Localizing Buffalo’s Renewable Energy Future

LEVERAGING OUR PAST, INVESTING IN THE PRESENT & BUILDING TOMORROW
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New York State Renewing the Energy Vision
Campus Challenge Energy to Lead Competition

Proposal Submitted by:
The University at Buffalo (lead)
The City of Buffalo
Buffalo State College
Education Leadership Fellows in Sustainability
Erie Community College
Erie County
Erie Canal Harbor Development Corporation
Buffalo Niagara Medical Campus

SYNOPSIS

The Localizing Buffalo’s Renewable Energy Future initiative’s goal is to create 100 megawatts of new solar energy by 2020 that is manufactured in Buffalo, connected by Western New York workers, installed in our city’s urban core and University campuses, and utilized by key regional anchoring institutions including the University at Buffalo (a REV Campus Challenge member), Buffalo State College, Erie Community College, the City of Buffalo Erie County and others.

This renewable energy purchase agreement is estimated to produce $125M in lower energy costs and savings, increase grid and neighborhood resiliency, create 3,300 new local jobs, infuse over $250M in new economic impact into the region, instill greater budget predictability and stability, and reduce greenhouse gas emissions by over 82,298 metric tons annually.¹

¹ 100MW of Capacity = 326,988kWh x 365 days per year as per the NREL pvwatts calculator. Removing 119,350,736kWh from grid use eliminates 82,298 metric tons of carbon dioxide from the subscriber’s grid power at 100% use per the EPA—see: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator. In addition, the $125M estimate in lower energy costs is based on calculations from a 2015 project in Buffalo and then scaled to equate to the appropriate size.
LEADING WITH INNOVATION

CONTEXT & BACKGROUND

A century ago, the Buffalo-Niagara region became the world’s innovative leader in harnessing renewable energy from its natural resources and delivering it directly to its community. Pioneers such as Tesla and Westinghouse pushed the boundaries of what was achievable and industry leaders like Adams and Schoellkopf demonstrated that larger scale place-based economic growth could flow from leveraging renewable energy. The Buffalo-Niagara region was a forerunner and that leadership fueled decades of prosperity and economic growth for the community.

Today, we have the opportunity to learn from this past experience and stand on the shoulders of these giants by charting a new path that creates sustained economic development, invests in our workforce, empowers our citizens and neighborhoods, mitigates climate change impacts, increases our resiliency and positions Buffalo-Niagara as a national and world leader for leveraging the low carbon economy while enhancing the quality of life for all our people.

The state and region are already moving down this path. As an early signatory of the American College and University Presidents’ Climate Commitment, the University at Buffalo has committed itself to becoming climate neutral by 2030. While an aggressive date, it underscores the urgency and commitment the University has made to focusing on and addressing the negative ramifications of climate change and moving towards energy independence. In addition, Governor Cuomo’s Build Smart NY initiative (Executive Order 88) mandates a 20% energy reduction by 2020. The Governor further reaffirmed this goal in his 2016 budget address by stating, “I believe this is the economy of tomorrow and while we’re developing the business plan, we can also employ it in the state of New York. I propose installing solar in over 150,000 homes and businesses and converting SUNY facilities to renewable energy by the year 2020. We can do it and we should.”
PROJECT DESIGN

The Localizing Buffalo’s Renewable Energy Future Initiative is designed to link diverse anchoring institutions (UB, Buffalo State, ECC), neighborhoods, students, governments (City of Buffalo, Erie County), industry and others together in a solar web that will provide lower energy costs and savings, grid resilience, jobs, budget predictability, and decreased greenhouse gas emissions. It will achieve this by creating and utilizing a unique project design, savvy business models that enable institutions to move forward without committing up front capital, innovative and diverse partnerships, and a robust curriculum that infuses renewable energy literacy and sustainability principles into the actions of the next generation of leaders.

The program will specifically utilize these partners’ significant new and growing sustainability rubrics including the:

- The UB Solar Strand
- SolarCity’s new manufacturing facility
- National Green Gigawatt Partnership
- SUNY Shared Services
- UB’s comprehensive Climate Action Plan
- Governor Cuomo’s Executive Order 88
- The Department of Energy’s Solar Decathlon award winning UB GRoW Home
- Robust student engagement and the Education Leadership Fellows in Sustainability
- UB’s Communities of Excellence: Research and Education in eNergy, Environment and Water (RENEW) and the Sustainable Manufacturing and Advanced Robotic Technologies (SMART)
- The City of Buffalo’s new Energy Master Plan, Green Code and Land use Plan
- The Buffalo Sewer Authority’s Vacant Lot Assessment & Green Infrastructure Master Plan
- Grassroots sustainability efforts to transform neighborhoods (the Green Zone), environmental NGO’s (the WNY Environmental Alliance), the business community (The Western New York Sustainable Business Roundtable) and a dynamic regional sustainability plan (One Region Forward)

The initiative is also poised to leverage the Western New York Regional Economic Development Council’s investment strategy which has identified 16 focus areas, including investments in energy, infrastructure, cities and brownfields, as well as three of the key focus areas (Energy-Smart New York, Healthier New York and Vibrant Communities) of the State University of New York’s strategic Plan.
The core proposal of the project will leverage the new innovative work being done with renewable energy purchase agreements (REPA’s) through partnerships and aggregation. A REPA is a contract to purchase power from a renewable energy project for a predetermined price over a specified period of time. This contract allows a project developer to borrow the money needed to build their project. The REPA buyer avoids the need to use any upfront capital, and benefits from receiving a fixed cost for renewable energy. However, the Localizing initiative will enable multiple institutions to increase purchasing power and thereby significantly lower the price point.

The purchasing partnerships, while critical to building this emerging marketplace, represent only half of the opportunity and positive impact associated with this strategic approach. The other half includes the social and environmental investment in communities and the region that results from possible siting of panels in numerous long term vacant properties, on city infrastructure like fire stations, police stations, parking lots and community centers throughout the City of Buffalo as well as on-campus locations.

By working with the City and communities to leverage these underutilized parcels (that have no near term development plans) for 21st century renewable energy production, the land can be put back in sustainable service to contribute to the economic and social renaissance occurring within the city and region. This localized approach to citing renewable energy production is well aligned with emerging efforts to ensure a just transition to clean, renewable energy at the neighborhood and community scale through community-based energy generation and access.

Specific siting of locations will be a key part of the initiative itself thereby providing pedagogical and student engagement opportunities as well as direct community and neighborhood participation and engagement. Many factors will be considered including solar feasibility, infrastructure availability, neighborhood and stakeholder engagement, and ecological sensitivity—in fact, Buffalo ranks number two among US cities with the highest potential to meet electricity demand with rooftop solar.² With that stated, ample work has already been completed that provides key anchoring possibilities throughout the City including but not limited to: the Northland Corridor, numerous East Side properties, the Buffalo Niagara Medical Campus, parts of the Outer Harbor, brownfields and other underserved and underutilized sections of the city.

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² Nearly 40% of US Electricity Could Come From Rooftop Solar, Greentech Media.
In addition to building sites identified by the City’s Department of Public Works, Parks and Streets and team stakeholders, the analysis will utilize the City of Buffalo Green Code, Land Use Plan and the Buffalo Sewer Authority’s comprehensive Vacant Land Assessment and Green Infrastructure Master Plan (a partnership with the University at Buffalo) that has collected quantitative and qualitative parcel-detail information that provides an objective baseline from which to work. This project is one of the most robust and inclusive of its kind, and is poised to be leveraged for identifying numerous potential solar sites. The University at Buffalo will pull from Building UB: The Comprehensive Physical Plan to identify sitting locations which may include utilizing 150 acres of undeveloped land on its eastern Amherst Campus property as well as relevant rooftops. Finally, Buffalo-State and Erie Community College will explore campus siting options as well.

In total, to reach the 100 megawatt renewable goal, approximately 700 acres of land and rooftops will be needed—nearly all of which will serve additional functions as well as energy generation. This multipurpose function is a key part of the initiative and will greatly advance the national scholarship and thought leadership of how we think about and utilize renewable energy—it also is a proven concept that this region has pioneered and is already succeeding in as demonstrated by the UB Solar Strand.

Over the past four years, the University at Buffalo in partnership with the New York Power Authority has operated the world’s most publicly accessible solar landscape on UB’s North Campus. The 750 kW UB Solar Strand system not only produces enough electricity to fuel 700 student apartments, more importantly it has fostered a greater conversation about the role of incorporating energy production into our everyday lives. Unlike nearly every other power generation system on the planet, the Strand invites the community into its inner workings and is, as the Wall Street Journal cited in 2015, “landscape architecture at its most forward thinking.” Whether through utilizing the interactive and game-like app which moves people throughout the 140’ wide by 1,250’ long space, attending a concert, movie or lecture or just walking through the numerous paths amidst the 3,200 panels—the project moves people to think about the role of energy and how we can migrate from a mentality of generating centralized power that has adverse effects on the public health to one of incorporating it into the fabric of everyday life.

In short, the Strand is flipping the conventional wisdom that siting energy generation facilities is a liability—to the contrary, the Solar Strand has become a destination and campus amenity. We will pull heavily from the lessons from the Strand as they will be instrumental in siting photovoltaic panels within City of Buffalo lands as we begin to integrate solar into communities and nature as a beneficial asset—not something we fence off from people.
BUSINESS MODEL

We are at a unique point in time for our nation and region. Within a few short years the solar energy market has been transformed, and grid parity between traditional fossil fuels and solar energy generation is starting to be achieved. The global community has come together to chart a course for a low carbon economy future to fight climate change. New public private partnerships are starting to be leveraged to provide much needed upfront capital for energy projects and our neighborhoods and communities in need are poised for investment and economic development through renewable energy. While the days of economic doldrums in Buffalo have subsided, it is imperative that we act aggressively to take advantage of key new business trends that will enable us to stay ahead of the curve and continue on the trajectory of remaking and rebranding our city.

Until the present moment, the main hurdle to moving towards a lower carbon future has been very simple—the price point of renewable energy was simply too cost prohibitive. In 2006 the University at Buffalo, through the generous support of NYSERDA, created its first solar electric installation. The 75 kilowatt system occupies 6,300 square feet atop Norton Hall and generates about six percent of the building’s annual electrical power. More importantly, the price per watt installed was $13. As previously mentioned, in 2009 the University embarked on an ambitious partnership with the New York Power Authority to construct a 750 kilowatt land mounted system on the campus. The project was ten times the size of the Norton array but the price per watt installed had dropped to $9. What is even more encouraging is that since energy generation occurred in 2012 at the site, the price per watt has plummeted to $2.50.3

This dramatic decrease in the price of solar made it possible for the University to entertain a renewable energy purchase agreement (REPA) proposal from BQ energy in 2014. For the first time in the University’s history, the solar price per kilowatt offered was less than what the University’s historical rolling average was (seven cents a kilowatt hour). In others words, the University was now in a position to actually save $5M over the life of the project without committing any capital of its own and at very little risk.

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3 Dr. Susan Spencer, President of ROCSPOT and Ram Shrivastava, President of Larsen Engineers confirmed on April 9, 2014 in their presentations at The College at Brockport, that the cost per watt to install an array in Western New York at this time is $2.40-2.50/per watt including all hard and soft costs. In addition see: http://www.greentechmedia.com/articles/read/solar-pv-system-prices-continue-to-fall-during-a-record-breaking-2014 which suggests the price may be as low as low as $2.00.
The BQ agreement put UB in an exclusive club of a dozen other universities across the country who were moving REPA type initiatives forward. In October, UB and these schools (including Cornell, Maryland, Boston University and others) launched the Green Gigawatt Partnership which seeks to catalyze one gigawatt of green power development by 2020. As explained by the Association for the Advancement of Sustainability in Higher Education’s Executive Director (and UB alum) Meghan Fay Zahniser, “New market conditions and purchasing strategies provide colleges and universities with a unique opportunity to ramp up renewable energy while reducing energy costs, controlling energy price risk, and reducing greenhouse gas emissions.” A proven track record of creating successful REPA’s has begun to emerge nationally and locally.

The business model that REPA’s provide are no longer a guess—they are providing a new innovative pathway for institutions like UB, Buffalo State, ECC, the City of Buffalo, Erie County and others to purchase substantial clean energy while keeping their capital for other institutional priorities and shifting operational maintenance to the third party provider.

**INNOVATIVE PARTNERSHIPS**

The heart of this proposal is built on dynamic partnerships. While the University at Buffalo could enter into a new REPA by itself with multiple internal partners, what makes this project truly innovative and creative is the breadth and depth of regional partners and initiatives whose participation scales up the project dramatically. We have the building blocks, core competencies, leadership and commitment represented by local, innovative, and trend setting initiatives which, when assembled and packaged together, create the foundation for an Energy to Lead application that can bring the type of sustained future we all collectively seek.

Anchoring the initiative is a commitment from three of the largest higher education institutions within the State University of New York system to purchase 25% of their energy from the Localizing REPA assuming that the competitive price point will fall well below their respective historical rolling average energy prices (also assuming the process is run in accordance with NYS procurement law). For the University at Buffalo this equates to approximately 50 megawatts, 10 megawatts for Buffalo State College and 4 megawatts for Erie Community College. In addition the City of Buffalo is also considering purchasing a similar proportion of their load and entities like the Buffalo Niagara Medical Campus and Erie Canal Harbor Development Corporation will also be evaluating options which in totality will eclipse the 100 megawatt target. These are market moving quantities that we are currently not leveraging and when pooled together in the REPA they create an aggregation that drives the overall price down substantially more than what they could achieve if acting independently.

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4 In addition, to UB’s role in the Green Gigawatt Partnership it has also been a national leader for the past decade ranking in the top 15 of green power purchasing as measured by the EPA—see: [https://www3.epa.gov/greenpower/toplists/top30ed.htm](https://www3.epa.gov/greenpower/toplists/top30ed.htm).
These higher education institutions have a long history of collaboration through the SUNY Shared Services initiative. Over the past five years the State University of New York has worked diligently to help coordinate and bring to scale ideas across twelve shared service alliances spanning the University system saving immense resources. By leveraging the lessons we have learned from the Shared Services initiative the state’s three largest and leading campuses in each sector (research universities, comprehensive colleges and community colleges) are best poised to continue their collaboration but with perhaps a chance to realize more savings than at any other time throughout SUNY campus collaboration.

While the anchoring institutions will provide the long term stability and revenue through predictable solar energy payments to fuel the initiative, it is the siting partners that will create the approximately 700 acres of needed land and rooftop space to locate the photovoltaic panels. While utilizing a green field in a more rural setting is perhaps an easier route, locating solar installations within the City of Buffalo has far more sustainable benefits—including preserving farmland, utilizing existing electrical infrastructure within the urban core and increasing transmission efficiency by generating energy closer to where it will be used.

By partnering with the city and learning from the lessons they have learned from siting existing city solar installations and the work People United for Sustainable Housing (PUSH) have acquired in the West Side Green Zone, the initiative will work with residents to site economically competitive solar energy in a host of specific urban locations. In so doing, the program will create reduced greenhouse gas emissions, increase energy resilience within neighborhoods and work to stabilize and decrease blight. These are attributes that are usually not linked to energy siting, in fact it’s hard to find a model where locating an energy generation project positively effects the community directly where it is sited. Because of the symbiotic relationship between the anchoring buyers and the siting partners, this dynamic is switched and opens up the possibility of looking at energy production through a different lens—one that views it as something desired—not pushed away.

In addition, Erie County will also leverage its ECLIPSE program (Erie County Low Income Program for Sustainable Energy) to provide greater community partnership to the Localizing initiative. As part of a more comprehensive strategy to address unmet needs across the community and equitably develop the locally emerging energy sector, the ECLIPSE project will work to explore the potential of building a community solar component into the Localizing initiative which would enable direct host residents to also purchase their neighborhood energy.
The University at Buffalo will explore potential locations to host on its campus locations to create an additional solar capacity directly benefitting the University. Buffalo State College and Erie Community College will explore opportunities to install solar directly on their campuses as part of the initiative as well. In addition, Erie Canal Harbor Development Corporation has expressed interest in exploring the opportunity of siting solar for the initiative on the Outer Harbor if it were implemented in a way that maximized recreational opportunity and habitat preservation. Finally, the Buffalo Niagara Medical Campus will leverage an existing study underway to identify potential locations within their downtown location.

In addition to the anchors and siting partners, the third major partner making the initiative possible is the private sector and an ongoing effort to build the regenerative economy here in Buffalo. The State of New York and SolarCity have been working diligently to complete construction on what will become the Western Hemisphere’s largest solar manufacturing site generating a gigawatt of solar capacity annually. The manufacturing facility is poised to have its new highly efficient panels (30% more energy generation in the same size panel) ready for distribution in 2017, which will work nicely with the timeline for a 100 megawatt infusion for the Buffalo Niagara region. The project will also look to contract with a solar energy purchaser agent like Altenex, LLC to provide industry specific expertise when selecting a solar vendor, and structuring the contracts. By leveraging the expertise of SolarCity, Solar Liberty, Montante Solar, Solar by CIR, and other industry leaders like Altenex the initiative will be able to bring anchor buyers, siting partners and drivers of the green economy into one effort to dramatically ramp up renewable energy for Buffalo-Niagara.5

The final grouping of partners will work to provide a contextual, planning and a physical framework in which the Localizing Buffalo’s Renewable Energy Future initiative resides. The Western New York Sustainable Business Roundtable & Environmental Alliance—have vastly increased sustainable literacy throughout WNY and are creating and fostering an environment conducive to renewable energy. The WNY Environmental Alliance is a coalition of over 100 independent environmental organizations that collectively represent the sustainability voice of our region. The Alliance will be a key community partner in reinforcing the initiative’s message as we partner to reduce greenhouse gas emissions. The WNY Sustainable Business Roundtable has over fifty corporate members who have created sustainability plans for their businesses as they work to establish an economically resilient community that prioritizes the well-being of current and future generations. The Roundtable will work to promote the Localizing initiative to members by demonstrating the competitive advantage it offers as a corporate sustainability strategy and thus increase demand for localized renewable energy production.

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5 While NYSERDA has advised inclusion of specific corporate partners in the Energy to Lead competition to strengthen applicants portfolios, the public institutions in this proposal must follow NY State procurement law. Upon successful selection as a REV Campus Challenge winner, the University at Buffalo will conduct an open and transparent RFP or RFQ process upon which these vendors and others are eligible to compete.
The One Region Forward initiative has built a broad-based collaborative effort to promote more sustainable forms of development in Erie and Niagara counties in land use, transportation, housing, energy and climate, access to food and more. The primary deliverable of the multi-million dollar effort—coordinated by the University at Buffalo Regional Institute—has been the Regional Plan for Sustainable Development which specifically calls for exactly the type of initiatives as recommended by this application. The collaborative planning creates a structure that will be able to be leveraged to connect the Localizing initiative with numerous other stakeholders and enable it to pull upon a built network of stakeholders.

Finally, the GRoW Home, UB’s entry to the Department of Energy’s 2015 Solar Decathlon, will provide key physical space that brings together the anchoring institutions, siting partners, solar entrepreneurs, students, faculty and community leaders to advance the Localizing initiative. The energy-positive GRoW home represents countless hours of designing, building, fine-tuning and fundraising over the past two and a half years that paid off this past October for more than 300 University at Buffalo students and faculty members who worked to design, construct and then compete their super-efficient solar-powered masterpiece which placed second overall in Irvine, CA. The GRoW home has now returned to Buffalo for usage as an energy research and education center on campus. With a successful Energy to Lead submission the GRoW Home will be used as a base of operations for the Localizing Buffalo’s Renewable Energy Future initiative as well as ongoing energy research, education and community awareness efforts.

The leveraging of this solar powered facility will be of immense benefit to the REPA project team as well as K-12 students and teachers, University students and faculty, home building experts and engineering professionals, and community members by creating a physical location for these groups to come together to consider the next innovations in the renewable energy continuum. The GRoW Home will also greatly leverage the existing partnership between Buffalo State, UB and others with the existing Smart Grid Initiative. Here, graduate and undergraduate students are trained in the use of information technology to move electricity more efficiently, reliably, and affordably with the goal of becoming our next generation of power-systems engineers, while being part of this development of technology necessary to meet the energy requirements of both industry and the public.

