



August 14, 2015

**VIA ELECTRONIC FILING**

Hon. Kathleen H. Burgess  
Secretary to the Commission  
New York State Public Service Commission  
Empire State Plaza, Agency Building 3  
Albany, New York 12223-1350

Re: Case 14-M-0094 – Proceeding on the Motion of the Commission to Consider a Clean Energy Fund. Also cases 13-M-0412, 10-M-0457, and 07-M-0458

Dear Secretary Burgess:

The Advanced Energy Economy Institute (AEEI), on behalf of Advanced Energy Economy (AEE), the Alliance for Clean Energy New York (ACE NY), the New England Clean Energy Council (NECEC), and their joint and respective member companies, submit for filing these comments on NYSERDA's *Clean Energy Fund Information Supplement* in the above-referenced proceeding, in response to the *DPS Notice Regarding Comments* issued on July 2, 2015.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Ryan Katofsky", with a stylized flourish at the end.

Ryan Katofsky  
Director, Industry Analysis  
Advanced Energy Economy Institute

# **Comments of Advanced Energy Economy Institute, the Alliance for Clean Energy New York, and the New England Clean Energy Council on NYSERDA's Clean Energy Fund Information Supplement**

## **Summary, Introduction, and Background (Chapters 1, 2, and 3)**

AEEI, NECEC, and ACE NY welcome the opportunity to comment on this filing. We appreciate that this filing represents a significant investment in clean energy technologies and energy efficiency - \$5.3 billion over 10 years. We also recognize that this proposal represents a \$1.5B reduction in total bill surcharges, resulting from a drop of \$91.1M in surcharge collections from 2015 to 2016 that continues for the 10 year period, and then further reductions in surcharge collections each year from 2016 – 2025.

We also appreciate that the Information Supplement recognizes that there needs to be a smooth and gradual transition in NYSERDA programs, so as not to disrupt markets and clean energy industries currently operating in New York, a view that our organizations have expressed in previous comments. We support the inclusion of additional funding (\$96M in 2016, \$42M in 2017, and \$9M in 2018) to help facilitate this gradual transition.

We are looking forward to working with NYSERDA as investment plans are developed and as current programs evolve, both for the suite of energy efficiency programs outlined and for the emerging on-site technologies.

We support the \$150 million for a 2016 Large-Scale Renewables (LSR) solicitation and reiterate the importance of getting a new LSR Program in place. We support the soft cost and market development concepts for LSR put forward in the CEF, especially the programs for offshore wind (OSW).

However, we believe that Investment Plans should be issued for public comment and Commission approval given the importance of program details and funding levels to both

consumers and the markets. The CEF proposes annual Investment Plans with three-year rolling budgets, which appears to allow for changes to programs and funding levels, including elimination, with little notice. NYSERDA is aware of the detrimental effect of uncertainty and abrupt policy shifts on developing markets, and we therefore suggest that NYSERDA's understandable need for flexibility to adjust to market developments (or lack thereof) be balanced more appropriately with providing market stability and transparency to distributed energy resource providers and other stakeholders.

We also remain concerned about the role of energy efficiency across the REV-related proceedings as a whole – including the CEF and ETIPs. As NYSERDA ramps down existing energy efficiency programs, the utilities' plans for the 2016-2018 cycle of energy efficiency programs appear to reflect a flat rate of energy savings. This results in a decline of total energy savings, at least in the short term, until new initiatives are proven effective. Such backsliding on energy efficiency savings will hurt New York's progress toward the goals of its State Energy Plan (SEP) – including the 23% reduction in building energy consumption by 2030. We do not see any recommendations in either the ETIPs or the CEF to ensure that this gap is addressed. Adding to this concern are the actions by at least one utility to lower energy savings goals in its recently filed ETIP – by 10% in one instance. While such a move might be justified from an operational standpoint, the result of utilities unilaterally reducing their MWh targets could be an even further loss of momentum toward the state's energy savings goals.

