

Creating Pathways into Climate Adaptation and Resilience: Training Future Leaders

April 14, 2023

Nutter, McClennen & Fish LLP, Boston

and

Streaming on Zoom



**Sustainable
Solutions Lab**

WELCOME

Gabriela Boscio Santos

Forum Organizer & Co-Chair

Associate Director

Sustainable Solutions Lab

University of Massachusetts Boston

FORUM CO-CHAIRS

Rebecca Herst

Director

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Associate Director

Sustainable Solutions Lab

University of Massachusetts Boston

AECOM

Weston &
SampsonSM



**New England
Aquarium**



rps MAKING
COMPLEX
EASY

 **FOLEY
HOAG** LLP

EVERSOURCE




Nitsch Engineering

**WOODS HOLE
GROUP**
A CLS COMPANY

**CDM 75th
Smith**

 **TETRA TECH**



 **Barr Foundation**

**Union of
Concerned Scientists**
Science for a healthy planet and safer world



clf
conservation law foundation



**BOSTON
HARBOR
NOW**



BSA BOSTON SOCIETY
OF ARCHITECTS/AIA


MASS ECAN
Massachusetts Ecosystem
Climate Adaptation Network

 **BSLA**
Boston Society of
Landscape Architects

 **CLEAN WATER ACTION** | **CLEAN WATER FUND**

 **Mass Audubon**
Protecting the Nature of Massachusetts

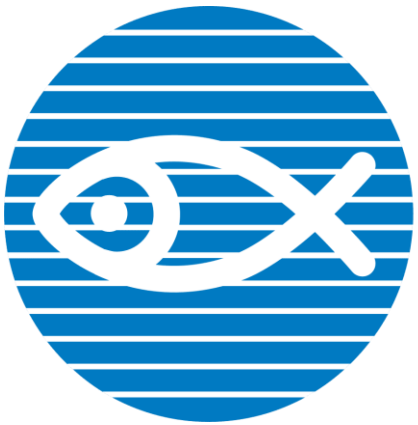
OFFICIAL SPONSORS OF VIRTUAL PRESENTATION



Indrani Ghosh

*Resiliency Senior Technical Leader
Weston & Sampson*

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**New England
Aquarium**

Luz Arregoces

*Director of Community Relations
New England Aquarium*

WELCOME FROM HOST

Valerie Moore

Partner, Nutter, McClennen & Fish LLP

Introduction to the Climate Change Adaptation and Climate Resilience Workforce

Rachel Jacobson

Acting Director

American Society of Adaptation Professionals

Introduction to the Climate Change Adaptation and Climate Resilience Workforce

Rachel Jacobson

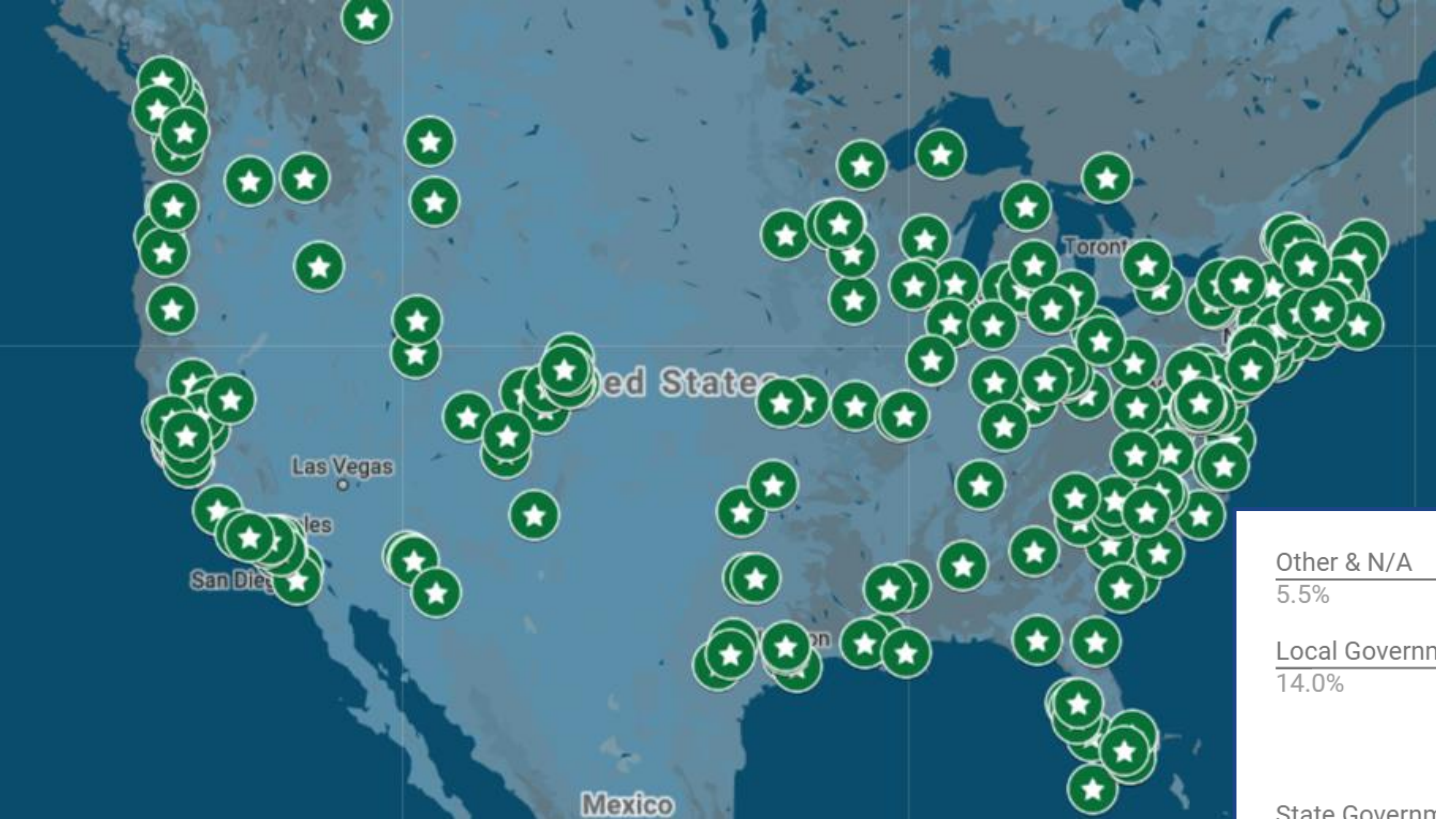
American Society of Adaptation Professionals

rjacobson@adaptpros.org

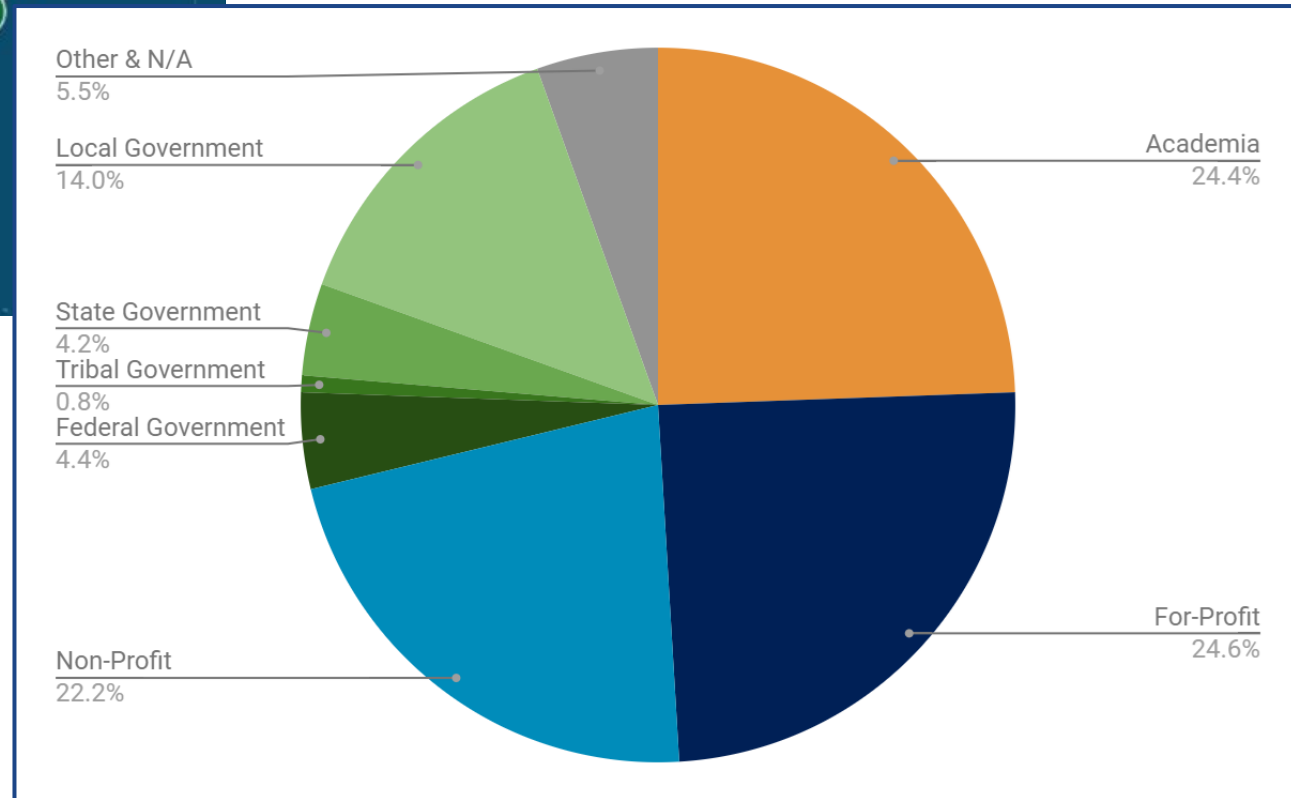
Adaptation Professional

Someone who uses future climate information into their day to day work.





1,000+ individual members
45+ Organizational Members
A wealth of sectoral and regional diversity



ASAP Organizational Members



<https://adaptationprofessionals.org/asap-organizational-members/>

Forming Just & Equitable Adaptation Practice

Our JEDI Commitments

- Using our power to achieve necessary transformational change
- Supporting all frontline communities developing adaptation resources from their lived experience and traditional knowledge
- Ensuring that adaptation resources are accessible and welcoming to all communities
- Lifting up stories of and empowering leadership from communities and critical areas of adaptation practice which currently are poorly represented in adaptation leadership.
- Deconstructing barriers in our membership structure and engagement model to become more inclusive and accessible

“This is the only space where my JEDI values (Seen as too radical in other places) are heard, recognized, and celebrated. Also the only space where my lived experiences is validated and I have support to show up as who I am.”

[adaptationprofessionals.org](https://adaptationprofessionals.org/jedi)
[/jedi](https://adaptationprofessionals.org/jedi)

Capacity-Building Program Areas

ASAP Connects



*Meet new people and
explore new ideas*

Adaptation Careers



*Excel in your job &
find new
opportunities*

Adaptation Voices



*Get and give essential
stories, news, &
resources*

ASAP Serves



*Become an
adaptation leader &
give back to the field*

Defining and Measuring the Adaptation and Resilience Workforce

Distinguishing Adaptation and Resilience Jobs From Other Climate Jobs



Keywords

- Climate (change) adaptation
- Climate resilience
- Climate (change) + preparedness, planning, impacts, equity, or justice

Red Flags

- Listings that are explicitly and solely about climate change mitigation, energy efficiency, GHG accounting, or sustainability.



