2004	New Hampshire
2005	Massachusetts (Harvard)
2006	Connecticut
2007	Maine (Bowdoin College)
2008	New Jersey (Princeton)
2009	Vermont (Middlebury and the University of Vermont)
2010	Montreal (McGill University)
2011	Pennsylvania (Carnegie Mellon)
2012	New York (Syracuse University)
2013	Maryland
2014	Rhode Island (Brown University)
2015	Massachusetts (University of Massachusetts)
2016	Massachusetts (Wellesley College and Babson College)
2017	New Hampshire (Dartmouth College)
2018	Connecticut (Wesleyan University)
2019	Maine (University of Southern Maine)
2020	Montreal (McGill University)

THE OFFSET NETWORK



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

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

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

- Consortium for Sustainability
- EcoLeague Resources for Faculty

CONSORTIUM FOR SUSTAINABILITY



EcoLeague consortium members include:

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

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.

UNIVERSITY OF CALIFORNIA SYSTEM



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

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

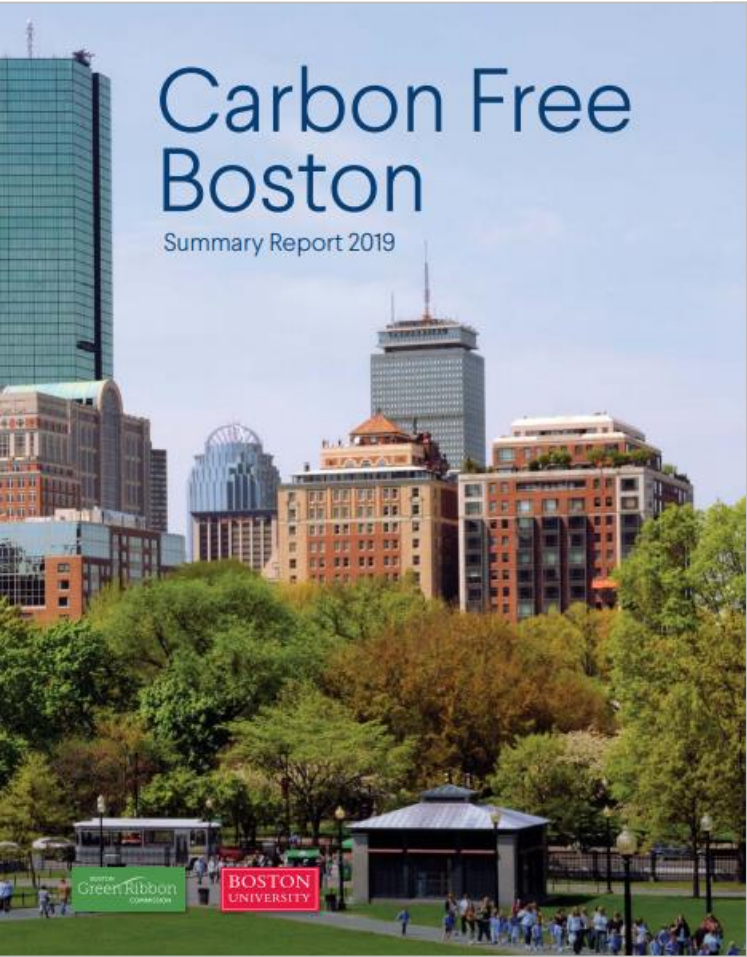
Office
of the
President



BOSTON GREEN RIBBON COMMISSION

BOSTON, MASSACHUSETTS

CITY of BOSTON



Dear Mayor Walsh,

On behalf of the Boston Green Ribbon Commission (GRC) and its Carbon Free Boston Working Group, we are honored to present you with our Carbon Free Boston report. This report quantifies the most effective combinations of strategies to reduce greenhouse gas emissions across our energy, buildings, transportation, and waste sectors. It is intended to provide an analytical framework for the City of Boston and its key stakeholders to use in making choices about which specific strategies and policies to pursue to achieve the goal of being carbon neutral by 2050.



The good news is that by taking ambitious steps to reduce its greenhouse gas emissions, the City of Boston can also improve the quality of life for its residents – reduce congestion, make our streets safer, improve transit access, create more green space, reduce noise and air pollution and improve public health. We are proud to note that our Carbon Free Boston report explicitly addresses the potential impacts of different policies on social equity and acknowledges that socially just solutions are as important as technically efficient solutions.

In 2016 you signed the Metro Mayors Climate Mitigation Commitment, committing the City of Boston to achieving carbon neutrality by 2050. In that same year, you asked the Green Ribbon Commission to establish a Working Group to support the City in the development of strategies to achieve those ambitious targets. In response, we set up the Carbon Free Boston Working Group, comprising GRC members and other leaders in the energy, finance, and communications sectors. We subsequently partnered with Boston University's Institute for Sustainable Energy (ISE) to develop a sophisticated analytical platform to assess the impact of a broad range of strategies and policies on the City's emissions. The Boston University team worked with a team of consultants and five different Advisory Groups representing more than 120 experts in the fields of energy, transportation, buildings, waste and social equity. These experts came from a wide variety of organizations, including city and state government, regional planning organizations, non-profits, higher education, health care, commercial real estate and private business.

