

RUTGERS

Climate and Energy Institute

Climate-Change scholars at Rutgers University–New Brunswick, united under the banner of the **Rutgers Climate and Energy Institute**, are committed to providing deep scientific understanding, improved predictive capacity, and meaningful responses and solutions to the challenge of climate change.

Mission: *The Rutgers Climate and Energy Institute will contribute to a resilient, equitable, and sustainable climate future. This mission is achieved by connecting faculty, staff, and students through transformative climate change research, innovation, education, and outreach.*

We blend disciplinary perspectives and Rutgers–New Brunswick communities to foster a convergence of ideas that begin to match the scale and urgency of the climate crisis. Investment in the Rutgers Climate and Energy Institute (RCEI) will not only drive transformative change through scholarship, but also empower the creation and translation of climate change solutions from scholarship to action across four themes.

- **Renewable Energy, Technology and Energy Conservation:** advancing technologies in renewable energy and energy conservation
- **Human Dimensions of Climate Mitigation, Adaptation, and Resilience:** understanding the causes of climate change, the societal, economic, and behavioral impacts of climate change, and the ways in which people and institutions respond to these changes
- **Earth System Science:** researching the complexities and dynamics of Earth's physical, geochemical, and biological systems
- **Climate Change Communication and Environmental Humanities:** raising awareness and inspiring action through the arts and humanities

The Earth's climate reflects a complex interplay between the atmosphere, ecosystems, oceans, human activity, and the solid earth. Incorporating a diversity of scholarly perspectives is key to achieving technological, ecological, social, and policy solutions that will lower greenhouse gas emissions, and guide society's response to the current and pending impacts of climate change.

The Rutgers Climate and Energy Institute realizes its mission through:

- **Creating Dynamic Scholarly Communities:** organizing and activating groups of Rutgers-New Brunswick scholars to move their innovative ideas into action
- **Increasing Grant Funding:** providing the resources, space, and staff support needed for Rutgers-New Brunswick faculty, staff, and students to secure grant funding to support their innovative climate change scholarship
- **Providing 'Seed' Funding:** distributing 'seed' funds that can jumpstart innovative approaches to climate change education and scholarship
- **Actively Engaging in Scholarly Exchange:** fostering collaboration, and amplifying the impact of climate change scholarship, through public events; and communicating to the public, educators, policymakers, governmental and non-governmental organizations, and the private sector

The **Rutgers Climate and Energy Institute** builds upon 20 years of Rutgers–New Brunswick investments into a world-class faculty and staff engaged across the RCEI themes. RCEI will collaborate with the Rutgers Office of Climate Action and other units across Rutgers that engage with climate and energy science. In the face of the ongoing climate crisis, RCEI represents a renewed commitment to collaboration and scholarship that can enable a brighter climate future.



Proposal to Establish the Rutgers Climate and Energy Institute (RCEI)

Name

Rutgers Climate and Energy Institute (RCEI)

Provost Strategic Task Force and Chancellor Challenge Members: Julie Lockwood (SEBS), Clinton Andrews (BSPP), Debashish Bhattacharya (SEBS), Dunbar Birnie (SOE), Anthony Broccoli (SEBS), Robin Leichenko (SAS), Oscar Schofield (SEBS), Rachael Shwom (SEBS), Jacqueline Thaw (MGSA), and James Wright (SAS)

Propose, Mission and Impacts

The Earth's climate reflects a complex interplay between the atmosphere, ecosystems, oceans, human activity, and the solid earth. Scholarship and education within each of these areas have developed largely within siloed disciplinary boundaries, albeit with notable exceptions that have served as potent examples of interdisciplinary scholarship at Rutgers, and beyond. Recognition that human-generated greenhouse gas emissions have increased to the extent that the climate is fundamentally shifting into new and largely unknown states has served as a sobering yet catalyzing moment across these disciplines. The need to provide a scientific understanding of the Earth's dynamic climate future, and to what extent this future will transform Earth's ecological, social, and economic systems, sits at the forefront of each discipline today. **It is only through an all-hands-on-deck approach that we, as Rutgers climate-change scholars, can provide the deep scientific understanding, improved predictive capacity, and meaningful responses and solutions needed to meet the challenge of climate change.**