The American Council for an Energy Efficient Economy (ACEEE) echoed this concern in an August 10, 2015 blog posting, expressing concern that only one New York utility, National Grid, submitted a plan in accordance with the PSC's goal of increasing energy savings targets over time. The blog stated that "if the PSC wants the other utilities to increase their energy efficiency savings, they will need to be more explicit in setting new targets and not just letting the utilities base their energy savings targets on past achievements." It further suggested that the PSC should direct utility transition plans to include specific targets for new construction, multifamily, and single-family retrofit programs to help compensate for the loss of similar NYSERDA efforts.

Indeed, the New York State Energy Plan set a goal of 600 TBtu in energy efficiency savings by 2030. This translates into a reduction of 1.5% of annual distribution sales per utility over the 15 years, yet ACEEE’s analysis shows that all of the utility plans fall short of this goal for the first three years, though National Grid’s comes the closest (see table below).

**Energy Efficiency Savings as a Percent  
of 2013 Distribution Sales**

Utility	2016	2017	2018
ConEdison	0.4%	0.4%	0.4%
National Grid	0.9%	1.1%	1.2%
NYSEG	0.4%	0.4%	0.4%
Central Hudson Electric & Gas	0.8%	0.8%	0.8%
Rochester Gas & Electric	0.5%	0.5%	0.5%
Orange & Rockland	0.6%	0.6%	0.6%

Source: ACEEE. See blog for calculation details. <http://aceee.org/blog/2015/08/new-york-s-rev-recent-filings-show>

We applaud Con Edison for proposing in its ETIP performance incentives for achieving energy savings, allowing for achievement of up to 120% of performance goals in its portfolio. In this way, the company acknowledges that with the right formula of incentives, it could increase targets – an indication that higher targets are within reach of the utilities when combined with the right policies.<sup>1</sup>

While we understand that the CEF pertains to NYSERDA’s future role, it is clear from the whole picture provided by the twin efforts of the CEF and ETIPs that the shortfall in energy efficiency savings identified here will need to be addressed if the state is to reach its 2030 goals. It will also be important to resolve this issue without re-establishing the long-

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<sup>1</sup> Draft Energy Efficiency Transition Implementation Plan (ETIP) 2016-18, Con Edison Company of New York Inc., July 15, 2015, Case 15-M-0252

standing competition between NYSERDA and utility programs for kWh savings and customers that has hampered progress toward energy savings and carbon emission reduction goals in New York over recent years.

#### Chapter 4: Goals

AEEI/ACE/NECEC support the proposed CEF goals of:

- GHG emissions reductions, as measured in tons of CO<sub>2</sub> reduced;
- Reductions in customer bills;
- Energy efficiency and clean energy generation, measured as MW, MWh, and MMBTU; and
- Mobilization of capital, as measured as total public and private investment in clean energy technologies.

We also believe that analysis is needed of the three recently announced 2030 SEP goals and how the CEF efforts will contribute to them, as well as how other initiatives (REV, LSR, CCA, NYPA, LIPA) will contribute to these goals (40% reduction in energy sector GHG emissions; 50% renewable energy; and 600 TBtu in energy efficiency savings.)

We note here that NYSERDA has amassed decades of experience pioneering clean energy programs and investing significant ratepayer dollars in creating an infrastructure of innovation and market transformation, both key goals of REV. It is worth a careful analysis of best practices and assessment of what has worked and what has not in NYSERDA's current portfolio so the investment to date is properly leveraged to cost-effectively support future efforts. And while we appreciate that continual increases in the SBC are unsustainable over the long run as a funding source for EE programs, funding for NYSERDA should be sufficient to ensure that it can continue to guide critical energy policies, set statewide standards and protocols, and foster market transformation. The \$91 million reduction in funding for NYSERDA, for example, is a significant cut that will have an impact on NYSERDA's ability to support achievement of State goals.

## Chapter 5: Portfolios and Proposed Initiatives

AEEI/ACENY/NECEC supports the general structure of CEF, including the four portfolios. In previous comments, we highlighted the importance of a smooth and gradual transition in NYSERDA programs, and we appreciate that the CEF Information Supplement offered a more gradual transition than was previously proposed for several programs. We want to continue to express the advanced energy community's sensitivity to abrupt and disruptive changes and underline the importance of a stable market structure to maintain private investment levels for both core energy efficiency programs and customer-sited generation technologies during this transition period.