CURRICULUM INTEGRATION

While moving towards climate neutrality is a key piece of UB, Buffalo State and ECC’s sustainability strategy—it is secondary to the goal of creating sustainably literate and engaging students who will work throughout their professional and personal lives to create a better tomorrow. One way to achieve this is to utilize our own operations as a pedagogical teaching tool because learning by study is important, but learning by doing with instruction is more effective. If the University simply wanted to purchase renewable
energy it would not need the *Energy to Lead Competition*—what this initiative seeks to accomplish is creating a pool of engaged students who help mold and shape the initiative, provide the fuel and energy to assist in building a truly integrated program and pass on their knowledge and shared experience to the broader student community.

This approach is solidified in UB’s Strategic Plan—Realizing UB 2020—and specifically the institution’s commitment to experiential learning. This hands on, immersive experiences approach allows students to apply learning toward a deeper and more sophisticated understanding of core concepts and theories. The University has made key investments in experiential learning that will be leveraged by the *Localizing* initiative including and expanded winter session, a rich menu of additional academic options (including the *Sustainability Academy*), and alternative breaks that focus on specific sustainability initiatives. High impact experiential learning results in students gaining real-life knowledge in their discipline, connecting with other professionals working in their field of study as well as informing these student’s career goals. It’s the combination of this out-of-classroom learning, along with the student’s academic studies that positions them to become greater sustainability leaders upon graduation.

Buffalo State College has integrated a similar strategy by embedding experiential learning into the fabric of the curriculum. The Volunteer and Service-Learning Center (VSLC) helps integrate service with learning across campus and in the community. The VSLC partners with regional agencies to create service-learning, volunteer, and other experiential opportunities for students. In addition, undergraduate research opportunities are an integral part of a Buffalo State undergraduate student’s education and the college has a long tradition of engaging students in high quality research and creative activities. The Students for Sustainability class, with over 200 active participants each semester, is a great example of this as the course engages in community environment projects throughout the city. This institutional “infrastructure” will be utilized directly to engage students in the *Localizing* initiative during the planning phase.

In anticipation of the Energy to Lead Competition, the University at Buffalo recently created the Change Agents Scholars Initiative funded by University supporters and donors through UB President Satish K. Tripathi’s President’s Circle Fund. One of the key components of the Change Agents Scholars is the Education Leadership Fellows in Sustainability (affectionately referred to as the ELF’s) who are gaining a hands-on experience in leadership and project management by working directly with the UB sustainability team. The response to the program has been overwhelming with three times as many students applying as there is room for. The ELFS have already had an opportunity to participate in an intensive leadership development retreat off campus where they interacted with regional and state sustainability leaders.
They also had the chance to have a private discussion on campus with national thought leader Andrew Winston (author of the *Big Pivot*). The 35 ELF’s are also playing a direct role in the formation of this proposal and will be working on implementation of the initiative under the leadership of the UB Sustainability Office.

In addition to the ELF’s, there are numerous sustainability student-led organizations that foster a rich and continuing dialogue across the three higher education institutions. From Engineers for a Sustainable World to the UB Environmental Network, which focus on advocating environmentally friendly policies. From the environmental professional fraternity Alpha Kappa Chie, to the student government itself, which has set up SA *Environment* to oversee their own sustainability practices. In addition, leadership from student groups has come together to create the Students for Sustainability Council to collaborate on longer term sustainability initiatives and to create a space for students to weigh in on institutional sustainability approaches and initiatives. From NY PIRG and Students for Sustainability on Buffalo State’s campus to the Growing Green Committee at ECC—numerous independent student sustainability organizations have expressed an interest in the *Energy to Lead* application, offered counsel and will act as robust communication and outreach vehicles to recruit students in much the same fashion that occurred during the successful GRoW Home Solar Decathlon process which engaged over 300 student scholars throughout the three year project.

Complementing the student led sustainability efforts and over 250 sustainability courses, crafted and advanced by nearly 200 faculty that thoughtfully research and teach in the field, are two UB Communities of Excellence that are specifically advancing education in energy and sustainability. The Institute on Research and Education in eNergy, Environment and Water (RENEW) is a $15M University-wide, interdisciplinary research institute that focuses on complex energy and environmental issues, as well as the social and economic context in which they are connected. RENEW unites researchers and educators and builds upon the strengths of faculty from seven UB schools and colleges including the School of Architecture and Planning, College of Arts and Sciences, School of Engineering and Applied Sciences, Law School, School of Management, School of Public Health and Health Professions and the School of Medicine. The institute’s overarching goal is to advance energy, water and environmental sustainability as a foundation to create the Regenerative Economy.

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Two of the five main thrusts of RENEW—Sustainable Urban Environments and Climate Change and Socioeconomic Impacts bring key faculty together that will engage directly with their students and utilize the local REPA opportunity as a laboratory to increase renewable energy literacy as well as assessing and collecting key data that will help inform the specific decisions with the siting of photovoltaics and their financing aspects.
The RENEW focus area on Sustainable Urban Systems addresses problems in Water, Energy and Environment from an interdisciplinary and holistic perspective, integrating technological, social, economic, and policy research to improve the way we build and live in the era of climate change. Urban problems are global in nature but our location and commitment to Buffalo-Niagara provides an excellent lab to develop, test and deploy innovative solutions. The connection of the solar arrays to the grid and to communities as well as optimization of energy utilization in the GRoW house at UB would be among the possible projects of interest from a hands-on learning perspective for students. In addition the RENEW focus area on climate change and Socio-Economic impacts will also be leveraged by the Localizing initiative as it seeks to create a cadre of scholars with world leading expertise and substantial capacity in all topics related to research, education and training in climate change, sea-level rise and global impacts and risks.

In late 2015, the City of Buffalo forged active partnerships with RENEW for the implementation of the City’s Energy Master Plan. Through this initiative, RENEW has placed full time research fellows within the City of Buffalo and Buffalo Sewer Authority to assist the Energy Master Plan and Green Infrastructure Master Plan project implementation. The RENEW Fellows dedicate 20% of their time to building bridges between University academic and operational resources and City plan objectives. This already established model will most likely be replicated for the Localizing initiative by having the energy fellows utilize the experience to assist with assessing specific siting opportunities.

The Sustainable Manufacturing and Advanced Robotic Technologies (SMART) Community of Excellence is also poised to use its expertise in working directly with regional partners to advance the initiative. SMART builds upon UB’s reputation as a leader in advanced manufacturing and design by developing the next generation of manufacturing technologies, processes and educational offerings that enable and support sustainable, cost-effective production of high-quality, customizable products. With over 35 faculty collaborators from Engineering and Applied Sciences, Architecture and Planning, Arts and Sciences, Education, and Management, SMART is leveraging university and regional strength in manufacturing and partnering with companies to educate future manufacturing leaders and shape national policy. In addition to supporting the United States re-embracing of manufacturing, SMART will work to provide scholarship opportunities to students focusing on the ergonomics of panel installation, providing lifecycle analysis curriculum that will be incorporated into project procurement and assist with the initiative’s K-12 engagement.

Finally, the Architecture Department, within the School of Architecture and Planning, hosts a graduate research group on Ecological Practices, whose faculty and students are engaged in the teaching and research of energy and sustainability related topics within the built environment. All students graduating from this group engage in integrative project-based classes, as well as discursive and technical courses addressing issues at the intersection
of ecology and architecture. Ongoing faculty research within the group addresses issues such as energy efficient architecture (notably the spearheading of the aforementioned GRoW Home project), building and community resilience to climate change, energy-water-food connections, vacant lands, green infrastructure (including innovative habitat and storm water systems) and others. In addition to offering a professional degree in architecture the department offers a post-professional degree focused on Sustainability in the Built Environment, which provides a research-based option for graduate study on energy and buildings. Students in both program cohorts would naturally contribute to the success of the Localizing initiative, providing input and a unique perspective on site selection, design integration of solar within the built environment, and the ultimate performance of the installations from an energy and community perspective.

INNOVATING TO ADDRESS THE GRAND CHALLENGE

As Albert Einstein so rightfully advised us “we cannot solve our problems with the same thinking we used when we created them.” This initiative is deeply rooted in the core value that we are stronger, more effective and ultimately more prosperous when we work together towards a common goal and leverage one another’s great strengths. The grand challenge of climate change is nothing less than daunting. In January, the World Economic Forum (the de facto international institution for public-private cooperation dedicated to improving the state of the world) detailed that “the risk with the greatest potential impact in 2016 was found to be a failure of climate change mitigation and adaptation.” This is the first time since the report was published in 2006 that an environmental risk has topped the ranking. While this initiative will clearly not “solve” the climate crisis, it is a robust step in providing critical leadership throughout the state to demonstrating a viable pathway that can be followed to dramatically reduce greenhouse gas emissions and play a key role in implementing institutional climate action plans as well as fulfilling Governor Cuomo’s Executive Order 88.

Climate change is not the only challenge addressed by this proposal—the Localizing initiative provides us the opportunity to leverage public private partnerships (like those described above with Altenex, SolarCity, Solar Liberty, Montante Solar, Solar by CIR, and others in the industry) to create substantial energy savings (estimated to be well over $120M for the life of the project) and perhaps just as importantly budget stability when it comes to energy prices. Unlike the volatile fossil fuel electricity energy market which fluctuates dramatically but always increases in price, REPA’s provide a safe harbor of known prices over a period of time (most likely 20 years). Once the REPA is implemented, volatility is dramatically reduced as the known price of energy—which will be well below the anchoring purchaser’s historical average—will stay constant, thus greatly enabling institutions to direct resources in a more efficient, thoughtful and planned manner.

6 While NYSERDA has advised inclusion of specific corporate partners in the Energy to Lead competition to strengthen applicants portfolios, the public institutions in this proposal must follow NYS procurement law. Upon successful selection as a REV Campus Challenge winner, the University at Buffalo will conduct an open and transparent RFP/RFQ process upon which these vendors and others are eligible to compete.
The fundamental building blocks have been established and the environment to move the Localizing Renewable Energy initiative forward is in place. A dynamic team of nationally and regionally renowned environmental innovators has been working to shape this proposal over the last few months and more importantly stands ready to implement upon news that this application has been awarded. This core team includes:

The University at Buffalo—is the flagship institution in the State University of New York system as its largest and most comprehensive campus and is a member of the prestigious Association of American Universities. Its 30,000 students and 6,000 faculty and staff have an annual economic impact in excess of $1.7B. UB has a long and proud history of advancing sustainability both on and off campus as evidenced by its 2015 accomplishments including designation as an AASHE STARS gold institution, obtaining the EPA Environmental Champion Award, selection as finalist for Second Nature’s national Climate Leadership Award and winning the US Green Building Council Best of Green Schools award (community engagement). It is working diligently every day to achieve its goal of becoming climate neutral by 2030 through the active engagement of thousands of students, faculty and staff.

UB is spearheading the Energy to Lead submission by leveraging key community partners and numerous internal University stakeholders that represent a vast network of educational, engagement and operational sectors. The University will specifically play three roles during implementation of the project. First, it will provide overall leadership and coordination for the project by leveraging its institutional engagement mission. Second, under advantageous economic REPA conditions, it will move forward with purchasing approximately 25% of its electrical energy from clean renewable solar sources as outlined in this proposal. Third, it will also act as a solar host thereby siting a portion of the 100 megawatts on its lands and buildings.

Ryan Mcpherson, Chief Sustainability Officer, will lead a dynamic UB project group with over twenty-five years of positive results-based success founded upon the principle of creating strong coalitions of dynamic team members to advance critical purpose based initiatives (see CV for detail). The UB team will harness the immense human capital from throughout its campus in the form of three working groups. The operations team will leverage the insight of the Associate Vice President for University Facilities, The Chief of Staff to the Vice President for Finance and Administration, the Associate Vice President for Resource Planning and the Associate Vice President and Controller.
The Student Engagement team will be coordinated by Madeleine Dewey, an undergraduate engineering student, who will work to maximize pedagogical opportunities with other UB staff and faculty for over 30,000 students throughout all aspects of the project. The community working group, anchored by the UB Sustainability office, will focus on community engagement and partner coordination and interaction with a solar buying agent and the designated solar installer. All of these activities will be overseen by President Tripathi’s UB Stewardship Committee which contains leadership from across the campus as well as other UB governing bodies.

**The City of Buffalo**—The City of Buffalo will actively participate in the program, utilizing the University’s RENEW Energy Fellows for program support and coordination, identifying local government lands and buildings suitable for solar installation host sites; and exploring whether participation in the REPA as an energy purchaser would be advantageous for the City’s Energy Pool members. In addition, the city will work collaboratively with the Buffalo Sewer Authority (BSA) and their work to identify open space through the vacant lot assessment project and explore opportunities to co-locate solar on BSA green infrastructure installation sites. Finally, the City will work to advance community solar proposals within the *Localizing* framework.

Julie Barrett O’Neill, Green Program Director and General Counsel at the Buffalo Sewer Authority, will lead the City’s efforts and work with numerous partners to identify suitable solar siting opportunities (see resume for detail). Mr. Mehaffy, Executive Director of the Mayor’s Office of Strategic Planning, will collaborate with the Mayor and other cabinet members to assess whether participation in the REPA as an energy purchaser would be advantageous (see bio for detail).

**Buffalo State College**—is the largest state operated comprehensive college within the SUNY system. It is the only SUNY College completely located in a large city with over 10,300 students and 1,700 faculty and staff. The campus is within walking distance of grocery stores, restaurants, shops, museums and city parks, and has an economic impact on the region of about $700 million.

As part of an ongoing campus sustainability program, all undergraduate students receive metro bus passes, electric car charging stations are available on campus, and Buffalo State will soon reintroduce a car sharing program. The institution has a robust recycling program on campus and partners with several local organizations. In recent years Buffalo State has received LEED Gold certification on three buildings and LEED Silver on one. The College is completing the LEED certification process on four other buildings for a minimum of LEED Silver. The new Technology Building features a vegetated roof and photovoltaic panels which provide 17% of the building’s power. Buffalo State also recently completed an Energy Master Plan and is in the process of implementing the recommendations. Finally, the campus has begun $3.2M in renovations to improve energy efficiency through an energy performance contract. Their REPA purchase (under advantageous economic REPA conditions) of approximately 25% of its electrical energy will be substantial and around 10 megawatts.
Mike LeVine, Vice President for Finance and Management, will provide financial expertise and analysis for the REPA, and coordinate participation of Buffalo State’s academic programs, and energy management personnel (see CV for detail). Westley Thomas, the student campus leader of NYPIRG will coordinate all student campus sustainability efforts for the initiative and will ensure strong student engagement as part of the Buffalo-State team.

**Student Leadership**—while numerous student led organizations from multiple campuses will be involved in the initiative, the Student Sustainability Council (SSC) and the Education Leadership Fellows in Sustainability (a component of the Change Agents Scholars Initiative) will act as the student coordination entities to ensure student input and counsel are integrated throughout the process. The SSC and Fellows have provided input and insight throughout the drafting phase of the application as numerous focus groups have offered input and feedback both on the overall concept and scope and specifically about the different roles students can play both inside the classroom and in their organization work.

Madeleine Dewey will coordinate student engagement efforts across the three institutions and numerous campuses for the Fellows and the SSC (see resume for detail). Ms. Dewey is a UB School of Engineering and Applied Sciences student who is majoring in Environmental Engineering, playing a leadership role in the inaugural class of the Change Agents Scholar initiative, is actively involved with the SSC and has a proven record of accomplishment in bringing together colleagues to find consensus and then moving that shared vision towards implementation.

**Erie Community College (ECC)**—will act as an anchoring institution by purchasing 25% of its electrical energy from clean renewable sources as outlined in this proposal under advantageous economic REPA conditions. In addition, ECC’s workforce Green Energy Training Courses (specifically the solar installation efforts) will be greatly leveraged to assist in workforce training efforts throughout the project.

Michael Pietkiewicz, senior Vice President, will coordinate partnership opportunities with ECC’s faculty and business and facilities professionals (see CV for detail). Benjamin Packer, Associate Vice President of Enrollment Management is working to identify a student leader who will integrate student participation in the initiative throughout the three ECC campuses.

**Erie County**—The County will assess how the Erie County Low Income Program for Sustainable Energy (ECLIPSE) may be leveraged by the *Localizing* initiative through a direct community shared solar development, thereby providing affordable renewable energy to host solar communities within the City of Buffalo. They will also assess whether participation as a potential purchaser, or anchor subscriber of the shared solar production for county use is economically advantageous.
As part of a more comprehensive strategy to address unmet needs across our community and equitably transform the locally emerging energy sector, the ECLIPSE project will design a holistic suite of programs to address energy insecurity on a broad-based community scale. By leveraging energy savings from bulk fuel purchasing as a launch pad to engage program participants in conservation, ECLIPSE will promote energy efficiency and drive renewable energy procurement among low-to-moderate income communities targeting Home Energy Assistance Program recipient households served by Erie County.

Community shared solar projects allow for multiple customer classes to collaboratively purchase renewable energy by subscribing to a large scale and thus make a bigger impact on the energy sector. Erie County has nearly two decades of experience bulk purchasing both natural gas and electricity on behalf of over two dozen municipalities. The County hopes to leverage that experience to have broader community impact for the most energy insecure households of the county while acting as an enabler of solar market development through the *Localizing* initiative.

Eric Walker, Director of Energy Development and Management will lead efforts within Erie County (see CV for detail).

**SolarCity, Solar Liberty, Montante Solar, Solar by CIR and others**—numerous solar installation companies have expressed strong interest in responding to the Renewable Energy Power Agreement Request for Proposal that will be issued upon this application being selected. The winning bidder (process conducted in accordance with New York State procurement law and SUNY practice) would then become a key member of the *Localizing* team and lead all installation efforts. The breadth and depth of already interested companies provides an impressive list of proven experienced industry leaders that have a strong track record of national, state and local solar installation capability (see letters of support for more detail).

**Altenex**—reveals and integrates the market for large renewable energy buyers by: 1) identifying renewable energy project opportunities; 2) analyzing project economics; and 3) conducting diligence on project developers and negotiating contract terms on behalf of the buyer. The company will work specifically on behalf of the University at Buffalo and its partners in the REV Campus Challenge to validate the project strategy, e.g. Buffalo area solar sites, array sizes, and technology types; produce economic models to forecast project savings; and work closely with the University and its partners to select a solar provider and negotiate terms with that provider that insulate the partners from risk and maximize their reward. Altenex has negotiated over one gigawatt of renewable energy purchase agreements to date. In addition, they are the lead partner with AASHE in spearheading the Green Gigawatt Partnership.

7 While NYSERDA has advised inclusion of specific corporate partners in the *Energy to Lead* competition to strengthen applicants portfolios, the public institutions in this proposal must follow NYS procurement law. Upon successful selection as a REV Campus Challenge winner, the University at Buffalo will conduct an open and transparent RFP/RFQ process upon which these vendors and others are eligible to compete.
Chris O’Brien, Altenex’s Director of Higher Education Programs, renewable energy adjunct professor at American University’s Kogod School of Business, and former Director of Sustainability at American University will act as an independent renewable energy market consulting partner for the anchoring purchaser institutions (see CV for detail).

**Erie Canal Harbor Development Corporation**—is a subsidiary of Empire State Development and whose mission is to revitalize Buffalo’s inner and outer harbor areas and restore economic growth to Western New York, based on the region’s legacy of pride, urban significance and natural beauty. ECHDC will assess the potential of integrating solar energy hosting sites along Buffalo’s Outer Harbor to expand generating capacity. The Outer Harbor location will provide critical space and offer a model to leverage lessons learned from the UB Solar Strand thereby creating a symbiotic relationship between nature, recreation and renewable energy. Steve Ranalli, Senior Project Manager, will coordinate ECHDC’s involvement and assess potential hosting opportunities as well as consider whether the corporation may want to enter into the REPA as a purchaser (see CV for detail).