Rutgers-New Brunswick faculty and staff are increasingly combining their expertise to grow new knowledge, understand the range of climate change impacts, and develop innovative and equitable climate change mitigation and adaptation solutions. Scholars within engineering innovate and expand technologies in renewable energy, energy conservation, and carbon capture. Physical and life scientists unravel the complex interconnections among Earth's physical, geochemical, and biological systems. Social, economic and behavioral scientists, along with scholars in law and policy, seek to understand how Earth's changing climate affects society, policy and governance. Scholars and practitioners in the arts and humanities raise awareness, foster engagement, and inspire action around climate change. Addressing climate change requires novel combinations of disciplinary approaches that can identify and achieve technological, ecological, social, and policy solutions that will lower the rate at which greenhouse gases are emitted into the atmosphere, thus inspiring and guiding the responses of society to the current and pending impacts of climate change. Simply put, no single approach or disciplinary perspective to confronting the climate change challenge will work in isolation as the task is too large and complex for silver-bullet solutions. **The way forward is to strategically 'blend' disciplinary tools, Rutgers communities, and their perspectives, and**

to foster a convergence of ideas that begins to match the scale and urgency of the climate crisis.

How does Rutgers-New Brunswick create a cultural and administrative environment that can fully embrace and facilitate this level of interdisciplinary scholarly convergence? How can Rutgers-New Brunswick faculty, staff, and students best serve the needs of the state's citizenry, industry, and policy makers as we collectively look to reduce greenhouse gas emissions and adapt to the worst of climate change impacts, while also identifying opportunities to enhance resiliency of our social and ecological systems? How can Rutgers-New Brunswick faculty, staff, and students tell the story of how our planet, and our relationship to it, is changing in the wake of climate change? The University is facing similar questions as it addresses pressing concerns about poverty, illness, and racial injustice. In the remainder of this proposal, we describe our vision of how existing Rutgers efforts in this multidisciplinary space can be reimagined and invigorated to address the multi-faceted challenges of climate change.

We propose the establishment of the **Rutgers Climate and Energy Institute (RCEI)** with a mission that serves to elevate the local, national, and international profile of Rutgers-New Brunswick (RU-NB) as a locus for climate change and renewable energy scholarship and outreach. This new institute takes full advantage of existing climate, renewable energy, and earth system science programs, while expanding the range of disciplinary perspectives brought to the task. This series of ambitious and wide-reaching goals generate the following mission statement:

The mission of the Rutgers Climate and Energy Institute is to contribute to a resilient, equitable, and sustainable climate future. This mission is achieved by connecting faculty, staff, and students through transformative climate change research, innovation, education, and outreach.

The Rutgers Climate and Energy Institute will be a force multiplier that enables RU-NB to make significant advances in producing the knowledge needed for a resilient, equitable, and sustainable climate future beyond the current situation, communicating that scholarship to the public, and inspiring climate action. Our vision for RCEI capitalizes on our existing reputation in climate change and renewable energy scholarship, and builds toward the creation of a truly multi-disciplinary community of climate change scholars. RCEI will support, coordinate, generate, and communicate the broad range of climate change and renewable energy scholarship that takes place across the Rutgers-New Brunswick campus.

The formation of RCEI allows **streamlining of climate change and renewable energy communication functions; and the creation of a physical and virtual spaces for faculty, staff, students, and stakeholders to create, find and use climate change resources at RU-NB.** Importantly, a clear RU-NB 'home' for climate change and renewable energy scholarship embodied by RCEI enables **increased RU-NB investments to be directed toward their greatest effect,** and helps philanthropic investors to more easily identify where their interests and goals will be amplified.

Opportunity/Justification

RCEI is confronted with a real and formidable task of organizing faculty, students and staff around salient themes within climate change and energy scholarship. We propose a ‘federal-state’ organizational structure where higher-level (federal) administrative, communication, outreach, and philanthropic tasks are handled by the Director of RCEI and a dedicated staff. Four Area Leads, each overseeing the broad thematic areas of: Earth System Science; Human Dimensions of Climate Mitigation, Adaptation, and Resilience; Renewable Energy, Technology and Energy Conservation; and Climate Change Communication and Environmental Humanities. Area Leads will coordinate and galvanize faculty and staff focused on scholarly synthesis and convergence, effective communication of climate change scholarship, and research co-production with stakeholders and industry. We envision that within these themes clusters will organize around focused and highly topical scholarship areas such as climate-biodiversity feedbacks, climate justice, carbon capture technology, development of renewable energy and storage, climate forecasting, the art of climate change, and building resilient infrastructure, among several others. **Dividing the organizational tasks of RCEI into a ‘federal-state’ governance model provides a needed organizational structure and common identity within and outside of RU-NB, while allowing scholarship investments to be nimble enough to track rapid advances in climate change and renewable energy scholarship.**

This organizational structure will: (1) reduce administrative and funding complexities so that barriers to faculty, staff, and student engagement in climate change and renewable energy scholarship are lowered or removed, (2) create the day-to-day opportunities for faculty, staff, and students to more fully integrate their expertise across the wide array of disciplinary approaches to the climate change challenge, and (3) streamline the feedback between scholarship and its application through building lasting relationships between Rutgers’ scholars, students, industry, and the public.