With respect to energy efficiency specifically, NYSERDA's programs were initially created as a way to overcome market barriers. Since energy efficiency programs were launched in New York State, many have helped bring technologies, services, and products to market so successfully that they became self-sustaining, no longer needing incentives, an important step to achieving the REV objective of market transformation. Examples range from household refrigerators to industrial motors, and include new state and federal efficiency standards and changes in building energy codes. In nearly all of these cases, the transformation of the markets would not have occurred absent the intervention of energy efficiency programs derived from public policy choices and regulatory oversight.

Compared with other DERs, energy efficiency has a unique set of market barriers and high hurdle rates for adoption, since consumers choose among a complex set of measures to improve building performance. Barriers include split incentives, competition for consumer dollars, capital investment billing cycles, long pay-back periods, insufficient product knowledge among end users, retailers, and market channel actors.

These barriers exist regardless of the program sponsor, whether NYSERDA or the utilities. As EE programs migrate to the utilities, there will need to be wide latitude given to the utilities to encourage customer adoption according to well-honed marketing practices and

principles. It is hard to think of any industry that does not provide inducements, from rebates to low-cost financing, to buy the products it offers.

We support the notion that ratepayer surcharges cannot continue to increase into perpetuity, but clearly there is a continuing role for public investment to help meet the goals of REV, as evidenced by this CEF proposal. In viewing the CEF and ETIPs as equal parts of a whole energy efficiency portfolio, it will be important to recognize the specific and ongoing market barriers that led to incentive and technical support programs in the first place and that call for some level of continuation, at least until the promise of REV markets becomes a reality.

## **Chapter 6: Market Development Initiatives and Evolution of Previously Authorized Programs**

Many of the most important details on program implementation, such as measures to be employed, budgets, and incentive levels, were left out of the Information Supplement and are to be published in the Investment Plan, leaving market actors with a significant information gap on how these programs will take shape in the future. Parties should have the opportunity to comment on the Investment Plan, as it is a key element of the Clean Energy Fund.

### **6.1 Commercial**

We support the inclusion of Real Time Energy Management as a new initiative. There are a number of companies that can provide comprehensive data monitoring and analysis to end-users and significantly reduce energy usage through behavioral and process modifications and automated control of building systems.

We further support the expanded use of C-PACE to allow for outside financing to support the energy efficiency market in New York. PACE programs are starting to experience success in states across the U.S., leveraging state and utility-run energy efficiency incentives with outside financing opportunities. However, NYSERDA will need to play a prominent oversight role, setting and maintaining rigorous quality control standards and

protocols, standardized across all utility territories, to ensure the protection of consumers as well as the efficacy of measures and resulting energy savings.

We commend NYSERDA for including initiatives that leverage new analytical tools to transform the way commercial sector energy efficiency and demand-side resources are procured in New York. We particularly support the goal of launching new programs under the category of “Auditing and Related Information Assets.”

However, we caution NYSERDA against creating a separate silo for building analytics and related technologies, which in reality can support many of the new initiatives and program areas described in the CEF. For example, today’s state-of-the-art auditing and analytics information technologies complement the goals of many initiatives including:

- “Energy Efficiency Payback and Co-Benefits Analysis” – by providing detailed analysis, quantification of savings potential, and ROI
- “Expanding Access to Data and Information” – by supporting market analysis, segmentation, and understanding of buildings in New York
- “Aggregation and Replication Initiatives” -- by evaluating distributed energy resource potential at scale across large portfolios of similar buildings
- “Building Labeling/Asset Scoring Initiative” – by enabling automated building ratings to be produced at scale across large building portfolios

Finally, we urge NYSERDA to clarify its goal to “acquire models/algorithms as well as building data for analysis...” (p. 57). Specifically, we are concerned about the intent of the word “acquire.” While we support the goal of information sharing and adoption of sophisticated models, third-party-owned technologies are further developed, validated, and field-tested than open source or other models that could be “acquired” by NYSERDA. Therefore, NYSERDA should look to leverage the best of today’s commercially available technologies, rather than stepping back and expending time and resources reinventing technologies that already exist.



## 6.4 Multifamily

We support NYSERDA's proposal to create a multifamily marketplace wherein building energy performance is recognized as an asset and the process to improve performance becomes simpler and more routine. NYSERDA will transition away from providing principally open enrollment incentives to focus on a more market-based approach.