**Buffalo Niagara Medical Campus**— is a dynamic consortium of world-class hospitals and health care facilities, exceptional education institutions, and innovative research centers. Made up of ten member institutions, the Medical Campus is located on 120 acres in downtown Buffalo and is home to 12,000 physicians, clinicians, scientists, and researchers, many of whom are world renowned. The collaboration among institutions combined with the significant research and clinical capabilities offered on the campus has led to the creation or co-location of more than 100 public and private companies. The BNMC fosters conversation and collaboration among its member institutions, its partners and the community to address critical issues impacting them including energy, entrepreneurship, access and transportation, workforce and procurement, neighborhoods, and healthy communities.

One current project supported by the BNMC in partnership with National Grid is the Fruit Belt Neighborhood Solar Initiative. In an effort to bolster the neighborhood’s strengths, build a replicable model, and regenerate investment, the proposed REV Demonstration Project seeks to engage and benefit the neighborhood through the installation of (100) residential PV systems on a subset of homes in the Fruit Belt area. The goals of the demonstration project are to accelerate the adoption of renewable energy options in an innovative way; ensure scalability elsewhere throughout New York State; to test the effects of concentrated solar on the distribution grid and to provide clean energy benefits to underserved urban residents who typically have low adoption rates of renewable energy options.

Paul Tyno, Strategic Advisor for Energy Initiatives, will leverage the Fruit Belt Neighborhood Solar REV initiative and an existing ongoing study of campus rooftop solar capability to identify potential siting opportunities and assess direct purchase of energy generated from the REPA for the BNMC and member institutions (see CV for greater detail).
PROJECT IMPACT

GHG REDUCTION
The impact generated from this project is comprehensive, substantial and sustainable. By shifting 25% of the University at Buffalo, Erie Community College, Buffalo State and the City of Buffalo’s electrical load (as well as other partners) from existing grid tied sources to locally generated solar energy the impact will be vast. By creating 100 new megawatts of solar energy by 2020 to fill this void it is estimated by the United State Environmental Protection Agency that total greenhouse gas emissions would be reduced by over 82,298 metric tons annually. To put this in more illustrative terms this would be equivalent to (on a recurring annual basis):

- Decreasing overall gasoline consumed by 9.3 million gallons or 1,089 tanker trucks
- Taking 7,509 homes off of the grid and replacing their electricity use with renewable energy
- Installing 23 wind turbines
- Avoiding 88.4 million pounds of coal being burned
- Creating 67,458 acres of US forests

For years the government and private sector have spent billions in pursuit of these types of climate mitigation impact numbers. This initiative offers a unique and innovative way to ramp up renewables and decrease GHGs at a fraction of the cost associated with previous efforts.

REPLICABILITY
This initiative has been designed since its inception to be replicable. The proposal contained in this application is Phase I of a much larger vision that we believe will lead to the type of scaling President Obama and Governor Cuomo have outlined in their climate change mitigation policies.

While the first phase of the project is designed to shift 25% of the electrical demands of the anchoring purchasers, phase II would move to bring an additional 200 megawatts of renewable energy online and shift another 50% of the anchoring institutions’ electricity use away from fossil fuel grid use. This secondary REPA would include a mix of solar and wind—thus increasing energy diversity while again providing critical savings (a general estimate puts this somewhere around an additional $250 million above the $125 million estimated in this project).

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8 100MW of Capacity = 326,988kWh x 365 days 119,350,736 kWh as per the NREL pvwatts calculator. Removing 119,350,736 kWh from grid use eliminates 82,298 metric tons of carbon dioxide from the subscriber’s grid power at 100% use per the EPA GHG calculator.
The Third phase of the project would look for new anchoring purchasers throughout the city including private colleges (Canisius, D’Youville, Trocaire, Daemen, Medaille) medical institutions (Roswell Park Cancer Institute, Kaleida Health Systems, Catholic Health Systems) and local municipal and state governments.

The initiative is also designed to be replicated across the SUNY System, state and even nation. The City of Buffalo is one of five upstate, New York Power Authority sponsored, Energy Master Plan cities. After completion of the initiative in 2020, other key upstate cities (Rochester, Syracuse, Albany, Yonkers) that have comparable academic partnership opportunities, will be explored to facilitate short term replication. In addition, the use of the Solar Decathlon GRoW Home as an energy education center on campus will also be replicable (a number of former decathlon houses are already on college campuses).

Our great hope is that the *Localizing* initiative will leverage the lessons of the UB Solar Strand and provide an easy to follow roadmap of how other communities can work together by partnering with their anchoring institutions and host communities to bring about carbon mitigation, community renewal and innovative partnerships to solve many of the grand challenges of our time. These lessons will no doubt not all be positive but will provide the type of predictability to reduce risk for others to follow. Some of the best practices and lessons learned may include:

- Learning how anchoring institutions that do not have in-house energy purchasing expertise make sure they are obtaining the best economic deal possible
- Creating a pathway for REPA approval and oversight through the state administrative process (State Controller, Office of General Services) that creates familiarity and predictability for regulators that will enable a greater number of projects to be approved in a quicker time period (to date project approvals from the state government has taken much longer than in other states)
- Developing a model that can be shared and replicated for internal SUNY campus teams (sustainability, facilities, procurement, budget and legal)
- Creating an inclusive community stakeholder engagement strategy to site solar panels that can be leveraged for other urban communities
- Providing a case study of whether Renewable Energy Credits that stem from the project should be kept or sold and if the revenue from those sales can be leveraged for other renewable energy projects
This initiative has the potential to be an innovative case study, but only if there are clear metrics that, when analyzed, can determine key benefits that have been obtained. Fortunately, the master metrics for this initiative are mainly objective and quantitative and thus will provide the project partners, NYSERDA and others with clear data and an easy way to assess success.

The percentage of greenhouse gas emissions reduced from this initiative is the key factor in determining whether the initiative is successful. This will be calculated by looking at the campus greenhouse gas inventory which is compiled annually as part of the University at Buffalo’s Climate Action Plan and filings with the American Colleges & University’s Presidential Climate Commitment that UB signed onto in 2009. In addition, and perhaps more simply, all anchoring purchasing institutions will be able to quickly calculate GHG reductions by looking at the reduction in their total energy purchased from the grid. Finally, direct data will be collected, synthesized, and analyzed by students, faculty and professionals in the energy research center housed in the solar-powered UB GRoW Home, thus providing key information to inform the project and assist in evaluating its effectiveness as measured against the project objectives.

The overall dollars saved from the REPA will be the other major indicator that will determine project success. While reducing GHG’s and combating climate change is imperative, finding a way to fund it is just as vital. We have seen through simplified individual institution case studies (as compared with multiple institutions working off of a single REPA like this initiative) that REPA’s provide critical savings and fuel that greatly assist in scaling future projects and increasing budget stability. While direct energy price savings will not be calculated until the REPA itself is negotiated, we know from current prices in the Buffalo market that obtaining $125 million in savings for a 100 megawatt project is quite feasible. In addition, measuring the budget predictability that REPA’s provide will be another key metric as the benefits associated with this unlock financing strategies that can be utilized to reinvest funds into mission critical activities.

There are other key indicators of success that are more qualitative than quantifiable but nonetheless are important when evaluating success. According to the Princeton Review, 68% of students believe that a University’s commitment to sustainability is an important factor when deciding where to attend school. The Localizing initiative will create a dramatic renewable energy impact and visual that will leverage this fact and support recruitment efforts to attract the best students, faculty and staff possible at the three higher education institutions. We will also look to community and public opinion in how receptive they become to siting solar in their neighborhoods as a metric.
RESILIENCY

While we work to mitigate the effects of climate change, the scientific data and current trends presented by the United Nation’s Intergovernmental Panel on Climate Change tells us that we are moving towards a more disruptive, hotter and less stable future. Though “building resilience” has become a catchphrase in our post Sandy world, it is nonetheless true and needs to be a critical part of our strategies. This is why the Localizing initiative contains two key resiliency strategies that will add to overall effectiveness even when the grid goes down.

As part of the on-campus solar siting strategy we will ensure there is ample rooftop solar installed where it makes practical and economic sense. Campuses may also explore designing these rooftop systems with the ability to “island” and supply off-grid direct energy to the building upon which they are located in the event of grid failure. The systems will be sized to correspond with their respective building’s base minimal energy load during daytime hours thus making sure that solar energy captured is directly used in real time by the building upon which they reside. In addition to adding energy resilience, this type of arrangement will assist with peak shaving thereby adding additional economic savings.

In the City, where the vast majority of the energy will be produced, solar power may be made available to city buildings and siting partners to help prevent grid disruption. This can be accomplished in two ways: (1) by directly installing the solar panels on city buildings like fire stations, police stations, community centers, and maintenance facilities with a utility disconnect to allow for islanding in the event of a power outage, and (2) directly installing solar panels on vacant land near utility substations to provide auxiliary power to the local grid in the event of a transmission-level disruption. While these systems still need detailed engineering, the goal would be to increase the resilience of first responders in the City of Buffalo, provide temporary power for community assets in the event of a heat wave or other climate-related event, and increase the reliability of the electrical distribution system in neighborhoods.

To identify the appropriate City of Buffalo buildings and neighborhoods, faculty from the University at Buffalo will draw on their expertise in climate change adaptation and resilience. They are currently investigating climate adaptation in buildings for a NYSERDA research project, and are working with other Great Lakes Region cities like Cleveland, Ohio to improve climate-related resilience. Criteria used to select sites will include the function of the community asset (e.g., first responders, cooling centers, senior services, etc.), local socio-economic and demographic characteristics (e.g., poverty rate, high percentage of children and elderly, etc.), proximity to utility infrastructure, and access to sunlight to determine the best locations for the generating equipment. They will also work with the City of Buffalo to identify other external research funding to support these efforts.

9 This would be subject to specific utility regulations and interconnection rules.
ECONOMIC DEVELOPMENT

For decades the very concept of economic development and growth has been tied to the increase in fossil fuel energy use and carbon dioxide emissions. While this was plausible thinking five years ago, the International Energy Agency has conclusively demonstrated that there is now a decoupling of growth from carbon dioxide emissions. Looking at data for the year 2014, the agency found that although the global economy grew by 3.4%, greenhouse gas emissions had not. The 2014 numbers were not a fluke, in 2015 the global GDP grew by another 3.1% but emissions remained flat. We are now developing a new path for economic evolution—one that is being fueled by renewables.

The solar industry is leading this decoupling and adding workers at a rate nearly 12 times faster than the overall economy and accounting for 1.2% of all jobs created in the US over the past year. The long term research shows that the solar industry employment has grown by 123% in the past six years, resulting in nearly 115,000 domestic living-wage jobs and projections over the next 12 months are on track to increase total employment by another 14.7% to 239,625 solar workers. According to a widely quoted University of California report, solar photovoltaics creates more jobs per megawatt of capacity than any other energy technology with an estimated 20 manufacturing and 13 installation/maintenance jobs per installed megawatt. Applying these models to the 100 new megawatts of new solar capacity called for in the Localizing initiative would mean the creation of approximately 3,300 new local jobs throughout the Buffalo region.

In addition to local economic stimulus generated through installation of the panels, it is also the goal of the project to procure solar panels from local manufacturing thereby creating exponentially more economic impact. The initiative is looking to compliment the governor’s $750M solar investment throughout the region by creating greater demand to fuel local solar manufacturing above the already nearly 3,000 new jobs expected to be created (direct employees and local suppliers) when the 1.2 million-square-foot SolarCity gigafactory comes on line in 2017. The Governor himself summarized this opportunity well in his 2016 budget address by stating, “I believe this is the economy of tomorrow and while we’re developing the business plan, we can also employ it in the state of New York. I propose installing solar in over 150,000 homes and businesses and converting SUNY facilities to renewable energy by the year 2020. We can do it and we should.”

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PROJECT VIABILITY

The economics alone of this project not only make it viable but very advantageous for the numerous partners that comprise the team. While state investment through the REV Campus Challenge Energy to Lead campaign is essential to catalyze efforts and cover the non-traditional elements of the REPA, there is institutional self-interest that will act as the prime driver to move the project forward towards implementation. As the primary host community, one of the City of Buffalo’s key strategic priorities is to address serious vacant land challenges that destabilize neighborhoods, reduce tax revenue and lead to increased public safety issues. The anchoring energy purchasing institutions have public climate commitments that they need to make substantial progress on but yet do not have adequate operational revenues in which to leverage to make this happen. The Localizing initiative’s viability is anchored not upon prize money from the state but instead something stronger—an innate self interest in moving diverse missions and objectives forward by using the deliverables from the Localizing project to achieve it.

With that said, it is clear that without catalyzing funds from the REV, the initiative will take much longer, lose its pedagogical link, be stripped down to pro-forma “rack and stack” standard solar structures that do not take their unique environment into perspective and be severely limited and driven exclusively by what the economic analysis dictates. Based on recent history the University can continue to implement small one-off REPA like projects such as the BQ Lackawanna deal but they become isolated and fall far short of leveraging the very pedagogical essence of what the University is all about. In short, while the project viability is strong and sound, without the REV funding it will become more like a standard REPA that will lose its core localizing purpose and push investment from outside of New York State and fail to leverage the great sum of its many diverse parts.

TIMELINE

The goal is to create 100 megawatts of new solar energy within the City of Buffalo and University campuses by 2020 and thus align and greatly strengthen Governor Cuomo’s Executive Order 88. The project’s breadth, depth and creativity make this a very complex task but one that is achievable through a well thought out project plan broken into five parts.

Part I (Initiation) will commence in May of 2016 and focus on building out the team and complying with New York State procurement processes. As noted earlier in this proposal, the University at Buffalo will create and publish an RFP/RFQ for a REPA agent that will act as the key advisor to assess the market of solar providers and offer direct renewable energy counsel and language in forming the complex REPA agreement. They will facilitate partner engagement and synthesize unique factors from the purchasing institutions. In addition, students and specific faculty and professional staff will be identified to help provide further detailed expertise for the project.
**Part II (Assessment)** will begin in late summer/fall of 2016 and last approximately a year. The planning or assessment phase will involve leveraging an array of expertise from the University at Buffalo, Buffalo State and Erie Community College academic sectors including the School of Architecture and Planning, the RENEW Community of Excellence, the Change Agent Scholar’s Initiative, the SUNY Environment and Policy Law Clinic and many others. In addition, the City of Buffalo’s office of Strategic Planning will play a pivotal leadership role in not only identification of key parcels but also coordination of city hosting efforts. In addition, National Grid and other utility regulators will be important partners as their counsel and insight will be vital. Numerous neighborhood engagement sessions will also be hosted to consult communities and gauge support for being a partnering community as part of this process (with key counsel and guidance from organizations like PUSH Buffalo). Finally, University and College operational professional staff and faculty will also leverage budgeted assessment funds to identify on campus sites that will become assessed as part of the REPA.

**Part III (Vendor Selection)** will start upon successful completion of the assessment phase in the summer/fall of 2017. Altenex, or whoever is selected through the New York State procurement method, will quarterback this process and construct an RFP/RFQ in consultation with the purchasing partners, that will provide companies like SolarCity, Solar Liberty, Montante Solar, Solar by CIR, and others an opportunity to draft proposals for consideration. These submitted proposals will then be analyzed against objective principals and a successful developer will be chosen. It is at this point that specific REPA financials will be obtained, legal commitments made and actual energy savings can be solidified.

**Part IV (Site Preparation and Installation)** begins in the fall of 2017 with modifications necessary based on feedback from the selected vendor’s proposal. Some sites may need to be altered based on cost or lack of adequate solar sources. Once these changes are made a prioritized list of project sites will be created and a specific timeline for instillation will be established. Based on this list, site prep and electrical infrastructure connection will commence on selected sites throughout the late fall and winter. Full installation will begin in spring of 2018 and carry through over a period of 18 months.

**Part V (Operation & Assessment)** will commence as differing solar installations that are part of the REPA come on line which could be as early as the summer of 2018 with others joining the system in the fall of 2019. In addition to “flipping the switch” and beginning energy production, assessment will begin in earnest at the GRoW House on the operations to provide instantaneous data and analysis that will shape overall effectiveness and identify areas that may need immediate improvement.
BUDGET

There are two budgets that shape the initiative. The first overarching budget will not be fully known until the REPA itself is completed and a price point per kilowatt hour is established (see discussion earlier in this proposal). It is estimated based on current prices that this total all funds budget will be in excess of $225 million for solar power purchasing. This section of the budget will be funded directly by the power purchasers and will pay for the equipment, installation, nearly all electrical connections and other infrastructure type costs.

The second smaller *REV Energy to Lead* budget that is submitted on the contract pricing proposal form is broken down into five areas:

- Initiation
- Assessment
- Vendor Selection
- Site Preparation and Installation
- Operation and Assessment

**Part I Initiation**—currently the two identified costs include a portion of the legal expenses to execute the individual Power Purchase Agreement research and solar agent selection (Cost Element (CE9) in the Contract Pricing Proposal Form) and university academic scholarship studios which will assist in framing out and further planning the project (CE3).

**Part II Assessment**—the first expense in this area is the Key Building Rooftop Assessment line item which is for a consultant and or internal staff to assess potential candidates for campus roof mounted PV and is depicted in (CE9). We will also continue to engage in robust scholarship during this phase with multiple different entities to assist in designing the final implementation plan (CE3). The community engagement section is for direct collaboration with the community in assessing the best locations for siting (CE3). The Program Clerical Support line is for a portion of the office staffing necessary to build out and track all aspects of the project (CE3). The Project Administration line item is for a portion of the oversight of the overall program by senior level administrators at each SUNY entity (CE3). We will also assemble the US Department of Energy’s Award Winning UB GRoW home to assist in providing physical collaboration space for the project team and the community both during the project establishment and throughout the life of the REPA (CE9).

**Part III Vendor Selection**—this section anticipates the selection of the developer(s) who will construct the 100MW of PV capacity. Expenses include another portion of the overall Project Administration (CE3), additional Legal fees (CE9), and PR/Marketing costs (CE9).
**Part IV Site Preparation and Installation**—this section includes the amount for metric analysis and additional scholarship programming identified in (CE8). The second line item accommodates any special infrastructure that may be needed for unique physical sites (C9). An additional line item accommodates another portion of PR/Marketing costs (CE9). Finally, Program Clerical Support is accommodated in this section (CE3).

**Part V Operation and Assessment**—While this section has much to do with the operation of the completed physical facilities it also works to develop further curriculum and training opportunities. The line items include curriculum and development expenses in three areas. Materials and labor costs are depicted here in (CE3).

*Total project cost is scheduled at $1,621,709.*

**OVERCOMING THE CHALLENGES**

If this type of initiative were easy it would have been accomplished a long time ago. The project is big, complex and involves diverse partners all attempting to work together to serve institutional goals as well as collective objectives—by definition it is a challenge. The communication and transparency amongst the partners will need to be coordinated in such a way that provides a level of trust that can lead to robust collaboration and success. While the institutional partners in this proposal have long histories of engagement together, it is the specific makeup and chemistry of the team members themselves that provide an additional foundation of personal relationships that can be leveraged to work through difficult issues. As discussed earlier, we will also employ a third party agent that will work on behalf of all the non-corporate entities providing unbiased and objective data, counsel and strategy to assist in moving the coalition forward as efficiently and fairly as possible.

History has also shown that navigating through the state administrative and legal process can be challenging when working with the private sector. The solar industry is relatively new and purchasing energy within this context is still a novel concept for our SUNY campuses. Many complex issues were associated with the previously discussed University at Buffalo BQ Lackawanna deal, it took nearly a year and half to work through issues involving the state and a private developer before a contract could be signed. We will need to streamline this process while making sure all of the important and relevant checks and balances are still contained in the review. To achieve this, relevant state partners will be brought in early in the process and their counsel will be sought as the REPA is drafted and throughout the entire project. In addition, we will leverage NYSERDA counsel and guidance to proactively engage key partners to maximize state buy-in.
Despite the many benefits of siting 100 megawatts of solar electricity in underutilized urban land, actually doing so in a densely populated area is no easy task. The issues associated with site selection will be complex and detailed. While the technical aspects (ample sunlight, connection to grid, roof stability, soil conditions, etc.) tend to be fairly straightforward and solar installers have a long history of working through them, the cultural and personal wishes of the community must be carefully navigated to ensure mutually beneficial outcomes for all. Partnering with different neighborhood organizations and residents will be key to the overall success of the initiative. As the UB Solar Strand has taught us, when we install solar in a way that can provide accessibility and enhancement to land we create added values that many communities are looking for. Once initial locations are identified, a broader outreach and engagement strategy will be implemented that will leverage the City of Buffalo, the University at Buffalo’s School of Architecture and Planning, RENEW and the Change Agents Scholars Initiative. These entities will work through neighborhood block clubs, community organizations and others to introduce the project, solicit feedback and incorporate into the final siting plan and design.

