



RENEWABLE NATIONS
L3C

Governors Island

Center for Climate Solutions

REQUEST FOR EXPRESSION OF INTEREST

Advocating, Educating, Innovating & Co-creating
Equitable and Actionable Solutions to Climate Crisis
October 13, 2021

1	Cover Letter
6	Section 1: Concept Narrative
28	Section 2: Team Members and Structure
60	Section 3: The Physical Plan
130	Section 5: Consortium Member Information
162	Section 6: Resumes
188	Appendix: Supplemental Information

Hello...

October 13, 2021

RE: Governors Island: Anchor Educational & Research Institution

Bill de Blasio, Mayor
New York City Hall
City of New York, City Hall Park Broadway
New York, New York 10007

Claire Newman, President & CEO
The Trust for Governor's Island
10 South St, Slip 7, Battery Maritime Building
New York, New York 10004

The Honorable Bill de Blasio and Ms. Clare Newman,

On behalf of the Renewable Nations L3C, please accept this Expression of Interest pursuant to consideration by the City of New York and The Trust for Governors Island as a candidate for Anchor Educational & Research Institution for the Center for Climate Solutions on Governors Island.

We have an unprecedented opportunity for progress. Over the past few years, we have seen extreme weather disasters that have clearly shown climate threats are here, a global pandemic that has exacerbated vulnerability and risk, and an uprising of youth activism that has defined climate change as the greatest challenge of our time. One study found, "The likely range of global temperature increase is 2.0 – 4.9 degrees Celsius...Therefore, we have a 1% chance that it will be less than 2 degrees Celsius." - Adrian E. Raftery, Alec Zimmer, Et al.

With a 1% chance of getting to less than 2 degrees Celsius in global warming, the greatest challenges facing our planet are not going to be addressed through the genius of one, instead by strategic collaboration creating a cycle of perpetual innovation. It is our vision that this Governors Island Center for Climate Change will be THE place the world looks to for solving the world's greatest challenge—Climate Change. Weaving together Education, Arts, Science, Technology, Finance, Humanities, and Engineering from all parts of the world—intentionally creating cross-cutting cultural and research innovations not found in any one higher education institution or in any one discipline. We envision a United Nations-like model for convening, discourse, broad cross-disciplinary partnerships, and conversations.

To facilitate constant innovation and provide equitable access of education, ensuring that opportunities at the Center are affordable and accessible to New Yorkers, we have created a democratic, 15 University Consortium structure led by The Renewable Nations L3C representing all Consortium members, where space is created for new institutions to join the Consortium and others to move on. It also ensures funding is equitably shared and a constant stream of new actionable ideas is created for the next 99 years.

Current University Consortium Participants:

Boise State University
Duke University
Georgia Tech
Florida State University
Fordham University
Illinois Institute of Technology
Okinawa Institute of Technology
New York Institute of Technology

Stanford University
University of Florida
University of Idaho
University of North Texas
University of Pennsylvania
Vermont Technical College
Yale University

New York is home to arguably the world's most diverse population and has deeply felt the impact of climate injustice—heat deaths, flooding from Hurricanes Sandy and most recently Tropical Storm Ida—disproportionately affecting communities of color and poor populations. In addition, the people living on the front lines of climate change, environmental degradation, and pollution are often surrounded by failing and unhealthy infrastructure that creates massive energy and health burdens. For these reasons, our initial research themes will target systemic inequities intensified by our changing climate: Energy, Infrastructure and Built Systems, and Health.

Governors Island is surrounded by a diverse and abundant estuary where waves lap rocks and boats move in and out as the salty sea greets fresh water—all captured by the dramatic edges of world's global center of business and poster child for urban resilience—New York City. This is the ultimate location to teach, educate, engage, research, and create actionable change to help solve the world's grandest challenge—reducing global warming to less than 2 degrees Celsius. Many on this team are proud to call themselves New Yorkers, accept this challenge, and invite other teams to join together bringing insights and ideas from around the world allowing global influence—Bringing the world to New York and New York to world.

"We are the first generation to feel the effect of climate change and the last generation that can do something about it." – The Honorable Barack Obama



Allan E. Baer

Initial-Manager, Chairman of the Board
Renewable Nations L3C

President and Chief Executive Officer
Renewable Nations Institute



Bill Struever

Managing Manager, Vice President
Renewable Nations L3C

Principal, Chief Executive Officer
Cross Street Partners



Lesley Braxton AIA NCIDQ

Consortium Strategist

Principal
Trahan Architects

Section 1:

Concept Narrative - The Vision



Executive Summary

A Bold Step To Addressing Climate Change

We envision a United Nations-like model for convening, discourse, broad cross-disciplinary partnerships, and conversations.

The Center for Global Climate Solutions (the Center) will be an interdisciplinary research and academic environment that advances actionable solutions for cities and prioritizes equity and climate justice while focusing on our three research themes: Energy, Built Systems Innovation, and Health.

The Center will be the place where researchers and academics from institutions around the country and internationally can come, share their work, participate in hands on, solutions oriented experiences that leverage the strengths of our consortium and partnerships. On-site installations and demonstrations will kickstart new research in line with the research themes, and find ways to apply research in policy, in communities, and in the built environment.

At the same time, this is an opportunity to think beyond traditional higher education research – the Center will certainly be a place where higher education students can participate in semester courses and faculty can pursue research; but it will also be a place where K-12 students come to learn about science, arts, and politics; where professionals are re-credential for a climate focus; where CEOs will learn how to best adapt their businesses to a changed future; where New Yorkers come to get workforce training in new economies; where academics, researchers, and policymakers can work together; and where the general public comes to see innovation at work, attend lectures on ground-breaking research, hear major climate announcements, and experience culture through film, food, and the arts. In order to achieve this vision of broad-based

community, convergence, and exchange, the Center will be financially catalyzed by investment-grade actionable, project-based proposals that help the world transition to higher levels of energy efficiency and alternative energy sources, providing long-term job opportunities and an immediate path toward meeting carbon reduction commitments.

At the core of this vision is the belief that, to generate Actionable Change, we need to change behaviors (individual, corporate, and collective) and build acceptance around ideas that will have lasting impact on the health of our planet and humanity. Therefore, widespread access to information exchanged on the Island is critical to broad dissemination, and our academic consortium is dedicated to open access sharing of research with the world. To do this, we will use Georgia Tech's Artificial Intelligence platform, Jill Watson, and our partnership with Microsoft to share information with the world.

Your Goals

The Trust for Governors Island outlined compelling goals in the RFEI – that the Center supports the Island's current tenants and partners especially in climate solutions, education, and the arts, as well as clearly benefits NYC frontline communities, minority and women-owned businesses, workforce development, and climate readiness; that the full development be driven by academic and research inquiries, not private gain; and that the Center be financially stable, contributing to the Trust's stewardship of the Island and to NYC's economy. We have kept these goals at the heart of our conversations and work in building this coalition, integrating them into the Center's structure, themes, participants, and impacts.

Consortium Model

One goal of this team is to create a Center that will persist well into the future, and make a truly global impact. To do so, we will set up a flexible framework that revolves around a 501c3 consortium model, where academic institutions can be involved at several levels of commitment or participation. This democratic consortium structure of academic institutions that come from all over the United States, as well as abroad, will bring diverse approaches to research and solutions, as well as access to broader constituencies than those of any one institution. By the nature of this framework, the work and ideas coming from the Center will have a naturally broad reach as they are automatically tied back to many institutions and places. This structure is reinforced by the consortium's dedication to information sharing and open access.

The Center as an organization will be led by the Renewable Nations Institute L3C, who will also develop, build, finance, and operate the Center. Each Member of the Academic Consortium will have a member that sits on the Renewable Nations Board of Directors as a "Non Co-Principal Member," along with three positions for the Office of the Mayor and the Trust. The Board will influence and co-create the direction of the Center, and one of its first efforts will be to conduct a national search for Visionary Executive Consortium leadership.

The Academic Consortium 501c3 is currently comprised of the following 15 institutions, and would welcome additional members, especially those coming from HBCUs in the U.S., Indigenous organizations, and institutions of whom we recognize is under-represented in this group:

Boise State University
Duke University
Georgia Tech
Florida State University
Fordham University
Illinois Institute of Technology
Okinawa Institute of Technology

New York Institute of Technology
Stanford University
University of Florida
University of Idaho
University of North Texas
University of Pennsylvania
Vermont Technical College
Yale University

In New York, for the World

Creating equitable solutions for cities across the world, the Center will help ready neighborhoods for climate change, grow well-paying green jobs for all New Yorkers, and create space for public awareness and dialogue. New York is home to diverse populations and has deeply felt the impact of climate injustice - heat deaths, flooding from Hurricane Sandy and most recently post-Tropical Storm Ida, loss of power, and poor air quality. These disproportionately affect communities of color and poor populations. Therefore, one of the Center's first research themes, "Health," places a primary focus on environmental health equity to create actionable policy, long-term resilient infrastructure, and quickly implementable stop-gaps.

Moreover, the Center will have the incredible opportunity and responsibility to partner with, support, and amplify the NYC-based groups that are already on the Island, building on the work the Trust has done over the past years to cultivate a place for arts, education, and climate response.

At the same time, the Center will be able to have global influence because of its location in New York City, a recognized global center for ideas and action. This location brings access to business, finance, and media ecosystems, as well as global attention and visitorship, which the Center will capitalize on in its efforts to draw participation from all parts of the world - In New York, for the World.

Executive Summary

A Bold Step To Addressing Climate Change

Donor Resource Partners

Now, with our global pandemic, inequities in our education systems have burdened students, creating many consequences we have yet to feel. This has also put a deep financial strain on many academic institutions. In order to allow researchers, students, and academics to fully pursue their work, as well as encourage participation from non-Western institutions, we have developed a model that brings private monies to the table through donorship.

Industry Partners

We recognize that creating Actionable Change cannot happen if research and ideas generated in the academy stay there – researchers need access to industry partners who can work together to develop scalable, market-ready iterations of their ideas, so that they are accessible to the public and the marketplace.

We have assembled industry partners who are already retooling everyday products from a sustainable approach, who are working in the built environment and professional services, or whom are deeply invested in fostering sustainable business, including American Sustainable Business Council, Billion Oyster Project, Cross Street Partners, Deltares, Earth Matters, Echelon Inc. , Global Center on Adaptation, Harbor School, High Tide, Microsoft, Nano Shield Nano Tech, National Renewable Energy Lab (NREL), NASA, National Parks Services, NORESO, RETI Center, UNESCO, Climate Cap Summit - Advisory Board, Russell Investments, Government & Policy - Advisory Board, Impact Manager - Titanium Linx

Their participation in the Center will focus on providing easy, affordable, everyday ways to reduce

energy use for individuals and businesses, and fostering entrepreneurship.

Community Partners

The Center will amplify the work of those already anchored in Governors Island and NYC, with a focus on arts, education, and environmental justice.

It is critical that the Center is focused on work that is both implementable at scale and beneficial to those who are most vulnerable and most impacted by the changing climate, in NYC and North America, but also in the Global South.



One of the first efforts of this proposal team will be to identify community partners with the Trust's input and advice.

Campus Design

Our goal is to use the land wisely to create a community for flexible experimentation in a real and varied urban landscape, and the creation of a new paradigm for urban development and adaptive reuse that pushes the boundaries of sustainability and resiliency at a neighborhood scale. We are aware and understand the sensitivities involved in developing the Island and have crafted a vision that does not require maximizing the allowable zoning envelope.

Our approach is to fully leverage existing resources in a phased approach, in a spirit of sustainability – focusing on locating research and programs in Liggett Hall first, with the simultaneous benefit of building up the core of the island and all the energy that already exists there from the Harbor School, the Billion Oyster Project, and other organizations. We see the Center as supporting the creative, public, open environment that the Trust has worked so hard to cultivate over the years.

Governors Island is and must continue to be a model for sustainable design, construction, and operations. The Center will commit to softening the shoreline and returning the island's edges to a natural buffer in concert with the Billion Oyster Project and the RETI Center, as well as limiting new construction to what is necessary for operations.

When new construction is needed, we propose to create nodes of activity on high ground, delaying and minimizing flooding. Furthermore, the Center must be a showcase for how new technologies can be implemented in the "real world" – all geared toward being replicable at scale – such as microgrids, closed loop infrastructure.

With each intervention, we will ensure that Governors Island will be preserved and enhanced for the enjoyment of all New Yorkers for generations to come



and that your six goals are the forefront of decision making:

1. Make Governors Island a dynamic and accessible public place year-round, with the same vibrancy in the winter as the summer.
2. Create a path toward financial sustainability through responsible partnerships with like-minded organizations and institutions.
3. Celebrate and utilize Governors Island's unique environment and waterfront location as a public living laboratory.
4. Promote a diversity of uses that complement and enhance Governors Island's unique character.
5. Expand opportunities for public participation and engagement.
6. Maintain access and affordability for all New Yorkers.

The Vision

Uniting the World Through Climate Resolution

We are already in motion.

In September, our team joined together, in person, at Microsoft's Manhattan Office to realize alignments and begin conversations around expectations and areas of focus. Our Consortium is an extraordinary intellectual ecosystem, each coming to the table with a different strengths, and relationships, yet we all agree to this shared vision to reduce global warming to less than 2°C:

Uniting the World Through Climate Resolution

The Governors Island Center for Climate Solutions will be where the world comes together to teach, learn, research, and create actionable ideas around climate change and its effect on equity and justice. Just as the United Nations brings the world together each year in New York City, The Center for Climate Solutions could do the same for the global climate research and education ecosystem. The world requires a new way of thinking, a new way of investigation, a new way of educating and inclusion of new partners, all a part of the new whole society approach.

Whole Society Approach

Climate change is a vast and challenging global problem and many of the tools to stop both climate change and the inequities caused by it have yet to be invented. A "whole society approach" acknowledges that the greatest challenges facing our planet are not going to be addressed through the genius of one, but instead by strategic collaboration creating a cycle of perpetual innovation and societal behavior change. It is our vision that the Governors Island Center for Climate Solutions becomes THE place the world looks to for solving the world's greatest challenge

- Climate Change. It will weaving together New York, Education, Arts, Science, Technology, Finance, Humanities, Ethics, Business, Policy, and Engineering - intentionally creating cross-cutting cultural and research innovations not found in any one higher education institution or in any one discipline.

Governors Island is surrounded by a diverse and abundant estuary where waves lap rocks and boats move in and out as the salty sea greets fresh water - all captured by the dramatic edges of world's global center of business - New York City.

This is the ultimate location to teach, educate, engage, research and create actionable change to help solve the world's grandest challenge - climate change. Because it is here that you can see actual climate change effects and action in one place.

Equity and Climate Justice

New York is home to arguably the world's most diverse population and has deeply felt the impact of change and the injustices caused by it - heat deaths, flooding from Hurricanes Sandy and most recently Tropical Storm Ida - disproportionately affecting communities of color and poor populations. In addition, the people living on the frontlines of climate change, environmental degradation, and pollution are often surrounded by failing and unhealthy infrastructure that creates massive energy and health burdens. Now, with our global pandemic, inequities in our education systems have burdened students and educators, creating many consequences we have yet to realize. For these reasons, our initial research themes will target systemic inequities intensified by our changing climate: Energy, Infrastructure and Built Systems, and Health.



A Place of Retreat and Convergence

When asking people who live in New York or work on the Island what they love about it, the word “retreat” was a common term used. Fresh air, contemplative, choir of crickets, trees - the antithesis of Manhattan or Brooklyn. It is as if the scale of the Island is that of a tree - there is a magic in its connection and disconnection from the City.

The early work to create a Center for Climate Solutions has been laid by our island pioneers - The Trust for Governors Island, the Billion Oyster Project, the Harbor School, Earth Matter, and many more. It is already a place where K-12 students are given real responsibility and the opportunity to learn about New York, its biodiversity, and are leading a movement to restore it. Bringing higher education, deep scientific research, and additional cross sectoral partners to the Island will further build opportunities for New Yorkers and the world and showcase how K-12, higher education, and industry partnerships can work in concert with one another - building the next generation of action takers who help solve Climate Change. This is a place of convergence

Our Pledge to Urgent Action

According to the International Energy Agency, the annual investment in energy (primarily in fossil fuels)

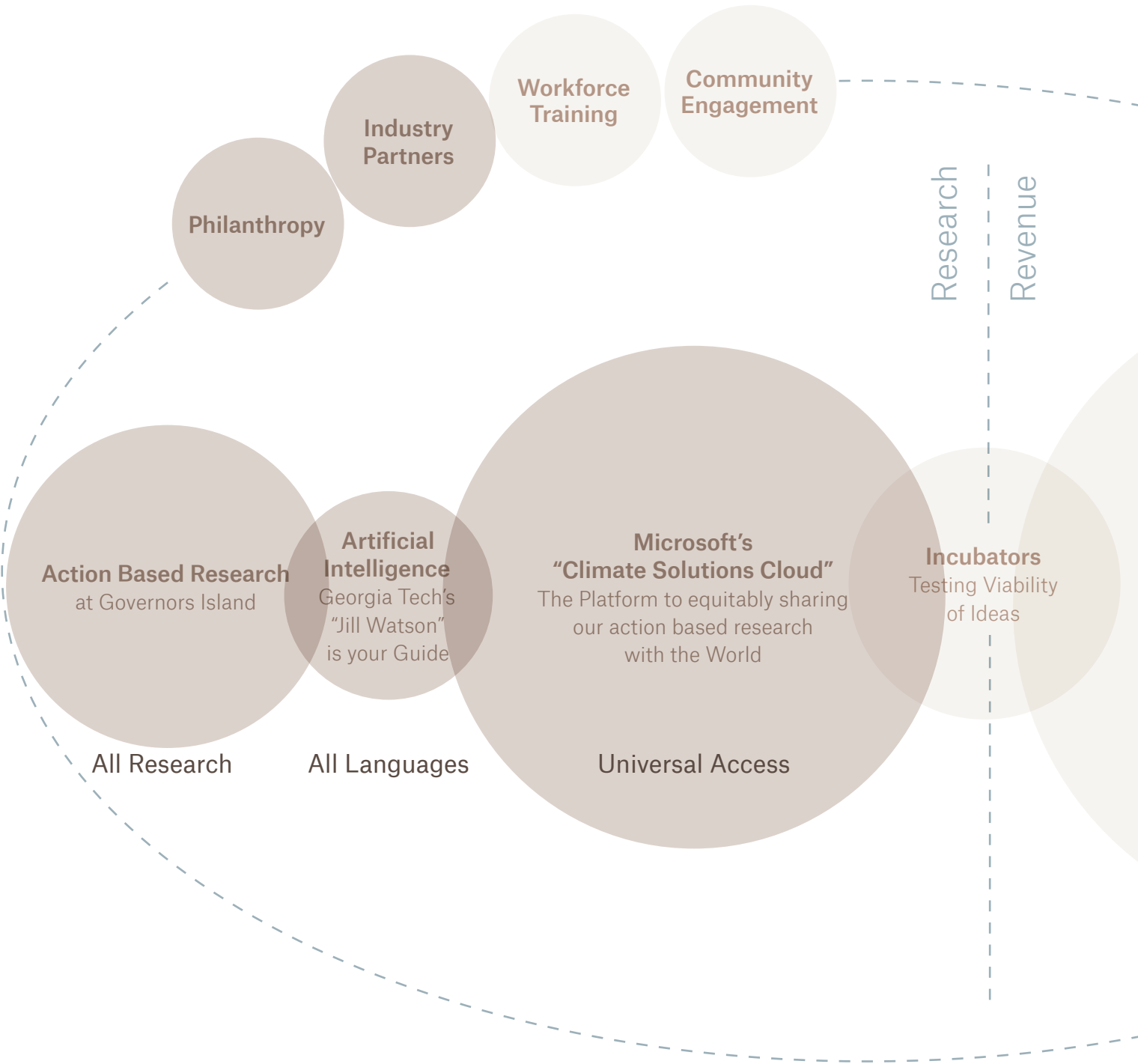
is just over USD 2 Trillion Globally on average over the past five years. According to the International Energy Agency (IEA) - to limit the global temperature rise to below 1.5 - 2 degrees celsius, a projected annual investment of USD 5 trillion in energy efficiency and renewable energy technologies is needed through 2030

Therefore, we propose an idea that can begin immediately: The Consortium’s Action-based, Project-led Research pedagogy — appropriately subtitled “The Pedagogy of Urgency” — will offer paid Work-Learning-Service Opportunities for thousands of New Yorkers. Working directly with the United Nations Institute L3C, employees will develop proposals for communities, industries, and individuals to help them with actionable paths towards energy efficiency and energy use reduction and stimulating annual investments in energy efficiency and renewable energy technologies .

This model expands employment opportunities for New Yorkers who, in turn, will serve the global community as advocates, educators, and innovators actively engaged in co-creating equitable and actionable solutions to the climate crisis for urban communities throughout the world.

The Vision

Engaging the Public with Universal & Equitable Access to Information





Translating Science & Sharing Solutions

Many climate focused institutes, consortium, hubs, and councils have been formed around the world. Each with slightly different proprietary research and knowledge sets.

So, we are choosing to be different. Each of our partners has agreed to open access information sharing to provide the world with relevant information, regardless of location, age, or language.

To generate Actionable Change, we need to change behaviors and build acceptance around ideas that will have lasting impact on the health of our planet and humanity.

To do this, we are in motion with Microsoft to generate a cloud-based platform for sharing research and knowledge generated from the Center for Climate Solutions. We have also engaged Georgia Tech use their artificial Intelligence, Jill Watson, as a docent to Microsoft's sustainable solutions cloud.

This means a child in Queens or on the other side of the world can find information relevant to them, their location, their age, and their language -revolutionizing the way we share knowledge.

Key Education and Research Themes

Our Research Themes were generated by considering the strengths of this Consortium, the goals from Trust for Governors Island and needs of the world around generating actionable climate solutions that limit median global temperature rise to below 1.5°C to 2°C. Because this Consortium is not lead by an individual institution, the Research Themes evolve as the world evolves.

Cross Cutting Themes

Equity	<div>Theme 1</div> <div>Energy</div> <p>Transitioning to a clean energy economy will be critical to limiting the impacts of global warming. Collaboration between users, municipalities, states, and nations is imperative to this goal. Collaboration must also yield mutual benefits and will require creative, equitable solutions to break down barriers to procurement and accelerate progress toward climate and energy goals. We will focus on unlocking large scale emerging markets.</p> <p>Leveraging programs like the WRI Renewables Accelerator (also with Bloomberg Philanthropies, Rocky Mountain Institute (RMI), and the Urban Sustainability Directors Network) to explore new and innovative strategies across special and temporal scales. Purposeful convergence of research and innovation in other areas like infrastructure, mobility, health, equity, business, workforce development, policy, big data/AI, and education will be integrated across all areas of inquiry to ensure broad application and relevance.</p>
Business	
Education	
Work Force Development	
Arts and Humanities	
Policy	
Big Data	

Theme 2

Infrastructure

We will advance knowledge by working at the intersection of research, application, and lived experience on ideas and innovations that foster built environment resilience.

Our focus will be the design, planning, construction, and management of resilient built environments, with strong interest in the well-being of the people and communities who inhabit them. By remaining committed to the optimization of resource use and reuse, our programs around mobility, reliable utility infrastructure, materials management, CO2 emission reduction, and green infrastructure for healthy communities will literally pave the way for more resilient living.

Since climate change does not always present as a sudden catastrophe, we have the opportunity to proactively manage for compounding variables like smarter building codes, nuisance flooding, heat exposure and stress, air pollution and its cascading impacts, affordable and safe housing, water quality and quantity, and a safe set of shared mobility pathways for all. These chronic concerns are rarely addressed until they are urgent and have created an unsafe situation for communities.

Theme 3

Health

Changes in the world's climate systems are affecting our health and well-being and this will continue as climate threats increase. Human health is directly or indirectly impacted by all of the areas of research this consortium is proposing. From the materials our homes and communities are built with, to the food, water and energy systems we rely upon, to the extreme weather events that can cause immediate harm. All can be better designed through a more circular system that thoughtfully uses resources, conscientiously produces nutritious food, enables our medical community to better recognize climate-related health symptoms, and innovatively reuses all waste products toward a healthier future for all.

Key Education and Research Theme Goals

The Trust's Goals

Governors Island

1. Develop Real Solutions with Frontline and Diverse Communities
2. Provide Equitable Access to Research and Education
3. Create Workforce Development and Educational Pipelines
4. Create Meaningful Opportunities for Public Engagement and Programming
5. Expand Opportunities for MWBEs

Theme 1 Goals

Energy

1. Always operate within a circular economies mindset of resource conservation, optimal use and reuse.
2. Recruit innovative minds and systems thinkers to collaborate on carbontech, capture and storage, and nature-based solutions
3. Educate residents and businesses on the benefits of renewable energy
4. Work together to design programs and resources to incentivize and purchase renewable energy
5. Remove market barriers by working with finance, policy, and infrastructure teams
6. Ensure equitable, reliable, and affordable development of renewable programs that are scalable
7. Consider all of the cross-cutting themes (business, equity, education, workforce development, arts/humanities, communication, policy, big data) when developing strategies for addressing energy programs.

Theme 2 Goals

Infrastructure

1. Always operate within a circular economies mindset of resource conservation, optimal use and reuse.
2. Climate adaptation, particularly to New York City local hazards including sea level rise, extreme temperatures, torrential rainfall, and groundwater table rise.
3. Grow opportunities to make our physical and digital structures more sustainable, resilient and equitable, from highways and ports to energy grids and water systems.
4. Educate residents and businesses on the benefits of more sustainable and thoughtful design.
5. Recruit innovative minds and systems thinkers to collaborate on creating healthier mobility systems, energy use, materials management, and natural infrastructure that are more resilient to climate stress .
6. Influence infrastructure practices to be more adaptive, climate-smart, and inclusive.
7. Approach value creation that aims to replace the current “take-make-waste” linear economic system.
8. Consider all of the cross-cutting themes (business, equity, education, workforce development, arts/humanities, communications, policy, big data) when developing strategies for addressing infrastructure programs. With the Senate poised to launch a national infrastructure plan, now is the time to make sure that the best science informs these long-lasting investments. Investing in climate-smart options will ensure healthier communities but also reduce the need to replace poorly designed projects when climate events impact them with more frequency and intensity.

Theme 3 Goals

Health

1. Always operate within a circular economies mindset of resource conservation, optimal use and reuse .
2. Recruit innovative minds and systems thinkers to collaborate on creating healthier food, water, and energy systems, develop strategies for reducing exposure to heat stress and extreme weather events, and designing communities with more resilient natural materials and green spaces .
3. Examine intersections between resilience and public health.
4. Work with people and communities about ways they can help reduce exposure to harmful conditions and choices.
5. Educate medical professionals on how better to advise patients who present with environmentally caused symptoms.
6. Ensure healthy, equitable, reliable, and affordable options for people to make healthy choices .
7. Reduce health care costs and save lives by educating all about the risks of climate impacts to the systems we depend on
8. Develop reliable and situationally adaptive community resilience strategies that can help prevent complex health circumstances from becoming a catastrophic health crisis.
9. Consider all of the cross-cutting themes (business, equity, education, workforce development, arts/humanities, communication, policy, big data) when developing strategies for addressing climate-related health programs.
10. Improve health care service delivery outcomes during climate events.
11. Innovatively reuses all waste products toward a healthier future for all.

Key Education and Research Cross Cutting Themes

Our Consortium's cross cutting themes are global issues that intersect each one of our research themes. They are relevant lenses, challenges and opportunities for our examination.

Equity and Climate Justice

This is the lens through which all programs will be viewed. All projects, partners, ideas, and initiatives should be equally available, accessible, and affordable to all who want to engage. We will work with partners in all fields to submit an equity plan within any proposals.

The growth of social justice movements made it clearer than ever that climate change mitigation is an issue of equity and justice. For example, a recent analysis from the Environmental Protection Agency examining the effect of a 2° C rise in temperature found that Indigenous populations in the U.S. are 48% more likely than other groups to be impacted by flooding from sea-level rise, Latino communities are 43% more likely to lose work hours because of intense heat, and Black people will suffer significantly higher mortality rates.

New York is home to arguably the world's most diverse populations and has deeply felt the impact of climate injustice - heat deaths, flooding from Hurricanes Sandy and most recently Ida - disproportionately affecting communities of color and poor populations. Therefore, each of our research themes will use the lens of climate justice - We must find new ways to work together in order to uncover solutions that not only drive toward a safe climate, but do so in ways that bring equitable benefits and justice for those who have been denied for too long.

Business

The business case for research and education runs through all areas of focus. In order for ideas to have impact in society, they must first be analyzed for

feasibility, return on investment, cost/benefit, equity, and value in the context of the community. New York is one of the world's leading centers for business and finance, uniquely positioning the Governors Island Center for Climate Solutions to deliver customized content on a wide range of climate-related topics, including infrastructure development, ESG investing, climate risk management, coastal resilience, and related subjects. The large potential market of professionals in this area will also create promising opportunities to offer specialized Climate MBA degrees, executive education offerings, and credentialing programs. The presence of world-class academics pursuing research and educational programming and the size and diversity of potential students will position Governors Island as one of the premiere climate educational institutions in the country and globally.

Education

Each research focus area will have associated educational programs in a variety of modalities. Every learner absorbs knowledge in a unique manner. We plan to have visually impactful events, opportunities for interacting with materials, lectures, and experiential learning programs designed for every age group that use scientifically solid communication strategies. All, again, equally accessible to all regardless of background. We will also bring groups of teachers to the island for climate change science and communications education so they may more effectively teach their students about the greatest threat facing their students' generation.

Work force Development

From high school students to post-graduate professionals, we will have the latest programs to empower climate-smart employees to meet market demands. High school students can be trained in trades that help the transition to a green economy. College students can earn credits for working in teams to address real community issues just as they will after graduation. Professionals can expand their career potential by getting credentialed in green technology, circular economies, impact investing, climate preparedness and planning, and many other related fields that will meet the demands of our green transition.

To afford expanded employment opportunities for New Yorkers, The Consortium's Action-based, Project-led Research pedagogy — appropriately subtitled "The Pedagogy of Urgency" — will offer paid Work-Learning-Service internship opportunities for thousands of New Yorkers, prioritizing women, minorities, and veterans from frontline communities across the City.

This expanded workforce, in turn, will serve the global community as advocates, educators, and innovators actively engaged in co-creating equitable and actionable solutions to the climate crisis for urban communities throughout the world.

Arts and Humanities

Arts and Humanities will help visitors and researchers connect to our content emotionally. We envision using film, music, art, and literature to bring the story of climate change to life. Aligning with our educational goals of reaching all people through a variety of means, we will strive to incorporate the arts and humanities through all focus areas.

Policy

Climate action: engaging with government, civil society, and the public on policy and communication around adaptation, preparedness, and mitigation.

Climate change cuts across law and policy domains, engaging governments, courts, businesses, financiers, scientists and others in multiple ways. Policy will similarly run through all of the Climate Center's research focus areas. From climate litigation, IP law, energy law, environmental justice, decarbonization technologies and markets, we will explore policy innovations that will enable a low-carbon path forward. We will defend climate science and ensure environmental justice.

Big Data

From machine learning to data visualization, data science techniques are used to study the effects of climate change on marine biology, land use and restoration, food systems, patterns of change in vector borne diseases, and other climate-related issues. Data science is a powerful tool to help researchers understand the uncertainties and ambiguities inherent in data, to identify interventions, strategies, and solutions that realize co-benefits for humanity and the environment, and to evaluate the multiple—and sometimes conflicting—goals of decision-makers.

Data Science will be one of the key factors in uniting efforts across the Consortium. There is a unique opportunity to accelerate progress - to establish an entirely new and better way of learning from data and making difficult and important decisions using data.



Key Education and Research Programs

Preliminary Programs Supporting Research Themes and Public Engagement

Work Learning Services Lab

Holding global warming to 1.5c degrees entails staggering transformation of the global energy system - far beyond what world leaders are contemplating today. Global greenhouse emissions would need to cut in half by 2033 and nearly zero out by 2050.

We have proven, scalable, peer-reviewed mechanisms to reduce worldwide energy consumption by 50% globally and cut the investment requirement in renewables drastically, and we can start tomorrow in New York and replicate it in every country and every city on the planet through our vast global network of 7,000 colleges and universities (UNEP) across the world.

Working in partnership with the Energy Innovation Lab and the United Nations Institute L3C, the Work Learning Services Lab will specifically address characteristic resources, challenges, and capabilities with regional expertise to deliver realistic solutions to reduce energy use. This program will provide jobs and help with workforce transition to a green economy.

Paid Student Interns will develop proposals for communities, industries, and individuals to help them with actionable paths towards energy efficiency and energy use reduction. This model expands employment opportunities for New Yorkers who, in turn, will serve the global community as advocates, educators, and innovators actively engaged in co-creating equitable and actionable solutions to the climate crisis for urban communities throughout the world.

This lab would be an ideal partnership with The Harbor School.

Food Lab & Greenhouses

Circular systems are not a new idea—they are based on nature. Waste does not occur in nature. One organism's waste is another organism's food, and nutrients and energy flow in closed-loop cycles of growth, decay, and reuse.

In contrast to circular systems, our current linear Food and Agricultural Systems do not include mechanisms for waste recovery and productive reuse. Transforming Food and Agriculture to circular systems economies keep products and materials in use, regenerate natural resources, drastically reduce waste and pollution, and increase economic value. However, to ensure their reliability for human societies, circular systems must be resilient and be able to function during unexpected events (such as a global pandemic) as well as during expected challenges (such as pest outbreaks and extreme weather).

Transitioning to circular systems can double food production by 2050 without the need for additional freshwater, arable land, or other natural resources, mostly eliminating non-renewable energy use, and protecting the health of ecosystems. Our expertise in modeling food systems to optimize performance can be merged with other scientific models in our convergence center to generate scenarios to help nations feed their growing populations. Our labs and greenhouses can test these scenarios under controlled conditions to better inform how we improve our food systems under the stresses of climate change.

This lab would be an ideal partnership with Earth Matters.

Convergence Center

The National Science Foundation (NSF) has identified Convergence Research as one of its 10 Big Ideas for future investments. Convergence research is a means of solving vexing research problems and entails integrating knowledge, methods, and expertise from different disciplines and forming novel frameworks to catalyze scientific discovery and innovation.

Our Convergence Center will be the physical and ideological center of our entire operation. We will intentionally bring together intellectually diverse researchers, business leaders, and other professionals to develop more effective ways of communicating across disciplines by adopting common frameworks and a new scientific language. This strategic collision will yield new insights, ways of framing research questions, and opening new research possibilities. We will incentivize innovation through competitions around solutions to complex problems which will provide opportunities for big thinkers to become leaders in their fields.

Decisions and Circular Economies Lab

The Decision and Circular Economies Lab will be located within the Convergence Center. Not only will the various disciplines of science convene here, but the scientists, community, policy makers, industry partners, and finance leaders can also gather here to actually see how research and data can be visualized to inform decisions. By manipulating variables in real time, scenario planning with a variety of outcomes can be explored such that the best options are visible to all. Since decision making and circular economies principles have no disciplinary boundaries, they will part of all of the activities in this Center. Innovation happens around the edges of barriers where thought silos end. Our Decisions and Circular Economies Lab will accelerate the breaking boundaries and the emergence of ground-breaking new ideas.

This lab would be an ideal partnership with the Circular Economy Manufacturing Microfactory.

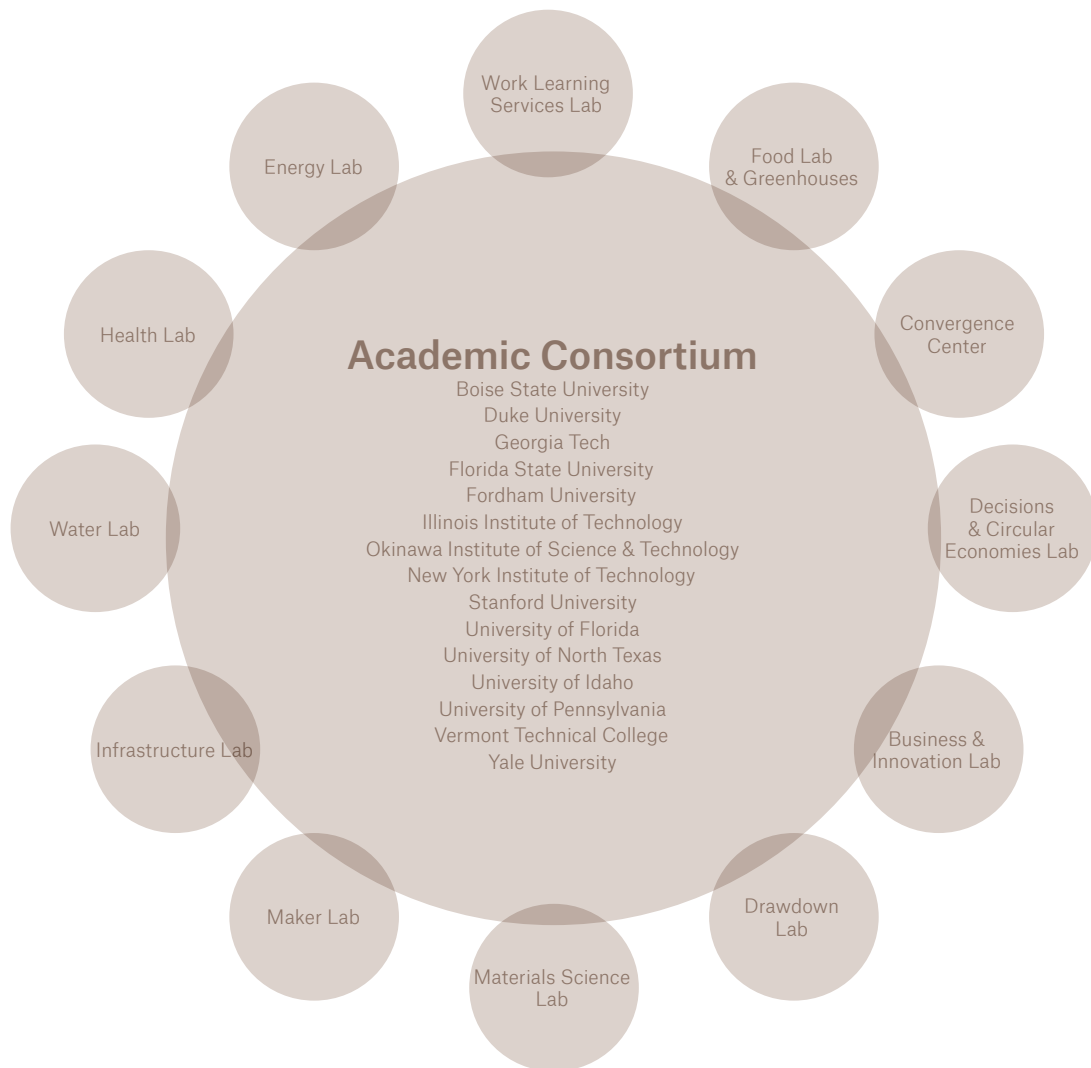


Key Education and Research Programs

Preliminary Programs Supporting Research Themes and Public Engagement

Key Goals

- Develop Real Solutions with Front-line and Diverse Communities
- Throughout research, education, programming, and operations, develop collaborative, reciprocal relationships with front-line and diverse communities to co-produce knowledge and solutions.
- Expand Opportunities for MWBEs
- Maximize opportunities for minority- and women-owned business enterprises (25-35% participation goal).
- Provide Equitable Access to Research and Education
- Ensure that opportunities at the Institution are affordable and accessible to New Yorkers from diverse background



Theme 1 Energy

Theme 2 Infrastructure

Theme 3 Health

Business and Policy Innovation Lab

This is where the science collides with societal realities and educational opportunities. The Climate Center's proximity to one of the world's leading centers for business and finance uniquely positions it to deliver customized content on a wide range of climate-related topics, including infrastructure development, ESG investing, climate risk management, coastal resilience, and law and policy. The large potential market of professionals in this area will also create promising opportunities to offer specialized Climate MBA degrees, JD specializations, executive education offerings, and credentialing programs. The presence of world-class academics pursuing research and educational programming and the size and diversity of potential students will position Governors Island as one of the premiere climate educational institutions in the country and globally. Our Convergence Center will accelerate the ability to run various outcome models to help inform decisions and their cascading impacts.

Drawdown Lab

Right now, we produce more carbon emissions than all of the oceans, seas, and forests of the planet are capable of absorbing. Climate change is not the problem. It is merely the most dramatic symptom of a major challenge that humanity is reluctant to acknowledge: We use more goods and services from nature than ecosystems can sustainably renew. More precisely, we use as much as if we lived on 1.74 Earths. Our Drawdown Lab will explore carbon tech, behavior change, investments, and strategies for reducing carbon emissions and operating more circularly. See <https://drawdown.org/programs/drawdown-labs> for ideas on how we develop this.

Materials Science Testing, Maker Lab, and Infrastructure Lab

The goals for all of these labs will be to apply a circular lens to all research and innovation. A circular economy is built on three principles: designing out waste and pollution; keeping products and materials

in use; and regenerating natural systems. At its core, the circular economy offers an alternative approach to value creation that aims to replace the current "take-make-waste" linear economic system.

This lab would be an ideal partnership with the NYU-Gallatin Wet Lab at Governors Island.

Energy Innovation Lab

Few sectors affect the prosperity of every sphere of economic and social life or exert as much direct influence on general technological progress than energy. Concerns surrounding climate change, cost, equity, and security have brought the development of a clean and diverse energy portfolio to the forefront of the national conversation.

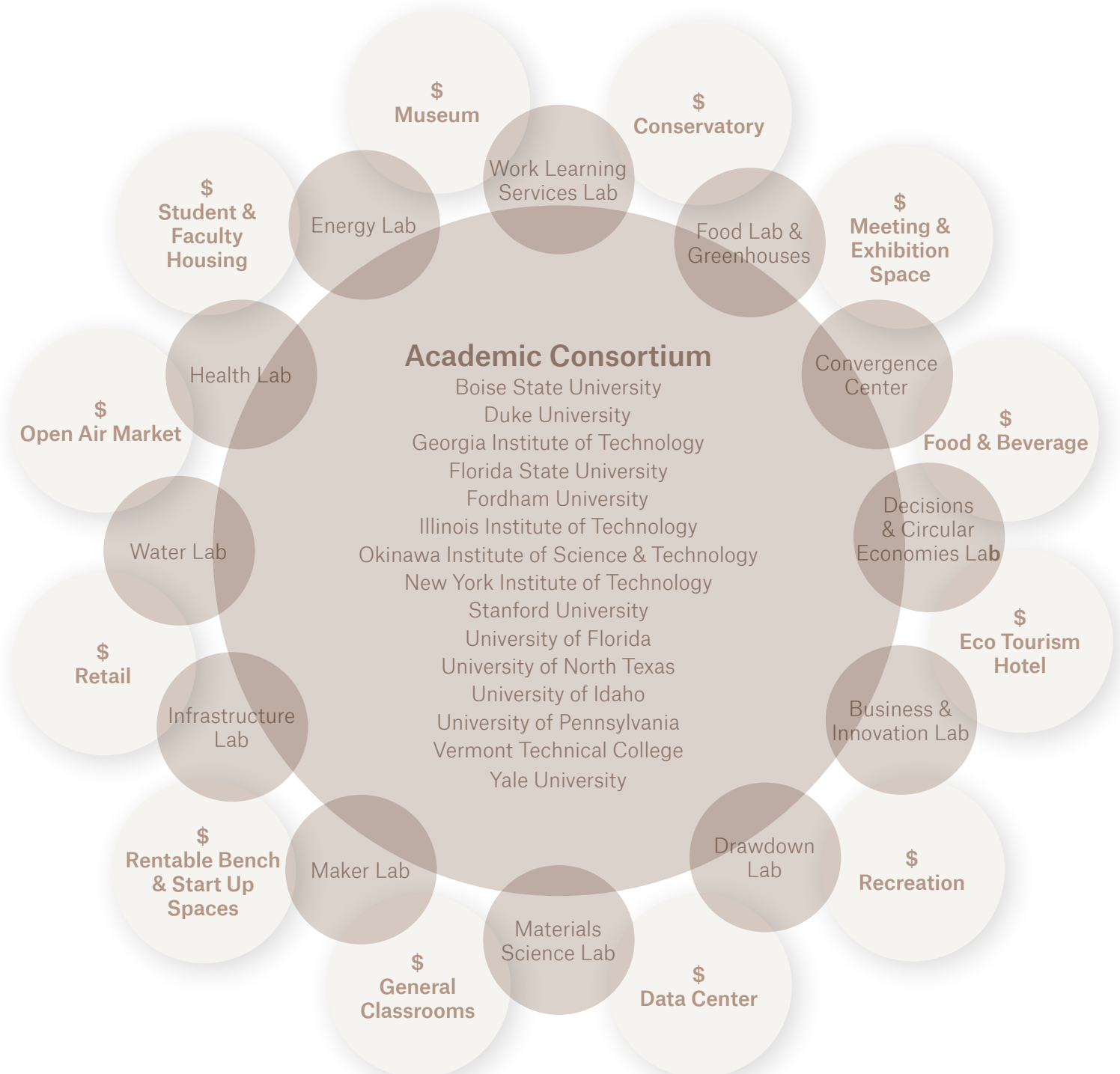
In partnership with Georgia Tech's Strategic Energy Institute (SEI), this lab will integrate energy activities across the nation's largest technology university – from generation, to distribution, to use. Whether it's commercializing a technology to address a specific challenge or designing a roadmap for focusing resources, we understand the systems, technologies, and context of the ever-evolving nature of energy production and use.

<https://research.gatech.edu/energy>

Ancillary Uses

Preliminary Programs Supporting Research Themes and Public Engagement

It is our shared goal to create a deep sense of place that leverage, activate, and make a positive contribution to the Island's physical landscape; existing community of users, tenants, partners, and financial sustainability.



Ancillary Programming

Together, we will create a mixed use district with a vibrant atmosphere, activated 12 months out of the year, day to evening. Ancillary, revenue generating programming, intermixed within our Consortium's experimental living laboratory spaces will engage the public and enable real-world experimentation.

Each of these programs will provide additional revenue streams, become additional draws to the Island, provide jobs, create opportunities for entrepreneurs, support the infrastructure and people at the Center for Climate Solutions, and create space for start up companies that may spin out of the Center's research and public interest.

Combined, the Meeting and Exhibition space and Conservatory would be the place where the world convenes on the topics of climate change. It could also be rentable spaces for retreats, corporate events and celebrations. The goal with all spaces is that they are multi-use, they do not sit idle, and are the world's best examples of replicable, sustainable practice that goes beyond Net Zero.

Arts-Based Placemaking

Governors Island is an extraordinary and unique destination for transformative public art, unforgettable events, cultural and educational programming, and recreational activities for all ages.

Each of the proposed ancillary use programs must build on the exceptional roster of programs, exhibitions, and activities presented by The Trust for Governors Island, the National Park Service and the Friends of Governors Island, and beyond have developed.

These programs will create an experience that engages Arts-Based Placemaking, an integrative approach to planning and community building, that will stimulate local economies in all five boroughs and lead to increased innovation, cultural diversity, and civic engagement.

Since creativity fuels place value, the benefits of using arts and culture to further tap into the unique character of Governors Island extend well beyond the art world, advancing our mission.



Section 2:

Team Members and Structure



Respondent Team Structure

Led by Eligible Respondent: The Renewable Nations Institute L3C

The Respondent team, lead by The Renewable Nations L3C, a veteran owned business, is a consortium model bringing together 15 Academic Institutions, over 20 cross sectoral industry partners, government agencies, and donorship sources to focus on research themes that target systemic inequities intensified by our changing climate: Energy, Infrastructure and Built Systems, and Health.

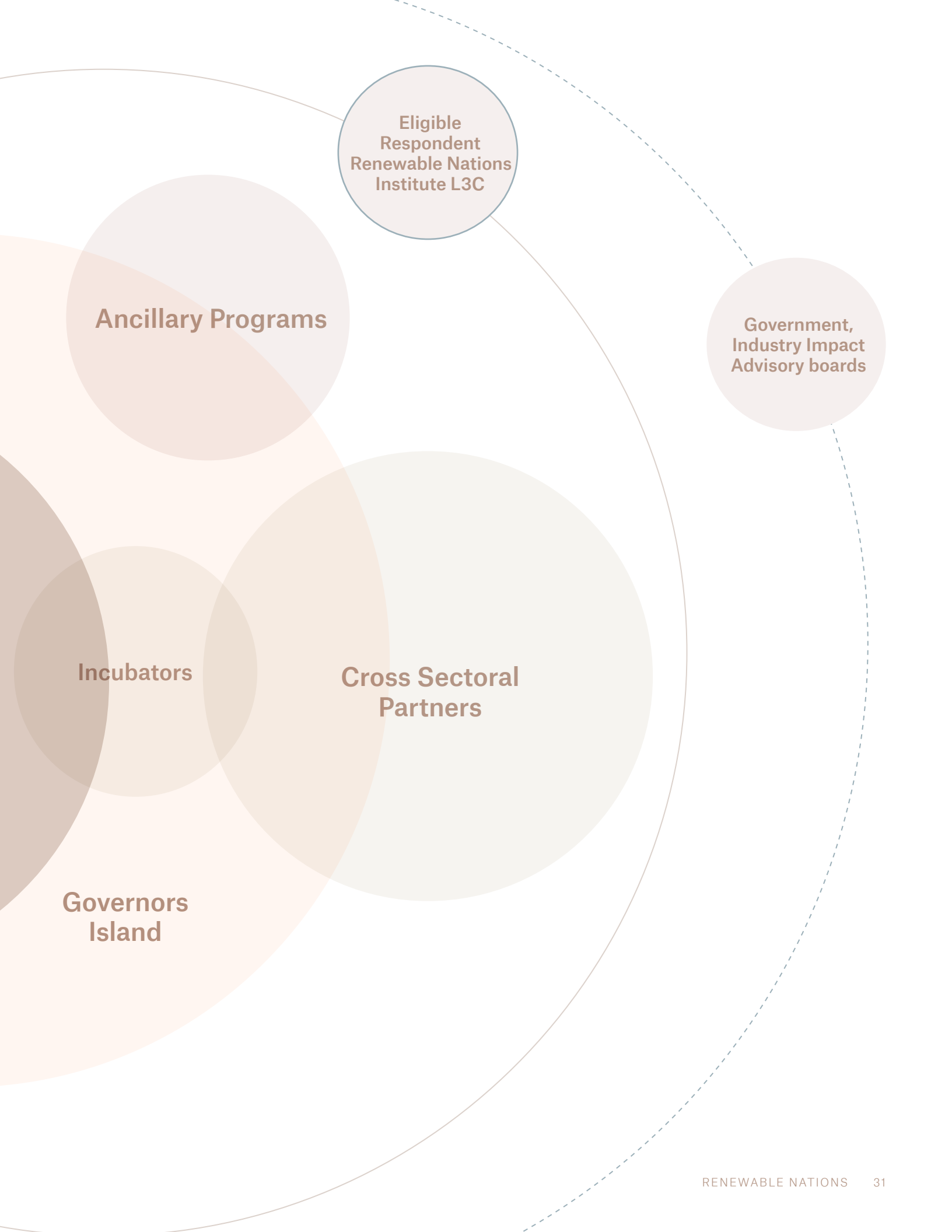
Climate Solutions Foundation 501c3

Operating Foundation & Board
Supporting
Academic Consortium

Design, Construction & Operations Team

Academic Consortium 501c3

Through our research and educational focus, our programming and operations, we seek to engage diverse communities, and particularly those on the front lines of the climate crisis. Our proposed programs will investigate issues in these communities and develop collaborative, reciprocal relationships with community members to co-produce knowledge and solutions through approaches such as participatory action research and citizen science.