However, comparing programs for multifamily customers, the NYSERDA Information Supplement and the Con Edison ETIP include overlap, duplication, and omissions.

Although NYSERDA continues to operate the MPP Market Rate Program for an additional 2 to 3 years, this is proposed as a transition to ultimate utility takeover of the program. The bulk of NYSERDA's multifamily budget goes to support LMI initiatives, which NYSERDA proposes to continue. Con Edison's ETIP explains it has only served 8 customers in its low income program, yet offers an expansion of LMI initiatives in direct competition with NYSERDA. The time has come to cease this program competition. The budget for Con Edison's low income effort should be redirected elsewhere, in keeping with the goal of ease of program access for customers.

Further, NYSERDA proposes to drop its Advanced Submetering Program (ASP), indicating its willingness to talk to utilities about their offering incentives for submetering.

Meanwhile, submetering is not mentioned in the Con Edison ETIP. AEEI/ACE/ NECEC believes there are several reasons for continuing a submetering incentive program under CEF. There are nearly 4,000 master metered buildings where the residents feel electricity is free. The cost-effective energy savings from converting from master metering to submetering should be credited toward the goal in the SEP and will be lost if the program is allowed to end. In addition, Time-Varying Rates have been espoused in the REV proceeding. Today, the only way customers in a multifamily building can take advantage of TVRs is if they reside in a submetered building. In the long run, it may make more sense for the utilities to run a submetering incentive program than for NYSERDA to do so. However, no public policy purpose is served by programs stopping and starting. We recommend the

Commission direct NYSERDA to continue the Advanced Submetering Program until it can be appropriately transitioned to the utilities to operate.

We appreciate indications that incentives will remain through 2017 in the multifamily sector; however, we believe program incentives should remain until new initiatives and markets show they can obtain the needed energy savings in order to prevent backsliding on meeting New York's efficiency targets.

We agree with the proposed changes to existing programs such as removing the 15% energy savings requirement (while encouraging comprehensive projects). The proposal to remove the requirement to conduct a whole building audit also makes sense, provided the result does not repeat or exacerbate competition between NYSERDA and utility programs. For example, buildings should be able to take advantage of all programs that provide appropriate measures and energy savings regardless of program administrator. A simple way of approaching the issue would be for all savings to "accrue" to the utility regardless of program so that they can be combined without conflict. This approach appears to be NYSERDA's intent: "This collaboration will focus on more seamlessly promoting the collective utility/NYSERDA multifamily initiatives with the intent to eliminate any programmatic overlap, market confusion or uncertainty."(p. 75)

## 6.5 Residential

Within residential energy efficiency, we have several concerns about engaging customers and moving them to deeper action on weatherization, heating systems, and related options for their homes. Home energy assessments (HEAs) have been shown to be a fundamental component of cost-effective and equitable residential energy efficiency efforts. Every state ranked in the top quarter of utility programs and policies for energy efficiency by ACEEE in 2014 offers rebates for the combination of home energy assessments and deeper work through their EE programs. Furthermore, programs in the region that include a reduced cost home energy assessment have been shown to drive strong cost effectiveness, achieving benefit-to-cost ratios of 2.85 in Massachusetts in 2014. This current CEF proposal calls for HEA incentives to be phased out, and many utility programs do not include HEA

funding in 2016 or beyond. Current ETIP proposals -- in combination with this CEF proposal -- risk providing a more patchy and intermittent transition for HEAs and other key program elements leading to uncertainty within those programs. Stable and continuous program coverage is needed to continue operating important program elements cost-effectively, such as program-funded comprehensive home energy assessments.

Even where utility programs, as described in ETIPs, are being set up to include residential HEAs in 2016, the structure often appears non-market-driven, with one implementation contractor being selected by the utility to engage customers and carry out assessments rather than a competitive, multi-vendor structure as has been adapted after much experience in states such as CT and MA. Such an approach can limit the innovation, cost effectiveness, and free market benefits available from competitive vendors investing in marketing and customer engagement on their own, subject to program guidelines, rather than relying on program-funded customer engagement. We will provide more detail on this in comments on the ETIPs; the goal should be to have the CEF support statewide practices in utility data sharing and other enabling functions that allow EE vendors to cost effectively target and invest in customer engagement on a level competitive footing.