Each listing

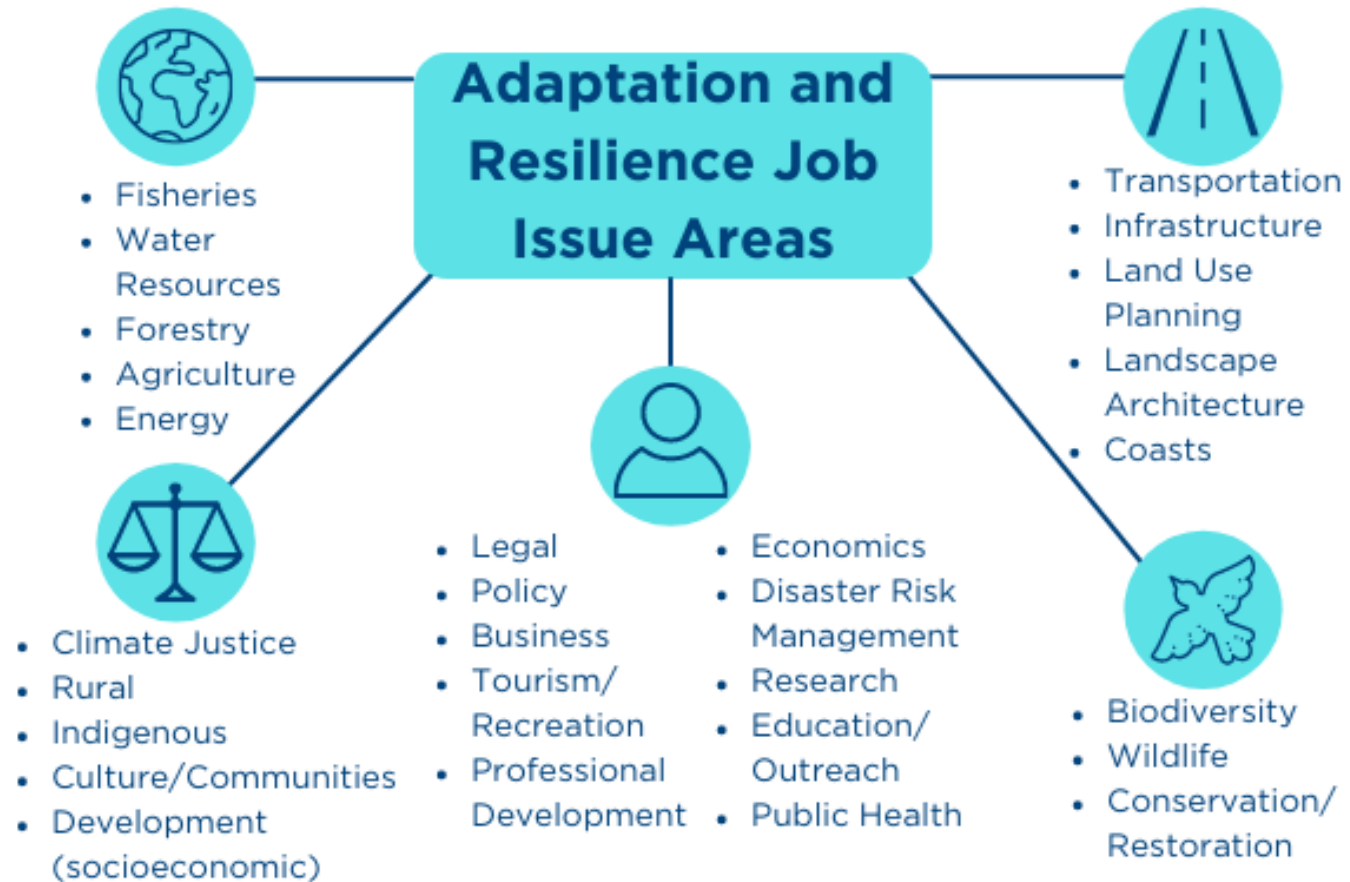
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Adaptation and resilience work takes many forms



- Measure and Learn
- Plan
- Fund and Invest
- Develop and Deploy Technology
- Communicate and Engage
- Build Physical Infrastructure
- Shift Management Practices and Recurring Behavior
- Change Policy and Law

Adaptation and resilience work covers many issue areas



Language from the American Society of Adaptation Professionals. Graphic by Emma Johnson, EESI

CCBJ Defined Services

Climate Change Adaptation & Resilience Services

- Climate & Resilience Risk Assessment & Analysis
- Climate Adaptation & Resilience Planning
- Adaptation & Resilience Design, Engineering & Construction

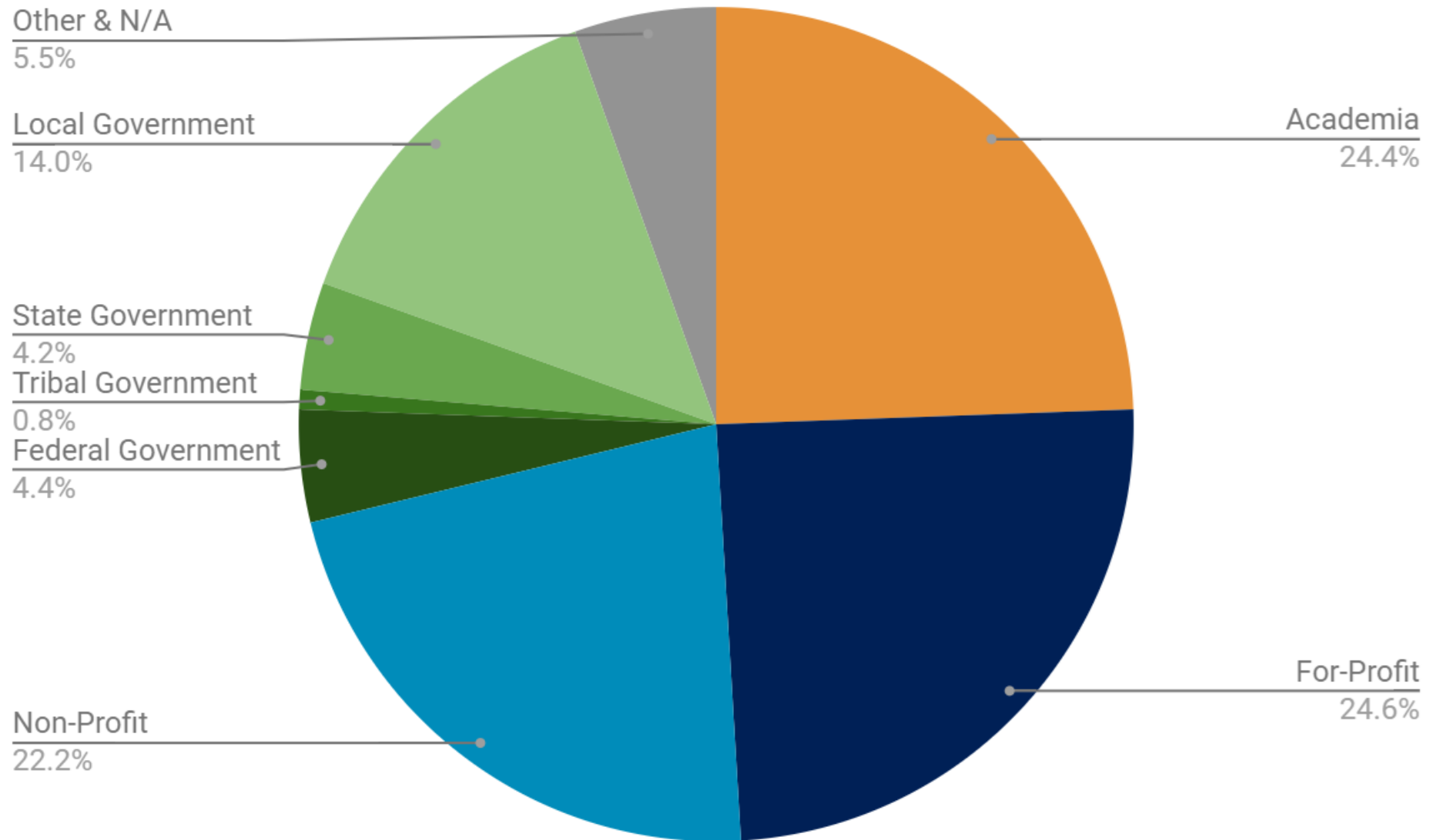
Disaster Services

- Disaster Risk Reduction
- Disaster Preparedness and Response Planning
- Disaster Response Contracting

Climate Adaptation & Resilience Equipment & Systems

- Analytical & Information Systems
- Construction Materials & Supplies

Adaptation and resilience professionals work in every sector



Examples of jobs with for-profit companies

Climate Adaptation and Resilience Specialist

Abt Associates

“...provide technical assistance to developing countries across various sectors impacted by climate change...assist country stakeholders and clients with the design, implementation, and evaluation of climate risk management strategies to support adaptation and resilience to climate change.”

Climate Adaptation Planner

Ascent | California | \$85k - \$135k/year

“Data collection and review for vulnerability assessments...development of adaptation measures for local communities...determine the exposure, sensitivity and potential impacts, adaptive capacity, and vulnerability...for local communities.”

Examples of jobs with not-for-profit

Program Manager, Climate Resilience

National League of Cities | Washington, DC | \$75k - \$99k/year

“...serve as a subject matter expert on climate resilience urban and regional planning and policy issues, manage city relationships in 9 metropolitan regions, and provide strategic input on program design and implementation.”

Urban Conservation Manager

The Nature Conservancy | Milwaukee, WI | \$64,000

“...working with local governments, engineering firms, community organizations, NGOs and others to promote and scale up nature-based approaches that increase the resilience of urban areas to environmental changes and socio-economic challenges.”

Examples of public sector jobs

Climate Action Coordinator

Colville Tribes | Nipselem, WA | \$27/hr

“...foster the integration of climate adaptation into management plans and activities, and provide information to the Colville Tribes’ Climate Change Steering Committee about climate-related impacts to human health and the environment.”

Capacity Building Branch Manager

MA Division of Ecological Restoration | Boston, MA | \$74k - \$109k/year

“...supports and guides the Stream Continuity and Restoration Partnerships programs... provide technical, financial, and other assistance to help communities and organizations advance their ecological restoration and climate adaptation goals.”

Examples of academic sector and research jobs

Associate Program Officer, Gulf Health and Resilience

National Academies of Science, Engineering, and Medicine

“...serve as an integral member of the Gulf Research Program’s Health and Resilience Unit...conduct research; prepare or compile written documents; coordinate program or project activities; conduct outreach; build and manage relationships; and develop and organize meetings, workshops, and other activities.”

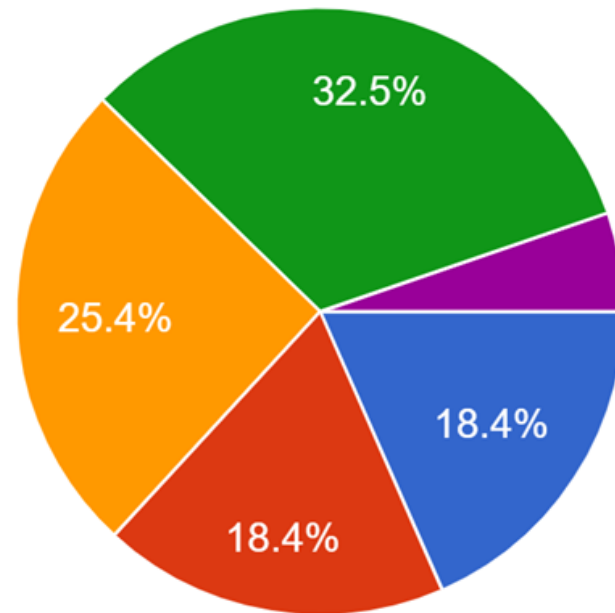
Research Integration Specialist

Western Water Assessment | \$78,000/yr

“...expand the WWA team’s social science expertise while connecting with and helping to meet the climate adaptation and resilience-building needs of partners in Colorado and Wyoming.”