We propose RCEI will engage in the following initiatives:

1. provide resources and staff to support ideation sessions and inter-disciplinary synthesis working groups that galvanize scholarly efforts across RU-NB to move ideas into action;
2. provide resources, space, and staff support for faculty and staff groups that are engaged in grant writing, or similar efforts, that will fund innovative convergent climate change scholarship;
3. establish an annual seed grant competition for climate-change research and curriculum to jumpstart innovative approaches to climate change education and scholarship;
4. provide post-grant communications support and meeting spaces that facilitate realization of funding goals and increase the impact of funded scholarship;
5. create an inviting and convenient physical space at RU-NB that can house RCEI and provide a potent symbol of what we can achieve under its mission;
6. create a climate change and renewable energy postdoctoral fellows program that supports early career individuals pursuing climate scholarship, facilitating their advancement as impactful scholars;
7. create an artist-in-residence program that allows artists to fully engage within a research team helping the group to conceptualize ideas that lie outside the scope normally

defined by the sciences and open the field of climate change science to questions that might otherwise go unasked;

8. foster and support the development of new cross-school, interdisciplinary educational opportunities; and,
9. engage and sustain climate change and renewable energy scholarship and outreach partnerships with industry, government, and stakeholders within New Jersey.

Investment in RCEI emphasizes that RU-NB is in step with peer R1 universities that have recognized the importance of large-scale environmental issues by establishing centers and institutes similar to what we are proposing here. Although these centers and institutes differ in their details, all of them include elements of the broad thematic areas of climate change, renewable energy, and sustainable earth systems that are within the scope of RCEI.

These include:

Purdue University, [Institute for a Sustainable Future](#)
University of Minnesota, [Institute of the Environment](#)
Columbia University, [Climate School](#)
North Carolina State University, [North Carolina Institute for Climate Studies](#)
Penn State, [Institutes of Energy and Environment](#)
Princeton University, [High Meadows Environmental Institute](#)
Princeton University, [Andlinger Center for Energy and the Environment](#)
Stanford University, [Stanford Doerr School for Sustainability](#)
UCLA, [Institute of the Environment and Sustainability](#)
University of Delaware, [Gerard J. Mangone Climate Change Science and Policy Hub](#)
University of Florida, [Florida Climate Institute](#)
University of Virginia: [Environmental Resilience Institute](#)
University of Wisconsin, [Center for Sustainability and the Global Environment](#)

Current Activities

Rutgers-New Brunswick is home to world-leading faculty and staff in the disciplines interwoven in climate change, renewable energy, and energy conservation scholarship with almost 250 faculty and staff from across the university identifying as having climate change or energy as a part of their scholarship or outreach interests. Over the past two decades, subsets of these faculty/staff have organized under existing institutes and centers and achieved considerable success in climate change, renewable energy, and energy conservation scholarship, outreach and education. It is imperative that our effort to realize a broader climate change scholarship mission acknowledges and builds upon these successes.

Three existing institutes have organized students, faculty, and staff in the disciplinary space envisioned for RCEI: the Rutgers Climate Institute (RCI), the Rutgers Energy Institute (REI), and the Institute for Earth, Ocean, and Atmospheric Sciences (EOAS). The history and goals of these existing institutes are briefly described below.

The origins of the Rutgers Climate Institute date back to two climate change-related initiatives formed in 2006, one based in the School of Environmental and Biological Sciences and the other based in the School of Arts and Sciences. RCI-affiliated faculty and staff perform research in areas as close to home as the Raritan River and the Jersey Shore, and as far away as Tanzania and Indonesia. Their scholarly interests, to name just a few, include such topics as mechanisms of sea level rise, economic risks of climate change, consequences of climate change for human health and well-being, effects of media coverage of climate change on public opinion, and social adaptation and vulnerability to climate change.

The Rutgers Energy Institute was also formed in 2006 and has a mission to foster both fundamental and applied scientific research and policy components to develop sustainable energy production compatible with economic growth and environmental vitality. To do so, REI brings together experts from academic units and research centers across internal Rutgers boundaries to develop strategic teams to work on developing renewable, alternative energy sources. REI has six foci: (1) catalysis as a basis for carbon capture technology; (2) bioenergy and bioproducts; (3) nanomaterials; (4) photovoltaics and energy storage; (5) carbon-negative technologies; and (6) energy economics, environment, and policy systems. These foci are fertile ground for convergence scholarship and are critical to decarbonizing energy supplies.