**Eligible
Respondent
Renewable Nations
Institute L3C**

Ancillary Programs

**Government,
Industry Impact
Advisory boards**

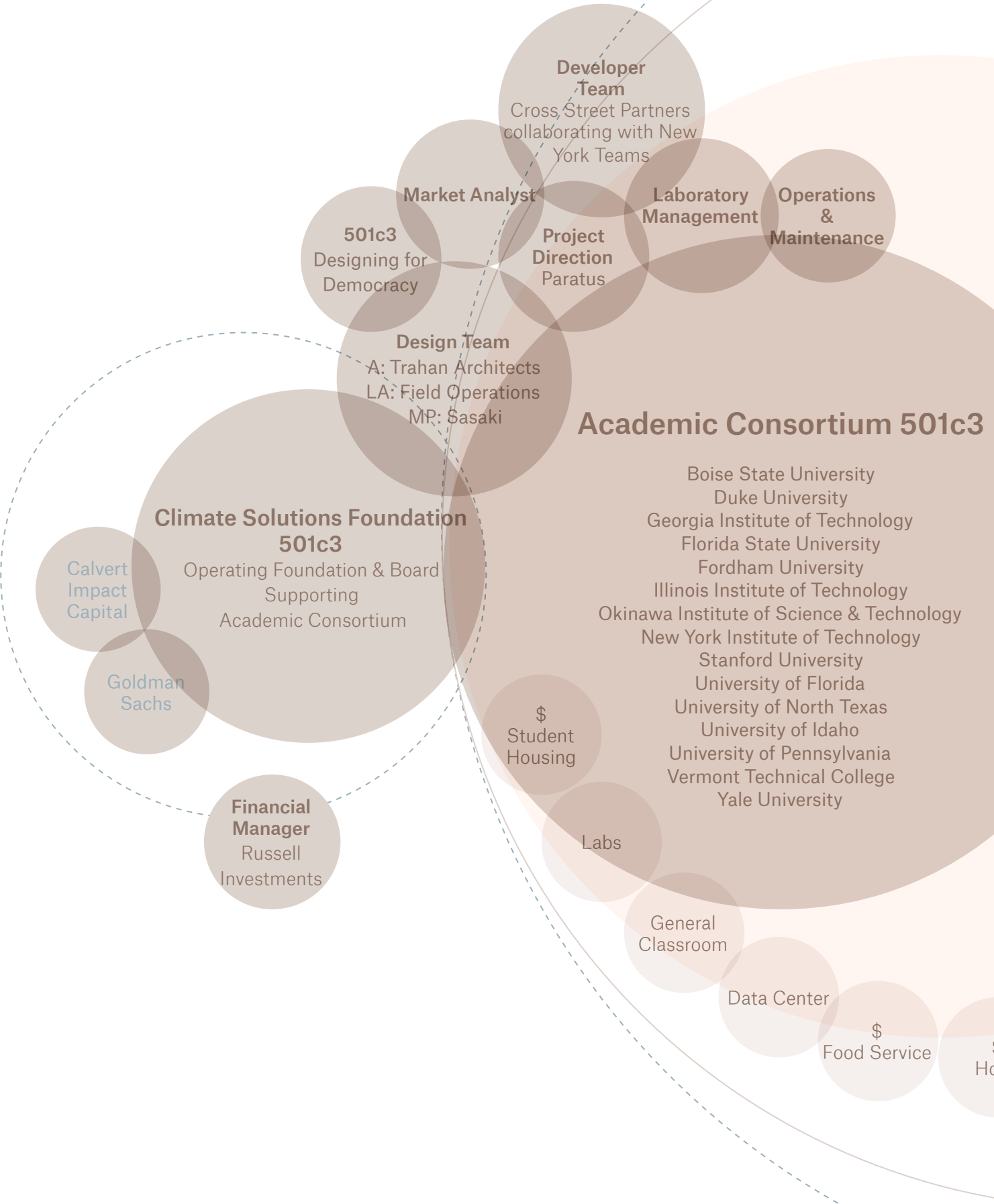
Incubators

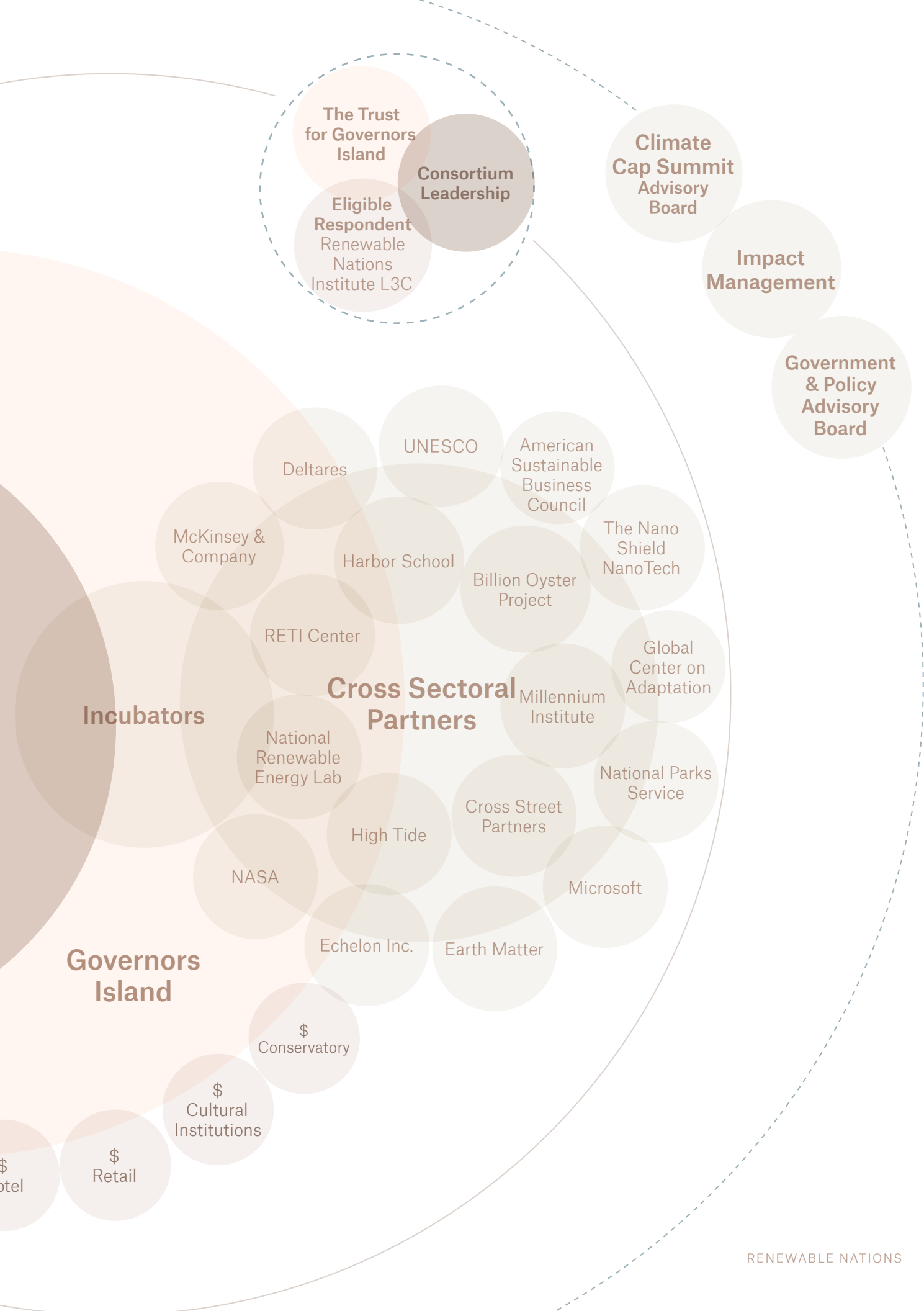
**Cross Sectoral
Partners**

**Governors
Island**

Respondent Team Structure

Diagram of Team Members





Description of Team

Eligible Respondent: Renewable Nations Institute L3C

Renewable Nations Institute L3C Organizational Structure - Veteran Owned

The Institute is proposing the formation of two legal entities: (1) a not-for-profit membership entity consisting of higher education and research institutions, governmental agencies, multilateral development banks, private philanthropy, public and private financial institutions, private industry, trade unions, civil society stakeholders, and others; and (2) a special purpose vehicle (the “SPV”) — a Manager-Managed Low-profit Limited Liability Company (the “L3C”) — to protect prospective co-principal anchor institution(s) from financial risk for Center leasehold costs, development, and operations and maintenance (the “O&M”).

The Non-for-profit Membership Entity

Assuming the Trust selects the proposed Consortium to lease Trust properties on Governors Island, the prospective Co-Principal Consortium Members will incorporate the not-for-profit membership entity in the State of New York doing-business-as the Center for Climate Solutions (the “Center”), pending approval of the Trust for the proposed name style. The founding members (the “Founding Members”) will appoint an interim board of directors (the “BOD”) and relevant advisory committees (the “Committees”) for Center governance. Initial and on-going operating funds for the Center will be sourced from the SPV, including all related educational and research programming developed by Co-Principal Consortium Members and non-Co-Principal Members. Proposed operating and programming budgets for the Center will be reviewed by the relevant Committees and approved by the BOD.

Special Purpose Vehicle

The Institute, as the “Initial Manager” on behalf of the Co-Principal Consortium Members, will file L3C Articles of Organization in compliance with State of Vermont corporate law 11 V.S.A. Ch.21 generally, and 11 V.S.A.§3001(27) specifically, as a Manager-Managed entity. The Institute and the Co-Principal Consortium Member(s) will appoint the Managing Members of the L3C, consisting of Co-Principal Consortium Members and non-Co-Principal Members, as appropriate. Proof of filing of the Articles of Organization with a Certificate of Good Standing issued by the State of Vermont Secretary of State will be provided to the Trust in the Expression of Interest (in compliance with RFEI, Section VI, Submission Requirements) to demonstrate that ongoing governance structure and relevant legal agreements are in place for legal authorization of lease negotiations with the Trust. The Institute will assume the cost of L3C filing fees with the Office of the Secretary of State of the State of Vermont.

The Institute previously prepared the L3C Operating Agreement with technical assistance from the State of Vermont Department of Financial Regulation in compliance with State of Vermont corporate law V.S.A. Ch.25, Subchapter 11, Low-profit Limited Liability Companies 11 V.S.A. § 4162, as described in RFLI, Section E-3. Special Purpose Vehicle, Disclaimer (pg. 20). See: The L3C: A New Business Model for Socially Responsible Investing. See Federal Reserve Bank of St. Louis at the following URL: http://www.renewablenations.nyc/uploads/3/7/6/1/37613217/fn04a_l3c_socially_responsible_investing.pdf

SHANNON YEE
GEORGIA TECH

MIKE MITCHELL
UNIVERSITY OF FLORIDA

SANJUKTA SEN
FIELD OPERATIONS

MARGARET JANKOWSKY
TRAHAN ARCHITECTS

CAROLYN COX
UNIVERSITY OF FLORIDA

LESLEY BRAXTON
CONSORTIUM STRATEGIST
TRAHAN ARCHITECTS

Description of Team

Academic Consortium 501c3

Academic Consortium 501c3 Credentials

To facilitate constant innovation, we have created a democratic structure led by The Renewable Nations L3C. The company consists of Managing – Managers and Directors representing all consortium members and the Trust for Governors Island with the special purpose of operating, designing, engineering, creating goals, programs, and research themes. This ensures the Center evolves as the world evolves, is not tied to an agenda of any one person or institute, and space is created for new institutions to join the consortium and others to move on. The academic consortium itself will be a 501c3 with the ability to receive donorship monies, also ensuring funding is equitably shared and a constant stream of new actionable ideas for the next 99 years.

Each institution was selected for their interdisciplinary climate and climate justice focused programs, their desire to work in a consortium model and has experience with remote campus structure. We remain open to additional consortium partners.

For detailed description of each institution, see Section 3.

The Academic Consortium is composed of 15 institutions with the following credentials:

Four - R2 Research Institutions

Boise State University
Fordham University
Illinois Institute of Technology
University of Idaho

Seven - R1 Research Institutions

Georgia Tech
Florida State University
Stanford University
University of Florida
University of North Texas
University of Pennsylvania
Yale University

Two - Institutions located in New York

Fordham University
New York Institute of Technology

One - Land, Sea Space Grant Institution

University of Florida

Eight - Space Grant Institutions

Florida State University
Georgia Tech
Illinois Institute of technology
Stanford University
University of Florida
University of Idaho
University of Pennsylvania
Yale University

Two - Ivy League Institutions

University of Pennsylvania
Yale University

One - Technical College

Vermont Technical College

One - International University

Okinawa Institute of Science & Technology

Consortium List of Programs for Governors Island

Boise State University

- CAES Energy Efficiency Research Institute

Duke University

- Fuqua School of Business
- Center for Energy, Development, and the Global Environment (EDGE)

Georgia Institute of Technology

- College of Engineering (COE)
- College of Science (COS)
- Brook Beyers Institute for sustainable systems
- Strategic Energy Institute (SEI)
- Georgia Tech Research Institution (GTRI)
- Georgia Tech Research Corporation (GTRC)

Florida State University

- Resilient Infrastructure, Disasters, and Emergency Response Center
- Department of Earth, Ocean, and Atmospheric Sciences
- FSU Coastal and Marine Laboratory
- FAMU-FSU College of Engineering
- National High Magnetic Field Laboratory
- College of Law
- Gulf Scholars Program
- Apalachicola Bay Systems Initiative

Fordham University

- Environmental Science
- Data Science
- Sustainable Business
- Foundry, Fordham's hub for innovation and entrepreneurship
- Science and Technology Entry Program – STEP

Illinois Institute of Technology

- Wanger Institute for Sustainable Energy Research (WISER)

Okinawa Institute of Science & Technology

- Science and Technology Graduate School

New York Institute of Technology

- School of Architecture and Design

Stanford University

- Precourt Institute for Energy

University of Florida

- Climate Institute
- Food Systems Institute
- Envision Resilience Challenge

University of North Texas

- Institute for Teaching Technology and Education

University of Idaho

- Work Learning Service Studio
- CAES Energy Efficiency Research Institute

University of Pennsylvania

- McHarg Center for Urbanism and Ecology

Vermont Technical College

- School of Engineering and Computing

Yale University

- Climate Communications Institute
- School of Architecture

Description of Team

Cross Sectoral Partners - Partial Listing

Our Cross Sectoral Industry Partners were chosen because of their relationship with Governors Island, their climate and climate justice focus, relationship with team members, and ability to incubate and support our Academic Consortium. We feel it is imperative to continue building our partners - This is just the beginning.

American Sustainable Business Council

David Levine

Located in New York City, the American Sustainable Business Council (ASBC) is the leading business organization serving the public policy interests of responsible companies, their customers and other stakeholders. Its membership represents over 250,000 businesses in a wide range of industries. ASBC advocates for policy change and informs business owners, policymakers, and the public about the need and opportunities for building a vibrant, broadly prosperous, sustainable economy.

Billion Oyster Project

Brian Reagor

Located on Governors Island, the Billion Oyster Project is building a future in which New York Harbor is the center of a rich, diverse, and abundant estuary. The communities that surround this complex ecosystem have helped construct it, and in return benefit from it, with endless opportunities for work, education, and recreation.

Cross Street Partners

Bill Struever

It is a vertically integrated real estate company specializing in adaptive reuse of historic properties, brownfield remediation, sustainable design and building practices, and transit-oriented development.

Deltares

Edwin Welles

Deltares is an independent institute for applied research in the field of water and subsurface. Throughout the world, they work on smart solutions, innovations and applications for people, environment and society. Managing densely populated and vulnerable areas is complex, which is why they work closely with governments, businesses, other research institutes, universities, and NGO's at home and abroad

Echelon Inc.

Kerri Faber

It is a company building engine helping climate focused start ups with a toolkit of resources to build their company: capital, operating, network, and data science. Echelon can help scale start up businesses esgenerated by Governors Island's Center for Climate Solutions. A certified B-Corp Pending.

Earth Matter

Marisa DeDominicis

Earth Matter NY Inc. is a 501(c)(3) nonprofit organization dedicated to advancing the art, science, and application of composting in and around New York City. Earth Matter NY accepts and processes food waste generated by NYC residents, including through a partnership with DSNY's NYC Compost Project. Through a partnership with The Trust for Governors Island, they process all of the landscape waste and food waste generated by island partners and visitors of Governors Island.

Global Center on Adaption

Henk Ovik

Their mission is to act as a solutions broker to accelerate, innovate, and scale adaptation action for a climate-resilient world. Their work focuses on those who are the most vulnerable to the effects of climate change including the poorest people in the poorest countries. They are the least prepared to withstand the triple health, social, and economic impacts of our climate emergency.

Harbor School

Mike Cohen

Located on Governors Island, The New York Harbor School provides a college and career preparatory education built upon New York City's maritime experience that instills in students the ethics of environmental stewardship and the skills associated with careers on the water.

High Tide

Adrian Santiago Tate

It is a consulting firm working with local governments in Florida on economic impact assessments, providing ML support to non-profit organizations in California to optimize the impact of a large scale stormwater mitigation project, and offering climate consulting to a community in Brooklyn.

Microsoft

Mike Pell

Mike Pell, a Microsoft pioneer and co-inventor of Adobe Acrobat, is leading the way to help our team build a cloud-based solution to share climate change information with the world.

The Nano Shield

Michael Francis

It is a revolutionary fireproofing and insulation material emerging into our market. Known to be the lowest conducting material on the planet, **Nano Shield has given our team the exclusive use of the material. This product will forever change the way we build buildings and speaks to the Renewable Nations Institute L3C team's commitment to thinking differently.**





National Renewable Energy Lab (NREL)

Roderick Jackson

NREL's vision means leading an energy transition in which solutions are inclusively designed and benefits are equitably distributed. NREL is a leader in applied clean energy practices, working with thousands of communities nationally and around the world, many of which have been historically underserved in terms of access to clean energy or its benefits. As they execute their vision, they will include diverse and historically underserved communities and perspectives in our research, partnering, and operational practices. NREL has partnered with several of the Academic Consortium members and bring years of partnerships and deep expertise on solving market-relevant problems.

McKinsey & Company

Maurice Obeid

McKinsey could play a role in supporting detailed design and implementation to help the consortium achieve its vision. McKinsey has a strong interest in being part of the Executive Leadership that provides a visionary voice for the consortium. As part of the Executive Leadership, McKinsey could play a critical facilitation role by providing structure to the Executive Leadership's engagement model, bringing critical fact bases to inform decision-making, and acting as a thought-partner to set and achieve an ambitious vision for the consortium. Finally, McKinsey could potentially play other on-going roles on the island in-line with the consortium's vision including convening cross-sector and industry partners, delivering immersive executive education opportunities, partnering on research initiatives through McKinsey's Global Institute, and supporting innovation and growth (e.g., on-island incubation support for startups)

National Parks Service

Marty Hylton

Marty Hylton serves as the first Historic Architect for Climate Change for the National Park Service. As part of his post, he works with the Climate Change Response Program based in Fort Collins, Colorado. Established in 2010, the Program advances efforts to address the effects of climate change across the breadth of the Park System. The Program works across directorates and program areas to support the some 420 Park sites through technical expertise and research, guidance and training, project and planning support, and provision of communication products.

RETI Center

Tim Gilman

The RETI (Resilience, Education, Training and Innovation) Center is a non-profit organization that is dedicated to building strength in communities through resiliency focused economic development by following the guidelines set by OneNYC and the UN's Sustainable Development Goals.

United Nations Educational, Scientific & Cultural Organization (UNESCO)

Zahra Amirzada

They seek to build peace through international cooperation in Education, the Sciences and Culture. In this spirit, UNESCO develops educational tools to help people live as global citizens free of hate and intolerance. UNESCO works so that each child and citizen has access to quality education. By promoting cultural heritage and the equal dignity of all cultures, UNESCO strengthens bonds among nations. UNESCO fosters scientific programs and policies as platforms for development and cooperation. UNESCO stands up for freedom of expression as a fundamental right and a key condition for democracy and development. Serving as a laboratory of ideas, UNESCO helps countries adopt international standards and manages programmes that foster the free flow of ideas and knowledge sharing.



Description of team

Design Team and Collaborators

Trahan Architects

Consortium Strategists and Design Architects

Located In New York City, and ranked as the country's number one design firm, Trahan Architects takes the consortium model seriously which is why our team is lead by our Consortium Design Strategist, Lesley Braxton. Lesley brings unparalleled academic institution perspective to the shaping of our team offering and in our leadership of the physical design. Having worked with many of the institutions on the team, Lesley is able to take the broad view to ensure that our consortium model is set up for success—the right programming, the right distribution of physical needs, and above all the right framework to advance the Trust's stewardship of Governors Island.

While the physical design of the future campus is not the primary driver of this RFEI response, it will undoubtedly be a critical piece to the public perception of any offering. Our framework decidedly rejects a hyperdense, developer-friendly approach to the campus. Instead, smaller buildings are clustered and integrated into the landscape so that the primary experience of the campus is that of open space, not buildings.

The consortium model requires the implementation of design thinking—the process of testing and synthesizing disparate pieces into a compelling whole. Lesley Braxton's critical experience as an Architect, and our Consortium Design Strategist, has brought the visionary components of Academic Institutions, Industry Partners, Sustainable Funding, and Place Based Design together to advance the Climate Center on Governors Island to meet the needs of this generation and future generations.

Designing For Democracy 501(c)(3)

Democratic Spatial Researchers

Located in New York City, Designing for Democracy investigates spatial infractions of democracy within the built environment. They work with an interdisciplinary consortium of diverse stakeholders, connecting a deeper understanding of how inequity, supremacy (in its various forms), and dehumanization become spatialized and proliferated. From this context, DFD will activate opportunities for new pedagogical and methodological approaches to interrogate and deconstruct existing paradigms, while simultaneously advancing the practice of democratic design (or architecture) through the emergence of projects centered on the spatialization of healing, equity, and justice within the built environment.

Sasaki

Campus Planning & Academic Programming

Sasaki believes that defining the future of place must be a collective, contextual, and values-driven exercise. They advocate for community and client needs to advance design excellence, sustainability, and resilience. As campus planners and programmers, we bring ideas at the intersection of academia and industry to help the Governors Island Center for Climate Change become an incubator and test-bed for new ideas.

We have worked with many campuses within the consortium and bring shared experiences to the planning and programming process.

James Corner Field Operations

Landscape Architecture

Located in New York City, James Corner Field Operations is a leading-edge landscape architecture and urban design practice. The practice is renowned for strong contemporary design across a variety of project types and scales, from large urban districts and complex post-industrial sites, to small well-crafted, detail design projects. Important projects include The High Line in New York; Tongva Park in Santa Monica, California; South Park Plaza at Queen Elizabeth Olympic Park in London; Chicago's Navy Pier; Shanghai's Taopu Central Park; Hong Kong's Tsim Sha Tsui Waterfront; Shelby Farms Park in Memphis, Tennessee; the Central Waterfront in Seattle, Washington, and the Roosevelt Island Landscape Master plan.

The Field Operations team represents a diverse collective of more than 80 design professionals trained in architecture, landscape architecture, urban design, and urban planning, coming from eleven countries and fluent in thirteen languages. Some 50 percent of their studio, and two-thirds of their senior leadership, are women. They are delighted to honor Cornelia's values, vision, and legacy embodied in the Cornelia Hahn Oberlander International Landscape Architecture Prize.

Titanium Linx

Impact Management

Located in New York and a certified MWBE, Titanium Linx Consulting, Inc. (Titanium Linx.) is a diversified global project impact management firm. They specialize in large-scale high impact projects with social, economic, environmental, or health



implications on the public. They provide corporate, institutional, and government strategy with lead and essential support services in the areas of business & economic development, marketing & communications, public relations, procurement and compliance management to their select clients and prime contractors. Located in "the HUB" of Nassau County, N.Y. Titanium Linx was established in 2014, in response to the need for a multi-faceted and refined approach to Private, Public, and Public-Private Partnership (P3s) ventures. The firm was restructured to facilitate optimal relationships between the three sectors and across industries.

Advisory Boards

Government + Climate

We understand that the scale, typology, and research foci of this project will benefit from the involvement of multiple government agencies and climate focused agencies.



Russell Investments

Financial Manager

Located in New York City - Russell Investments is the teams investment solutions partner responsible for managing and investing donorship monies to ensure financial success for the next 99 years.

Russell Investments will contract with the 501c(3) as the Outsourced Chief Investment Officer (OCIO) for the foundation's assets. In this capacity, Russell Investments will provide strategic advice on asset allocation and investment policy development, and will manage the assets in accordance with the investment policy by selecting, monitoring and managing third party asset managers and products designed to meet the long term return and spending goals of the foundation. Russell Investments will act as a co-fiduciary for the foundation's assets, and will complement these investment services with administrative support to help the foundation staff focus more on their day-to-day mission and less on paperwork and reporting. Their capabilities and experience include:

1. Extensive experience with non-profit organizations: Russell Investments has been providing strategic advice and OCIO services to non-profits since 1987. OCIO is their core focus, with \$326.9 billion assets under management globally (as of 3/31/21). They offer a comprehensive set of services that goes beyond just investment consulting to improve overall governance structure and results.
2. An open architecture approach to portfolio construction and manager selection with no biases: They do not own any of the external

managers that would be hired for the Foundation's portfolio, so there is no conflict of interest regarding managers hired or terminated for an assignment. Russell Investments will accept fiduciary responsibility for the research and selection of all the managers the Foundation will be invested in.

3. Administrative support services to make life easier: The Foundation will receive customized reporting, administrative and operational support, audit assistance, custody services, and quarterly updates from their dedicated team, all included as part of our annual fee. These services are designed to reduce the Foundation staff's internal workload and responsibilities.
4. Improved institutional pricing and manager access: The Foundation will benefit from their scale and buying power to drive down costs for the investment portfolio, while at the same time be given access to leading, third-party institutional investment managers who are often only available to the largest investors..

Russell Investments has been providing OCIO services to non-profit organizations for over 30 years and offers a comprehensive investment solution built on award winning investment manager research, a global team of investment professionals, in-house implementation capabilities and a full suite of administrative support services. Russell Investments has been a signatory to the UN Principles for Responsible Investing since 2009 and has recently joined the Net Zero Asset Managers Initiative, committing to work in partnership with clients to achieve net-zero emissions by 2050 or sooner across all assets under management.

Consortium Governance Structure

Eligible Respondent: Renewable Nations Institute L3C

Structure of Consortium

The Consortium is currently an unincorporated association under the sponsorship of The Global Challenge Award, Inc., d.b.a., Renewable Nations Institute that can legally operate as required by the Trust for Governors Island. The Global Challenge Award, Inc. (Global Challenge) is a Vermont-based, tax-exempt, domestic non-profit 501(c)(3) corporation (State of Vermont Business Identification Number 0077088) [S1-02], d.b.a. The Renewable Nations Institute (State of Vermont Business Identification Number 0331925) [S1-03]. The Global Challenge Award, Inc., is exempt from federal income tax under section 501(c)(3) [S1-04] as a registered public charity under sections 509(a)(1) and 170(b)(i)(A)(vi) of the Internal Revenue Code with an Advanced Ruling Period Ending December 31, 2009.

Consortium Membership Classification

The Consortium consists of higher education and research institutions, governmental agencies, multilateral development banks, private philanthropy, public and private financial institutions, private industry, trade unions, civil society stakeholders, and others. The Consortium will have membership classifications defined as Co-Principal Members (the “Co-Principal Members”) and Non-Co-Principal members (the “Non-Co-Principal Members”):

Co- Principal Members

The Co-Principal Members serve as managing-managers and directors in the Company. Co-Principal Members are responsible for the submittal of the Expression of Interest, subsequent Request for Proposals, and/or lease negotiations with the

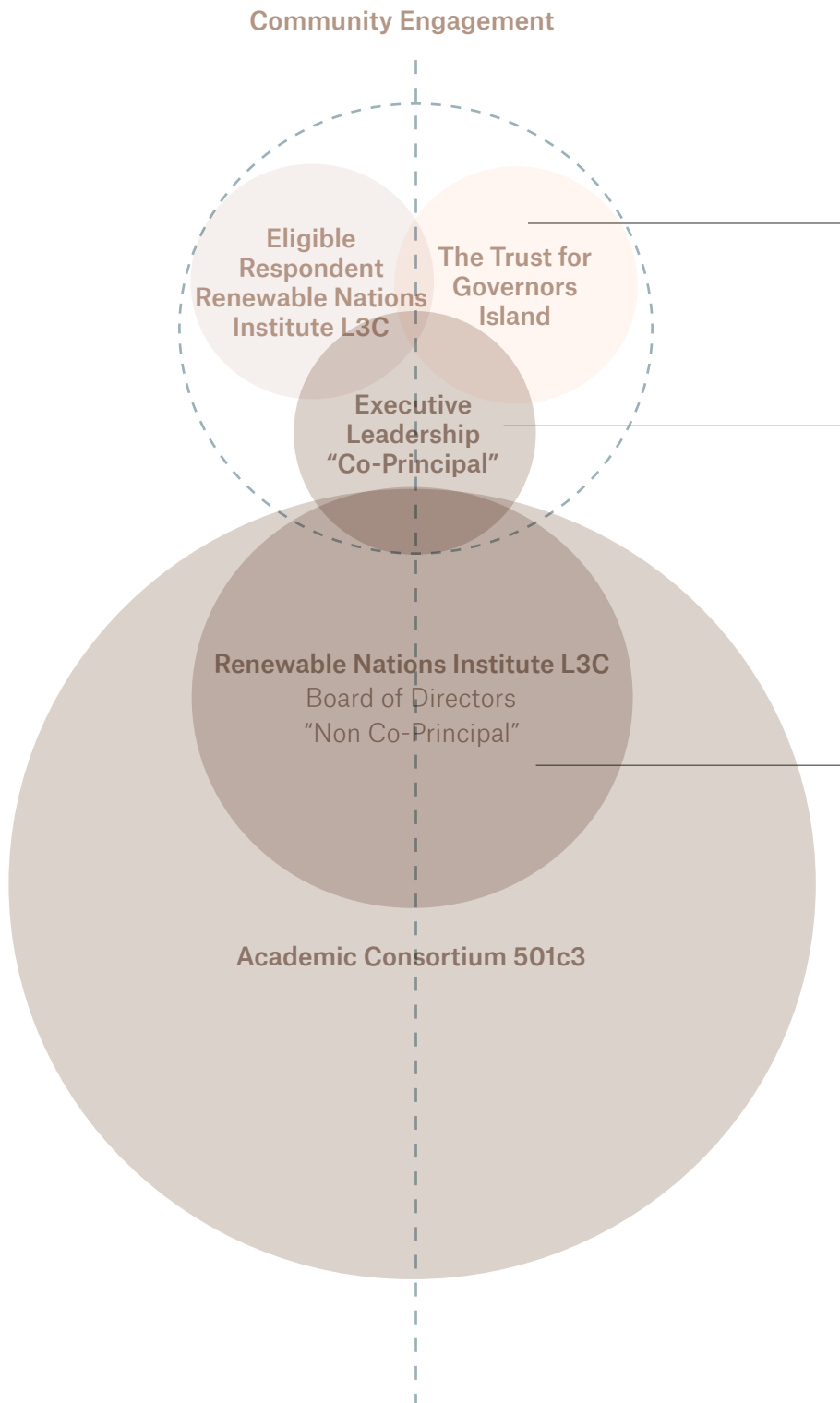
Trust. In their respective roles in the Company as a special purpose vehicle, Co-Principal Members will lease, sublease, design, engineer, finance, restore, build, furnish, equip, and operate the Center for the Consortium Members to provide programming consistent with the goals and focal areas as defined by the City and the Trust in the Request for Expressions of Interest (the “RFEI”), dated 28 June 2021.

Non-Co-Principal Members

The Non-Co-Principal Members serve as directors in the Company and are responsible to Co-Principal Members to provide programming consistent with the goals and focal areas as defined by the City and the Trust in the Request for Expressions of Interest (the “RFEI”), dated 28 June 2021.

Responsibilities as defined above and proposed herein may be assigned to Co-Principal Members, Non-Co-Principal Members, and/or to subcontracted entities under the general supervision of the Institute and Co-Principal Consortium Member(s) serving as managing-managers and directors in the Company, as applicable.

In the event the Respondent, the Renewable Nations L3C, is requested to enter into agreement with the Trust, team with other respondents, or submit an RFP by invitation of the Trust, the Co-Principals will form the Consortium as a legal entity and establish membership categories in accordance with the proposed roles of prospective Non-Co-Principal Consortium Members, which may include, but not be limited to, roles and responsibilities defined in 1.2.a and 1.2.b, above.



The Mayor's Office and The Trust for Governors Island will be offered 3 total seats on the Board of Directors as "Non Co-principal" Members.

In partnership with the Academic Consortium, the Renewable Nations Institute L3C will conduct a national search for Visionary Executive Consortium leadership.

Each Member of the Academic Consortium 501c3 will have a member that sits on the Renewable Nations Board of Directors as a "Non Co-Principal Member". The Board will influence and co-create the direction of the Center for Climate Solutions.

Conceptual Sources and Uses

Strategy, Sources & Uses, Ground Lease Business Terms and District Management

We support your goals to generate a fair return to support the Island and expanded public access. We expect to support the Island's goal of financial self-sufficiency and expanded public access through common area maintenance charges and/or rent payments.

The Renewable Nations team with its University Consortium, cross sectional partners and funders brings a vast array of creative talent, experience and resources to advance the mission and vision of The Center for Climate Solutions. The shared passion for the Center's goals propelled by a sense of urgency drives the Renewable Nations team's interest in Governor's Island.

The ultimate master plan for the development of both the adaptive reuse and new build components of the Center will grow out of a lively engagement with key stakeholders in a dynamic, collaborative planning process. The planning process will evolve guiding principles and an economic framework for crafting the final plan, use program and financing structure. This RFEI response is just an initial conceptual framework.

Master Development Team

If the Renewable Nations team is selected, Cross Street Partners (CSP) would immediately work with the Trahan Architects Design Team, the Renewable Nations Institute L3C, The University Consortium, its cross sectional partners and the Trust for Governors Island to build a robust planning, design, construction and operations team.

Because of the unique requirements of NYC real estate and the challenges of the Governors Island

remote, waterfront location, a major focus will be on assembling NYC experienced team members.

As master developer coordinator, Cross Street Partners (CSP) and its principals place priority on diversity and inclusion, identifying strong, NYC based, minority business partners. In addition, they have begun conversations with to Apex Building Group, an established NYC black owned construction and development company that CSP has prior partnering experience with.

Cross Street Partners bring a deep experience in successfully planning, financing and implementing large, neighborhood scale mixed use redevelopments. CSP delights in supporting mission driven non-profits and anchor institutions in creating amazing facilities and neighborhood contexts for advancing their goals. For the last decade, a major CSP focus is on the fast emerging economic transformation of university anchored innovation districts.

CSP's track record includes complex mixed use neighborhood scale communities incorporating both adaptive reuse and new construction in an urban context. CSP is best known for its adaptive reuse work with over 14 million SF of completed adaptive reuse projects. Examples include the renovation of the Boston Red Sox Fenway Park, American Tobacco in Durham and the Under Armour global headquarters on the Baltimore Harbor at the old "Tide Point" Proctor & Gamble Campus. CSP's 15 year role as an early master planner of Baltimore's Harbor East and Harbor Point for the \$3.5 billion 8M square foot new build redevelopment of a 50 acre waterfront brownfield site is another dimension of CSP's large scale development experience.

Currently, CSP is working on the “Electric Works” adaptive reuse of the 1.2M square foot General Electric Campus in downtown Fort Wayne, the 1M square foot adaptive reuse of the Dayton Arcade District in downtown Dayton and Baltimore Penn Station with historic rehabilitation of the Headhouse and a projected 1.5M square feet of new mixed use development under a 98 year ground lease with Amtrak. University anchored “innovation hubs” propel the use program of all 3 projects.

Central to CSP’s strategy is creating win/wins where the market driven jobs, business and investment in university anchored innovation districts combine with comprehensive neighborhood transformation of adjacent distressed communities. Leveraging the economic opportunity of innovation districts with neighborhood revitalization creates a shared prosperity to benefit all.

Ground Lease

To secure financing, the Renewable Nations team will need a long term ground lease. Ideally, the term would be 99 years with additional renewal options. A shorter term is possible, though impact financing.

The ground lease would outline financial terms, permitted uses, planning and oversight. To clearly define roles and responsibilities between the Trust for Governors Island and the Center, the ground lease will describe allocations of specific insurance, security, maintenance, utilities/infrastructure and transit services.

The District Management and Community Fund Assessment, described below, would provide a contribution to the overall Governors Island operations and community programming in lieu of a ground rent payment. Renewable Nations is open to exploring upside revenue sharing.

Financial terms

The Renewable Nations Team envisions a highly complex public private financing structure to maximize private investment potential while bringing in subsidy where necessary to support public infrastructure, mission and programming. As the master developer coordinator, CSP brings extensive experience in this type of complex financing. With the current Administration’s focus on climate, extensive Federal resources and incentives are available.

Essential to the economic viability of mission driven facilities is CSP’s ability to craft a creative public private finance structure that funds the full range of physical and programming needs based on the essential economics for long term sustainability of both institutional and commercial uses and public purpose facilities. Substantial subsidy is essential to support the community focused uses and amenities. Examples of these complex capital stacks with major subsidy include the following representative CSP projects:

Dayton Arcade—The 450,000 SF Phase 1, completed this summer, includes only \$20M of “real” debt and equity out of a \$96M total development cost. Beyond traditional debt and equity, the balance of the budget includes 20 sources of tax credit equity, grants and forgivable loans. The 100,000 SF University of Dayton anchored “Arcade Innovation Hub” is the lead tenant.

Electric Works

Financing closed and construction started on the rehabilitation of the 700,000 SF of Phase 1 in January, 2021. Of the \$286M Phase 1 costs, only \$95M was “real” debt and equity. The balance was tax credit equity and other local, state and Federal subsidies. The Phase 1 use program includes a 90,000 SF multi university shared office “innovation hub” and a charter science and tech high school are important beneficiaries of the subsidy.

Conceptual Sources and Uses

Guiding Principles of the Finance Strategy

Quality Design With Long Term Resilience

To create an inspirational environment for the Center, the finance plan must invest in the highest quality design integrating the best principles of green and resilient building practices.

Creating Place

Investing in public spaces, streetscape and ground floor uses that invite formal and informal social and business interaction of a diverse community is a foundation nurturing the contemplative, creative environment that Renewable Nations envisions. This placemaking collaborative ecosystem must extend into the internal spaces of the Center's program.

Affordable Rents

Affordable rents for community facilities and amenities—Maximum subsidy to limit occupancy costs for community focused uses is essential to long term sustainability. The ultimate goal will be to create "debt free" facilities at the end of tax credit and forgivable loan compliance periods.

District Management

Also important to a long term sustainable and equitable finance strategy will be a district management structure for sharing capital, operating and programming costs for the Center campus.

Renewable Nations plans to establish a district management structure for the entire 33 acre Center site and adaptive reuse buildings. This non profit district management entity would be governed by a board of directors with representatives from

the Renewable Nations master developer entity, property owners, university consortium, partner community organizations, funders and, the Trust for Governors Island. The general goal of district management will be to maintain the highest quality physical environment, placemaking and community programming. Critical to the district management financial platform will be funding mechanisms and a ground lease structure that promotes the long term sustainability of the Center's physical environment and community programming mission. Essential to success is creating a funding structure that widely distributes contributions across the entire Center real estate portfolio in an equitable, efficient system. Full buildout of the Center's campus master plan will provide the robust financial platform necessary.

The three key complementary components of the district management function are the following

Public Infrastructure Capital

An annual assessment to support debt service on capital funding, similar to Tax Increment Financing. In the sources and uses, a projected \$4/SF annual assessment across the Center's potential 2M SF of early phase buildings would generate sufficient funds to support \$100M investment in public infrastructure above and beyond the City of New York's \$100M infrastructure funding commitment.

On Going Physical Operations

The Renewable Nation's Team envisions this ongoing district maintenance funding, a Business Improvement District (BID), as a contribution to the overall Governors Island maintenance and operations. "Clean and safe" is an initial component

of the traditional BID role including landscape and public space maintenance, trash, security and related aspects of the public environment. An important added dimension of the BID role will be placemaking, activating the public realm with events programming and retail amenities. A projected \$5/SF annual BID assessment would generate \$10 million in annual funding upon completion of the first 2M square feet of initial development phases.

programming and partnerships. Relieving burden on annual fundraising, a projected \$5/SF annual “Community Fund” assessment will likewise generate \$10 million in annual funding upon completion of the first 2M square feet of initial development phases.

Community Programming Support

Often missing from district management roles is funding support to coordinate and nurture community



Conceptual Sources and Uses

Preliminary Financial Analysis

Development Size	SF
Adaptive Reuse	1,000,000
New Construction	1,000,000
Total Development	2,000,000

Development Budget

Sources		
New York City Financial Commitment	\$	150,000,000
Federal Historic Tax Credits Equity	\$	162,000,000
NY State Historic Tax Credits Equity	\$	40,000,000
Sales Tax Exemption	\$	19,687,500
State Regional Council Capital Fund Program	\$	100,000,000
Other Subsidy/Incentive Programs	\$	150,000,000
District Capital Funding Assessment	\$	16,000,000
Debt	\$	1,532,312,500
Equity	\$	80,000,000
	\$	2,250,000,000

Uses	Unit	
Acquisition		
Utilities		\$ 50,000,000
Public Infrastructure		\$ 200,000,000
Hard Costs	\$800	\$ 1,600,000,000
Soft Costs	\$200	\$ 400,000,000
Financing and Settlement		\$ 17,343,125
Contingency	7.50%	\$ 150,000,000
Development Fee	8%	\$ 193,387,450
		\$ 2,250,000,000

Leased Space	SF
University Consortium	1,500,000
Community Uses / nonprofits	500,000
Total Development	2,000,000

Operating Budget

Income	Price per SF	
University Consortium	\$100	\$150,000,000
Community Uses/ nonprofits	\$10	\$ 5,000,000
Gross Potential income		\$ 155,000,000
Vacancy (10%)		(\$15,500,000)
Effective Gross Income		\$ 139,500,000

Operating Costs	Price Per SF	
CAM	\$ (25)	\$ (50,000,000)
District Management		
Public Infrastructure Capital funding	\$ (8)	\$ (16,000,000)
Clean, Safe and Green Placemaking,	\$ (5)	\$ (10,000,000)
Community Programming	\$ (5)	\$ (10,000,000)
Total Operating Expenses		\$ (86,000,000)
Reimbursable Operating Expenses (90%)		\$ 77,400,000
Total Operating Expenses		\$ (8,600,000)

Net Operating Income **\$ 130,900,000**

Annual Debt Service 6% \$ (91,938,750)

Capital Reserves Per SF 0.25 (500,000)

Cash Flow After Financing **\$ 222,838,750**

Debt Service Coverage Ratio **1.42**

Funding Mechanisms

Creating a Viable Center For The Next 99 Years

Funding Mechanism A

Capital Campaign

We will conduct a two year, 1 billion dollar, global capital campaign at the onset of the project during the integrated programming and design process.

Funding Mechanism B

Donorship

We will be setting up a Public Benefit Corporation to receive donorship monies that will be equitably distributed to help fund the education and research programs, scholarships, operations, maintenance, and management of the Academic Consortium. These monies will then be managed by Russell Investments.

Funding Mechanism C

Capital Investment

Respondent will be responsible for financing and managing the construction of Respondent's proposed facilities - L3C Structure - SEC Exempt Offering.

City and the Trust have partnered to make available up to \$150M of capital funding:

- \$50M has been allocated to augment available power and water services on the Island
- \$100M in funding may be allocated to any physical investments necessary to support transportation infrastructure, resiliency improvements, site and building construction and/or renovation

Funding Mechanism D

Investment Grade Proposals

From high school students to post-graduate professionals, we will have the latest programs to empower climate-smart employees to meet market demands. High school students will be trained in trades that help the transition to a green economy. College students will earn credits for working in teams to address real community issues just as they will after graduation. Professionals will expand their career potential by getting credentialed in green technology, circular economies, impact investing, climate preparedness and planning, and many other related fields that will meet the demands of our green transition.

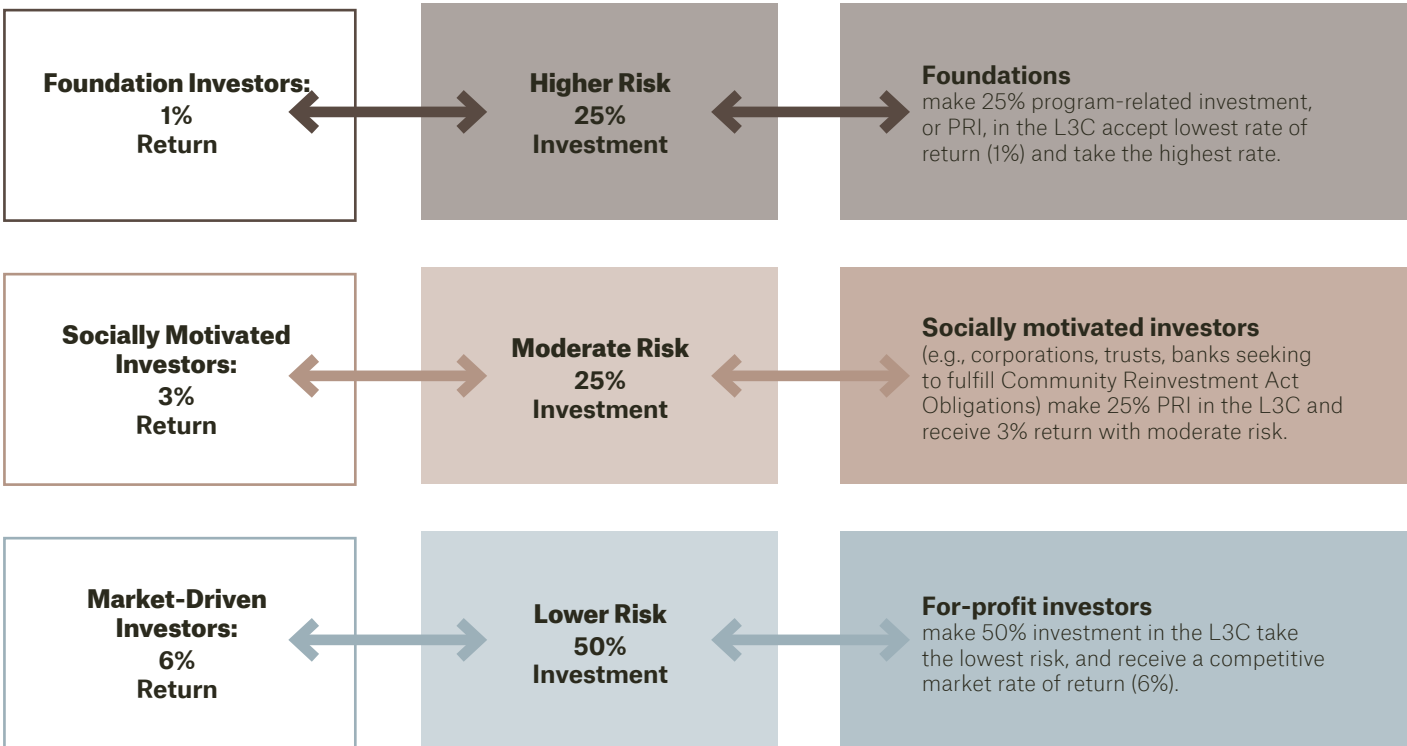
To afford expanded employment opportunities for New Yorkers, The Consortium's Action-based, Project-led Research pedagogy — appropriately subtitled "The Pedagogy of Urgency" — will offer paid Work-Learning-Service internship opportunities for thousands of New Yorkers, prioritizing women, minorities, and veterans from frontline communities across the City.

This expanded workforce, in turn, will serve the global community as advocates, educators, and innovators actively engaged in co-creating equitable and actionable solutions to the climate crisis for urban communities throughout the world.

Funding Mechanism E
L3C Layered Investment Strategy

L3C legislation allows charitable foundations investing in an L3C to forego financial returns under a structured or layered investment strategy to the benefit of private investors by permitting the transfer of earnings on qualified distributions between investor classifications. This mechanism allows the L3C entity and its charitable investors to negotiate private sector investments based on an “agreed disproportional distribution” of L3C earnings,

including the assignment of various financial private investors may negotiate PRI investments from charitable foundations based upon agreed disproportional distributions of L3C earnings to deliver cost-effect program services to targeted client groups within the Institution’s mission, such as energy services and job creation for low-income populations. Figure 1, L3C Layered Investment Strategy (below) represents a L3C Layered Investment Strategy, for Illustration purposes.



Layered Investment Strategy -Source: Federal Reserve Bank of Minneapolis

Funding Mechanisms

Creating a Viable Center For The Next 99 Years

This project will be eligible for various as-of-right and discretionary benefits, grants, and incentive programs.

Industrial Development Agency

1. City and State sales tax of 8.875% is waived on purchases of materials and equipment related to construction

Industrial & Commercial Abatement Program

1. Property tax abatement for up to 10 years (TBD)

Federal Historic Preservation Tax Incentives Program

1. 20% tax credit for the certified rehabilitation of certified historic structures
2. 0% tax credit for the rehabilitation of non-historic, non-residential buildings built before 1936

New York State Rehabilitation Tax Credit for Commercial Properties

1. New York State credit cannot exceed \$5 million per structure

Sales Tax Exemption

1. Enable a purchaser to make tax-free purchases that would normally be subject to a sales tax
2. Dependent on authorization from The Trust which shall be offered in its sole discretion

New York State Regional Council Capital Fund Program

1. Grants available for capital-based economic development projects
 - a) leasing of land, buildings, machinery and/or equipment
 - b) demolition and environmental remediation
 - c) renovation or leasehold improvements

- d). acquisition of furniture and fixtures
- e) soft costs up to twenty-five (25%) of total project costs.

START-UP NY

1. Offers new and expanding businesses the opportunity to operate tax-free for 10 years
2. On or near eligible university or college campuses in New York State
3. Businesses apply to the program in partnership with universities that have an approved, designated Tax-Free NY Area

Build NYC Bonds

1. Tax-exempt and taxable bond financing for 501(c)(3) organizations
2. Registered 501(c)(3) organizations may be able to access tax-exempt bond financing
3. Companies may also be able to access such financing for “exempt facilities” (including “qualified green buildings and sustainable design projects”)



Outstanding Needs

Creating a Viable Center For The Next 99 Years

A project of this scale, complexity and impact requires relationships and collaboration with many local, state, and national organizations. We recognize at this stage in the RFEI process, we have many outstanding needs that will be addressed in the subsequent phases and through our integrative design and planning process.

Consortium Needs

We welcome the addition of New York Consortium partners and those connected with Indigenous and minority communities.

Academic Consortium Executive Leadership

In partnership with the Trust for Governors Island, we will conduct a global search for Visionary leadership to manage and run the Academic Consortium 501c3. Below is a high level list of potential leadership the team has developed for consideration

- Judith Rodin (former Penn President, Rockefeller Foundation)
- Jeffrey Sachs (former Columbia Earth Institute)
- McHarg Center (or as institution)
- Al Gore
- John Kerry
- Leon Bottstein (Bard)
- McKinsey & Company
- Alice Hill (Center for Foreign Relations)
- Stuart Rabinowitz (former President of Hofstra University)

Design and Construction team

We will build out the full design team to include experts in all required design fields in addition to bring on Transolar and other specialists in sustainable design.

To focus our efforts on actionable change, research, energy draw down, and workforce transition to green economies, we will need to develop relationships and partnerships with the below New York Organizations:

Center for Innovation through Data Intelligence (CIDI)

Office of the Deputy Mayor for Health and Human Services (HHS)

Analytical resources)

City University of New York (CUNY)

Submitted Letter of Support by request of CUNY

Mayor's Community Affairs Unit (CAU)

Community Boards for stakeholder engagement

New York City Department of Education

Comprehensive After School System of NYC

Community Service

Adult Education - Ages 21+

Workforce Development

Emergency Management, NYC

Cooling Centers - Planning

Emergency response and recovery

Educate public about preparedness)

GreeNYC (GNYC)

Co-coordination to reduce New York City's greenhouse gas emissions 30 percent by 2030

New York City Housing Authority (NYCHA)

Household energy efficiency

Information Technology and Telecommunications, Dept.

Site infrastructure and telecommunications planning

Landmarks Preservation Commission (LPC)

Historic preservation Planning

Mayor's Office for Economic Opportunity

EquityNYC

Evidence and innovation to reduce poverty

Mayor's Office for International Affairs (IA)

Co-development of International Leadership Council

Mayor's Office of Special Projects & Community Events

(co-organize, co-manage and co-direct all public ceremonies, celebrations, receptions held under City auspices on Governors Island)

Mayor's Office of Climate Resiliency

(Work with federal, state and city agencies to ensure the implementation of vital resiliency investments which accurately reflects community priorities, while promoting equity across NYC)

Mayor's Office of Climate and Sustainability

Office of Recovery and Resiliency

Office of Sustainability

Office of Environmental Coordination

Co-coordination OneNYC Program

Mayor's Office of Minority and Women-Owned Business Enterprises (MWBE)

Mayor's Office of Contract Services

Department of Small Business Services

Ensuring access for businesses that want to contract for services and/or business opportunities

NYC Economic Development Corporation (NYCEDC)
Integrate public and private initiatives on Governors Island that promote the City's long-term economic vitality, social equity and inclusion

NYC Health + Hospitals

Collaborate with public health care network of hospitals, nursing homes, community health centers and home care agencies with focus on energy efficiency and climate resiliency with renewable energy healthcare facility electrification strategies.

NYC Service (SERVICE)

Enhance volunteer resources to six impact areas where New York City's needs are greatest: strengthening communities, helping neighbors in need, improving education, increasing public health, enhancing emergency preparedness, and protecting our environment.

NYC Young Men's Initiative (YMI)

Support new programs designed to address disparities between young Black and Latino men and their peers across numerous outcomes related to education, health, employment

Mayor's Office of Workforce Development

Coordinate workforce with economic development in all five boroughs to create a real time connection to New Yorkers seeking workforce services to quality jobs with opportunities for advancement.

Section 3:

The Physical Plan - A Framework of Ideas



The Center for Climate Solutions at Governor's Island

Will be a vital venue where Applied & Actionable Climate Research is Visible & Accessible within a Campus that Enables...

Equity

- Develop Real Solutions with Front-line and Diverse Communities
- Throughout research, education, programming, and operations, develop collaborative, reciprocal relationships with front-line and diverse communities to co-produce knowledge and solutions.
- Expand Opportunities for MWBEs Maximize opportunities for minority- and women-owned business enterprises (25-35% participation goal).
- Provide Equitable Access to Research and Education
- Ensure that opportunities at the Institution are affordable and accessible to New Yorkers from diverse background
-

Economics

- Create Workforce Development and Educational Pipelines

Engagement

- Meaningful Opportunities for Public Engagement and Programming
- Present critical information, cutting-edge climate research and solutions, and opportunities for action to Governors Island's large and diverse public audience, with a variety of strategies and entry points.

Education

- Partnerships that create a continuum of engagement, from pathways for K-12 students to accessible training
- Opportunities for adults (e.g. stackable credentials, Year 13/14 programs, entrepreneurship education)

Our goal is to use the land wisely to create a community for flexible experimentation in a real and varied urban landscape, and the creation of a new paradigm for urban development and adaptive reuse that pushes the boundaries of sustainability and resiliency at a neighborhood scale. We are aware and understand the sensitivities involved in developing the Island and have crafted a vision that does not require maximizing the allowable zoning envelope.