What percentage of your projects and tasks are designed with the purpose of climate change adaptation?

114 responses



- Less than 50% of my projects and tasks are designed for this purpose
- About 50% of my projects and tasks are designed for this purpose
- More than 50% of my projects and tasks are designed for this purpose
- Everything I do in my job is designed for this purpose
- Not sure

1,248

U.S. JOBS IN 2020

4,000+

U.S. JOBS IN 2022

Workforce Development Needs

- Policy changes and public investment
- Career pathways and occupation classification research and applications
- Accessibility and inclusion for underrepresented workers
- Comprehensive, accessible training

Policy Changes & Public Investment

Invest in defining, developing, and training the climate change adaptation and climate resilience workforce



Governments should collaborate with industry, labor, and education stakeholders to:

- Understand the climate change adaptation and climate resilience workforce.
- Invest in — and increase consistency of — education and training for climate change adaptation and climate resilience workers.
- Ensure investments in worker education, training, and solutions prioritize those who are most climate-impacted to become a part of the climate change adaptation and climate resilience workforce, support their development as leaders, and are equally available irrespective of immigration status.

Career pathways and occupation classification research



- What professions, occupations, and trades contribute to A&R work?
- What updates are needed to Department of Labor job classification systems to reflect the professions, occupations, and trades that support A&R work?
- What knowledge, competencies, and skills are needed for A&R work?
- What are the career pathways of A&R workers?
- What resources currently exist to train and educate adaptation and resilience professionals?
- How should we evaluate A&R education programs, products, and methods to ensure they lead to desired A&R practice?

What barriers [exist/would be created] for people most affected by climate change to participate in the workforce?

Career pathways and occupation classification applications

- Policymaker education
- Comprehensive job board
- Jobs and skills database
- Updated knowledge and competencies framework
- Career pathways tool
- Education and training pathways tool
- New curricula and training programs
- Accreditation system

Partners

- Workers
- Landscape partners
- Career Information Systems Companies
- K-12 and Higher Education
- Employers



Accessibility and Inclusion for Underrepresented Workers

Goal: increase representation of people with lived experience of climate impacts in the adaptation and resilience workforce

Strategies:

- Value lived experience
- Integrate climate career exploration into K-12 settings
- Increase accessibility of higher education
- Training, family-supporting wages, and worker protections for adaptation and resilience-relevant skilled trades
- Universal broadband access
- Immigration reform
- Social safety nets for those underemployed
- Universal childcare

Comprehensive, accessible training



K-12 | Higher Education | Professional Education | Skilled Trades Education

ASAP Advances Adaptation Careers

Employer/Employee Matching

Professional Guidance Resources and Trainings

- Principles of Quality Climate Change Adaptation
- Introduction to Adaptation Jobs
- Equitable Community Engagement
- Climate Data and Information for your Region
- Ready-to-Fund Resilience

"We were looking for someone who understands the holistic nature of climate resilience. All of our top candidates came from sharing the posting

through the ASAP Network and we ultimately hired an ASAP member."



Catalyzing climate resilience work and workforce development in rural communities



Climate Change Education Project

with the USDA Forest Service

AMERICAN SOCIETY OF
ADAPTATION PROFESSIONALS



The climate is changing.

Now is the time for action. This is the place for you.

Join Us



Learn more at:

www.AdaptationProfessionals.org

Contact: Rachel Jacobson, Acting Director

rjacobson@adaptpros.org

Keynote Presentation

Shalaya Morissette

*Chief of Minority Business and Workforce Division
U.S. Department of Energy (DOE)*

Leading with Innovation & Opportunity



Agenda

Office of Economic Impact & Diversity

A day of leadership

Generational Investments

Dollars Announced

Programs

A man in a dark suit and tie is standing at a podium, speaking to an audience. He is gesturing with his hands. The podium has a microphone. Behind him is a large screen displaying the U.S. Department of Energy logo and the text "Clean Energy Corps" and "Executive Champions Briefing". To the left of the speaker is a large backdrop with the U.S. Department of Energy logo and the text "ENERGY.GOV" repeated. To the right of the speaker is a large screen displaying a photograph of a modern building with a green roof. The audience is seated in the foreground, facing the speaker. The room has large windows in the background, letting in natural light. A modern, geometric pendant light hangs from the ceiling.

Mission of Office of Economic Impact and Diversity

Our mission is to identify and implement ways of ensuring that everyone is afforded an opportunity to participate fully in the Department of Energy's programs, opportunities, and resources.

The Office of Economic Impact and Diversity develops and executes Department-wide policies to implement applicable legislation and Executive Orders that strengthen diversity and inclusion goals affecting equal employment opportunities, small and disadvantaged businesses, minority educational institutions, and historically under-represented communities.

Office of Economic Impact and Diversity

Statutory Authority (Public Law 95-619)

Key Statutory Functions:

- **Advise S-1 on effect of energy policies, regulations, and other actions** of the Department and its components on **minorities and minority business enterprises (MBEs)** and on ways to ensure that minorities are afforded an opportunity to participate fully in DOE energy programs.
- **Conduct an ongoing research program**, with the assistance of the Administrator of EIA and other Federal agencies as the Director determines appropriate **to determine the effects (including socio-economic and environmental effects) of national energy programs**, policies and regulations of the Department on minorities.
- **Develop and recommend to S-1 policies** to assist minorities and minority business enterprises.
- **Conduct research on energy burden, economic opportunities** for minority communities, **commercialization of energy-related technologies**.
- **Provide management and technical assistance** to minority serving institutions (MSIs) and MBEs and Director may enter into contracts with MSIs, MBEs and other organizations to assist development of minority communities.
- **Provide financial assistance in the form of loans** to any MBE under such rules prescribed by Director to facilitate, research, development, demonstration, and contract activities of the Department.

Leadership



JUSTICE 40 LEAGUE

Shalaya
Morissette



Greg Bruton



Simon
Bunyan



Jimmy
Hendrix



Ben Horne



Rephel
Martin



James
Mosely



Melissa
Pine



Tyrone
Smith



Kerene
Tayloe



Charles
Wallace-
Thomas IV



This moment: Generational Investments in Clean Energy



\$62 Billion in Bipartisan Infrastructure Law funding to DOE



CHIPS Act to invest in domestic manufacturing, science, and R&D capability

140 covered programs through the J40 Initiative



\$30+ Billion in Inflation Reduction Act funding to DOE, more through tax credits, part of \$390B in climate spending



DOE has already announced \$12B+ in funding
\$3.1B to lower utility bills through **energy efficiency home upgrades** for millions of Americans through DOE's Weatherization Assistance Program

\$3.1B to boost American **battery manufacturing and supply chains**

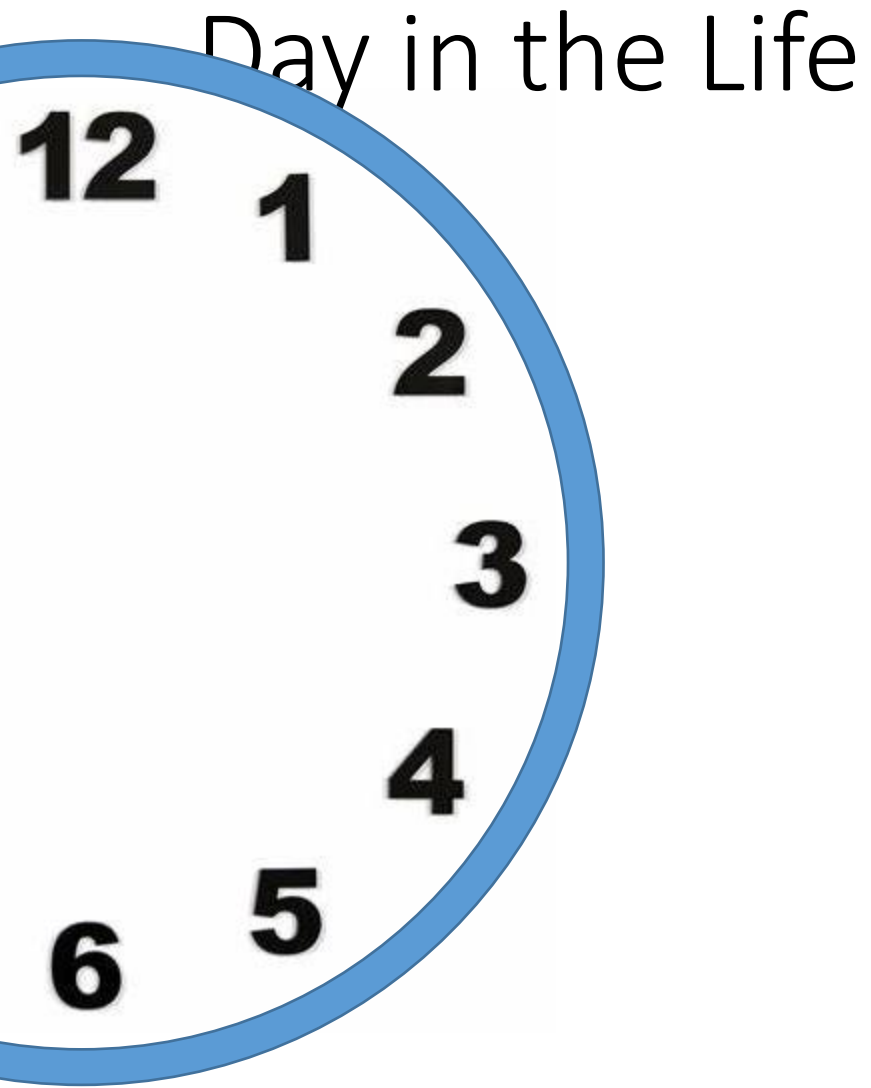
\$2.4B to support commercial scale demonstrations of **advanced nuclear reactors**

\$2.6B to support **carbon capture demonstration** projects

\$1.2B to prevent at-risk, carbon-free **nuclear facilities** from premature closure

\$11.2M to support **states & territories** design State Energy Security Plans

\$80M to invest in solar manufacturing, workforce, and technology development



Day in the Life

Team Check-in	Updates on projects
	Current challenges
	Administrative pieces
Policy advisement	White house initiatives
	Creation/review of existing policy
Minority Business Consultations	Internal
	External

Clean Energy Corps

- We are hiring the staff necessary to implement the Bipartisan Infrastructure Law (and Inflation Reduction Act!)
- Hires at all levels—with current focus on mid career (7+ years) and Senior (15+ years)
- Mix of permanent and term positions, flexible hybrid or remote opportunities
- DOE's streamlined applicant portal – less than 5 steps!
- DOE is leveraging a bias-informed, structured interview process to ensure that all candidates have a fair shot
- [Direct hire authority for these jobs](#)
- **Success Measure:**
 - Clean Energy Corps: 100% of DOE offices must submit an outreach plan for engaging underrepresented communities.

[CLICK HERE FOR MORE INFORMATION](#)



- # Direct Hire Authority Under the BIL

The Direct-Hire Authority under the Bipartisan Infrastructure Law (BIL) determined that a nationwide critical hiring need exists for 37 occupations.