Established in 2014, the mission of the Institute of Earth, Ocean and Atmospheric Sciences is to cultivate a university-wide, interdisciplinary community for scholarly leadership, innovative research, education, and public policy engagement about the past, present and future of the Earth system, including the solid Earth, ocean, atmosphere, and biosphere. EOAS has invested in (1) advancing the scientific understanding of the past, present and future of the Earth system and (2) building the knowledge and perspective needed for equitable state, national, and global stewardship of a healthy, sustainable, and resilient planetary environment.

Program Description

Building on this foundation, we propose a new organizational structure. **With the founding of RCEI, RCI, REI, and EOAS will be fully subsumed and cease to exist as independent units at Rutgers.** This proposed reorganization, if fully resourced, will enable RU-NB to embark upon a dynamic future for climate change and renewable energy scholarship and outreach described below.

RCEI as an Integration Hub

RCEI will foster collaboration and amplify the vast climate, renewable energy, and energy conservation scholarship being conducted at RU-NB facilitating or sponsoring several highly successful existing or new programs. For example, RCEI will organize the annual [Rutgers Climate Symposium](#), which has run since 2006 (annually since 2011), bringing together climate scholars and students from throughout our region with the goal of creating communities of practice and generating novel inter-disciplinary research efforts. In addition, RCEI will serve as the New Jersey liaison for the [U.S. Department of Agriculture's Northeast Climate Hub](#), which connects stakeholders to climate-related resources, and works to fill information gaps where needed. RCEI will serve as an integrative force across existing and emerging research centers and initiatives such as the green building, energy policy, and climate adaptation projects at the

[Center for Urban Policy Research](#), low-carbon infrastructure planning at the [Voorhees Transportation Center](#), the [New Jersey Climate Change and Land Management Initiative](#), and the [NOAA RISA Consortium for Climate Risk in the Urban Northeast](#).

RCEI will be a facilitating partner for existing efforts to connect faculty, staff, and students with stakeholders throughout New Jersey. For example, RCEI will aid in connecting researchers from across the university to existing support resources for management and policy in the context of climate change such as [Rutgers Ocean Adapt](#) fisheries data portal and the [New Jersey Green Building Manual](#). RCEI will provide a mechanism to leverage and utilize Rutgers' world leading field observational networks that are critical to observing changing systems such as the [New Jersey Weather and Climate Network](#), the [Center for Remote Sensing and Spatial Analysis](#), and the [Center of Ocean Observing Leadership](#). Similarly, RCEI will facilitate connections across RU-NB to the vital work of the [New Jersey Climate Change Alliance](#), a nonpartisan collective of leading organizations with a presence in New Jersey that share the goal of advancing science-informed climate change strategies and policy at the state and local levels. RCEI can also facilitate cross-campus connection to the [New Jersey Climate Change Resource Center at Rutgers](#), which was established by statute in January 2020 and has been provided with a state appropriation to Rutgers for its support.

RCEI as a Scholarship Hub

We propose several new initiatives that directly address the RU-NB master plan goals of scholarly leadership, innovative research, and increasing faculty, staff, and student diversity. We propose dedicated sources of annual funding that will support groups of faculty/staff engaged in convergence research related to climate change, renewable energy, and energy conservation scholarship. These funds target stages of scholarship progression from synthesis and ideation, to securing needed funding, and finally to ensuring funded work is impactful. To do so, RCEI will provide space, staff resources, and funds that allow interdisciplinary faculty/staff groups to develop and coalesce around shared scholarship interests, devote their unfettered attention to developing multi-disciplinary and convergence funding proposals, and ensuring that funding enabled by RCEI achieves its expressed goals and is broadly communicated to interested industries, stakeholders or the public.

We note that support for this investment is critical if Rutgers faculty and staff are to compete successfully for the growing number of funding initiatives in climate change and renewable energy scholarship where expertise across a broad array of disciplines is expected, as exemplified by programs such as [Critical Aspects of Sustainability Innovative Solutions to Climate Change](#), [Regional Innovation Engines Program](#), and [Organismal Response to Climate Change](#). In addition, with recent passage of the Infrastructure Investment and Jobs Act, Inflation Reduction Act, and other Federal investments in climate resilience and renewable energy, RCEI will play a key role in enabling faculty and staff to access these funding sources and transform this funding into actionable and impactful outcomes for New Jersey and the nation.