We are not starting from zero. As discussed earlier, many building blocks are in place that will help us address these inherent challenges. The City’s Energy Master Plan and partnership with UB RENEW, the Buffalo Public School solar installation purchase power agreement, the City of Buffalo Green Code and land use plan, and the Vacant Land Assessment and Green Infrastructure Master Plan all create a phenomenal foundation from which to start our siting process. In addition, the UB Solar Strand creates a transformative way in which to view community member’s interaction and integration with solar energy generation, deep personal relationships of team members’ leverage years of trust and proven results and the One Region Forward sustainability rubric creates a common framework from which to view this work. As President Obama explained in Paris at the COP21 the challenges associated with initiatives like this itself brings immense opportunity for us to form new solution based paths that can create greater prosperity.

BROAD COMMUNITY SUPPORT

The Buffalo community has embraced its emerging role in creating a more regenerative economy with a focus on renewable energy. While the SolarCity manufacturing facility is a big part of this progress, it is by far only one player. Invest Buffalo Niagara’s (formerly the Buffalo Niagara Enterprise) key strategic areas includes a focus in clean tech and companies like 1366 Technologies that are moving to the region with 600 new additional jobs demonstrate this strategy is working. This investment in our green economy future has created the ideal foundation to launch the Localizing initiative and the community support for the project has been deep, diverse and dynamic.
The core partners of the *Localizing* initiative do not only provide stability for the endeavor, they are also the de-facto main anchoring institutions in Western New York. Each entity—the City of Buffalo, Erie County, the University at Buffalo, Buffalo State College, Buffalo Niagara Medical Campus, Erie Canal Harbor Development Corporation and Erie Community College strongly supports the project and more importantly is willing to invest time, energy and resources into seeing it succeed (see letters of support for project partners). In addition, key support exists from others in the business community including the Buffalo Niagara Partnership (the region’s chamber of commerce) and the Western New York Sustainable Business Round Table. The Western New York Environmental Alliance—which represents over 100 environmental organizations throughout region— is also a strong advocate. Finally, key government leaders such as Congressman Brian Higgins (in addition to County Executive Poloncarz and Mayor Brown) are excited and supportive of the initiative.

**CONCLUSION**

Picture a future where a dynamic and advanced manufacturing Buffalo workforce builds the most efficient, cost effective photovoltaic panel on the market, a trained local workforce of solar installers connects those panels to the grid, resilient neighborhoods throughout the city host those panels and anchoring Buffalo institutions purchase that renewable energy at constant prices that are well below their historical averages. All of this occurring within one community creating a closed loop resilient system of employment, education, revenue, budget predictability, public health benefits, greenhouse gas reductions, neighborhood empowerment and perhaps most importantly a model pathway to which our city, state, nation and world can address the grand challenge of climate change.

*This future is not a dream, it is a reality we are approaching and investment from the REV Campus Challenge Energy to Lead competition can make it happen.*
Localizing Buffalo’s Renewable Energy Future

LEVERAGING OUR PAST, INVESTING IN THE PRESENT & BUILDING TOMORROW

APPENDIX 1: LETTERS OF SUPPORT
March 22, 2016

Mr. John B. Rhodes
President and Chief Executive Officer
New York State Energy Research and Development Authority (NYSERDA)
17 Columbia Circle
Albany, NY 12203-6399


Dear Mr. Rhodes:

It has been conveyed to me that the University at Buffalo (UB) is leading a consortium which is making an application to NYSERDA under the “New York State Renewing the Energy Vision Campus Challenge Energy to Lead” competition. The submission is titled “Localizing Buffalo’s Renewable Energy Future; Leveraging our Past, Investing in the Present & Building Tomorrow”. I write today to convey my support for this application.

The applicants propose to create 100 new megawatts of solar energy by 2020 that would be manufactured in Buffalo, connected by Western New York workers, installed in our city’s urban core and University campuses and utilized by key regional anchoring institutions including the University at Buffalo (a REV Campus Challenge member), Buffalo State College, Erie Community College, the City of Buffalo and Erie County.

Their plan calls for a renewable energy purchase agreement which is estimated to produce $125M in lower energy costs and savings, increase grid and neighborhood resiliency, create 3,300 new local jobs and infuse over $250M in new economic impact into the region. This initiative would instill greater budget predictability and stability for the institutions involved and would reduce greenhouse gas emissions by over 600,000 metric tons annually (the equivalent of the total energy use of 55,000 homes).

Again, I am pleased to commend this effort to you. Thank you very much for your leadership and your consideration.

Sincerely,

Brian Higgins
Member of Congress
March 28, 2016

To Whom It May Concern:

I am writing to offer my support, and the support of the entire Buffalo State College community, for the New York State Renewing the Energy Vision, Campus Challenge Energy to Lead Competition grant proposal. This proposal titled “Localizing Buffalo’s Renewable Energy Future: Leveraging our Past, Investing in the Present & Building Tomorrow” is an excellent example of the transformative impact that can be achieved through partnerships between academic, municipal, and private business leaders.

The ability to place solar panels at strategic locations throughout Buffalo and Erie County, and a SUNY campus commitment to purchase at least 25 percent of our electrical energy requirements from solar providers shows our commitment to meeting the Governor’s goals of reducing energy consumption and converting SUNY facilities to renewable energy sources. This is also consistent with our campus goals for sustainability in our operations, and for exploring future energy savings opportunities in our academic and community based programs.

I believe that this project, led by the University at Buffalo and joined by SUNY partners at Buffalo State and Erie Community College, as well as the City of Buffalo, the County of Erie, and several business and economic development partners has the potential for continuing Western New York’s position as a leader in solar energy, and as a growth area for future renewable energy initiatives. We look forward to working with our partners to achieve the promise that this proposal provides.

Sincerely,

Katherine Conway-Turner, Ph.D.
President
April 1, 2016

To Whom It May Concern,

On behalf of the faculty, staff and students of Erie Community College, I write to you today to endorse the New York State Renewing the Energy Visions, Campus Challenge Energy to Lead Competition grant proposal. Titled “Localizing Buffalo’s Renewable Energy Future: Leveraging Our Past, Investing in the Present and Building Tomorrow,” it provides great opportunity for essential public and private collaboration, and envisions a renewable energy-led Buffalo Niagara that’s emblematic of the region’s revitalized trajectory.

The initiative’s goal to create 100 megawatts of new, locally manufactured solar energy over the next five years not only helps our region’s environmental sustainability. It helps our local economy, with panels created and installed by Western New York workers who, in many cases, will be trained and educated by ECC. The 3,300 local jobs—and $250 million impact on our local economy—this initiative hopes to create will help our students to graduate, live and work locally in green-focused careers, enhancing our region’s ongoing resurgence even further. And with a commitment from ECC, University at Buffalo and Buffalo State to purchase 25% of their energy from these localized operations, there’s buy-in from three of the largest higher education institutions within the State University of New York system. This is acknowledgement of the profound effect this proposal can have on our community, and we’re happy to stand behind it.

I have no doubt that, if this transformational initiative is funded, it will be transformational for Western New York, its residents and the region’s growing reputation as a leader in renewable energy utilization. ECC is excited and ready to work with our community and SUNY partners to make this happen, and we look forward to benefiting from the proposal’s forward-thinking vision. If I can be of any more assistance, please contact me at (716) 851-1200, or email me at jquinn@ecc.edu. Until then, thank you for your time, and thank you for your consideration.

Sincerely,

Jack Quinn,
President of Erie Community College
March 30, 2016

Mr. John B. Rhodes  
President and Chief Executive Officer  
New York State Energy Research and Development Authority (NYSERDA)  
17 Colombia Circle  
Albany, NY 12203-6399  

Re: REV Campus Challenge Energy to Lead Competition  
Localizing Buffalo’s Renewable Energy Future

Dear Mr. Rhodes:

I write to support the University at Buffalo (UB)’s application to NYSERDA for the “New York State REV Campus Challenge Energy to Lead” competition. The City of Buffalo is proud to partner with UB, Buffalo State College, Erie Community College, and Erie County to help Buffalo further its transition to a more green and inclusive economy.

SolarCity is constructing the Western Hemisphere’s largest solar panel manufacturing facility along the Buffalo River, once the central spine of Buffalo’s steel, grain, and chemical industries. Thousands of new “green” jobs are slated to be created in the sustainable energy field, replacing many of the traditional manufacturing jobs that were lost. Buffalo is poised to become a national leader in the sustainable energy industry.

At the same time, Buffalo is working with SolarCity and other employers to ensure a diverse and inclusive economy. My Administration aims to see that all residents benefit from the growth of Buffalo’s economy. Correspondingly, Localizing Buffalo’s Renewal Energy Future aims to ensure that residents in some of Buffalo’s most distressed communities directly benefit from the 100 megawatts of solar energy that will be generated. Community solar has successfully been implemented in other cities and I look forward to implementing it in Buffalo through NYSERDA’s initiative.

I ask NYSERDA to give full consideration to this application.

Sincerely,

Byron W. Brown  
Mayor
Ms. Roseanne Viscusi, RFP 3214
NYS Energy Research and Development Authority
17 Columbia Circle
Albany, NY 12203-6399

Dear Ms. Viscusi:

I am writing to express Erie County’s support for the Localizing Buffalo’s Renewable Energy Future proposal submitted by the University at Buffalo, the City of Buffalo, Buffalo State College, Erie Community College, and Erie County as part of the REV Campus Challenge—Energy to Lead competition.

And while Erie County and Western New York have seen rapid growth of the solar market in recent years, far too many have been unable to access solar or have been left behind by market forces. Erie County Executive Mark Poloncarz, in his 2013 policy brief Initiatives for a Smart Economy, clearly outlined the goal of having the County “vital role in creating an economic driver through energy conservation and renewable energy investment”.

As anchor participant, Erie County hopes to act as enabler of further solar market development, facilitate access to renewables for those who have been left behind and drive economic development through the lens of sustainability. We look forward to exploring the opportunities presented by this process and to making its aspirations a reality here in Western New York.

Sincerely yours,

Eric Walker
Director of Energy Development and Management
March 22nd, 2016
Mr. Ryan A. McPherson
Chief Sustainability Officer
University at Buffalo
Office of Sustainability
520 Capen Hall
Buffalo, NY 14260

Dear Mr. McPherson,

On behalf of the Buffalo Niagara Medical Campus, Inc. (BNMC) we are pleased to express our support of the REV Campus Challenge Energy to Lead proposal entitled Localizing Buffalo’s Renewable Energy Future submitted by the University at Buffalo.

The Localizing Buffalo’s Renewable Energy Future initiative’s goal to create 100 new megawatts of solar energy by 2020 that is manufactured in Buffalo, connected by Western New York workers, installed in our city’s urban core and university campuses and utilized by key regional anchoring institutions supports key areas of BNMC’s Energy Innovation Plan. Those areas include the pursuit of cost cutting energy efficiency, further development of renewable resources, fostering local economic growth and pioneering innovations in energy. We feel this project would strengthen our over-arching vision in a sustainable fashion while creating lasting workforce development benefits for the larger Buffalo-Niagara region.

We are excited to extend our support for the University at Buffalo’s application and look forward to participating in this first-of-a-kind project. If you require additional information, please do not hesitate to contact me.

Sincerely,

Matthew Enstice, CEO
Buffalo Niagara Medical Campus, Inc.
March 25, 2016

Roseanne Viscusi,
NYS Energy Research and Development Authority
17 Columbia Circle
Albany, NY 12203-6399

RE: New York State REV Campus Challenge Energy to Lead Competition- RFP 3214

Erie Canal Harbor Development (ECHDC) is looking forward to the possibility being part of the project team that will implement the Localizing Buffalo’s Renewable Energy Future initiative. ECHDC is fully committed to working with our partners at the University at Buffalo, the City of Buffalo, Buffalo State College, Erie Community College and Erie County to create 100 new megawatts of solar energy that is manufactured in Buffalo, connected by Western New York workers, installed in our city and University campuses and utilized by regionally. The proposed renewable energy purchase agreement is estimated to produce many benefits:

- $125M in lower energy costs and savings,
- increase grid and neighborhood resiliency,
- create 3,300 new local jobs,
- infuse over $250M into the region,
- reduce greenhouse gas emissions.

All of this occurring within our community creating a resilient system of employment, education, revenue, budget predictability, public health benefits, greenhouse gas reductions, neighborhood empowerment and perhaps most importantly a model pathway to which our city, state, nation and world can address the challenge of climate change would be a great accomplishment for WNY. Our vision for revitalizing Western New York’s waterfront and restoring economic growth to Buffalo goes hand in hand with the proposed project and building up our green economy.

Again, I would like to reiterate that ECHDC is in full support of this initiative and will do what it takes to make this project successful.

Sincerely,

Sam Hoyt
Regional President
March 22nd, 2016

The Review Committee
New York State Renewing the Energy Vision
Campus Challenge Energy to Lead Competition

Dear Committee Members:

I am pleased to offer strong support for UB-lead proposal titled “Localizing Buffalo’s Renewable Energy Future – Leveraging our Past, Investing in the Present & Building Tomorrow”, especially in the domain of curriculum development.

The Institute on Research and Education in Energy, Environment and Water (RENEW) is a $15M University-wide, interdisciplinary research institute that focuses on complex energy and environmental issues, as well as the social and economic context in which they are connected. RENEW unites researchers and educators and builds upon the strengths of faculty from seven UB schools and colleges including the School of Architecture and Planning, College of Arts and Sciences, School of Engineering and Applied Sciences, Law School, School of Management, School of Public Health and Health Professions and the School of Medicine. The institute’s overarching goal is to advance energy, water and environmental sustainability as a foundation to create the Regenerative Economy.

Two of the five main thrusts of RENEW—Sustainable Urban Environments and Climate Change and Socioeconomic Impacts bring key faculty together that will engage directly with their students and utilize the local REPA opportunity as a laboratory to increase renewable energy literacy as well as assessing and collecting key data that will help inform the specific decisions with the siting of photovoltaics and their financing aspects. The RENEW focus area on Sustainable Urban Systems addresses problems in Water, Energy and Environment from an interdisciplinary and holistic perspective, integrating technological, social, economic, and policy research to improve the way we build and live in the era of climate change. Urban problems are global in nature but our location and commitment to Buffalo/Niagara provides an excellent lab to develop, test and deploy innovative solutions. The connection of the solar arrays to the grid and to communities as well as optimization of energy utilization in the GRoW house at UB would be among the possible projects of interest from a hand-on learning perspective for students. In addition the RENEW focus area on climate change and Socio-Economic impacts will also be leveraged by the Localizing initiative as it seeks to create a cadre of scholars with world leading expertise and substantial capacity in all topics related to research, education and training in climate change, sea-level rise and global impacts and risks.

In 2015, the City of Buffalo forged active partnerships with RENEW for the implementation of the City’s Energy Master Plan. Through this initiative, RENEW placed full time research fellows with the City of Buffalo and Buffalo Sewer Authority to assist the Energy Master Plan and Green Infrastructure Master Plan project implementation. The RENEW Fellows dedicated 20% of their time to building bridges between University academic and operational resources and the City plan
objectives. We will leverage this successful model for the Localizing initiative by having the energy fellows leverage the experience of solar installations within the City including solar installations on 1) City owned buildings, 2) Buffalo Public Schools, 3) not for profit; and 4) private facilities.

Best regards.

Dr. Amit Goyal
Director, RENEW (Research & Education in eNergy, Environment & Water)
Empire Innovation Chair Professor at SUNY-UB in Departments of Chemical & Biological Engineering, Electrical Engineering, Physics & Materials Design and Innovation
Emeritus Corporate Fellow – Oak Ridge National Laboratory
Fellow NAI, MRS, AAAS, ASM, WIF, IOP, WTN, ACERS
University at Buffalo
Cooke 112
Buffalo, NY 14260
Ph.: (716) 645-5920
Email: agoyal@buffalo.edu
Re: Campus Challenge Energy to Lead Competition

The Western New York Sustainable Business Roundtable (SBR) strongly supports the University at Buffalo and their partners as they bring 100 megawatts of renewable power to our area.

The SBR is a place-based, business driven organization of 60 pledging members all working toward an environmentally and economically resilient Buffalo-Niagara Region. Our businesses range in size and diversity from Coca Cola, Rich Products and Perry’s Ice Cream to Industrial Support, McCullagh Coffee and the Lexington Co-op. All of our members realize the importance of environmental responsibility and how it relates to our businesses and our employees living throughout WNY.

All SBR members have signed a pledge committing to becoming a thriving business by establishing and implementing sustainability plan that:
- Reduces waste and pollution,
- Protects our waterways,
- Optimizes the use of energy and materials,
- Invests in our communities,
in a transparent and measurable way that collectively, with efforts of other WNY organizations, reduces the severity of global climate change.

The REV Campus Challenge is in direct alignment with this pledge and our mission which is “to foster collaborations that enable our member businesses to act on their sustainability goals, maintain profitability, and promote a healthy community”.

What the University and their project partners are doing means a great deal to the SBR in many ways. To start with, there are obvious benefits of adding 100 megawatts of clean, renewable, low cost energy to a growing region. The added power will help to offset increased consumption, reduce stress on the overall grid and help to maintain pricing. This in itself supports our efforts in strengthening our businesses and promoting a healthy community.

The SBR also sees tremendous value in supporting this endeavor as it will act as a prototype for moving businesses into this highly innovative energy system. As the project unfolds, the work done here will act lessons learned and offer a pattern to follow. Businesses, often “fast followers”, will quickly realize the benefits and move to participate, further expanding this network of localized renewable energy.

As businesses, we in the SBR fully understand the value of a brand. Because of the proposed visibility of the project, this could take our region’s image to heights not seen since the street lights first went on. Coupled with low cost energy, the benefits could sustain growth throughout the Buffalo-Niagara Region for decades to come.

The WNY Sustainable Business Roundtable fully supports the University at Buffalo and its partners in this project.

Very Truly Yours,

Mark Shriver
President – WNY Sustainable Business Roundtable ~ www.wnysustainablebusiness.org
Director – Safety & Environmental Affairs ~ Curbell, Inc. & Subsidiaries ~ (716) 523-SAFE (7233) ~ (716) 667-3377 x7241
mshriver@curbell.com
The Western New York Environmental Alliance

March 31, 2016

Ms. Roseanne Viscusi, RFP 3214
NYS Energy Research Development Authority
17 Columbia Circle
Albany, NY 12203-6399

Ms. Viscusi:

On behalf of the Western New York Environmental Alliance, I am writing to express our strong support for the Localizing Buffalo’s Renewable Energy Future proposal submitted by the University at Buffalo, The City of Buffalo, Buffalo State College, Erie Community College, the Education Leadership Fellows in Sustainability, Erie County and others as part of the REV Campus Challenge—Energy to Lead Competition.

The Western New York Environmental Alliance is a coalition of over 100 independent organizations that collectively represents the environmental voice for our region. The Alliance mobilize change through collective action and collaboration, in order to ensure sustainable, thriving ecosystems and communities of Western New York and we do this by working to strategically incorporate the environment at the front end of decision making throughout Buffalo-Niagara.

The initiative’s goal—to create 100 megawatts of new solar energy by 2020 that is manufactured in Buffalo, connected by Western New York workers, installed in our city’s urban core and University campuses, and utilized by key regional anchoring institutions—is exactly the type of solution based approach that our community, State and nation need to pursue aggressively to mitigate the disastrous effects of climate change.