Security Specialist	00080	GS 09 – 15
Human Resources Specialist	00201	GS 09 – 15
Human Resources Assistant	00203	GS 05 – 08
Miscellaneous Administrative	00301	GS 09 – 15
Government Information Specialist	00306	GS 09 – 15
Records and Information Management Specialist/Manager	00308	GS 09 – 15
Program Manager	00340	GS 12 – 15
Program and Management Analyst	00343	GS 09 – 15
General Natural Resources Management and Biological Sciences	00401	GS 09 – 15
Financial Administration	00501	GS 07 - 15
Accountant	00510	GS 07 – 15
Auditor	00511	GS 09 – 15
Budget Analyst	00560	GS 09 – 15
General Engineer	00801	GS 07 – 15
Engineering Technician	00802	GS 09 – 13
Civil Engineer	00810	GS 09 – 15
Mechanical Engineer	00830	GS 09 – 15
Nuclear Engineer	00840	GS 09– 15

Electrical Engineer	00850	GS 09 – 15
Paralegal	00950	GS 09 – 15
Legal Assistant	00986	GS 05 – 08
Public Affairs Specialist	01035	GS 09 – 15
Visual Information Specialist	01084	GS 07 – 14
General Business and Industry	01101	GS 09 – 15
Contracting Specialist	01102	GS 07 – 15
Industrial Property Management	01103	GS 09 – 14
Procurement Technician	01106	GS 05 – 08
Grants Management Specialist	01109	GS 07 – 15
Financial Analysis Specialist	01160	GS 09 – 15
Loan Specialist	01165	GS 09 – 15
General Physical Science	01301	GS 07 – 09
Geologist	01350	GS 11 – 15
Operations Research Specialist	01515	GS 09 – 15
Facility Operations Specialist	01640	GS 09 – 15
Quality Assurance Specialist	01910	GS 09 – 15
Information Technology Management Specialist	02210	GS 07 – 15
Data Scientist	01560	GS 07 – 15

Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)

Programs

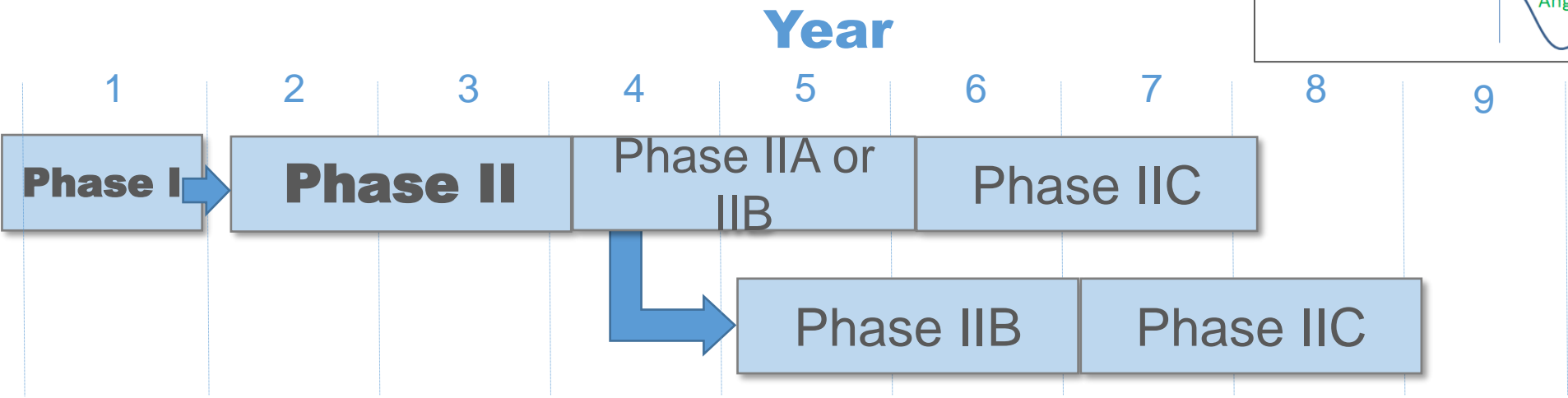
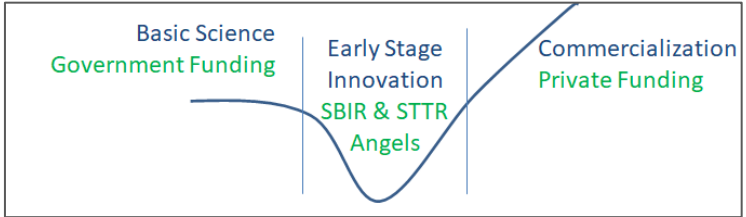
WHAT IS SBIR/STTR?

- A >\$3.7 Billion early stage nondilutive R&D fund for small businesses
- A mechanism to fund best early-stage high-risk innovation ideas
- Funds ideas that are too high risk for the private sector
- Stimulates technological innovation
- **Grants not contracts – your idea & your execution**

WHAT MAKES A GOOD FIT?

- Must be technology development R&D!
- Idea is novel
- Solid work plan to prove feasibility
- Responsiveness to the topic & subtopic
- Your team is composed of the right expertise
- Potential impact if R&D is successful

How does SBIR funding work?



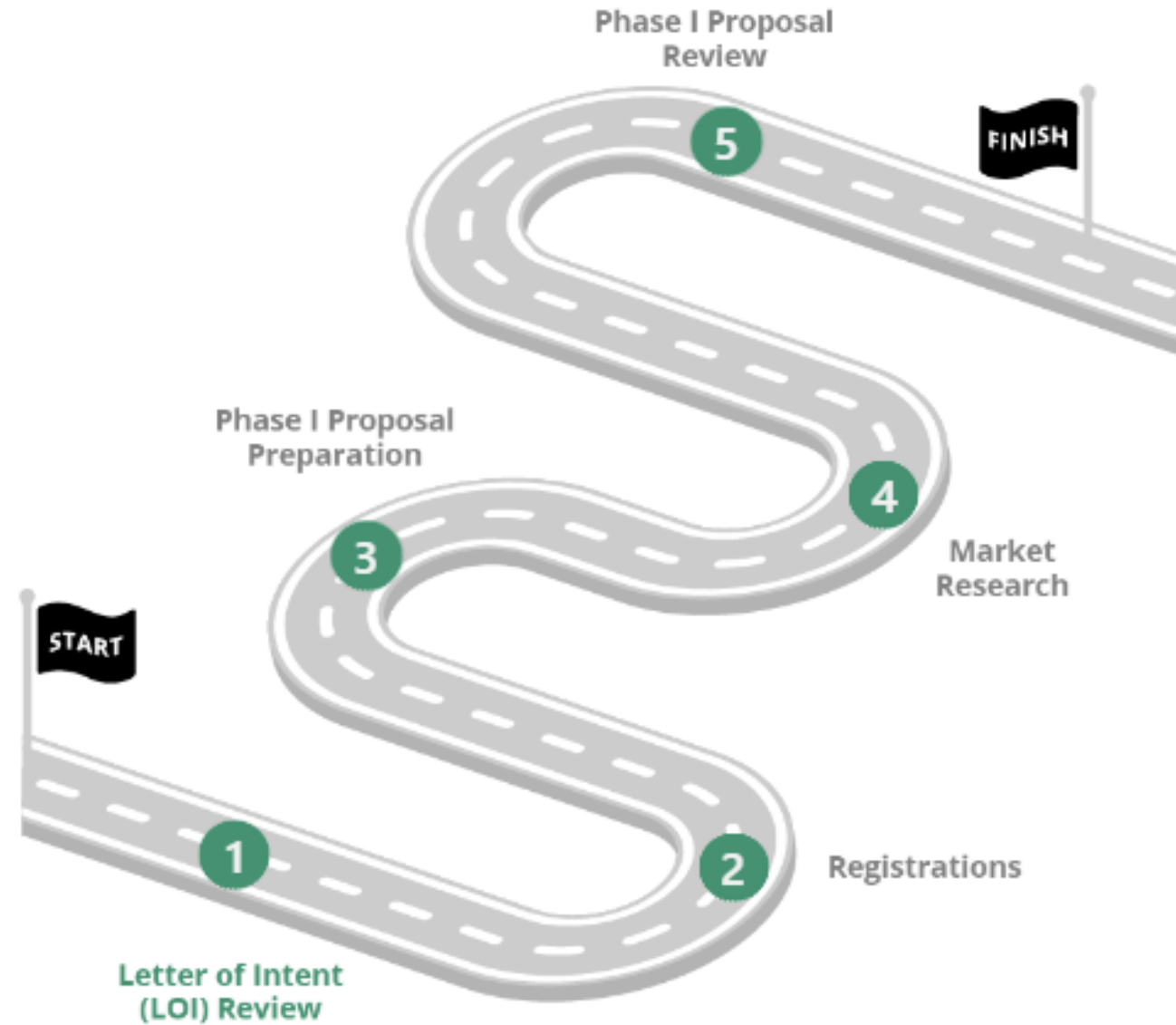
Phase I	Phase II	Phase IIA/IIB	Phase IIC
<ul style="list-style-type: none"> • Two annual Funding Opportunity Announcements • Focused, mission-aligned topics • Feedback provided on letters of intent • \$200,000/\$250,000 • 6 - 12 months duration • ~ 350-400 awards per year 	<ul style="list-style-type: none"> • Phase I awardees apply for Phase II the following year • \$1,100,000/\$1,600,000 • 2 years duration • ~ 160 awards per year 	<ul style="list-style-type: none"> • For projects that require additional R&D funding to transition to commercialization • \$1,100,000 • 2 years duration • ~30 awards per year 	<ul style="list-style-type: none"> • Pilot program to leverage 1:1 matching funds for commercialization • \$1,100,000 • 2 years duration

PHASE 0 – SBIR

12 week program for first time SBIR applicants

Access to the following services:

- Experienced dedicated coach that acts a mentor
- Technology Advice & Consultation
- Patent attorney
- 10 hours with Market Researcher
- Training assistance
- Travel Assistance
- Review of letter of intent
- Assistance with registrations to government systems – grants.gov, SAMS.gov, etc
- Assistance with proposal preparation





Loan Program Office

What LPO Offers

Value-Added Financing

The unique value of working with LPO for clean energy technology financing

LPO loans and loan guarantees are differentiated in the clean energy debt capital marketplace in **three primary ways:**



Access to Patient Capital

that private lenders cannot or will not provide.



Flexible Financing

customized for the specific needs of individual borrowers.



Committed DOE Partnership

offering specialized expertise to borrowers for the lifetime of the project.

\$40 Billion in Available Debt Capital

Loan Program Office offers project financing across energy sectors through three distinct loan programs.