RCEI can play a pivotal role in training, attracting and retaining a diverse set of climate change and renewable energy scholars at RU-NB. RCEI will accomplish this goal through two initiatives. First, we propose a Postdoctoral Fellowship program that supports diverse

scholars with interests in climate change and renewable energy scholarship, and that RCEI provides a mentoring and collaboration structure that allows these Fellows to engage with each other and affiliated faculty and staff to achieve their scholarship and professional development goals. This program will follow successful models such [David H. Smith Post-Doctoral Fellows](#) and the [Global Change Postdoctoral Fellowship at the Arnold Arboretum of Harvard University](#), and seek to identify and develop future leaders and entrepreneurs in climate change and renewable energy scholarship. Second, we propose that RCEI serves as a formal mentoring, connection, and retention hub for climate change and renewable energy cluster hiring efforts. Building a community of young and diverse faculty within climate and renewable energy ensures that RCEI, and participating RU-NB Schools, stay at the forefront of these quickly evolving fields. Within both initiatives, we see RCEI leadership and affiliated faculty as providing the dynamic and engaged community of scholars that can accelerate success for young scholars and new faculty, and ensure they are participatory and productive members of the RU-NB community.

RCEI can substantially increase climate change community engagement by becoming a central locus for research-to-application efforts within industry, state government, municipalities, and stakeholder groups. RU-NB serves a critical role as the institution charged with moving innovative and novel research into practical applications that benefit New Jersey residents and industries. The importance of this mission cannot be understated in the context of likely impacts of climate change on New Jersey communities and businesses, and the need to provide the technological innovations that allow residents and companies to thrive within a novel climate future and de-carbonized energy future. We propose that the investment in RCEI leadership and staff serves as a mechanism for RU-NB to consistently engage partners in industry, state agency, and stakeholder groups to address their needs and concerns related to climate change. Providing this level of regular community engagement is fundamental to RU-NB efforts to become a strong and effective partner in addressing the climate change challenge within the state. In addition, investment in RCEI staff provides a ready 'bridge' between stakeholders and faculty and staff research initiatives allowing grant-funded engagement of the former in climate change scholarship, including the co-production of knowledge. For example, RCEI can provide the recently established Offshore Wind Energy Collaborative with a mechanism to reach across RU-NB Schools to galvanize new research collaborations in this domain, and to communicate the impact of RU-NB offshore wind scholarship on citizens of New Jersey and the nation.

RCEI can serve as a mechanism to accelerate production of innovative technologies via access to grant funding, and move those innovations into commercial ventures. Rutgers is a place where grass-roots research in climate change and renewable energy has thrived including in the awarding of patents to faculty and staff, and in spin-off companies delivering critical renewable energy and carbon-reducing technologies to the marketplace. Notable examples include lithium battery materials, low-carbon concrete, high efficiency LEDs, advanced catalyst materials for water splitting reactions, to name just a few. Similarly, the merging of engineering, genomics science, and bioinformatics provides novel and powerful solutions to pressing needs such as monitoring ecosystem health, providing shoreline protection through engineered living reefs, designing efficient carbon drawdown strategies, and developing renewable biofuel sources. RCEI will amplify the impact of cross-disciplinary innovations by providing a ready connection to entrepreneurship programs within Rutgers-NB such as the

National Science Foundation I-Corps Hub, which has 10 regional research partners that provide coaching and assistance for faculty, staff, and student inventors on their start-up journey. Being successful with energy and climate innovation is ever more critical as the impacts of climate change rapidly worsening. Having innovation woven into the fabric of RCEI will engage energy and climate inventors in achieving their commercialization aspirations more effectively.

RCEI as a Communication Hub

As climate change impacts worsen over time, and the global energy economy moves toward decarbonization, it will be of paramount importance to effectively communicate the value and impact of climate change scholarship at RU-NB. Equally important is the ability of Rutgers faculty and staff to innovate climate change communication modalities, finding ways to reach populations that remain under-engaged in addressing climate change or responding to a changing energy economy. However, in keeping with its mission to realize high visibility and impact, RCEI will serve as the communication hub that engages with scholars across RU-NB in their efforts to invite participation by communities that have lacked access to the natural environment and that have been excluded from discussions of climate change thus far. For example, RCEI staff and resources will support programs, such as a **Mason Gross Climate Change Artist-in-Residence program**, that can serve to communicate climate change scholarship effectively through visual design, sound and music, theatrical imagining and performance, installation (e.g., in cooperation with Zimmerli Art Museum), narrative and documentary film, and dance and movement. Such an engagement between science and art in the service of broad-based communications represents a globally unique element to RCEI that places it out in front of peer institutions.

Organization Structure and Governance

Leadership of RCEI will consist of a **Director** and a team of four **Area Leads**, each of whom represent the four aforementioned themes. The Director should maintain a 50% administrative and 50% research appointment at the Full Professor level with tenure residing within an appropriate department and School. This apportionment of job duties reflects the large time commitment the Director must make to RCEI in order to realize the outcomes described above. Having the Director maintain active research, and acknowledging this commitment in their job description, ensures that Rutgers can attract and retain individuals who are global leaders in climate change scholarship. We see a research-active Director as critical to their ability to identify and support cutting-edge inter-disciplinary research themes, creating and maintaining necessary professional networks that will benefit RCEI, and give them needed credibility with funding sources when seeking support for RCEI initiatives.

