



www.e2.org

State of New York
Public Service Commission

Proceeding on Motion of the Commission to Consider a Clean Energy Fund
Case 14-M-0094

Environmental Entrepreneurs

Response to New York State Energy Research and Development Authority
Clean Energy Fund Proposal
December 4, 2014

Environmental Entrepreneurs (E2) is a national community of business leaders who promote sound environmental policy that builds economic prosperity. We provide an independent, nonpartisan resource for understanding the business perspective on environmental issues, and help shape state and national policy that's good for the economy - and the environment. Nationally, E2 members have founded or funded 1,700 businesses that have created almost 600,000 jobs; E2's New York members have founded or funded 75 companies that have created over 44,000 jobs.

Thank you for the opportunity to comment on Case 14-M-0094: the Motion to Consider a Clean Energy Fund.

GHG Emissions Reduction

The design of the Clean Energy Fund Proposal (herein "the CEF Proposal") has three stated outcomes: first, "achieve greater levels of scale for clean energy"; second, "attract private capital to invest in clean energy in New York", and third, as a result of the prior two, "significant reduction in GHG emissions from New York's energy sector.

Unarguably, the CEF component programs will contribute to meeting the state's GHG reduction goals – 80% by 2050. But there need to be explicit 10 year goals that correspond to the term of CEF, so that the state can prioritize programs, assess progress and make mid-course corrections. We urge that the goal be appropriately aggressive, with interim targets along the lines proposed by the NGO Joint Commenters (Pace Energy and Climate Center et al) in their July 18 filing in the REV proceedings^[1]. Experience with performance targets in the areas of pollution control and fuel efficiency have demonstrated that businesses can achieve stretch targets if the rules are clear and consistent, and the decisions as to "best" technologies are left to the marketplace.

We urge NYSERDA to develop a set of overarching GHG objectives and metrics, which address the questions and issues posed below:

Objectives

What 2025 objectives are consistent with 80% emissions reduction by 2050, both in terms of actual reduction achieved and program/technology development "in the pipeline"? For example, what state energy codes and new technology introduction should be in place by 2025?

For such 2025 objectives, what contribution is each of the proposed CEF programs expected to

make? In total, do the programs achieve the 2025 objective?

What is the “gap” that CEF is targeting, between emissions reductions that will occur under a “business as usual” scenario and the 2025 target? Some reductions will occur regardless of CEF: modern/efficient building stock replacing old; modern/efficient HVAC equipment replacing broken ones; modern/efficient natural gas heat replacing older/inefficient oil heat; and increasingly stringent federal efficiency standards. Which programs will contribute the most to closing that gap?

Metrics

We currently operate in a world of “second best” metrics for measuring emissions reductions and providing price signals. They are based on an implicit premise that all kilowatt hours are the same, or at best, broadly differentiated by “on” and “off” peak pricing. They are not. kWhs are produced season to season, day to day, and hour to hour from a wide range of generating resources; with different fuels, efficiencies, environmental emissions, and costs; and subject to varying state of grid congestion, especially in the urban core.

For example, programs like Energy Star apply an “average” emissions reduction number from energy efficiency. While this approach has the merit of simplicity for manufacturers and consumers, it ignores the reality that GHG emissions are a source problem, not a problem at the consumption site. In order to maximize emissions reduction at the systems level, we encourage NYSERDA (in conjunction with the utilities and/or the national research labs) to develop a metric which captures actual emissions from the multiple sources of energy, so that the aggregate impact of efficiency measures can be measured and initiatives can be prioritized.

Price signals, as currently structured, have the unintended consequence of discouraging “energy smart” building operation. In this we concur with the Real Estate Board of New York comments of October 27 on the REV proceeding. Demand charges designed for revenue collection, and electricity prices that are flat (or priced in broad bands), are disincentives to economic building investment and daily operation. Shifting the equation to real-time pricing for energy consumed and flat demand charges by category of building/user to reflect the cost of the grid would provide the powerful incentives for efficient building operation and investment in appropriate solutions. Many of those measures would reduce GHG emissions with modest or no capital investment.

Retail price signals also mask the significant opportunities for building/grid integration, especially in grid-congested metropolitan areas. While optimization of large commercial building design and technologies are increasingly sophisticated, such optimization is intended to minimize end-use consumption and expense at the retail meter. This retail meter boundary ignores the potential contribution that commercial buildings can make to grid economy, efficiency, reliability and environmental performance.

While the necessary changes to the tariff structure are part of the REV proceeding rather than CEF, per se, both of these price-signal related issues lie squarely within the topics that should be addressed by the CEF Market Development program.

Market Development (CEF Proposal Section V)

Whereas the REV process is focused on the role of the utilities (as DSPs) in incorporating distributed energy resources, the CEF Proposal implicitly recognizes that a much wider range of business groups needs to be engaged to achieve the state’s GHG reduction goals.

The desired outcomes of CEF are essentially business enterprise activities. That implies a management team with: 1) start-up experience, especially creating new and significant businesses from scratch; 2) go-to-market business experience, especially the ability to deploy solutions at scale; and 3) the ability to manage and deploy broad public/private partnerships committed to the objective, including municipalities, retail associations, real estate owners, and bankers, in addition to the utilities.

The NY Green Bank brought on experienced bankers to run that organization in a way that is sensitive to commercial banking practices, while still part of NYSERDA and therefore adopting NYSERDA metrics and targets, and advised by a wider community. We recommend that that the Market Development

initiative be structured in a similar fashion, with experienced business management team at the helm. Semi-annual advisory board meetings attended by industry players are helpful, but not sufficient.