ATVM Direct Loans



**Advanced Technology
Vehicle Manufacturing**
\$17.7 Billion Available



TITLE 17 Innovative Energy Loan Guarantees



Renewable Energy & Efficient Energy
Up to \$4.5 Billion Available



Advanced Nuclear Energy
\$10.9 Billion Available



Advanced Fossil Energy
\$8.5 Billion Available



TELGP Partial Loan Guarantees



Tribal Energy Projects
Up to \$2 Billion Available



OCED Mission & Scope

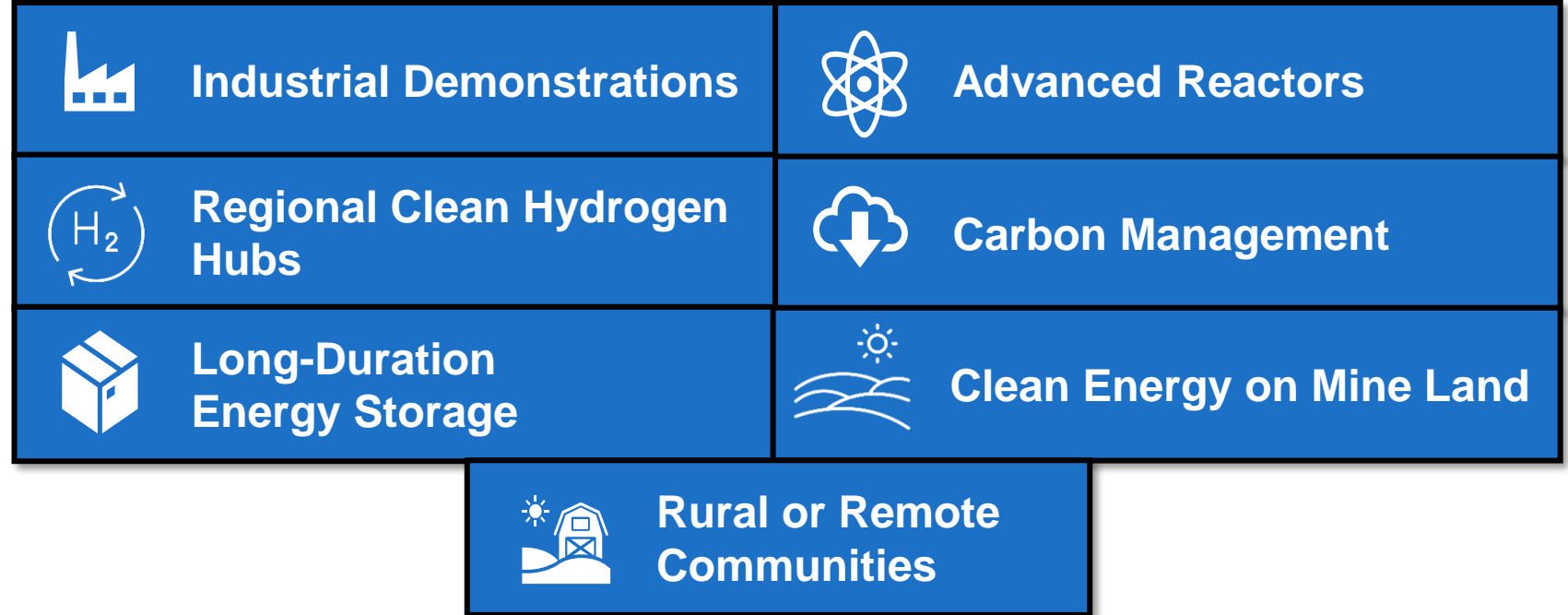
Mission

Deliver clean energy technology demonstration projects at scale in partnership with the private sector to accelerate deployment, market adoption, and the equitable transition to a decarbonized energy system

OCED has been tapped by the Bipartisan Infrastructure Law and the Inflation Reduction Act for

\$25+ billion*

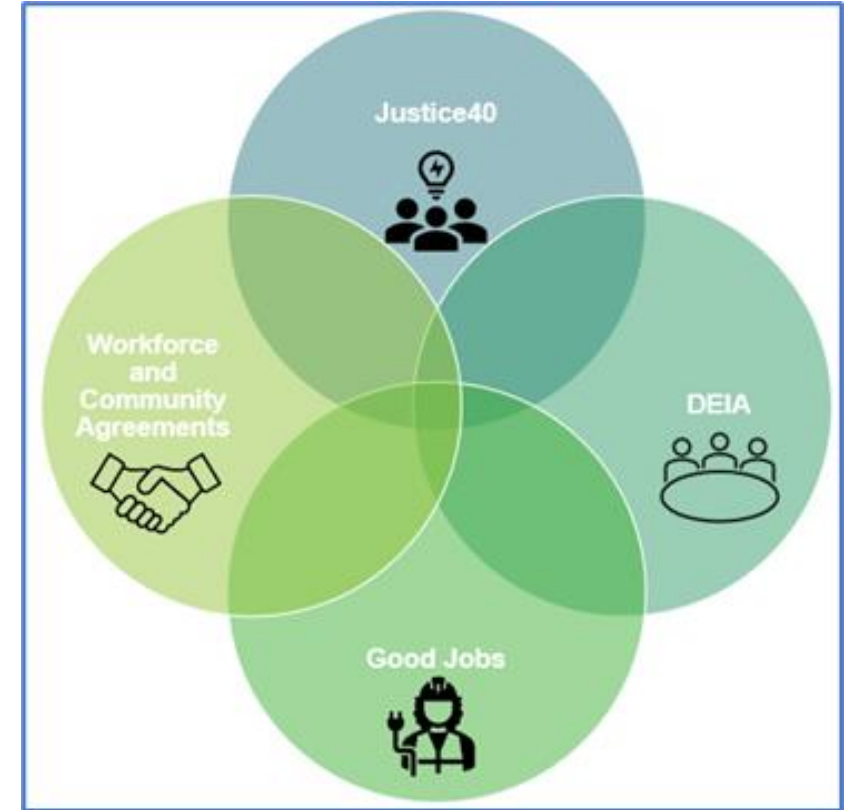
across multiple technology areas, and is collaborating closely with experts across the Department



**\$21.6B from Bipartisan Infrastructure Law and \$5.8B from the Inflation Reduction Act*

OCED Community Benefits Plans

- All projects funded by OCED will require a Community Benefits Plan (CBP).
- CBPs are based on a set of four core policy priorities:
 - Investing in America's workforce;
 - Engaging communities and labor;
 - Advancing diversity, equity, inclusion, and accessibility;
 - Implementing Justice40.
- CBPs will be part of the contractual obligation of the funding recipients and will be publicly posted on DOE's website to support accountability.



ERA Program Overview

BIL: ENERGY IMPROVEMENTS IN RURAL OR REMOTE AREAS (ERA)

\$1,000,000,000 for the period of fiscal years 2022 through 2026

Purpose:

- To provide financial assistance to improve, in rural or remote areas of the United States, the resilience, safety, reliability, and availability of energy and environmental protection from adverse impacts of energy generation.



Eligible uses of funds:

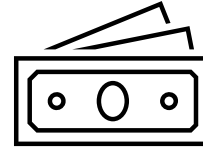
- Overall cost-effectiveness of energy generation, transmission, or distribution systems;
- Siting or upgrading transmission and distribution lines;
- Reducing greenhouse gas emissions from energy generation by rural or remote areas;
- Providing or modernizing electric generation facilities;
- Developing microgrids; and
- Increasing energy efficiency.

ERA Energizing Rural Communities Prize

- **\$15M Energizing Rural Communities Prize** challenges individuals and organizations to develop partnership plans or innovative financing strategies to help rural or remote communities improve their energy systems and advance clean energy demonstration projects.
- Eligible recipients:
 - **Industry professionals**
 - Tribal and local governments
 - Entrepreneurs
 - **Community organizations**
 - Financial institutions
 - **University faculty and student groups**
 - Others



ERA Energizing Rural Communities Prize – Two Tracks



\$10M
Available

\$5M
Available

Will support plans to connect rural or remote communities to government funding, technical assistance, or a network of partners that can help implement clean energy demonstration projects.

Will support plans to access capital or to develop community ownership models to help finance clean energy demonstration projects in rural or remote areas.

Manufacturing Energy Supply Chain - BIL 40209

Appropriations of \$750 million over FYs 22-26

Grants to small- and medium-sized manufacturing firms

- Gross annual sales of less than \$100 million
- Fewer than 500 employees at the plant site of the manufacturing firm; and
- Annual energy bills that total more than \$100,000, less than \$2.5 million

Priority to firms that are minority-owned

Projects in communities that have experienced coal mine or coal-fired power plant unit closures

Topic 1: Build or establish new facility for the manufacturing or recycling of advanced energy property

Topic 2: Re-equip or expand an existing facility to manufacture or recycle advanced energy property



What does this mean for the next
leaders?

Contact Information



Shalaya Morissette

Chief, Minority Business and Workforce Division

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Email: shalaya.morissette@hq.doe.gov

Office of Economic Impact and Diversity

U.S. Department of Energy

WELCOME BACK

Kelly Knee

Forum Organizer

Executive Director Ocean Science

RPS North America

Youth as climate ambassadors: Community planning for extreme heat in Lower Roxbury

Alan Wiig

Associate Professor

Urban Planning and Community Development

University of Massachusetts Boston

Youth as climate ambassadors: Community planning for extreme heat in Lower Roxbury



Summer Program in Urban Planning – *Diversifying urban planning and city government*

- Initiated by BPDA to address chronic underrepresentation of people of color in planning
- Cooperative effort of public planning agencies, Boston Public Schools, Roxbury Community College and UMass Boston
- Designed to encourage youth of color to consider public-sector careers in government and local non-profits
- Reinforced resident-led and city-supported efforts to address extreme heat in Lower Roxbury



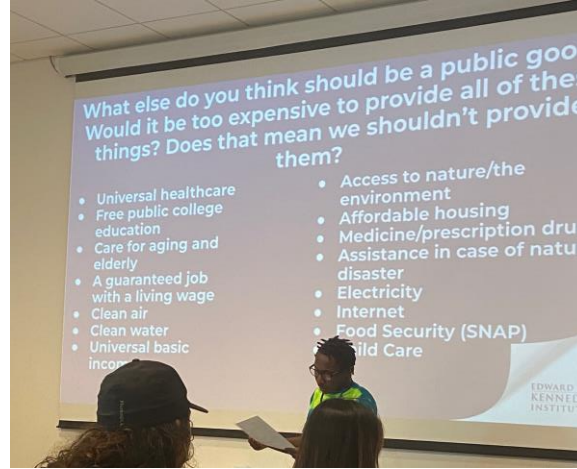
Focus: Lower Roxbury

- Home to a large minority population
 - The second highest population of African-Americans
 - The second highest population of Latino/Latina/Latinx.
 - Historically and culturally rich community
- Lowest Life expectancy.
- Economic and environmental stresses.
- High Pediatric Asthma.
- Second Lowest Household Income in Boston (\$33,322).
- 42.5% of people makes less than less than \$25,000.



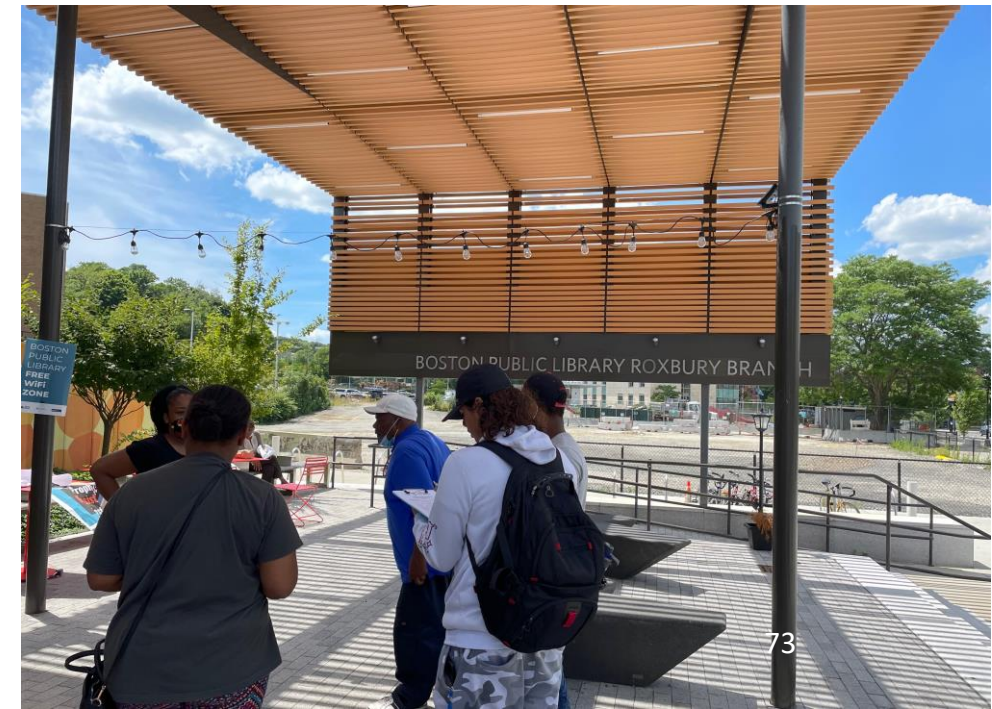
- Center for Anti-Slavery Movement
- Hotbed for Anti-Redlining Efforts
- Site of Major Anti-Highway Campaign
- Stronghold for Environmental Justice Activities
- Recent Victory for Cultural Recognition –Nubian Square
- Ongoing Campaign to Influence Boston’s Master Plan Update