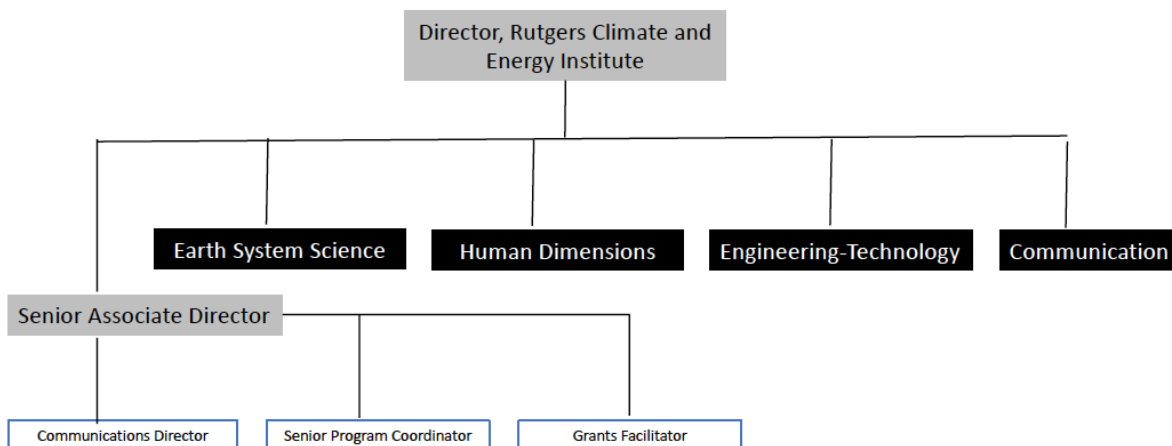
The Director should serve in 5-year intervals that follow the review and evaluation of Institutes and Centers at Rutgers-New Brunswick, with appointment/re-appointment determined by the RU-NB Chancellor-Provost, participating RU-NB Schools, with input from RCEI affiliated faculty and staff. Each Area Lead should serve in 3-year intervals with appointment/re-appointment determined by the Director with input from RCEI affiliated faculty and staff. Each Area Lead should receive administrative support (e.g. administrative supplement, course release) through their home Schools to recognize that their role in RCEI requires a significant time investment. Area Leads are expected to maintain close relationships to RCEI faculty, staff, and students

within a research theme, and theme-associated Schools, Departments and Centers. Area Leads are also expected to maintain active climate and/or energy related research programs and to work across themes to connect faculty, staff, and students to emerging climate change or renewable energy scholarship teams, or co-create ideation sessions, workshops, or symposia that drive innovation and synthesis. The Director and Area Leads together form a **Scholarship Board** that determines how to allocate staff and converge research investments.

RCEI will also maintain an **Administrative Board** that is composed of the Director and staff of RCEI, and Deans (or their designates) from each participating RU-NB School, and other ad hoc members that represent key units in RU-NB (e.g., Office of Climate Action). This board is charged with providing input on funding initiatives, philanthropy, and increasing articulation of RCEI with other climate change initiatives across Rutgers University units. This board also provides direction as to the role of RCEI in emerging cross-School needs in graduate or undergraduate education, communications, outreach, state appropriations, and industry connections.

Staffing

We expect that the Director will be supported by a group of dedicated **high-level staff**. These positions are: (1) Senior Associate Director that assists the Director in administrative functions such as planning, budgeting, coordination and delivery of assessment and other documentation, stakeholder engagement, maintaining contacts and attending events across RU-NB, and interfacing with industry and state government officials, (2) Senior Program Coordinator who oversees events planning, coordination and execution of events, organizing and overseeing working group meetings and access to RCEI spaces, and tracking evaluation criteria outcomes, (3) a Communications Director that creates media content of RCEI scholarship and outreach programs, maintains and updates websites and newsletters, creates materials related to events (e.g., art installations), and serves as a liaison to the Rutgers office of communication, and (4) a Grants Facilitator who assists RCEI faculty and staff in identifying grant opportunities, and providing RCEI-funded groups with pre-award grant assembly and a smooth grant submission process.



Potential organizational chart for the Rutgers Climate and Energy Institute. The Director is supported by a Senior Associate Director (gray boxes) and three staff (white boxes) that enable the core functions of RCEI including outreach, scholarship and communication. Four Area Leads (black boxes) recognize and incentive scholarship clusters within each of the four core themes of earth system science, engineering-technology, human dimensions of climate change, and climate change communication.

