

March 16, 2009

RGGI Programs  
Attn: Dave Coup  
NYSERDA  
17 Columbia Circle  
Albany, NY 12203-6399

Re: NYSERDA Operating Plan for Investments in New York under the CO<sub>2</sub>  
Budget Trading Program and the CO<sub>2</sub> Allowance Auction Program

Dear Mr. Coup:

On behalf of the College of Nanoscale Science & Engineering (“CNSE” at the Albany NanoTech Complex), CNSE’s Energy and Environmental Technology Application Center, and New Energy New York, a consortium of New York energy-related technology organizations convened to expand and promote energy technology excellence in New York State, we respectfully submit the following comments to the draft “Operating Plan for Investments in New York under the CO<sub>2</sub> Budget Trading Program and the CO<sub>2</sub> Allowance Auction Program”, published February 25, 2009 (“Operating Plan”).

We congratulate you and your staff on the completion of this Operating Plan. It is apparent that a huge amount of effort was deployed to determine how to invest the proceeds of New York’s carbon cap and trade auctions (“Cap & Trade Auction”), to be conducted pursuant to the Regional Greenhouse Gas Initiative (“RGGI”).

We appreciate your willingness to include a small portion of Cap & Trade Auction proceeds to Advanced Industrial Research and Development in Clean Technology; however, the amount is not nearly enough to fund the critical multidisciplinary objectives outlined by NYSERDA in order to attract high-tech manufacturing companies or to leverage the large amounts of federal funding that will be made available in these areas. Research and development of renewable power generation and renewable transportation fuels are essential to jumpstarting manufacturing industries leading to huge growth in the Green Job market. The potential growth in Green Jobs is significant, the largest areas for growth are renewable power generation and renewable transportation fuels. The US Conference of Mayors report, [Green Jobs in the U.S. Metro Areas October 2008](#), forecasts over 2.2 million jobs being created in the U.S. in the fields of renewable power generation and renewable transportation fuels by 2028. The job creation in these two markets is also likely to lead to the creation of over 1.1 million additional high paying jobs in engineering, legal, research and consulting. New Yorkers not only deserve these jobs; we need them to rebuild a robust New York State economy. Focusing on R&D, manufacturing, and business development will be more effective in securing those jobs

for New York than other solutions intended to be implemented quickly; for example, the Green Jobs in the U.S. Metro Areas report estimates that only 81,000 jobs are likely to be created through residential and commercial retrofitting (deployment) to increase energy efficiency, of which most are temporary construction jobs likely to be filled by current construction workers.

New York State is uniquely positioned to assume a national, - if not international - leadership role in the research, development and manufacture of renewable energy and energy efficiency technologies in a way that directly results in job creation and economic growth. The State was remarkably successful in pursuing and securing thousands of high-paying jobs in the nanotechnology sector, a fact which has not gone unnoticed in the high-tech business community. As a proven leader in such initiatives, New York can leverage its experiences in nanotechnology and similarly pursue and secure investment and jobs in high-tech, renewable energy markets. With the right emphasis on implementation of CleanTech research, industry and economic development partnerships, similar to the Albany Nanotech Complex at the College of Nanoscale Science & Engineering, and a focused, significant financial commitment, New York can seed thousands of the new CleanTech jobs. However, this historic opportunity will pass New York by if it does not act now, with the singularity of purpose shown by the State when it decided to make New York a world class leader in nanotechnology.

Without sufficient funding, opportunities to bring private and federal money into the State through partnerships with industry and the government will be lost. We propose that a larger portion of the proceeds from the Cap and Trade Auction than is allotted in the Operating Plan, be utilized to establish multiple (at least three) Clean Energy Advanced Research Centers ("CLEAR Centers") with specific core capabilities around New York's intellectual and manufacturing assets. Each CLEAR Center should coordinate CleanTech activities within its region and/or technology focus, based on the resources and energy clusters that already exist. The proposed CLEAR Centers should be based at universities and foster growth through state-of-the-art R&D, manufacturing, and prototyping facilities, human talent development, workforce training, and partnerships between industry, government, and R&D facilities. New York, as a member of RGGI, with the single largest portfolio of auction allowances, is in a unique position to use a large portion of RGGI funding to leverage industry and federal government investment in the State. The SBC and federal block grant programs, if managed effectively, can provide the state with energy efficiency and environmental justice, however, those funds will have limited applicability to research and economic development.