The report's analysis makes clear the great magnitude of the change needed to achieve carbon neutrality. It requires an electricity grid that is powered by renewable sources of energy and a large-scale reduction in the use of oil and natural gas for transportation, space heating and hot water. It requires immediate and dramatic efforts to make buildings more energy efficient. It entails replacing travel in personal vehicles with greater use of public transportation, cycling and walking, while eliminating the use of internal combustion engines for remaining vehicles. And it necessitates sending zero-waste to landfills and incinerators. These necessary achievements will require innovation and transformation in our city's core systems. And we will need to make these changes in a way that is cost effective, that equitably distributes benefits and burdens, and that does not unduly disrupt ongoing operations.

We know that the delivery of this report is just one step on the City's road to carbon neutrality. As your administration translates this analysis into concrete implementation strategies, the members of the GRC stand with you to provide support and expertise, to test concepts and help scale those that make sense for the City, and to reach deep into our sectors to muster support for the transition that you will lead. Please call on us. We look forward to continuing our deep and productive partnership as Boston moves toward carbon neutrality.

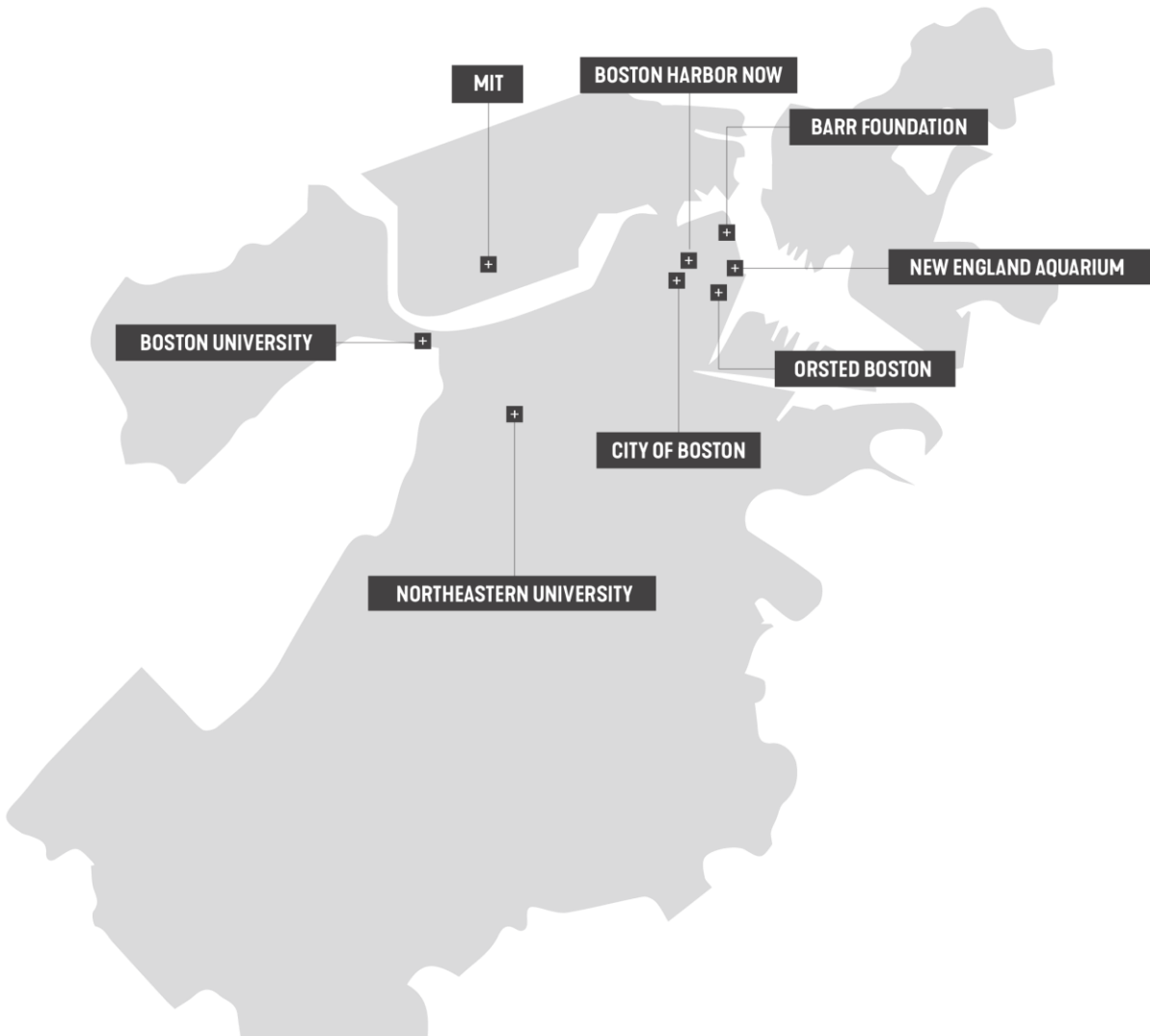
Sincerely,

Amos B. Hostetter, Jr.
Co-Chair, Boston Green Ribbon Commission
and Trustee, Barr Foundation

Mindy Lubber
Vice Chair, Boston Green Ribbon Commission
and CEO & President, Ceres

3

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



Northeastern University



Massachusetts
Institute of
Technology



New England
Aquarium

HIGHER ED CLIMATE CONSORTIUM CITY OF PITTSBURGH



HECC MISSION:

REDUCE THE GHG OF PITTSBURGH

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

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