Membership Policies

We have invited all current members of RCI, REI, and EOAS to opt in to become members of RCEI. Further, during the initial meetings with RU-NB faculty and staff, we will identify individuals who are best suited to contributing to RCEI and invite these individuals to become members. We will also keep an open call for other faculty and staff who may be interested in joining RCEI, with an annual, open-to-all, symposium with short (“lightning”) presentations as a way to identify individuals who would benefit from membership, and vice versa. We envision selective membership to ensure an active, lean and highly integrated and engaged team of scholars. RCEI affiliated individuals will be asked to take part in governance and to lead specific initiatives. Affiliation will be assessed every 5 years by the Director and Area Directors, with input from RCEI members (e.g., a membership committee), to ensure that participation in RCEI activities remains consistent. We consider this more selective approach to membership to be superior to simply creating a long list of members who may or may not make meaningful contributions to RCEI activities.

Member Participation

Members are eligible for RCEI funding relative to ideation sessions, seed funds, convergence grants facilitation either as a team member or the principal investigator. Members may be asked to serve on RCEI committees (e.g., renewal of Director appointment). Members will have access to the communication services of RCEI, including having their scholarship highlighted in communication and outreach materials for the institute. Members will also have access to RCEI contact lists and industry partners (e.g., newsletter recipients/subscribers).

Space

RCEI will initially reside in the Institute for Food, Nutrition and Health (IFNH) building on Cook Campus. The institute will have dedicated space for the Director and all RCEI staff, priority access to a larger video-enabled conference room to host grant facilitation activities, open-floor-plan desk space for use by RCEI groups for short-term integrated grant writing activities, and smaller video enabled and more casual working group meeting or break-out spaces. These spaces are located on the floor above Harvest Restaurant, allowing convenient access to high-quality meals for groups RCEI are hosting/facilitating.

Implementation and Timeframe

Phase I: The Chancellor's Challenge has been awarded to RCEI, and with commitments from participating RU-NB Deans, RCEI has established a solid foundation of support for its initial three years. The Interim Director and the Founding Members will constitute a First-year Steering Committee. The Interim Director and Steering Committee will solicit input from participating School Deans and other campus leaders on appointment of the four Area Leads. The Interim Director and Area Leads will initiate and complete a process for enrolling faculty and staff as RCEI members. The Interim Director will recruit and hire RCEI staff as soon as possible, and oversee establishment of RCEI into IFNH spaces. We expect that by the end of the first year, RCEI will have functioning Scholarship and Administrative Boards, a full initial membership established, and will have initiated and/or completed a select set of ideation sessions, events, and grant facilitation efforts. At the end of the first year, the Interim Director, in close consultation with the Scholarship and Administrative Boards, will develop a position description and advertisement to hire into the Director position. A Director should be identified and in place within three years of RCEI establishment.

Phase II: The Director, once in place, will oversee full implementation of proposed RCEI initiatives. The Director will oversee development and deployment of RCEI staff to affect its outreach and service mission. The Director will engage with the Scholarship and Administrative Boards to chart a long-term pathway toward a sustainable funding model. Finally, the Director will serve as a liaison to RBHS and the Office of Climate Action to ensure articulation of missions across Rutgers units and develop initiatives that reflect shared goals.

Administration of Grants

RCEI will not be a cost center within Rutgers-NB. Following existing Responsibility Center Management guidelines, all grants which RCEI facilitates will be administered through the home academic Department and School of the principal investigator(s). The Director will work in consultation with the School Deans and the Chancellor-Provost office to identify a mechanism to allocate indirect return from grants facilitated by RCEI back to the institute. A key mission of RCEI is to create the intellectual and working conditions that support grant applications and increase their success rate.

Financial Support

RCEI expects a commitment of funding from the School of Environmental and Biological Sciences and the New Jersey Agricultural Experiment Station to support the Senior Associate Director and Senior Program Coordinator staff positions. In addition, participating Schools have agreed to provide administrative supplement or teaching release for Area Leads that are housed in their departments, and Mason Gross School for the Arts has agreed to support the initial three years of the Artist-in-Residence program. Participating Schools have also agreed to transfer

commitments of funding or small endowments for RCI, REI and EOAS for use within RCEI. Finally, we expect the Chancellor-Provost Challenge will provide substantial funding to hire the grants facilitator staff position for the initial three years, and to support scholarship and communication events, the convergence grants development program, seed grants for scholarship and educational initiatives, and the post-doctoral fellows program. Funding for the Communications Director has not yet been secured.