We also have concerns about an increase in geographic fragmentation within the CEF. Market participants in both residential and C&I energy efficiency services will have to deal with a patchwork of utility territories, programs, and processes instead of working with one program at NYSERDA. This fragmentation significantly increases costs and complexity and interferes with consistent, high-quality service delivery to residents. It also increases customer engagement costs and drives overall program effectiveness down. Further, as discussed above, the CEF proposes budgets that appear to allow for changes to programs and funding levels, including elimination, with little notice. This will have a detrimental effect on developing markets and private investment. We therefore suggest that NYSERDA's understandable need for flexibility to adjust to market developments be balanced with providing market stability and transparency to DER providers. To the maximum extent feasible, we recommend a standardized framework for utility EE program structure and participation to enable simplicity, effectiveness, and economies of scale in

customer engagement efforts that will necessarily span multiple utility territories to achieve the statewide goals. NYSERDA can play a key role in setting statewide standards and protocols for program processes, quality control, and accountability.

We also strongly support NYSERDA's proposal to pilot savings measurement software (referred to as an "efficiency meter") as part of the CEF. The deployment, testing, and acceptance of continuous energy savings from a software based measurement tool is necessary to fulfill the REV business model vision for energy efficiency programs.

We see potential for this pilot to have enormous impact on the energy efficiency industry in New York and across other states that are seeking new approaches to designing and delivering programs that achieve energy savings. In order for this pilot to be successful, we recommend that NYSERDA and the Commission consider several important issues:

- As described in the CEF, the goal of the pilot is to develop "standardized tools and resources" and " support widespread adoption." To meet those needs, the pilot should test enterprise-class software, rather than a one-off solution, and be market ready for program administrators beyond NYSERDA. Additionally, this pilot should endeavor to use existing industry best practices for energy savings measurement and avoid getting delayed by prolonged debates over new models.
- For energy efficiency to meet the needs of the REV business model and address industry-wide challenges with energy savings measurement, the piloted software needs to produce reliable estimates of savings in a timely manner. Measuring energy savings results so that appropriate confidence intervals can be established and relied upon during the course of the program year (i.e. in less than 12 months) should be a clearly stated requirement for this pilot.
- This pilot is more likely to be replicable outside of NYSERDA and New York if it is also functional for utility use-cases. Utility applicability is also relevant as the CEF proposes this pilot will run in collaboration with a utility in 2017. To meet the needs of NY utilities by 2017 and attain the goal of results that can be replicated by other utilities, specific issues should be given careful consideration. The pilot should:

- Meet industry standard IT security protocols.
- Support advanced data analytics that take advantage of the large data sets found at utilities, specifically with those utilities using AMI.
- Be equipped to handle, process and analyze data from robust comparison groups to provide accurate continuous measurement.
- Follow existing industry methodologies employed by the EM&V field, such as IMPVP, ASHRAE and UMP.
- Consider additional benefits provided by continuous project level measurement, such as QA/QC for program and project oversight, program optimization and enhancing customer understanding of energy efficiency.

Finally, in order to ensure that NYSERDA is using the terminology emerging within the industry, we recommend that NYSERDA consider referring to this technology as “savings measurement software” as it is a more literal and descriptive term that will not be confused with a physical device.

We are pleased that NYSERDA is piloting this important industry innovation. We encourage NYSERDA and the Commission to consider the issues we raised and for the Commission to approve this pilot.

Lastly, some of the New Initiatives listed for residential customers could be seen as overlapping with utility activities, particularly those outlined in REV demo projects. For example, within the Information, Awareness and Demand section, the development of an “on-line communications platform” as described could lead to duplicative expenditures by NYSERDA for initiatives already approved and in development by utilities.

## **6.6 Low-to-Moderate Income**

LMI communities often have unique barriers preventing their participation in energy efficiency and on-site generation, and such DER can provide important benefits beyond energy savings. Increased comfort and safety in LMI housing stock and increased community resiliency are important non-energy benefits that should be acknowledged and

factored into program design and evaluation. NYSERDA is correct to target opportunities where energy savings and non-energy benefits coincide.