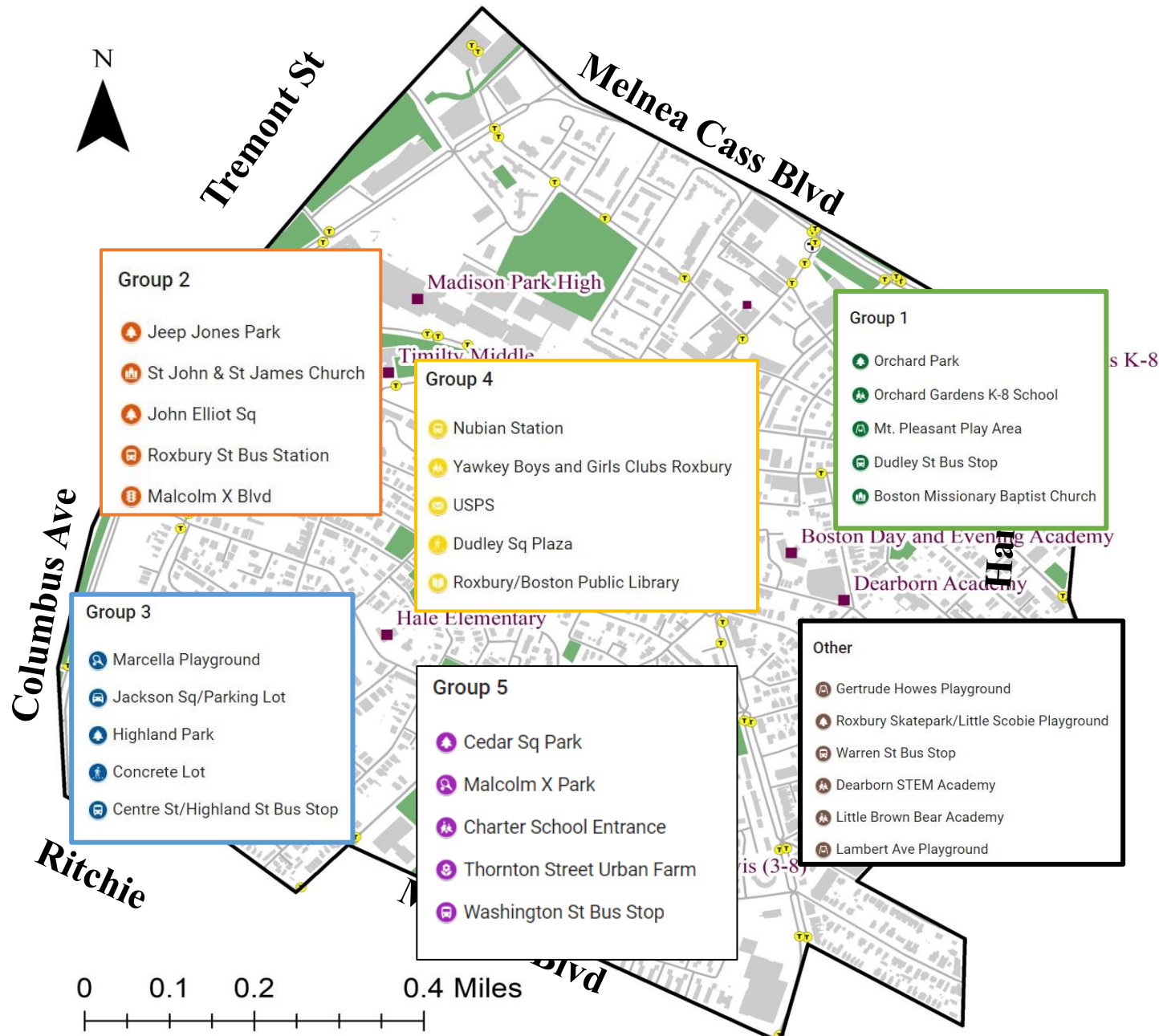
Field-based and youth- led community research



Extreme Heat Interviews Conducted in Nubian Square on July 20, 2022

109 Interviews





26 Locations

110 Temperature Data Points

NWS Temperature : 89 F

(Logan Airport)

Minimum	:	90 F
Maximum	:	104 F
Mean	:	98 F

Youth employment as climate ambassadors

- Conduct outreach in vulnerable neighborhoods to connect residents with resources and knowledge
- Engage in citizen science; collect data to measure climate change
- Prepare residents for extreme heat and other emergencies



Impact on Urban Policy, Planning, and Development

- Boston Planning and Development Agency incorporated our plan into the Roxbury Master Plan Update (2023)
- Boston Parks and Recreation Dept. have invited the youth to participate in the redesign of one of Roxbury's parks
- Boston's Mayor and the Chief Resilience Officer have recommended the project to be included in the Resilient Cities Network



In partnership with:



Contact:

Kenneth Reardon: Kenneth.Reardon@umb.edu

Alan Wiig: alan.wiig@umb.edu

Sajani Kandel: sajani.kandel001@umb.edu

Final Report Link: <https://pauldavidoff.com/aditonal-resources/#activism>

Boston Green Academy

Matt Holzer

*Head of School
Boston Green Academy*



**Boston
Green
Academy**

UMass Climate Adaptation Forum
April 14, 2023

Education is missing from Massachusetts' climate plans, advocates say

Without a plan for climate education, young people won't be prepared to take on roles in climate policy when they grow up — or even to simply live in the warming world that they'll inherit, advocates say.



Senators warn Mass. lacks the workers it needs for clean-energy transition

Lawmakers see a shortage of trained workers for solar, offshore wind, and other green industries the state will rely on to meet ambitious climate goals

By [Jon Chesto](#) Globe Staff, Updated February 11, 2022, 6:15 p.m.



Apr 18, 2019 - Energy & Environment

Green energy jobs are better-paid but lack diversity



Ben Geman, author of [Axios Generate](#)



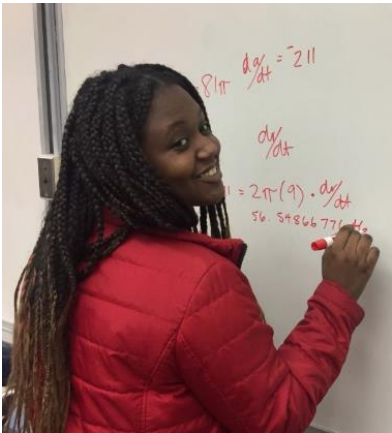
Boston Green Academy welcomes diverse students of all abilities, educates and empowers them to succeed in college and career, and prepares them to lead in the sustainability of our community and world.

Who We Are

- An innovative Boston Public School located in Brighton, founded in 2011, serving 500+ students in grades 6-12 from every neighborhood with a healthy waiting list
- Boston's only school focused on sustainability and preparing the next generation of leaders for success in college and green careers; Ch. 74 CTE program in Environmental Science; Winner of U.S. & Mass. Green Ribbon Schools Award; numerous green partnerships
- Training and empowering the next generation of leaders in the sustainability of our community and world. Deliberately created to be a bridge between our students and communities and the green and innovative sectors of Greater Boston, whose benefits historically bypass them
- Doing 21st century work in a 19th century facility (1895)

	BGA	BPS	Mass.
4 Year Graduation Rate	88.5%	78.8%	89.8%
Drop Out Rate- All Students	0%	2.0%	1.5%
Students of Color	93.6%	84.8%	44.3%
Students with Disabilities	34.2%	21.9%	18.9%
English Language Learners	17.1%	30.4%	11%
High Needs Students	87.9%	81.5%	55.6%
Low-Income	78.8%	71.2%	43.8%







THE EARTHSHOT PRIZE

ESTABLISHED BY
KEN FIDNEY
CLIMATE ACTIVIST

BOSTON
2022



Key

Trip

Service

Class

Exhibitions

Internship

Sixth

Seventh

Eighth

Ninth

Tenth

Eleventh

Twelfth



Hale Reservation
Boston Nature Center
Thompson Island OB
Green Apple Day of Service
Project Week

Boston Nature Center:
Urban Ecology
Thompson Island OB
Green Apple Day of Service
Project Week

Boston Nature Center:
Urban Ecology
Thompson Island OB
Green Apple Day of Service
Project Week

Environmental
Science
CTE Class
Community Service
Green Cross-Curricular
Exhibitions
Project Week

CTE Class
Green Cross-Curricular
Exhibitions
Community Service
Project Week

CTE Program
Junior Review
Community Service
Green Cross-Curricular
Exhibitions
Green Engineering
Project Week

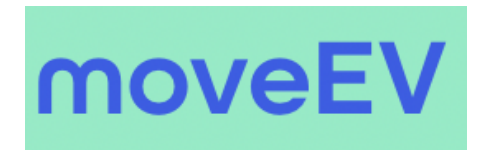
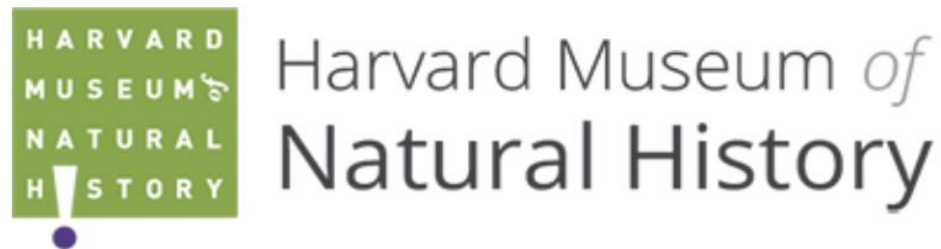
CTE Program
Senior Internship
Community Service
Green Cross-Curricular
Exhibitions
Green Engineering
Green Physics
Project Week

EXPOSURE

ENGAGEMENT

EXPERIENCE

BGA Green Partners



BGA Internship Sites

1. Addarios HVAC
2. AECOM Engineering
3. Artisan's Asylum
4. Arup
5. The Family Nurturing Center (Boston Black News Radio & Dorchester Food Co-Op Coalition)
6. Boston Children's Hospital Pediatric Environmental Health Center
7. BIDMC Sustainability Program
8. Boston Public Health Commission
9. BPS Office of Sustainability
10. City of Boston, Green New Deal Office
11. City of Boston, Zero Waste Program, Department of Public Works
12. Climable
13. The Foundry
14. GrowBoston, City of Boston's Office of Urban Agriculture
15. Harvard Museum Natural History
16. Subaru (MetroWest Subaru)
17. Toast
18. Turner Construction

Our Model

- A Green School- not just a good idea, a local and global necessity
- Deliberate commitment to equity everywhere
- Solid STEM skills are necessary, but a purpose is also required
- Green is for everyone- maximize access and opportunity
- Start young, give them real world experiences and mentors
- Address economic inequality- provide transportation, stipends, upward mobility, flexible programming
- Promote multiple pathways to success: college, career, apprenticeships
- Embrace all forms of diversity, including ELLs and Students w/ Disabilities
- Build infrastructure to sustain partnerships
- Tell the story far and wide

Get Involved

- www.bostongreenacademy.org
- Visit BGA!
- Join our Program Advisory Committee (PAC) for the CTE Program
- Host an intern (or two)
- Connect us to your network- spread the word
- Help us understand what the field needs
- Let us help you plan your pipeline- ask our students and staff!
- Support the Green New Deal for Boston Public Schools (and BGA)
- Open your doors to the young people of Boston (and beyond)





Boston
Green
Academy

Thank You!