By shifting 25% of the University at Buffalo, Erie Community College, Buffalo State and potentially similar quantities from Erie County, the Buffalo Niagara Medical Campus and the City of Buffalo’s electrical load (as well as other partners) from existing grid tied sources to locally generated solar energy, the impact will be vast. By creating 100 new megawatts of solar energy by 2020 to fill this void it is estimated by the United State Environmental Protection Agency that total greenhouse gas emissions would be reduced by over 82,298 metric tons annually. To put this in more illustrative terms this would be equivalent to (on a recurring annual basis):

- Decreasing overall gasoline consumed by 9.3 million gallons or 1,089 tanker trucks
- Taking 7,509 homes off of the grid and replacing their electricity use with renewable energy
- Installing 23 wind turbines
• Avoiding 88.4 million pounds of coal being burned
• Creating 67,458 acres of US forests

The greenhouse gas emissions, while vital, are only half of the sustainability story. By choosing to invest locally and use existing urban infrastructure, the initiative is saving greenspace and wildlife habitat in other less developed spaces throughout the region. The decentralized distribution for the project also works to not only build resilience but also potentially provide neighborhoods with needed investment and empowerment.

The Alliance’s continued climate change work—including dedicating the entire 2015 annual conference to the subject—is bolstered by this innovative work and we applaud the University at Buffalo and their team members for the leadership and commitment. We strongly encourage the REV Campus Challenge Energy to Lead team to select this application for award.

Sincerely,

Derek Nichols
Vice Chair
March 25, 2016

To Whom it May Concern,

PUSH Buffalo is proud to support the *Localizing Buffalo’s Renewable Energy Future* initiative proposal being submitted by the University at Buffalo, the City of Buffalo, Buffalo State College, Erie Community College, and Erie County as part of the REV Campus Challenge Energy to Lead competition. Buffalo, NY currently stands at the crossroads of an industrial past powered by dirty energy and a future in which local communities and anchor institutions can directly benefit from investments in clean, renewable energy. At the neighborhood level, PUSH has sought to drive a community controlled transition to clean energy and energy efficiency through a unique place-based Green Development Zone strategy. Since 2006, PUSH has been able to direct over $20 million of new investment on the West Side of Buffalo for land acquisition, affordable housing development, green infrastructure, weatherization, renewable energy, and job training projects while empowering low income residents to become decision makers and experts in grassroots planning and sustainability. The *Localizing Buffalo’s Renewable Energy Future* and PUSH Buffalo’s Green Development Zone model have the potential to create mutually reinforcing outcomes in low income and disinvested communities across Buffalo. As a supporter of the project, PUSH anticipates assisting institutional and governmental partners in efforts to engage communities around project siting, procurement, and workforce development decisions, as well as opportunities for communities to participate as renewable energy off-takers or customers.

Sincerely,

[Signature]

Clarke Gocker
Director of Policy and Strategy
PUSH Buffalo
March 27, 2016

Ms. Roseanne Viscusi, RFP 3214
NYS Energy Research and Development Authority
17 Columbia Circle
Albany, NY 12203-6399

Ms. Viscusi:

On behalf of SolarCity, I am writing in support of the *Localizing Buffalo’s Renewable Energy Future* (Localizing) proposal submitted by the University at Buffalo, the City of Buffalo, Buffalo State College, Erie Community College, and Erie County as part of the REV Campus Challenge—Energy to Lead competition.

As the largest distributed generation solar company in the country, SolarCity has assembled one of the most experienced clean energy project design and installation teams in the world, serving customers in 19 states with over 80 operations centers. Our customers include tens of thousands of homeowners, more than 400 schools, including Stanford University, government agencies such as the U.S. Armed Forces and Department of Homeland Security, and well-known corporate clients, including eBay, HP, Intel, Walgreens, Whole Foods and Walmart.

In addition, SolarCity is proud and excited to be partnering with the State of New York in creating the new, state-of-the-art Buffalo RiverBend solar panel manufacturing facility. The *Localizing* initiative strongly reinforces this State investment in Buffalo and will further assist New York’s leadership role in building the nation’s clean energy economy.

By seeking to deploy 100 megawatts of new solar energy by 2020 and siting it within Buffalo’s urban core and university campuses, the project is working to flip the conventional wisdom that siting energy generation facilities is a liability—to the contrary, this initiative is working to leverage Buffalo’s historical past as a renewable energy leader and siting solar in a way where it will be a net asset to the community.

In addition to the *Localizing* initiative’s innovative approach, the way in which the project proposes to finance the solar installation is both sound and creative. Renewable Energy Power Agreements (REPA’s) have a proven track record of delivering impactful results and provide flexibility for anchoring intuitions to finance solutions to lower their energy costs, increase grid and neighborhood resiliency, create local jobs, and implement their climate action plans. SolarCity embraces this type of investment and thinking as supportive of an energy future focused on distributive solar and the welfare of the broader Western New York community.

If this proposal is awarded, SolarCity will review the RFP put forth and give serious consideration to submitting a REPA proposal as the company has already implemented two of these proposals in the Buffalo-Niagara region.

We kindly request you provide strong support for this innovative proposal that has impressive potential to be a national model for how to scale local solar.

Sincerely,

/s/

Shaun Chapman
Vice President, Policy & Electricity Markets
SolarCity
March 25, 2016

Ms. Roseanne Viscusi, RFP 3214
NYS Energy Research and Development Authority
17 Columbia Circle
Albany, NY 12203-6399

Ms. Viscusi:

On behalf of Altenex LLC, I am writing to support the *Localizing Buffalo’s Renewable Energy Future* proposal submitted by the University at Buffalo, the City of Buffalo, Buffalo State College, Erie Community College, and Erie County as part of the REV Campus Challenge—Energy to Lead competition.

This effort’s goal of developing 100 megawatts of new solar capacity by 2020, sited within Buffalo’s urban core and university campuses, is innovative by leveraging Buffalo’s history of industrial leadership to use renewable energy as a community redevelopment catalyst.

As the largest provider of renewable energy portfolio services in the United States, Altenex has one of the most experienced renewable energy procurement teams in the world, serving customers across North America. Altenex has transacted over one gigawatt of renewable energy purchase agreements – more than anyone else has ever executed. Our customers include Fortune 500 companies, colleges and universities, and municipal governments, such as Microsoft, Walmart, Google, Dow, Facebook, IBM, GM, Bloomberg, Target, 3M, Kohl’s, the District of Columbia, University of Chicago, Cornell University, Howard University, Cedar Valley Community College, and many more. We are excited to serve this group of leaders in Buffalo.

The *Localizing* initiative dovetails perfectly with the Green Gigawatt Partnership, an effort sponsored by Altenex and the Association for the Advancement of Sustainability in Higher Education (AASHE), designed to catalyze at least one gigawatt of new renewable energy capacity in higher education by the year 2020. *Localizing* will contribute to this goal while delivering an estimated $125M in energy cost savings, and increasing grid and neighborhood resiliency, supporting 3,000 local jobs, generating $250M in economic impact in the region, and avoiding 600,000 metric tons of carbon dioxide equivalents annually – a very high impact return on the state’s investment.

If this proposal is awarded, Altenex will provide renewable energy advisory, analytics, and procurement support to ensure successful deployment of solar in the Buffalo region.

We kindly request that you support this innovative proposal to scale local solar.

Sincerely,

Chris O’Brien
Director of Higher Education Programs, Altenex LLC
March 31, 2016

Ryan A. McPherson  
Chief Sustainability Officer  
State University of New York at Buffalo  
Office of Sustainability  
220 Winspear Avenue (Service Building)  
Buffalo, NY 14215

Re.: Letter of Support for ‘Localizing Buffalo’s Renewable Energy Future’

Dear Mr. McPherson:

This letter is being written in support of the ‘Localizing Buffalo’s Renewable Energy Future’ initiative. We believe the project’s goal of installing 100MWs of solar energy in the Buffalo area by 2020 is an incredible opportunity for all Western New Yorkers and directly parallels the NY-Sun’s initiative to install 3GWs of solar energy in NYS by 2023.

Key facets of the proposal that we would like to highlight include the following:

1. Local employment and utilization of local materials and vendors-
   - The creation of 3,300 jobs in Western New York is critical to our area. As a solar developer with over 1,500 installations across NYS, we understand the direct and ancillary benefits that a project of this scope would provide to our community.
   - Creating $250M of new economic impact makes this a rare opportunity for our area that will have long-term positive ramifications.
   - As the local installer and partner to the University at Buffalo, including our installation of the Solar Strand, Solar Liberty would like nothing more than to continue the growth of our local workforce due to a partnership on a project of this scale and scope.
   - We believe that local material supply is critical to this project, and we have it here in WNY. Solar Liberty’s sister company, DynoRaxx (www.dynoraxx.com), has been manufacturing racking and grounding solutions for over 7 years in WNY. These locally manufactured, and globally distributed, solar racking solutions both minimize installation costs as well as provide the most innovative solar mounting solution on the market today.

2. Regional electric cost reductions-
   - $125M in lower energy costs can help every resident in WNY. As a result of those savings discretionary spending would increase, fostering prosperity throughout our area with added purchasing power that will boost various sectors of our local economy.
   - Through Solar Liberty’s partnerships with PUSH Buffalo and the BNMC, plus our experience with the 120 solar arrays we donated to local non-profit entities, we recognize the critical importance of bringing solar energy to those that cannot afford to outright purchase a rooftop or ground mounted solar energy system. Every homeowner, especially those in the LMI market, deserves the opportunity to reduce their electric
costs, both in the immediate and long-term future. Solar energy offers every income level this proven opportunity.

- Community solar efforts by nature further a lower installed cost per Watt. A project of this scale and proportion, will promote the lowest possible costs for those that will benefit from lower electric bills.

3. Significant reduction in carbon emissions and land re-use-
   - Optimized, 100MW of solar power will generate 119,350,736 kWh annually. According to the EPA, and in correspondence with UB's proposal, this is enough clean energy to annually offset 82,298 metric tons of carbon dioxide or 195,948,618 miles driven by an average passenger vehicle.
   - This program would offer an incredible long-term use of underutilized property that is abundant in our area.

4. UB’s drive for continued leadership in sustainability across New York State-
   - As the installation partner with NYPA on the UB Solar Strand, we have witnessed first-hand how much UB has stood as the beacon of sustainability in our area, throughout the SUNY system, and across New York State. This drive brings these efforts to a new level, keeping UB and the Buffalo area as the pinnacle of our united drive toward a sustainable environment.

5. Educational opportunity-
   - We believe education plays a critical role in the acceptance, adoption and expansion of solar energy. This is a main tenet of our organization.
   - WNY is seeing a renaissance of new business ideas and start-ups in markets for the future. Expanding UB’s educational resources that parallel UB 2020 and the RENEW program will play a major role in solidifying WNY as a long-term hub for renewable energy services and products.

Thank you for the opportunity to provide this letter of support for the ‘Localizing Buffalo’s Renewable Energy Future’ project. We look forward to being a part of this project and assisting in bringing this to fruition.

Very truly yours,
Solar Liberty Energy Systems, Inc.

Adam K. Rizzo, President
Daniel Montante  
President, Montante Solar  
2760 Kenmore Avenue  
Tonawanda, NY 14150  
3/29/2016

Ryan A. McPherson  
Chief Sustainability Officer  
The University at Buffalo  
12 Capan Hall  
Buffalo, NY 14260

Dear Ryan McPherson,

Montante Solar is pleased to support The Localizing Buffalo’s Energy Future Initiative. The economic, educational, and sustainable, impact of such a partnership would greatly benefit the region for years to come. This partnership positions The University of Buffalo, Buffalo State College and Erie Community College to create world leading energy and sustainability programs that will produce future leaders for industries and organizations across the board.

Our experience of working with The University of Buffalo’s GRoW Home for the Department of Energy’s 2015 Solar Decathlon was a collaborative effort that fostered a partnership that bred innovation and advance sustainable practices. Montante solar plans on leveraging this experience and our industry expertise to grow this partnership to a whole new level.

This is a tier one project for a state that is leading the renewable energy and sustainable charge, for a region that is rapidly becoming the renewable energy capital of the world, and for the private partners involved this collaborative effort provides a unique opportunity to shape the future of our state’s energy footprint while being economically viable for all parties.

Sincerely,
Daniel Montante
Letter of Support

March, 22 2016

Ryan A. McPherson
Chief Sustainability Officer
(716) 645-2054
ram6@buffalo.com

To: Mr. McPherson,

It is my pleasure to provide this letter of support as a supplement to the University at Buffalo’s Energy to Lead application. This institution has had many successes in the renewable energy sector from the construction of the Award Winning UB Solar Strand back in 2010 to the recent placing of the GRoW House in U.S. Department of Energy Solar Decathlon. It is with great confidence that we support and aid in any respect to their efforts in this submission.

Solar by CIR stems from a 40 year history in commercial/industrial electrical construction services under their parent company CIR Electrical Construction Corp. Having operated in Buffalo’s economy for 4 decades, CIR firmly believes that initiative will bring permanent local job creation and market growth to a city that’s solar potential exceeds most. The electrical infrastructure and abundant acreage of vacant (and in most cases contaminated) land makes Buffalo a prime candidate that aligns directly with REV’s vision.

We are excited at the prospect of this initiative and fully support the growth it can bring our area.

Respectfully,

Jeff Pedro
CEO
Solar by CIR
jpedro@cirelectric.com
716.362.5003
To whom it may concern,

As a student leader at the Office of Sustainability and an Education and Leadership Fellow in Sustainability, I am excited to offer this letter of support to the Localizing Buffalo’s Renewable Energy Future initiative.

This initiative provides limitless potential for growth, both in the classroom and out. As an engineering student and involved member of other sustainability projects on campus, I share in the opinion that experiential learning is key to university success. The Localizing project has the potential to do just that: connect the many diverse entities of Western New York with green energy while providing opportunities for all, both students, job seekers, and community members alike.

The Localizing project has the potential to create thousands of jobs, cut regional energy spending, and reduce greenhouse gas emissions all while providing students like myself with a foundational knowledge of renewable energy through internships, research, and new energy curricula. Not only will it better prepare the next generation of leaders to enter the workforce with the tools and knowledge necessary to succeed, but it will prepare these leaders to tackle the grand challenges our world faces—challenges that can only be solved through sustainability and integrated thinking.

As a student committed to learning, sustainability, and the prosperity of this region, I am eager for the success of this initiative.

Sincerely,

Madeleine Dewey
Education and Leadership Fellow in Sustainability (ELFS)
UB Department of Engineering-Student Leader
Engineers for a Sustainable World UB-Advertising and Outreach Coordinator
March 31st, 2016

To Whom It May Concern:

It is a privilege and an honor to be enrolled and involved in a University that is making such great strides for a sustainable future. Through my involvements as a student leader I organize and work with the Students for Sustainability Council, where it is made up of environmental club executive board members from nine different clubs and organizations. Currently we are organizing our Earth Week programs, and in the past we have had campaigns focusing on student involvement and awareness of what the University at Buffalo has done and what the students actually want.

What we learned through the survey of 200 students from a random sampling was that there truly is a thirst for more environmental programs on campus and students generally want to get involved and know more of the happenings at UB. What better way to move on this idea than for students to participate and be aware of **Localizing Buffalo’s Renewable Energy Future**.

My view as a student leader and majoring in environmental studies, is that this program brings to life what is discussed in our class readings and shows how our majors can actually apply to the real world at local level. Not only can this be applied to environmental majors working in communication, education, policy or engineering it also can apply to other disciplines like business, marketing and socio economic interests.

As the flagship SUNY institution this allows students to set a standard for involvement and create unique ties with the growing Buffalo community. The Localizing initiative provides an opportunity for students to learn about and be involved with an innovative and forward thinking project, putting UB on the map as a University who values its footprint and wants to strengthen its commitment to the community.

The next step would be for student involvement and student awareness through education, engagement and empowerment. In this way, through students taking part in this **Localization** effort there would be greater motivation to localities to play a positive role in this opportunity to play our part in our shared sustainability strategy.

Brian Stuhlmiller

Assistant Director of Environmental Affairs
Organizer of Students For Sustainability Council
March 30, 2016

To Whom It May Concern:

As a student leader and an executive board member of Alpha Kappa Chi—a professional, environmental fraternity—I am pleased to offer this letter of support for the Localizing Buffalo’s Renewable Energy Future initiative. Such a significant shift to localized, renewable energy will not only help UB achieve its goal of becoming climate neutral by 2030, but this initiative has the potential to expand opportunities for students in learning about renewable energy production, community engagement, energy and sustainability literacy, and the importance of regional partnerships to advance sustainability.

This initiative is a unique and innovative method to increasing renewable energy in western NY and unifying local organizations under the investment of solar energy. Solar panels can be sited on vacant brownfield land and other vacant properties (some right off of UB’s campus) as opposed to the typical green spaces that often house renewables. And finally, with Solar City opening up in the near future, all of our panels can be locally manufactured! This project has the potential for some serious student engagement with the community such as research, internships, projects, and new courses. Even though I am graduating this semester, knowing that such an initiative will be implemented within the community gets me excited for all the members of the environmental organizations on campus who are just beginning to explore the green opportunities at UB.

Buffalo is a thriving city of young minds with a deep passion for social and environmental justice. This initiative will only further help to facilitate that passion, bringing jobs for the many college graduates and initiating economic growth. So many of my friends care about this city and wish to use the skills acquired at UB to help advance Buffalo’s infrastructure. This initiative will help to do just that by drawing the attention of a variety of disciplines throughout UB such as engineering, education, policy, urban planning, architecture, and communications—unifying the diverse student population for the common cause of protecting our planet and exploring new sources of perpetual energy.

Sincerely,

Katrina Cropo

Secretary of Executive Board
Alpha Kappa Chi, the University at Buffalo’s Professional Environmental Fraternity
April 1st, 2016

To Whom It May Concern:

I am a senior at University at Buffalo and vice-president of Engineers for a Sustainable World, a student organization that works to directly improve the quality of life on Earth through active example and by proactively working to lessen the harmful impact of humanity on the environment.

I am pleased to offer this letter of support for the Localizing Buffalo’s Renewable Energy Future initiative. During my time at UB, I have been intimately involved with UB’s ongoing work to advance sustainability and offer opportunities for students to play a role in implementing projects that help create a better future through sustainability. This initiative builds on that foundation by creating even further opportunities for students to gain deep knowledge of renewable energy through hands-on experiential learning opportunities, internships, research and new sustainability and energy curriculum.

For students, experience working on real world projects in interdisciplinary teams is invaluable. The educational aspects of the Localizing project will greatly expand those types of offerings and present extremely valuable networking connections. While we greatly value what we learn in the classroom, participating in and learning from the development and installation of local, renewable energy will greatly enhance our education and prepare us for future careers.

Sincerely,

Connor Devine
University at Buffalo
Mechanical Engineering
ESW Vice President
Ryan Andrew McPherson
1100 North Davis Road • East Aurora, New York 14052
(716) 861-0128 • RAM6@BUFFALO.EDU

EXTERNAL RELATIONS EXECUTIVE—HIGHER EDUCATION

Integrated sustainability leader. Unify multiple strategies to elevate university presence, move campaigns forward, and secure vital funding. Drive strategic vision and effective, on-the-ground execution. Consistently achieve impact and influence through internal and external collaboration to create a better tomorrow through sustainability.

Valued member of senior leadership team. Experienced people manager/team leader. Exceptionally strong writer and presenter.

STRATEGY • COMMUNICATION • ADVOCACY • COALITION BUILDING • SUSTAINABILITY

EXPERIENCE

University at Buffalo, The State University of New York, Buffalo, NY
Chief Sustainability Officer 9/2011—present

Provides leadership to the campus and recommends institutional strategies to help position UB as a sustainability leader in the community, state, nation and across higher education. Specifically works to connect people across the university with information, innovation, and tools to reduce the university’s footprint on the future and create a culture of sustainability at UB. Primary accomplishments include:

- Established the President’s Stewardship Committee with university wide senior leadership which led to the creation of a robust Climate Action Plan whose goal is to become climate neutral by 2030—the first few years of implementation have led to a 9.4% reduction
- Created a robust integrated sustainability strategy that leveraged the Sustainability, Tracking Assessment Rating System which led to a dramatic quantifiable improvement from silver to gold status in over 80 metric categories across the university’s governance, teaching, research, operations and engagement
- Provided critical leadership in establishing and operating the Western New York Environmental Alliance (a coalition of over 100 environmental organizations throughout the region), the Western New York Sustainable Business Roundtable (a collection of over 50 companies who are implementing sustainability plans) and One Region Forward (a regional sustainability plan) that resulted in receiving the Best Collaboration Award by USGBC.
- Dramatically increased sustainability experiential learning programs and outcomes including the creation of the Change Agents Scholars Initiative, UB Sustainability Academy, two new alternative winter service break programs in Louisiana and Costa Rica and a robust sustainability internship program with area environmental organizations
- Aided in the design and construction of five new LEED Gold buildings—all occurring within one year—including the award winning and innovative Greiner Hall (SUNY’s first LEED Gold residence hall)
• Led the installation and programing of the most publicly accessible solar landscape in the world—the UB Solar Strand—which the Wall Street Journal has called “landscape architecture at its most forward thinking.”