Over the longer term, RCEI will be sustained through a mix of RU-NB School contributions and philanthropy, with the expectation that the budget will moderately increase as programs are on-boarded and the value-added programs of the institute mature. School contributions can be derived from one, or a mix, of the following: (1) funds allocated by the Chancellor-Provost's office in coordination with School Deans; (2) funds directly allocated by School Deans on a 5-year revolving basis; and/or (3) funds derived from a negotiated percentage of indirect costs returned to RCEI from Schools on all grants that qualify as being facilitated or initiated by RCEI (criteria to be determined in consultation with participating Schools). In addition, we request that RCEI have access to a representative at the Rutgers Foundation whose time is dedicated, at least in part, to securing philanthropic support for RCEI programs. There are several RCEI initiatives that are likely to attract such support including the integration of art and science within the context of climate change scholarship and communication, the post-doctoral fellows program, and efforts to include stakeholders in co-production or workforce development. Given the range of duties that the Director will be tasked with executing, **a dedicated contact within the Rutgers Foundation is critical to realizing these philanthropic goals.** RCEI will serve to integrate climate change and renewable energy scholarship, communication, and stakeholder engagement across RU-NB Schools, magnifying the global reach and the impact of their faculty, staff, and students. **An institute that aspires to have such an impact requires stable and high-level base investment over the long-term.**

Evaluation

We posit that evaluation should follow directly from the mission and the details of RCEI operation. We thus expect that measurable evaluation criteria can be developed that consider (1) outcomes of convergence research investments by RCEI, (2) the number or size of Rutgers research networks around climate change and renewable energy themes facilitated and supported by RCEI, (3) quality and quantity of engagement with stakeholders by RCEI leadership, staff, faculty and students, (4) impact of RCEI programs on training, hiring and retaining a diverse faculty and staff engaged in climate change scholarship, (5) curricular programs initiated or supported by RCEI, and (5) attendance and impact of communication events.

Life Cycle: Growth or Discontinuation

RCEI will undergo a review by the Chancellor's office five years into the RCEI initiation. This review will provide an assessment of the RCEI's progress and developing priorities. A favorable assessment would be followed by renewal for another 5-year cycle.

Endorsements

RCEI will coordinate with other offices and centers at Rutgers. Integration or articulation with each of these existing entities poses unique challenges, which we address here.

The newly formed [Office of Climate Action](#) leads the development of implementation plans for university climate action and the creation of systems to hold Rutgers accountable for its progress toward achieving carbon neutrality by 2040. The activities of this office span all Rutgers campuses (New Brunswick, Camden, and Newark) and its outlying research stations. It seeks to mobilize faculty, students, and staff to realize an ambitious agenda that will increase the energy efficiency of Rutgers facilities, spur the development of climate-neutral transportation and operating systems, and utilize campus spaces as 'living laboratories' for climate change education and research. The Office of Climate Action is also engaged in efforts to partner across the sector to advance higher education's role in climate action.

RCEI clearly must articulate smoothly with the activities of the Office of Climate Action as they share the mission to confront the challenge of climate change. However, the central mission of RCEI is scholarship and innovative research, whether that is realized as faculty or staff led convergence scholarship initiatives, interdisciplinary synthesis, or innovating at the science-art nexus of climate change. We anticipate that some of this scholarship will take full advantage of the activities of the Office of Climate Action (e.g., using facilities innovations as research subjects or campus initiatives to communicate about climate change). While we see much potential for research conducted through RCEI to contribute to efforts to achieve carbon neutrality globally, we see the Office of Climate Action as the entity responsible for moving Rutgers University toward carbon neutrality and exploring a more climate-sustainable way for higher education to do business for the next century. As such, the missions are distinct, with RCEI providing Rutgers a scholarship presence on a global stage and the Office of Climate Action leading efforts to promote emissions reductions and carbon neutrality within Rutgers and the importance of higher education institutions moving toward models of sustainability.

Efforts to create an institute or center that explores the two-way connection between health care and climate change are currently under development, in connection with Rutgers Biomedical and Health Science (RBHS). Due to its formative state, we cannot highlight differences in mission between RCEI and this health institute as clearly as we can for the Office of Climate Action. Nevertheless, the two groups have a shared mission of scholarship involving climate change, and there are several faculty/staff and outreach elements within RCEI that explicitly consider the effect of climate change on health and opportunities for renewable energy justice. RCEI has a remit that includes the schools and departments within the New Brunswick Chancellor-Provost's office, and cannot adequately incorporate the many links between climate and health as can an institute that is situated within RBHS. However, the two institutes will certainly share a subset of faculty/staff and will likely find common ground where resources can be combined to incentivize cross-institute collaborations.