We recognized language in the CEF that indicates a commitment to better coordination of the low-to-moderate income programs among the various state agencies. This could be a big improvement over current program implementation, and we look forward to increased efficiency and efficacy in programs offered to this often underserved sector.

While the CEF clearly refers to the Affordable Multifamily Performance Program in the text, it should also specifically refer to it by name and include it in Appendix G, Summary of Market Development Initiatives, Transitions, and Timing.

## **6.7 New Construction**

We support NYSERDA's proposal to combine commercial and multifamily new construction programs and to focus on driving deep energy savings and zero net-energy performance. Further, we support NYSERDA's move away from open enrollment incentives to a more market based approach while continuing targeted incentives as a bridge.

## **6.8 Codes**

We support NYSERDA's continuing work on energy codes, including development of the NY Stretch Code. We support the partnership work, especially with municipalities, and the provision of technical assistance and training, as well as fostering the role of 3<sup>rd</sup> party energy specialists.

## **6.9 Emerging Technologies**

### **6.9.1 Storage**

AEEI/ACENY/NECEC recognize the benefits of storage technologies, and we are in favor of NYSERDA's intention to support demonstration projects, develop standard tools, and facilitate data and information sharing in order to reduce the soft costs associated with storage projects using CEF monies. Further, while we understand that recent developments in the REV proceeding can potentially assist storage projects, (e.g. ownership options for

utilities, integration of storage into distribution systems, tariff options in Track 2, and transparency and data sharing requirements that will assist market development) we would support additional deployment incentives for storage in order to bridge the transition period between now and the full development of REV markets. Members companies of AEEI/ACENY/NECEC see opportunities in the bundling of renewables with energy storage as well as the ability of storage technologies to assist in reducing demand during the 100 hours of greatest peak demand, and thereby assist New York ratepayers in realizing the estimated \$1.2 – 1.7 bn in annual savings.

### **6.9.2 On-Site Power Production**

AEEI/ACE/NECEC are in favor of continuing support, through the CEF, for diverse, advanced energy technologies in order to facilitate deployment of on-site energy power production, and believe that supporting the full range of technologies is necessary for New York to realize its full renewable energy potential and achieve the 50% renewable energy goal.

In the very near-term, we support continuing the general features of the current program structures (i.e. rolling admission on first-come-first-served incentives) for small wind, fuel cells and anaerobic digester gas (ADG), and we appreciate that NYSERDA recognized that a precipitous end to these programs would be damaging and disruptive to these emerging technologies.

We look forward to working with NYSERDA to create the next versions of these programs that will support these emerging technologies in the medium-term by facilitating market development, reducing soft costs, and also continuing to overcome cost barriers until they can participate in the mature REV markets and valuation frameworks. These medium-term programs will likely continue to be technology-specific in order to address specific needs, but potentially could become technology neutral over time. Meanwhile, the CEF can also focus on efforts to raise awareness, demonstrate a variety of high-value early-adopter projects, and reduce soft-costs. In any case, the CEF should support all of these emerging

technologies, even though they are not as advanced as solar in the cost reduction phase of deployment, in order to reach the 50% renewable energy goal.

With respect to funding levels, the Information Supplement states that the CEF will support these three technologies at a budget level commensurate with the recent historic actual uptake by these markets, and each individual technology will begin 2016 with a specifically allocated budget amount. On this point, we urge NYSERDA to use 2014 and 2015 data to determine this level so it will be based on the most recent activity levels. As successor support programs are developed for these three technologies with stakeholder input, the question of the level of support should be revisited with the overarching goals of the CEF and SEP in mind.

#### *Anaerobic Digester Gas (ADG)*

The CEF Information Supplement indicates that for ADG, NYSERDA will work with wastewater treatment facilities to outline paths forwards for biogas production; ways to generate additional revenue streams through ADG; and ways to access food waste for use as feedstock in digesters or the use of biocultures and nutrient additives to enhance the performance of digesters. Further, NYSERDA will explore ways to reduce interconnection costs and operating costs. NYSERDA will also focus on the dairy industry.