Our approach is to fully leverage existing resources in a phased approach, in a spirit of sustainability – focusing on locating research and programs in Liggett Hall first, with the simultaneous benefit of building up the core of the island and all the energy that already exists there from the Harbor School, the Billion Oyster Project, and other organizations. We see the Center as supporting the creative, public, open environment that the Trust has worked so hard to cultivate over the years.

Governors Island is and must continue to be a model for sustainable design, construction, and operations. The Center will commit to softening the shoreline and returning the island's edges to a natural buffer in concert with the Billion Oyster Project and the RETI Center, as well as limiting new construction to what is necessary for operations.

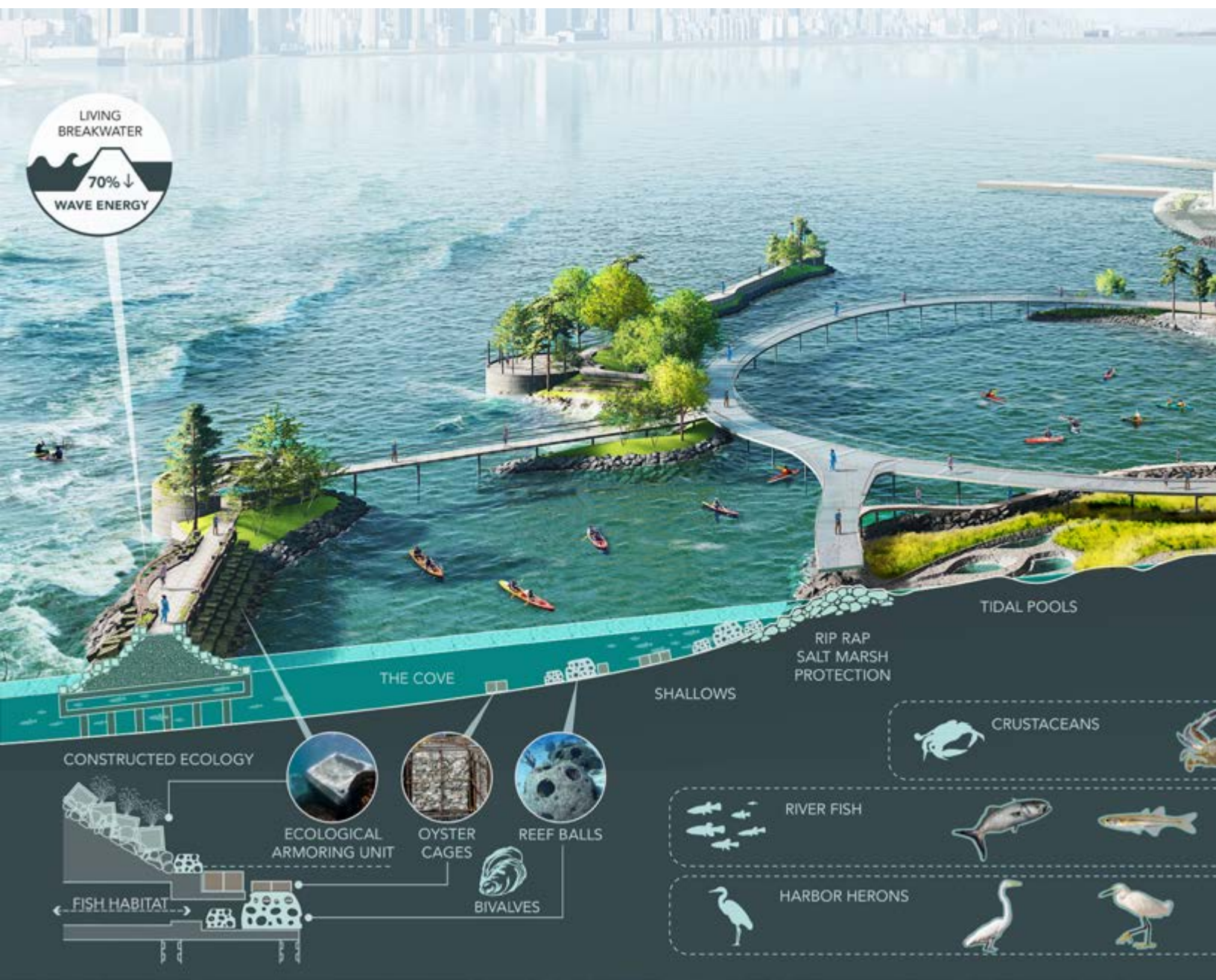
When new construction is needed, we propose to create nodes of activity on high ground, delaying and minimizing flooding. Furthermore, the Center must be a showcase for how new technologies can be implemented in the "real world" – all geared toward

being replicable at scale – such as microgrids, closed loop infrastructure.

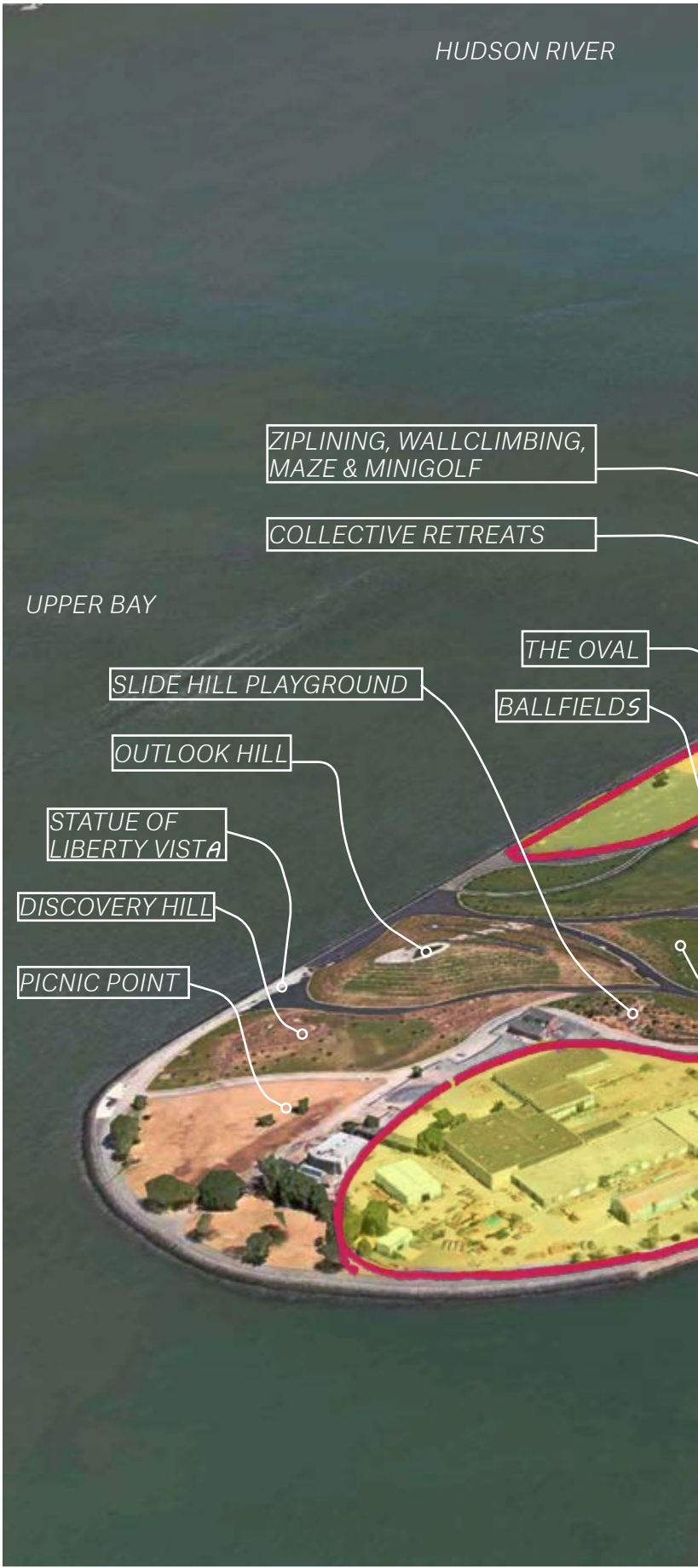
With each intervention, we will ensure that Governors Island will be preserved and enhanced for the enjoyment of all New Yorkers for generations to come and that your six goals are the forefront of decision making:

1. Make Governors Island a dynamic and accessible public place year-round, with the same vibrancy in the winter as the summer.
2. Create a path toward financial sustainability through responsible partnerships with like-minded organizations and institutions.

3. Celebrate and utilize Governors Island's unique environment and waterfront location as a public living laboratory.
4. Promote a diversity of uses that complement and enhance Governors Island's unique character.
5. Expand opportunities for public participation and engagement.
6. Maintain access and affordability for all New Yorkers.



In New York
For the World





An Other Worldly Island

An Extraordinary Getaway

Governor's island is not the City. Neither is it parkland in the traditional sense of green amenity, not "waterfront" in the now clichéd sense of sanitized and typically over- commercialized frontage.

Instead, it is a powerfully unique place, an other-worldly island. Any new future landscape here, indeed any form of building, re-construction and subsequent programming, should not normalize or diminish the strange and powerful qualities of the place- especially its dramatic outward exposure of the harbor and the weather, its extraordinary sense of remote otherness- and its playful 'getaway' character.

We envision a United Nations-like model for convening, discourse, broad cross-disciplinary partnerships and conversations.



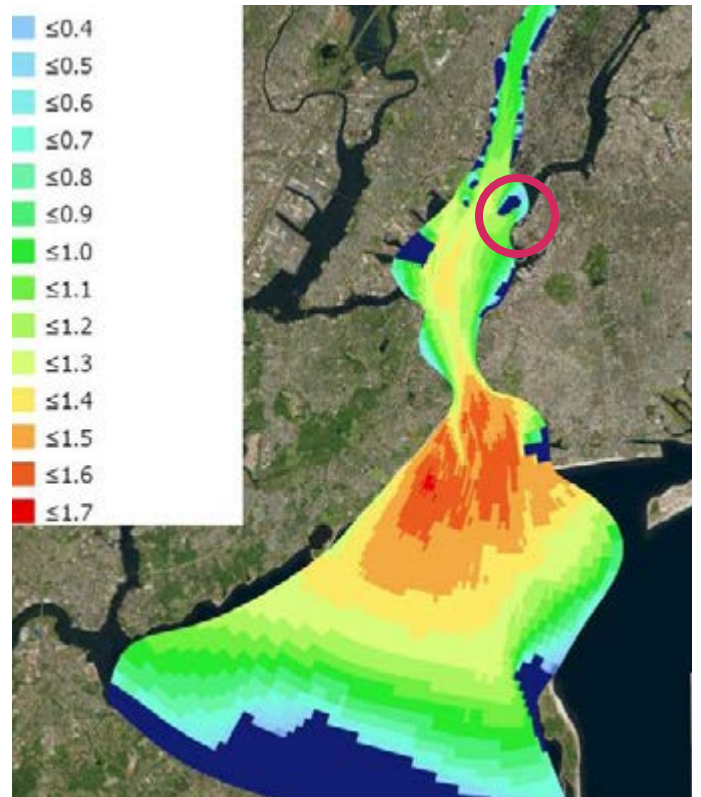
A Site At the Cusp of Climate Change

A Poster Child For Urban Resilience

The physical location of Governor's Island at the mouth the harbor and the estuary makes it a poster child for urban resilience and the urgency of collective, global action to mitigate and adapt to climate change. The last 2 decades of escalating impacts from extreme weather events has been amply visible at this site.

The largely reclaimed site is highly susceptible to sea level rise, and wind and wave impact from coastal storms. Largely exposed conditions on the site also make it vulnerable to extreme heat and wind events.

In many ways, the island is a microcosm of coastal cities around the world- and presents itself as an apt test case for our collective urban future.



Mollusks

Metaphore For a Future Campus

In the beginning, the bed of New York's harbor was covered with a living carpet of mollusks- that literally processed and filtered the entire estuary water in 3 days

The self-sustaining colony of mollusks provides a metaphor for the future campus...

*A place that is:
Immersive
Inspiring
Visionary
Inclusive*

*A place that:
Filters
Protects
Thrives
Supports*



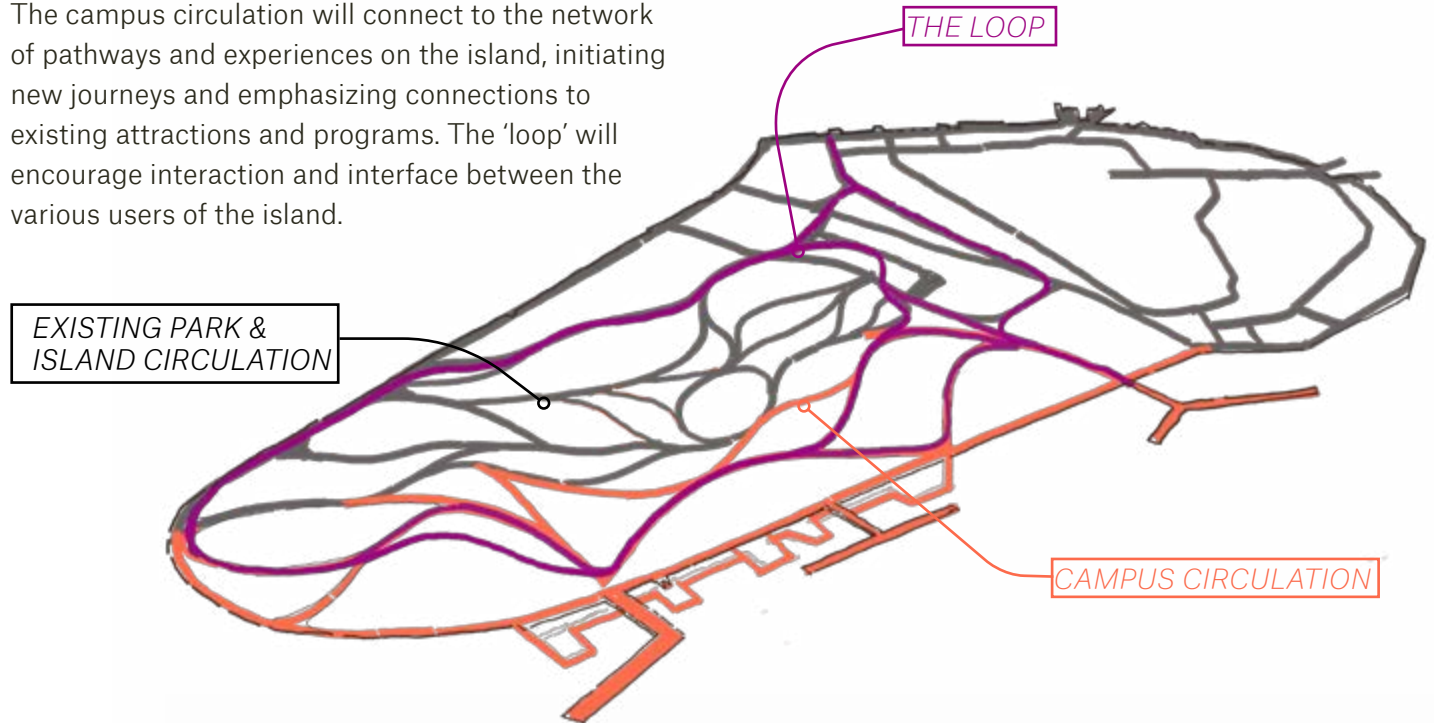
*A place for:
Engagement
Exchange
Growth
Incubation*

Campus Framework

The Model For Sustainability and Resiliency At A Neighborhood Scale.

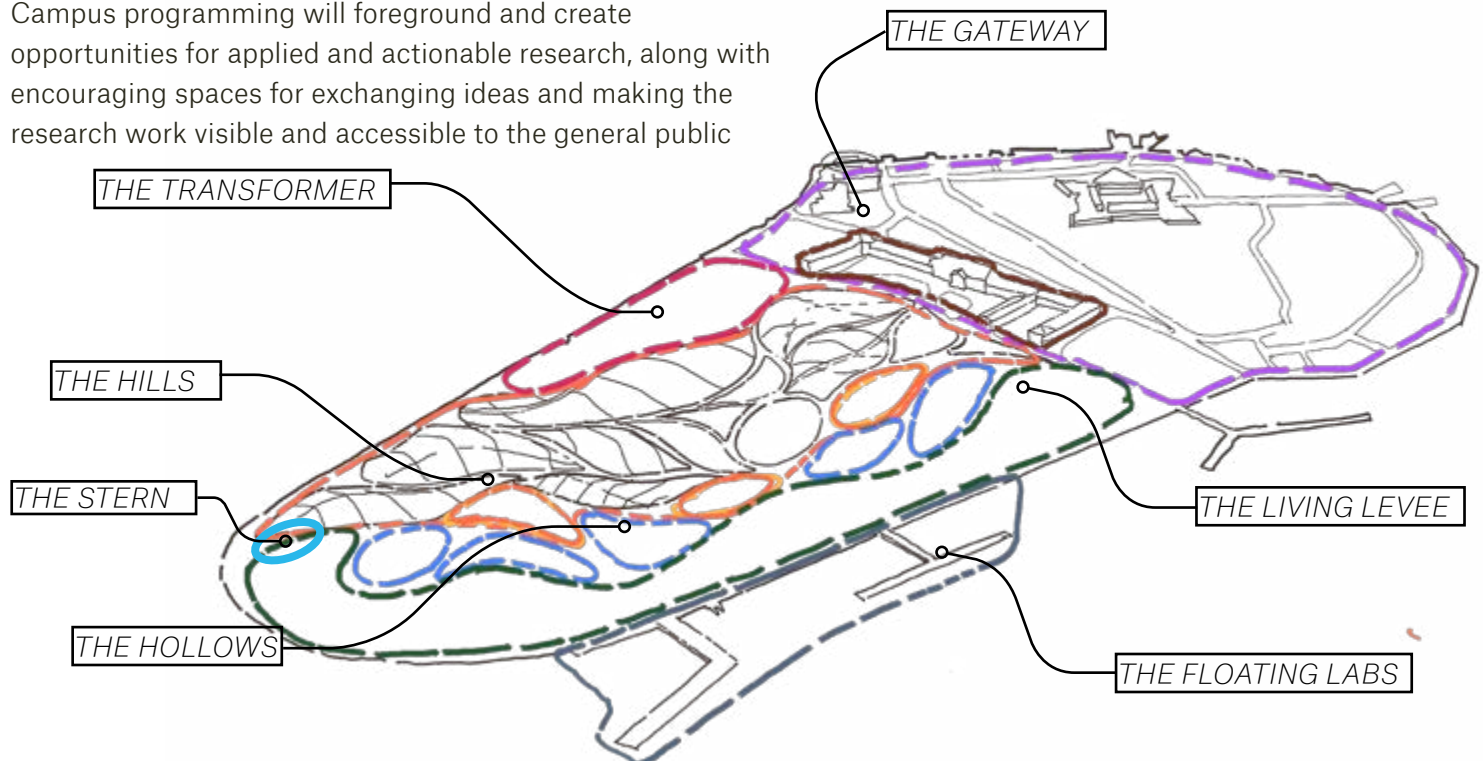
Circulation

The campus circulation will connect to the network of pathways and experiences on the island, initiating new journeys and emphasizing connections to existing attractions and programs. The 'loop' will encourage interaction and interface between the various users of the island.



Program Themes

Campus programming will foreground and create opportunities for applied and actionable research, along with encouraging spaces for exchanging ideas and making the research work visible and accessible to the general public



Landscape Levels

The landscape for the new campus can be organized as series of datums, of high and low ground that can be leveraged to create different biotic conditions and zones for research and experimentation. This approach connects the island as a symbiotic ecosystem of parks and neighborhood scaled structures that weave together education, research, ecology and the public.



Building and Campus Facilities

Governor's Island is and must continue to be a model for sustainable design, construction, and operations, creating a new paradigm for urban development and adaptive reuse that pushes the boundaries of sustainability and resiliency at a neighborhood scale.

When new construction is needed, we propose to create nodes of activity on high ground, as model for development along urban waterfronts. An integrative planning process will distil, size, quantity



Campus Framework

Symbiotic Relationships

The new Center for Climate Solutions campus will build upon and borrow from the elements and neighbors already present on the island to create and strengthen a community that is committed to collective climate action and also supports continued stewardship of the island as a special, one of a kind place.

Learning Landscape: 'THE TRANSFORMER'

Potential opportunity to create and test scalable closed-loop energy production and waste management systems that can sustainably power and service the new campus. The site's unique location can be used to test different sources wind, solar and tidal and also waste-to-energy technologies.



Convening + Collaboration NODES

Research and Lab spaces set in the framework of the campus landscape.



The Stern

Potential destination at the southern tip of the island to take in expansive views of not only the upper bay out to the Atlantic, but also back towards the interior of the island.

Learning Landscape: 'TIDAL TRANSECTS'

Opportunities to create, exhibit and study, subtidal, intertidal and estuarine habitats, in partnership with existing partners on the island



Learning Landscape : 'FOREST HOLLOW'S'

The 'hollows' landscape provide the opportunity to recover the native oak, chestnut and hickory forests that used to make up 'Paggank' or Nut island as termed by the Lenape.

Liggett 'Gateway'

Re-orient and emphasize Liggett Hall as the gateway and core, a bridge between the historic island and a future forward campus.

Convening + Collaboration Hub

A place for gathering, dissemination of research and large scale forums.

Learning Landscape : 'THE LIVING LEVEE'

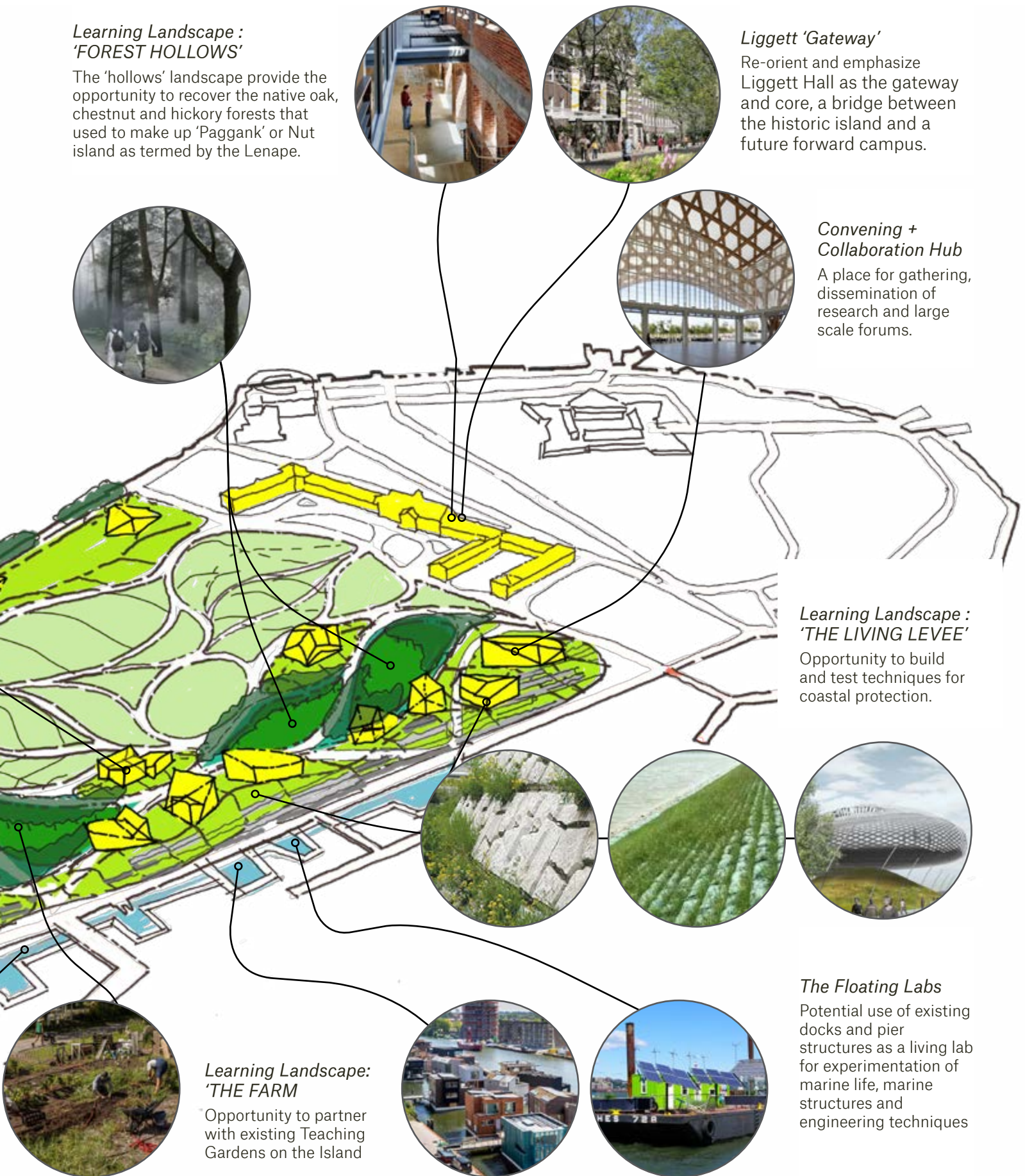
Opportunity to build and test techniques for coastal protection.

Learning Landscape: 'THE FARM'

Opportunity to partner with existing Teaching Gardens on the Island

The Floating Labs

Potential use of existing docks and pier structures as a living lab for experimentation of marine life, marine structures and engineering techniques



Phased Development Plan

Creating Critical Mass

The Trust is offering a 99 year ground lease, up to 50 buildings, comprising of 1 million square feet within the North Island Historic District and up to 33 acres of development land including the 27 acres located in the South Island District within the Eastern Development Zone.

Much work needs to be done before creating a true development plan. We envision an integrative planning process that brings The Trust for Governors Island, Relevant Stakeholders, The Renewable Nations L3C, Consortium Members, Design Team, Costing Consultants, Market Analysts and others to the table to determine feasibility, timeline, and ROM.

The Renewable Nations team feels deep urgency to move forward with planning, design, financing and construction as fast as possible. To have impact, create a sense of place and a density and diversity of uses, people and thinking, we believe a 1st phase should encompass both the adaptive reuse component and new construction. We are modeling a mixed use critical mass of 2M square feet of rehabilitated and new buildings for this initial phase.

An immediate priority upon designation will be working the Trust for Governors Island and other stakeholders to establishing oversight and planning structures, recruiting advisors and staffing the planning process. A key component of this oversight function will be launching the proposed Center's district management (BID) and defining its roles and responsibilities, and relationship to the overall Governors Island operations and management. A goal is to have the planning and oversight structures with designated stakeholder committees and staffing in the first 6 months after designation of the Renewable Nations team.

To conduct a robust community engagement process with all the stakeholders, we suggest moving forward with planning on multiple tracks with overlapping teams on a) public space, placemaking and infrastructure design, b) Center use programming with the university consortium and relevant partners, c) financing and subsidy, d) adaptive reuse design and e) community programming and partnerships.

Phase 1 - Adaptive Reuse of Liggett Hall

The most sustainable building is the one we do not have to build. This is why we propose a development plan that leverage the existing building infrastructure on the Island, creates synergy around the Trust's Ferry Terminals, and builds energy around Governors Island's existing programs including, creates a framework for public engagement and resilient strategies that help protect the island while creating examples of sustainable practices. In this phase, we propose building out programs that enhance community, create revenue and catalize research that gets us closer to global warming drawdown.

Phase 1B Adaptive Reuse and Initial Cluster of New Buildings

Since infrastructure, public space, community facilities and programming all need to be an integral part of this larger package of buildings, the design and permitting will lag behind the Liggett Building. Subject to needed community approvals, the team will aim to close financing and launch construction within 18 months of designation.

Phase 1C Public Infrastructure

Side by side with the planning and launch of Phase 1B will be a significant public infrastructure scope. The goal will be to deliver completed public spaces and infrastructure for the Phase 1B buildings. The scope

would include base infrastructure for the balance of the Center campus allowing for flexibility in the footprints and configuration of additional buildings.

With diligence, community support and focus of key local and state approving authorities, the Renewable Nations team aims to have the 2M square feet of Phase 1 within 5 years of designation.

Each Subsequent phase will build upon the master plan to support the creation of a neighborhood scaled resilient community, the goals and programs created during our integrated planning process. The design of each building and landscape, new or renovated, will be a model for the most sustainable, yet replicable design ideas - reaching Living Building and beyond.



Phased Development Plan

Adaptive Reuse of Liggett Hall

Phase 1 - Adaptive Reuse of Liggett Hall

The existing Liggett Hall is a remarkable building - as long as the Chrysler Building is tall (1,023 Feet). It is a threshold structure marking the transition between today and tomorrow and one whose past program can inform our design intervention. As a former barracks building, the existing infrastructure could support adaptive reuse into student and faculty housing, office space, community space, dining, incubation and research space. The existing gymnasium space, due to its long span would make an incredible exhibition space - kick starting the philosophy of bringing people together.

During the integrative planning phase, we will conduct a building assessment of Liggett Hall to determine renovation needs and costs in addition to creating a phased master plan that supports researching and community needs now and in the future.

For the purposes of this RFEI, we are carrying one budget for hard construction that includes the outlined programmatic mix to renovate the 400,000 SF Liggett Hall. It is a blended rate allowing for vagaries in the project and enables us to set a target budget.

Note -there would be additional costs related to the grounds and site work.

\$\$ Student / faculty / visitor housing (120,000 SF)

\$ Office space (100,000 SF)

\$\$\$ Laboratory space (60,000 SF) We anticipate this going on part of the 3rd floor so we are not chasing MEP through building. Equipment in the attic space.

\$\$ Meeting (60,000 SF) -This may include the existing Gym.

\$\$\$ Food service, community, and amenity spaces (80,000 SF).

Building Construction Cost Budget

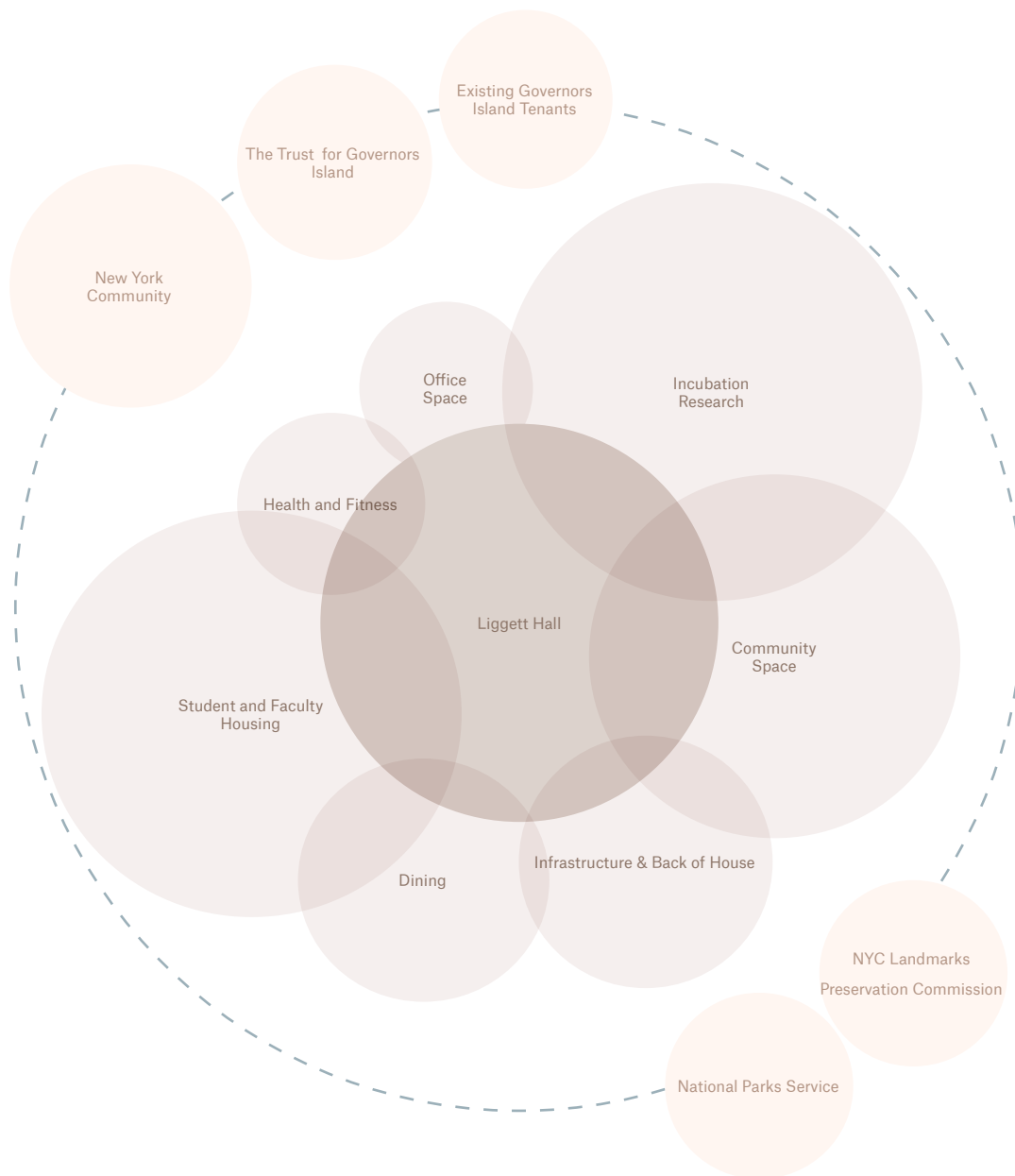
\$278M (\$689/SF) to \$384M (\$985/SF)

This includes a 10% -15% Premium for building on an Island.

The Total Liggett Hall Project Cost including hard construction, fees, FFE & Owners costs is \$418M to \$576M

*Estimate to begin cost and program conversation.
See Appendix for additional Costing Exercises

The Program for Liggett Hall should support bringing a critical mass of students, research and educators to the island. Therefore, auxiliary programs like food and beverage, health, meeting and incubation will help create places for community building support our vision for a **United Nations-like model for convening, discourse, broad cross-disciplinary partnerships and conversations.**



Public Space Guidelines

Public Open Space Considerations

Access

1. Public open spaces within the development parcels should be inviting and accessible to a diverse population, including a wide range of ages and abilities [language and culture] digital interface
2. Open spaces at Yankee Pier should evoke a sense of arrival that celebrates the island as a public resource
3. Careful consideration of grade changes at this important gateway location to support the pedestrian experience

Context

1. Privately managed public spaces that lie within development parcels adjacent to other public spaces should be complimentary to and harmonious with the surrounding public spaces

Phasing

1. Parcels set aside for later-phase development are encouraged to employ techniques such as screening or interim uses.

River Ring Park - designed by Pield Operations



Public Open Space Considerations

Circulation - public pathway network

1. Provide a clear and intuitive public circulation through the Development Zones that prioritizes pedestrian and bicycle movement

Wayfinding - Digital

1. Incorporate wayfinding strategies to assist public navigation within and across the pathway network, buildings and open spaces.

Comfort

1. Achieve high levels of pedestrian comfort using such techniques as plantings, public art, seating, shade and windbreak elements, strategically located building entrances, public facilities, amenities, and programming

Legibility

1. Where any public pathways pass through buildings, the design of entrances should be welcoming and legible as publicly accessible and invite public use.



Building Guidelines

Context Considerations

Park and Public Space

1. Create a unique sense of place while simultaneously complementing, respecting, and enhancing this existing context
2. New development should also be mindful of its relation to future phases of development and the continued evolution of the park landscape and amenities.
3. Scale and building massing of the development should have a harmonious relationship with the park
4. Consider breaking down hard boundaries between “building” and “open space” by employing strategies that integrate green space into buildings (e.g. green and accessible roofs, living walls, accessible courtyards, etc.)

Historic District

1. Development located close to the Governors Island Historic District should be sensitive to existing pathways, views, architectural features
2. Enhance the relationship between the Historic District and new development

Waterfront

1. Reinforce the experience of the extensive waterfront esplanade as a grand public space
2. Respond to the different conditions that exist along waterfront esplanade

Key Views

1. The scale, form, and articulation of new development should be responsive to, and respectful of, important views and view corridors
2. Outlook Hill towards the Lower Manhattan skyline

3. East River bridges

4. Open space views towards the harbor and Statue of Liberty

Yankee Pier Plaza

1. Buildings facing new open spaces at Yankee Pier should be designed to recognize their important role in forming a gateway and evoking a sense of arrival

Ground Level Considerations

Pedestrian Engagement

1. Responsive to the pedestrian scale with attention to detail, amenities, and visual interest at the lower portion of buildings, especially those adjacent to public areas
2. Ground levels should provide opportunities for public engagement through such elements as retail, gallery or exhibition space, transparency, public restrooms, public lobbies, cafes, visitor centers, and public courtyards, etc.
3. Year-round access and programming at the ground level is strongly encouraged
4. Entrances and other active uses are encouraged to be visible and distributed along the full length of buildings facing public areas

Service and Loading

1. Views of loading and service areas should be limited from public spaces incorporate screening strategies to avoid negative impacts on the quality of the public realm
2. Service areas should not be located along primary building facades - wherever possible, should be accessed from within development parcels and avoid conflict with pedestrians.

Massing & Form Considerations

Context and Variety

1. Across all development parcels, heights, bulk, and orientation of buildings should inform one another and strive to create a compelling skyline.
2. Base heights should vary in response to particular contexts, inform one another, and establish a coherent hierarchy - limiting to 5 stories if possible.

Pedestrian Scale

1. Buildings should be sensitive to the pedestrian scale and adjacent contexts
2. Employ techniques that visually break down massing to create a pedestrian scale and welcoming environment

Rooftops

1. Rooftops are encouraged to be activated with elements enhancing environmental performance
2. Providing publicly accessible amenities, including active and passive recreation opportunities.

Sustainability Considerations

Sustainability considerations need to be inclusive of all layers of the campus landscape, buildings and operations. We be leaders in sustainable issues to promote action and awareness through education, research, and business practice.

Buildings and Operations

- Develop and implement high-performance standards and protocols for building maintenance and operation that comprehensively integrate sustainability and resiliency principles
- Develop sustainability criteria for the maintenance and occupancy of buildings

Energy & Emissions

- Reduce its dependency of finite fossil fuels for operational practices and promotes energy and transportation options that support human health and contribute to a carbon neutral campus.

- Set a sustainable thermal set-point standard for campus buildings
- Implement energy efficiency standards and programs within the building and infrastructure design and operational process
- Create renewables strategy for each building

Water

- Account for all sources and uses of water on campus (e.g., municipal, rainwater, condensate, greywater, well water, and blackwater)
 - Develop campus-wide water metering-based educational programming designed to reduce water consumption by building occupants and residents
- Flood resiliency measures fronting on public spaces should be designed to promote active ground floors, transparency, engaging landscape features other innovative techniques that enhance the public realm, particularly when dry floodproofing, significant grade changes or elevated building strategies are employed

Built Environment

- Increase and support campus biodiversity
- Target Living and Building principles
- Reduce the campus community's exposure to toxic chemicals in indoor and outdoor environments - Materials Red List
- Develop and implement a space use policy that improves utilization of existing Institute buildings and plans for maximum efficiency and flexibility in new and renovation
- Achieve a 55% tree canopy coverage of campus
- Create a plan for improving and maintaining healthy soils

Commitment & Engagement

- Empower campus community and recognize sustainable operations require education, awareness, communication, and accountability of our students, faculty, and staff in partnership toward shared goals. Success is also based on transparency and integration of sustainable principles into every facet of business practice and decision-making.

Section 4:

Experience - Relevant Projects



Project Typology Matrix

	Create Access to Research Facilities + Information	Integration of Arts, Culture, + Communication	Facilitate Cross- Institutional Collaboration
1. Okinawa Institute of Science and Technology Graduate University	×		×
2. Illinois Institute of Technology: Wanger Institute for Sustainable Energy Research (WISER)	×	×	×
3. Generation 2 Reinvented Toilet (Georgia Tech)	×	×	×
4. Smart Cities (Georgia Tech)	×	×	×
5. Ocean Views (Georgia Tech)	×	×	×
6. Arizona State University Research District Plan	×	×	×
7. Tecnológico de Monterrey Regeneration Plan	×	×	×
8. Envision Resilience (UoF)	×	×	×
9. Singapore University of Technology & Design Master Plan	×	×	×
10. University of Washington West Campus Innovation District	×	×	×
11. Massachusetts Maritime Academy Campus Master Plan	×	×	×
12. Virginia Tech Innovation District	×	×	×
13. Cornell Tech Campus	×	×	×
14. Domino Park	×	×	×
15. Columbia University Manhattanville Campus	×	×	×
16. River Ring Master Plan	×	×	×
17. New York City High Line	×	×	×

Workforce Development + Training Programs	Low-impact + Ecologically Responsible	Connecting Land + Water as a Living Laboratory	Flexible + Multi-Functional Campus	Furthering Environmental + Climate Justice	Commercialization Opportunities
×	×	×	×	×	×
×	×			×	×
	×	×		×	×
×	×	×	×	×	×
×	×	×		×	×
×	×	×	×	×	×
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	×	×		×	
×	×	×	×	×	×
×	×	×		×	×
	×	×		×	×

Project Typology Matrix continued

	Create Access to Research Facilities + Information	Integration of Arts, Culture, + Communication	Facilitate Cross- Institutional Collaboration
18. Freshkills Park	×	×	×
19. Central Waterfront	×	×	×
20. Elliott Bay Seawall	×	×	
21. Governors Island	×	×	×
22. Laguna Gloria Sculpture Park: Arrival Garden and Moody Pavilions	×	×	×
23. Louisiana State Museum and Sports Hall of Fame	×	×	×
24. Caesars Superdome Master Plan & Capital Improvements	×	×	×



Workforce Development + Training Programs	Low-impact + Ecologically Responsible	Connecting Land + Water as a Living Laboratory	Flexible + Multi-Functional Campus	Furthering Environmental + Climate Justice	Scalable Outputs
	×	×		×	×
×	×	×		×	×
×	×	×	×	×	×
×	×	×	×	×	×
	×		×		×
	×	×	×		
×			×		×



The Okinawa Institute of Science + Technology Graduate University

Okinawa Institute of Science + Technology Graduate University

Okinawa Institute of Science and Technology Graduate University (the “OIST”) was established on 1 September 2005 by the Japanese government pursuant to the Independent Administrative Institution Okinawa Institute of Science and Technology Promotion Corporation Act. With independent governance from the Private Schools Act and public funding under the sponsorship of the Cabinet Office, OIST is a private university offering a 5-year PhD program in science.

Okinawa is an island microcosm where all major threats to ecosystems globally— climate change, habitat degradation and the human-mediated spread of invasive species — can be observed and studied, thereby providing information about the local environments while allowing the investigation of general questions of global significance. The OIST interdisciplinary approach to education and research is therefore driven by sustainability

Location

Onna, Okinawa, Japan

Programs

Sciences

Biology

Chemistry

Complex Systems

Engineering

Environmental Science

Interdisciplinary Science
& Engineering

Mathematical &
Physical Sciences

Research Collaborations [29 Countries / 156 institutions]



Climate Science Research and Education

The Energy Materials and Surface Sciences Unit has developed novel functional materials and processes, such as metal halide perovskites as suitable materials for solar cells, using surface science and advanced characterization techniques to investigate the structure-property relationships in perovskite materials and devices. The aim of this research is to obtain a fundamental understanding that will accelerate the development of high-efficiency, low-cost, long-lifetime perovskite solar cells.

The Energy Materials and Surface Sciences Unit also manages Wave Energy Power research. The OIST Wave Energy Project is now testing our original Wave Energy Technology at the Island of the Maldives under a Memorandum of Understanding (the “MOU”) between the Ministry of Environment of the Maldives, Kokyo Tatemono Company Limited, and OIST. The applied research project utilizes surf-wave at the reef edge as the energy source with wave energy converter consisting of 1.5m x 1.5m x 2.5m concrete block supporting a spinning turbine driven by the breaking waves. The electricity generation is roughly 10 kW from each wave of a height of 1m or higher. OIST Wave Energy Technology will be ready for commercialization in five years.

The Integrated Open Systems Unit is conducting applied research in the design and facilitation of a sustainable living architecture built around artificial intelligence and the “internet of things.” While such work is usually associated with the environment, the sustainability of our solutions also focuses on social and economic factors. The prototype of such a concept has been realized over the last few

years on the OIST campus in close collaboration with industrial partners from Okinawa (OES, Okisoko, Okinawa Denryoku, etc.) and mainland Japan (Sony CSL and PUES). The applied research prototype encompasses a micro-grid system with energy transfer options between the houses and accommodates the charging of micro-EVs with exchangeable batteries (MIGEX). The Integrated Open Systems Unit is currently working on the automatic optimization of the energy and battery management in this system.

The OIST sponsored OKinawa Environmental Observation Network (the “OKEON”) / Churamori Project is a community collaboration between OIST scientists and the local community to measure and monitor the Okinawan ecosystems. OIST leads a pervasive field monitoring program generating space-time data to understand short- and long-term ecological dynamics and trends to improve nature-based solutions to mitigate the negative impacts of climate change. The OKEON / Churamori Project consists of more than 150 partners, including universities, government entities, high schools, museums, and citizen scientists.

The Biological System Unit is actively researching and developing scalable bioelectrochemical system technology for wastewater treatment applications to assess complex interactions between microbial populations and electrodes to remove organics and generate electricity. By utilizing biological, chemical, engineering and bioinformatics approaches, the research objective is to improve system treatment efficiencies and electricity generation by understanding and building ideal microbial communities, and to develop cost-effective materials for their commercialization.



Wanger Institute for Sustainable Energy Research (WISER)

Illinois Institute of Technology

To advance Illinois Tech's mission, the WISER currently (i) coordinates the initiation of research collaboration internally between IIT faculty and externally with other universities, research laboratories, and industry, and (ii) serves as the umbrella organization to enhance and promote research, education, and outreach activities at Illinois Tech that are related to energy and sustainability, specifically targeted at creating a pathway to sustainable energy and water, and at combatting issues of climate change using a least-cost strategy.

Location

Chicago, Illinois

Programs

Energy / Environment /
Economics (E3)

Environmental Engineering

Power Engineering

Sustainability Management

MBA / Sustainability
Concentration





Climate Mitigation Research and Education

The WISER manages this broad education and research agenda internally through three thematic clusters of on-campus centers and externally with other universities, research laboratories, and industry programs. WISER thematic clusters are as follows:

Cluster #1 Sustainable Electrical Grid and Sustainable Energy Integration

- Galvin Center for Electricity Innovation
- CSMART (Center for Smart Grid Applications, Research, and Technology)
- SPIKE (Spearheading Poverty Inhibition through Klean Energy)

Cluster #2 Climate Change and Fundamental Research in Sustainable Energy Systems

- Fundamental Research in Sustainable Energy and Carbon Management
- Electrochemical Energy Storage
- Natural Gas
- Bioenergy and Water Management

Cluster #3 Sustainable Development

- Sustainable Built Environment
- Transportation
- Urban Agriculture

To continuously initiate the development of new cross-disciplinary collaborative research areas, WISER has established the WISER Cross-disciplinary Seed Funding Grants (the “CSFG”) program [S2-22] with the expectation of enhancing our competitive edge in attracting major external funding in areas related to energy and sustainability. The CSFG program supports research relevant to

sustainable energy engineering for the adaptive use of historic structures, new construction of research laboratories, and micro-grid applications on Governors Island and in New York City residential, commercial, and industrial districts. Note the following research relevant to sustainable energy engineering for the adaptive use of Liggett Hall:

- An Incremental Design Approach for Culture Preservation and Energy Consumption of Historic Buildings Using Person Comfort Systems
- Evaluation of the Effects of Green Walls on Building Energy Consumption
- Energy Sustainable Wireless Acoustic Emission Sensors for Structural Health Monitoring
- Smart-Building Optimization and Assessment Tool (S-BOAT)
- Energy Efficiency Research for Large-Scale Data Centers
- Phase-Change Composite Material (PCMM) for Building Thermal Energy Storage
- Adaptive Ventilation Management Cyber-System for Energy Efficient Buildings
- Enabling a Resilient and Secure Energy Infrastructure Using Software-Defined Networking

The Galvin Center provides the capacity to conduct further applied research sustainable energy in microgrid applications on Governors Island and in New York City’s residential, commercial, and industrial districts to support the goal of the City of New York to achieve carbon neutrality by 2050.

Envision Resilience

University of Florida

The Envision Resilience Challenge, a 2021 design studio, called on interdisciplinary teams of graduate students from leading design universities to reimagine cities under the latest projections of sea level rise. Teams were tasked to create visually impactful designs and propose adaptations and innovations that will enable coastal communities to envision what futures under sea level rise and climate impacts may look like.

The teams have weekly lecture series with renowned experts in relevant fields then work with local advisors with expertise in conservation, public works, real estate, architecture, historic preservation, natural resources, art, marine biology, fisheries, civil engineering, science, and transportation to form insights and narratives of community residents for context and inspiration. This learning experience has been described as the future of education.

Location

Atlanta, Georgia

Completion Date

Ongoing

Partners

University of Florida

College of Design



Generation 2 Reinvented Toilet

Georgia Tech

The global pandemic has spotlighted deep and devastating health inequities that plague our planet. It has also highlighted the power of international collaboration to address the world's most urgent challenges. Close to half the world's population, in fact, lack access to safely managed sanitation. Of those, about two billion people lack even the most basic sanitation, such as toilets or latrines. About 673 million people —roughly the combined populations of the U.S., Brazil, and Mexico—still defecate in the open, in rivers from which people must fetch their drinking water.

Additionally, modern sanitation systems require both in-home flush toilets, many miles of sewer piping, large wastewater treatment plants—all requiring land, water, and trillions of dollars in infrastructure investments. In contrast, the vision for the reinvented toilet is that it can essentially provide the same basic sanitation functions of those large, costly systems in a space no bigger than the toilet itself.

Location

Atlanta, Georgia

Completion Date

Ongoing

Partners

Georgia Tech
Research Institute

College of Engineering



Smart Cities

Georgia Tech

Located in Tech Square and in partnership with local governments, industry and communities, Georgia Tech's initiative on Smart Cities and Inclusive Innovation (SCI2) develops cutting-edge approaches to shaping resilient and sustainable communities through a suite of applicable technology and data applications. SCI2 is university-wide and intentionally works across Georgia Tech's schools, colleges, and research units to foster multidisciplinary research and teaching for community impact.

Location
Atlanta, Georgia

Completion Date
2014

Georgia Tech's initiative on Smart Cities and Inclusive Innovation (SCI2) develops innovative approaches to shaping resilient and sustainable communities. Through research and development, strategic partnerships, and cutting-edge programming we bring Georgia Tech's interdisciplinary expertise in technology and policy to the development of smart cities and communities.

Partners
Smart Cities and Inclusive Innovation (SCI2)

SCI2 serves as a focal point for interaction with external and internal partners to deliver innovative, real-world solutions in building resilient and sustainable communities. SCI2's goal is to provide communities of any size with applied, multidisciplinary research on the most challenging, complex civic and societal issues.



Ocean Views

Georgia Tech

Ocean Visions brings together leading oceanographic research and academic institutions with private sector and public-interest organizations to design and advance solutions to the growing crisis in our ocean and climate.

Our work is focused around 3 Grand Challenges:

- Reverse the climate crisis in the Ocean (ocean-based solutions to thermal and chemical stress – e.g. ocean-based carbon dioxide removal)
- Build resilience of coastal systems and communities to climate impacts (e.g. solutions for sea level rise, extreme events, and changing habitats)
- Build a climate-resilient aquatic food system (e.g. aquaculture, including microalgae and macroalgae, ocean-based low carbon diets)

Location

Atlanta, Georgia

Completion Date

2014

Partners

Institute for Data Science and Engineering



Arizona State University: Research District Plan

The Arizona State University Research District is an environment that fosters the generation of creative new ideas and innovative solutions to the challenges faced in the 21st Century. It is a place to research, construct, and test new designs and products, a place to encourage interaction and collaboration between industry and academia. Located at the Arizona State University Polytechnic Campus in Mesa, Arizona, on the former site of the Williams Air Force Base, the research district is not only an incubator of new ideas, but also a test-bed for those ideas to be applied and proven.

The overarching intent is to create a living laboratory for research, full-scale testing, and prototyping around a series of primary streams that connect to ASU and the Polytechnic Campus' research mission. In addition to research and academic uses, the plan introduces substantial housing for students and professionals, a range of community and social amenities, recreation spaces, and a central desert park.

The research district site is proposed in the area south of the current campus and adjacent to the Phoenix Mesa Gateway airport. The district master plan integrates the rich ecological and cultural history of the site with the development of a cutting edge district that facilitates research and full scale testing and prototyping of regenerative systems focused around food, water, energy, and humanitarian relief.

Location

Mesa, Arizona

Services

Planning and Urban Design

Design Team

Sasaki



Tecnológico de Monterrey: Urban Regeneration Plan

All over the world, cities and major universities are collaborating to create new economies and regenerate society. Tecnológico de Monterrey is positioned to become a leader in stimulating national urban and economic regeneration—and prove the power of Latin American universities as engines of innovation and entrepreneurship.

Tecnológico de Monterrey has set an objective to become one of the top 100 global universities, and the best university in Latin America. In response to this vision, Sasaki's urban regeneration plan for Tecnológico de Monterrey establishes a framework for the long-term evolution of the campus and adjoining neighborhoods. The plan creates an environment in the university context that will attract significant research and development investment, while transforming the community into a lively, attractive, dynamic, and integrated district.

The master plan supports the strategic goals of the university through the development of research and graduate programs, the recruitment of top national and international faculty and students, targeted investment in innovative learning environments, and physical reorganization to achieve greater interdisciplinary collaboration. This is coupled with the development of new partnerships with business and industry entrepreneurs that generate the potential for higher levels of research and product innovation.