PowerCorps Boston

Davo Jefferson

*Executive Director
PowerCorps Boston*



Davo Jefferson
Executive Director

WHO ARE WE

Green industry workforce development training program

- Program participants gain transferable green industry labor and technical skills
- Designed to help Black & Brown the green space
- 6 months, Monday - Friday, 8:30 - 3:30
- Participants receive a weekly stipend and monthly T pass
- PowerCorps Boston is based on the proven PowerCorpsPHL training model (est. 2013)
- PowerCorps Boston is a recognized AmeriCorps program - participant's get an additional education stipend



RECRUITMENT

Our Target Population:

- Boston residents
- 18 - 30 in age
- Unemployed or underemployed
- Returning citizens
- People aging out of foster care
- Not on a higher education or career tract
- Opportunity youth - recruited from environmental justice communities historically left out of jobs in conservation



FOUNDATIONS TRAINING

What the training will be:

- Professional skills - time management, workplace etiquette, conflict resolution, working independently/on teams
- Introduction to green industry work and why this is important
- Significant industry players, tool safety and proper usage
- Certifications - OSHA-10, CPR, First Aid, Introduction to Arboriculture, Pesticide Applicator, Fundamentals of Energy Efficiency & Building Operations, GPRO and other green industry relevant certs

Training conducted by:

- In-house staff trainers
- Project partners from other City Agencies
- Potential employers
- Contracted partner organizations



URBAN FORESTRY

Environmental Stewardship

- Maintenance and Operations of City of Boston Parks
- Support the expansion of the Urban Tree Canopy
- Clean up and maintenance of Urban Wilds
- Snow removal

Training is conducted by:

- In-house staff trainers
- Project partners from other City agencies
- Potential employers
- Contracted partner organizations



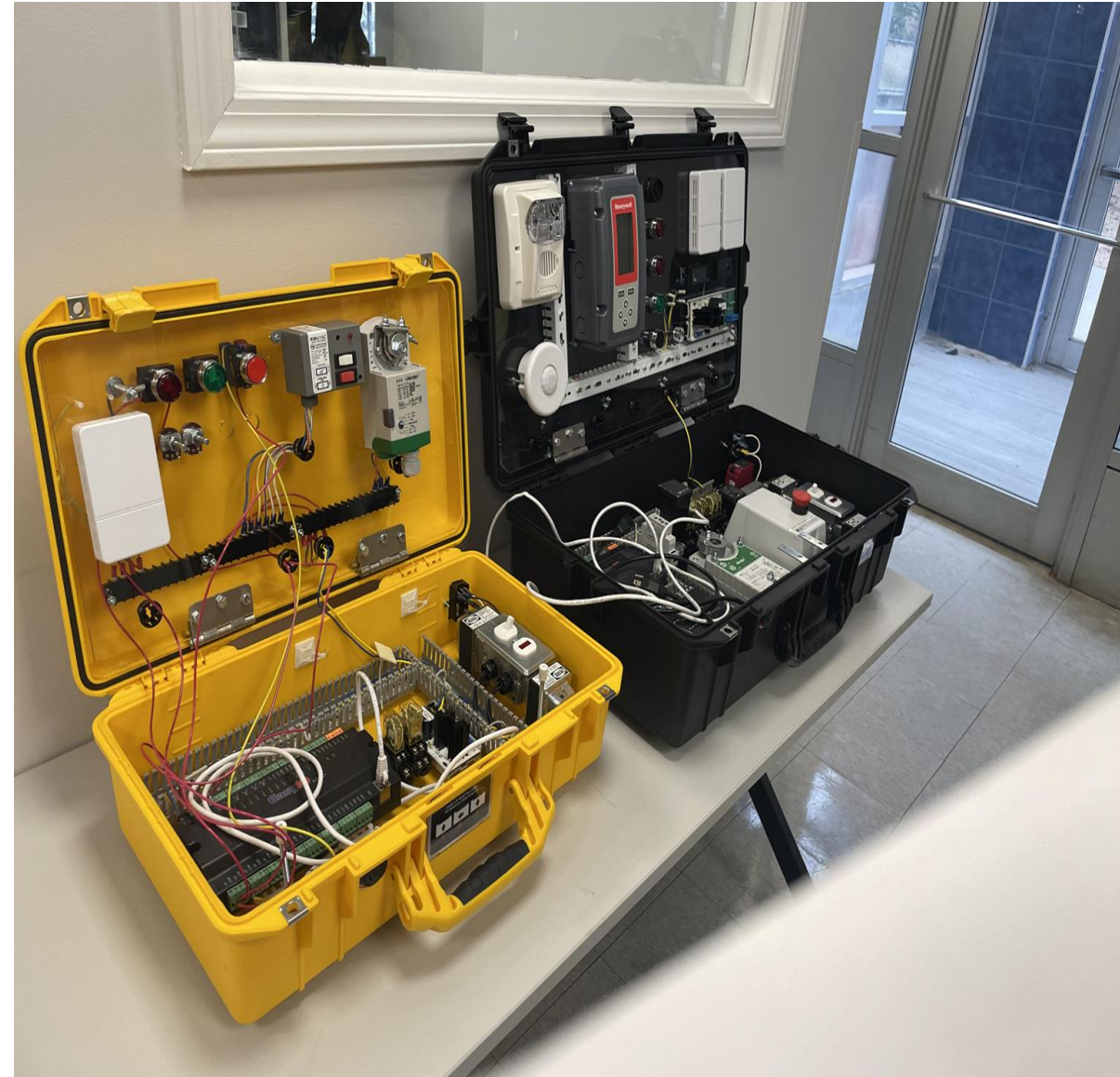
BUILDING AUTOMATED SYSTEMS

Carbon Reductions

- Building envelope and weatherization
- Reduction of greenhouse gas emissions in large buildings
- Maintain building operations at peak efficiency
- Energy audits to maintain electrical, HVAC and plumbing systems

Training is conducted by:

- In-house staff trainers
- Project partners from other City agencies
- Potential employers
- Contracted partner organizations



SUPPORT SERVICES

Assistance with navigating life's obstacles:

- Housing stability
- Food insecurity
- Child care assistance
- Legal / court related issues
- Obtaining vital documents



WORKFORCE DEVELOPMENT

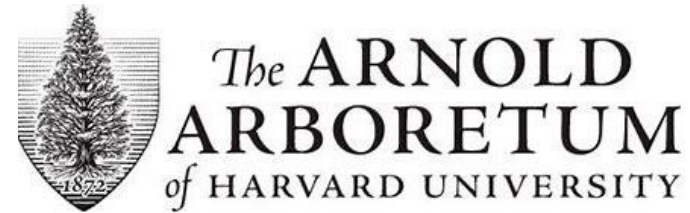
Job placement assistance is provided by staff members:

- Resume building
- Interview prep
- Networking
- Job search techniques
- Job retention / advancement



PROGRAM PARTNERS

CITY of **BOSTON**



Browning the Green Space, Inc

Kerry Bowie

*Executive Director
Browning the Green Space, Inc*



Climate Adaptation Forum

April 14, 2023

BGS

Browning the Green Space

INFO@BROWNINGTHEGREENSPACE.ORG

Our Story

Founder Kerry Bowie grew up in a fenceline community in Alabama and brings **25 years of experience** connecting communities, companies, and government.

Together, we are bridging the divide between **grassroots community groups** and **white-led organizations/ corporations**.



Photo Source: NESEA 2022

VISION

APPROACH



The Challenge

The racial wealth gap and climate change present an urgent and systemic challenge that requires our concentrated attention and investment.

CAREERS



Over 84% of employers in the energy sector experienced difficulty hiring workers with technical training and certifications

COMPANIES



Representation of women, Black, and Latinx individuals are **below national workforce averages** in the energy sector

CAPITAL



Less than 3% of VC funding goes to Black and Latinx founders

CONTRACTS



Less than **5% of contract dollars** from Fortune 100 companies are awarded to businesses owned by people of color

COMMUNITIES



Black households spend **43% more of their income** on energy costs than White households

VISION

APPROACH



Our Vision

We seek to facilitate **a just energy transition** by putting Black and Brown communities first, and enabling systems change at the intersection of social, environmental, and economic justice.

Our Mission

We are powering a just energy transition in the Northeast by **creating jobs, building wealth, and reducing energy burden** in Black and Brown communities. By removing barriers and expanding access, we seek to close the racial wealth gap while combating climate change.

VISION

APPROACH

Photo Source: Valley Home Insulation



Our Values

COMMUNITY FIRST

We aim to serve and center Black and Brown communities in all elements of our work. Black and Brown voices and needs come first as we consider program design, resource distribution, and the impact of our work.

CLIMATE JUSTICE

We believe strong and intentional partnerships support deeper diversity, equity, and inclusion and enable a just energy transition. While our programs focus on lifting up Black and Brown people, this is not at the exclusion of other underrepresented identities.

TRUST

We acknowledge the existing asymmetry in access to information for the Black and Brown communities we seek to support. We are committed to being a truth-sayer in service of our partners and members.

TRANSPARENCY

We strive to operate authentically and develop relationships founded in mutual respect. Building trust takes time and investment. We do this by listening first, then acting, and creating a feedback loop throughout our work.

COLLABORATION

We believe in getting the work done together, not in competition with one another. We work to combat a resource scarcity mentality through systemic solutions and capacity building with our partners.