**Associate Vice President for Government and Community Relations** 12/2008—9/2011

Served as chief leader of university’s federal, state, and local government agenda and community relations. Continued to drive integrated advocacy (aligning grassroots network, coalitions, lobbying, policy development, and communications) in support of “UB2020” campaign. Provided daily strategic counsel to university president and senior leaders. Managed 10-person team and $1.3 million budget.

• Initiated, coordinated, and led advocacy strategy that transformed statewide higher education debate and influenced state university system to adopt extensive legislation as #1 priority.
• Secured passage of most comprehensive higher education legislation in a generation which included increasing operational recurring revenue by $100 million.
• Secured $230M in New York State capital and operational earmarks
• Implemented an integrated advocacy strategy that leveraged: a unified regional coalition of businesses, labor unions, faith-based organizations, civic institutions, parents, students, faculty and others; a holistic direct, earned and paid communications strategy; a 10,000 member grassroots network; and a team of seasoned lobbyists
• Created an innovative “high impact, no cost” proposal to obtain financial resources to grow student enrollment by forty percent through drafting the UB2020 Flexibility and Economic Growth Act
• Reversed the relationship with the Western New York State Assembly and Senate Delegation by demonstrating the vital role that higher education plays in driving the new economy for the region—they now look to UB for counsel, guidance and leadership
• Enacted legislative change to move $130M in state funds outside of the New York State regulatory regime—this represents the first time that New York State has allowed a state agency to transfer its funds to a separate independent non-profit and thus enable the development of a joint facility
• Rolled back over $3M in designated cuts to UB during New York State’s 2009 fiscal crisis
• Managed a community relations team that successfully recruited over 40,000 members of the Buffalo-Niagara community to the UB city campus to build community capacity by holding job fairs, health fairs, workforce development opportunities, M/WBE recruitment functions, youth development opportunities, safety trainings, neighborhood workshops, free tax preparation for low income families, and more
• Assisted in creating a groundbreaking partnership between the University at Buffalo and the Jeremiah Partnership (a collaborative organization of the nine largest African American churches in Buffalo) that resulted in providing multimillion dollar funding to initiate a community created comprehensive $500M revitalization plan in the most economically distressed area of the third poorest city in the United States
• Developed, implemented and distributed various communication vehicles that annually reach over 350,000 people throughout the community and beyond
• Initiated—and provide continuous strategic counsel to—a historic partnership with Buffalo Public Schools that has provided STEM experiences to nearly 1,500 public school children
• Facilitated community engagement opportunities for over 3,000 university students, employees, and alumni on an annual basis
• Supervised staff that raised over $2.6M in employee giving to support community organizations through the “Campaign for the Community”

Chief of Staff for External Affairs 12/2006—11/2008


• Realigned division to better leverage university resources into a highly effective and cutting-edge integrated advocacy model that dramatically increased the university’s advocacy impact
• Devised and implemented a grassroots strategy to build a 10,000 member UB advocate constituency to exert political pressure on elected officials
• Launched and directed a university community relations office focused on improving trust and communication with external constituencies, raising awareness of UB’s impact on our region, encouraging public and community service across the university, and strengthening university relationships with those neighborhoods that are adjacent to the campuses
• Formed and executed an integrated university-wide events strategy which led to new high profile events including: His Holiness the Dali Lama’s three day visit to UB, Greener Shade of Blue (a semester long celebration of UB’s environmental leadership including visits from two Nobel Peace Prize winners), President John B. Simpson’s Annual Community Address, Business Partners Day, and others
• Provided interim leadership to university communications and created a process to develop UB’s brand, better align communication units across the university and obtain permanent communications leadership

Assistant Vice President for Government Affairs 05/2002—12/2005

Tapped for newly created position to drive state and local government relations. Directed lobbying strategy and activities, and strengthened communications.

• Secured over $150M in new government earmark funding with the Associate Vice President for Government Affairs and Director of Federal Affairs resulting in new capital construction and the establishment of the New York State Center of Excellence in Bioinformatics and Life Sciences
• Successfully influenced numerous higher education, economic development and public policy legislative proposals that created new revenue and enhanced flexibility for university operations
• Identified and effectively communicated strategic opportunities to the president, provost, other university administrators, faculty and staff on matters of government and public policy importance

• Collaborated with the Assistant Vice President for Marketing and Creative Services and the Assistant Vice President for News Services and Periodicals to formulate a public relations strategy that supported university priorities and created a foundation for future communications integration

**Government Relations Analyst/Graduate Assistant** 08/1999—05/2002

Researched and wrote policy briefs to university officials on a wide array of relevant government and policy issues.

• Conducted legal and public policy research for the university’s government relations agenda

• Monitored, tracked, and assessed state and federal higher education legislation

• Worked directly with the Western New York State and Federal Delegation in drafting legislation in accordance with the university’s priorities

**New York State Assembly, Office of Majority Leader Paul Tokasz, Buffalo, NY**

**Law Clerk** 2001 Legislative Session

• Provided extensive legal analysis on numerous public policy issues that were before the New York State Assembly

• Drafted Assembly public policy positions on behalf of Majority Leader Tokasz

• Communicated the Assembly Majority’s positions to a wide array of constituents

**Public Campaign, Washington, DC**

**Legislative & Outreach Associate** 03/1997—08/1999

• Played a key supportive role in winning ballot measures which resulted in enacting comprehensive campaign finance reform and overhauling the democratic process in three states

• Strategized and implemented Public Campaign’s national outreach plan that created a diverse coalition of national support from business, labor, environmental and civic organizations, former members of congress and others

• Briefed members of congress and legislative staff, administration officials, academics, and state legislators about the importance of campaign finance reform that resulted in introducing legislation in the US Senate and House of Representatives with broad congressional support

• Researched and published studies on federal campaign contributions and public policy, including a comprehensive study examining the sources of campaign contributions with respect to race
Center for Responsive Politics, Washington, DC

Research Associate 09/1996—03/1997
- Provided analysis on national campaign finance issues in the wake of the 1996 federal elections to investigative reporters representing a variety of media outlets, including: *The New York Times*, *The Washington Post*, *The Wall Street Journal*, *USA Today*, *ABC*, *NBC*, CNN, and others
- Prepared in-depth investigative analysis of federal campaign contributions for Center studies
- Established a database of local and national reporters for the purpose of rapid data dissemination

Rauh for US Senate, Concord, NH

Assistant Development Director 03/1996—09/1996
- Designed and implemented a national fundraising plan from a 6,000 contributor donor database
- Successfully raised $370,000 in $100 increments or less in accordance with candidate’s campaign pledge
- Coordinated and managed a fundraising staff of ten people and mobilized 500 volunteers throughout the State of New Hampshire

New Hampshire State Senate, Concord, NH

Legislative Fellow 1995—1996 Legislative Session
- Prepared written testimony and presented committee arguments regarding matters of legislative importance on behalf of state senators
- Acted as liaison between senate majority and minority leaders
- Negotiated on behalf of New Hampshire state senators with a large variety of lobbying organizations
- Created and implemented a comprehensive legislative monitoring system utilized by a staff of fifteen

EDUCATION

University at Buffalo Law School, The State University of New York
Juris Doctor, *magna cum laude*, May 2002
Concentration Certificates Awarded: State and Local Government and Environmental Law

University of New Hampshire
Bachelor of Arts in Political Science, *cum laude*, May 1996

Regents College, London, England
Courses taken in comparative government, history and international law, 1994-1995
AWARDS & HONORS

- Finalist, Second Nature Climate Leadership Award, 2015
- Environmental Champion Award, United States Environmental Protection Agency, April 24, 2015
- Best of Green Schools, United States Green Building Council, 2014
- The Edwin Crawford Award for Innovation (one of only two national higher education state relations awards—a field that encompasses advocacy and outreach efforts on behalf of colleges and universities to governors, state legislators and other key policymakers—distributed annually), presented by the Association of Public and Land-Grant Universities, the Council for Advancement and Support of Education, the American Association of State Colleges and Universities and the American Association of Community Colleges, 2011
- The State University of New York Council for University Advancement and Development Award for Excellence, Best of Category to University at Buffalo for Government Relations Programs, 2010
- President’s Higher Education Community Service Honor Roll (the highest federal recognition a college or university can receive for its commitment to volunteering, service-learning and civic engagement), the Corporation for National and Community Service, the U.S. Department of Education, the U.S. Department of Housing and Urban Development, Campus Compact and the American Council on Education, 2009, 2008, 2007
- National Bronze Telly Award for Building UB, the Draft Plan, 2009
- Gold Excalibur Award, Buffalo-Niagara Chapter of the Public Relations Society of America for UB Believer advocacy campaign, 2008
- The State University of New York Council for University Advancement and Development Award for Excellence, Best of Category to University at Buffalo for Government Relations Programs, 2008
- The State University of New York Council for University Advancement and Development Award for Excellence, Best of Category to University at Buffalo for Government Relations, 2004
- John N. Bennett Achievement Award, 2002 (this award honors the senior University at Buffalo Law School student judged by the faculty to demonstrate the highest scholastic achievement in the graduating class)
- Governor Winant Fellowship, 1996 (NH Governor’s Award for Leadership)
- University of New Hampshire Academic Excellence Award 1996

SELECT PRESENTATIONS

- Setting the Foundation to be an Effective Change Agent, The National Association of College and University Food Service (NACUFS), Marriott Hotel, 2016.
- *Building More Resilient & Sustainable Host Communities*, SUNY Sustainability Annual Conference, Stony Brook, NY 2015.
- *The State of Sustainability*, University at Buffalo Center for the Arts, Buffalo, NY, 2015.
- *The Academies*, University at Buffalo, Buffalo, NY, 2014.
- *Collaborations and Relations*, University at Buffalo, Crossroads Culinary Center, 4/18/13.
- *Strand in the Place that You Live*, University at Buffalo Solar Strand, 4/22/13.
- *The Emerging Climate Change Challenge*, University at Buffalo Center for the Arts, Buffalo, NY, 1/18/13.
- *Culture Clash: Research, Teaching, Art and Electrons at the Strand*, 2013 Smart and Sustainable Campus Conference, University of Maryland, Bethesda, MD, 2013.
- *Developing a Sustainable Mindset for a Large University*, Environmental Awareness Week, Cannon Design Academy, Buffalo, NY 2012.
- *Building Academic Quality and Economic Impact—UB’s Application for the NYSUNY 2020 Challenge Grant Program* (presented to Governor Cuomo’s senior staff), Albany, NY, 2011.
• *Working Towards Climate Neutrality*, University at Buffalo Student Affairs Division-wide annual meeting, Buffalo, NY, 2010.
• *Economic Growth and the New Economy*, University at Buffalo Faculty Senate & Professional Staff Senate, University at Buffalo, Buffalo, NY, 2009.
• *UB 2020*, University at Buffalo Alumni Association Board of Directors, Buffalo, NY, 2008.
• *Path to Prominence*, Niagara Frontier Transit Authority, Buffalo, NY, 2007.
• *Advocating UB 2020*, University at Buffalo Foundation Board of Directors, University at Buffalo, Buffalo, NY, 2007.
• *New York State Center of Excellence in Bioinformatics and Life Sciences*, Professional Staff Senate, University at Buffalo, Buffalo, NY, 2006.

**SELECT PUBLICATIONS**

*Advocacy*


Public Policy


Legal


**BAR**

Admitted to practice in New York (2003), Appellate Division of the Supreme Court, Fourth Judicial Department

**BOARDS**

- Western New York Environmental Alliance, Chair, 2012—present
- The Nature Conservancy of New York, Trustee, 2015—present
- Western New York Sustainable Business Roundtable, 2013—present
- GoBike Buffalo, Vice Chair, 2013—present
- University Stewardship Committee, Chair, 2012—present
- Aurora Ice Association, Youth Hockey Chair, 2011—2015

**TEACHING EXPERIENCE**

- Western New York Environmental Alliance Internship Program, 2015.
- Building Sustainable & Resilient Communities, University at Buffalo Honors College, 2014
- Achieving Sustainability, University at Buffalo Undergraduate Academies, 2011
- Economic Development and Industrial Change, University at Buffalo School of Architecture and Planning, 2009
- Legislative Policymaking, University at Buffalo School of Law, 2008
- Legislative Policymaking, University at Buffalo School of Law, 2007
JULIE M. BARRETT O’NEILL, Esq.

POSITION
Green Program Director and General Counsel, Buffalo Sewer Authority
July 2012 –present

Responsible for managing, coordinating, facilitating, and advising the development, implementation, monitoring, and improvement of local government policies, programs, and initiatives that promote energy conservation and the implementation of the City’s Energy Master Plan, green infrastructure, sustainability, and resilience.

Provides technical and legal assistance to the BSA in support of the $92 million green infrastructure elements of the Buffalo Sewer Authority 20 year Combined Sewer Overflow Long Term Control Plan including plan development, strategic areas for green infrastructure development, green street development and challenge resolution including the CSO 60, Niagara Street, Ohio Street, Kenmore Avenue, Carlton and Fillmore projects, vacant lot and green demolition practices, Scajaquada Creek Green Innovation Grant implementation, green code stormwater management opportunities, national green infrastructure legal trends, EPA and DEC negotiation support and grant writing.

Provides technical and legal support to the City of Buffalo Mayor’s Office of Strategic Planning in support of the 2015 City of Buffalo Energy Master Plan, Buffalo River EPA Environmental Dredging Project, Tonawanda Corridor, Harbor, Buffalo River and South Buffalo Brownfield Opportunity Area projects, Local Waterfront Revitalization Program, Buffalo Development Framework Generic Environmental Impact Statement, Outer Harbor NFTA Land Transfer, City of Buffalo MS4 Compliance, Buffalo Billion Better Buffalo Fund Development.

EXPERIENCE
Independent Consultant
February 2011-July 2012

Provided environmental and waterfront development support, including market analyses, environmental review and planning support to clients along the Buffalo waterfront.

Executive Director/Buffalo Niagara RIVERKEEPER
2001-September 2011

Julie guided the growth of the organization from its first staff person to a team of 25 professional staff members and from a budget of $26,000 to an estimated $2.8 million in 2011. Under Julie’s leadership, Riverkeeper’s project accomplishments included nearly $2 million in 2010 Great Lakes Restoration Initiative projects, the creation of a new waterfront land trust to hold urban sites for restoration and recreation uses, the New York Power Authority Niagara Power Project FERC Relicensing Environmental Settlement, Niagara River Greenway Plan adoption and a $40 million Buffalo River sediment clean up agreement with the US EPA. In 2006, Buffalo Niagara Riverkeeper was recognized by US EPA Region 2 with its highest citizen organization award. In 2005, Julie was recognized as the Erie County Environmental Citizen of the Year.

Urban Planner, Peter J. Smith & Co.
1999-2001

Projects include Comprehensive Plans for the City of Buffalo, City of Lackawanna, Town of Newstead & Village of Akron, Village of Sloan, Lancaster-Depew and Town/Village of Franklinville; Zoning Ordinances for the City of Lackawanna, South Buffalo/Union Ship Canal Brownfields Redevelopment Project and Town of Grand Island; and Cayuga Lake Scenic Byway Nomination
**Project Leader**, Buffalo River Watershed Management Project  
Erie County Department of Environment and Planning, Buffalo, New York  

*Supervised the implementation of a $250,000 EPA watershed protection program for the Cazenovia Creek Watershed. Designed water-quality sampling program and public-education campaign for eleven Erie County communities.*

**ADMISSION TO PRACTICE LAW**  
New York State (Fourth Department)

**EDUCATION**  
State University of New York at Buffalo, Buffalo, New York  
Law School Visiting Student Program

University of Iowa College of Law, Iowa City, Iowa  
Juris Doctor, Special Honors/With Distinction

University of Iowa, Graduate Program in Urban & Regional Planning, Iowa City, Iowa  
Masters of Science  
Majors: Economic Development and Land Use Planning

**Joint Degree Master’s Thesis:** Constitutionality of New York State Economic Development Programs

State University of New York at Buffalo, Buffalo, New York  
Bachelor of Science, Cum Laude  
Major: Environmental Studies; Minor: Business Administration

**RELEVANT CONTINUING LEGAL EDUCATION**  
Environmental Impact Assessment  
Natural Resources Damage  
Environmental Law  
Environmental Law before Local Agencies  
Perspective on Contaminated Properties  
Administrative Adjudication  
Zoning Enforcement  
Site Plan and Special Use Permits  
Lead Paint Poisoning and Litigation  
Environmental Due Diligence  
Green Infrastructure in CSO Enforcement Actions  
Impact of Environmental Law  
Clean Water Act Law and Regulation  
Public Input in Private Development  
Nuts and Bolts of the Administration and Enforcement of Land Use Law  
Ethical Considerations in the Public Sector  
Environmental Justice Forum for Buffalo Homes and Neighborhoods

**LEADERSHIP EXPERIENCE**  
WNY Women's Group Nominating Committee Chair  
Buffalo Niagara River Land Trust, Founding Board Member  
Erie Canal Harbor Development Corporation, Board Member  
Oishei 20 Founding Class Member  
Oishei Chautauqua 16 Class Member  
WATERKEEPER Alliance, Governance Advisory Board Member  
WNY Environmental Alliance, Founding Steering Committee Member

**CONTACT**  
616 Potomac Avenue, Buffalo, NY 14222; 716-796-4501; jbobflo@gmail.com

**REFERENCES**  
Available Upon Request
Biography

Brendan R. Mehaffy began work in the City of Buffalo as the Executive Director of the Mayor’s Office of Strategic Planning on April 19, 2010. As the Executive Director of the Mayor’s Office of Strategic Planning, Mr. Mehaffy is the point person for development initiatives in the City of Buffalo and oversees the City’s development boards and real estate portfolio. Mr. Mehaffy holds a seat on each of the respective boards: the Buffalo Urban Renewal Agency, the Buffalo Urban Development Corporation, and the Buffalo Erie Niagara Land Improvement Corporation.

Mr. Mehaffy completed his undergraduate studies at the State University of New York at Binghamton where he graduated cum laude with a degree in Economics. He then obtained an MSc in Regional and Urban Planning, from the London School of Economics which he supplemented with a juris doctorate from S.U.N.Y. at Buffalo School of Law.

Prior to his employment at the city, Mr. Mehaffy worked in private practice as a lawyer in focusing on environmental and land use law, while also working on corporate and litigation matters.
EXECUTIVE PROFILE

Over 30 years of higher education administration experience in progressively responsible positions, enhanced by the ethical and control orientation that a background in external and internal auditing brings. Experienced in strategic planning, leadership, budget management, policy development, compliance monitoring, human resources, research administration, and information technology support. An active participant in State-wide governing entities, serving as a member of the State University Business Officers Association since 2005, and participating in several governance groups of the Research Foundation for the State University of New York.