Location

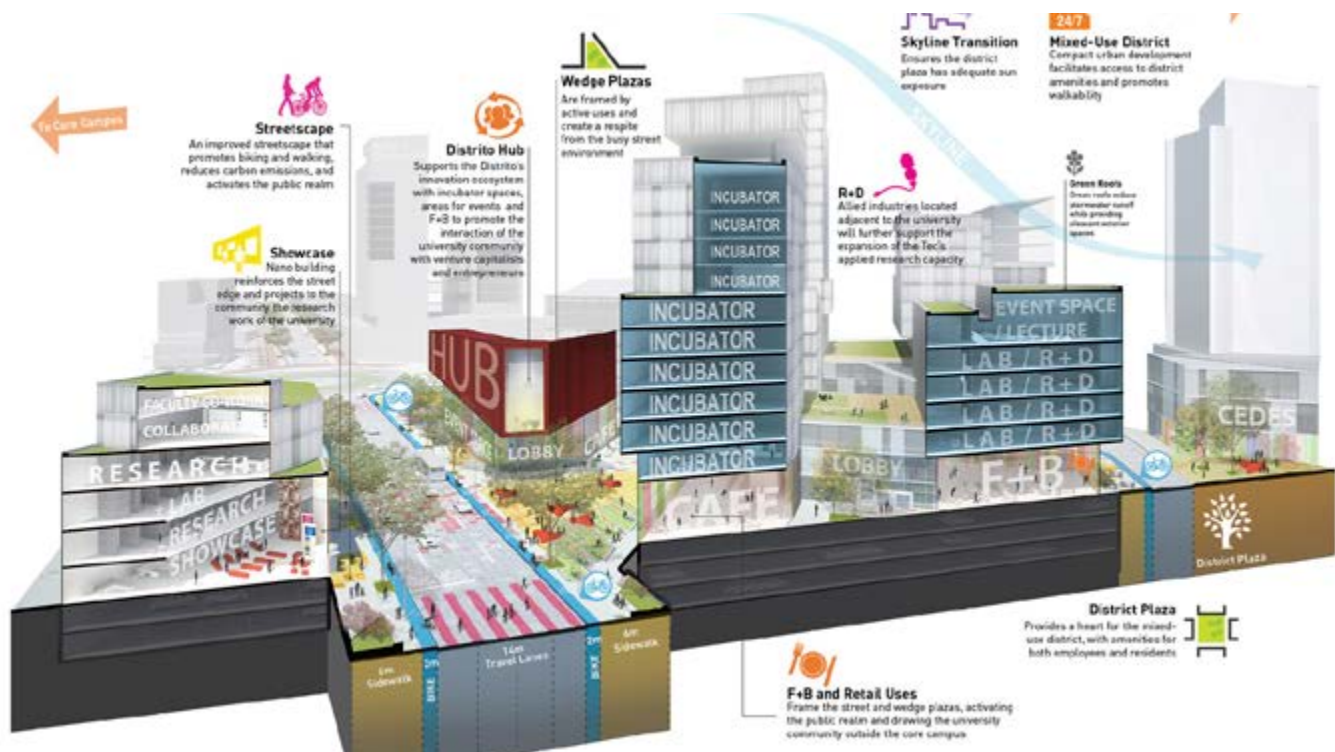
Monterrey, Nuevo Leon,
Mexico

Services

Planning and Urban Design
Architecture
Landscape Architecture
Space Planning

Design Team

Sasaki



Singapore University of Technology & Design: Master Plan

The Singapore University of Technology and Design (SUTD) master plan outlines a new university campus that supports a cutting-edge academic vision of interdisciplinary, collaborative, and project-based learning.

The university's academic mission and curriculum, developed in partnership with the Massachusetts Institute of Technology (MIT), is based on bold new paradigms for integrating technology and design education in the fields of engineering, product development, architecture and sustainable design, and information systems technology. These aspirations will serve as a means to promote research and learning, partnerships with industry, and integration with a global, knowledge-based economy.

To foster SUTD's innovative curriculum, the master plan puts forth a visionary campus framework. A key concept is the east-west pedestrian spine that showcases the university's interdisciplinary and collaborative mission with multi-functional and interconnected academic buildings. The resulting campus will have a strong identity, support a vibrant community, and demonstrate a commitment to engaged learning and student development. The new campus will accommodate up to 7,000 students on a site area of 22 hectares.

Location

Singapore

Services

Planning and Urban Design

Architecture

Landscape Architecture

Design Team

Sasaki



University of Washington: West Campus Innovation District

The campus master plan creates a progressive and sustainable framework that will enable UW's continued evolution as a 21st century institution. The campus master plan identifies a growth allowance of six million net new gross square feet; balances the preservation of historic campus assets with increased density; and integrates the University's strategic goals and academic, research, and service missions with capital plan objectives to guide the physical development of the campus.

The campus master plan identifies potential development sites that could accommodate the growth allowance and provide room for continuous increases in student enrollment and research demands, guide creation of an active public realm, and complement the existing lexicon of higher education spaces on campus with new settings for collaboration and research partnerships.

Location

Seattle, Washington

Services

Planning
Urban Design
Landscape
Strategies

Design Team

Sasaki



Massachusetts Maritime & Academy

Campus: Master Plan

Sasaki is working with Massachusetts Maritime Academy on the campus’s master plan update, which is nearing completion. The Campus Master Plan Update identifies achievable actions and long-term direction for facilities that will further support the campus development consistent with the academy’s mission and planned evolution. The goal of this planning effort is to identify opportunities to accommodate evolving academic needs and capital improvements required over the next ten years.

The priorities for this planning effort include: compile, quantify, and evaluate space needs required to meet enrollment goals, including the potential for new academic facilities and the impact of policy changes that could optimize space utilization; address issues of campus resiliency; formulate a blueprint for capital investments triggered by enrollment increase, incorporating deferred maintenance and accessibility needs; improve student life and place-making amenities to foster a vibrant campus experience and promote equity, diversity, and inclusion among campus users; and identify land use opportunities to maximize utilization of current campus holdings and assess the timing and need for future potential acquisitions and/or leasing of space off-campus.

Location
Bourne, Massachusetts

Services
Architecture
Landscape Architecture
Planning & Urban Design

Design Team
Sasaki



Virginia Tech Innovation District

Sasaki collaborated with Virginia Tech to develop a master plan for a new Innovation Campus, located in the Washington, D.C. Metro area (Alexandria, VA), positioning Virginia Tech in close proximity to Amazon's HQ2.

The Virginia Tech Innovation Campus will enrich and enhance the local community, developing talent to attract and grow tech companies globally, and igniting the economy with new start-ups, jobs, and venture investment. It will accommodate computer science, business, and other programs designed to support the economic development opportunities associated with Amazon's presence.

Working at the boundaries of technology, humans, and systems — in the backyard of government, policy experts, and industry — Virginia Tech faculty, students, and partners will create a different experience. Through a 360-degree approach, with partners in local, national, and global communities, faculty and students will collaborate on diverse teams, focused on real problems and real solutions both inside and outside the classroom.

Location

Blacksburg, Virginia

Services

Planning and Urban Design
Landscape Architecture
Space Planning

Design Team

Sasaki



Roosevelt Island Cornell Tech Campus: Framework Master Plan

Field Operations' planning and design of the open space for Cornell's new campus on New York City's Roosevelt Island ensures a consistent identity that is at the same time flexible for long-term development. The 12-acre design offers state-of-the-art sustainability metrics, with porous pavements, storm-water gardens, native plantings and renewable materials. Offering a rich variety of social spaces, the design provides a unique and vibrant identity for this new 21st-century urban campus.

Active, public open spaces around the perimeter of the campus create a substantial public realm that leads to a series of social spaces that encourage various modes of interaction. Together, these social spaces and the perimeter buffer weave the buildings into a campus community.

Cornell Tech Campus received a 2019 ULI Global Award for Excellence for the Framework Plan and Phase I Site Development.

"Forget the cliché 'game-changer,' this New York City campus is more than that. It is the ideal plan for creating an educational environment to train future engineers and designers in the science of sustainability for decades to come." — Kent Kleinman, Cornell's Gale and Ira Drukier Dean of Architecture, Art and Planning

Location

New York, New York

Completion Date

2011-present; 2017 (Phase 1)

Services

Open Space Master Plan
Landscape Architecture
Public Realm

Size

12 acres total, 3.5 acres open
space (Phase 1)

Client

Cornell University

Design Team

Field Operations



Domino Park

Domino Park is the first phase of the transformation of the former Domino Sugar Factory site into an ambitious mixed-use development project by Two Trees Management.

Inspired by community input and the site's rich history, Domino Park reconnects the Williamsburg neighborhood to the East River for the first time in 160 years. The 5-acre park showcases the history of an iconic industrial waterfront site by integrating over 30 large-scale salvaged relics, including 21 original columns from the Raw Sugar Warehouse, gantry cranes, screw conveyors, bucket conveyors and syrup tanks into an interpretive and educational "Artifact Walk." The park is raised above FEMA flood elevations with many native plant species that reduce stormwater runoff and function as an absorbent sponge and first line of defense against sea level rise.

Domino Park offers a wide range of active and passive uses and has been embraced by the diverse community it serves with nearly 3.5 million visitors since opening in June 2018.

"The revitalization of the 160-year-old industrial Williamsburg waterfront by JCFO deftly weaves the site's history together with the park's programming while simultaneously protecting it from future floods." — Jonathan Hilburg, The Architect's Newspaper

Location

Brooklyn, New York

Completion Date

2018

Services

Master Planning

Landscape Architecture

Public Realm

Size

11 acres, 1/4 mile long
(5 acres of open space)

People

Two Trees Management

Design Team

Field Operations



The Manhattanville Campus of Columbia University

Field Operations was commissioned to design the open space framework and public squares for Columbia University's new 6-acre Manhattanville campus, working with Renzo Piano Building Workshop and SOM. The four blocks are bisected by a central walk, lined with woodland trees and furnishing that connects all buildings. This open space strategy ensures that the campus is porous, public, open, and integrated with the city and neighborhood. It is also designed to the highest standards of sustainability with significant energy, material, and environmental performance metrics. The Plaza opened in 2017 and the Square is currently under construction.

Manhattanville Campus Phase 1 was awarded the 2019 Urban Land Institute New York Award for Excellence in Institutional Development in recognition of its commitment to planning, design, sustainability, and community impact.

"This new campus is a once-in-a-century opportunity to expand one of the greatest universities in the world and to do so in ways that reflect modern sensibilities about design, the academic mission, and the relationships with local communities and neighborhoods."
— Lee C. Bollinger, President of Columbia University

Location

New York, New York

Completion Date

2021

Programs

Landscape Architecture, Urban Design, Public Realm

Size

6 acres

People

Columbia University

Design Team

Field Operations



River Ring Master Plan

Working with Two Trees Management, Field Operations and Bjarke Ingels Group designed the River Ring Master Plan, which will enhance connectivity of the public waterfront, reinstate natural habitats, elevate the standard for urban waterfront resiliency, and transform the way New Yorkers interact with the East River.

The waterfront park features a circular esplanade that extends into the East River, connecting a series of nature trails, amphitheater, boating cove, children's natural play area, and sandy beach, all promoting access in and around the river.

Drawing inspiration from Jamaica Bay, the project embraces the river instead of building walls and hard surfaces that accelerate storm surge and push it to adjacent waterfronts. Waterfront infrastructure and open space will feature breakwaters, marshes, wetlands, and a tidal basin that will dissipate wave action from storm surges to increase resilience and create calmer waters for safe in-water recreation.

Location

Brooklyn, New York

Completion Date

2021

Services

Landscape Architecture

Urban Design

Master Planning

Size

3 acres (6 acres of open space including protected in-water access)

People

Two Trees Management

Design Team

Field Operations



New York City High Line

As the project lead for the High Line, James Corner Field Operations led the design and construction of this elevated railway reclaimed as an extraordinary public space in the heart of Manhattan's West Side. Since its opening in 2009, the High Line is lauded as an icon for innovative design, a defining feature in its neighborhood, a powerful catalyst for investment, and an inspiration to cities worldwide.

The design is characterized by an intimate choreography of movement, with alternating vistas and experiences. Distinctive paving, planting, furnishing, lighting, and social spaces create an authentic and memorable New York City experience. The High Line is widely recognized as a huge success and demonstrates the value in creating new and fresh public spaces in the city. The design is a collaboration between Field Operations (Project Lead), Diller Scofidio + Renfro, and Piet Oudolf.

"An instant landmark of landscape architecture [...] it is, hands down, the most influential design project of the last decade." — Michael Kimmelman, Architecture Critic for The New York Times

Location

New York, New York

Completion Date

June 2009 (Sec 1), June 2011 (Sec 2), September 2014 (Sec 3, Phase), June 2019 (Sec 3, Phase 2)

Services

Master Planning
Landscape Architecture
Public Realm

Size

7.43 acres (1.45 miles long)

People

City of New York and Friends of the High Line

Design Team

Field Operations



Freshkills Park

At nearly three times the size of New York City's Central Park, Freshkills Park comprises over 1,000 acres of closed landfill and 450 acres of wetland framed by spectacular views of downtown Manhattan. The award-winning master plan by Field Operations will guide the transformation from landfill to parklands over the course of 30 years.

Over 750 acres of the park support active and passive recreation, public event spaces, and miles of trails. Early win and pilot projects have focused on providing public access to the interior of the site and showcasing its unusual combination of natural and engineered beauty, including creeks, wetlands, expansive meadows, and spectacular vistas of the New York City region, as well as providing much-needed community amenities, such as the playground at Schmul Park. The park is owned and operated by the NYC Department of Parks & Recreation and the project is an ongoing collaboration with several New York City and State agencies.

"Freshkills, once a daily dumping ground, will become a showcase of urban renewal and sustainability." — Michael Bloomberg, Former Mayor of New York City

Location

Staten Island, New York

Completion Date

2004–Present

Programs

Prime; Landscape Architecture, Public Realm

Size

2,200 acres

People

NYC Department of Parks & Recreation

Design Team

Field Operations



Central Waterfront

Seattle's long-term vision for reclaiming 1.5 miles of industrial waterfront began with a master plan led by Field Operations that charted the course for new infrastructure, an enhanced public realm, stronger connectivity to the downtown, and a healthier environment—reclaiming the waterfront and reconnecting the City with Elliott Bay.

A generous pedestrian promenade forms the core of the project, and includes integrated stormwater management, native-based gardens, kiosks and wayfinding, historic railings, new and redesigned piers, and redesigned pedestrian connections back into the city fabric. This project is tied to a major new infrastructure and utility corridor, a major new green street, new development opportunities, and significant new public spaces and amenities, including a two-mile long promenade, new beach and various piers and overlooks. Given the technical complexity and variety of community concerns, as well as the large budgets and high stakes involved, we were able to shape a bold vision for the waterfront that full city supports and is eager to see implemented.

"It's pretty clear this project is one of the greatest and most important in the history of the city, We have the potential for creating a new heart for the city." — Peter Hahn, Former Director for the Seattle Department of Transportation

Location

Seattle, Washington

Completion Date

2010–Present

Programs

Design Lead; Master Planning, Landscape Architecture, Urban Design, Public Realm

Size

26 blocks

People

City of Seattle Office of the Waterfront & Civic Projects

Design Team

Field Operations



Elliott Bay Seawall

The Elliott Bay Seawall replaced 3,700 linear feet of derelict seawall with a new state-of-the-art, seismic-resistant seawall that is seamlessly integrated with an unprecedented salmon migration corridor, an enhanced tidal marine environment, and an updated pedestrian promenade. The project is part of a massive urban infrastructure project for Seattle's Central Waterfront which addresses current issues of sea level rise, ecology and aquatic habitat rehabilitation while in the center of a large port city.

Innovative habitat creation is paired with integrated public realm design, which both contribute to the health of marine life while positively engaging the public in understanding all issues at stake. The result is a new model for infrastructure investment that benefits the city, the public, and the ecosystem.

"It's a major engineering project, and it was a landscape architect who led the group of engineers to resolve a major problem." — 2017 ASLA Awards Jury

Location
Seattle, Washington

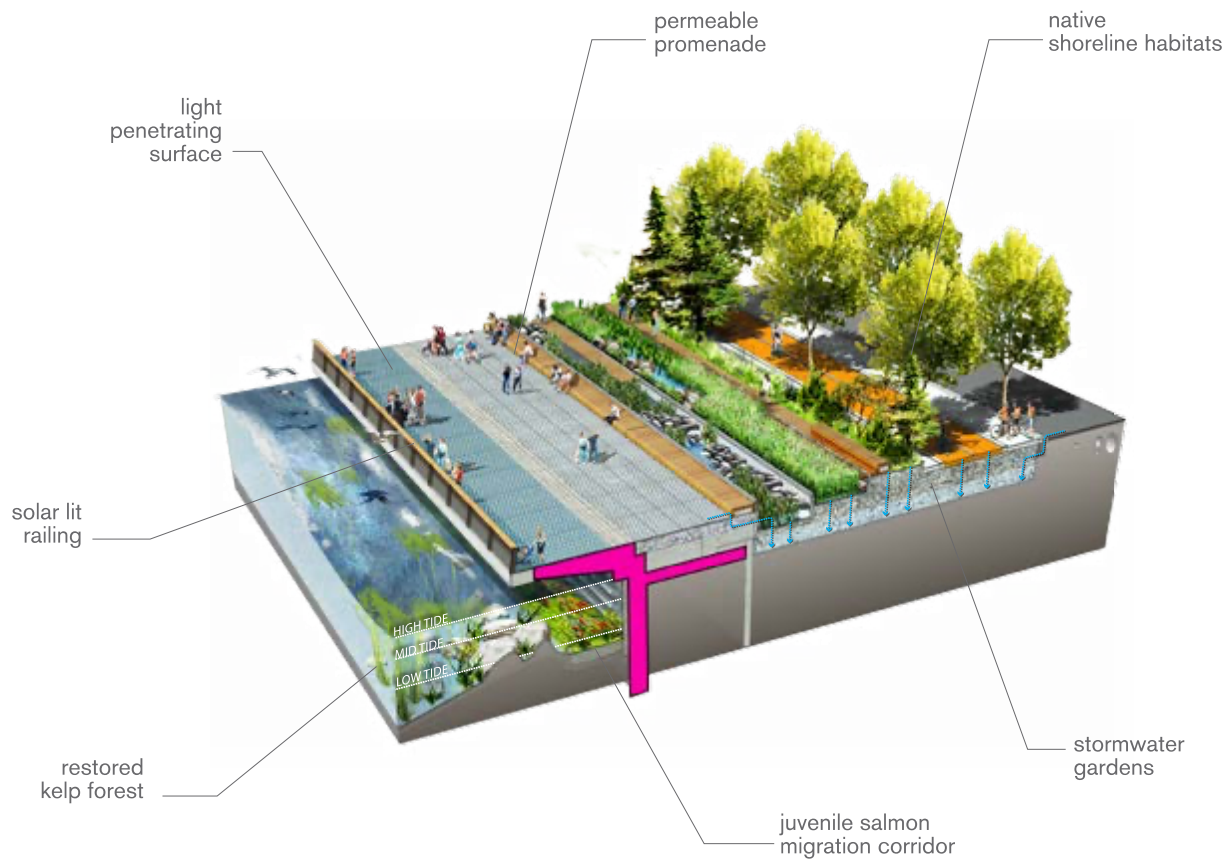
Completion Date
2017

Programs
Landscape Architecture, Urban Design, Public Realm

Size
3,700 ft long

People
City of Seattle Department of Transportation

Design Team
Field Operations



Governors Island

Field Operations was invited to participate in a competition for the design of Governors Island: a 170 acre territory situated in the midst of New York harbour between Lower Manhattan, Brooklyn, Staten Island, and New Jersey.

Governors Island is not the City. Neither is it parkland in the traditional sense of a green amenity, nor “waterfront” in the now clichéd sense of sanitized and typically over-commercialized frontage. Instead, it is a powerfully unique place; an other-worldly island. field operations proposal takes the position that any new future landscape here – indeed any form of building, re-construction and subsequent programming – should not normalize or diminish the strange and powerful qualities of the place. Rather, the proposal aspires to intensify the island’s dramatic outward exposure to the harbour and the weather, as well as its extraordinary sense of remote otherness.

Location

New York, New York

Completion Date

2007

Programs

Prime; Landscape Architecture, Urban Design

Size

150 acres

People

GIPEC - Governors Island Preservation and Education Corporation / Empire State Development Corp

Design Team

Field Operations



Laguna Gloria Sculpture Park: Arrival Garden & Moody Pavilions

The new welcome pavilions enhance the entrance experience into the sculpture garden beyond, where visitors discover works of art framed by the vibrant natural landscape.

Here, architecture and landscape are conceived as an integrated and unified experience. A series of vertical steel planes and steel and glass pavilions draw visitors into the park through a sequence of shady outdoor spaces. The composition of structures, walls, and gardens are organized along a central walk covered by shade canopies. Concrete site walls, stonedust paving, and lush plantings further enclose two outdoor courts for patrons to gather and linger while taking in views of the property's mature live oak canopy, 100-year old Italianate villa, and compelling works of art.

Location
Austin, Texas

Programs
Museum
Academic
Cultural

Completion Date
2019

Size
18 Acres - Site Area

Awards
2019, AIA Louisiana,
Merit Award
2019, AIA Louisiana, Member's
Choice Award

Client
The Contemporary Austin

Design Team
Trahan Architects



Louisiana State Museum & Sports Hall of Fame

The Louisiana State Museum and Sports Hall of Fame is located in Natchitoches, the oldest settlement in the Louisiana Purchase. Set on the banks of the Cane River Lake, the project is inspired by the riverfront setting, early sustainable practices, and the 17th century bousillage building technique brought to the region by French settlers.

The Museum's interior reflects the region's fluvial geomorphology—the transformation of the landscape from centuries of carving by the meandering river. Sculpted from 1,100 unique cast stone panels, the interior seamlessly integrates building systems and serves as a canvas for exhibitions and films.

Location

Natchitoches, Louisiana

Programs

Museum

Academic

Cultural

Size

28,000 SF

Awards

2015 National AIA Honor
Award for Interior Architecture

2014 The Chicago Athenaeum
International Architecture
Award

2013 Architect Magazine
Annual Design Review Honor
Award

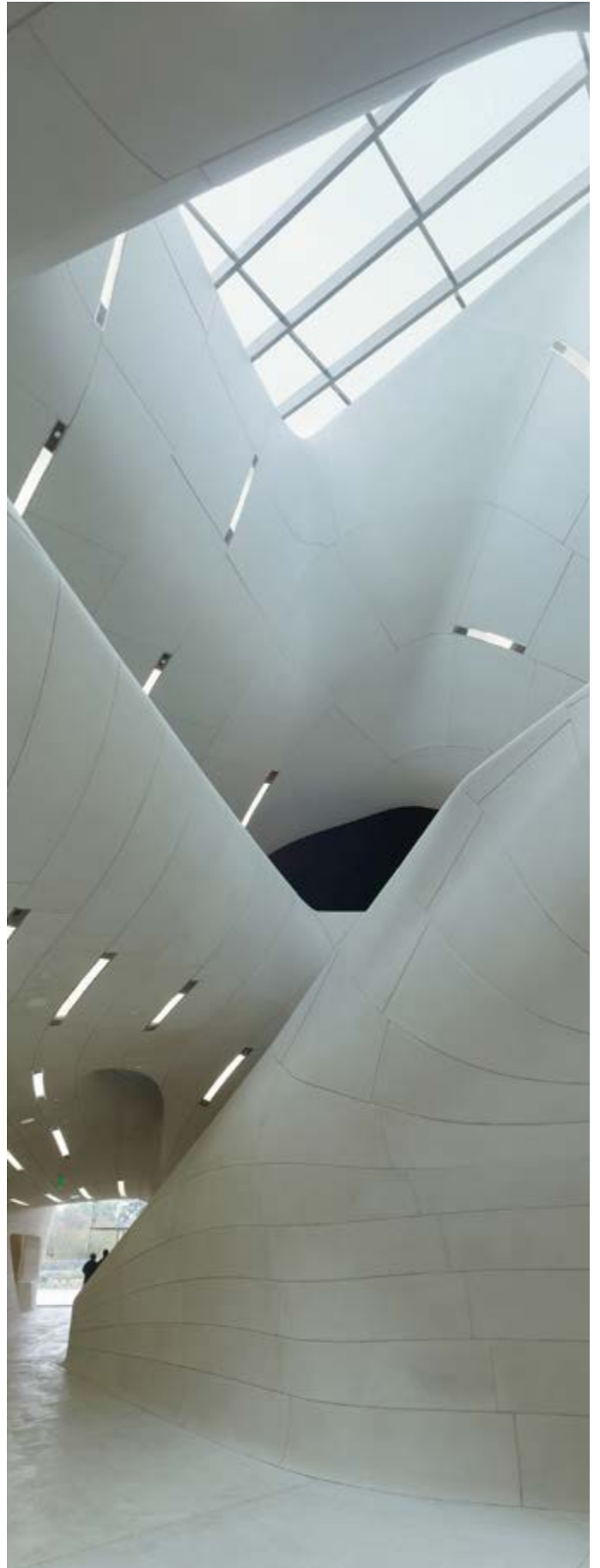
2013 Interior Design Magazine
Best of Year Award

Client

Louisiana State Museum &
Sports Hall of Fame

Design Team

Trahan Architects



Caesars Superdome Master Plan & Capital Improvements

The Mercedes-Benz Superdome is a 72,000-seat venue that serves as the home of the NFL New Orleans Saints. Trahan Architects was responsible for all design efforts required to meet the Louisiana Stadium and Exposition District's expectations for a \$450 Million Master Plan addressing Capital Improvements that focus on the following primary objectives:

- Facility and team-related revenue enhancement opportunities (or operating cost savings)
- Additional branding opportunities
- Fan experience and amenities—including new technology
- Evaluation of various building systems to determine useful life and timeline for required replacement

Location

New Orleans, Louisiana

Programs

Sports

Hospitality

Size

Campus: 2,265,120 SF

Roof: 440,000 SF

Event Floor Area: 166,180 SF

Building: 1,989,807 SF (total occupiable floor)

Original Seating Bowl

Capacity: 73,414

Seating Bowl Capacity After
Phase 2 (2021): 69,413

Seating Bowl Capacity After
Phase 3B (2025): 68,308

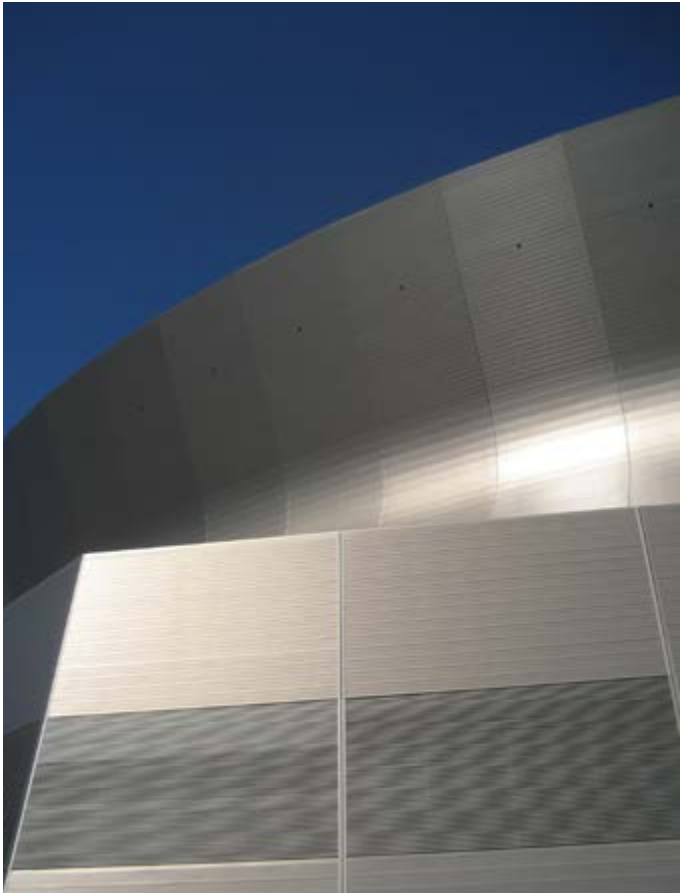
Floor Capacity: 10,000 space

Client

Caesars Superdome

Design Team

Trahan Architects



Section 5:

Consortium Member Expanded Information



The Consortium

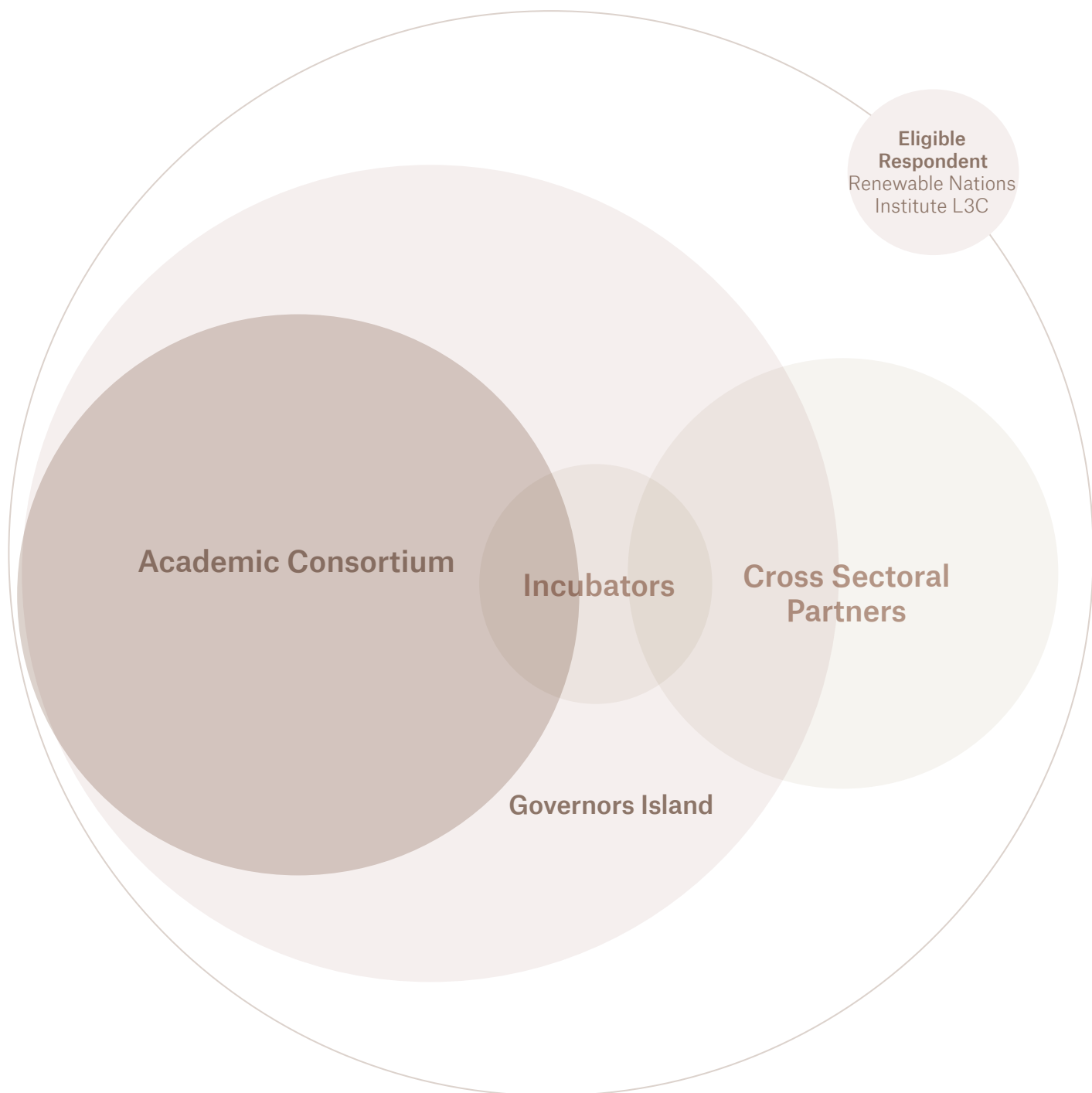
The Academic Consortium is currently comprised of the following institutions, and would welcome additional members, especially those coming from HBCUs in the US, indigenous organizations, and institutions from all over the Global South. In addition to this group, we have an understanding with the CUNY Team to join forces if either team moves forward.

Academic Consortium

Boise State University
CUNY C3 (Letter of Support)
Duke University
Florida State University
Fordham University
Georgia Tech
Illinois Institute of Technology
New York Institute of Technology
Okinawa Institute of Science & Technology
Stanford University
University of Florida
University of Idaho
University of North Texas
University of Pennsylvania
Vermont Technical College
Yale University

Cross Sectoral Partners

American Sustainable Business Council
Association of Senior Debate
Billion Oyster Project
Civilian Conservation Corps-USA
Climate Cap Summit - Advisory Board
Cross Street Partners
D.F. Bark Consulting and Recruitment
Deltares
Earth Matters
Echelon Inc.
Financial Manager - Russell Investments
Government & Policy - Advisory Board
Green & Healthy Homes Initiative
Harbor School
High Tide
Imact Manager - Titanium Linx
Microsoft
Miliken
NASA
National Parks Services
NORESO
RETI Center
The Nano Shield Nano Tech Global Center on
Adaptation
UNESCO





Boise State University

Boise, Idaho

Boise State strives to provide a culture of civility and success where all feel safe and free from discrimination, harassment, threats or intimidation. Boise State University is committed to personal and social development, educational excellence, and civic engagement. Our vision is to create a better energy future through collaboration that inspires energy leadership, ignites technology innovation, and catalyzes global impact.

Community Resilience refers to the capacity of a community or region to adapt to change and thrive despite the chronic stresses and acute shocks they may experience. Promoting community resilience requires collaboration across many levels of society and professional disciplines. The HCRI provides a platform to connect researchers, students, and community partners to collaboratively address community resilience research and practical needs.

Programs Offered & Leadership

Industrial Assessment Center
The Center for Advanced
Energy Studies
Hazard and Climate Resilience
Institute

Primary Contact
Krishna Pakala

The Industrial Assessment Center

The IAC is a Department of Energy sponsored program that offers an in-depth energy assessment of a plant site including its facilities, services and manufacturing operations. An IAC team can evaluate energy usage and examine the site for potential savings from:

- Energy efficiency improvements
- Preventing pollution and minimize waste
- Improved productivity

The Center for Advanced Energy Studies

CAES is a collaboration that inspires innovation and impact by leveraging our collective capabilities to empower students, researchers, faculty, and industry to accelerate energy solutions. We aim to reduce the impacts of future hazards and climate change by cultivating social and environmental equity. We envision a world where researchers and

community partners regularly work together to address societal challenges, effectively translating research to practice.

Hazard and Climate Resilience Institute

The HCRI research pillars capture the interconnection between and amongst disciplines, highlighting the dynamic and multifaceted nature of community resilience. Our goal in promoting these pillars is to foster connections and collaborations between disciplines and across sectors.





Duke University

Durham, North Carolina

The Center for Energy, Development and the Global Environment (EDGE) at Duke University's Fuqua School of Business is a dynamic hub for education, thought leadership, and industry engagement that enables current and future business leaders to understand and respond effectively to the interrelated global challenges of energy, development, and the environment.

Few forces will have as profound an impact on business in the 21st century as the global dynamics of energy, natural resources, development, and environment. Businesses that understand these emerging trends and their implications for investment, innovation, operations, risk management, and managerial decision-making will have a distinct competitive advantage.

EDGE helps companies and business leaders rise to this challenge. We prepare business decision makers to address questions like: how do we sustainably meet the global demand for energy, resources, and improved quality of life?

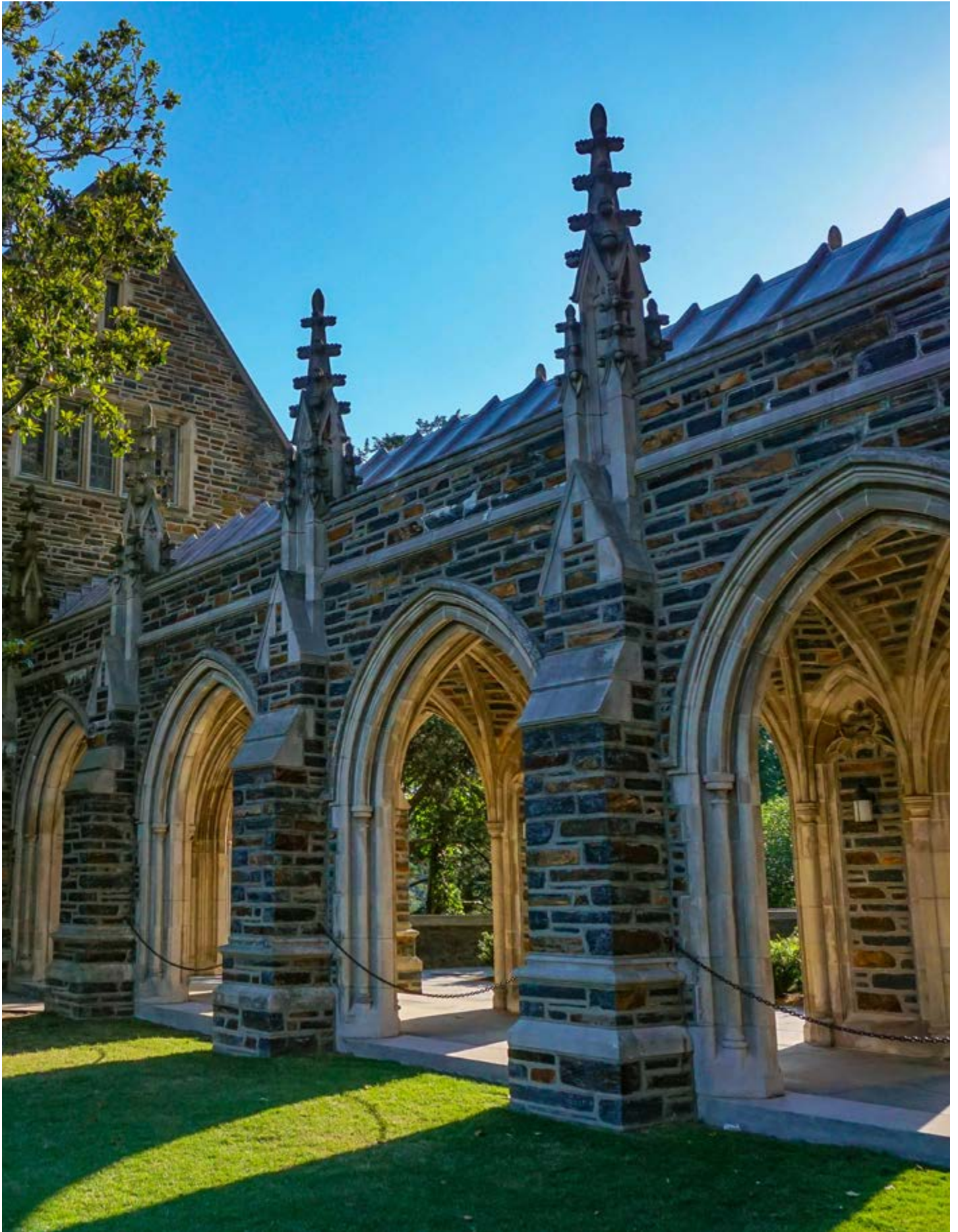
Programs Offered & Leadership

Fuqua School of Business
at Duke University

The Center for Energy,
Development and the Global
Environment (EDGE)

Primary Contact

Dan Vermeer





Georgia Tech

Atlanta, Georgia

The Center for Energy, Development and the Global Environment (EDGE) at Duke University's Fuqua School of Business is a dynamic hub for education, thought leadership, and industry engagement that enables current and future business leaders to understand and respond effectively to the interrelated global challenges of energy, development, and the environment.

"Research at Georgia Tech is about finding connections between diverse ideas and disciplines. It's where breakthrough discoveries are made that enable us to lean into our mission to improve the human condition.

Our research enterprise includes communities, researchers, faculty, students, and staff. Together, they drive advancements in science, technology, and policy that take place every day. It's the people asking the questions and seeking answers that make Georgia Tech a leading research university that champions inclusivity and interdisciplinary collaboration. That's how the best ideas come to fruition and make a positive impact on our world."

Programs Offered & Leadership

College of Engineering (COE)
College of Science (COS)
Brook Beyers Institute for Sustainable Systems (BBISS)
Strategic Energy Institute (SEI)
Georgia Tech Research Institute (GTRI)
Georgia Tech Research Corporation (GTRC)

Primary Contact

Shannon Yee

Executive Vice President for Research

“Georgia Tech, home to some of the world’s best and brightest students, is committed to creating an inclusive and vibrant academic environment, and to being a champion of lifelong learning.

From our traditional residential students completing their undergraduate or graduate studies, to our mid-career professionals enrolled in online degree and non-degree programs, to the many high school students in dual enrollment courses, Yellow Jackets hail from all backgrounds and join us from across the state of Georgia, the nation, and the world. They come to study at Georgia Tech under the expert instruction and guidance of our faculty scholars and innovators, supported by a dedicated and diverse staff. Here, they find fertile ground for their interests and ideas in and out of the classroom — sparking the beginnings of a phenomenal career to come.” - Chaouki T. Abdallah

There are several relevant projects ongoing at Georgia Tech that could contribute to the vision for Governor’s Island. Highlighted here are three flagship efforts that have international recognition.

The Generation 2 Reinvented Toilet (G2RT)

supported by the Bill & Melinda Gates Foundation is an international collaboration led by Georgia Tech to reinvent the toilet and catalyze a new sanitation industry. Georgia Tech through its expert engineering with the Georgia Tech Research Institute is developing a new type of toilet that can process waste into clean water onsite without the use of sewers. This represents moving an entire infrastructure to an appliance that addresses the current and upcoming sanitation needs for about 4.5B on the planet. Sanitation is closely coupled to climate change as has been evident with the increase frequency of natural disasters. For example, increased frequency of hurricanes results in sewage in the streets and the spread of disease. In the coming years, major urban centers around the world will have to contend with the effects of climate change on the existing sanitation infrastructure. Therefore, adaptive solutions to

the effects on climate change on New York city’s sanitation infrastructure will be key to success.

The Smart Cities and Inclusive Innovation (SCI2)

at Georgia Tech develops innovative approaches to shaping resilient and sustainable communities. Through research and development, strategic partnerships, and cutting-edge programming we bring Georgia Tech’s interdisciplinary expertise in technology and policy to the development of smart cities and communities. SCI2 serves as a focal point for interaction with external and internal partners to deliver innovative, real-world solutions in building resilient and sustainable communities. SCI2’s goal is to provide communities of any size with applied, multidisciplinary research on the most challenging, complex civic and societal issues.

The Ocean Visions consortium led out of Georgia Tech brings together leading oceanographic research and academic institutions with private sector and public-interest organizations to design and advance solutions to the growing crisis in our ocean and climate. Our work is focused around 3 Grand Challenges: (i) Reversing the climate crisis in the Ocean (ocean-based solutions to thermal and chemical stress – e.g. ocean-based carbon dioxide removal); (ii) Building resilience of coastal systems and communities to climate impacts (e.g. solutions for sea level rise, extreme events, and changing habitats); (iii) Building a climate-resilient aquatic food system (e.g. aquaculture, including microalgae and macroalgae, ocean-based low carbon diets)



Florida State University

Tallahassee, Florida

With over \$200 million in research expenditures each year, and more than 50 prominent research centers and institutes calling our campuses home, Florida State University is one of the top idea-incubators in the nation. We strive to instill the strength, skill, and character essential for lifelong learning, personal responsibility, and sustained achievement within a community that fosters free inquiry and embraces diversity.

A top-20 public university, Florida State was ranked #1 in research by the AASHE Sustainable Campus Index in 2019, with over 250 faculty from 50+ departments engaged in sustainability research. By researching sustainability issues and refining theories and concepts, universities can continue to help the world understand sustainability challenges and develop new technologies, strategies, and approaches to address those challenges. We are proud to be home to wide array of departments, academic programs, and interdisciplinary centers that are actively working to provide climate solutions and training the next generation of climate problem solvers.

Programs Offered &
Leadership

College of Engineering
College of Social Sciences
College of Entrepreneurship
College of Law

Primary Contact
Mike Mitchell

The **FAMU-FSU College of Engineering** is a unique partnership between Florida A&M and Florida State universities, offering academic excellence at both the undergraduate and graduate levels. The only joint engineering school shared between an R1 university and an HBCU, we are home to many climate focused programs including an M.S. in Sustainable Energy and the Gulf Scholars Program, as well as the RIDER Center which promotes all-inclusive and equitable disaster resilience for vulnerable populations, and the Center for Advanced Powers Systems where we develop new technologies for a more resilient, efficient, and secure electric grid.

The Department of Earth, Ocean, and Atmospheric Science is one of the largest, and oldest academic departments at Florida State, and has a deep commitment to interdisciplinarity, diversity, and inclusion. EOAS partners with the College of Social Sciences and Public Policy on multiple degree programs, including the B.S. in Environmental Science and Policy, as well as the B.S. in Environment and Society, both of which prepare students for careers at the intersection of planet and people. The related Center for Ocean-Atmospheric Prediction Studies explores ocean-atmosphere-land-ice interactions to increase understanding of the physical, social, and economic consequences of climate variability, and collaborates with the statewide Florida Climate Institute in a partnership that also includes the University of Florida, University of Miami, and many others.

Florida State jointly operates the National High Magnetic Field Laboratory on behalf of the National Science Foundation, where scientists use the world's strongest magnets to discover new materials, explore life at a cellular level, and understand existing energy sources while accelerating our transition to new ones. The FSU Coastal and Marine Lab conducts and supports exceptional marine ecosystem research, with a particular focus on the human communities that depend on and interact with them.

This includes the Apalachicola Bay Systems Initiative which seeks to gain insight into the root causes of

decline of the bay's ecosystem and the deterioration of oyster reefs, and develop a plan to restore them.

We are also home to unique and innovative programs that bring climate research and education into the professional realm. For example, the M.S. in Social and Sustainable Enterprise is a new, online program in the Jim Moran College of Entrepreneurship that focuses on Environmental, Social, and Governance (ESG) concepts that our leaders and industry professionals need to create, manage, and lead social and sustainable enterprises. Similarly, the College of Law offers both a concentration and an LL.M. in Environmental Law and Policy, building on its highly ranked environmental law program.

At Florida State, we have a deep appreciation of the need to look decades ahead to understand where we need to be, and then align our strengths and skills to get there. The technologies, practices, and policies needed to slow, and ultimately reverse climate change will be developed by university researchers, and implemented by our students. These solutions will require broad interdisciplinary perspectives, and contributions from many different areas of research. We offer the programs described above, as well as many more, as potential elements within the Governor's Island Climate Consortium. We hope to explore how to combine them with our partners' in new and innovative ways through co-location of faculty, staff, and students, exchanges between our main campus and Governor's Island, and connections of research strengths between consortium members.

Through all of these we hope to leverage the strengths of our faculty, staff, and students to provide solutions that build healthy and resilient communities. While Tallahassee and New York City may seem worlds apart, both are uniquely vulnerable to the effects of climate change and will need innovative solutions that enhance their resilience in the coming years.

At Florida State University we know what it takes to be resilient— we just call it unconquered.



Fordham University

New York, New York

Fordham University has a longstanding commitment to build a healthier planet through educational programs, actionable research, and community engagement around: protecting the environment; promoting sustainable businesses; developing innovative human-centered solutions to complex problems; and advancing equitable and just organizational structures. Fordham enrolls approximately 16,000 undergraduate, graduate, and professional students at its major campuses in the Bronx and Manhattan.

Fordham's strategic plan – Educating for Justice – prioritizes advancing the natural and applied sciences to “promote social change and equity.” Rooted in the values and mission of Fordham's Jesuit identity, the University infuses principles of social justice throughout the curriculum and instills a preferential option for the poor and a concern for supporting marginalized communities.

Programs Offered & Leadership

Environmental Science;
Data Science
(Dean Eva Badowska)

Sustainable Business;
Foundry, Fordham's
hub for innovation and
entrepreneurship
(Dean Donna Rapaccioli)

Science and Technology Entry
Program – STEP (Mike Molina)

Primary Contact
Provost Dennis Jacobs

Fordham University owns and operates the Louis Calder Center, a biological field station located forty miles north of New York City, near the village of Armonk, New York, in a hilly, wooded region of Westchester County. The 113-acre property encompasses 13 buildings used for laboratory and office space, classroom and student study areas, and residences. The station collects climate and other ecological data and maintains several long-term databases on the chemical and biological features of the station and its surroundings. The Center serves as a living laboratory where many subtle, still-unfolding impacts of climate change are studied across plant, insect, and mammalian ecosystems. Calder is the only full-time ecological research field station in the New York metro area and one of the very few in North America near a major urban center.

Fordham has a number of programs across its nine schools that can make unique contributions to the Renewable Nations Institute consortium. With existing strengths in ecology and environmental science, Fordham is developing a new undergraduate major in environmental sustainability. Fordham's computer-science faculty, with expertise in machine learning and data science, can contribute to advanced modeling of massive climate data sets. The Law School publishes the Fordham Environmental Law Review, which explores a broad range of domestic and international environmental issues as well as social policy issues. The Gabelli School of Business has integrated social innovation and sustainable business into its curriculum. In fact, Fordham is one of only 37 universities worldwide chosen by the United Nations as a model of responsible management education, and one of only 42 universities worldwide designated a "Changemaker Campus" by the global social innovation organization- Ashoka. The Foundry is Fordham's hub for innovation and entrepreneurship, where students, alumni,

Fordham's Science and Technology Entry Program (STEP) was honored with the 2021 Inspiring Programs in STEM Award from INSIGHT Into Diversity magazine, which recognized STEP for encouraging students from underrepresented groups

to consider careers in STEM. Fordham's Center for Community Engaged Learning builds bridges between the University campuses and neighboring communities. Fordham's Graduate School of Education trains future teachers and administrators for K-12 education and will help integrate the Governors Island outreach efforts into NYC public schools. Leveraging its strong arts programs on the Lincoln Center campus, Fordham will develop creative ways to involve the NYC performing arts, visual arts, and fashion design communities in bringing greater public awareness and engagement in forging equitable climate solutions for our region and the world.

Fordham is both grounded in New York City and interconnected to a vast global network of 189 Jesuit Higher Educational Institutions, including 27 Jesuit colleges and universities in the United States. Many of these sister Jesuit institutions are located in major urban centers (including Boston, Chicago, Denver, Los Angeles, Washington DC, Baltimore, New Orleans, San Francisco, Seattle, Philadelphia, Detroit, Tokyo, Buenos Aires, Rio de Janeiro, Toronto, Santiago, London, Paris, Munich, Bangalore, Mumbai, Rome, Nairobi, Mexico City, Lima, Manila, Seoul, Madrid, and Taipei), giving Fordham the unique opportunity to translate and scale research conducted on Governors Island into urban settings around the world, and to host scholars from partner institutions from every corner of the globe.

Fordham also enjoys an ongoing research and education collaboration with the Bronx Zoo/Wildlife Conservation Society and the New York Botanical Garden, two world-renown institutions in the Bronx that are working to mitigate the impacts of climate change on natural habitats.



Illinois Institute of Technology: Wanger Institute for Sustainable Energy Research

Chicago, Illinois

Illinois Institute of Technology's entry into the energy arena can be traced to the 1940s, when Illinois Tech first developed a formal affiliation with the Institute of Gas Technology, establishing the gas engineering graduate program and launching joint energy-related research. This arrangement continued until 1985, when the IGT phased out its gas engineering program and, at the same time, the Gas Research Institute, provided funding to Illinois Tech's Department of Chemical Engineering to attract new faculty to energy related areas.

Illinois Tech benefactor and trustee Ralph Wanger provided funding to further enhance the scope of energy and sustainability research activities at Illinois Tech. The Wanger Institute for Sustainable Energy Research (WISER) is now positioned within the organizational structure of Illinois Tech to fully integrate energy and

Programs Offered & Leadership

Energy Technology Program
Wanger Institute for Sustainable Energy Research

Galvin Center for Electricity Innovation

CSMART (Center for Smart Grid Applications, Research, and Technology)

SPIKE (Spearheading Poverty Inhibition through Klean Energy)

Primary Contact

Hamid Arastoopour,
Director, Henry R. Linden
Professor of Engineering

sustainability across the university ecosystem of colleges and research institutes.

The mission of WISER is to continue to: play a major role in Illinois Institute of Technology (IIT) academic activities by creating a culture of excellence, innovation, and diversity, and developing state-of-the-art research, education, and outreach programs; improve IIT's visibility and reputation; support IIT's Strategic Plan; and attract high-caliber and diverse faculty members and students, major interdisciplinary grants, and philanthropic funds to IIT.

The WISER will contribute to the partnership in three critical areas: (i) accreditation; (ii) internship supervision; and (iii) expanding multi-institutional collaboration.

As the leading U.S.-based sustainable energy institute in the partnership, Illinois Tech will be the primary U.S. accredited academic institute governing the transfer of academic credit across participating higher education institutions (the "HEIs") through the mechanism of a master articulation agreement. This role is anticipated to be shared with a New York State- and/or New York City-based public institution as HEI member participation in the Consortium expands.

The WISER goals include broadening the curricula by introducing interdisciplinary education in energy and sustainability, with a continuing focus on interdisciplinary, cross-sectoral, large-scale innovative research at the graduate level, and student participation in research and interprofessional and entrepreneurial team projects at the undergraduate level. These goals are consistent with the proposed Productivity-Centered, Work-Learning-Service internship model proposed for the Center for Climate Solutions at Governors Island.