VISION

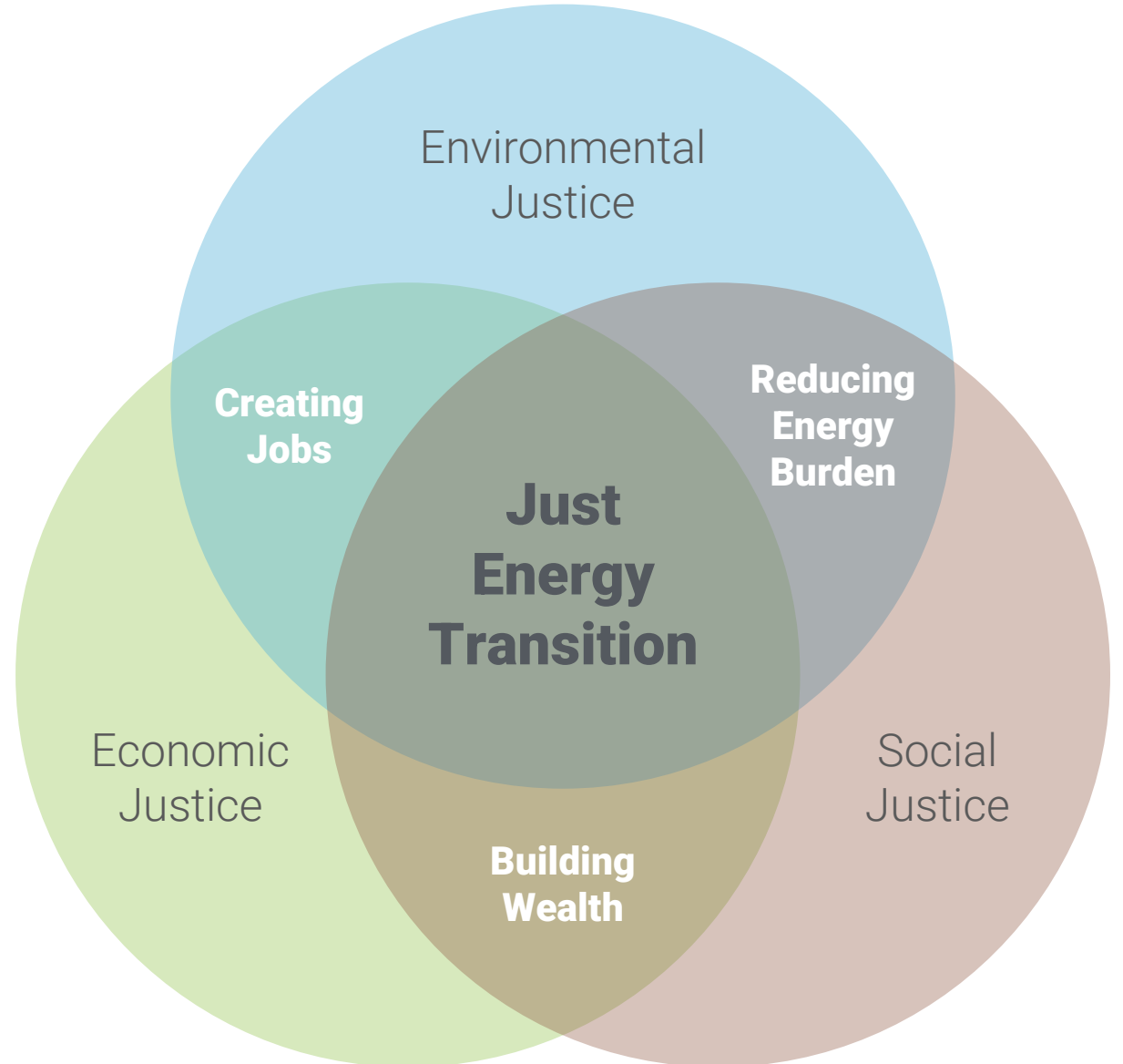
APPROACH

NETWORK



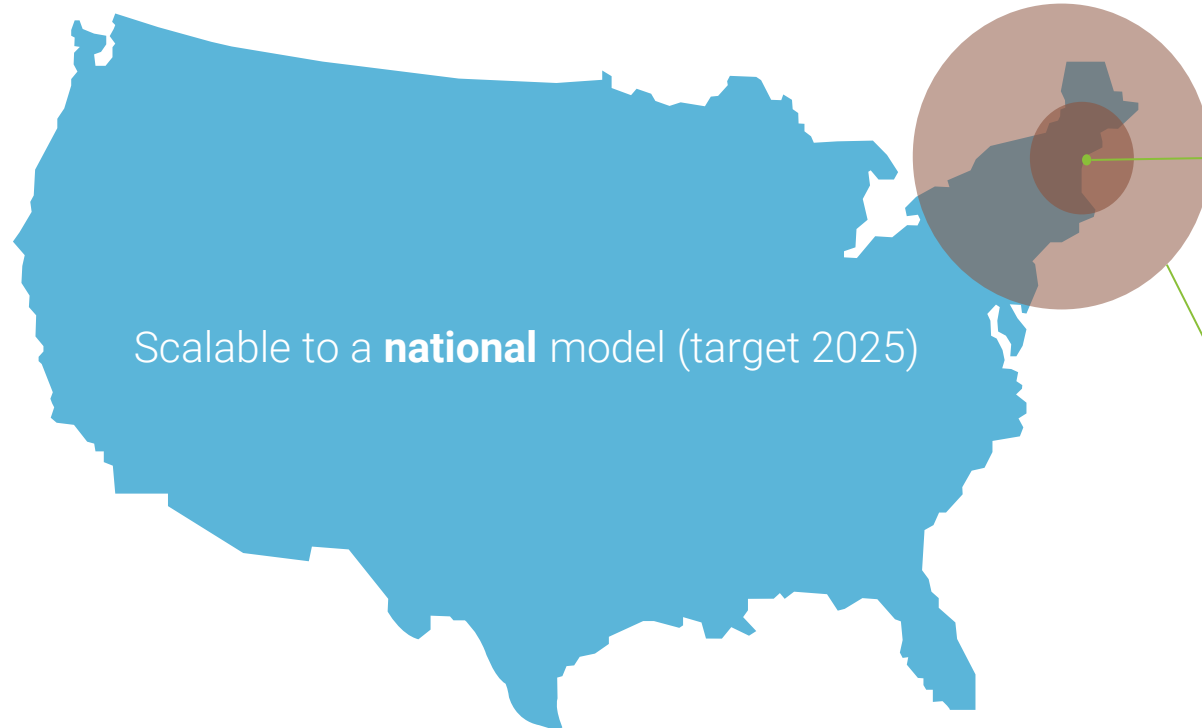
Our Systems Approach

We are taking an **integrated approach** to tackling the systemic challenge presented by the deep racial wealth gap in our communities and the existential threat of climate change.



Our Model

BGS is the only organization focused on a comprehensive approach to address DEI across key areas of clean energy and climate tech for our most vulnerable communities.



Boston origins

An exceptional, **diverse team of 75+ leaders** from clean energy organizations, economic and workforce development initiatives, and policy-making groups

Growing **Northeastern** regional network

Expanding Boston proper and the **Massachusetts Gateway Cities** with a focus on NY

VISION

APPROACH

NETWORK



What We Provide

BGS is a coalition of cross-sector leaders striving to advance diversity, equity, and inclusion in clean energy, climate tech, and beyond.

CONVENING



Our **focus area committees, coalition member engagements, events, and general body meetings** provide opportunities to convene stakeholders, discuss progress & challenges, and collaborate across sectors

FILLING GAPS



Our **comprehensive focus** allows us to identify gaps and design systems-focused solutions at the intersection of climate change and racial equity

BUILDING BRIDGES



Our diverse team and broad network allow us to build bridges and advance **initiatives across sectors** and focus areas leveraging each group's expertise and experience

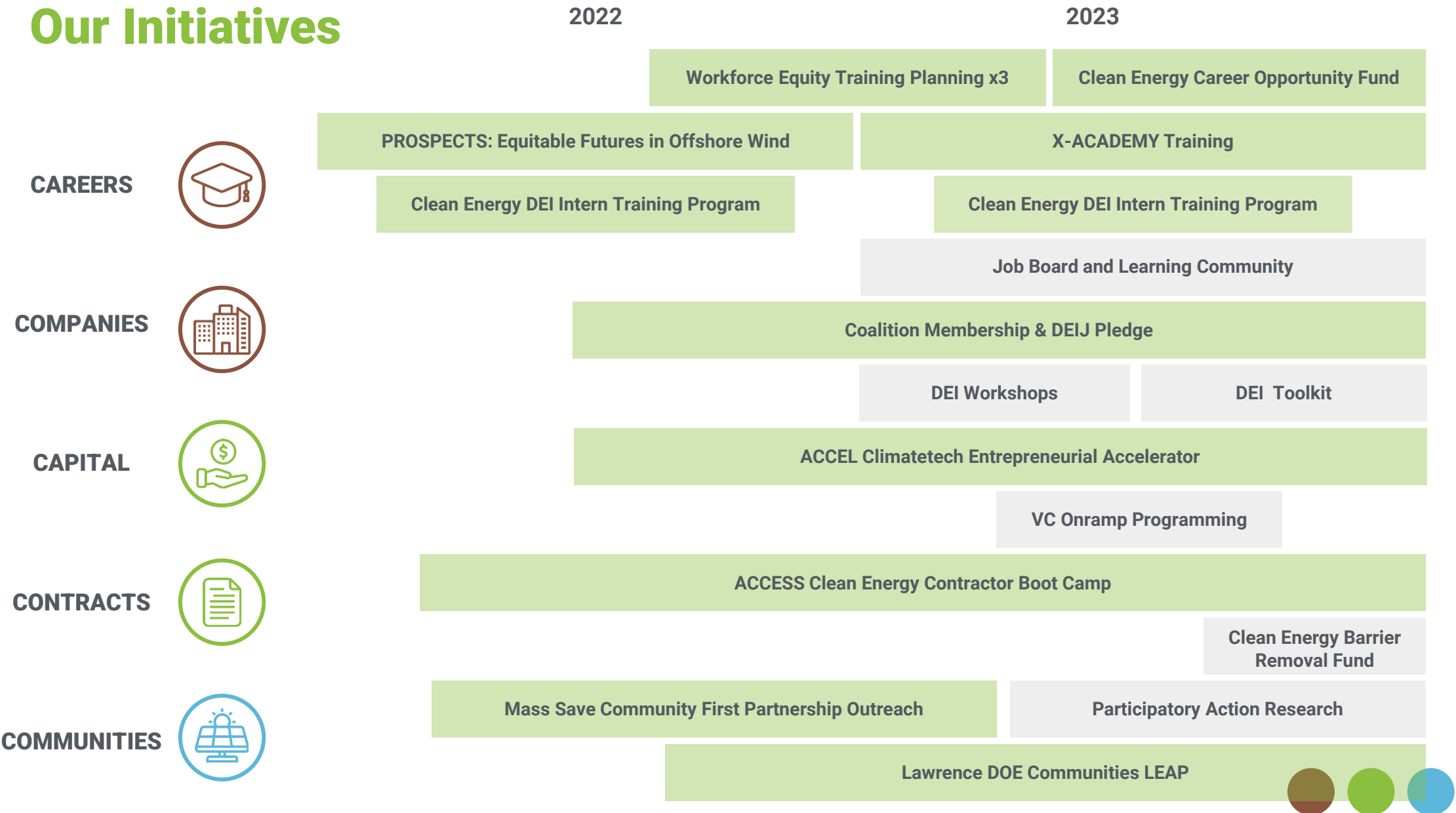
VISION

APPROACH

NETWORK



Our Initiatives



The BGS Coalition

A cross-sector initiative designed to **connect, support and educate organization leaders** as they work to advance Diversity, Equity, Inclusion and Justice (DEIJ) principles internally within their own organizations and collectively throughout the clean energy and climatetech sectors.

VISION

APPROACH

NETWORK

CONNECT

- Online Community
- Networking Events
- BGS Committee Participation
- Sector-specific DEI Working Groups
- Company Directory

SUPPORT

- Accountability check-ins on DEI Commitments
- Recruitment Support
- Ecosystem Project Mapping
- Partnered Funding Opportunities

EDUCATE

- DEI Expert Led Workshops
- Peer to Peer Learning Sessions
- DEI Toolkit
- Shared Learning Resources



Coalition Members



BLUEWAVE



Our Supporters





BGS

Browning the Green Space

INFO@BROWNINGTHEGREENSPACE.ORG

Photo by [Jeroen van de Water](#) on [Unsplash](#)

PANEL DISCUSSION

Panel Moderator: Shalaya Morissette, U.S. Department of Energy

Panelists:

- Kerry Bowie, Browning the Green Space, Inc
- Matt Holzer, Boston Green Academy
- Davo Jefferson, PowerCorps Boston
- Alan Wiig, UMass Boston

CLOSING REMARKS

Rebecca Herst

Forum Co-Chair

Director

Sustainable Solutions Lab

University of Massachusetts Boston

SAVE THE DATE!

Next Climate Adaptation Forum

June 2, 2023

**Governance, Structure & Tools for
Implementing Climate Resilience**

Thank you for attending

The recording and available presentations will be posted to the Forum website in 5 business days.

Please provide us with your feedback.

Virtual attendees – feedback survey link in chat.

In-Person attendees – hardcopy feedback survey distributed .