AEEI/ACE/NECEC support this focus on the dairy industry but note that there are other substantial opportunities, such as on-site or near large sources of organic waste, such as waste water treatment plants (WWTP), campuses (commercial & academic), food processors/manufacturers, and entertainment and sports venues. These developments will necessarily be located in and around major population centers, where base-load renewable capacity and grid resiliency are most needed.

The CEF details new programs to disseminate best energy management practices for agriculture using extension officers and consulting experts. In order to accelerate development in other sectors, particularly at WWTPs and large sources of organic waste,



experts should be deployed to help these sources evaluate options for distributed renewable energy production.

We agree that future ADG expansion is clearly linked to organic waste policy, as acknowledged in the CEF Information Supplement. The Clean Energy for Agriculture Task Force (CEATF) has been designated as the focal point for addressing this challenge. This is a strong first step, but given the non-agricultural opportunities, the CEATF is too narrowly cast to adequately address the full potential of this critical success factor, especially in downstate regions. For example, in the City of New York, the Department of Sanitation is implementing a municipal ordinance to divert organic waste from large sources away from landfill and toward WWTP for supplemental ADG power. Furthermore, CEATF is tasked with considering the challenges related to interconnection. As ADG will be expanding beyond agriculture and from net metering to large-scale generation, we similarly believe the CEATF is too narrowly focused to adequately address this matter fully.

We propose that the CEF consider the development of a “Biogas Roadmap” to form the foundation of broad industry success, taking into account wastewater, solid waste, landfill and merchant project development potential and to investigate the concomitant policy and regulatory frameworks that address barriers and accelerate development.

Further, we propose that the “Campus Challenge” be expanded to include other large organic waste sources, like resorts, sports & entertainment venues, malls, and the like.

### *Fuel Cells*

With respect to fuel cells, the CEF Information Supplement explains that the current incentive program will continue until December 31, 2016, when NYSERDA will identify and support niche applications, citing for example, locations where standard on-site power systems are too loud. The proposal notably did not include any examples of fuel cell initiatives for the Awareness Building, Reducing Soft-costs, and New Business Model Development categories of activities.

The CEF Supplement approach to fuel cells seems to be predicated on the mistaken belief that fuel cells are an “emerging” technology with only “niche” applications. In fact, fuel cells are a very rapidly growing technology of choice for customers that require high-reliability, on-site power. Fuel cell deployment can bring numerous benefits that are goals of the REV proceeding: resiliency and the ability to operate during a grid outage; power generation close to loads; avoiding or reducing line losses and congestion costs; energy density and siting in space-constrained areas that cannot accommodate many other alternatives; reduction of CO<sub>2</sub>; non-combustion operation, eliminating criteria pollutants such as NO<sub>x</sub>, SO<sub>x</sub>, and particulate matter; reduction of water consumption; grid support; base load; and various levels of load-following services. All-electric fuel cells can be deployed in many locations that are simply unable to accommodate CHP due to the lack of co-located thermal and electric loads. As REV implementation proceeds and more granular locational-based distribution system data is available, the ability to site reliable generation with high precision will become increasingly important. Where there is not a matching thermal and electric load, fuel cells represent one of the cleanest and most reliable options for customers. It is important that the CEF Supplement recognize the synergies that fuel cells can provide for early REV implementation and support fuel cells on even terms with CHP.

Like CHP, fuel cells expect to realize market support through new REV rate structures and utility incentives, as well as revised standby charges. As the CEF Information Supplement points out for CHP, these changes will improve the economics for fuel cells, but will not be available right away. Also, the 30% federal investment tax credit for fuel cells expires on December 31, 2016. NYSERDA should view the intervening time frame as an opportunity to leverage federal funding into high resiliency energy infrastructure for New York. In contrast to fuel cells, the CEF proposes both a continuation of direct CHP incentives, although at unspecified declining rates, as well as a suite of CHP soft cost activities related to communications and awareness and technical assistance and tools. These activities, described on pages 105 and 106 of the Information Supplement, could logically be extended to encompass fuel cells. This could be especially relevant for “simplifying the CHP purchase” and “tools and methods to explore hybrid solutions.” In both of these initiatives, fuels cells could be included in order to give potential customers the full range of options to

meet their needs. We request that NYSERDA include fuel cells in the soft cost initiatives and financial incentives for CHP. Establishing the same energy and environmental benefit requirements and incentive levels for CHP and fuel cells would be a more technology-neutral approach that would incent fuel cells to achieve similar benefits.