Expanding Multi-Institutional Collaboration: The WISER is an active member in the emerging University Energy Institute Collaborative (the "UEIC"), a first-of-its-kind partnership of U.S. university-based energy institutes launched in September 2019 by the Wilton E. Scott Institute for Energy Innovation at



Carnegie Mellon University and the Payne Institute for Public Policy at the Colorado School of Mines with the vision of supporting to address the critical challenges facing America's energy systems and support a low carbon and just energy future.

Partners include over 150 energy institutes and a network of energy experts from around the world working together to inspire meaningful research, engage scholarship, inform regional and national policy, impact decision-making, and re-imagine energy education to be ready to create the future of energy systems.

The WISER will work with the UEIC leadership team to expand the participation of collaborating HEIs at the Center for Climate Solutions at Governors Island to include UEIC partner institutions.

The WISER has cemented a multi-disciplinary, cross-sectoral approach to education and research for sustainability that is now the hallmark of Illinois Institute of Technology. Illinois Tech is now positioned to make key contributions to the advancement of national and global energy and sustainability education, research, development economic, and policy issues at the Center for Climate Solutions at Governors Island.



Okinawa Institute of Science and Technology

Onna, Okinawa, Japan

The mission of OIST is to conduct internationally outstanding education and research in science and technology, and thus contribute to the sustainable development of Okinawa, and promote and sustain the advancement of science and technology in Japan and throughout the world.

OIST attracts leading researchers from Japan and abroad to conduct high-quality research, advance the development of a world-class research hub, and nucleate a knowledge cluster that will catalyze technology transfer and industrial innovation in Okinawa and throughout the world. OIST has 1024 employees from 58 countries and territories. As of September 2021, OIST has 248 PhD students from 47 countries and territories. Over half of the faculty and students are recruited from outside Japan, and education and research are conducted entirely in English. The graduate school accepts less than 100 students per year.

Programs Offered & Leadership

The Energy Materials and Surface Sciences Unit

The Integrated Open Systems Unit

OKinawa Environmental Observation Network (the "OKEON") / Churamori Project

The Biological System Unit

Okinawa Institute of Science and Technology Foundation, Inc.

Primary Contact

David Janes, President, The OIST Foundation

OIST facilities are developed based on international standards with concepts that address the goals and practices achieved by model institutions. The OIST campus is host to 82 research units that take a cross-disciplinary approach to research. The PhD program encourages students to explore the intersections of disparate fields of science and technology including: Physics; Chemistry; Neuroscience; Marine Science; Environmental and Ecological Sciences; Mathematical and Computational Sciences; Molecular, Cellular, and Developmental Biology; and Engineering and Applied Science.

OIST is structured without departments to promote cross-disciplinary fields of research among the core disciplines. The foundational model for the design of cross-disciplinary laboratory buildings at OIST, Foundational Model for the Design Cross-disciplinary Laboratory Buildings, below, has the flexibility to be used by any of the core disciplines or by the cross-disciplinary research. This model has been incorporated into all existing lab buildings and will continue to remain the model for the future buildings, with necessary adjustments or improvements made to reflect advancements in OIST's fields of research or in the design of laboratory buildings worldwide.

OIST has quickly transformed itself from the small research institute founded in 2004 into a research university with more than 1,100 staff focused on the central vision of its founders to contribute to the advancement of science and technology in the world. The OIST research footprint extends globally with research partnerships at 156 university-base research hubs in 29 countries across 6 continents.

The OIST is committed to programs, research, and projects focused on nature, the environment, and climate. U.S.-Japan cooperation on these issues is of paramount importance to the future of the Earth and to societies around the globe. To deepen its commitment to U.S.-Japan relations, the OIST has established the Okinawa Institute of Science and Technology Foundation, Inc. (Irvington, NY) with the mission to empower Americans to support

sustainable development for our two culturally diverse nations. The OIST Foundation aims to promote and sustain innovative global scientific breakthroughs through science and technology education and research partnerships at Governors Island, throughout the United States, and in 29 countries across 6 continents where OIST maintains a network of 156 active research partnerships.

In collaboration with our Co-Principal Anchor Institutions — the Illinois Institute of Technology (the "IIT" or "Illinois Tech") and the United Nations Educational, Scientific and Cultural Organization (the "UNESCO"), OIST is positioned to further support the growth of university-based sustainable energy education and research in the U.S. across an emerging consortium of energy institutes, and to promote the development of a vast global network of Center for Climate Solution "hubs" to accelerate innovative global scientific breakthroughs for solutions to the climate crisis.

In the Phase 1 development concept proposed in this Expression of Interest, OIST brings critical development, management, operations, and fundraising capacity to support the Action-based, Project-led applied research. Phase II development of up to 4.5 million square feet of new research facilities on Governors Island is similar in scope to OIST's planned expansion from 82 to 300 research laboratories by 2030. OIST is prepared to oversee Phase II planning at Governors Island in an integrated approach to achieve global impact.



New York Institute of Technology

New York, New York

New York Institute of Technology has been ranked #1 in 2020 by 24/7 Wall Street/ USA Today for the most diverse student body among Colleges and Universities in the United States based on equitable access, diversity and employability outcomes. The School of Architecture and Design (SoAD) at New York Tech delivers a unique 21st-century technology-infused design education at our two campuses in New York City and Long Island. We offer innovative and specialized undergraduate and graduate degrees in Architecture, Architectural Technology, Digital Art and Design, Interior Design, Urban and Regional Design, Computational Technologies, and Health and Design. SoAD has graduated more licensed architects in New York State than any other architecture school.

Diversity and Inclusion: Our school welcomes diversity, fosters equity and promotes a meaningful culture of inclusion. With almost 70% of the student population composed of Hispanic, African American, Asian and a variety of

Programs Offered & Leadership

Bachelor of Architecture,
Bachelor of Science in
Architectural Technology,
Bachelor of Fine Arts in Interior
Design, Digital Art & Design.
Master of Architecture; MS.
in Architecture, Urban and
Regional Design; MS. in
Architecture, Computational
Technologies; MS. in
Architecture, Health and
Design.

Primary Contact
Farzana Gandhi

other International students, the SoAD embraces and supports diversity of beliefs, ethnicity, culture and gender, considered crucial to reinforce creative processes and critical thinking in a proactive dialogue involving both students and faculty. Diversity and inclusion characterize student and faculty population at the SoAD, and are also fostered through curricular projects of research and design. These bring students and faculty to proactively operate nationally and globally with communities in need in marginalized areas and vulnerable environments affected by natural disasters, social, ecologic and economic inequities.

Actionable and Scalable Applied Research + High Impact Experiential Service Learning:

A dynamic and collaborative studio culture and a focus on experimentation, applied research and learning by making which generate knowledge, tools, and theories, are the keys for an inspiring environment at the SoAD. Variety and mutual understanding are the cornerstones of the student experience, where self-expression and differences in ideas can thrive. Studio-based education promotes healthy and productive collaborations, critical thinking, and global citizenship. In an era of climate change and global urbanization, SoAD graduates acquire advanced skills and expertise to address the many challenges facing architects and designers, becoming critical respondents of issues concerning energy, waste, infrastructures, and circular economies. Reaching beyond the classrooms, New York Institute of Technology offers opportunities for projects of international cooperation and experiential learning through Exchange Agreements with International Universities and design-build initiatives such as the Student Led Architecture Building Program (S-LAB). Global Outreach and Impact: New York City is at once a unique metropolitan host for the SoAD local projects and collaborative initiatives, and a springboard for a global perspective towards architecture and design. International projects, participation to prestigious Exhibitions, such as the 17th Architecture Venice Biennale with “Resilient Communities,” design competitions, traveling studios, and worldwide study abroad programs are only few

examples of the SoAD outreach.

Social Impact Design in Vulnerable Communities: SoAD is committed to engaging students and faculty in community-driven and social impact design to tackle real-world problems. Through the undergraduate and graduate curriculum, SoAD students have been at the forefront of public and community design initiatives, working on multiscale design-built interventions, climate-responsive proposals, and high-impact projects engaging local and global communities. The ongoing R-CUBED: Relief x Reconstruction x Resiliency initiative critically considers the role of academia within community-based disaster relief projects, providing an experimental learning environment for students across disciplines while participating in current, pressing social and environmental research. Projects and initiatives include Modular Infrastructure Construction in Puerto Rico to build a storm station; Building Resilient Communities, that expands the boundaries of traditional classrooms to improve a section of Harlem, NY; Emergency Cores to help with post-hurricane recovery effort in Puerto Rico; Refugee Housing in Germany; Hurricane Sandy Displaced Housing in NYC; and the “Housing Density” exhibition on affordable housing in New York.

Student Engagement: SoAD student associations such as the American Institute of Architecture Students (AIAS) and the National Organization of Minority Architects (NOMAS) are very active in organizing opportunities for dialogue among all students and across generations of professionals in the field, to promote awareness towards issues that will shape our future society. SoAD students are prepared to positively embrace and promote the change, to feel an active part of it, working towards a more resilient future that promotes a culture of cooperation and dialogue.

Academic Programs + Multidisciplinary

collaborations: At SoAD, students are equipped with skills and expertise to work collaboratively across disciplines offering their personal and professional involvement in forming a more equal and sustainable



University of Florida

Gainesville, Florida

The University of Florida has 3 unique and impactful programs that would add great value to the Governor's Island Climate Center. All 3 are at the cutting edge of collaborative innovation and address climate-related threats to our health and well-being. These can be part of innovation labs around food security, circular systems innovation, and educational opportunities.

Circular systems are not a new idea—they are based on nature. Waste does not occur in nature. One organism's waste is another organism's food, and nutrients and energy flow in closed-loop cycles of growth, decay, and reuse. In contrast to circular systems, our current linear Food and Agricultural Systems do not include mechanisms for waste recovery and productive reuse. This "looping" of resources, as described by the Ellen MacArthur Foundation, can guide the design and development of future FAS. Studies in Europe show that the make-use-reuse-remake- recycle path of circular systems, as shown on the right in the figure below, can capture the resources that are embedded in byproducts, mimicking the zero-waste efficiency of natural systems.

Programs Offered & Leadership

Agricultural Model Intercomparison and Improvement Project (AgMIP)
Institute of Food and Agricultural Sciences

Primary Contact

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Transforming Food and Agriculture to Circular Systems economies keep products and materials in use, regenerate natural resources, drastically reduce waste and pollution, and increase economic value. However, to ensure their reliability for human societies, circular systems must be resilient and be able to function during unexpected events (such as a global pandemic) as well as during expected challenges (such as pest outbreaks and extreme weather). Developing circular FAS for a wide range of products, practices, and conditions will require a convergence of disciplines, practitioners, and agencies. An important goal of the study is to make recommendations for transitioning to circular systems that can double food production by 2050 without the need for additional freshwater, arable land, or other natural resources, mostly eliminating non-renewable energy use, and protecting the health of ecosystems.

Since 2010, the **Agricultural Model Intercomparison and Improvement Project (AgMIP)** community of experts has been advancing methods for improving predictions on the future performance of agricultural and food systems. AgMIP has advanced widely used tools and protocols for harmonized analyses of agricultural systems using the best available models. It has also advanced new methods to integrate stakeholder-informed scenarios into global and regional assessments of current and future agriculture and food systems outlooks given changing climate and other stresses. Stakeholders and Researchers regularly use the AgMIP tools, methods, and projections to advance their work.

The name AgMIP emphasizes the importance of inter-comparison for learning about models and for improving their components. Initial studies on wheat, corn, and rice systems, as well as economics have resulted in multiple-author, high-impact papers. This work is now motivating research that links agriculture and land use, nutrition, shocks, and many other related topics, with active participation of about 1,000 agricultural modelers and stakeholders worldwide.

The Envision Resilience Challenge, a 2021 design studio, called on interdisciplinary teams of graduate students from leading design universities to reimagine cities under the latest projections of sea level rise. Teams were tasked to create visually impactful designs and propose adaptations and innovations that will enable coastal communities to envision what futures under sea level rise and climate impacts may look like. The teams have weekly lecture series with renowned experts in relevant fields then work with local advisors with expertise in conservation, public works, real estate, architecture, historic preservation, natural resources, art, marine biology, fisheries, civil engineering, science, and transportation to form insights and narratives of community residents for context and inspiration. This learning experience has been described as the future of education.





University of North Texas

Denton, Texas

UNT is a student-focused, public, research university located in Denton, Texas. As one of Texas' largest universities, we offer 105 bachelor's, 88 master's and 37 doctoral degree programs within the university's 14 colleges and schools.

The Department of Learning Technologies focus is to enhance learning and performance through innovative research, teaching, and service focused on, but not limited to: learning technology, information, language, and computing technologies to advance learning, training, cognitive development, and human performance.

Programs Offered &
Leadership

College of Information
Department of Learning
Technologies

Institute for the Integration of
Technology into Teaching and
Learning

Primary Contact
Gerald Knezek





University of Idaho

Moscow, Idaho

The partnership between Chemical and Biological Engineering and Mechanical Engineering has a long history of energy engineering. The department is a pioneer in biofuel research, particularly biodiesel and ethanol. The biodiesel research at this department started in 1979 and plays a crucial role in making it a commercial fuel today. The department has ten years of experience with the Industrial Assessment Center covering five western states, Alaska, Washington, Oregon, Idaho, and Montana. In addition, the university has an 8,000+ sq. ft. biofuel research facility and instrumentation for a range of energy auditing tools.

The Mechanical engineering department also has a long history in research with sustainable engineering, including lean manufacturing. In addition, Steve Beyerlein, one of the professors in the department, has an extensive connection with industries. The university has a lofty goal of going carbon neutral by 2030. To meet this goal, there is a program in place such as Sustainability Center, making and using biodiesel from campus dining waste oil.

Programs Offered &
Leadership

Chemical &
Biological Engineering
Mechanical Engineering

Primary Contact

Dev S. Shrestha
Steven Beyerlein





University of Pennsylvania

Philadelphia, Pennsylvania

The University of Pennsylvania Stuart Weitzman School of Design prepares students to address complex sociocultural and environmental issues through thoughtful inquiry, creative expression, and innovation. As a diverse community of scholars and practitioners, we are committed to advancing the public good—both locally and globally—through art, design, planning, and preservation.

In the spirit of Ian McHarg's renowned philosophy for "Designing with Nature," the Center's mission is to build on the Weitzman School's position as a global leader in urban ecological design by bringing environmental and social scientists together with planners, designers, policy makers, and communities to develop practical, innovative ways of improving the quality of life in the places most vulnerable to the effects of climate change.

Ian L. McHarg (1920 - 2001), professor and chair of landscape and regional planning at the University of Pennsylvania, was arguably the most important environmental planner and landscape architect of the 20th century. Through his

Programs Offered & Leadership

Weitzman School of Design
The Ian L. McHarg Center for Urbanism and Ecology
The Environmental Modeling Lab (EMLab)

Primary Contact

Billy Fleming

writings and teaching, McHarg brought the sciences and the arts together to develop innovating planning and design techniques for improving the relationship between human nature and designed ecology.

In recognition of McHarg's legacy, the department of landscape architecture at Penn is establishing The Ian L. McHarg Center for Urbanism and Ecology, a nexus of research, teaching, and advocacy for improving the relationship between cities and their landscapes, and processes of urbanization and ecosystems. The Center's official launch will be part of Design with Nature Now, an international symposium to be held in Philadelphia in 2019, marking the 50th anniversary of McHarg's magnum opus, Design with Nature.

The center focuses on the following four sectors of research: Biodiversity, Public Realm, Climate Policy, and EMLab.

Biodiversity is a recently coined term signifying not only the sum total of life on earth but its genetic diversity as a key factor in the resilience of ecosystems.

Public Realm As the world population continues to grow, an ever increasing number of people are predicted to live in urbanized or urbanizing areas.

Climate policy will not be understood by most people through changes in the density of carbon molecules in the atmosphere or the source of the electrons in one's circuits. Rather, it is the buildings, landscapes, and public works that stitch together everyday life where fights over climate adaptation and mitigation will be won or lost. As such, we view investments in the built and natural environment as a key instrument through which to imagine and construct the kinds of alternative futures described in programs like the Green New Deal, the Just Transition, and other redistributive climate policy frameworks.

The Environmental Modeling Lab (EMLab)

The EMLab is an applied research unit of the Weitzman School of Design's McHarg Center, specializing in the analysis, simulation, and visualization of environmental systems.





Vermont Technical College

Randolph, Vermont

Vermont was the first state in the nation to mandate funding for public education. In 1806, the Orange County Grammar School was founded on what is now the main campus of Vermont Technical College (the "VTC" or "Vermont Tech") at Randolph Center, Vermont. After 60 years at the Grammar School, this location was chosen to become the state's first normal school for the purpose of educating teachers, again by legislative mandate. About the same time, the University of Vermont (the "UVM") was appointed "land grant" college status for the purpose of teaching a practical agriculture curriculum. After 25 years of never granting a degree in agriculture from the UVM, the Vermont State Grange pressed for the development of a state agriculture school focused on the practical application of agricultural education. Thus, the Vermont School of Agriculture (the "VSA") was born in 1910 at the Normal School site.

In response to evolving educational needs of Vermont's agricultural workforce due to "a mechanical revolution in Vermont agriculture," technical courses were added to the offerings of the VSA in 1957. The institution was also given a new

Programs Offered &
Leadership

Work-Learning-Service
Internship Pilot program
Work-College Consortium
Internship Program

Primary Contact
Patricia Moulton

name — Vermont Agricultural and Technical Institute (the “VATI”) — reflecting this expanding mission. Today, Vermont Tech is now part of the Vermont State Colleges System (the “VSCS”) that includes Castleton University, Northern Vermont University, and the Community College of Vermont. The college now offers collegiate-level programs in agriculture, business, engineering technologies, applied technologies, health professions, and hosts one of the nation’s leading programs in renewable energy technologies.

Over more than two centuries of change, the educational mission of what is now Vermont Tech has remained remarkably consistent: “To provide career-focused technical and professional education in a caring community which prepares students for immediate workplace success and continued learning.”

Climate Mitigation Research and Education
In Spring Semester of 2021, in response to the United Nations Secretary-General’s Call-to-Action to address the COVID-19 Pandemic, Vermont Tech and the Renewable Nations Institute (the “Institute”) collaborated on a pilot project to demonstrate the efficacy of Work-Learning-Service to provide cost-effective, accurate and timely technical assistance, capacity building and decision support services for multi-sector stakeholders engaged in national-level healthcare facility electrification project planning in the developing world.

The 2021 MEC 4722 Renewable Energy Capstone Project provided undergraduate students at Vermont Tech with the opportunity to gain knowledge in off-grid renewable energy systems for healthcare facility electrification in deep-rural communities across the developing world in the context of multi-lateral donor planning for the emerging global Health and Energy Platform of Action (HEPA) of the World Health Organization (WHO).

Role in the Consortium

Vermont Tech will initially provide two critical roles in the Center for Climate Solutions at Governors Island



in collaboration with the Renewable Nations Institute:

- Host the immediate launch of an expanded Work-Learning-Service Internship pilot program at the VTC Randolph Center campus with an initial targeted enrollment of a cohort of 100 students. Building on the lessons learned in the 2021 MEC 4722 Renewable Energy Capstone Project, expanded Work-Learning-Service Internship pilot program will additionally serve as a professional development resource center for replication across the 120 higher education institutions (the “HEIs”) in New York City in advance of occupying a repurposed Liggett Hall as a permanent Work-Learning-Service Internship training center; and
- Provide the multi-lateral donor community and multi-sector stakeholders in developing countries with critical data as to the efficacy of a Work-College Consortium internship program to provide cost-effective, accurate, timely and scalable EERE project development and decision support services for deep-rural healthcare facility electrification.



Yale University

New Haven, Connecticut

The Yale Urban Design Workshop and Center for Urban Design Research (YUDW) is a community design and research center based at the Yale University School of Architecture. Since 1992, the YUDW has worked with communities and organizations across Connecticut and globally, providing planning and design assistance on projects ranging from comprehensive plans, economic development strategies and community visions, to the design of public space networks and individual community facilities. Using a blended design and applied research methodology, the YUDW's core mission is to develop and promote integrated urban design strategies that make neighborhoods, cities, and regions more livable, sustainable, adaptable, healthy, and just, while building on their unique values, history, and character.

The YUDW is committed to an inclusive, community-based process, grounded in broad citizen participation and a vision of the design process as a tool for community organizing, empowerment, and capacity-building around positive change. Collaboration is a hallmark of YUDW projects—not only with clients and

Programs Offered & Leadership

The Yale Urban Design Workshop and Center for Urban Design Research

The Yale University School of Architecture

Primary Contact

Alan Plattus

stakeholders, but with other Yale departments, and regional, national and international partners. Within Yale, collaboration with Professional Schools like Environment, Law, Medicine, Nursing, Public Health, and Management, and with institutes like the Center for Climate Change and Health and Urban Resource Initiative allow us to draw on a broad range of expertise and experience, and facilities. Externally, regional and local partnerships like those with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA), Connecticut Departments of Housing (DOH) and Energy and Environmental Protection (DEEP), New Haven CityPlan, the Dwight Central Management Team (DCMT), and the Greater Dwight Development Corporation (GDDC), and international partnerships including the Gothenburg City Planning and Climate Transition Office, Älvstranden Utveckling AB, Chalmers Institute of Technology, and EcoPeace Middle East, allow us to draw on best practices from around the world, and to contribute to a wide range of real-world projects, and to impact urban development and policy at many scales. Work of the YUDW with these partners and others has been published internationally and has been recognized with design and planning awards from the American Institute of Architects and the American Planning Association.

As a clinical practice of the School of Architecture, Workshop projects are led by teaching faculty of the School and staffed by graduate-level professional students and Postgraduate Fellows, and may also include Yale College undergraduates and professional students from other schools. The Workshop maintains an off-campus studio with extensive urbanism and architecture library, conference area, and state-of-the-art computer cluster on Chapel Street in New Haven's Dwight neighborhood, two blocks from the School of Architecture.

In 2021, Yale University committed to reaching net zero emissions by 2035 and achieving zero actual carbon emissions by 2050. Net zero will be attained by reducing campus emissions to 50% of 2005 levels and purchasing high-quality verifiable carbon offsets. Zero actual carbon emissions will be accomplished

by fully minimizing campus emissions. To achieve these goals, Yale is reducing energy use in buildings through conservation and efficiency, adhering to sustainable construction and renovation standards for buildings, increasing efficiency in Yale's on-campus power plants, and promoting behavioral shifts by campus users.

As a core value, and more recently as a signatory of US Architects Declare, YUDW has committed to raise awareness, actively research, advocate for, and incorporate climate change mitigation and adaptation strategies in all its research and planning work. Among other major efforts in this arena, from 2012 - 2020, YUDW acted as a strategy consultant and urban designer in a multidisciplinary team that helped Bridgeport, Connecticut secure and execute the \$52 million Rebuild By Design and National Disaster Resilience competitions. In this project, YUDW proposed and designed new ways to integrate storm surge and stormwater management infrastructure with the public realm, leveraging disaster recovery funds to promote increased environmental justice and equity, community resilience and connections, while making Bridgeport a safer, more attractive, and more livable place.

As a partner of the Governors Island Center for Climate Change Solutions, the Yale Urban Design Workshop will take an active role in collaborating with other partner members in programs, projects and education that mobilize our expertise in design-based research on coastal adaptation, community engagement in climate change projects, and the layering of urban morphology, history, ecosystems and geography through urban and architectural design and design thinking. As an extension of the Yale community, the YUDW will also take an active role connecting Yale's resources, including programs, institutes, faculty, students, alumni, and curricula, to other partners and projects within the Center.

Section 6:

Resumes



The Respondent Team

The Respondent Team consists of representatives of an unincorporated association (the “Consortium”) of higher education institutions (the “HEIs”) and other multi-sector stakeholders structured as a Low-profit Limited Liability Company (the L3C”) herein referred to as the “Company.” The Company, representing the Consortium, is the Respondent. Additional university consortium board members will be added. The Initial Manager of the L3C has appointed the following Managing-Managers and Directors by recommendation of the Consortium members:

Managing-Managers / Officers

Co-Principal Members

Allan E. Baer, Initial Manager / Chairman

Representing: The Renewable Nations Institute

Role: President and Chief Executive Officer

Bill Struever, Managing-Manager / Vice President

Representing: Cross Street Partners

Role: Principal, Chief Executive Officer

David Janes, Managing-Manager / President

Representing: Okinawa Institute of Science and Technology Graduate University

Role: Senior Advisor to the President for Institutional Development

Zahra Amirzada, Managing-Manager / Vice President

Representing: United Nations Educational, Scientific and Cultural Organization

Role: Programme Assistant

Directors

Non-Co-Principal Members

Patricia Moulton, Manager / Secretary – Treasurer

Representing: Vermont Technical College

Role: President

Krishna Pakala, Ph.D., Director

Representing: Boise State University

Role: Director, CEERI Industrial Assessment Center

Edwin Welles, Director

Representing: Deltares

Role: Director, Deltares USA and Canada (DUSA)

Thomas Hark, Director

Representing: Civilian Conservation Corps, USA

Role: President & Chair

Gerald Knezek, Ph.D., Director

Representing: University of North Texas

Role: Institute for the Integration of Technology into Teaching and Learning

Dev Shrestha, Ph.D., Director

Representing: University of Idaho and the CEERI Satellite Industrial Assessment Center

Role: Director

Alden A. Hathaway, P.E., Director

Representing: Pond

Role: Program Director, Power and Renewable Energy

Hamid Arastoopour, Ph.D., Director

Representing: Illinois Institute of Technology & the Wanger Institute for Sustainable Energy Research

Role: Director

THE LOW-PROFIT, LIMITED LIABILITY COMPANY

Renewable Nations Institute, L3C

Understanding the L3C as a business entity, the L3C as a respondent to the Request for Expression of Interest, and the L3C as an Anchor Education and Research Institution is critical to all prospective consortium members, prospective L3C members, and to the City of New York and the Trust

What is an L3C?

An L3C is a legal form of business organization based on the framework of Limited Liability Company (LLC) statutes. A Limited Liability Company (LLC) is a business structure allowed by state statutes in all 50 U.S. States. Owners of an LLC are called members. Most states do not restrict ownership, so members may include individuals, corporations, other LLCs and foreign entities. There is no maximum number of members. Depending on elections made by the LLC and the number of members, the IRS will treat an LLC as either a corporation, partnership, or as part of the LLC's owner's tax return (a "disregarded entity").

The L3C differs from an LLC in that an L3C is organized for a business purpose that satisfies and is at all times operated to satisfy each of the following requirements: (i) it significantly furthers the accomplishment of one or more charitable or educational purposes within the meaning of Section 170(c)(2)(B) of the Internal Revenue Code of 1986, 26 U.S.C. § 170(c)(2)(B); and (ii) it would not have been formed but for the company's relationship to the accomplishment of charitable or educational purposes.

The Renewable Nations L3C will not have been formed but to serve the educational and research

mission of the consortium members, specifically its university-based and other non-profit members. Approximately 21.6 million LLCs have been formed in the U.S. By contrast, only 2,015 L3Cs have been formed across nine states and two tribal nations

Governance

An L3C is legally required at all times to be governed by its members under an Operating Agreement. However, members may elect to appoint managing-managers and/or a board of directors to manage the operations of the L3C and/or set policy. To legally establish operational authority to managing-managers, the L3C must declare in its Articles of Organization to state regulatory bodies its preferred operational authority as "Member-managed" or "Manager-managed." Note: In a manager-managed L3C members may also be managing-managers; Managing-managers are not permitted in a member-managed L3C

Financial Liability

Like shareholders of a corporation, all LLC owners (the members) are protected from personal liability for business debts and claims. This means that if the LLC or L3C itself can't pay a creditor—such as a supplier, a lender, or a landlord—the creditor cannot legally come after a member's assets, hence the term "Limited Liability." Managing-managers and directors accrue no financial liability.

The Renewable Nations L3C

The Renewable Nations L3C will be a manager-managed L3C in which members may participate as managers. There are no members in the Renewable

Nations L3C at this time. State statutes permit an initial-manager to establish a member-managed L3C and solicit members under regulatory authority of the U.S. Securities and Exchange Act of 1933. To govern a manager-managed L3C in the absence of members, the initial-manager may appoint managing-managers and a board of directors. The managing-managers and board of directors in the Renewable Nations L3C will at all times be sourced from multi-sector members of the consortium, unless otherwise determined by authority of the members.

The Renewable Nations Institute has appointed its President and Chief Executive Officer as founder and the initial-manager of the Renewable Nations L3C. The initial-manager is appointing additional managing-managers to negotiate with the City and the Trust, and a Board of Directors to align the policies of the L3C with the mission of consortium members. Note that at any time, consortium members may elect to become members in the L3C, and thus have greater authority in L3C operations and management. However, the purpose of the L3C as respondent to the Trust is to protect consortium members from liability and to allow the focus consortium members to be centered on issues related to education and research.

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Allan E. Baer

Initial Manager / Chairman

Representing:

The Renewable Nations Institute, President and Chief Executive Officer

Allan Baer has been a California licensed general contractor since 1977 and has held a specialty license in solar energy since 1978. Since 1980, he has collaborated with higher education institutions (HEIs), national and state governments, civil society organizations, and private industry to develop projects ranging from energy-efficient, low-income and affordable housing, non-profit medical facilities, and energy efficiency renewable energy (EERE) retrofits. In addition, he has constructed EERE projects across the U.S. and the developing world in collaboration with the White House (Clinton Administration), the United Nations, and the World Bank Group.

Since 2007, Allan has been tasked by the United Nations Development Programme (UNDP) to establish the Renewable Nations Institute as a Work-College consortium to accelerate the rate at which the global education sector can collectively develop an energy services workforce with the capacity to transition the world to a low-carbon economy with reliance primarily upon EERE technologies.



David Janes

Managing-Manager / President

Representing:

Okinawa Institute of Science and Technology Graduate University Senior Advisor to the President for Institutional Development, Senior Advisor

David Janes leads OIST's development efforts in the United States and assists OIST in connecting to the U.S.-Japan world. Aiming to be the world's best science and technology university and one of the most innovative educational institutions, OIST is poised to help with the sustainable development of Okinawa, with scientific research in Japan, and contribute to science and technology knowledge globally. Previously, Mr. Janes was Director of Foundation Grants and Assistant to the President at the United States-Japan Foundation, where he led the Foundation's multi-million dollar grant-making program and served as the public face of the Foundation to potential and current grantees in the U.S. and Japan. He served at the Foundation for nearly 18 years and managed over 100 active grantees annually and had key responsibility for fiscal and programmatic oversight of these organizations' grant-related programs. Mr. Janes is a Council Leader and a member of the USJC Program Development Committee.



Bill Struever

Managing-Manager / Vice President

Representing:

Cross Street Partners, Principal, Chief Executive Officer

Mr. Struever is responsible for the company's master planning business, real estate development, sustainable development practices, and strengthening public/private relationships.

"We are blessed with great projects and partners that keep us at the leading edge of what's exciting in the continuing renaissance of America's cities. Through our work with urban university related research parks, we've travelled America seeing the coolest spots, listening to the best and brightest and learning. We take great joy in connecting together great people and ideas to create magical, high energy places that celebrate our cities."

Bill Struever is a visionary real estate pioneer who has spent his entire career finding creative ways to reimagine urban properties. In 1974 Mr. Struever founded a company that would become Struever Bros. Eccles & Rouse. The nationally-acclaimed development, construction and property management company's legacy was to adapt and reuse economically obsolete industrial buildings and reclaim underproductive urban Brownfields. Struever has played a key role in sustainable development through his passion, creativity and commitment to rebuilding cities.

Bill Struever was the driving force behind community revitalization efforts that bolstered entire neighborhoods and extended beyond individual projects. Struever played a key role in sustainable development through his passion, creativity and commitment to rebuilding cities. His vision is to lead the country in Green urban revitalization, setting new LEED certified standards for all new projects.

Mr. Struever has received numerous awards for his business leadership and devotion to urban communities, education, the environment, and arts. Recently, he accepted the prestigious Urban Land Institute's Award of Excellence for the preservation and redevelopment of Clipper Mill in Baltimore, Maryland. Bill Struever has a Bachelor of Arts in Urban Anthropology from Brown University.



Zahra Amirzada

Managing-Manager / Vice President

Representing:

United Nations Educational, Scientific and Cultural Organization, Programme Assistant

Zahra Amirzada is an international project manager for Disaster Risk Reduction and Resilience. She was the lead science coordinator at Heidelberg University's Centre for the Environment for a global research initiative on climate change adaptation. With a specialization in experimental and numerical modeling of natural hazards, she has worked at the Helmholtz Laboratory for Tectonic Modelling at the German Research Centre for Geosciences and Utrecht University's Rock Mechanics Laboratory. Zahra currently coordinates UNESCO's contributions to H2020 projects within the Natural Sciences Sector.



Patricia Moulton

Managing-Manager / Secretary - Treasurer

Representing:
Vermont Technical College, President

Pat had been serving as the Interim President since September of 2016. Before joining Vermont Tech, she served as the Secretary of the Agency of Commerce and Community Development. As Secretary, she facilitated the expansion of many Vermont companies, helped attract new companies, assisted in rebuilding Vermont after Tropical Storm Irene and helped create the nation's first statewide comprehensive economic development strategy (CEDS) that has led to millions in federal grants for the state of Vermont.

Immediately prior to serving as Secretary, Pat was Executive Director of the Brattleboro Development Credit Corporation (BDCC), a non-profit, regional economic development corporation in southeast Vermont. Pat started with BDCC in February 2013 as Director of Workforce Development with the plan of transitioning to Executive Director.

Prior to returning to regional economic development work, Pat served as Deputy Secretary and Director of Economic Development for ACCD under Governor Shumlin. Prior to that appointment, Pat served for a short time as the Vice President of Public Affairs at the Vermont Chamber of Commerce. Pat was appointed Commissioner of the Vermont Department of Labor by Governor James Douglas in 2006 where she served for four years including the difficult years of the "great recession." Prior to her position as Commissioner, Governor Douglas appointed Ms. Moulton to serve as the full-time Chair of the Vermont Natural Resources Board and its predecessor, the Vermont Environmental Board.

Before her environmental regulation and policy work, Pat spent 22 years in the practice of economic development on the local, regional, and state levels. She has worked as Executive Director of four different regional development corporations in Bennington, Windsor, Windham and Orange Counties. She also ran a local economic development office in St. Johnsbury and Lyndon, Vermont. In 1990, she was appointed Deputy Commissioner of the Vermont Department of Economic Development by Governor Richard Snelling and subsequently appointed Commissioner of Economic Development by Governor Howard Dean.



David Janes

Okinawa Institute of Science and Technology (OIST)

Senior Advisor | Institutional Development in the Office of the President at OIST

David Janes leads Okinawa Institute of Science and Technology's development efforts in the United States and assists OIST in connecting to the U.S.-Japan world. Aiming to be the world's best science and technology university and one of the most innovative educational institutions, OIST is poised to help with the sustainable development of Okinawa, with scientific research in Japan, and contribute to science and technology knowledge globally.

Previously, Mr. Janes was Director of Foundation Grants and Assistant to the President at the United States-Japan Foundation, where he led the Foundation's multi-million dollar grant-making program and served as the public face of the Foundation to potential and current grantees in the U.S. and Japan. He served at the Foundation for nearly 18 years and managed over 100 active grantees annually and had key responsibility for fiscal and programmatic oversight of these organizations' grant-related programs. Mr. Janes is a Council Leader and a member of the USJC Program Development Committee.



Mike Mitchell

Florida State University

Strategic Initiatives Manager | Office of Research at Florida State University

As Strategic Initiatives Manager at Florida State University, Mike Mitchell specializes in leading programs that leverage the research strengths of a top-20 public university to achieve societal impact. His focus areas include building new interdisciplinary teams, identifying opportunities for strategic growth, and connecting researchers and resources to advance creativity and innovation.

With nearly a decade of experience in government, academia, and the non-profit sector Mike is an expert in strategic initiatives and program development, especially in multi-stakeholder environments. Additionally, he is adept at taking these plans and turning them into funded projects, having secured over \$16 million in grant funding for his own projects as well as managing 20+ proposal teams in both research and implementation settings. This includes teams that recently secured over \$500k for the Gulf Scholars Program from the National Academy of Sciences, Engineering, and Medicine, and over \$12 million from the National Institutes of Health FIRST program.



Shannon Yee

The Georgia Technical Institute

Associate Professor | Heat Transfer, Combustion and Energy Systems at the GWW School of Mechanical Engineering

Dr. Shannon Yee is an Associate Professor at the G.W.W. School of Mechanical Engineering at the Georgia Institute of Technology. Dr. Yee joined Georgia Tech in 2014 directly from his PhD at the University of California Berkeley. In the midst of his studies, he joined the US. Dept. of Energy's Advanced Research Projects Agency for Energy (ARPA-E) during its inaugural year as the first ARPA-E Fellow. Dr. Yee completed his MS in Nuclear Engineering in 2008 and his BS in Mechanical Engineering in 2007, both from The Ohio State University. In 2008, he was awarded a prestigious Hertz Fellowship. In 2015, Dr. Yee was selected for an AFOSR Young Investigator Award to develop polymer thermoelectrics. Dr. Yee is the recipient of the 2017 ASME Pi-Tau-Sigma Gold Medal award for "outstanding contributions to the field of Mechanical Engineering in the first decade of one's career." In 2019, Shannon was selected for an ONR Young Investigator Award to develop polymer thermal switches. Most recently, Dr. Yee is directing the Generation II Reinvent the Toilet (G2RT) program supported by the Bill & Melinda Gates Foundation.



Dan Vermeer

Duke University

Executive Director | Center for Energy, Development, & the Global Environment

Widely-recognized educator, thought leader, and consultant to Fortune 500 companies on climate action, water stewardship, oceans/blue economy, risk management, and sustainability strategy. Demonstrated record of achievement in leading corporate sustainability initiatives (e.g. water strategy at Coca-Cola) and educational programs (e.g. EDGE Center at Duke University).



Dennis Jacobs

Fordham University

Chief Academic Officer | Academic Affairs at Fordham University

Dr. Dennis C. Jacobs joined Fordham University in July 2019 to serve as provost and senior vice president for academic affairs. As the institution's chief academic officer, he works to enhance Fordham's vast array of educational programs, promote high-impact research activities, and cultivate a community of distinguished teaching scholars across the University's nine undergraduate, graduate, and professional schools.

Fordham's provost is responsible for ensuring the academic quality and vitality of approximately 70 undergraduate majors and 130 graduate degrees and certificate programs. This includes overseeing the hiring, development, and evaluation of all faculty, allocating instructional resources, promoting research and community engagement, refining curricular and co-curricular elements, developing international partnerships and study abroad programs, and supporting students holistically in their academic pursuits.



Krishna Pakala

Boise State University

Assistant Professor & Faculty-in-Residence | Faculty Associate for Accessibility and Universal Design for Learning & Mechanical & Biomedical Engineering

Dr. Krishna Pakala is a Clinical Assistant Professor in Mechanical and Biomedical Engineering. He is passionate about teaching, and always on the lookout to find innovative teaching and learning strategies. Although in the past he used mostly evidence-based instructional practices, this past summer he decided to take steps to increase the peer-to-peer interaction in his classroom.

Krishna has been the recipient of the David S. Taylor Service to Students Award and ASEE PNW Section Outstanding Teaching Award. He received the Golden Apple Award's honorable mention and was nominated for the Boise State University Foundation Scholar Award in Teaching.



Hamid Arastoopour

Illinois Institute of Technology

Director | Wanger Institute for Sustainable Energy Research (WISER) at IIT

Hamid Arastoopour is Henry R. Linden Professor of Engineering and Director of Wanger Institute for Sustainable Energy Research (WISER) at Illinois Institute of Technology (IIT) in Chicago, Illinois. Since 1985, he has been a member of the chemical engineering faculty at IIT, where he served as chairman of the department from 1989 to 2003, and Dean of the Armour College of Engineering from 2003 to 2008.

He currently serves on the editorial board of Powder Technology Journal. A fellow of the American Institute of Chemical Engineers (AIChE), he has received a number of national awards including the Donald Q. Kern Award in Heat Transfer and Energy Conversion, the Fluor Daniel Lectureship in Fluidization and Fluid/Particle Systems, the Fluidization Processes Recognition Award, and the Ernest W. Thiele Award. He also received IIT's excellence in teaching award in 1992.



Farzana Gandhi

New York Institute of Technology

Associate Professor | School of Architecture and Design at NYIT

Farzana has pursued a continued agenda of community-driven, public interest work for 15 years. She brings a approach to the NYIT SoAD classroom, where her students are invited to tackle multi-layered, real-world problems. Over the years, she and her students worked with NYC and Long Island communities at various scales: from design-build installations to resilient urban design for waterfront conditions, while traveling and designing for social and climate issues across the globe.

Working hand-in-hand with communities, students build, prototype, and implement innovative solutions in the field. Within the context of this broader research, Farzana has focused more specifically on studying the challenges and the efficacy of multi-faceted, post-disaster design and reconstruction efforts in climate vulnerable sites. These sites suffer also from economic disadvantage and social injustices. She co-organized the R-CUBED: Relief x Reconstruction x Resiliency Symposium + Workshop, focusing on best practices of community-based, multidisciplinary, and comprehensive disaster response.



Adegbola T. Adesogan

University of Florida

Professor and Director | Food Systems Institute and the Innovation Lab for Livestock Systems at the University of Florida

Professor of Animal Nutrition, Director of the Food Systems Institute, and Director and Principal Investigator of the Feed the Future Innovation Lab for Livestock Systems (LISL) at the University of Florida, which manages 45 research for development projects that use animal-source foods to improve nutrition, health and incomes in eight countries. His research areas include improving the quality, conservation and utilization of forages to improve animal production and welfare; using feed additives to improve rumen digestion and enhance animal performance and using animal-source foods to improve human nutrition, health, incomes and livelihoods.

Dr. Adesogan oversees 20 renowned faculty with diverse expertise in food systems innovation under a changing climate. The Food Systems Institute has research programs in the improvement and management of commodities of terrestrial and aquatic food systems (crops, livestock, fish) that address food security, improved nutrition, and a sustainable environment in the US and globally. Researchers in these teams also have a record of several awards including a World Food Prize laureate.



Dev Shrestha

University of Idaho

Professor | Department of Chemical and Biological Engineering at the University of Idaho

Dev Shrestha is a Professor at University of Idaho, Department of Chemical and Biological Engineering. He was the director for the Industrial Assessment Center at the University of Idaho and expert in energy and environmental engineering especially related to biofuel. Dr. Shrestha has published several research papers related to the topic area including indirect land use change and Food Vs. Fuel issues with biofuel. Currently Dr. Shrestha maintains National website for biodiesel education called BiodieselEducation.org, which he and his colleagues developed during last 15 years as a part of USDA's National Biodiesel Education program.



Gerald Knezek

University of North Texas

Regents Professor & Co-Director of IITTL | Department of Learning Technologies at the University of North Texas

Dr. Knezek is Regents Professor of Learning Technologies at the University of North Texas and Director of the Institute for the Integration of Technology into Teaching & Learning at UNT. Gerald received his B.A. in Mathematics and the Social Sciences from Dartmouth College and his M.Ed. and Ph.D. degrees in Educational Psychology from the University of Hawaii. He is Past President of the Society for Information Technology & Teacher Education and currently Lead Principal Investigator for the U.S. National Science Foundation Project Going Green! MSOSW, and was Co-Principal Investigator for a US Fund for Improvement for Post-Secondary Education project titled simMentoring.

He was Principal Investigator of the U.S. Dept. of Ed. Technology Innovation Challenge Grant External Evaluation between 1999-2004 and Lead Principal Investigator for the U.S. Dept. of Ed. Preparing Tomorrow's Teachers to Use Technology (PT3) Millennium Project Capacity and Implementation Grants from 1999 to 2003.



Bill Fleming

University of Pennsylvania

Director | Ian L. McHarg Center in the Weitzman School of Design at the University of Pennsylvania

Billy Fleming is the Wilks Family Director of the Ian L. McHarg Center in the Weitzman School of Design, a senior fellow with Data for Progress, and co-director of the "climate + community project." His fellowship with Data for Progress has focused on the built environment impacts of climate change, and resulted most prominently in the publication of low-carbon public housing policy briefs tied to the "Green New Deal for Public Housing Act" introduced in 2019.

In his role at the McHarg Center, Billy is co-editor of the forthcoming book An Adaptation Blueprint (Island Press, 2020), co-editor and co-curator of the book and now internationally-traveling exhibit Design With Nature Now (Lincoln, 2019), and author of the forthcoming Drowning America: The Nature and Politics of Adaptation (Penn Press, expected 2021). Billy is also the lead author of the recently published and widely acclaimed "The 2100 Project: An Atlas for the Green New Deal." He is also a co-author of the Indivisible Guide (2016).



Patricia Moulton

Okinawa Institute of Science and Technology (OIST)

Senior Advisor | Institutional Development in the Office of the President at OIST

Pat had been serving as the Interim President since September of 2016. Before joining Vermont Tech, she served as the Secretary of the Agency of Commerce and Community Development. As Secretary, she facilitated the expansion of many Vermont companies, helped attract new companies, assisted in rebuilding Vermont after Tropical Storm Irene and helped create the nation's first statewide comprehensive economic development strategy (CEDS) that has led to millions in federal grants for the state of Vermont.

Immediately prior to serving as Secretary, Pat was Executive Director of the Brattleboro Development Credit Corporation (BDCC), a non-profit, regional economic development corporation in southeast Vermont. Pat started with BDCC in February 2013 as Director of Workforce Development with the plan of transitioning to Executive Director.



Alan Plattus

Yale University

Professor | Yale School of Architecture

Alan Plattus is Founding Director of the Yale Urban Design Workshop and is Professor of Architecture and Urbanism at the Yale University School of Architecture. He has lectured across the country and abroad on architectural theory, urban history, and contemporary urbanism. Professor Plattus frequently conducts design charrettes and policy workshops for citizens and civic leaders. For his contributions to the City of New Haven, Professor Plattus was presented with the Elm-ly Award by the Mayor of New Haven and the President of Yale.

Professor Plattus established the Yale Urban Design Workshop in 1992, when he was Associate Dean of the School of Architecture, and he continues to lead many of its projects. In 2012, he was a key member of the design team that secured \$10 million for resilience planning and a pilot project for Bridgeport, Connecticut in the HUD-sponsored Rebuild By Design competition. In 2008, Professor Plattus assembled and led a Yale team that worked with Friends of the Earth Middle East to develop plans for a Peace Park on the border between Jordan and Israel along the Jordan River. The charrette involved an unprecedented collaboration of design professionals and citizens of Jordan, Israel and Palestine, and has been the subject of a documentary film.



Victor F. “Trey” Trahan, III FAIA

Design Principal | Trahan Architects

Victor F. “Trey” Trahan, III, FAIA, is the founder and design principal of Trahan Architects in New Orleans and New York City. Trey established Trahan Architects at the age of thirty-two, and the firm has since designed a series of domestic and international projects that have received global recognition for work that is historically grounded and aesthetically sublime.

Trey is commended for his innovative use of sustainable materials, stemming from his strong personal belief in the value of environmental conservancy. Since the firm was established it has built a portfolio with a wide range of building types and scales, including commercial, mixed-use, academic, cultural, athletic, ecclesiastic, residential, and urban projects throughout the U.S. and overseas.

Selected Relevant Projects

Caesars Superdome
Capital Improvements & Masterplan
New Orleans, Louisiana

Ochsner Health
Center for Innovation
New Orleans, Louisiana

Owensboro-Daviess County
Convention Center
Owensboro, Kentucky

City of Laredo
Convention Center
Laredo, Texas

National Bonsai & Penjing Museum &
Master Plan
Washington, DC

1000 Julia Street
Mixed-Use Development
New Orleans, Louisiana

Education

Bachelor of Architecture
Louisiana State University



Lesley Braxton AIA, NCIDQ, LEED AP

Consortium Strategist | Trahan Architects

Lesley’s work strikes beautiful balance between courage and restraint — two qualities learned during her childhood. Her family relocated to eight different states in her first 17 years, teaching Braxton to embrace change, optimism, and the cultures of many.

This influenced her path as an architect and interior design architect to take a wide-angle view and operate as a generalist in a seemingly very specific world. She designs across higher education, science and technology, and corporate markets, ultimately blending influences of each sector into the next. This blurring helps her bring to client’s bold ideas deeply rooted in place and project understanding. Braxton is the glue that holds complex teams together by bringing nationally recognized, award winning design leadership and an empathetic, hands on approach.

Selected Relevant Projects

Caesars Superdome Capital
Improvements
New Orleans, Louisiana

Georgia Tech
Engineered Biosystems Building
Atlanta, Georgia

Georgia Tech
West Village Dining Commons
Atlanta, Georgia

Universities at Shady Grove
Bioscience & Engineering Academic Bldg.
Shady Grove, Maryland

University of Virginia
Pinn Hall School of Medicine
Charlottesville, Virginia

Auburn University
Pharmacy Research Building
Auburn, Alabama

Education

Bachelor of Architecture
Auburn University

Bachelor of Interior Architecture
Auburn University



Margaret Jankowsky ASLA

Urban Designer and Project Manager | Trahan Architects

Margaret's interest lies in improving cities through their public realm and open space. With a background in landscape architecture, urban design, architecture, and theory, she works at the intersection of buildings, ecology, and open space. Margaret has 14+ years of design experience with top design firms.

While at Field Operations, Margaret was instrumental in the design of Seattle's transformational Central Waterfront, which includes new pedestrian promenades, green infrastructure, public art, cycle tracks, and outdoor vertical transportation. She was also a core part of the design team for the award-winning Framework Plan for The Underline in Miami, which outlined an overall vision and implementation for 10 miles of under-used open space beneath Miami's elevated rail line.

Selected Relevant Projects

Usdan Summer Camp for the Arts: Strategic Planning
Long Island, New York

Caesars Superdome Capital Improvements & Master Plan
New Orleans, Louisiana

Princeton University Campus Projects
Princeton, New Jersey

Central Waterfront Main Corridor
Seattle, Washington

Central Waterfront Union
Street Improvements
Seattle, Washington

The Underline Framework Plan
and Demonstration Projects
Miami, Florida

Education

Master of Landscape Architecture
University of Pennsylvania

B.A., Architecture
University of Pennsylvania



Robbie Eleazer AIA

Project Designer | Trahan Architects

Robbie Eleazer is passionate about finding new expressions of built form and working with clients to communicate those expressions to their stakeholders. The experience he brings to the New York design team includes a range of projects that exhibit inclusive design including the Coca-Cola Stage at the Alliance Theatre in Atlanta, GA, to the National Bonsai & Penjing Museum in Washington D.C. He has contributed to work that has gained national recognition for innovation and leveraged technology in the design of beautiful facilities that contribute to wellness.

As a leader in the computational design community, Robbie engages with technology to expand his understanding of what architecture can be and how it impacts people's lives, particularly regarding materiality and safety practices to encourage public health.

Selected Relevant Projects

Coca-Cola Stage at the Alliance Theatre
Atlanta, Georgia

National Bonsai & Penjing
Museum, U.S. Natl. Arboretum
Washington D.C.

Sculpture Park at Laguna Gloria -
Arrival Garden and Moody Pavilions
Austin, Texas

Laredo Convention Center
Laredo, Texas

Luther George Park
Springdale, Arkansas

Ochsner Center for Innovation
New Orleans, Louisiana

Education

Master of Architecture 2
SCI-Arc

B.A., Architecture
Clemson University



April De Simone Associate AIA

Democratic Spatial Researcher | Designing for Democracy

As a transdisciplinary designer, April brings 20 years of experience navigating the intersectionality of architecture, planning, and systems thinking. Her work cultivates reframed opportunities within pedagogy and processes, advancing opportunities within the practice of architecture to spatialize healing, equity, and restitution. Her interdisciplinary work investigates the implicit and invisible relationship between architecture and human condition, connecting a deeper understanding of how inequity, supremacy (in its various forms), and dehumanization become spatialized and proliferated. This body of work has been infused in numerous projects demonstrating the equitable, humane, and just capacities of architecture and design mediums, including a supervised visitation site at the Bronx Borough Family Courthouse and the social enterprise venture Urban Starzz.

Selected Relevant Projects

Caesars Superdome
Capital Improvements
New Orleans, Louisiana
Garden State Agrihood Project
Trenton, New Jersey
Undesign the Red Line
Various Locations
Urban Stars
New York, New York

Supervised Visitation Program
New York, New York
Comprehensive Economic
Development Strategy with the
Urban Mayors League of New Jersey
Various Locations

Education

Master of Architecture
City College of New York

M.S., Design and Urban Ecologies
Parsons School of Design

B.A., Social Sciences
New York University



James Corner RLA, FASLA

Design Principal | Field Operations

James Corner is Founder and CEO of James Corner Field Operations. James has devoted the past 30 years to advancing the field of landscape architecture and urbanism, primarily through his leadership on high-visibility, complex urban projects around the world, as well as through teaching, public speaking, and writing. His work has been recognized with the Cooper Hewitt National Design Award; the American Academy of Arts & Letters Award in Architecture; the Daimler-Chrysler Design Excellence Award; and the AA&D Black Pencil Award.

Selected Relevant Projects

High Line
New York, New York

Presidio Tunnel Tops
San Francisco, California

Georgetown Canal Plan
Washington, D.C.

Northeast False Creek
Vancouver, BC, Canada

Tsim Sha Tsui Waterfront
+ Salisbury Gardens
Hong Kong, China

Dubai Waterfront Promenade
Dubai, United Arab Emirates

Kennedy Center – Memorial
Interpretation Master Plan
Washington, D.C.