SUMMARY OF PROFESSIONAL EXPERIENCE

State University of New York, SUNY Buffalo State
  Vice President for Finance and Management, July 2012 to present
  Research Foundation Campus Operations Manager, July 2013 to present
  Campus Internal Control Officer
  Campus liaison to the College Council Facilities Committee
  Buffalo State College Foundation Board member, and member of the Finance/Audit and the Investment Committees
  Executive Director of the College Foundation Housing Corporation
  President of the College Foundation Realty Corporation

State University of New York at Buffalo
  Associate Vice President and Controller, July 2001 to July 2012
  Deputy Operations Manager - Research Foundation for SUNY, January 2012 to July 2012
  Assistant Treasurer - Buffalo 2020 Development Corporation, January 2010 to July 2012
  Assistant Vice President for Financial Services, May 1998 to July 2001
  Director of Internal Audit, August 1991 to May 1998
  Associate Director of Internal Audit, July 1984 to August 1991

Office of the New York State Comptroller
  Senior State Accounts Auditor, August 1978 to July 1984
EDUCATION

Masters of Business Administration, Emphasis: Applied Information Systems Analysis
State University of New York at Buffalo, May 1991
Graduated "With Distinction"

Bachelor of Science, Business Administration with Accounting concentration
State University of New York at Buffalo, June 1978

PROFESSIONAL EXPERIENCE AND ACCOMPLISHMENTS

Associate Vice President and Controller
State University of New York at Buffalo
July 2001 to July 2012

Responsible for University Financial Services (accounting, financial reporting, budget implementation and monitoring), Procurement Services (purchasing, accounts payable, equipment inventory, and travel), Policy and Internal Control, Internal Audit, University print shop and campus mail. Also, responsible for sponsored program post-award administration, and human resource services from July 2001 to June 2006.

Selected Accomplishments:

- Completed an organizational-wide assessment of the Controller's operation in March 2002 using the Excellence in Higher Education framework based on Malcolm Baldrige Quality Criteria. The results of this assessment led to updated mission/vision statements for the organization and each component unit, enhanced communication within the organization, and provided the basis for a strategic plan focusing on customer service and business system initiatives.

- Restructured budgets within the Controller's organization in 2002/03 based on historical activity and established a fund to be used to fund initiatives and staffing enhancements based on strategic priorities.

- Established a Business Project Planning Team in April 2002 to formally assess campus business systems and develop recommendations for replacing systems that reside in an outdated mainframe computing environment. The team inventoried existing systems, obtained customer feedback, developed communication plans, and explored alternative methods of delivering services. A formal report was issued in April 2003. Currently serving as functional lead on an initiative to perform the detailed planning and implementation of the remaining recommendations in the April 2003 report.

- Managed the design and development of a Business Intelligence system for campus-wide operational and strategic reporting of financial and human resource activities. This reporting system was a major component of the systems recommendations in the Business Project Planning Team's April 2003 report.
• Reconstructed two years of building fit-out and operating finances for the Center of Excellence in Bioinformatics. This project included justifying funding from various sources including Federal grants, ESDC, NYSTAR, and the campus. Managerial reports were developed to manage the on-going operations of the Center.

• Established the campuses first Policy and Internal Control unit responsible for developing and managing campus policy, monitoring campus compliance with Federal, State, SUNY, RF and campus rules and regulations using a campus-wide compliance database, and implementing a program of internal control assessment across campus.

• Serve as the University’s Internal Control Officer, responsible for managing the campus internal control program, coordinating external audit activity for the campus, and leading investigations as Chair of the Fraud Investigation Team.

• Developed and published an annual report of all-funds financial operating activities for campus management, and comprehensive financial statements for use with donors, research sponsors, and lenders.

• Led a formal supplier diversity program for the University including establishing a full-time coordinator, issuing new campus policy, developing dashboards and a website to monitor and communicate progress, and interacting with local minority organizations and vendors to match them with campus purchasers and help them successfully do business with the campus.

• Completed a risk assessment of campus operating activities administered through the local campus foundation and made recommendations to enhance the foundation’s independence and improve campus controls over these activities. The recommendations were accepted by the campus President and the Chair of the Foundation Board, and an implementation plan is currently being developed.

**Deputy Operations Manager**

January 2012 to July 2012

Research Foundation for SUNY, University at Buffalo

Support the University’s Research Foundation Operations Manager (VP for Research) in his administrative and compliance responsibilities for campus sponsored research programs and the related Facility and Administrative cost recovery revenues administered in the RF. This appointment formalized the support I provided to the campus Operations Manager and the President since 2001.

**Assistant Treasurer**

January 2010 to July 2012

Buffalo 2020 Development Corporation

Manage all accounting and financial reporting activities of the 501(c)(3) Corporation established to manage a $138 million grant from the State. The grant is being used to build the Clinical and
Translational Research Center in a public/private partnership with the Kaleida Health System, purchase and rehab the M. Wile building and adjoining properties for University medical and support activities, and construct a parking garage with our downtown partners.

Assistant Vice President for Financial Services  May 1998 to July 2001
State University of New York at Buffalo

Responsible for University accounting, financial reporting, budget implementation and monitoring, endowments, sponsored program post-award administration, and travel for State and RF operations.

Selected Accomplishments:

- Established a formal group in Financial Services to ensure the effective implementation of campus budget decisions, and monitor the budget status of campus units to identify potential issues early and work with units to resolve them.
- Led the planning and implementation of the administrative consolidation of the Research Institute on Addictions from the NYS Office of Alcoholism and Substance Abuse Services into UB.
- Led the post-award unit’s participation in the Research Foundation’s transition to a new Oracle business system.

Director of Internal Audit  August 1991 to May 1998
Associate Director, Internal Audit Department  July 1984 to August 1991
State University of New York at Buffalo

Completed and/or supervised audits of various financial and operational aspects of University operations. Duties also included University audit planning, audit report review, establishment of department policy, staff training and evaluation.

Selected Accomplishments:

- Transitioned the department from an external audit approach, to an approach that balanced the independent audit activities with more consulting and focus on assisting units in developing solutions to identified issues. This new approach led to my inclusion in the Senior Vice President’s senior management team.
- Enhanced coordination between the campus audit function and the Internal Audit functions in SUNY and the Research Foundation for SUNY.
Senior State Accounts Auditor  
New York State Comptroller’s Office, Bureau of Management Audit  
August 1978 to July 1984

Performed audits of a variety of State agencies and State funded operations, the majority of which were audits of State University of New York campuses. On-site supervisor for audits since March 1980, responsible for the work of one to six auditors. Specific duties included developing audit programs, assigning and reviewing the work of staff members, developing and presenting results of audits, writing audit reports and evaluating and training staff.

SELECTED PROFESSIONAL, UNIVERSITY, AND COMMUNITY ACTIVITIES

Certified Public Accountant licensed by the New York State Education Department, September 1983

Certified Internal Auditor licensed by the Institute of Internal Auditors, February 1986

Volunteer Instructor, State University of New York at Buffalo, Graduate School of Education, Department of Educational Leadership and Policy, Fall 1997 to Fall 2005, ELP 507 - Financing Higher Education

Member of the State University Business Officers Association since 2005. Currently serving as an Executive Board member, the organization Treasurer, and liaison to the SUNY Purchasing Group. Participating in initiatives related to SUNY Business Intelligence, MWBE procurement, and financing System Administration.

Participated in a career development program with the Senior Vice President for University Services working half time with the Senior VP and half time as Director of Internal Audit.

University at Buffalo Committee Service:

- SEFA Administrative Group, 1996 to 2000
- Chief Financial Officers Group, 2001 to July 2012
- Buffalo 2020 Strategic Planning, Chair of Revenue and Cost Decomposition Team, 2004/05
- Information Technology Strategic Transformation Committee, 2005 to 2006
- Administrative Systems Advisory Board, 2001 to 2007
- Enterprise Systems Advisory Committee, 2008 to 2010
- Public Policy Advisory Committee (campus risk management), 2005 to 2007
- Horizon Scanning Group (campus risk management), 2010 to 2012
- Middle States Assessment Working Team for Standards on Mission and Goals; Planning, Resource Allocation, and Institutional Renewal; and Institutional Resources, 2012
- University at Buffalo/Buffalo State College Shared Services Team, 2012

Member of the Research Foundation of SUNY Operations Manager Finance Committee, Risk Management Team, and Procurement Optimization Team.

Administrative Management Institute at Cornell University, July 1994
Member of the following Professional Organizations:

- American Institute of Certified Public Accountants
- New York State Society of Certified Public Accountants
- Institute of Internal Auditors, Western New York Chapter - Served as the College Relations Committee Chair, 1986-87
- National Association of College and University Business Officers
- Eastern Association of College and University Business Officers, Buffalo Region

Boy Scout Troop 445 Advancement Chair and former Treasurer
Collaborative, focused and loyal Senior Vice President of Operations has 23 years of cumulative work experience. A trustworthy professional who demonstrates the keen ability to manage concurrent priorities and handle them well. Geared with flexibility and a positive attitude, I function well either as a team leader or a team player. A record of successful professional work on assignments with concentration and particular attention to detail and ability to manage different requests with flair. Thoughtful and optimistic, I display high professionalism with a candid ability to face challenges head on and resolves concerns with single-minded determination. Good at brainstorming innovations with colleagues makes me easy to work with; manage well with little supervision and excel under pressure. Have an the innate ability to adapt quickly to rapidly changing technology and equipment;

- Higher Education Administration
- Government Funding & Policies
- Higher Education Policies
- Community Relations Expertise
- Change Management
- Strategic Planning & Analysis
- Excellent Communication & Writing
- Demonstrates Critical Judgment

**Professional Experience**

**SUNY Erie Community College**
Senior Vice President of Operations  
*Buffalo, NY*

- Provide administrative and strategic leadership and support for ECC initiatives and priorities, working closely with other senior administrators, dean(s), faculty, students as well as the Board of Trustees and Foundation Board of Directors.
- Oversee proper functioning of all administrative activities, including the coordination of communications for the Office.
- Serve as an integral member of the Leadership Team providing leadership and direction to the Office of the President to advance the mission and goals of the college.
- Prepares fact-finding reports to support decisions about collaborative projects; ensuring that policies, protocols and procedures are followed.
- Initiate conversations about possible partnerships with external constituencies and direct and coordinate special, high-level projects initiated by the President in collaboration with entities across the college.
- Collaborate with senior staff on institutional initiatives to position the college as responsive partners in the city- county- state- nation.
- Prepare and contribute to the development of reports, briefings, speeches and public statements.
- Serve as an additional resource and liaison to the SUNY Central Administration, College-wide constituencies, elected officials and community based organizations as directed by the President.
- Assist with the prioritizing and execution of capital projects and other initiatives.
- Initiate public outreach activities, on behalf of the President, and promote awareness of ECC, and its programs.
- Coordinate, plan and manage official campus events and activities in collaboration with the President and appropriate staff members.
- Represent the President, as appropriate, to constituent groups, college committees and external constituencies to enhance public awareness of ECC.
- Support the President by representing him in internal and external meetings and forums.
- Execute critical business events and projects and provides hands-on, detail-oriented leadership in managing the fast-paced activities of the office and coordinates administrative responsibilities across the large, complex organizational structure.
- Provide project management support and handle administrative duties of a highly responsible and confidential nature.
- Initiates and coordinates the flow of communications with the Executive Team.
- Assists the President on special projects.
- Monitors assignments delegated to staff and facilitates timely completion to meet deadlines.
- Attends executive committee meetings and works to ensure timely follow-up on action items.
- Composes correspondence independently on a wide variety of matters, including material of a confidential nature.

**University at Buffalo: State University of New York**

Various Roles and Responsibilities

*Buffalo, NY*

**Assistant Vice President for Government and Community Relations: Office of the President**
(Nov 2011 – Present)

- Oversee the Government and Community Relations Office; manage and direct efforts to acquire funding and policy changes via the state and federal appropriation processes.
- Manage state, federal and local government lobbying efforts and relationships as well as community and labor relationships.
- Render advice to the President, Provost, Senior Leadership team, other administrators and faculty on matters concerning government programs and policies and budget issues.
- Promote positive relationships with state, federal, county and city officials as well as community leaders and other opinion makers.
- Contribute in the development of university projects and financing strategies that lead to government funding or community projects.
- Work closely with the Vice President for Administration and Finance to provide strategic advice on labor, workforce and economic development issues.
- Monitor rapport with various constituencies like Buffalo Niagara Partnership, Amherst Chamber of Commerce and Buffalo Niagara Medical Campus, Inc.
- Represent the University on various member organizations like the Executive Committee of the Amherst Chamber of Commerce.

**Assistant Vice President for Government Relations** (Nov 2005 – Sept 2011)

- Served as a driving force and key strategist behind the UB 2020 plan that culminated in one of the most significant pieces of higher education legislation in NYS.
- Managed and directed efforts to acquire funding through the state and federal appropriation processes.
- Coordinated outside lobbying firms and established and maintained positive relationships with state, federal, county and city officials as well as other opinion makers.
- Assisted in the development of university projects and financing strategies that lead to government funding.
- Processed requests from elected officials and staff concerning legislative correspondence, campus visits and tours.
- Spearheaded the fulfillment of State and Federal Lobbying Report requirements and oversaw relationships with various external and internal constituencies.
- Represented the University at the American Association of Universities, The Science Coalition, Association of American Medical Colleges, and Project Medical Education.
- Appointed as the Executive Committee member for the Association of Public and Land Grant Universities (APLU).

**Director of Federal Affairs** (Aug 1999 – Nov 2005)

- Served as primary advocate of the university interests with the federal government; coordinated daily contact with federal legislators and agencies.
- Compiled and reported federal lobbying requirements; developed university/business partnerships.
- Planned and organized university activities on Capitol Hill including advocacy plan for NYS Center of Excellence in Bioinformatics and Life Sciences federal earmark campaign.
- Achieved a goal of $25M in federal support over 5 years, resulting in the accumulation of $27.7M in only 4 years.
**Other Work Experience**

**Congressman Jack Quinn**

Feb 1993 – Aug 1999

Senior Legislative Assistant (Jan 1995 – Aug 1999)

Staff Assistant (Feb 1993 – Jan 1995)

Washington, DC and Buffalo, NY

**Education & Technical Skills**

**University at Buffalo, Buffalo, NY, 2015 – 2017 (expected completion)**

Executive Master of Business Administration

**Stony Brook University, Stony Brook, NY, 2005 – 2006**

Master of Arts Degree in Liberal Studies (Some Coursework Completed)

**Canisius College, Buffalo, NY, May 1992**

Bachelor of Arts Degree in Political Science and History, Concentration in Pre-Law

Microsoft Office Suite

Awards: State University of New York Council on University Advancement (SUNYCUAD) Government Relations Programs, Best of Category, University at Buffalo, UB2020 – The Integrated Advocacy Model, 2010 ✘ State University of New York Council on University Advancement (SUNYCUAD) Government Relations Programs, Best of Category, University at Buffalo, UB Believers Advocacy Campaign, 2008 ✘ Buffalo Business First’s 40 Under Forty Honoree, 2008 ✘ State University of New York Council on University Advancement (SUNYCUAD) Government Relations Programs, Best of Category, University at Buffalo, NYS Center of Excellence in Bioinformatics and Life Sciences Advocacy Campaign, 2004 ✘


References Gladly Provided Upon Request
Professional Experience

**County of Erie, New York**
November 2014 to Present
Largest local government in the Western New York region providing for Health and Human Services, Public Safety, Economic and Community Development, Education and Libraries and General Services.

**Director of Energy Development and Management, Department of Public Works**
Develops and administers an energy conservation management program for County government. Facilitates the development of a comprehensive energy plan and program for the County, including resource development and management. Prepares and implements energy conservation policies, practices, projects and programs. Coordinates with economic development, land use, planning and environmental quality staff, acting as liaison with Federal and State government entities relating to energy. Oversees the procurement of energy for the County through the oversight of the Utility Aggregation Fund.

**Center for Social Inclusion, New York, NY**
November 2013 to December 2014
Policy advocacy organization that works with community groups and national organizations to identify, develop, and support policy strategies to transform structural inequity.

**Racial Equity Fellow, Energy Democracy Project**
Developed policy analysis and commentary on the New York State energy policy’s impact on low and moderate income communities and communities of color. Promoted alternative policy and financing to facilitate market penetration and transformation in the state’s low income residential market sector. Performed qualitative research to identify participant attitudes and perceptions of structural inequality within the regulatory and policy making apparatus. Translated research into actionable strategies for constituent engagement and recruitment in policy making venues which helped seed the development of the NY Energy Democracy Alliance.

**People United For Sustainable Housing (PUSH), Inc., Buffalo, NY**
(2005 to 2013)
Grassroots power building organization advancing community control of resources through energy efficient affordable housing development, corporate accountability, neighborhood planning, and local job creation.

**Project Director, PUSH Green (2011 to 2013)**
Managed the planning and implementation of the organization’s effort to recruit targeted residents to participate in Green Jobs/Green NY energy efficiency program and workforce training opportunities. Developed strategic training materials to prepare ground level outreach staff for dual duties in sales, marketing and grassroots organizing. Supervised overall operations and coordinated efforts between communications, outreach and workforce development team leads.

**Organizing Director (2005 to 2012)**
Managed a team of three staff to ensure achievement of strategic organizing goals focused on leadership development. Coordinated support for coalition activities that include local, state, and national mobilizations. Cultivated the organization’s 200+ member base through a host of point of entry engagement strategies including one-on-one meetings, community barbecues, and faith-based institutional presentations.

**Education**
State University of New York, University at Buffalo – Buffalo, NY
Bachelor of Arts, Dual Degree in Sociology and Geography, 2003
Christopher Mark O’Brien
3600 13th St NW • Washington D.C. 20010 • 240.832.2411 • chris.obrien@altenex.com

Sustainability Executive
Over 20 years of experience serving and advising members, clients, and employers by developing, implementing, and reporting on sustainability initiatives. Strengths include:

› Sustainability Planning & Reporting
› Climate & Energy Planning
› Team Leadership
› Stakeholder Engagement
› Program Development
› Project Execution

Professional Experience

Director, Higher Education Programs 2015 - Present
Altenex, LLC, Boston and Washington D.C.
Responsibilities:
› Created and launched national Green Gigawatt Partnership to catalyze one gigawatt of new renewable energy in higher education by 2020 through peer-learning and technical support
› Conduct renewable energy planning and procurement workshops for public and private sector
› Serve higher ed clients in procuring large-scale renewable energy contracts, including community-based and minority-serving institutions

Director of Sustainability 2009 – 2015
American University, Washington D.C.
Responsible for leading the university’s sustainability and climate policy, planning, implementation, and reporting. Selected accomplishments:

› Published plan to achieve carbon-neutrality by the year 2020
› Managed up and across to achieve support from large groups of stakeholders
› Created and operated peer-learning sustainability training program
› Authored sustainability policies on building, purchasing, and waste
› Developed and executed green building and operations plans for 30 facilities
› Executed commercial scale solar power purchase agreements
› Achieved the highest sustainability rating by the Princeton Review
› Earned sustainability awards by US EPA Green Power Partnership, APPA, and AASHE

Senior Director 2005 – 2009
Responsible Purchasing Network, Center for a New American Dream, Takoma Park, MD
Developed, launched and directed international member-based sustainable procurement network. Responsibilities:

› Created and launched member recruitment and retention programs
› Researched, wrote, edited, and published series of Responsible Purchasing Guides
› Developed member consulting services
› Engaged in public speaking to public and other stakeholder
› Initiated corporate and government partnerships
› Supported fundraising, grant writing, and budget management
› Directed full time staff of five, plus numerous interns, fellows, and externs.

Selected partners, funders, and clients: National Association of State Procurement Officers, Office Depot, Wachovia, US Communities, Montgomery County, District of Columbia, State of
Maryland, Fairfax County, Los Angeles County, Commission on Environmental Cooperation, Environmental Protection Agency, Town Creek Foundation.

**Associate Director**

*Fair Trade Federation*, Washington, D.C.

2001 – 2004

Managed trade association of 150 fair trade businesses.

Duties included: strategic planning & partnerships, budgeting, fundraising, staffing, annual conference, newsletter, program development & management, research & writing.

**Managing Director**

*Green Business Network*, Washington, D.C.