We must address climate change through carbon emissions reduction. Deployment of existing technologies is certainly part of the solution; however, deployment of existing technologies will only result in incremental change. The enormity of the problem of Climate Change mandates that we innovate, invent, take risks and work together. Establishing CLEAR centers will do just that and will put New York at the forefront of the Clean Tech Economy.

Moreover, the RGGI proceeds must be structured and funded in a manner that allows for programs to shift based on market forces, successful research and availability to leverage private or federal funding. New York cannot repeat the circumstances of the Renewable Portfolio Standard where a very few wind developers were funded to the detriment of solar energy, biomass, smart grid, and energy efficiency. It is essential for the RGGI funds to have the ability, authority and flexibility to focus on new breakthrough technologies that are most productive and to quickly eliminate those that don't meet targeted goals. The world is changing at an unprecedented pace and flexibility of funds is required to allow research, manufacturing and deployment to follow market forces. Identifying specific quantities of funding at this time without the flexibility to move it around, as is done in the Operating Plan, will paralyze the advancement of research and development opportunities leading to manufacturing of clean energy technologies and high paying jobs. Further, it is just not necessary. If larger portions of the RGGI funds are made

available to the CLEAR Centers, with the requirement that these research dollars be leveraged, you have a built-in mechanism to guard against fraud and cronyism.

By encouraging activities that add to the State's desired energy technology portfolio, based on an Energy Roadmap and long term Energy Plan, the CLEAR Center's programs will result in substantially reduced carbon emissions. Each CLEAR Center will act as the hub of a wheel connecting a network of organizations which will include energy incubators, research centers, existing energy clusters at New York's universities and colleges, industry, government, investment capital and global markets. There is no system in New York that currently makes these necessary connections because there is no funding for this activity. The CLEAR Centers would play this important role and thereby leverage and attract much needed industrial and federal investments, thereby creating economic development and long-term green jobs.

To develop these CLEAR Centers and to foster collaboration amongst university, industry and government partners, it will be important to establish a seamless organizational structure for the CLEAR Centers that enables implementation of programs quickly, allowing for flexibility, fluidity and accelerated commercialization of clean energy technologies. The proposed CLEAR Centers should establish a governing board (appointed by the governor, NYSERDA, DEC etc.), an advisory board (members from industry and experts from organizations outside of the state), and a leadership team (representatives from each center) in order to build a sustainable and solid management plan. The governing board will be actively engaged in coordinating activities of all participating CLEAR Center organizations through the program review process, so that resources particular to individual institutions are appropriately leveraged and opportunities addressed across institutional boundaries. An industrial advisory board to the CLEAR Centers will be carefully selected from collaborating companies to provide guidance and recommend direction to the executive team and the executive director. The role of the leadership team will be to review, develop, and refine the initial strategic plan to address the research, education, and knowledge transfer missions of their center, to establish the budget and to make funding allocations based on recommendations from the advisory board and governing board. This will be the result of a collaborative effort and a democratic process.

The leadership team from each CLEAR Center will also develop and foster strong administrative, research and commercialization relationships among all partner institutions and their respective industrial collaborators so that the vision and strategic research plans can be implemented and can evolve as needed. Formal memorandum of understandings from all partner organizations will be executed to ensure involvement with the CLEAR Center throughout its lifetime. Each CLEAR Center's leadership must be authorized to make key decisions and delegations related to operational tasks for the smooth functioning and sustained success of the center. This will include identifying responsibilities for activities at each participating organization to ensure active collaboration among programs, thrust areas, and institutions. During this process, the leadership team will ensure that the strategic plans maintain focus while addressing development of all programmatic components, and particular attention on areas that will be measured as a part of the overall program's review process.

The core mission of the CLEAR Centers will be to work with company partners to jointly develop progressive renewable technology that can be effectively used in the marketplace. By conducting research in partnership with companies, the university-based research effort will be focused on the most promising and useful technology. **Through the creation of CLEAR Centers across the State, and by broadening the State's existing policies and incentive programs to reduce market and policy related barriers to entry for CleanTech products, New York can harness the inherent strengths and diverse capabilities of its many communities into an engine for robust economic growth, job creation, and social gain.**

Please accept these comments to the Operating Plan on behalf of CNSE, CNSE's Energy and Environmental Technology Application Center, and New Energy New York. We are happy to make ourselves available to NYSERDA or the Advisory Committee, if you have additional questions concerning the matters outlined above.

Sincerely,



---

Pradeep Haldar  
Head, Nanonengineering Constellation  
University at Albany, SUNY



---

Tom Birdsey  
Chairman, New Energy New York