Education

Master of Landscape
Architecture & Urban Design
University of Pennsylvania

B.A., Architecture & Landscape Architecture
Manchester Metropolitan University School
of Architecture, Manchester, UK



Lisa Switkin FAAR, ASLA

Landscape Architect | Field Operations

As the Senior Principal leading many of Field Operations most complex public realm design projects, Lisa is widely regarded as one of the field's most effective leaders. With a background in urban planning and landscape architecture, Lisa has a special commitment to improving cities through the design of a holistic and vibrant public realm, inspired by place, people and nature.

Lisa currently serves as the President of the Landscape Architecture Foundation. In 2008, she was a Rome Prize recipient at the American Academy in Rome.

Selected Relevant Projects

High Line
New York, New York

Domino Park
Brooklyn, New York

Seaport Square Master Plan
Boston, Massachusetts

Hudson River Park's Gansevoort Peninsula
New York, New York

Riverfront Park
Newark, New Jersey

River Balcony
Saint Paul, Minnesota

Tongva Park and Ken Genser Square,
Santa Monica, California

Freshkills Park Master Plan
Staten Island, New York

Education

Master of Landscape
Architecture & Regional Planning
University of Pennsylvania

B.F.A., Urban & Regional Planning
University of Illinois



Karen Tamir RLA, ASLA

Landscape Architect | Field Operations

Karen is a registered landscape architect and urban designer at James Corner Field Operations, bringing over 20 years of professional experience in landscape architecture. Karen is recognized for her experience in designing and implementing major projects throughout New York City, especially along the waterfront, addressing resiliency and zoning considerations. Karen's projects include Hudson River Park's Gansevoort Peninsula in Manhattan; MetroTech Commons in Brooklyn; Cornell Tech's new campus on New York's Roosevelt Island; Newark's Riverfront Park; Greenpoint Landing Waterfront Park in Brooklyn; and Domino Park on the waterfront in Brooklyn. She led the site framework plans for Pratt Pullman District in Atlanta; Lapid Framework Plan in Tel Aviv, Israel; Boston's Seaport Square; and Columbia University's Muscota Marsh project on the Harlem River.

Selected Relevant Projects

Hudson River Park's Gansevoort Peninsula
New York, New York

Riverfront Park
Newark, New Jersey

Lapid Framework Plan
Tel Aviv, Israel

MetroTech Commons
Brooklyn, New York

Harbor Square Park
Boston, Massachusetts

Pratt Pullman District
Atlanta, Georgia

Domino Park
Brooklyn, New York

Seaport Square
Boston, Massachusetts

Education

Master of Landscape Architecture
University of Pennsylvania

Bachelor of Fine Arts
Milwaukee Institute of Art and Design,
Milwaukee, WI



Sanjukta Sen ASLA

Landscape Designer | Field Operations

Sanjukta is a landscape and architectural designer at James Corner Field Operations. She is currently leading the design and project team for Hudson River Park's Gansevoort Peninsula in Manhattan and the River Balcony in Saint Paul. Sanjukta is also leading the design and construction of Greenpoint Landing and the River Ring Master Plan, both of which are in Brooklyn, New York. Previously, Sanjukta was the project manager and lead designer for Domino Park in Brooklyn, Riverfront Park in Newark, and Central Green at the Navy Yard in Philadelphia. She was a designer for the Cornell Tech Campus Master Plan in New York, and The Underline Master Plan in Miami.

Selected Relevant Projects

River Ring Master Plan and Waterfront
Park, Brooklyn, NY

Hudson River Park's Gansevoort
Peninsula, New York, NY

River Balcony
Saint Paul, MN

Metrotech Commons
Brooklyn, NY

Domino Park
Brooklyn, NY

Detroit West Riverfront Park Competition
Detroit, MI

Cornell Tech Campus
New York, NY

Greenpoint Landing Waterfront
Brooklyn, NY

Education

Master of Landscape Architecture
University of Pennsylvania

Bachelor of Architecture
School of Planning and Architecture
New Delhi, India



Dennis Pieprz Honorary ASLA

Urban Design Principal | Sasaki

Dennis plays a key role in the planning and urban design practice with specific emphasis on international work. His 30 years of both national and international experience encompass diverse project types including urban districts, new communities, campus environments, waterfronts, and urban regeneration.

Through his design practice, Dennis focuses on strategic thinking and creating value for clients. He approaches his urban design work collaboratively, integrating landscape, planning, and architecture with a critical understanding of the forces that shape contemporary cities.

Selected Relevant Projects

Arizona State University Polytechnic
Research and Development District
Mesa, Arizona

California State University Sacramento
State Placer Ranch Property Master Plan
Sacramento, California

Harvard University Allston
Enterprise Research Campus Plan
Boston, Massachusetts

Institut d'Etudes Politiques
(Sciences Po) Campus Master Plan
Paris, France

Midtown Detroit TechTown District
Detroit, Michigan

Monterrey Tech University
Campus and District Plan
Monterrey, Mexico

Education

Master of Architecture in Urban Design
Harvard University

Bachelor of Architecture
University of Toronto



Mary Anne Ocampo

Urban Designer | Sasaki

Mary Anne is an urban designer and principal whose multidisciplinary training and experience allow her to work across contexts and scales. Mary Anne's collaborative approach integrates planning, landscape, and architecture.

Her philosophy centers on achieving design excellence through a critical understanding of the academic vision and community contexts. In all of her work, Mary Anne places particular emphasis on understanding and building upon the complex interrelationships of institutions and cities.

As an urban design leader at Sasaki, Mary Anne employs her unique perspective to working with universities by creating a seamless translation of institutional missions into strategic and exciting visions that enhance the quality and performance of the physical environment.

Selected Relevant Projects

California State Polytechnic University,
Pomona, Campus Master Plan
Pomona, California

Massachusetts Maritime
Academy Master Plan
Bourne, Massachusetts

Northwestern University Infrastructure
and Campus Plan Update
Evanston, Illinois

Syracuse University
Campus Framework Plan
Syracuse, New York

The University of Texas at Austin
Dell Medical District Master Plan
Austin, Texas

Virginia Tech Campus Master Plan Update
Blacksburg, Virginia

Education

Master of Architecture in Urban Design
Harvard University

Master of Architecture
Cornell University

Bachelor of Architecture
University of Kentucky



Romil Sheth

Urban Designer | Sasaki

Romil is an urban designer and architect with over 15 years experience in both domestic and international projects. His work encompasses diverse project types including campuses, mixed-use communities, student housing, K-12 facilities, urban revitalization, innovation districts, and waterfronts.

His multi-disciplinary background enables him to straddle both built-work and visionary planning and urban design engaging a diversity of issues, multiple constituents, and varying scales across a range of contexts. He adopts a collaborative approach to design working with integrated teams that engage landscape, strategic planning, and architecture.

Selected Relevant Projects

Arizona State University Polytechnic
Research and Development District
Mesa, Arizona

California State University Sacramento
State Placer Ranch Property Master Plan
Sacramento, California

Emory University Planning
Framework Study
Atlanta, Georgia

Ho Chi Minh City Innovation District
Ho Chi Minh City, Vietnam

Midtown Detroit TechTown District
Detroit, Michigan

Northwestern University
Campus Master Plan
Chicago, Illinois

Education

Master of Urban Design
University of Michigan, Ann Arbor

Master of Science in Architecture
University of Michigan, Ann Arbor

Bachelor of Architecture
CEPT, Ahmedabad



Jill Allen Dixon AICP

Planner | Sasaki

Jill Allen Dixon is an Associate Principal and Planner in Sasaki's Urban Studio who collaborates with public sector clients to strengthen resilience and increase park access through engaged, inclusive processes. Jill's experience in climate adaptation and resilience, public engagement, and park/landscape planning enables municipalities, states, and conservancies to implement strategies that respond to the changing climate, increase equitable access to parks, and grow greener, more resilient cities. Jill's work spans a range of scales and project types—including planning for urban districts and regions, large parks, greenways, citywide parks and recreation systems, and resilience strategies.

Selected Relevant Projects

City of Newport Tree Master Plan
Newport, Rhode Island

City of Raleigh Downtown Plan
Raleigh, North Carolina

Clemson University Framework Plan
Clemson, South Carolina

Climate Ready Boston
Boston, Massachusetts

Denver Parks and Recreation Game Plan
Denver, Colorado

Gulf State Park Master Plan &
On-call Implementation Planning
Baldwin County, Alabama

Greenwood Community Park Master Plan
Baton Rouge, Louisiana

Education

Master of Urban Planning
Harvard University

B.A., Architecture & B.A., Economics
Clemson University

Appendix:

Supplemental Information





7550 Wisconsin Ave • 8th Floor • Bethesda, MD 20814 • 800.248.0337 • calvertimpactcapital.org

October 12, 2021

Via Email

Allan E. Baer
President, Renewable Nations Institute and Initial Manager, Renewable Nations L3C
1 Bridge Street, Suite 64
Irvington, NY 10533

SUBJECT: Calvert Impact Capital's Letter of Interest for the Center for Climate Solutions at Governor's Island

Dear Mr. Baer,

Calvert Impact Capital, Inc. is pleased to provide Cross Street Partners with this letter of interest for your submission in response to The Trust for Governors Island's request for expressions of interest regarding the proposed Center for Climate Solutions at Governors Island.

At Calvert Impact Capital, we recognize climate change as both an existential threat and a tremendous opportunity. And because climate change disproportionately affects vulnerable communities, it is a natural extension of our work. We know that investors have a critical role to play in accelerating the transition to a greener and more resilient economy. Adequately addressing climate change will require trillions of dollars of public, private, and philanthropic capital working together on creative solutions. We address this through a variety of investments in our environmental sustainability and renewable energy sector strategies, which constitute an ever increasing proportion of our investment portfolio and strategic initiatives.

Calvert Impact Capital focuses a great deal of our climate work on creating innovative financial structures and strengthening intermediation capacity to ensure that climate solutions are accessible to all. We believe the Center for Climate Solutions represents an opportunity to scale our investing activities and strategic initiatives in collaboration with a diverse and expert consortium of leading institutions and individuals organized by the Renewable Nations team.

We see great alignment with the mission of the Cross Street Partners and Renewable Nations teams, and their vision for the Center for Climate Solutions. We are interested in contributing to the project, both with our expertise and potentially our investing capabilities as relevant to the initiative.

The Letter of Intent is not intended to be, and shall not be deemed to be, a commitment by Calvert Impact Capital to make any loans or investment. The sole purpose of this Letter of Intent is to facilitate the discussion of the contemplated project and potential involvement of Calvert Impact Capital.

Respectfully,

CALVERT IMPACT CAPITAL, INC.

By: 

Name: Jennifer Pryce

Title: CEO, Calvert Impact Capital, Inc.



Ancora Partners, LLC
701 West Main Street, Suite 200
Durham, NC 27701
ancora.re

October 13, 2021

Mr. Allan E. Baer
President, Renewable Nations Institute
Initial Manager, Renewable Nations L3C
1 Bridge Street, Suite 64
Irvington, NY 10533

Re: Governors Island Multi-University Consortium for the Center for Climate Solutions

Dear Allan:

On behalf of Ancora, I am pleased to tender this letter of support for the Governors Island Multi-University Consortium for the Center for Climate Solutions. We share the vision of prioritizing equity and justice in creating a new model of education and research in climate solutions which also supports New York City's economic resiliency.

Ancora is focused exclusively on knowledge markets anchored by leading universities, academic health centers, research institutions and governments that are driven to collaborate and commercialize new ideas. Ancora proactively works to harness the economic impacts of anchor institutions engaged with their communities by building inspiring spaces and active places that foster innovation. This *Anchor+* real estate investment strategy combines real estate expertise with innovation ecosystem-building to create sustainable economic engines to benefit the anchor institution and surrounding community.

The Ancora team has extensive experience nationally working with the leading research universities and companies on the frontier of discovery. The firm is differentiated, however, from other vertically integrated real estate companies in that alongside our core real estate capabilities we have an in-house team, Connections & Insights (C&I), that creates, curates, and expands the programmatic elements that make research centers and innovation districts successful. The team is attuned to the requisite talent and organizational elements of place-based strategies and executes a long-term plan in partnership with anchor institutions that goes beyond building buildings to creating thriving innovation ecosystems. This long-term perspective extends to project finance. Ancora has committed institutional capital and financing solutions that are aligned with the decades-long investment horizons of anchor institutions, allowing us to make decisions that move beyond traditional development yield metrics.

Progress cannot be made by acting in isolation and we, as investors, have a leadership role to play in the responsible allocation of capital and acting as stewards to meet global sustainability and climate change goals. Thank you for your leadership in responding to this generational challenge. We see the opportunity and stand ready to support the Governors Island Multi-University Consortium for the Center for Climate Solutions

Sincerely,

Joshua M. Parker
Chief Executive Officer

SECTION APPENDIX

Productivity-Centered Learning

INTRODUCTION:

Education and technology are broadly understood as the principal drivers of socioeconomic and environmental change in the post-industrial globalized political economy, allowing for a country to increase its productivity through human capital development and technological innovation, as well as creating productivity improvement and fostering productivity-centered behaviors.

For decades, as the education and technology sectors have principally focused on maximizing socioeconomic productivity, primary productivity (in general, ecosystems services) has long been viewed as an externality.

The *Stern Review on the Economics of Climate Change* (Stern, 2006) has largely been responsible for the shift in the education and technology sectors to address the need to account for externalities, concluding that climate change “will reduce welfare by an amount equivalent to a reduction in consumption per head of between 5 and 20%” — now and into the future.

Today, the socioeconomic, environmental, and geopolitical impacts of anthropogenic climate change are gradually causing the education and technology sectors to refocus. In response to increasingly frequent climate-induced catastrophic weather events, the education and technology sectors are embracing “Education for Sustainability” and giving rise to the critical concepts embodied in the theory of Coupled Human and Natural Systems (CHNS).

CHNS is the core principle of the Action-based, Project-led Research focus of the Consortium Team, arguing that the Productivity-Centered Learning focus of the education and technology sectors must address socioeconomic productivity and primary productivity in balance with Earth’s carbon cycle.

IMPLEMENTATION STRATEGY:

Due to the urgency of the climate crisis, and multi-year development timeline for the proposed Center for Climate Solutions at Governor Island, the Consortium Team prioritizes research in transformational behavioral changes in Phase I beginning with a launch strategy that leverages the existing underutilized capacity among the 120 public and

private higher education institutions in New York City — starting immediately upon the execution of a lease agreement with the Trust. This implementation strategy will result in the desired impacts from the proposed Center years in advance of the completion of Phases I and II.

The Team will also emphasize the need in Phase I to support research and development of innovative and disruptive technology interventions at the hundreds of institutions across New York City, the U.S., and around the world that need support to urgently bring technology-focused climate solutions to market that will lead the pathway toward a low-carbon world economy.

This will be achieved by expanding Consortium membership immediately in Phase I based upon a peer-review of research and development initiatives that promise to have a near-term impact for New York City to achieve carbon neutrality by 2050, in addition demonstrating applicability in urban centers around the world.

Section APPENDIX provides a description of two subsets of the Productivity-Centered pedagogies and programs of the Consortium Team referred to as Productivity-Centered, Service-Learning (PCSL) and Productivity-Centered, Work-Learning-Service (PC-WLS). The order of programs as presented in this section do not necessarily reflect the order of implementation to drive maximum impact on proposed Center services.

These peer-reviewed pedagogies and programs have been researched and developed by the Renewable Nations Institute in collaboration with select Consortium Team members, including select institutions listed in the “Outstanding Needs” category. These programs will launch concurrently, as feasible, targeted to serving the frontline communities in New York City most impacted by the climate crisis.

Section APPENDIX ends with a description of the upgrade and commercialization of two innovative technologies that have been supporting the pedagogies and programs defined in this section.



SOISSONS LANDING
Governors Island Manhattan Ferry to 10 South St.

YACHT SERVICE
Governors Island to Red Hook
NYC Ferry to Wall St./Pier 11

- | | | |
|----------------------------------|--------------|---------|
| Information Center & Orientation | Restroom | Bicycle |
| Bicycle | Food & Drink | Water |
| Medical Supply & First Aid | Play Area | Storage |
| Bicycle | Bicycle | Bicycle |
| Bicycle | Bicycle | Bicycle |
| Bicycle | Bicycle | Bicycle |
- Visit govisland.org for updates and to discover everything to do on Governors Island.

PHASE I

EDUCATIONAL AND RESEARCH PROGRAMS

HIGHER EDUCATION: PRODUCTIVITY-CENTERED WORK-LEARNING-SERVICE

PAID INTERNSHIPS

Scaling Global Investments in the Energy Transition

The Consortium will endeavor to *stimulate* USD 1 trillion (20%) annually of required investments in EERE projects worldwide by providing technical assistance to existing international entities charged by the United Nations Framework Convention on Climate Change (UNFCCC) to address climate finance at-scale.

Systems Dynamic Modeling - Decision Support Service

Work-Learning-Service interns at the Center for Climate Solutions will engage frontline communities to co-create social and economic policies that reflect both economic and climate justice for millions of disenfranchised New Yorkers living in poverty and near poverty.

Healthcare Facility Electrification – Energy and Health

In collaboration with New York City-based higher education institutions, Work-Learning-Service interns at the Center for Climate Solutions will strengthen the electric power infrastructure of healthcare facilities at all levels of health services with the goal to improve health care service delivery outcomes during climate-induced natural disasters.

Energy Workforce Transition

Work-Learning-Service interns and energy industry professionals will provide multi-sector clients with assessment services leading to the production of work-products resulting in investment-grade proposals totaling an annual contract value of USD 11.4 billion.

MIDDLE AND HIGH SCHOOL: PRODUCTIVITY-CENTERED SERVICE-LEARNING

STEM EDUCATION PIPLINE

Power Plug Load Management – The Green Earth Corps

The Green Earth Corps after-school enrichment program will engage students in community service to conduct energy monitoring services to affect behavioral change in adults to make responsible decisions concerning energy and climate change.

The Carbon Research Collaborative

The Collaborative will provide accessible and compelling methods to convey knowledge of climate science and the impact of global warming on society and environment. Educators and students will co-create knowledge and solutions to the climate crisis with scientists and citizens worldwide on a shared technology knowledge platform.

SDG Architect Strategic Board Game

SDG Architect will be deployed across diverse community settings to encourage a greater understanding and cooperation among cross-sectoral stakeholders in New York City that lead to deeper community engagement for the co-creation of equitable climate solutions.

Climatologists in Space

Climatologists in Space are aspiring United Nations Junior Ambassadors monitoring Earth systems in real-time while providing critical disaster relief assistance to climate-impacted communities in crisis and promoting wide-scale behavior changes consistent with adapting to and limiting global warming.

TECHNOLOGY COMMERCIALIZATION

iGlobe Digital Video Globe (DVG) Technology

The Renewable Nations Institute in collaboration with iGlobe Inc. and MIT will undertake research and development for a next generation DVG technologies to provide accessible and compelling methods to convey knowledge of climate science and the impact of global warming on society and environment to diverse global audiences.

Energy Monitoring Technology

The Renewable Nations Institute will undertake research and development for a next generation replacement product for the Watts Up? Supermeter for education and consumer markets based upon advances of wireless data transfer protocols on the form factor of common consumer devices, such as cell phones and tablets.

Scaling Global Investments in the Energy Transition

PROBLEM STATEMENT:

According to the International Energy Agency (IEA), the annual investment in energy (primarily fossil fuels) is just over USD 2 trillion globally on average over the last five years. In order to limit median global temperature rise to below 1.5°C to 2°C, a projected annual investment of USD 5 trillion in energy efficiency and energy renewable energy (EERE) technologies is required through 2030, and USD 4.5 trillion through 2050. This represents an estimated total investment of USD 130 trillion in EERE through 2050.

The COVID-19 pandemic has drastically altered the context for international climate finance. It has resulted in the most damaging humanitarian and economic crisis since the Second World War and its impacts have been particularly severe on emerging markets and developing economies (EMDEs). 54% of low-income countries are deemed to be in debt distress or at high risk of debt distress as of September 2020, a trend likely to continue into 2021 and beyond.

If EMDEs are unable to put in place recovery packages that are strong and sustainable, it will not only be deeply damaging for their own growth prospects but will put the climate goals irrevocably beyond reach. EMDEs already account for two-thirds of global emissions and many are also the most vulnerable in the face of climate change.

The announcement of \$400 billion in new finance and investment committed by governments and the private sector during the 2021 United Nations High-level Dialogue on Energy (the first leader-level meeting on energy under the auspices of the UN General Assembly in 40 years) is indicative of the challenge of international climate finance community to meet the projected annual investment of USD 4.5 to 5 trillion projected by the IEA to limit median global temperature rise to below 1.5°C to 2°C by 2050.

PROPOSED SOLUTION:

In alignment with the scale of the City and Trust's aspirations for the Center for Climate Solutions at Governors Island to lead the world in solving the climate crisis, the Consortium will endeavor to stimulate ~USD 1 trillion (20%) annually of required investments in EERE projects

worldwide. This will be accomplished by providing technical assistance to existing international entities charged by the United Nations Framework Convention on Climate Change (UNFCCC) to address climate finance at-scale, as well as networking within the private sector to increase climate finance commitments.

The UNFCCC defines climate finance as "local, national, or transnational financing—drawn from public, private and alternative sources of financing—that seeks to support mitigation and adaptation actions that will address climate change," and operates in accordance with the principle of "common but differentiated responsibility and respective capabilities." The Convention's finance mechanism (mechanism) requires developed countries to provide financial resources to assist developing countries in implementing the Convention's objectives to limit global warming from between 1.5°C to 2 °C above pre-industrial levels by the interquartile period of 2045 to 2050.

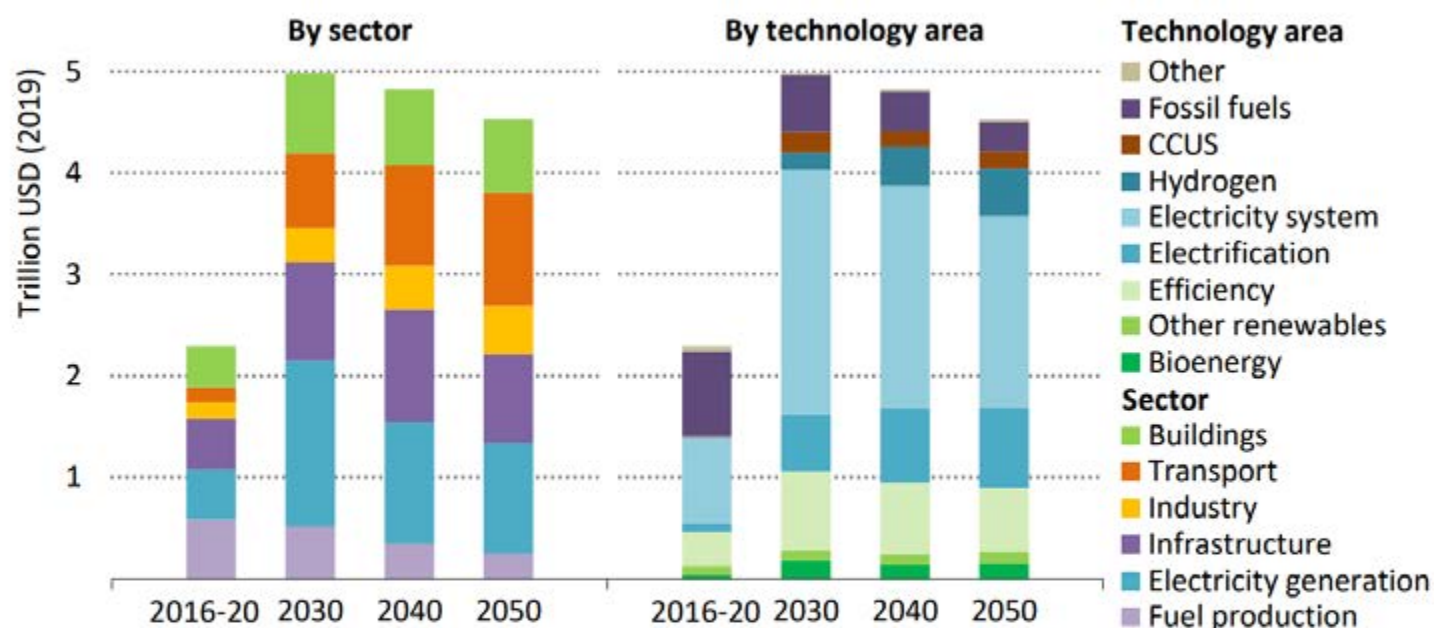
The Convention states that the operation of the Mechanism can be entrusted to one or more existing international entities. The Global Environment Facility (GEF) has served as an operating entity of the Mechanism since entry into force in 1994.

In 2010, the Convention established the Green Climate Fund (GCF) and, in 2011, designated the GCF as the operating entity of the Mechanism. The Mechanism is accountable to the Convention's Conference of Parties (COP), which decides on its policies, program priorities and eligibility criteria for funding.

In addition to providing guidance to the GCF, the Convention has established two special funds—the Special Climate Fund (SCCF) and the Least Developed Countries Fund (LDCF), both managed by the GEF and the Adaptation Fund (AF) established under the Kyoto Protocol in 2001.

The Consortium will develop services at the Center for Climate Solutions at Governors Island designed to support the finance activities of the GEF, the GCF the SCCF, the LDCF and the AF to accelerate the annual required investment in EERE projects worldwide through 2050, as projected by the IEA in the Clean energy investment in the Net Zero Energy (NZE) pathway.

Annual average capital investment in the NZE



IEA. All rights reserved.

Capital investment in energy rises from 2.5% of GDP in recent years to 4.5% by 2030; the majority is spent on electricity generation, networks and electric end-user equipment

Source: International Energy Agency (IEA)

The Center finance research agenda will seek to develop new business models that mobilize private sector financing in developing economies by advancing public-private-partnership models that unlock large-scale investment capital in emerging markets through closer cooperation between EERE developers, private investors, public financial institutions, and governments. Research emphasis will include incentivized policy reforms and functional regulatory frameworks across end use, energy infrastructure, electricity generation, and low-emissions fuels to achieve annual investment targets as defined by the IEA in the NZE pathway. The Center will also develop a private investment fund, and/or a network funds, to finance up to USD 12 billion annually in EERE projects developed by Work-Learning-Service interns in collaboration with private industry partners.

COLLABORATORS / ROLES:

Calvert
Fund Management

Renewable Nations Institute
Program Planning

Consortium Finance Partners
Fund Development

UNFCCC
Global Framework Manager
(Outstanding Need)

Global Environment Facility
Global Finance Mechanism
(Outstanding Need)

Sustainable Energy for All
Global Climate Finance
(Outstanding Need)

Millennium Institute
Economic Impact Analysis

UNESCO
UN Agency Networking

Energy Workforce Transition

PROBLEM STATEMENT:

According to *Employment in the Energy Sector, Status Report 2020*, a publication of the Joint Research Centre (JRC) of the European Commission, global employment in the supply-side energy sector reached nearly 58 million in 2017. About 29 million of these jobs are in the fossil fuel industries, approximately 9.8 million in new renewables. The balance of 19.2 million jobs are in nuclear and other legacy energy systems, including power grids.

The International Renewable Energy Agency (IRENA) projects that jobs in the overall energy sector comprising of transition-related technologies (renewable energy, energy efficiency, power grids and energy flexibility), fossil fuels, and nuclear power could reach 100 million by 2050. New renewables (solar, wind, and biomass) alone are projected to rise from 9.8 million jobs to 30 million by 2030 and 42 million by 2050, an increase of 32.2 million.

In the demand-side energy sector, employment in the energy efficiency segment is projected to grow from 3.3 million jobs in 2020 to 24.3 million by 2050, an increase of 21 million.

An industry survey of 60,000 general and operational facility managers in the U.S. conducted by the Oak Ridge National Laboratory exposed the need for advanced energy management training to currently employed managers. Survey results indicated that only 1.7% of general and operational facility managers track energy data, set energy efficiency and renewable energy goals, and invest in projects; 15% sporadically track energy data but fail to set goals or invest; and 83% reported little to no knowledge of energy management. Extrapolating from U.S. Bureau of Labor Statistics (BLS) data on general and operational facilities managers, an estimated 14 million managers worldwide require greater knowledge in energy efficiency.

Over the next three decades, the global workforce will exceed 100 million. The industry will require a cohort of over 67 million qualified professionals to meet the demand for new jobs in the supply-side and demand-side energy workforce and train an additional cohort of 58 million qualified professionals to replace today's energy workforce as it ages out. This is a formidable task for higher education institutions (HEIs).

This emergent energy workforce will require the skills to maintain legacy energy systems while developing cross-disciplinary areas of expertise for energy systems transformation in order to avoid the likely range of global temperature increase of 2.0–4.9 °C, with median 3.2 °C above pre-industrial levels by the interquartile period of 2045 to 2050.

PROPOSED SOLUTION:

Underlying the Transforming Energy Scenario are significant changes in the composition of employment and, by extension, changes in the structure, organization, and execution of workforce preparedness.

According to the 2020 U.S. Energy and Employment Report (USEER), published by the National Association of State Energy Officials (NASEO) and the Energy Futures Initiative (EFI), energy workforce hiring difficulties are experienced by virtually all supply-side and demand-side segments, and it is a growing problem as the industry adapts to changes due to structural reform and emerging technologies that are driving market transformation.

The USEER states the primary issue is “modernization of infrastructure and change in generation mix requiring new skills that are on two and five-year cycles,” and that the available pool of workers “lack experience, training and/or technical skills.”

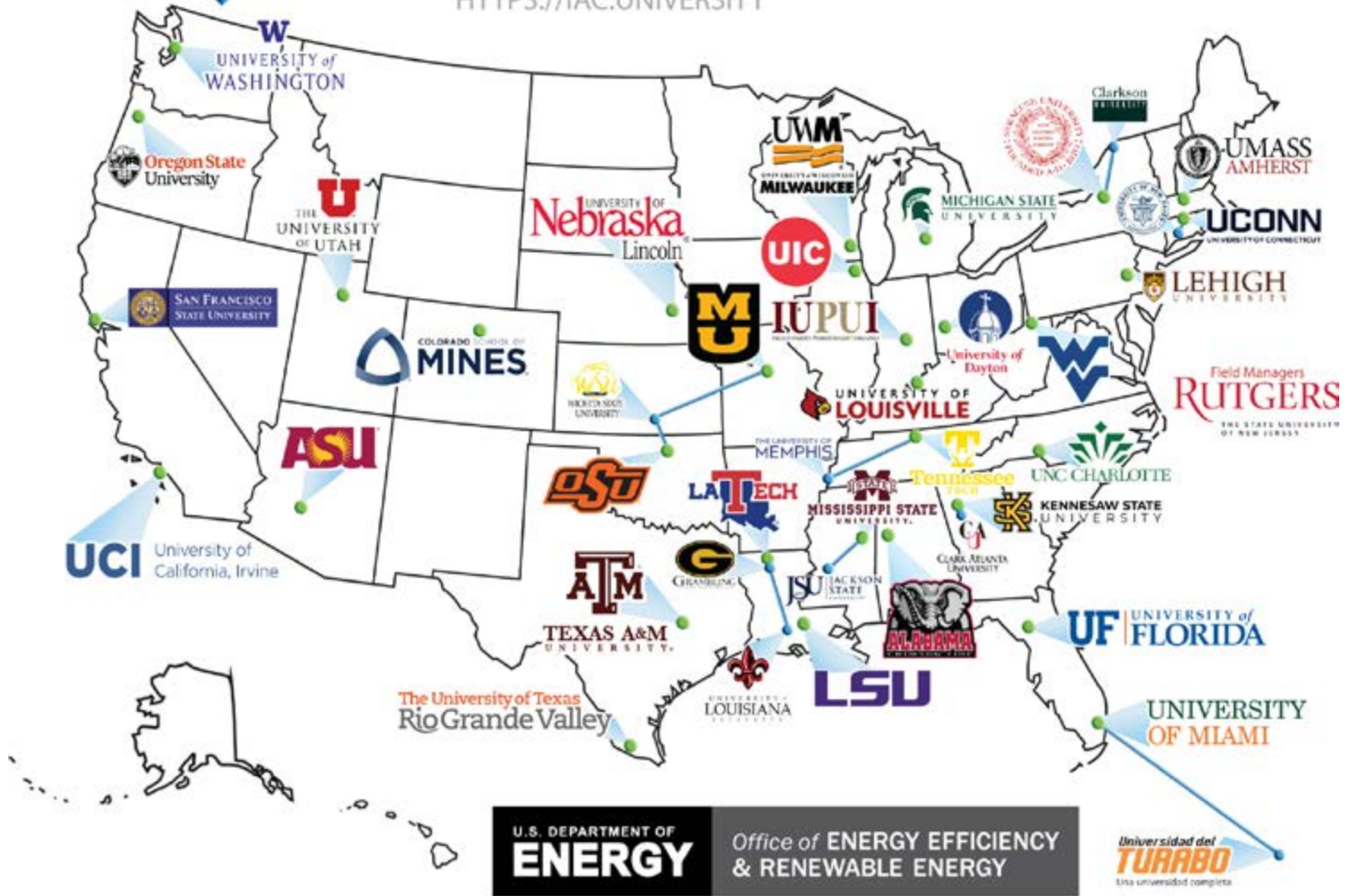
The energy services industry is arguing the need for a blend of traditional and non-tradition models of workforce development – formal and informal academic training, skills development through certificate-bearing apprenticeships, internships, and on-the-job training programs with a focus on minorities, including women and veterans – in order to successfully transition the legacy energy workforce and compress the timeline to prepare the emerging EERE workforce to meet projected development targets under the IEA Transforming Energy Scenario.

Academic consortium partners are proposing to collaborate with the supply-side and demand-side energy services industry to develop new models of workforce training that will be responsive to the potentially disruptive challenges of electric power modernization, including the convergence of energy services across sectoral boundaries.



Industrial Assessment Centers 2022-2026

[HTTPS://IAC.UNIVERSITY](https://iac.university)



Source: Department of Energy Industry Assessment Centers (IACs) Program

The workforce development approach at the proposed Center for Climate Solutions emphasizes paid Work-Learning-Service (WLS) internships, a pedagogy based upon theories of human development that argue learning is most effective when part of an activity that the learner experiences as the construction of a meaningful “**work-product**.” In the Center’s PC-WLS model, interns and energy industry professionals will provide EERE clients assessment services leading to the production of work-products resulting in investment-grade proposals totaling an annual contract value of USD 11.4 billion, with revenue before expenses of USD 1.8 billion after seven years.

COLLABORATORS / ROLES:

Vermont Technical College
WLS Intern Supervision

Renewable Nations Institute
Program Planning

Illinois Institute of Technology
Technical Assistance

Pond Co
Project Engineering Oversight

Industry Assessment Centers
(Current and Former)

ESCO Industry Partners
(Outstanding Need)

University of Idaho
Program Design and Assessment

Okinawa Institute of Science and Technology
Technology Assessment

Boise State University
Program Design and Assessment

Systems Dynamic (SD) Modeling for Decision Support

PROBLEM STATEMENT:

Integrated economic planning for the global transition to low-carbon economy is challenged by the lack of a common framework for economic analysis across diverse national political economies. Moreover, economic planning is generally siloed within governments, industry, academic and civil society stakeholders that are neither accessible nor transparent. Frontline communities in the climate crisis are generally not included in the decisions impacting their social and economic well-being.

PROPOSED SOLUTION:

The Renewable Nations Institute takes a "whole-of-society" approach to stakeholder consultation utilizing systems modeling theory. This systems approach is supported by Threshold 21 (T21) Systems Dynamic (SD) Modeling software developed by the Millennium Institute.

Systems Dynamic (SD) modeling is a computer-aided approach to policy analysis and design. It applies to the computer-aided modeling of dynamic problems arising in complex social, managerial, economic, or ecological systems.

More specifically, SD modeling applies to the macro analysis of dynamic systems characterized by interdependence, mutual interaction, information feedback and circular causality. SD modeling is applied in economics, public policy, environmental studies, defense, theory-building in social science, and in other areas, to examine macro-scale dynamics endogenous and exogenous linkages within and across complex systems.

The primary applications of SD modeling at the Institute are for:

- (1) Predictive modeling and decision support for macro-scale (national, state and mega-city) energy policy, planning and investment;
- (2) Providing a definitive metric for measuring and verifying progress toward the ecological sustainability; and
- (3) Assuring frontline communities in the climate crisis are included in the decisions impacting their social and economic well-being.

T21 simulation software is transparent, collaborative, and interconnected national policy planning tool that includes many critical features that support an inclusive, comprehensive and integrated development planning process. It not only allows policy and planning stakeholders to analyze and understand the interconnectedness between socioeconomic and environmental factors, but also offers the opportunity to customize the underlying model structure based the ever-changing dynamics of human and natural systems, and/or the advocated interests of individual stakeholder groups.

Users can review and modify various elements of the model structure (without deleting core structural assumptions), run a customized simulation based upon a proposed modification of the SD model structure, and analyze and compare core assumptions against proposed structural modifications. T21 users have access to examine model equations for system transparency, and modify model equations based upon dynamic, real-world conditions and/or research inquiries.



The T21 structural framework is organized in three spheres - Economy, Society and Environment - with each comprising of six sectors. Spheres and sectors are comprised of thousands of specific "causal tracings" that are broadly accepted in conventional economic theory, or that may be the subject of research inquiry and/or structural (policy) reform.

OUR EXPERIENCE

Our work spans more than 40 countries and regions across the globe where we help governments and institutions identify strategies that offer all people access to food, water, health care, education, and equal opportunities for women and men.

Afghanistan
Australia
Bangladesh
Bhutan
Burkina Faso
Cameroon
Cape Verde
China
Cote d'Ivoire
Congo, Dem. Republic of
Denmark
Eswatini
Ethiopia
Ghana
Guinea Bissau
Guyana
Jamaica
Kenya



Malawi
Malaysia
Mali
Mauritius
Mongolia
Mozambique
Namibia
Nigeria
Papua New Guinea
Peru
Philippines
Rwanda
Senegal
South Africa
Uganda
Uruguay
USA
Venezuela

Source: Millennium Institute

New York City boasts a gross metropolitan product of USD 1.66 trillion, the tenth largest economy in the world; yet approximately one in five New Yorkers lives in poverty and nearly half the city's households are considered near poor. Employment data and the city's food banks indicate that the number of working poor continues to rise. Due to the COVID-19 pandemic, New York City lost 750,000 payroll and self-employed/independent contractor jobs on average per month between the months of February and December in 2020. The loss for the entire year was the worst single-year city job decline since the 1930s. The Renewable Nations Institute's "whole-of-society" approach to stakeholder consultation and engagement will be inclusive of frontline communities of the climate crisis which are, in essence, the economic sector most impacted by the COVID-19 pandemic. Supported by the Millennium Institute, Work-Learning-Service interns at the Center for Climate Solutions will engage frontline communities to co-create social and economic policies that reflect both economic and climate justice for millions of disenfranchised New Yorkers living in poverty and near poverty.

COLLABORATORS / ROLES:

Yale University
Economic Assessment

Renewable Nations Institute
Program Planning

Millennium Institute
Technology Infrastructure

NYC Economic Development Corporation
Economic Planning
(Outstanding Need)

UNESCO
Global Program Outreach

World Bank Group
Economic Data
(Outstanding Need)

Healthcare Facility Electrification – Energy and Health

PROBLEM STATEMENT:

The World Health Organization (WHO) estimates that 72% of rural healthcare clinics and 66% of urban hospitals in more than 100 low-and middle-income countries lack access to electricity or reliable electric power, defined as no power outage for the duration of more than two hours within the past week. As a consequence, approximately 4.8 billion people — 61.5% of the world’s population — are vulnerable to the health impacts of COVID-19 and other critical emergency health services.

The increasing frequency and intensity of climate-induced natural disasters are also resulting in intermittent electric power outages in urban healthcare clinics hospitals in high-income, developed countries. New York City is no exception to the global healthcare facility electrification crisis.

Investigated localized, warm- and cold-weather power outages that occurred in any of the 66 New York City electric-grid networks during 2002–2014 (using New York State Public Service Commission data) were associated with increased all-cause mortality, cardiovascular disease hospitalizations and mortality, and respiratory disease hospitalizations and mortality. (Published 11 June 2018 in Environmental Health Perspectives.)

In addition to power outages impacting New York City healthcare facilities, power outages across the City pose a public health and safety concern as they can affect public transit systems; elevators and water pumping equipment; food refrigeration; electrically powered home medical devices; and regulation of indoor temperatures, which could increase heat and cold stress and exacerbate certain chronic conditions. Reported increases of carbon monoxide poisonings during power outages associated with hurricanes and major winter storms are common due to incorrect use of devices for generating electricity, heating, or cooking.

New York City requires increased efforts for emergency planning for more frequent outages impacting healthcare facilities and will benefit from additional support services from the proposed Center for Climate Solutions for ongoing efforts to make the electric grid and emergency power services more resilient to climate change, improving health care service delivery outcomes during climate-induced natural disasters.

PROPOSED SOLUTION:

On 31 March 2020, United Nations (UN) Secretary-General António Guterres announced a “Call-to-Action” urging multi-sector stakeholders of the United Nations to “repurpose their facilities and business plans” to provide financial and technical support to governments with the goal to strengthen the resilience of national health systems, including a focused effort to improve access to electricity and reliable electric power in national health care systems.

As a Commitment Partner to the United Nations Department of Economic and Social Affairs (UN DESA) and the Executive Office of the Secretary-General, the Renewable Nations Institute responded to the Call-to-Action by partnering with the Vermont Technical College (VTC) with the primary goal to provide the multi-lateral donor community and multi-sector stakeholders in developing countries with critical data as to the efficacy of a Work-Learning-Service internship program to provide cost-effective, accurate, timely, and scalable project development and decision support services for integrated, national-scale healthcare facility electrification.

Concurrently, the WHO, the United Nations Development Programme (UNDP) and the World Bank Group (WBG), in collaboration with the International Renewable Energy Agency (IRENA), the Sustainable Energy for All (SEforALL) Initiative, and the United Nations Foundation (UNF), began building mechanisms — the global Health and Energy Platform of Action (HEPA) and the COVID-19 Emergency Response Commitment — to promote enhanced cooperation among health and energy actors with the goal to accelerate universal healthcare facility electrification to address deep-rural and urban health care needs related to the COVID-19 pandemic.

The Vermont Technical College, the Renewable Nations Institute, Wagner Institute for Sustainable Energy Research, and other university-based consortium partners (upon executing a lease agreement with the Trust) will launch a HEPA-aligned urban healthcare facility electrification program in collaboration with New York City-based higher education institutions with the goal to improve health care service delivery outcomes during climate-induced natural disasters.



Photo: Solar Powered Urban Hospital in Africa for COVID-19 Critical Care

According to a Deloitte Transactions and Business Analytics survey, the healthcare and medical group sector will make up most of the planned corporate renewable energy transactions in 2020-25 worldwide. 87% of healthcare and medical group respondents to the Deloitte survey indicated that they have plans to retrofit and upgrade their infrastructure to electrify their space and water heating. The WHO has estimated the cost of addressing access to electricity and reliable electric power in urban and rural healthcare facilities worldwide to be USD 2.7 trillion over the next ten years. The Consortium proposes to initially focus research and workforce development activities on healthcare facility electrification at the proposed Center for Climate Solutions as a response to the healthcare facility electrification crisis since the emergence of the COVID-19 pandemic.

COLLABORATORS / ROLES:

Vermont Technical College
Workforce Training

Renewable Nations Institute
Program Planning

Illinois Institute of Technology
Technical Assistance

World Health Organization
HEPA Global Framework Manager
(Outstanding Need)

UNESCO
Global Networking
Across HEPA Collaborators

NYC Department of Health & Mental Hygiene
Emergency Power Planning
(Outstanding Need)

Power Plug Load Management – The Green Earth Corps

PROBLEM STATEMENT:

Power plug loads, or “power process loads” (PPLs), are defined as any devices (typically appliances, including electronic devices) that plug into a building’s electrical system that are unrelated to general lighting, heating, ventilation, cooling, and water heating and are not considered a part of building (residential, commercial or institutional) infrastructure. As shown in the graph below, PPLs account 33% of electricity consumption in U.S. commercial buildings due to a combination of stand-by power features and inefficient functioning appliances still in use.

Reducing excessive electricity consumption from PPLs can save consumers money, reduce carbon emissions, and make the transition to renewable energy less costly.

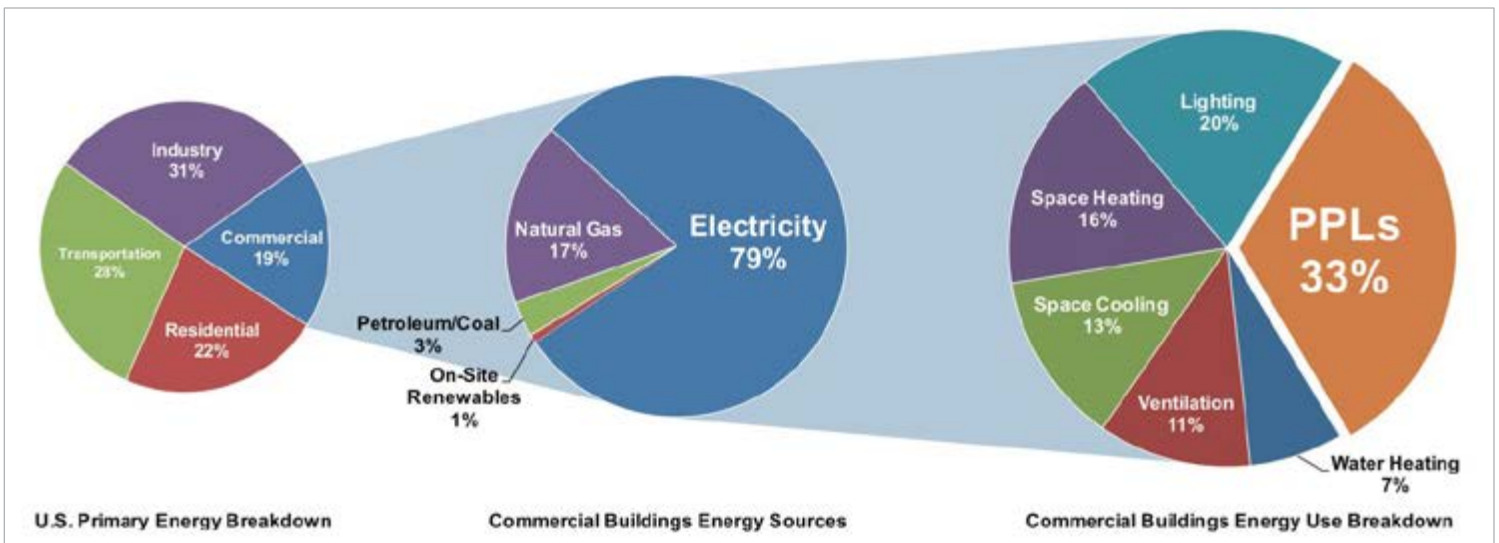
PROPOSED SOLUTION:

Power plug load management to reduce carbon emissions requires a combination of consumer awareness and low-cost technology intervention. In 2008, the University North Texas (UNT) and the Renewable Nations Institute (RNI) collaborated on a STEM education research project – Middle Schoolers Out-to-Save the World (M-SOS-W) –

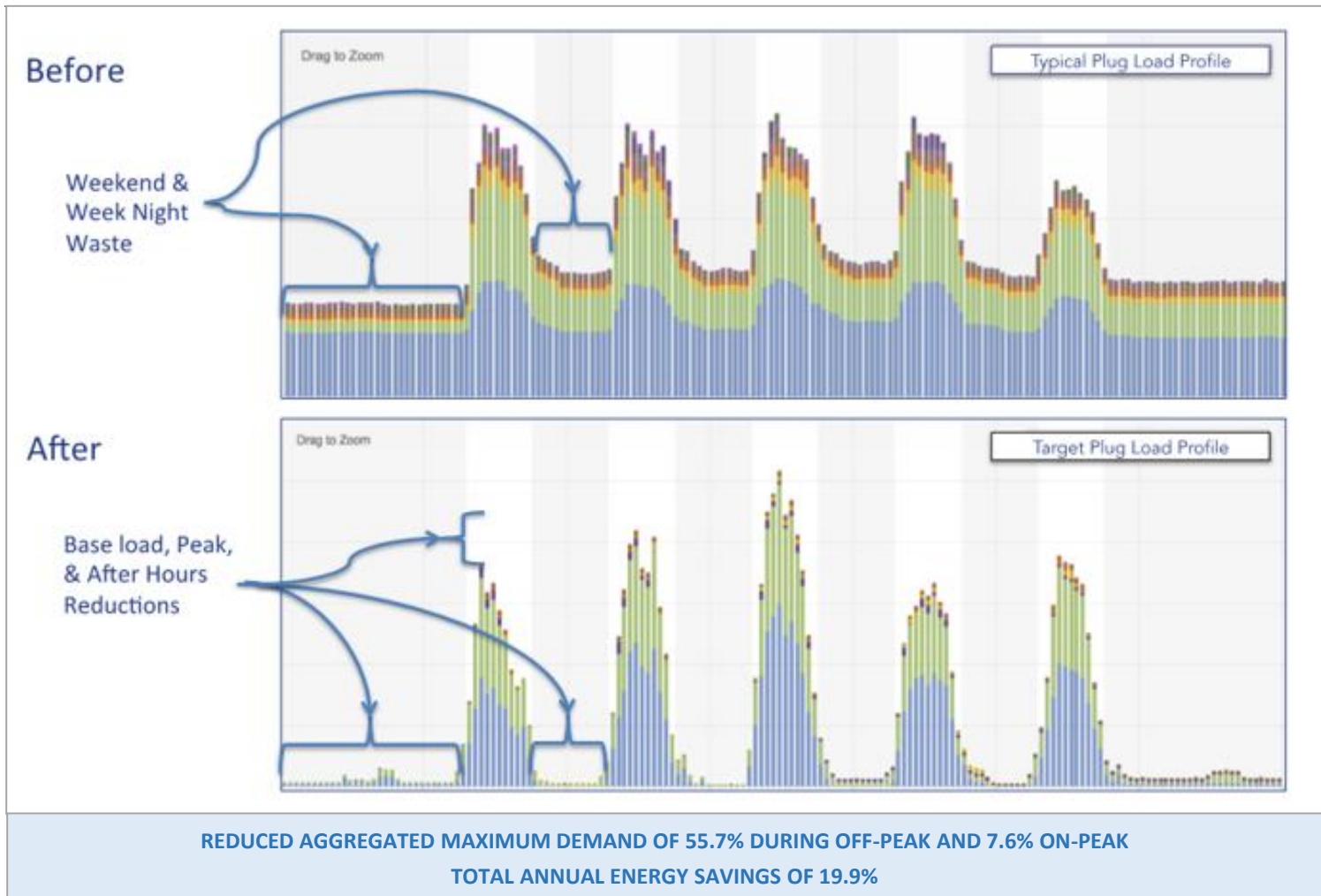
to demonstrate the efficacy of youth (using energy monitoring equipment in diverse home and community settings) to gather data and build accurate, scientifically important models of energy consumption in communities to affect behavioral change in adults to make responsible decisions concerning energy and climate change.

The M-SOS-W National Science Foundation (NSF) research project (#DRL-083376) and the subsequent “Going Green: Middle Schoolers Out-to-Save the World” (#DRL-1312168), engaged over 400 students in 24 schools in diverse communities across 7 states from 2008-2019.

The unique social innovation of this research is its framework of measurable intergenerational accountability. M-SOS-W empowered youth to hold the general public accountable for (a) improving their attitudes, knowledge, beliefs and intentions toward climate change, and (b) holding energy consumers accountable for specific data-driven actionable solutions to global warming as demonstrated by measuring, monitoring and verification of the potential to reduce wasteful energy consumption and related CO₂ and GHG emissions from standby power and inefficient functioning appliances.



Power Plug Load is U.S. Commercial Buildings; Source: National Renewable Energy Laboratory (NREL)



Source: San Diego Gas & Electric Emerging Technologies Program

The Proposed Center for Climate Solutions (Center) will engage thousands teachers and students in public and private middle and high schools throughout the City of New York to reduce energy consumption, carbon emissions, and related greenhouse gas (GHG) emissions in residential, commercial and institutional buildings in their communities. In-classroom training aligned with Next Generation Science Standards will include the use of energy monitoring equipment in diverse home and community settings to gather data and build accurate, scientifically important models of energy consumption. The Green Earth Corps after-school enrichment program will engage students in community service to conduct energy monitoring services with the goal to affect behavioral change in adults to make responsible decisions concerning energy and climate change. Energy and carbon emissions reduction data will be monitored, verified, reported, and published as peer-reviewed research. The Green Earth Corps will be replicated globally in collaboration with UNESCO and other United Nations agencies, allowing students to receive recognition as United Nations Junior Ambassadors under United Nations Department of Economic and Social Affairs (UN DESA) Partnership Commitment #SDGAction13739.

COLLABORATORS / ROLES:

University of North Texas
Measure Learning Outcomes

Renewable Nations Institute
Program Planning

Civilian Conservation Corps - USA
After-School Enrichment Program

NYC Department of Education
In-Classroom Training
(Outstanding Need)

UNESCO
Global Program Outreach

Consolidated Edison
Verification of Energy Reduction
(Outstanding Need)

The Carbon Research Collaborative

PROBLEM STATEMENT:

The Intergovernmental Panel on Climate Change (IPCC) cites the lack of accessible and compelling methods to convey knowledge of climate science and the impact of global warming on society and environment impede public acceptability of climate-resilient development pathways. The ability to convey knowledge of climate science in an intuitive and compelling manner to students and the public globally is required to motivate them to influence business and political leaders to craft policies that would reduce damage to the planet.