1997 – 2004

Directed programs for a network of 2,000 green businesses. Duties included:

- Recruiting and retaining members
- Researching sustainable business practices
- Developing and implementing green business campaigns
- Conducting strategic planning
- Carrying out media campaigns
- Creating and launching the annual Green Business Conference and Green Festivals
- Writing & editing quarterly *Responsible Business & Investing Newsletter*
- Designing & implementing strategic revenue-generating partnerships
- Managing budget and fundraising
- Hiring and managing staff

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### Board & Advisory Experience

**Boards of Directors**

- Sustainable Purchasing Leadership Council, Founding Board Member 2012 – present
- Stewardship Action Council, Founding Board Member 2011 – 2012
- Seven Bridges Cooperative, Board of Directors 2004 – 2012
- Co-op America (Green America), Board of Directors 1998 – 2004

**Advisory Boards**

- AASHE, Advisory Committee 2015 – present
- AASHE, STARS Steering Committee 2010 – 2015
- Green Advantage, Standards Board 2011 – 2013
- EPEAT, the Electronic Products Environmental Assessment Tool 2010 – 2012
- Savenia Labs, Advisory Board 2010 – 2011
- ASTM, Sustainability Executive Committee 2009 – 2011
- Responsible Purchasing Network, Steering Committee 2006 – 2014

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### Additional Experience

**Fair Trade Consulting**

2004 – 2006

Consulting on development projects, products, markets, and fair trade principles with clients including: Deans Beans (Ethiopia); Eco-Bags (Ethiopia); SEBRA MA Women’s Crafts Project (Brazil); LightYears IP (Ethiopia).

**Co-owner**

1999 – present
Seven Bridges Cooperative, the world’s only supplier of all-organic and fair trade ingredients for beer brewing and home coffee roasting.

**Agricultural Extension Agent**

US Peace Corps, Senegal
Gathered and assessed information regarding local social and environmental conditions.
Extended sustainable farming techniques through field trials & demonstrations. Demonstrated applications of appropriate technology.

<table>
<thead>
<tr>
<th>Selected Research &amp; Publications</th>
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<tr>
<td><strong>American University Sustainability Plan</strong></td>
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<tr>
<td>Lead stakeholder engagement, writing, and editing on five year institutional sustainability plan.</td>
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<tr>
<td><strong>Cost-Neutral Carbon Neutrality in Five Years</strong></td>
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<tr>
<td>Included in Climate Neutral Campus Report, co-sponsored by the USGBC’s Center for Green Schools, and AASHE.</td>
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<tr>
<td><strong>Responsible Purchasing Trends Report</strong></td>
</tr>
<tr>
<td>Survey-based annual report on trends in socially and environmentally responsible procurement.</td>
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<tr>
<td><strong>Responsible Purchasing Guide Series</strong></td>
</tr>
<tr>
<td>Conceptualized and directed research and writing for this series of sustainable procurement guides targeting government and higher education. Each Guide includes model procurement policies and specifications, best practices, standards, and evaluations of cost, quality and supply of sustainable goods and services. Series covers twelve product categories from cleaners and copy paper to green power and alternative fuel vehicles.</td>
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<tr>
<td><strong>Globeerization or Beeroregionalism?</strong></td>
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<tr>
<td><strong>Fermenting Revolution: How to Drink Beer &amp; Save the World</strong></td>
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<tr>
<td>Full length book on the sustainability history of beer and brewing.</td>
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<tr>
<td>The first-ever, comprehensive, social and financial report on the state of the Fair Trade industry in the U.S., Canada and Pacific Rim.</td>
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<tr>
<td><strong>Networks, Newsletter of the Fair Trade Federation</strong></td>
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<tr>
<td>Authored and edited quarterly newsletter covering trends, news, briefings and updates on Fair Trade.</td>
</tr>
<tr>
<td><strong>Connections Newsletter</strong></td>
</tr>
<tr>
<td>Authored and edited quarterly newsletter covering trends, news, briefings and updates on Green Business and Socially Responsible Investing, for the Co-op America Business Network and Social Investment Forum.</td>
</tr>
<tr>
<td><strong>Co-op America Quarterly Magazine, National Green Pages Directory, Real Money Newsletter</strong></td>
</tr>
</tbody>
</table>
Contributing writer to magazine, directory, and newsletter, respectively, covering sustainable consumption, business and investing.

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**Selected Public Appearances**


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**Selected Instruction**

**Instructor: Sustainable Products and Purchasing**
Kogod School of Business, MS Sustainability Management American University 2014 - 2016

**Instructor: Management for Climate Change**
Kogod School of Business, MS Sustainability Management American University 2014 - 2016

**Instructor: The Environmental and Social Implications of AU's Carbon Offsets Purchases**
School of International Service, Master’s Practicum, American University 2014

**Guest Lecturer: Post-Carbon World**
School of International Service, American University, Paul Wapner 2014

**Faculty Advisor: Balancing Sustainable Economic Development and Human Rights in Pennsylvania**
Alternative Break on hydraulic fracturing in NY and PA, American University 2013

**Guest Lecturer: Sustainable Living**
Marymount University, Srinivasan Raghavan 2013

**Guest Lecturer: Local and Global Politics of Climate Change**
School of International Service, American University, Sikina Jinna 2012

**Guest Lecturer: Comparative Environmental Politics**
School of Public Affairs, American University, Todd Eisenstadt 2012

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**Education**
Rensselaer Polytechnic Institute  Master of Science  1997
Academic scholarship, Science and Technology Studies, degree focus on labor and environmental organizing, environment and technology policy.

Penn State University  Bachelor of Arts  1994
Science, Technology and Society, degree focus on technology, environment and globalization.

University of Nairobi  Kenya  1992
Lions Abroad Award recipient for semester survey of East African Studies, including democratic elections observations through the Student Organization of Nairobi University.

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Awards & Honors & Service

**People, Prosperity, and the Planet Judge**  2014 - 2015
Nominated and served twice as judge in EPA’s annual competition for designing sustainability solutions.

**Sustainability Award**  2014
Recognized by the Clean Cities Coalition for demonstrating outstanding leadership in advancing alternative fuels.

**Metropolitan Washington Council of Governments**  2013-2014
Voluntary higher education representative in this regional, inter-governmental collaborative.

**Master Watershed Steward**  2012
Trained and certified by the Anacostia Watershed Society to assess, manage and mitigate watershed pollution.

**Green Power Leadership Award**  2012
Accepted on behalf of American University, recognized as Green Power Leader for contribution to helping advance the development of the country’s voluntary green power market.

**American School and University**  2011

**Independent Book Publishers Association**  2007
Fermenting Revolution: How to Drink Beer and Save the World, received a gold IPPY award for best overall book of the year and a bronze IPPY award for best business breakthrough book of the year, from this association of book publishers.

**Radio CPR**  2001-2003
Volunteer program host at “community-powered radio” station.

**Leadership Columbia Heights**  Washington, D.C.  1999
Award participant in community leadership training, sponsored by Development Corporation of Columbia Heights.

**Schumacher College**  England  1998 & 2004
Everett Foundation 1997
Everett Public Service Fellowship stipend recipient for researching corporate responsibility and environmental sustainability.

WRPI 1996-1997
Volunteer station manager at 10,000 watt community-format radio station.

Additional Qualifications

Languages: Basic Swahili, Wolof, & French
Computers: Proficient in Microsoft Office suite and a range of other applications
Nationality: U.S. Citizen
Respected energy industry leader successful at building market presence, growing existing business, and establishing long-term client and industry relationships in the energy industry. Successful at designing and implementing complex demand response / load management programs and related demand side management solutions. Led energy services companies to become integral resources with utility companies, RTOs/ISOs, regulatory agencies, trade associations, economic development organizations, and affiliate service providers.

Nationally recognized public speaker for energy industry associations and government agencies including the Federal Energy Regulatory Commission (FERC), the National Association of Regulatory Utility Commissioners (NARUC), the Independent Power Producers of New York (IPPNY), Sustainable Energy Ireland (SEI), and the European Commission, Joint Research Center, Italy.

Areas of expertise:
- Business Development / New Markets
- Team Leadership, Training & Mentoring
- Regulatory Affairs / Advocacy
- Strategic Planning for Growth
- Extensive Network of Industry Alliances
- Program Design & Implementation
- Business Case / Proposal Development
- Energy Industry Spokesperson

Industry Leadership

Peak Load Management Alliance (PLMA)
Chairman (2009 to 2015)
Chairman of a professional industry organization dedicated to the principles of demand side management, load shaping and the integration of energy efficiency and demand response. The organization strives to be an industry advocate while continually focusing on enhancing its acknowledged role as a leading provider of information, education, research, and practitioner experience.
- Grew the organization from 30 to 91 industry practitioners and thought leaders, well respected in the demand response industry, with substantial financial assets.
- Developed the organization’s strategic plan; revitalized the organizational structure and recruited new leaders for each plan objective. Instituted an annual report.
- Delivered professional conferences bi-annually, attracting 150+ attendees each year; instituted bi-monthly demand management interviews and discussions with industry thought leaders.

Professional Experience

Buffalo Niagara Medical Campus, Inc. (BNMC), Buffalo, NY 2014 to present
The BNMC is a social enterprise which serves as the umbrella organization of the anchor institutions that make up the Buffalo Niagara Medical Campus. The organization fosters conversation and collaboration among its member institutions, its partners and the community to address critical issues impacting them including energy, entrepreneurship, access / transportation, workforce and procurement, neighborhoods, and healthy communities.

Strategic Advisor Energy Initiatives (Contractual)
Provide guidance on development and implementation of the Energy Innovation Plan. Generate a tactical deployment strategy, foster partner relationships, create an incubator environment for energy centric technologies and incorporate renewable or alternative energy solutions. Recruited by CEO and National Grid.

REGEN Energy, Toronto, Canada and Newport Beach, CA 2012 to 2014
REGEN provides industry-leading wireless electrical demand management and automated demand response solutions to commercial and industrial customers.

Business Development Director – Utilities
Recruited by the CEO to lead business development initiatives with electric utilities in North America. Identify and engage complementary service providers. Establish pilot programs; negotiate contracts; maintain strong customer relations and communications.

- **Introduced REGEN to the C-Suite of one of the largest electric utilities in the US**, which ultimately led to a substantial investment in Round B financing for REGEN.
- **Built multiple service provider consortiums** to extend service offerings to wider markets, leading to increased revenues and greater market presence.
- **Established many successful pilot programs** with major utility companies.

**Viridity Energy, Philadelphia, PA**

*2011 to 2012*

*Viridity Energy developed an energy optimization technology platform which enables clients to effectively participate in wholesale electricity markets.*

**Managing Director – NYISO & Eastern Region (2012)**

**Senior Director – Electric Utilities (2011 – 2012)**

Promoted to oversee business development efforts within the NYISO and Eastern region that also included New England and Ontario, Canada. Directly responsible for territory management including P&L, staff supervision, client recruitment and regulatory affairs. Continued to oversee company initiatives within the electric utility sector (as per previous role as Senior Director – Electric Utilities).

- **Secured contract** for demonstration project with American Electric Power (AEP). This was the first bi-lateral agreement directly with a utility, outside of grant projects, for Viridity Energy.
- **Drafted partnership agreement** with District of Columbia Business Improvement District (DC BID). This partnership served as the foundational affiliation for the company’s first Smart City initiative.
- **Wrote business plan** to restructure Viridity’s California business development team. Document became the roadmap for a revenue-focused Western Region strategy.
- **Led development of company’s vertical strategy** for utilities, co-operatives and municipal electric utilities.

**Direct Options, Cincinnati, OH**

*2011*

*Direct Options is a data-centric analytics firm focused on driving demand response / energy efficiency initiatives within the electric utility industry.*

**Strategic Advisor Business Development (Contractual)**

Engaged by Direct Options in a consulting arrangement to structure the business development department. Drafted a strategic plan including market analysis, organizational structure and ‘go to market’ methodology. Identified resource needs; human, capital and technology based. Established departmental goals and revenue objectives. Tied the plan to specific milestones along a detailed timeline to ensure measurable success.

**CPower, Inc / Constellation Energy, New York, NY**

*2010 to 2011*

*CPower was an energy services company providing capacity-based demand response along with reserve and ancillary service load in ISO/RTO markets in the US and Canada. CPower was acquired by Constellation Energy in 2010.*

**Senior Director Business Development**

Worked closely with company founder Michael Gordon, with responsibility for product enhancement and market development. Supported business development staff companywide, both end user and utility focused. Directly accountable for Canadian initiatives including staff supervision, market penetration and regulatory representation. Instrumental in structuring and establishing an inside sales organization.

**Energy Curtailment Specialists (ECS), Buffalo, NY**

*2003 to 2010*

*ECS is the largest private demand response provider in North America, offering demand response services to utility companies, government agencies, and commercial/industrial customers.*

**Executive Vice President – Market Development**
**Professional Experience (Continued)**

Key company and industry spokesperson responsible for developing new business opportunities through public speaking, direct sales, and customer relationship building. Managed the complete business development and sales cycle for the company’s largest customers, from prospect acquisition to needs analysis, proposal, close, contractual commitment, execution, and performance monitoring.

Worked cooperatively with utility companies, regulatory agencies, affiliate service providers (engineering firms, business/trade organizations, economic development agencies and others), to introduce and deliver demand response programs for electricity curtailment to customers in existing and new markets (regulated or restructured). Effective at all levels, from production floor to C-Suite.

- **Contributed to company growth** from 4 employees in 2003 to more than 100 employees and annual revenues of $40M in 2008.
- **As company spokesperson, addressed numerous groups**, including trade organizations and government agencies, regarding energy issues and the integration of renewable energy into the supply chain. Lead speaker at ECS seminar series for customers across North America.
- **Served as primary lead in the opening of new markets**: California, Kansas City, PJM, New England and Ontario specifically.
- **Led efforts that resulted in the company’s selection as the exclusive agent** for Kansas City Power and Light in their demand response effort. Secured new contract with Horizon Utilities (Ontario), receiving designation as Preferred Vendor for an Ontario Power Authority (OPA) program.
- **Established the Sales Department and later hired a director**, revised marketing and sales practices resulting in substantial increases in brand recognition and closing percentage of sales opportunities.
- **Successfully raised company profile on a national basis**. This has generated opportunities to bid on new business, share perspectives with regulatory agencies, and launch national affiliate relationships.
- **Led ECS to receive the “Outstanding Program Achievement Award”** from PLMA in 2007, and recognition by Energy Efficiency Markets as their “Best Demand Response Provider” in 2008.

**Public Speaking Engagements**

Addressed numerous groups regarding energy issues, including:

- Federal Energy Regulatory Commission (FERC) Demand Response Collaborative
- International Facility Managers Association (IFMA) – national and regional meetings
- Peak Load Management Alliance (PLMA)
- California Manufacturers & Technology Association (CMTA)
- National Association of Regulatory Utility Commissioners (NARUC)
- Electric Utility Consultants, Inc. (EUCI)
- California Power Market Forum
- Green Schools & Communities
- Sustainable Energy Ireland (SEI), Ireland
- Commission for Energy Regulation (CER), Ireland
- Smarter Metering Scandinavia, Denmark
- European Commission, Joint Research Center, Italy

Presented “Common Ground on Regulatory Issues” to Independent Power Producers of New York (IPPNY), 2008


One of 14 individuals invited by FERC to contribute in a panelist role during their technical conference on the development of a National Action Plan on Demand Response

**Education**

*B.A. Business Administration*, Empire State College, State University of New York
EXECUTIVE SUMMARY

As a senior team member of the Erie Canal Harbor Development Corporation and an associate at two consultant firms, earned a reputation for achieving results by establishing strategy, driving execution and achieving excellence. Expertise includes management, development, planning, design, and community outreach on behalf of private developers and government institutions. Leadership includes assessing and utilizing resources, establishing clear expectations, and managing to achieve success.

PROFESSIONAL EXPERIENCE

ERIE CANAL HARBOR DEVELOPMENT CORPORATION
Vice President – Planning, Design and Waterfront Development (2008 – Present)

Senior team member responsible for the revitalization of Buffalo’s waterfront. Responsible for all consultant, administrative, and inter-agency work associated with planning, engineering, design and construction projects completed by ECHDC. In addition to this primary role, provides technical expertise to the corporation as Upstate ESD’s lead engineer in planning, design and construction of infrastructure systems and ancillary facilities.

Significant Accomplishments
- Transformed the Buffalo waterfront from a vacant, industrial area into a year-round tourist destination.
- Managed the planning, design and construction of Canalside and Buffalo River corridor infrastructure. Approximately $100 million in public funds over the past five years.
- Led the transitional planning and design from the “Bass Pro plan” to the historically aligned canals that are built today.
- Provided the foundation for private development along the waterfront, including $250 million at Canalside and $15 million along the Buffalo River corridor.
- Oversaw major stakeholder groups responsible for community input into programming and capital projects, including Canalside Design Review Committee, Waterfront Cultural Committee, and the Outer Harbor Committee.

Major Responsibilities
- Direct and administer project management of planning and design projects including oversight of developer, contractor, and consultant teams.
- Establish and maintain strong working relationships with government, community, civic and business leaders including public outreach and speaking.
- Develop annual Operating and Capital Budgets, manage State, Federal, and other funding sources, oversee grant applications, and manage project budgets.
- Obtain board, internal and other governmental approvals needed for project initiation through completion.
- Liaison to New York State Department of Transportation, Greater Buffalo-Niagara Regional Transportation Council, Niagara Frontier Transportation Authority and City of Buffalo Department of Public Works on all projects affecting these stakeholders.

CLARK PATTERSON LEE
Buffalo Office Manager / Principal Associate (2002 – 2008)

Responsible for the opening and development of the Buffalo Office. Directed and managed client development, project management, coordination with agencies, and senior-level transportation planning and engineering design. Management included a staff of twenty-three engineers, architects, planners and technicians between the Buffalo, Rochester and Atlanta, GA offices.

WATTS ENGINEERS
Senior Project Engineer / Associate (1994 – 2002)

Responsibilities included project management, and senior-level, highway, site and environmental engineering design. Management included a staff of six engineers and technicians.

EDUCATION

Master of Urban Planning, State University of New York at Buffalo (candidate)
Bachelor of Science, Civil Engineering, State University of New York at Buffalo, 1994

PROFESSIONAL AFFILIATIONS/ACHIEVEMENTS

NYS Professional Engineer NY077513
Young Engineer of the Year - NYSSPE, Erie-Niagara Chapter
Board of Directors, Roycroft Campus Corporation
Objective: Motivated environmental engineering student seeking experiences related to environmental engineering or environmental science.

Education: University at Buffalo, The State University of New York
Pursing Bachelor of Science, Environmental Engineering, May 2018
Current GPA: 3.249/4.0
Provost Scholarship recipient

Awards/Recognition: Education and Leadership Fellow in Sustainability (ELFS), March 2016-present
- Focus on campus-wide sustainability initiatives.
- Critical problem solving and strong team work with peers and top university leadership.
- Attended leadership retreat at Beaver Hollow Conference Center in Java Center, March 2016.

First Year Engineering Design Award, Fall 2014
- Awarded for outstanding engineering design process, innovation, turbine performance, and final report presentation.

Related Experience: University at Buffalo, Office of Sustainability, Fall 2015-present
- Currently employed as Engagement and Outreach Student Coordinator.
- Focus on communications and the creation of programs to increase student engagement and education on matters of sustainability, energy conservation, and waste reduction.
- Focus on project management, collaborative work, and creative problem solving.

University at Buffalo, Department of Engineering, Fall 2015-present
- Currently employed as a Student Leader for entry level engineering courses “Engineering Principles” and “Engineering Impact on Society.”
- Guides students on a series of projects as part of a rigorous first year engineering lab course.
- Focus on peer mentoring and fostering a productive and functional work environment.
- Two groups led in Fall 2015 also won First Year Engineering Design Awards.

Leadership/Leadership/Engineers for a Sustainable World Fall 2014-present
- Elected Advertising and Outreach Coordinator in 2015.
- Position focuses on event planning, communications and social media.
- Actively leads and participates in ESW club and volunteer activities, including park clean-ups with Buffalo Riverkeeper and ReTree the District.
- Attended 2015 National Conference in Rochester, NY.

Alliance for the Great Lakes, Fall 2014
- Collected data, including bacteria, ambient temperature, water temperature, and park use at Gallagher beach for later use in environmental site characterization report.
- Conducted preliminary wildlife surveys.
- Maintained site for 10 weeks through UB Honors College.

Other Skills: Spanish language-working knowledge
Microsoft Office-proficient
Field data collection
Maple-some experience
MatLab-some experience
Oral and written communication