The Market Development activities summarized in the CEF Proposal (p.25-29 and Appendix B) reads like a litany of programs rather than a business strategy. Only once the objectives have been clarified, per our comments above, can NYSERDA prioritize amongst the various programs and initiatives.

Technology and Business Innovation (CEF Proposal Section V)

The refinements to NYSERDA's approach to innovation investments as described in the CEF Proposal (p34-35) – a focus on high impact priorities (eg. GHG reduction), a path-to-market focus, and portfolio level management – are welcome to us as environmental entrepreneurs and investors.

If the new approach is to have impact, it is important that all programs (whether run by NYSERDA, NYPA or LIPA) be coordinated in a more streamlined, business sensitive fashion. Faced with uncertainty about the state's goals and the impact they will have on demand for a business's products and services, as well as the economics of a business, companies will simply locate outside the state or defer hiring and investment decisions.

There must be more accountability for the speed at which demonstration projects are implemented. For example, NYPA operates an emerging markets initiative (EE-INC or Energy Efficiency Innovation Collaboration) that gives new technologies an opportunity to be tried in government buildings – but after two years in operation, few emerging technologies have been installed in public buildings. And even when a company's products have proven valuable, it continues to be particularly difficult for small companies to do business with utilities – they can't survive long sales cycles, long contract negotiation periods, long lags between demos and commercial stage projects, long lag times for PSC approvals and long implementation processes. These characteristics are negatives for outside capital providers.

Entrepreneurial companies face a particular set of challenges, which CEF will want to address. NYSERDA's emerging markets professionals are highly qualified, but primarily bring a technical/engineering perspective. The leadership for CEF's "path to market" initiatives has to include business professionals with experience in defining strategic objectives, growing operations, raising capital and recruiting talent, who can take on the role historically played by the VC community (now largely absent from the clean tech space). Given the hurdles in transitioning to later stage commercialization, the metrics for "success" of emerging technology programs and incubators should go beyond "venture capital raised" to include longer-term revenue growth and success in creating sustainable businesses.

As business people and entrepreneurs, we are supportive of the shift to markets embodied in the proposal... but there is still a role for "smart" incentives. Two examples:

- CEF wants to catalyze strategic partnerships between large corporations and start-ups (p. 81), but these are unlikely to occur without incentives. (Big players will engage with start-ups based on their own best interest, not because the state asks them to engage.) As an example of an incentivized collaboration program, [the BIRD Foundation](#) awards up to \$1mm to Israeli/US collaborations, typically between one start-up and one large corporation.
- The lack of "take-up" of some incentive programs has been a function of the program structure. For example, the current NYSERDA programs for heat pumps and natural gas boilers offer small subsidies with a fair degree of paperwork, causing many contractors to skip the subsidy and install whichever product the customer finds attractive on a cost basis. "Smarter" subsidies could, in this instance, stimulate consumer adoption of these desirable clean technologies.

Fuel Neutrality (CEF Proposal Section VI)

The fact that fuel neutrality has been included in the CEF Proposal is a positive step. Until now, we've

been living in a “fuel siloed” world where limited NYSERDA resources for cleaner, more efficient thermal options have been a drag on the marketplace. However, the Proposal is light on details and direction as to how fuel neutrality is to be encouraged and financially supported. By prioritizing and properly incentivizing GHG emission reductions, fuel-neutrality should become integral to the new efficiency programs. With an accurate carbon emissions metric, the most effective measures would win on the merits, regardless of fuel.

Adopting a truly “fuel neutral” approach widens the scope of mechanisms available for reducing GHG emissions. One example: give utilities the ability to invest in electric-vehicle infrastructure that would then reduce transportation GHG emissions – and simultaneously provide them with a new revenue source.

Sequencing the Transition

The broad outline of NYS’s energy vision is clear – responsibility for energy efficiency and distributed generation deployment will shift from NYSERDA to the utilities. However, the sequencing is not at all clear. Will there be a gap between the “ramp down” of NYSERDA programs, and the “ramp up” of utility programs? How can the utilities file Energy Efficiency Implementation Plans without having the rate structure and performance metrics in place? In short, how do we make sure that the various building blocks of the reform fit together so that we don’t lose momentum on energy and efficiency savings? This is especially important as we transition from central procurements of ~\$1B per year to distributed rate-based utility programs. The proposed CEF \$5B over 10 years has \$1B committed to NY Sun and another \$1B for the Green Bank, so the net ~\$3B remaining will be 70% less than current funding.

The importance of clarifying these issues soon is key – companies are executing against existing programs goals, new companies are making decisions to enter New York market (or not). Entrepreneurs will come to NYS if there is a real opportunity, but they have alternatives and won’t wait for a long drawn out process.

Conclusion

GHG reductions can’t just be an “outcome”. NYSERDA needs to develop a set of overarching GHG objectives and metrics that enable it to prioritize programs, assess progress and make mid-course corrections. We urge that the goals be appropriately aggressive, with interim targets that ensure the state is “on track” to achieve its emissions reduction goals. This is not a “typical” state agency project. Given the focus on “market transformation” it is critical that the Clean Energy Fund leadership bring the right business skills -- experience in building and scaling businesses, as well as managing broad public/private partnerships. Programs must operate in a streamlined, business sensitive fashion (not always the case in the past), with “real world” appreciation for the challenges facing early stage companies.