PROPOSED SOLUTION:

The Renewable Nations Institute collaborated with iGlobe, Inc. and the Massachusetts Institute of Technology (MIT) to create the Carbon Research Collaborative. The Collaborative aims to: (i) provide compelling methods for educators and their students to explore deeply what the data and state of the art models tell us about climate changes, both natural and anthropogenic, as well as to illustrate climate processes with simple models that can be used for "what if" scenarios; and (2) allow researchers, educators, students, and the general public to collaborate on research to learn more about the complex relationships between environmental conditions and the impact of changes in Earth's ecosystems and the processes that force changes over time, including changes that result in increasingly frequent, catastrophic events.

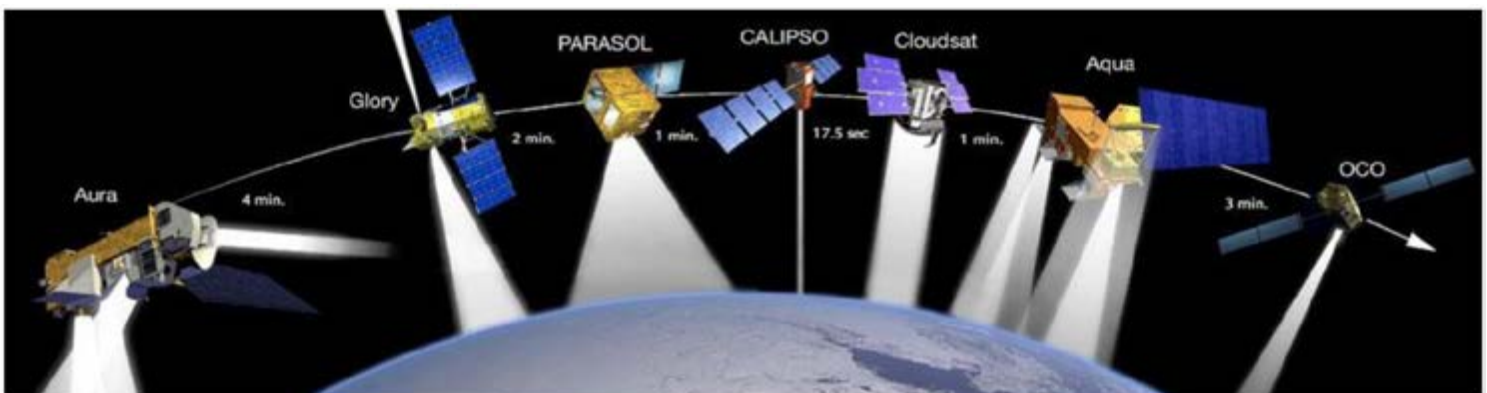
The Carbon Research Collaborative will engage teachers and students in K-12 schools across the U.S. and across the world in Action Research inquiries on the impact of anthropogenic carbon dioxide (CO₂) emissions on climate change, on Earth's Biosphere and on human populations.

Using data from the Orbiting Carbon Observatory (OCO-2) and other NASA satellites, teachers and students will measure global CO₂ emissions from the world's megacities; assess Earth's capacity to sequester CO₂ in the Biosphere; and model the socioeconomic and environmental impacts in their communities and across the globe.

Action Research outcomes will be displayed on Digital Video Globe (DVG) instructional technologies to be viewed by over 30 million people annually in hundreds of museums worldwide and on individual handheld devices, including smart phones and tablets.

Data displayed on DVG technologies are sourced from National Aeronautics and Space Administration (NASA) orbiting satellites and other remote and pervasive sensing networks.

NASA (and its international partners) operates several Earth-observing satellites that closely follow on the same orbital "track." This coordinated group of satellites, constituting a significant subset of NASA's current operating satellite missions, is called the Afternoon Constellation, or the "A-Train," as shown below.



The NASA "A" Train; Source: National Aeronautics and Space Administration (NASA)



Source: Renewable Nations Institute

The Collaborative will be launched in public and private middle and high schools throughout the City of New York to provide accessible and compelling methods to convey knowledge of climate science and the impact of global warming on society and environment. Educators and students will co-create knowledge and solutions to the climate crisis with scientists and citizens worldwide on a shared technology knowledge platform.

COLLABORATORS / ROLES:

University of North Texas
Measure Learning Outcomes

Renewable Nations Institute
Program Planning

iGlobe Inc. / MIT
Technology Infrastructure

NYC Department of Education
In-Classroom Training
(Outstanding Need)

UNESCO
Global Program Outreach

NASA / NOAA
Earth Systems Data

SDG Architect Strategic Board Game

PROBLEM STATEMENT:

The Sustainable Development Goals (SDGs), set by the Heads of State and Government and High Representatives from over 193 National Governments meeting at the United Nations Headquarters in New York from 25-27 September 2015, are a complex set of 17 integrated goals which, in aggregate, consist of 36 topics and contain 169 specific targets.

The SDGs among the most complex set of powerful global forces that will impact the life of students (and ordinary citizens) for decades to come, yet fundamental concepts underlying the SDGs are not general taught in public and private schools as a comprehensive, coherent, and equitable set of values, or generally accessible to the general public in a format that is readily understood.

PROPOSED SOLUTION:

The Millennium Institute has developed SDG Architect as a competitive strategic board game where players develop and implement a strategy to achieve sustainable development in their cities or countries by setting public policy across all sectors of society in a "whole-of-society" approach and making efficient use of limited human capacity, economic capital, and natural resources that commonly constrain sustainable development pathways.

SDG Architect is recommended for three to six players, ages 12 to adults, with flexible game rules and setup to adjust to player age, experience, or time limit. It is designed for a 60- to 180-minute play time for use in workshops, classrooms, team building exercises, or for personal and family entertainment. The game package contains 1 game board, 1 die, 1 players guide, 6 quick reference inserts, 102 tokens, 102 leader stickers, and 180 resource cards.

The proposed Center for Climate Solutions will conduct SDG-based seminars, workshops, and conferences on Governors Island and at various setting in New York City in which SDG Architect will facilitate a guided interaction among diverse cross-sectoral stakeholders to jointly envision an inclusive and equitable pathway to sustainable development and resiliency against the increasingly frequent, catastrophic weather events driven by anthropogenic climate change.

SUSTAINABLE DEVELOPMENT GOALS





USE OF GAME: SDG Architect will be utilized in the context of the proposed Center for Climate Solutions as an engaging teaching and learning tool in New York City public schools, and in seminars, workshops, and conferences that bring together diverse cross-sectoral stakeholders in New York City to develop and nurture an understanding about the complex pathways to an inclusive and equitable pathway to sustainable development. The intended outcomes of the game deployed across diverse community settings is to encourage a greater understanding and cooperation among diverse cross-sectoral stakeholders in New York City that lead to the co-creation of climate solutions and deeper community engagement with the proposed Center for Climate Solutions.

COLLABORATORS / ROLES:

Millennium Institute
Videogame Development

UNESCO
Global Networking

University of North Texas
STEM Education Learning Assessment

Civilian Conservation Corps, USA
Youth Volunteer Recruitment

Association for Senior Debate
Intergenerational Learning Engagement

Renewable Nations Institute
Project Management

New York City Department of Education
Student and Educator Outreach

PTAlink
Parent Outreach – New York City PTAs

iGlobe, Inc. / MIT
Geospatial Technology Development



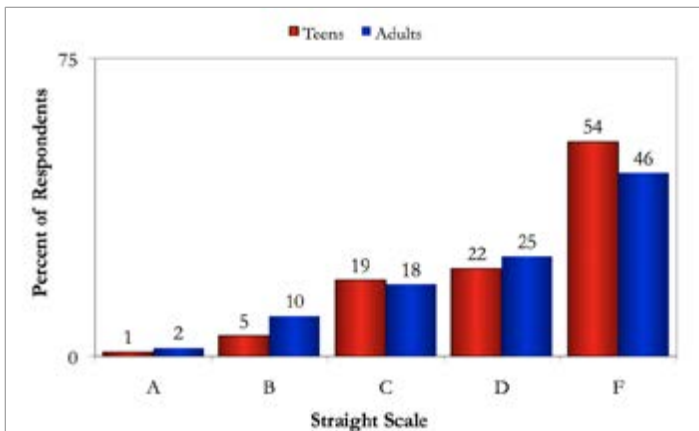
Climatologist in Space

PROBLEM STATEMENT:

“The lack of education and information on climate change, and various CO₂ and related global GHG emissions reduction strategies, are likely to impede the acceleration of wide-scale behavior changes consistent with adapting to and limiting global warming to 1.5°C above pre-industrial levels by 2045 to 2055 (the interquartile range) to avoid irreversible, catastrophic impacts of global warming.” (IPCC, 2019)

The American Teens’ Knowledge of Climate Change reported that 25% of teens received a passing grade (A, B, or C), compared to 30% of American adults. While knowledge levels vary, these results also indicate that relatively few teens and adults (1% and 2%, respectively) have an in-depth understanding of climate change; 54% of teens received a failing grade (F), compared to 46% of adults.

Figure 1.2: Grading Teens’ and Adults’ Knowledge of Climate Change



Source: Yale Project on Climate Change Communication

PROPOSED SOLUTION:

In 2015, the Emergent Media Center (EMC) at Champlain College and the Renewable Nations Institute collaborated to support a graduate-level student capstone project to develop a videogame concept aimed at educating students in grades six through nine on knowledge concerning anthropogenic climate change and related impacts to human societies and ecological systems.

The videogame concept was originally conceived as an after-school enrichment program aligned with the Next Generation Science Standards (NGSS) for Middle School, including:

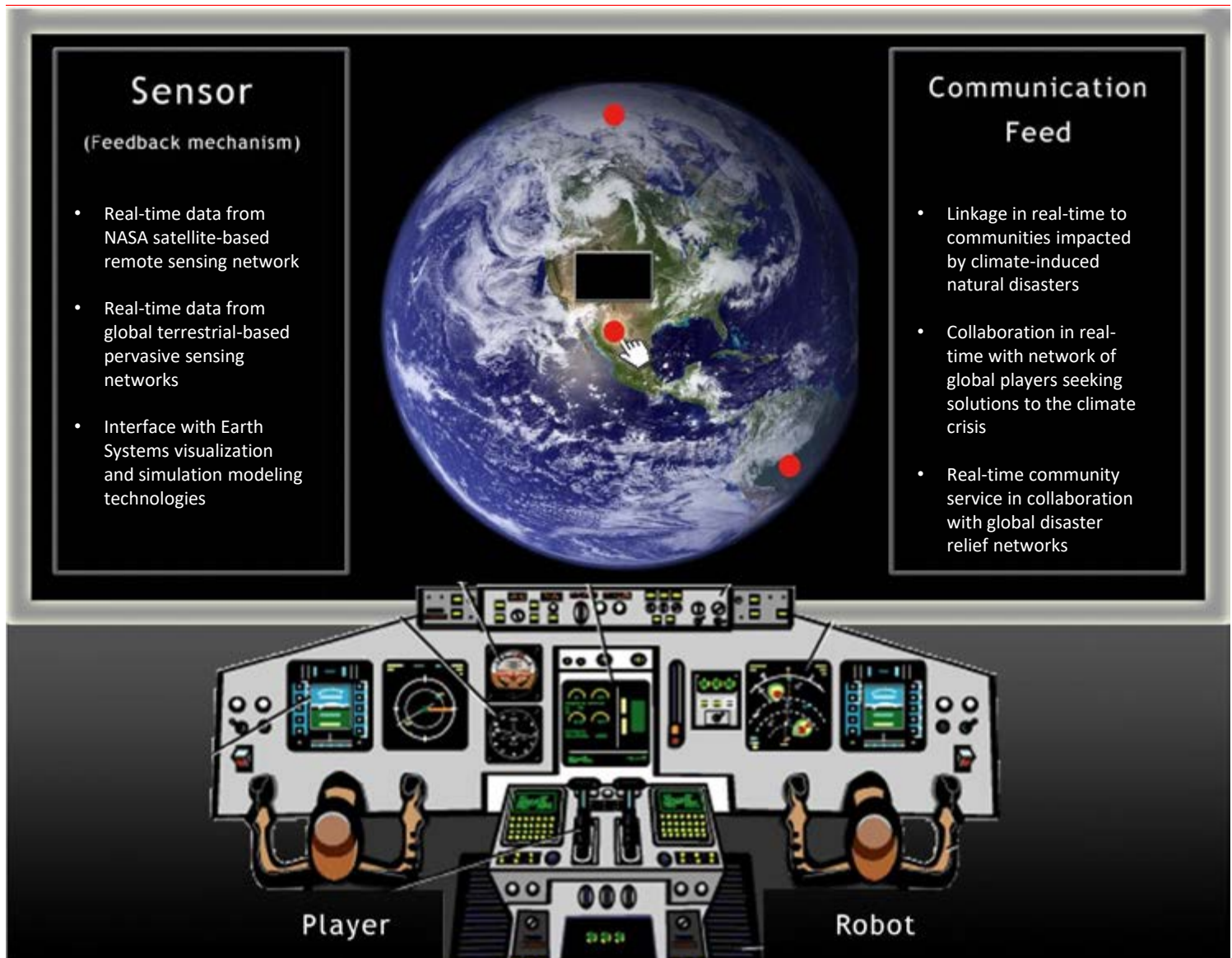
MS-ESS2: Earth's Systems

- ESS2-1: Describe the cycling of Earth's materials and the flow of energy.
- ESS2-4: Describe the cycling of water driven by gravity and energy from the sun.
- ESS2-5: Collect evidence for how the motions and complex interactions of air masses results in changes in weather conditions.
- ESS2-6: Describe how uneven heating and Earth's rotation cause patterns of circulation in the atmosphere and oceans that determine regional climates.

MS-ESS3: Earth and Human Activity

- ESS3-2: Analyze data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.
- ESS3-3: Design a method for monitoring and minimizing a human impact on the environment.
- ESS3-4: Construct an argument for how increases in human population and per capita consumption of natural resources impact Earth's systems.
- ESS3-5: Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

The proposed game play involves players investigating environmental problems by working with models, viewing simulations, taking scientific measurements, in order to devise solutions to problems and then verify those solutions. The Renewable Nations Institute has since conceived of “Climatologists in Space” as an intergenerational videogame, as adults lag behind teens in knowledge of climate change science and equitable solutions to the climate crisis.



GAME CONCEPT: Climatologists in Space are aspiring United Nations Junior Ambassadors monitoring Earth systems in real-time through global remote and pervasive sensing networks while providing critical disaster relief assistance to climate-impacted communities in crisis, learning about climate science in the context of Coupled Human and Natural Systems, and promoting wide-scale behavior changes consistent with adapting to and limiting global warming.

COLLABORATORS / ROLES:

Champlain College Emergent Media Center
Videogame Development

UNESCO
Global Networking

University of North Texas
STEM Education Learning Assessment

Civilian Conservation Corps, USA
Youth Volunteer Recruitment

Association for Senior Debate
Intergenerational Learning Engagement

Renewable Nations Institute
Project Management

New York City Department of Education
Student and Educator Outreach

PTALink
Parent Outreach – New York City PTAs

iGlobe, Inc. / MIT
Geospatial Technology Development

Digital Video Globe (DVG) Technologies

iGlobe/MIT Interface

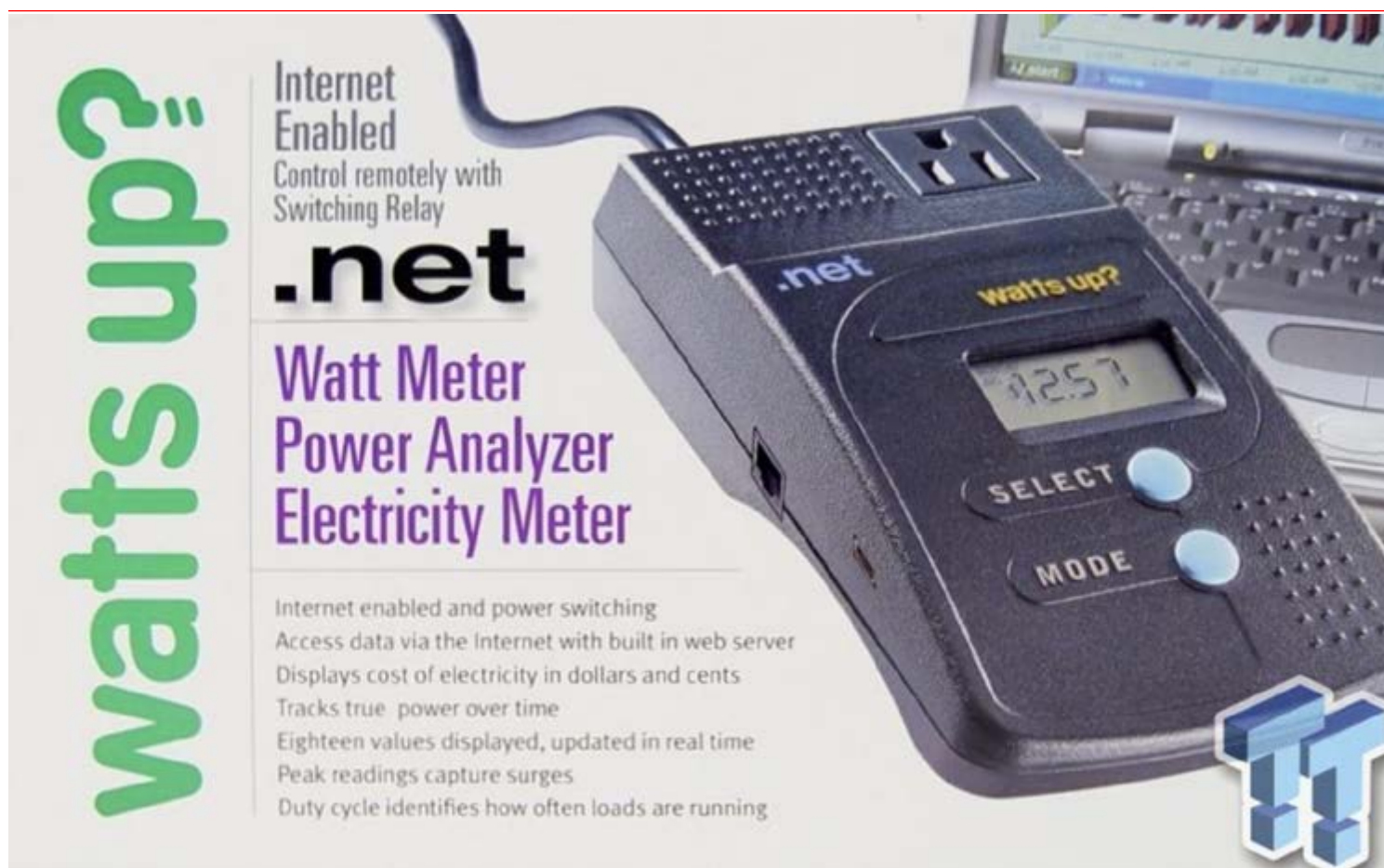


PRODUCT COMMERCIALIZATION:

A Digital Video Globe (DVG) is a geospatial instructional technology that projects simulations of Earth Science data on a 360° globe or flat-screen display. STEM research shows that spatial ability (which can be assessed and improved utilizing DVG technologies) is the principal indicator for identifying high-school students who pursue STEM careers and the main attribute among students who later achieve advanced STEM educational and occupational credentials. Educational neuroscience research has found that geospatial modeling (spatial organization) is an important method for transferring knowledge that has lasting implications for neurocognitive development in young learners. These findings have far-reaching implications for how schools can design their Earth Science programs and how teachers could structure educational experiences using DVG technologies.

The Renewable Nations Institute in collaboration with iGlobe Inc. and the Massachusetts Institute of Technology will undertake research and development for a next generation DVG technologies to provide accessible and compelling methods to convey knowledge of climate science and the impact of global warming on society and environment. This research will be a continuation of research conducted under a National Science Foundation (NSF) grant (STTR #1416970) for several patented iGlobe technologies. iGlobe Inc. is the only remaining global commercial producer of DVG technologies. iGlobe Inc. has ceased production of DVG products due to the COVID-19 pandemic. The Renewable Nations Institute will support the commercial restart of iGlobe Inc. DVG commercial production and new DVG product research and development at the proposed Center for Climate Solutions.

Education-based Energy Monitoring Technologies



PRODUCT COMMERCIALIZATION:

Watts Up? Supermeters were a popular education-based energy monitoring technology for teaching and learning of the characteristics of electric powered consumer devices. The Renewable Nations Institute utilized Watts Up? Supermeters across several STEM education research projects, including the National Science Foundation (NSF) funded project Middle Schoolers Out-to-Save the World (M-SOS-W) (#DRL-083376) in collaboration with the University of North Texas, and Project ERGAL (Renewable Energy Galapagos, funded by the United Nations.

The U.S. Watts Up? Supermeter manufacturer is now out of business and the product no longer available. The Renewable Nations Institute will undertake research and development for a next generation replacement product for the Watts Up? Supermeter based upon advances of wireless data transfer protocols on the form factor of common consumer devices, such as cell phones and tablets, integrated with electric utility smart meter technologies and household and commercial power management technologies for broad energy education and consumer applications.



The Green & Healthy Homes Initiative, a 501(c)(3) non-profit organization, is the nation's largest and most influential Healthy Housing leader with over three decades of proven accomplishments in the advancement of programs, policies and practices to eradicate childhood lead poisoning and create a healthier and energy efficient housing stock for all Americans. GHHI is dedicated to addressing the social determinants of health and racial equity through healthy housing. Based on its experience and demonstrated capabilities, GHHI proposes to provide a number of key technical assistance and training services to support and provide capacity for the Renewable Nations Institute's project team as it develops the Institution, anchors the overall Center for Climate Solutions in New York and scales nationally and globally.

Environmental and Climate Justice and Energy Equity

GHHI will help the project team develop strategies to ensure that the Institution's weatherization, renewable energy and home hazard remediation programs are designed to be accessible and effective for low income communities. GHHI will develop energy, health, economic and racial equity measurements to serve as clear benchmarks for the how the Institution and the Center are delivering solutions that have measurable impact for underserved communities of color. GHHI can also provide its research and evaluation services in helping to measure the project's advancement of equitable climate solutions that also improve public health and housing stability.

- Through its on the ground work in communities, its work in 13 states with Energy Efficiency for All (EEFA), and as a thought leader through its publications and advocacy on health and energy equity, GHHI has been a national leader in advancing environmental justice, racial equity and economic opportunity for disadvantaged families.

Creating Green and Healthy Housing in Low Income Communities

GHHI will provide technical services to Renewable Nations Institute and its partners in devising models for energy efficiency retrofits that incorporate healthy housing strategies and housing resiliency components. While maintaining its grass roots presence in the Baltimore City communities where it was founded, GHHI will bring expertise to the project from its current work that is focused on the continued implementation of GHHI's model nationally that is utilizing an integrated, single stream assessment and intervention model to comprehensively combine lead hazard reduction, healthy homes and weatherization in low income communities of color across the country to increase the stock of affordable and sustainable homes.

- GHHI has partnered with 100 state and local jurisdictions through direct services, technical assistance and capacity building and currently supports the implementation of the GHHI integrated model and innovative healthcare financing in 65 partner sites across the US.

Innovative Healthcare Partnerships and Financing

GHHI will provide technical support in developing healthcare partnerships and investments in the healthy and resilient housing as part of the work of the Institution and the Climate Center. GHHI will advise the project team and utilize its proven track record to develop sustainable funding sources from Medicaid, CHIP and the private healthcare sector to invest in more energy efficient homes where home-based health hazards such as mold, extreme heat and poor indoor air quality that are exacerbated by climate change are addressed.

- GHHI is a national leader in advising healthcare systems and organizations making investments in healthy housing. Following its research and data analysis in building the business case, GHHI is the architect of current programs with three national managed care organizations providing





evidence-based healthy homes services in the States of Maryland New York and Ohio. This groundbreaking work includes partnering with ProMedica's Social Determinants of Health Institute and its Impact Fund's investment that will produce 7,000 healthy and energy efficient homes in low income communities in seven cities. GHHI currently partners with Pennsylvania's largest health system, Penn Medicine, to design, implement and evaluate its \$50 million investment in lead hazard remediation that has launched in Lancaster County, Pennsylvania.

Philanthropic and Cross Sector Government Partnerships

GHHI will serve as a technical advisor for the Institution in helping foster collaborations and cross sector investment s from federal and state government stakeholders and philanthropy to scale climate initiatives around energy efficiency, healthier housing and housing resiliency.

- GHHI serves as a technical advisor to HUD, EPA, National League of Cities, NEHA, National Council of State Housing Agencies, EEFA, APHA, COIIN, The JPB Foundation and the Annie E. Casey Foundation among others.
- In partnership with HUD, DOE, CDC and the Council on Foundations, GHHI launched the national Green & Healthy Homes Initiative in 2009 to cost effectively integrate energy efficiency and weatherization investments with lead hazard control and health and safety efforts. GHHI's work to foster the adoption of its innovative model helped to produce 597,000 green and healthy homes integrated housing interventions in low income communities in partnership with HUD from 2010-2016.
- GHHI was retained by the States of New York and Connecticut to assist in the research, design and development of innovative and sustainable Green and Healthy Homes projects that integrate healthy homes and energy efficiency interventions in each state. The NYSERDA Healthy Homes Value Based-Purchasing Pilot Project is designed to utilize braided funding mechanisms including Medicaid funding support that is coupled with state energy efficiency funding. In partnership with NYSERDA and the State of New York Department of Health, GHHI completed a Feasibility Report that demonstrated for the state agencies the return on investment of an integrated housing intervention model and the utilization of Medicaid investments in healthy housing. GHHI is currently working with NYSERDA and project partners on the final project planning for the state's \$10 million investment in the Pilot Project's implementation.

Green Jobs Training and Workforce Development

Having operated housing contactor crews since 1997 in Maryland and provided comprehensive healthy homes and weatherization trainings nationally, GHHI is uniquely qualified to help the Renewable Nations Institute build a broad green jobs training and workforce development component. GHHI will provide direct trainings and assist the Institution in creating a workforce development and green jobs career pathway for unemployed, underemployed and re-entry individuals in New York City's at risk communities to provide energy efficiency and healthy homes interventions as part of the project's green jobs incubators. The hiring of low-income community residents from black and brown neighborhoods to conduct the project's housing assessment and intervention work will build sustainable change and economic opportunity.

Green & Healthy Homes Initiative
Ruth Ann Norton, President & CEO
2714 Hudson Street, Baltimore, Maryland 21224-4716
410-534-6477 ranorton@ghhi.org



Request for Letters of Interest

Center for Climate Solutions

**Advocate, Educate, Innovate & Co-create Equitable
and Actionable Solutions to the Climate Crisis**

GOVERNORS ISLAND
New York City, New York



Concept Design: Center for Climate Solutions, Trust for Governors Island

“The Center for Climate Solutions on Governors Island will be a cross-sector hub of educators, researchers, innovators, and advocates that will prepare New York City and cities around the world for climate change.”

- The Trust for Governors Island

August 2021

Version 14



6 August 2021

Re: Request for Letters of Interest

Dear Friends and Colleagues:

On 28 June 2021, the City of New York (the “City”) and the Trust for Governors Island (the “Trust”) released a Request for Expression of Interest (the “RFEI”) for an Anchor Educational & Research Institution to *build, program, and operate* a Center for Climate Solutions (the “Center”) on Governors Island, a 172-acre former military base located in the heart of New York Harbor, New York, NY.

The City and the Trust have three key goals for Center development:

- **Equitable Climate Solutions:** Advance actionable solutions to address climate change mitigation for cities around the world which prioritizes equity, addresses climate justice, and engages with one or more of City’s and the Trust’s principal focal areas: climate change adaptation, urban environments, inspiring climate action, and public health.
- **Governors Island:** Embody a deep sense-of-place that leverages the Island’s physical landscape and existing community of users (including tenants, partners, and the general public), and contributes to the financial sustainability of the Island’s infrastructure and the operations and maintenance of the Trust.
- **New York City:** Create opportunities for New York City (the “NYC”) residents—particularly diverse communities and those on the front lines of the climate crisis—around meaningful public engagement, education, training and employment, and the co-creation of equitable climate solutions.

The Renewable Nations Institute (the “Institute”) is requesting Letters of Interest from stakeholders in education, government, industry, philanthropy, and civil society sectors to participate in a multisector consortium (the “Consortium”), and to submit an Expression of Interest to the Trust on/or before the RFEI due date of 29 September 2021.

Over the coming weeks, the Institute will facilitate the formation of a Consortium and take joint responsibility with prospective Consortium members (the “Members”) for developing and submitting an Expression of Interest in response to the RFEI.

This Executive Summary addresses proposed Center development within the context of a critical risk management framework (the “Framework”) developed by the Institute and prospective multisector Consortium Members. It is the initial step in an iterative process that will result in the submittal of an Expression of Interest to the Trust.

It is, furthermore, the intent of the Institute to form a Consortium that will be invited to participate in the proposed Center in a support role if the Consortium is not selected as the lead developer of the Center through the RFEI or subsequent Request for Proposals (the “RFP”).

Please feel free to contact me to discuss this truly unique opportunity to address the climate crisis.

Respectfully,

Allan E. Baer, President

The Renewable Nations Institute

+1.802.279.7250

abaer@renewablenations.nyc

<http://www.renewablenations.nyc/>

Table of Contents

Executive Summary	Pg.	4
A. The Opportunity / Phased Development Plan	Pgs.	5 - 9
A.1. Phase 1	Pgs.	5 - 7
A.2. Phase 2	Pgs.	8 - 9
B. City and Trust's Goals and Focal Areas	Pgs.	10 - 12
B-1. Equitable Climate Solutions	Pg.	10
B-2. Governors Island	Pg.	11
B-3. New York City	Pgs.	11 - 12
C. Vision Statement	Pg.	13
D. Critical Risk Management Framework	Pgs.	13 - 18
D-1. Global Investments in the Energy Transition	Pgs.	14 - 15
D-2. Supply-side and Demand-side Energy Workforce Transformation	Pgs.	15 - 18
E. Organizational Structure	Pgs.	19 - 20
E-1. Renewable Nations Institute	Pg.	19
E-2. Consortium	Pg.	20
E-3. Special Purpose Vehicle	Pg.	20
F. Renewable Nations Institute	Pg.	21
G. Letter of Interest Submittal Instructions	Pg.	22
G-1. Contact Information	Pg.	22
G-2. Letter of Interest Submittal Instructions	Pg.	22
H. Anchor Institution Partnership List	Pg.	23

EXECUTIVE SUMMARY

The Institute seeks to develop a Consortium in response to the Request for Expression of Interest by the City and the Trust in the belief that the comportment of Governors Island will compel global leaders *to engage, partner, collaborate, and team to co-create* solutions to resolve the climate crisis.

Throughout the narrative of the RFEI [ExSum-01], the Trust encourages responses from *partnerships or consortia* (RFEI, pages 5, 21, and 31) and uses such terms as *public engagement* (35 times), *partners and partnerships* (28 times), *collaborate and co-create* (13 times), and *teams* (6 times). The Trust also states: “In the event an RFP is issued, it is anticipated that only entities included on a *team* that responded to the RFEI will be eligible to respond” (RFEI, page 5).

This Request for Letters of Interest defines the Institute’s primary goals to form a multisector *team* to address key socioeconomic risk factors impeding progress to limit median global temperature rise to below 1.5°C to 2°C. These goals are as follows:

- Stimulate an annual global investment of USD 1 trillion through 2050 in energy efficiency and renewable energy (the “EERE”) projects worldwide;
- Provide EERE assessment services resulting in the development of investment-grade proposals totaling an annual energy services contract (the “ESCO”) implementation value of USD 250 billion, and
- Support the efforts of the global workforce development community that will need to train a cohort of 67.7 million qualified professionals to meet the demand for new jobs in the supply-side and demand-side energy segments, plus train an additional cohort of 58 million qualified professionals to replace today’s energy workforce as it ages out.

These goals are seemingly insurmountable. But consider the following: If NYC were a country, its gross metropolitan product of USD 1.66 trillion would be the tenth-largest economy in the world (RFEI, page 9). NYC is host to nearly 120 colleges and universities that enroll more than half a million undergraduate and graduate students; captures 10% of the global share of venture capital devoted to urban technology (the second most valuable start-up ecosystem in the world at USD 147 billion) [ExSum-02]; procures 10% of total U.S. Department of Energy spending on research and development; and currently invests in Green New Deal initiatives totaling USD 14 billion to advance the City’s goal of carbon neutrality by 2050 (RFEI, page 9).

NYC provides a formidable foundation for the development of a Center for Climate Solutions that can meet and exceed the City and the Trust’s objective to establish a leading, world-class campus dedicated to addressing the global climate crisis. Yet these assets alone are insufficient to meet the scope and scale of the climate crisis, or the objectives of the Consortium as defined herein.

The City and the Trust recognize that the sheer magnitude of the global energy transformation at a projected USD 130 trillion by 2050 can only be achieved through unprecedented *engagement, collaboration, and partnerships* across all sectors of society at-scale throughout the developed and developing world alike. Hence, the City and the Trust are offering invaluable City assets — the lease of up to 33 acres of fully entitled land to develop up to 4.5 million square feet of new facilities, the lease up to 1 million square feet of existing historic buildings on Governors Island, and a City co-investment of up to USD 150M — to an eligible accredited college, university, or independent non-profit research and education institution — that can build “*partnerships or consortia*” (RFEI, p. 21) that include multisector stakeholders from all sectors of society that can demonstrate exceptional capacity for solving the climate crisis.

This Executive Summary reviews of key elements of the RFEI. Section A highlights the offering by the City and the Trust. Section B summarizes the City and the Trust’s goals and focal areas for the proposed Center. Section C offers a vision statement for the Center. Section D defines a Critical Risk Management Framework for the Center as proposed by the Institute. Section E offers a preliminary organizational structure for the Consortium. Section F provides an overview of the Institute, Institute contact information. Section G specifies requirements for the submittal of a Letter of Interest by prospective Consortium Members. Section H is an Anchor Institution Partnership List provided by the Trust.

Through the mechanism of this Letter of Interest, the Renewable Nations Institute invites universities, independent non-profit research and education institutions, trade unions, corporations, philanthropies, civil society and non-governmental organizations — all sectors of society — to contribute to this unique opportunity at Governors Island to address the climate crisis.

SECTION A: The Opportunity

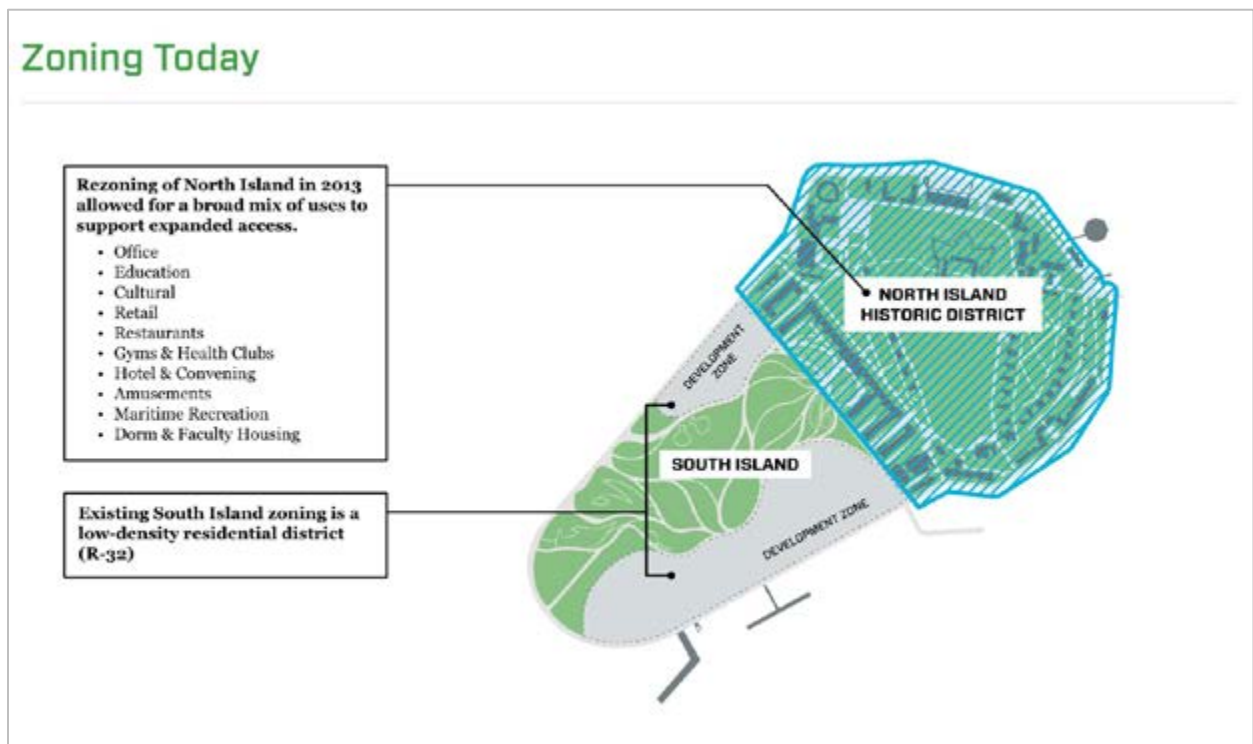
The Trust is offering for ground lease (term of up to 99 years with option to renew) the following assets at Governors Island: (i) up to 50 buildings (the “Buildings”) comprising of 1 million square feet within the North Island Historic District (the “Buildings”) [A-01]; and/or (ii) up to 33 acres of developable land (the “Land”), including 27 acres located in South Island District within the “Eastern Development Zone” and 6 acres within the “Western Development Zone.”

Respondents (the “Respondents”) are welcome to propose to locate their program(s) on whatever portion of the Land or the Buildings best support their plans and the goals of the City and Trust’s for the Center. The Trust’s planning has identified the areas directly adjacent to the Trust’s ferry terminal at Yankee Pier as a priority area for the Institution, including: (i) parcel “E-2” of the Land within the Eastern Development Zone; and (ii) the nearly 400,000 square foot historic Liggett Hall, Building 400 [A-02] and adjacent Buildings. Proposals for adaptive reuse of Buildings and new development of the entitled parcels may be phased.

The Institute proposes to fast-track the adaptive reuse of the North Island Historic District Buildings in Phase I, and to develop up to 4.5 million square feet of new facilities within the Eastern and Western Development Zones in Phase II.

Phased Development Plan:

Phase I: Permitted uses within the North Island Historic District Buildings are as listed in Zoning Today map below. Exempt from lease is Fort Jay, a National Park [A-03] consisting of 22-acres and a military fortification erected by the newly formed United States of America after the American Revolution to protect New York Harbor, and year-round facilities leased to tenants and multiple arts, cultural, and educational partners of the Trust (RFEI, Appendix C, Tenants and Partners, pgs. 45-48).

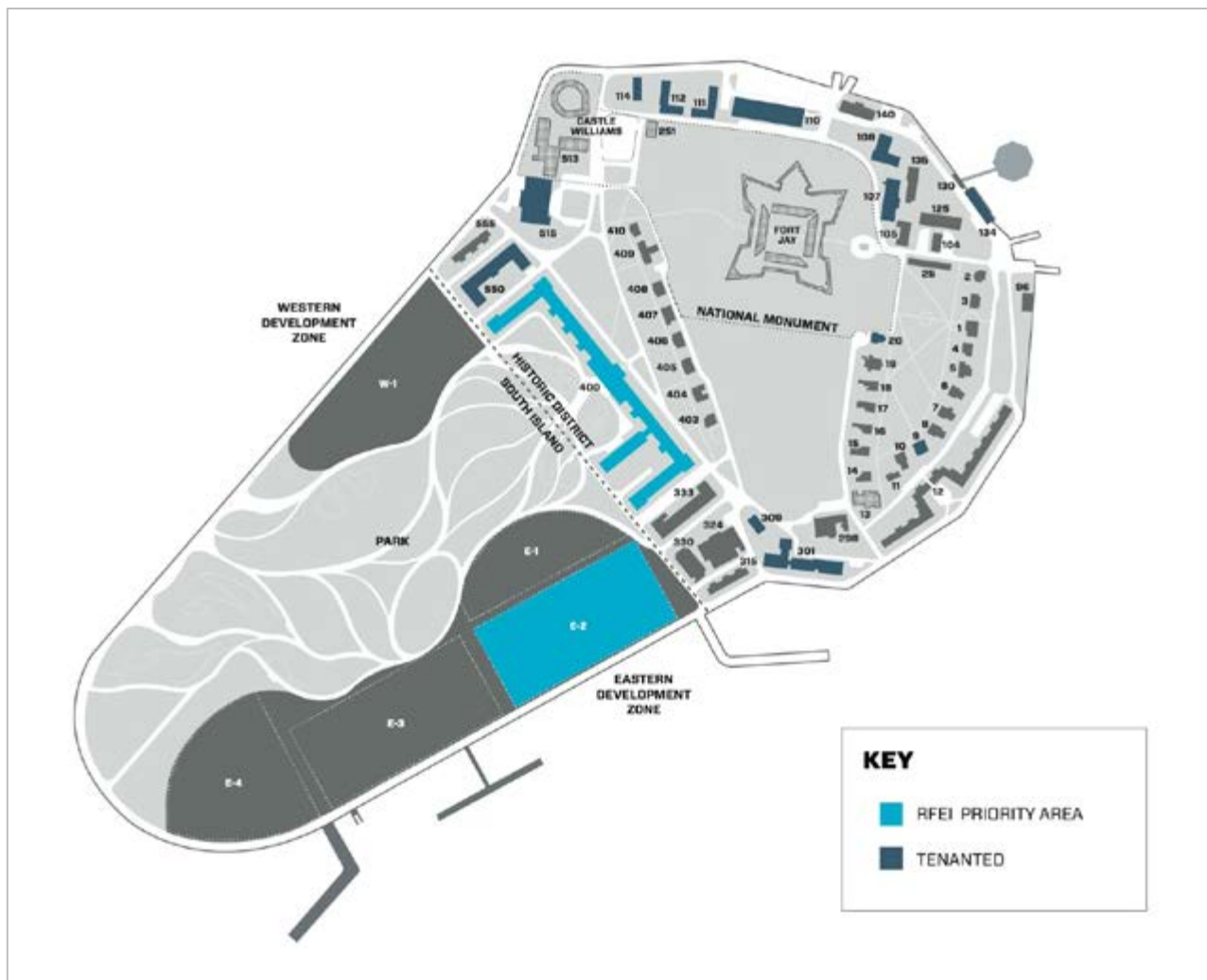


Source: Trust for Governors Island (2021), [A-04]

In Phase I, the Institute proposes to fast-track the development of the Buildings for the Work-Learning-Service (the “WLS”) internship program for the goals for the proposed Center described in sections D.1, Global Investments in the Energy Transition, and D.2, Supply-side and Demand-side Energy Workforce Transformation, of this Expression of Letters of Interest. The WLS internship program will launch concurrently with the planning and construction of Phase 1 in collaboration with colleges and universities in New York City (and beyond) with excess capacity [A-05] to achieve early enrollment in the WLS internship program and accelerate Center financial sustainability.

The following Governors Island Site map provides a visual footprint of the 50 Buildings comprising of 1 million square feet within the North Island Historic District [A-06] and the 33 acres of developable Land within South Island Eastern and Western Development Zones.

Highlighted in light blue shading are the E-2 parcel within the South Island Eastern Development Zone and the nearly 400,000 square foot historic Liggett Hall — Building 400 [A-07] within the North Island Historic District. Both are priority development sites for the Trust. Building 400 and the remaining grey shaded, numbered Buildings comprising of an additional 600,000 square feet in aggregate [A-08] are the focus of Phase I development.



Source: Trust for Governors Island (2021), *REFI*, p. 22.

As stated in the RFEI, the goal of the *Park and Public Space Master Plan* [A-09] is to transform Governors Island as a public resource and create a sustainable revenue stream to support expanded operations and investment.

In Phase I, the Institute plans to concurrently launch the proposed WLS internship program in collaboration with a cohort of higher education institutions (the “HEIs”) from among the 120 colleges and universities and multisector stakeholders in NYC. This will self-generate revenue for the Center and the Trust prior to the completion of Phase I construction.

Lessons learned from the development and operations of WLS programming in collaboration with NYC-based HEIs and multisector stakeholders will inform the development of Center facilities in the priority the E-2 parcel within the South Island Eastern Development Zone, and the remaining incremental development phases for the South Island Eastern and Western Development Zones.

Liggett Hall (Building 400) [A-10], designed by acclaimed architects McKim Mead and White, lies within the North Island Historic District and is the proposed core of Phase I development. Liggett Hall is the centerpiece building of the district and sits at the southern edge of Colonels Row. Liggett Terrace (top photo, below) is the key feature of the new Park and Public Space on Governors Island. Liggett Terrace extends the full length of Liggett Hall and bisects the Island, creating a transition zone (see Zoning Framework map between the North Historic District and new South Island District (see bottom image, below). The Buildings in the Liggett Terrace District are impressive institutional brick structures on a grand scale which share a common look and feel.



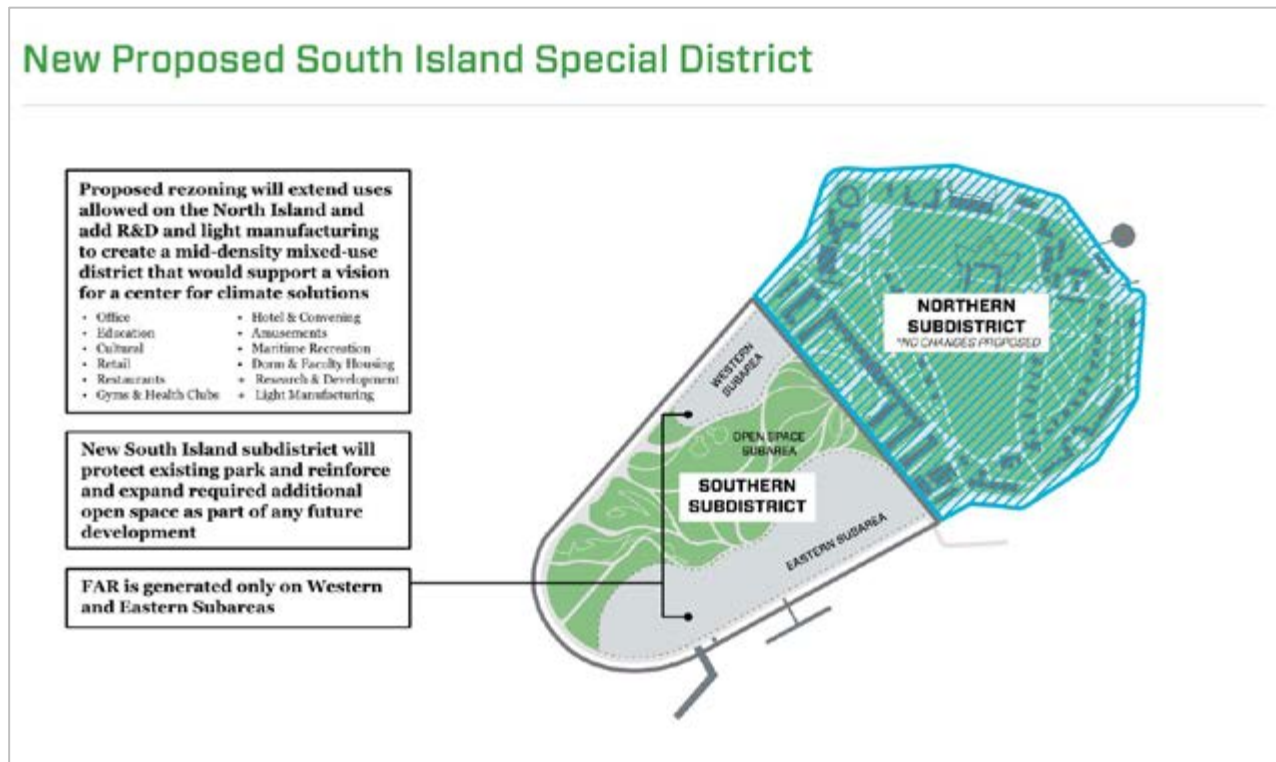
Source: Trust for Governors Island (2021), [Building 400 Images and Plans A-11]



Source: Trust for Governors Island (2021), *Rezoning - South Island (#N210126ZRM, C210127ZMM) Presentation*, pg. 25 [A-12]

Phase II Development Plan: The South District 26.5-acre Eastern Development Zone and the 6.5-acre Western Development Zone offer flexible opportunities for a range of uses and building configurations, as well as tremendous views of New York Harbor, the Statue of Liberty, the Brooklyn waterfront, and the Lower Manhattan skyline. The two development zones are fully entitled for a mix of academic, commercial, and non-profit uses following a rezoning which concluded in May 2021.

The following Governors Island New Proposed South Island Special District site map provides a visual footprint of the combined 33 acres of developable Land within South Island Eastern and Western Development Zones and a listing of permitted uses for new development of the Center:



Source: Trust for Governors Island (2021), [A-13]

The *Park and Public Space Master Plan* [A-14], with ample nature-based assets (marked as “Open Space Subarea” in the site map above), provides a contemplative theme to the South Island Special District.

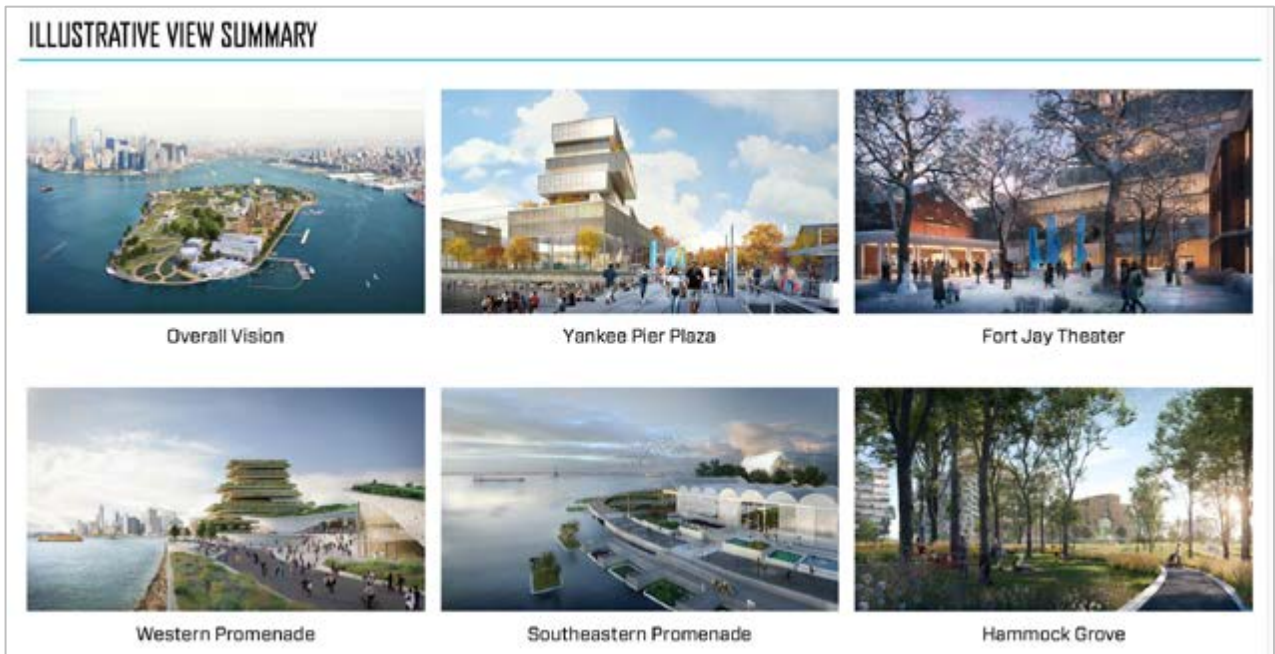
As stated in the RFEI:

Governors Island is among the most treasured places in the city, owing to its location within the harbor, the Governors Island Historic District, the scenic waterfront esplanade, and the 43-acre central park. New development should create a unique sense of place while simultaneously complementing, respecting, and enhancing this existing context. New development should also be mindful of its relation to future phases of development and the continued evolution of the park landscape and amenities. (RFEI, Appendix D, Design Guidelines, p.50)

In consideration of the aesthetic value of North Island Historic District and contemplative theme of the South Island Special District — the Liggett Terrace welcoming space that serves as a gateway between the Historic District, new landscapes, and play areas; by Hammock Grove, a peaceful area for relaxation with an experimental forest of over 1,200 trees; by the 2.2-mile waterfront promenade offering undisturbed views of New York Harbor, the Statue of Liberty, the Brooklyn waterfront, and the Lower Manhattan skyline; and by the Hills, the new park’s crowning feature rising over 70 feet above sea-level — the Institute recommends the submittal of an Expression of Interest to the Trust that offers no specific design for up to 4.5 million square feet of new development for the South Island Eastern and Western Development Zones other than to state that the Consortium will strictly adhere to or exceed the design guidelines and development commitments as specified in Appendix D and Appendix E of the RFEI (RFEI, pages 49 – 55). No cost estimate is projected for Phase II development at this time.

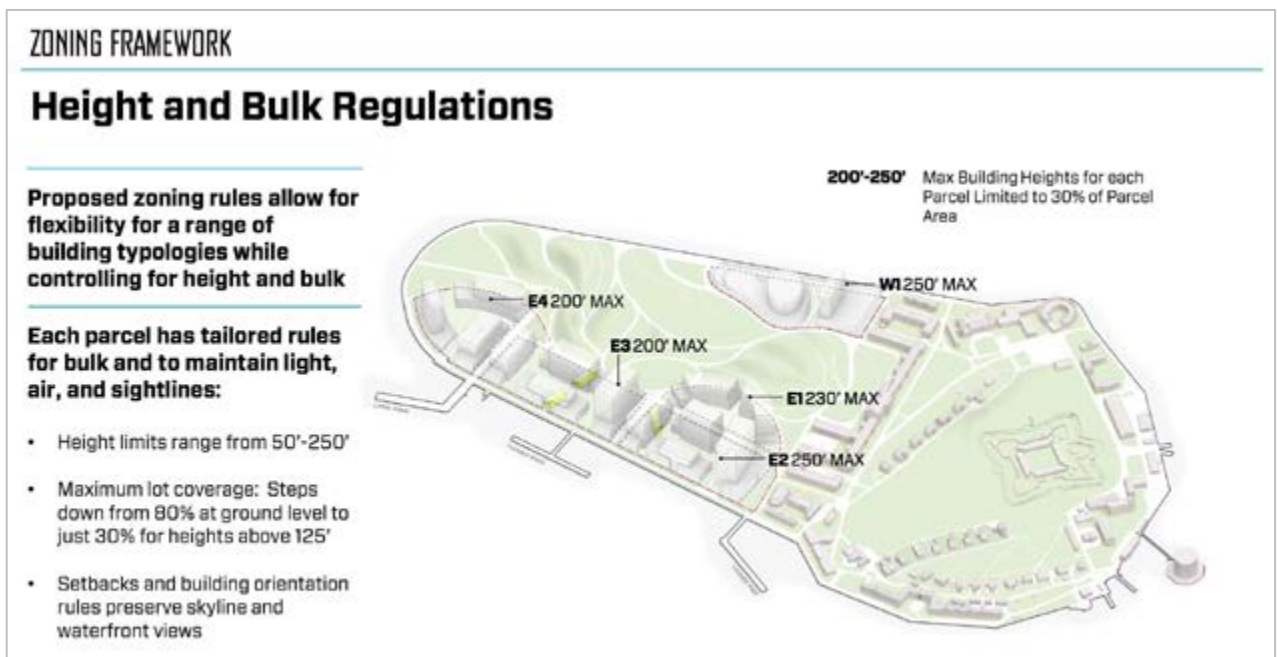
In 2006, West 8 urban design & landscape architecture p.c. [A-15] submitted the winning entry in an international design competition the development of the South Island District following the zoning guidelines below. The entry has since been developed into richly conceived and feasible vision for the South District Master Plan, which will serve as the catalyst and driver for the redevelopment of the Island.

The rendering of the vision for the South District Master Plan is shown below. Click on the [Illustrative View Summary](#) to view renderings in slideshow mode:



Source: Renewable Nations Institute (2021); *Illustrative View Summary Presentation, West 8 Urban Design & Landscape, P.C.* [A-16]

Review public presentations by the Trust, including presentations to the New York City Council Subcommittee on Zoning and Franchises for detailed planning and zoning information [A-17]:



Source: Trust for Governors Island (2021); *Rezoning - South Island (#N210126ZRM, C210127ZMM) Presentation*, pg. 24 [A-18]

Section B. City and Trust’s Goals and Focal Areas

Section B provides a brief summary of the goals and focal areas for the proposed Center on Governors Island. The complete text of the City and Trust’s Goals and Focal Areas can be found in Section V of the RFEI and related Appendices.

The purpose of this brief summary is for prospective Consortium Members to quickly assess their academic and research alignment with the City and Trust’s Goals and Focal Areas for the Center. All Expressions of Interest require Respondents to meet as many of the goals and focal areas described below “*as fully as is feasible and will be evaluated in part on their ability to do so*,” as described in the RFEI, Section VII: Process, RFEI, pages 34-35 [B-01].

Please note the following from the RFEI:

The City and the Trust developed goals for this RFEI through extensive research with leaders in climate science, advocacy, and policy and comprehensive feedback from a community advisory committee including representatives from: the offices of local, state, and federal elected officials; local Community Boards; existing tenants and partners; environmental, cultural, and workforce organizations; park, open space, and historic preservation advocates; and others. These goals are grouped by their impacts in three key, inter-related areas: (i) equitable climate solutions, (ii) Governors Island itself, and (iii) New Yorkers at large. (REFI, page 26).

Abridged Goals and Focal Areas: The Institute and prospective Consortium Members are proposing solutions to each of these goals and focal areas. Proposed solutions will be included in the Expression of Interest and summarized in the appropriate categories below once Letters of Interest are received, and the proposed solutions are clearly defined.

The following is paraphrased from the RFEI, Section V, Goals, pgs. 26-28.

B-1. Equitable Climate Solutions:

Propose an interdisciplinary research or academic program that advances actionable solutions for cities, prioritizes equity and climate justice, and engages with one or more priority focus areas outlined below (1.1. through 1.3.). Address these goals holistically and recognize the ways in which they complement and engage with one other (for example, approaching commercialization of the institution’s research with an equity and justice lens).

- 1.1. **Interdisciplinary Approach with Key Themes:** Showcase interdisciplinary research collaboration between fields such as the natural sciences, social sciences, business, public health, policy, the arts, and more, directed at equitable solutions to the climate crisis.
 - 1.1.a. Climate adaptation, particularly to New York City local hazards including sea level rise, extreme temperatures, torrential rainfall, and groundwater table rise;
 - 1.1.b. Urban environments;
 - 1.1.c. Engaging with government, civil society, and the general public on policy and communication around climate action in three priority areas: adaptation, preparedness, and mitigation;
 - 1.1.d. Intersections between resilience and public health.
- 1.2. **Environmental and Climate Justice:** Integrated and holistic focus on racial equity in the area of climate, as well as environmental and climate justice. Explore ties to existing efforts in these areas within the five boroughs, and reflect a commitment to diversity, equity, inclusion, and environmental justice expertise in their leadership structure. Focus on the co-production of research and solutions with a broad range of New York City stakeholders.
- 1.3. **Commercialization & Solution-Orientation:** Include an applied sciences focus on adaptation, preparedness, and mitigation solutions with commercialization potential, particularly for urban environments, creating opportunities for wide adoption and green economic development (for example, through the inclusion of applied disciplines, engagement of technology transfer offices, creation of or partnership with accelerator and incubator programs, cooperation with corporate entities and innovation studios, etc.)

B-2. Governors Island:

The most compelling responses will be those with a deep sense of place that take advantage of the Island’s unique context, making a positive contribution to the Island’s, to its financial sustainability, to its physical campus, and to its existing community of users, tenants, and partners. Respondents are expected to address the following guidelines:

- 2.1. **Inspired and Innovative Design:** Inspired and innovative design concepts that conform with the Trust’s detailed design guidelines, attached to this RFEI as Appendix D, Design Guidelines, pgs. 49-52. Key design guidelines are: (i) demonstrate resiliency and sustainability solutions in design, construction, and ongoing operations that are both innovative and replicable, going well beyond local code requirements and responding to New York City’s local climate hazards, (ii) respect and enhance the existing Island context, creatively activating and engaging with the Island’s historic and natural resources, and (iii) complement and enhance the Island’s public space and visitor experience.
- 2.2. **Connect with the Island as a Living Laboratory:** Proposed partnerships with businesses and non-profits that engage with and leverage the Island’s unique context, including its abundant open space, waterfront assets, and diverse audience for real-world urban experimentation and engagement. Describe strategies that maximize the advantages of a location on Governors Island, create robust interpretive opportunities that allow the public to engage with the work, and allow researchers and entrepreneurs to test, iterate, and scale their climate solutions across the Island and the City with applied R&D labs, outdoor installations, and public demonstrations, etc.
- 2.3. **Generate a Fair Return to Support the Island and Expanded Public Access:** Support the Island’s goal of financial self-sufficiency and expanded public access through common area maintenance charges and/or rent payments.
- 2.4. **Create Partnership Opportunities for the Island Community:** Proactively collaborate with the Island’s existing community of tenants and partners for programming, a full list of which can be found at Appendix C. Describe any initial partnerships proposed. Employ a range of techniques to foster such work through research and/or education programs, public programming, and design: such as, collaborative research programs, experiential learning opportunities, resident artist programs, exhibition space available to partner organizations, and more.

B-3. New York City:

The City and the Trust seek responses that create broader opportunities for NYC residents — particularly diverse communities and those on the front lines of the climate crisis — around meaningful engagement, education, training, employment, and the co-creation of equitable climate solutions. Respondents are expected to address the following guidelines:

- 3.1. **Inspired and Innovative Design:** Research and/or educational focus, programming and operations that engage diverse communities on the front lines of the climate crisis. Proposed programs should not only investigate issues in these communities, but develop collaborative, reciprocal relationships with community members on the ground to set their research agenda and co-produce knowledge and solutions through approaches such as participatory action research, citizen science, and others.
- 3.2. **Provide Equitable Access to Research and Education:** Ensure that academic and research opportunities — student enrollment, research positions, and community partnerships — are affordable and accessible to New Yorkers from diverse backgrounds and are available at wages and costs in line with those found at public institutions in New York City and State. Partnerships with non-profit organizations and public institutions to advance this goal are strongly encouraged.
- 3.3. **Create Workforce Development and Educational Pipelines:** Position education and research in a continuum of engagement, from pathways of opportunity for K-12 students to training opportunities for adults from surrounding communities. Consider partnerships with primary and secondary schools, workforce development providers, community organizations, and/or others that can provide a variety of entry points for New Yorkers of all backgrounds and reach communities that are physically off the Island. Strategies may include stackable credential offerings, non-degree re-skilling programs, Year 13/14 programs, after-school programs, and entrepreneurship education.

- 3.4. **Create Meaningful Opportunities for Public Engagement and Programming:** Take advantage of the unique opportunity of locating on Governors Island to engage a large and diverse public audience around the impacts of local climate hazards on New York City’s built environment and social landscape, the cutting-edge climate research and solutions at the Center, and opportunities to take action. Propose varied and concrete strategies to create entry points for learning, dialogue, and action amongst visitors of all ages and backgrounds: open labs, conferences, tours, talks, audited courses, art works, galleries, signage, partnerships with public agencies and local organizations, and public programming.
- 3.5. **Expand Opportunities for MWBEs:** Maximize opportunities for minority and women owned business enterprises (MWBEs) to participate in the construction, operations, and subtenancies. The Trust has set a goal of 25-35% participation of MWBEs in construction spending for this solicitation, which Respondents are encouraged to exceed.

Public Presentations:

The Trust provides presentations to update the general public and various federal, state, and local planning agencies on the Island’s public season, open space, arts and culture, and ongoing development. From 23 February through as recently as 26 July 2021, the Trust has prepared 47 public presentations covering a variety of topics related to current and future use of the Island. [\[B-02\]](#)

The 9 November 2020 Trust presentation, *Update on Climate Center Vision and High-Level Rezoning Proposal to CB1 Land Use, Zoning and Economic Development Committee*, to the Manhattan Community Board 1 (the “CB1”) Land Use, Economic Development & Zoning Committee provides a comprehensive planning interpretation of the City and the Trust’s goals and focal areas [\[B-03\]](#).

Complementing the interpretation of the City and the Trust’s goals and focal areas are the following planning documents: (i) the 15 October 2020 *CB1 Land Use Committee Governors Island Planning & Zoning Presentation* [\[B-04\]](#); the 5 October 2020 *Vision for Ongoing Development* [\[B-05\]](#); and the 15 October 2020 *CB1 Land Use Committee Governors Island Planning & Zoning Presentation* [\[B-06\]](#). Viewing these planning and zoning presentations as-a-whole will provide prospective Consortium Members with the context for the development for the Expression of Interest and each prospective Member’s contribution to the City and the Trust’s goals and focal areas.



Source: Trust for Governors Island (2021), *Rezoning - South Island (#N210126ZRM, C210127ZMM) Presentation* [\[B-07\]](#)

Section C. Vision Statement:**Advocate, Educate, Innovate to Co-create Equitable
and Actionable Solutions to the Climate Crisis**

This vision statement (the “Vision Statement”) is a placeholder derived by isolating a few key words from the RFEI. Prior to the submission of an Expression of Interest the Vision Statement will be revised and approved by prospective Consortium Members.

Section D. Critical Risk Management Framework:

The proposed Critical Risk Management Framework (the “Framework”) for the Center is informed by the following statement:

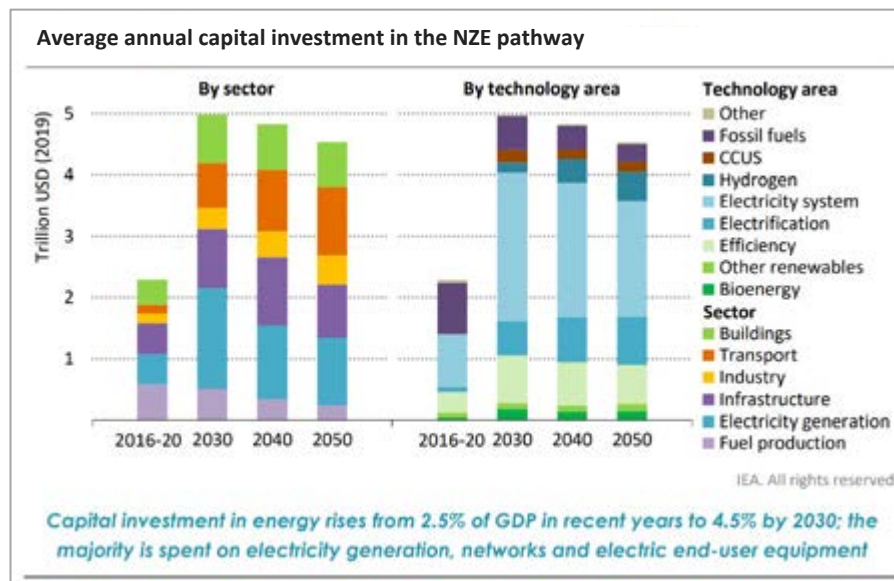
“The likely range of global temperature increase is 2.0–4.9 °C, with median 3.2 °C and a 5% (1%) chance that it will be less than 2 °C (1.5 °C).”

- Raftery, A., Zimmer, A., Frierson, D. *et al.* Less than 2 °C warming by 2100 unlikely. *Nature Climate Change* **7**, 637–641 (2017) [D.1-01].

Focal Areas within the Framework:

The Institute proposes two key thematic focal areas — D.1 and D.2, below — for the Center under a Framework designed to address key socioeconomic risk factors impeding progress to limit median global temperature rise to below 1.5°C to 2°C. Thematic focal areas in this section are limited in scope pursuant to soliciting Letters of Interest from prospective Consortium Members. Additional thematic focal areas will be articulated in the Expression of Interest based upon prospective Consortium Member contributions.

D.1. Global Investments in the Energy Transition: According to the International Energy Agency (the “IEA”), the annual investment in energy (primarily fossil fuels) is just over USD 2 trillion globally on average over the last five years. In order to limit median global temperature rise to below 1.5°C to 2°C, a projected annual investment of USD 5 trillion in energy efficiency and energy renewable energy (the “EERE”) technologies is required through 2030, and USD 4.5 trillion through 2050. This represents an estimated total investment of USD 130 trillion in EERE through 2050. See graph below, *Annual average capital investment in the NZE Pathway* (Net Zero Energy) scenario:



Source: IEA (2020), *Net Zero by 2050 A Roadmap for the Global Energy Sector*, p. 81. [D.1-02].

Proposed Solution: In alignment with the scale of the City and Trust’s aspirations for the Center to lead the world in solving the climate crisis, the Consortium will endeavor to stimulate ~USD 1 trillion (20%) annually of required investments in EERE projects worldwide. This will be accomplished by providing technical assistance to existing international entities charged by the United Nations Framework Convention on Climate Change (the “Convention”) to address climate finance at-scale.

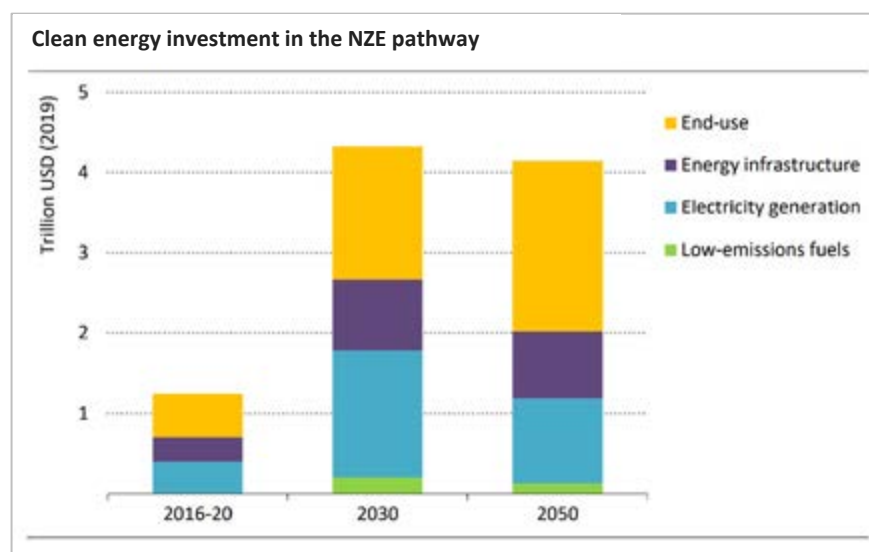
The Convention defines climate finance as “local, national, or transnational financing—drawn from public, private and alternative sources of financing—that seeks to support mitigation and adaptation actions that will address climate change,” and operates in accordance with the principle of “common but differentiated responsibility and respective capabilities” [D.1-03], The Convention’s finance mechanism (the “Mechanism”) requires developed countries to provide financial resources to assist developing countries in implementing the Convention’s objectives to limit global warming from between 1.5°C to 2 °C above pre-industrial levels by the interquartile period of 2045 to 2050.

The Convention states that the operation of the Mechanism can be entrusted to one or more existing international entities. The Global Environment Facility (the “GEF”) [D.1-04] has served as an operating entity of the Mechanism since entry into force in 1994.

In 2010 the Convention established the Green Climate Fund (the “GCF”) [D.1-05] and, in 2011, designated the GCF as the operating entity of the Mechanism. The Mechanism is accountable to the Convention’s Conference of Parties (the “COP”), which decides on its policies, program priorities and eligibility criteria for funding.

In addition to providing guidance to the GCF, the Convention has established two special funds—the Special Climate Fund (the “SCCF”) [D.1-06] and the Least Developed Countries Fund (the “LDCF”) [D.1-07], both managed by the GEF and the Adaptation Fund (the “AF”) [D.1-08] established under the Kyoto Protocol in 2001.

The Consortium will develop Center services designed to support the finance activities of the GEF, the GCF the SCCF, the LDCF and the AF to accelerate the annual required investment in EERE projects worldwide through 2050, as projected by the IEA in the *Clean energy investment in the NZE pathway*, shown below:



Source: IEA (2020), *Net Zero by 2050 A Roadmap for the Global Energy Sector*, p. 22. [D.1-09]

The Center finance research agenda will seek to develop new business models that mobilize private sector financing in developing economies by advancing public-private-partnership models that unlock large-scale investment capital in emerging markets through closer cooperation between EERE developers, private investors, public financial institutions, and governments. Research emphasis will include incentivized policy reforms and functional regulatory frameworks across end use, energy infrastructure, electricity generation, and low-emissions fuels to achieve annual investment targets as defined by the IEA in the NZE pathway.

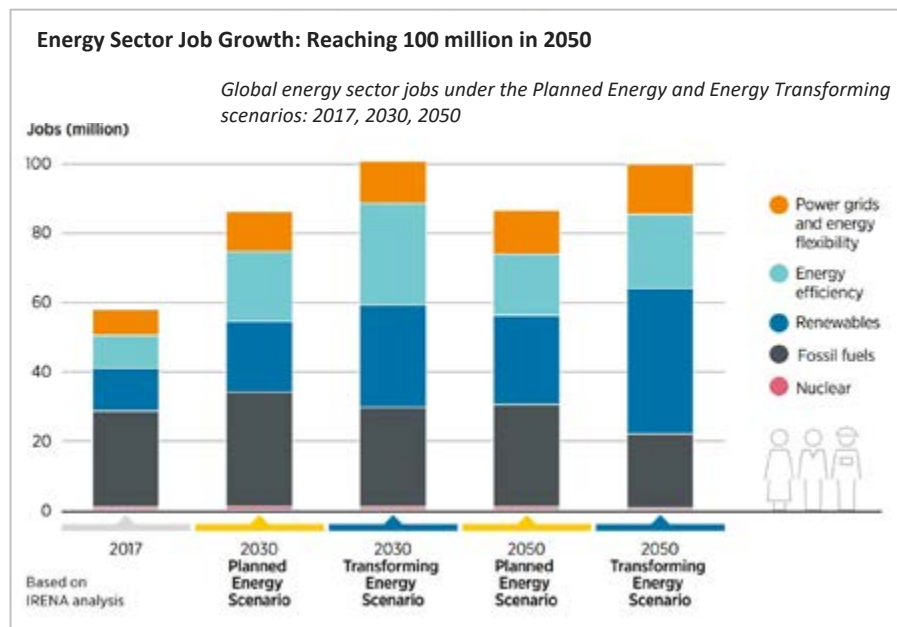
Government investment is essential to attract unprecedented amounts of private capital to bring new clean energy technologies to market, but it is equally critical for governments to streamline functional regulatory frameworks that compress project development and construction timelines across the diverse technology solutions needed to limit global warming to 1.5°C to 2 °C.

Streamlining functional regulatory frameworks to assure equitable distribution of benefits to all stakeholders — and the environment — will require an equally unprecedented process of inclusion and cooperation across all sectors of society.

D.2. Supply-side and Demand-side Energy Workforce Transformation: According to “*Employment in the Energy Sector, Status Report 2020*,” a publication of the Joint Research Centre (the “JRC”) of the European Commission, global employment in the supply-side energy sector reached nearly 58 million in 2017 [D.2-01]. About 29 million of these jobs are in the fossil fuel industries, approximately 9.8 million in new renewables. The balance of 19.2 million jobs are in nuclear and other legacy energy systems, including power grids. The International Renewable Energy Agency (the “IRENA”) projects that jobs in the overall energy sector comprising of transition-related technologies (renewable energy, energy efficiency, power grids and energy flexibility), fossil fuels and nuclear power, could reach 100 million by 2050 [D.2-02]. New renewables (solar, wind, and biomass) alone are projected to rise from 9.8 million jobs to 30 million by 2030 and 42 million by 2050, an increase of 32.2 million.

In the demand-side energy sector, employment in the energy efficiency segment is projected to grow from 3.3 million jobs in 2020 to 24.3 million by 2050, an increase of 21 million [D.2-03]. An industry survey of 60,000 general and operational facility managers in the U.S. conducted by the Oak Ridge National Laboratory [D.2-04] exposed the need for advanced energy management training to currently employed managers. Survey results indicated that only 1.7% of general and operational facility managers track energy data, set energy efficiency and renewable energy goals, and invest in projects; 15% sporadically track energy data but fail to set goals or invest; and 83% reported little to no knowledge of energy management. Extrapolating from U.S. Bureau of Labor Statistics (the “BLS”) data on general and operational facilities managers, an estimated 14 million managers worldwide require greater knowledge in energy efficiency.

The graph below, Energy Sector Job Growth: Reaching 100 million, from “*Global Renewables Outlook 2020*,” published by the IRENA, contrasts overall energy sector jobs by 2030 and 2050 under two scenarios — the “Planned Energy Scenario” and the “Transforming Energy Scenario” — for five segments of the energy sector.



Source: IEA (2020), *Net Zero by 2050 A Roadmap for the Global Energy Sector*, p. 100. [D.2-05]

Over the next three decades, or less, the global workforce development community will need to train a cohort of 67.7 million qualified professionals to meet the demand for new jobs in the supply-side and demand-side energy workforce and train an additional cohort of 58 million qualified professionals to replace today’s energy workforce as it ages out.

This emergent energy workforce will require the skills to maintain legacy energy systems while developing cross-disciplinary areas of expertise for energy systems transformation in order to avoid the likely range of global temperature increase of 2.0–4.9 °C, with median 3.2 °C above pre-industrial levels by the interquartile period of 2045 to 2050.

Neither the global higher education community nor the global workforce development community are currently prepared to meet this challenge.

Proposed Solution: Underlying the Transforming Energy Scenario are significant changes in the composition of employment and, by extension, changes in the structure, organization, and execution of workforce preparedness. According to the *2020 U.S. Energy and Employment Report* (the “USEER”), published by the National Association of State Energy Officials (the “NASEO”) and the Energy Futures Initiative (the “EFI”), energy workforce hiring difficulties are experienced by virtually all supply-side and demand-side segments, and it is a growing problem as the industry adapts to changes due to structural reform and emerging technologies that are driving market transformation.

Over 84% of employers across supply-side and demand-side segments reported difficulty hiring qualified workers over the last 12 months, an increase of over 7 percentage points (2017 – 2018 data). The USEER states the primary issue is “modernization of infrastructure and change in generation mix requiring new skills that are on two and five-year cycles,” and the available pool of workers “lack experience, training and/or technical skills” [D.2-06].

The follow table, *Electric Power Generation Sector – Reasons for Hiring Difficulty by Industry, Q4 2019*, provides insight into the challenges the energy sector faces today:

Electric Power Generation Sector – Reasons for Hiring Difficulty by Industry, Q4 2019

Utilities	Construction	Manufacturing	Wholesale Trade, Distribution, and Transport	Professional and Business Services	Other
Lack of experience, training, or technical skills (54%)	Lack of experience, training, or technical skills (44%)	Lack of experience, training, or technical skills (40%)	Lack of experience, training, or technical skills (44%)	Lack of experience, training, or technical skills (40%)	Difficulty finding industry-specific knowledge, skills, and interest (38%)
Location (46%)	Competition/ small applicant pool (36%)	Competition / small applicant pool (28%)	Competition / small applicant pool (28%)	Competition / small applicant pool (32%)	Insufficient non-technical skills (work ethic, dependability, critical thinking) (25%)
Difficulty finding industry-specific knowledge, skills, and interest (23%)	Difficulty finding industry-specific knowledge, skills, and interest (20%)	Economy/ structural problem (24%)	Difficulty finding industry-specific knowledge, skills, and interest (22%)	Difficulty finding industry-specific knowledge, skills, and interest (28%)	Lack of experience, training, or technical skills (25%)

Source: NASEO, EFI (2020), *2020 U.S. Energy and Employment Report*, p. 53. [D.2-07]

A blend of traditional and non-tradition models of workforce development — formal and informal academic training, skills development through certificate-bearing apprenticeships, internships, and on-the-job training programs with a focus on minorities, including women and veterans — are required in order to successfully transition the legacy energy workforce and compress the timeline to prepare the emerging EERE workforce to meet projected development targets under the IEA Transforming Energy Scenario.

The institute is proposing a blended program model for the Center that leverages an emerging “productivity-centered” Work-Learning-Service (the “WLS”) pedagogy with a demonstrated capacity to overcome the employer hiring difficulties, including: the lack of experience, training, or technical skills; difficulty finding industry-specific knowledge, skills, and interest; Insufficient non-technical skills (work ethic, dependability, critical thinking); and competition in a small applicant pool.

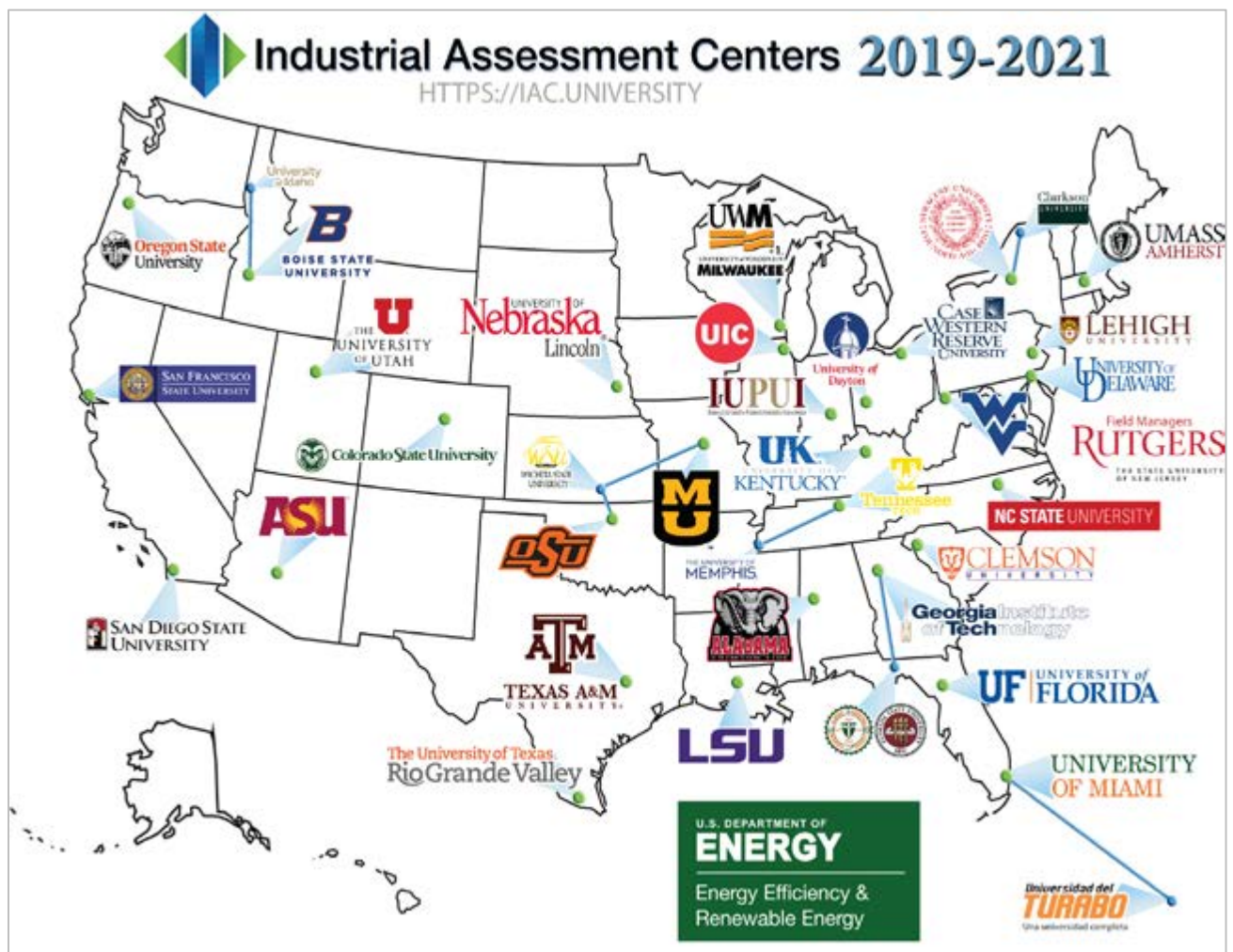
WLS, which is based upon theories of human development that argue learning is most effective when part of an activity that the learner experiences as the construction of a meaningful “**work-product**,” aims to help students learn a critical balance of study, community service and managed work expectations, and is compatible with other training modalities.

The proposed Center's WLS approach emphasizes the energy industry's key workforce requirement that employees (in addition to having the right technical skills) need to be critical thinkers, problem solvers and team members with the capacity to thrive in fast-paced, ever-changing, dynamic cross-disciplinary work environment. The U.S. Department of Energy (the "DOE") Industrial Assessment Centers (the "IAC") program provides a proven model for the proposed Center's WLS approach.

The IAC (formerly called the Energy Analysis and Diagnostic Centers) was created by the Department of Commerce in 1976 in response to the oil embargo and rising energy costs. The program was specifically focused on helping small and medium-sized manufacturing facilities cut back on unnecessary costs from inefficient energy use.

The IAC program was moved to the Department of Energy (the "DOE") just after the DOE was formed in 1978 and was later expanded to include evaluations of ineffective production procedures, excess waste production, and other production-related problems. More recent additions to the IAC program include improving cybersecurity awareness, exploring smart manufacturing technologies, implementing comprehensive energy management systems and emerging technologies.

Currently, the IAC program is administered through the Advanced Manufacturing Office under the Office of Energy Efficiency and Renewable Energy at the DOE. On average, 28 U.S.-based engineering schools are active in the IACs program annually.

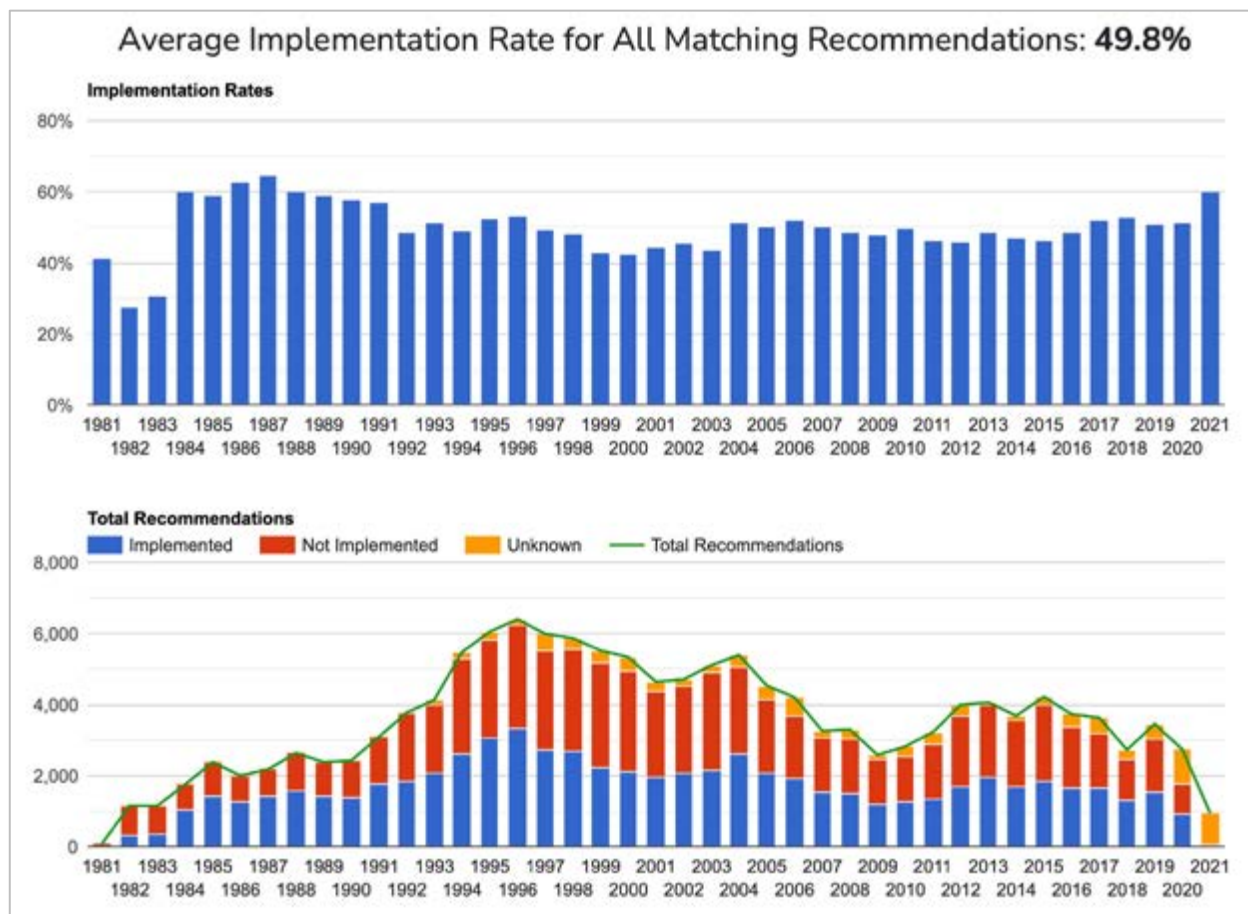


Source: US DOE, IACs Program, <https://iac.university/#centers> [D.2-08]

Over the 43-year operating history of the IAC program, teams of faculty and students have conducted greater than 19,580 assessments with more than 147,277 associated recommendations. Based upon the average cost per recommendation of USD 137,429 [D.2-09], and factoring balance of systems services (the "BOS") cost, the energy services contract (the "ESCO") value of IAC assessment services totals USD 27.6 billion.

IAC records since 1981 indicate that the IAC program has achieved an annual average implementation rate of 49.8%, resulting in approximately USD 13.3 billion in market-based ESCO economic activity. In the graph below, over the 5-year period from 1984 – 1988 the annual average implementation rate was 61.3%, with a peak of 64.6% in 1987. From 2017 – 2021, the annual average implementation was 53.3%. The year-to-date for 2021 is 60% [D.2-10].

IAC implementation rates attest to the capacity of well supervised work-based learning to generate economic activity across a broad range of energy services in multiple segments of the energy industry consistent with the planned IEA Energy Transformation Scenario.



Source: US DOE, IACs Program, Implementation Rates [D.2-11]

The Consortium, in collaboration with higher education institutions (the “HEIs”), governmental agencies, multilateral development banks, public and private financial institutions, private industry, philanthropy, and civil society stakeholders, will build and operate a tuition free, paid WLS internship program modeled after the IAC program to provide transformative EERE project development and management services from project inception to commissioning.

The goal of the WLS internship program will be to provide EERE assessment services leading to the production of WLS intern work-products resulting in investment-grade proposals totaling an annual contract value of USD 500 billion, and implementation rate of greater than 60%.

To achieve this goal, the Consortium will leverage the nearly 120 colleges and universities in New York City with an enrollment of more than half a million undergraduate and graduate students, and the United Nations Environment Programme (the “UNEP”) Youth and Education Networks, consisting of more than 7,000 universities worldwide that have committed to developing carbon neutral campus facilities and implementing a sustainability pedagogical framework across the curriculum.

Self-generated revenue of USD 15 billion annually could be achieved from the Institute’s Payback+5x5 ESCO blended revenue model after five years of program operations.

Section E. Organizational Structure

For the purpose of preparing and submitting the Expression of Interest to the Trust on/or before the due date of 29 September 2021, the Institute is proposing an organizational structure, as follows:

E-1. The Renewable Nations Institute: The Renewable Nations Institute (the “Institute”) proposes to function as the secretariat for the Consortium with co-principal Consortium Member status and provide the following roles in the development, management and on-going operations of the proposed Center:

- 1. Consortium Development:** In collaboration with co-principal Consortium Member(s), develop Consortium framework and recruit and maintain prospective multisector Membership in the Consortium consisting of higher education and research institutions, governmental agencies, multilateral development banks, private philanthropy, public and private financial institutions, private industry, trade unions, civil society stakeholders, and others, worldwide.
- 2. Real Estate Development:** In collaboration with co-principal Consortium Member(s), plan, design, finance, lease, engineer, develop, construct, build, retrofit, preserve, furnish, and equip the proposed Center in compliance with specifications in Appendix D, Design Guidelines, Appendix E, Development Commitments, and as allowed per the Special Governors Island District at Article XIII, Chapter 4 of the New York City Zoning Resolution E-01], pursuant to achieving the goals and focal areas of the City and the Trust for the proposed Center.
- 3. Operations:** In collaboration with co-principal Consortium Member(s) and the Trust (as applicable), oversee day-to-day operations and maintenance (the “O&M”), including but not limited to, academic programming, research and development, and all other permitted uses — office, hospitality, cultural, non-profit, convening, amenity, restaurants, faculty and student housing, and more — as allowed per the Special Governors Island District at Article XIII, Chapter 4 of the New York City Zoning Resolution [E-02].
- 4. Financial Management:** In collaboration with co-principal Consortium Member(s), develop a special purpose vehicle (the “SPV”) to secure real estate development and construction, academic and research programming, and ESCO contract financing for “Work-Products” (investment-grade EERE project proposals) emanating from the core WLS internship program.

Note: Responsibilities as defined above may be assigned across the organizational ecosystem proposed herein and be performed by subcontracted entities under the general supervision of the Institute and co-principal Consortium Member(s), as applicable.

E-2. The Consortium: The Consortium will consist of higher education and research institutions, governmental agencies, multilateral development banks, private philanthropy, public and private financial institutions, private industry, trade unions, civil society stakeholders, and others.

The Institute and co-principal Consortium Member(s) will provide the initial Consortium leadership pursuant to submitting an Expression of Interest to the Trust on/or before 29 September 2021. Consortium Membership categories may include, but not be limited to, the following:

- 1. Co-Principal Members:** Co-principal (the “Co-Principal”) members are the founding Members of the Consortium and responsible for the submittal of the Expression of Interest, subsequent Request for Proposals, and/or lease negotiations with the Trust. The Consortium will not be a legal entity upon the submission of an Expression of Interest to the Trust.

However, the Trust requires that Respondents provide following information in the Expression of Interest: (i) the proposed partnership and ongoing governance structure, including any relevant legal agreements needed to realize this structure and pathway to finalizing such agreements if not already in place; (ii) the roles of each entity in the partnership; and (iii) any prior experience working together as a team (RFEI, Section VI, Submission Requirements, p. 31).

2. **General Classification of Membership:** Classifications of prospective non-Co-Principal Consortium Members will be defined in the Expression of Interest prior to submittal on/or before 29 September 2021. Co-Principal Members will engage with prospective non-Co-Principal Consortium Members to define proposed classifications of membership in accordance with the specific capacities and/or contributions of prospective non-Co-Principal Consortium Members. In the event the Consortium is requested to submit an RFP by invitation of the Trust, the Co-Principals will form the Consortium as a legal entity and establish membership categories in accordance with the proposed roles of prospective non-Co-Principal Consortium Members, which may include, but not be limited to roles and responsibilities defined in E-1, above.

E-3. Special Purpose Vehicle (the “SPV”): The Consortium will establish a SPV to secure real estate development and construction financing, academic and research program funding, and ESCO contract financing for “Work-Products” (investment-grade EERE project proposals) emanating from the core WLS internship program.

The Institute, on behalf of the Co-Principal Consortium Members, will file L3C Articles of Organization in compliance with State of Vermont corporate law 11 V.S.A. Ch.21 generally, and 11 V.S.A. §3001(27) specifically, as a manager-managed entity. Proof of filing of the Articles of Organization with a Certificate of Good standing issued by the State of Vermont Secretary of State will be provided to the Trust in the Expression of Interest on/or before 29 September 2021 in compliance with RFEI, Section VI, Submission Requirements, the demonstrate ongoing governance structure and relevant legal agreements in place for legal authorization of lease negotiations with the Trust.

Required Disclaimer: The Special Purpose Vehicle (SPV), registered as a Vermont-based Low-profit Limited Liability Company (L3C), shall be organized in compliance with State of Vermont corporate law V.S.A. Ch.25, Subchapter 11, Low-profit Limited Liability Companies 11 V.S.A. § 4162 [E-03]: A limited liability company shall be organized for a business purpose that satisfies, and shall at all times be operated to satisfy, each of the following requirements:

- (1) The company:
 - (A) Significantly furthers the accomplishment of one or more charitable or educational purposes within the meaning of 26 U.S.C. § 170(c)(2)(B); and
 - (B) Would not have been formed but for the company's relationship to the accomplishment of charitable or educational purposes.
- (2) No significant purpose of the company is the production of income or the appreciation of property; provided, however, that the fact that a person produces significant income or capital appreciation shall not, in the absence of other factors, be conclusive evidence of a significant purpose involving the production of income or the appreciation of property.
- (3) No purpose of the company is to accomplish one or more political or legislative purposes within the meaning of 26 U.S.C. § 170(c)(2)(D). (Added 2015, No. 17, § 2.)

As the founding member of the L3C, the Institute will appoint the L3C management team consisting of representatives of the Co-Principal Consortium Members and retain a development advisory board of the non-Co-Principal Consortium Members. The SPV will be charged with the negotiations with the Trust pursuant an exclusive long-term lease for the Land and the Buildings as described in Section A. The Opportunity, of this Request for Letters of Interest (pgs. 5 – 9, above).

Project Capitalization: To isolate Co-Principal and non-Co-Principal investors from financial risk, the SPV shall capitalize the project by issuance of a Private Placement Memorandum (Exempt Offering) under Regulation D 506(b) of the U.S. Securities and Exchange Commission (SEC) and Section 4(a)(2) of the Securities Act of 1933 (the "Securities Act") after the enactment of the JOBS Act on April 5, 2012, which exempts from registration transactions by an issuer not involving any public offering. Rule 506(b) of Regulation D is considered a “safe harbor” under Section 4(a)(2) and provides objective standards that meet the requirements of the Section 4(a)(2) exemption. Companies conducting an offering under Rule 506(b) can raise an unlimited amount of money and can sell securities to an unlimited number of accredited investors. In addition to the SPV securing equity funds from an Exempt Offering, other available funds shall be leveraged as indicated in Appendix B. Available Incentives (RFEI, pgs. 42 – 44).

Section F. The Renewable Nations Institute

The Renewable Nations Institute (the “Institute”) launched in 1998 as a program of EcoSage Corporation. In 2002, SolarQuest™ transitioned to the SolarQuest™ Education Foundation, Inc., and in 2008 merged with The Global Challenge Award, Inc. The Institute received a U.S. Congressional Recognition for Sustainable Energy Education (24 February 2017).

Accomplishments:

The following is a partial listing of program accomplishments:

1998 - 2001

- Collaborated with the President's Million Solar Roofs Initiative (Clinton Administration) to install solar (photovoltaic) energy systems to improve science, technology, engineering and mathematics (STEM) education in American public schools;
- Co-sponsored the President's Council on Sustainable Development (PCSD) National Town Meeting (NTM) for a Sustainable America (Detroit, MI) and the NTM Youth Roundtable, representing the Voice of American for the 21st Century;
- Co-sponsored Village Power 2000, a White House Millennium Council project to install solar (photovoltaic) energy systems in community centers, schools, libraries, medical facilities and orphanages in remote areas of Africa;
- Provided technical assistance and human capacity building services for African energy ministers in collaboration with the Department of Energy US/Africa Energy Ministerial Meeting and Historically Black Colleges and Universities (the “HBCUs”);
- Established the first “deep-rural” solar-powered educational tele-center under the G-8 mandate for universal service in the Amazon Rain Forest (Republic of Bolivia) in collaboration with the White House Millennium Council and American Electric Power, and provided technical assistance to the HP World e-Inclusion program; and
- Managed the development and implementation of national-scale, deep-rural, solar-powered information and communications technologies for development (ICT4D) programs in collaboration with non-governmental and government agencies, private industry, and international donor agencies in Honduras, Guatemala, Venezuela, Bhutan, Ecuador and Peru.

2002 – 2021

- Collaborated with the e8 Network for Expertise on the Global Environment, United Nations Foundation, United Nations Fund for International Partnerships, United Nations Development Programme, and the Government of the Republic of Ecuador to re-power Galapagos Islands with renewable energy technologies and to provide technology education reform for Galapagos public schools;
- Developed the concept for a proposed Renewable Energy Applications Laboratory of the Galapagos Archipelago, under contract with the United Nations Development Programme (the “UNDP”);
- Collaborated with the University of Vermont (Burlington, Vermont) and the University of North Texas (Denton, Texas) with funding from the National Science Foundation (the “NSF”) on research programs designed to improve cognitive development and change attitudes about STEM education based upon the adaptation of the SolarQuest™ Productivity-centered Service-learning (the “PCSL”) pedagogy under NSF grants #DRL-083376 and #DRL-131216; and
- Collaborated with the Vermont Technical College (Randolph Center, Vermont) to conduct research and development of a Work-Learning-Service internship program designed provide accurate, timely and scalable energy efficiency and renewable energy (EERE) human capacity building, technical assistance, and project development services for deep-rural healthcare facility electrification in the developing world.

Section G. Letter of Interest Submittal Instructions

G-1. Contact Information:

Project Administration

Allan E. Baer
President, Chief Executive Officer
abaer@renewablenations.nyc
+1.802.279.7250

Stephen H. Wilmarth
Vice President for Partnerships
swilmarth@renewablenations.nyc
+1.860.227.1225

Robert Allen
Senior Project Advisor
Former President, Green Mountain College
rallen@renewablenations.nyc
+1.802.440.6525

Board of Directors

Allan E. Baer, President
Jim Hurt, Vice President
John Cromwell, Secretary / Treasurer
John Jennings
Sandra Brockway-Jennings
Cheryl Diersch

G-2. Letter of Interest Submittal Instructions

The Institute is requesting that respondents to this Request for Letters of Interest submit all relevant information for consideration of prospective Consortium Membership in two steps:

1. **Initial Letter of Interest:** Submit a 2-page Letter of Interest for prospective Consortium Membership on business letterhead with entity logo, name and address. State the specific interest in the proposed Center, e.g., academic program, research and development, site O&M services, project finance, etc. As appropriate, define the area(s) of specific interest by referencing alignment with Section D, Critical Risk Management Framework, and/or Section B, City and Trust's Goals and Focal Areas, as referenced in this Request for Letters of Interest. Please 9-pt. Calibri font and 13-pt. paragraph spacing in conformity with the style of this document. Submit as PDF file. Address to:

Allan E. Baer
President, Chief Executive Officer
The Renewable Nations Institute
39 Beacon Hill
Chelsea, Vermont 05038

2. **Development of Expression of Interest:** Once Letters of Interest for prospective Consortium Membership are submitted, the Institute and prospective Co-Principal Consortium Member(s) will work with all parties to finalize an Expression of Interest for submission to the Trust on/or before 29 September 2021. The Institute will forward guidelines for this step by mid-August after interviews have been conducted with all prospective Consortium Members.

Section H. Anchor Institution Partnership List

The Trust has provided the following *Center for Climate Solutions Anchor Institution Partnership List* to prospective Respondents that have indicated interest in pursuing a consortium approach to the development of the proposed Center. There are total of 63 individual contacts from the 36 institutions listed below. It is the intent of the Institute to contact at least one representative from each Institution listed below to discuss collaboration pursuant to a joint submittal of an Expression of Interest to the Trust on/or before the submittal due date of 29 September 2021. Letter of Interest from prospective Consortium Members will be posted to the project website: <http://www.renewablenations.nyc/>.

Center for Climate Solutions Anchor Institution Partnership List*:

Alfred University	Northeastern University
Arizona State University	Pratt Institute
City University of New York	Rensselaer Polytechnical Institute
Bronx Community College	St. Francis College
Brooklyn College	St. John's University
City College of New York	Stony Brook University
Kingsborough Community College	The Cooper Union
School of Public Health	The New School
Downstate School of Public Health	UNESCO
Columbia University	The United Nations Educational, Scientific and Cultural
Center for Resilient Communities	Organization, Section on Earth Sciences and Geohazards
& Landscapes	Risk Reduction
Climate School	University for Peace
Deltares	University of British Columbia
Georgia Institute of Technology	University of Connecticut
Hamilton College	University of Miami
Harvard University	University of Pennsylvania
Massachusetts Institute of Technology	University of Tokyo
New York University	University of Toronto
Center for Global Affairs	Woods Hole Oceanographic Institute

*The Center for Climate Solutions Anchor Institution Partnership List is a shared, opted in list of Institutions that have registered with the Trust.

KEY TERMS / COMPLIANCE STATEMENT

Location of the Land and/or Building(s):

One (1) million square feet within the North Island Historic District (the “Buildings”) and 33 acres of developable land (the “Land”), including 27 acres located in South Island District within the “Eastern Development Zone” and 6 acres within the “Western Development Zone.

Length of Proposed Lease Term:

Ground lease term of 99 years with option to renew.

Timeline for Construction:

Construction will be staged concurrently in priority areas and construction scheduling will be implemented in three shifts to accelerate and compress normal construction timelines. Key Terms negotiations with the Trust will establish specific construction timelines for each facility in consultation with master developer, contractors, and applicable planning and permitting agencies of the City of New York.

Amount of Available City Capital Required:

\$150M with permitted uses as referenced in the RFEI.

Ferry Services:

Master developer to retain subcontractor barging services and materials staging centers off-island and on-island as per large-scale construction protocols. Coordination with the Trust may be required to ferry critical construction supplies on an “as-needed” basis.

Priority Sites:

Trust planning has identified the areas directly adjacent to the Trust’s ferry terminal at Yankee Pier as a priority area for the development, including: (i) parcel “E-2” of the Land within the Eastern Development Zone; and (ii) the historic Liggett Hall (Building 400), and adjacent buildings. Collaboration with the Trust is required to prioritize parcel “E-2” development and construction and end use for up to one (1) millions square feet of new construction.

Integration of On-site power with Trust Submetering
ConEdison Grid Integration

The Consortium Team requests close cooperation with Trust and Consolidated Edison (and other relevant authorities) to establish operational protocol (and incentives) for AC/DC Microgrid development across the Island, including cooperation the relevant City agencies regarding the advancement of building codes.

Trust Governance Inclusion:

Under the inclusionary approach to site development and end use, the Consortium Team is requesting the participation of the Trust, the Friends of Governors Island, other cross-sectoral partners as may be identified by the Trust and/or the City of New York (including Tenants and Partners) to be appointed to the Board of Directors of the Respondent (Renewable Nations L3C) and/or other advisory committees established by Consortium Members with due consideration to potential conflicts of interest.

Iterative Multisector Stakeholder Consultation and Engagement Protocol

Beyond Trust Governance Inclusion (above), Consortium Members are requesting the joint establishments with the Trust of an Iterative Multisector Stakeholder Consultation and Engagement Protocol to assure the proposed Center for Climate Solutions is compliant to the stated Goals and Focal Areas as defined by the Trust in the RFEI.

COMPLIANCE STATEMENT

The Respondent Team hereby certifies that the Renewable Nations L3C Members, Managing-Managers, Board of Directors, Consortium Members, Cross-Sectoral Partners, Master developer(s), Contractors, Subcontractors, Suppliers, and all other parties (present and future), as may be applicable, will adhere to the strictest compliance standards as articulated by the Trust and as stated in (i) RFEI Design Guidelines - Appendix D, (ii) RFEI Development Commitments - Appendix E, (iii) RFEI Procedures and Policies - Appendix F, and (iv) other Compliance Standards (present and future) as from time to time may be required by the Trust.

Thank you.

CONTACT

Allan Baer

abaer@renewablenations.nyc

802 279 7250



RENEWABLE NATIONS
L3C