### *Distributed Wind*

With respect to distributed wind technologies, the CEF Information Supplement states that the current incentive program will continue through December 31, 2016 and will continue thereafter with an emphasis on projects that help on-site wind turbines demonstrate a path to cost-competitiveness. The Supplement states that NYSERDA will seek to identify scenarios where small wind turbines “provide compelling solutions to recurring problems.”

First, AEEI/ACE/NECEC appreciate that the current program for on-site wind was continued for one year, especially in order to take advantage of the federal ITC, and we look forward to working with NYSERDA and small wind members over the next year to craft a next generation incentive program that promotes projects that drive down costs. We think that there is great promise for a competitive program (not first come first serve) that encourages aggregation of projects and aggregation of demand (e.g. replication of the solarize model), or takes advantage of the new opportunity of community distributed generation in New York. This next-generation program for on-site wind will have the simultaneous goals of supporting installations, driving down costs, and delivering new information to NYSERDA regarding market development and methods of cost reductions. It will have a goal of developing an eventual subsidy-free market for distributed wind. To be most productive, this stakeholder process will be informed by a comprehensive analysis of deployment costs and an examination of the potential to reduce each cost type.

We also appreciate that remaining funds for the emerging on-site technologies could be pooled at the end of the year, which serves as strong incentive to make progress on the project pipeline.

Due to the introduction of the wind lease model, the last year of small wind development in New York State has been very dynamic and our small wind member companies look forward to working with NYSERDA to present trends in installation costs per kW and kWh. The small wind leasing model incorporates certain costs such as insurance, interconnection upgrades, and operation and maintenance over the 20 year lease term into the total installed cost. These costs were likely not included in the pre-2013 cost data, and thus are not an apples-to-apples comparison. If we were to segregate these costs, the total installed cost/kW, and certainly the cost/kWh, would be less. This information should be compiled during the stakeholder process to shape the future small wind program.

The CEF Information Supplement does not outline any activities to support distributed wind in the Awareness Building, Reducing Soft Costs, or New Business Development Model activity areas. ACE/AEEI/NECEC would support efforts to reduce soft costs for distributed wind, even as the stakeholder process regarding a new program to drive down costs was still in progress. One approach would be to replicate the unified solar permit approach of NY-Sun. A unified small wind permit could be developed, endorsed by NYSERDA, and provided to municipalities. Additional support could be offered to municipalities to review and adopt the unified permit. In the case of NY-Sun, this support is part of the Cleaner, Greener Communities Program supported by RGGI funding, and we suggest that the same approach be taken for small wind. Another option is to provide a training course for municipal officials in targeted communities on small wind technology, siting, and permitting issues. We believe this type of training could assist in reducing soft costs for this industry.

#### **6.9.4 Products and Integrated Systems**

NYSERDA proposes to promote innovative and underutilized efficiency products. AEEI/ACE/NECEC support this focus on technologies that integrate automation, scheduling, and controls with load management; building and energy system-focused technologies that offer energy data analytics and performance information; and systems designed to achieve deep energy savings. These programs can promote energy efficiency

and assist the product maturation necessary to support the development of the DSP and platform markets.

#### **6.10 Market Enabling Strategies**

AEEI/ACE/NECEC support NYSERDA's proposed activities working with communities (i.e. the NYS Community Partnership) and supporting workforce development. Efforts to develop an online resource platform for communities, events, recognition and certification, and competitions should prove helpful, as will the efforts to engage LMI and higher education communities. NYSERDA can play a key role, as it has traditionally, in promoting high standards for technical and skills training across the state, which provides foundational support for the emerging clean energy sector and helps foster a ready and able labor pool.

#### **Chapter 7: Large-Scale Renewables**

ACE/AEEI/NECEC strongly agree with the benefits of large-scale renewables as characterized in this chapter, including the significant local economic development benefits, greater stability in customer bills due to renewable energy's ability to hedge natural gas prices, and reduced pollution from power generation overall. New York absolutely needs a program to ensure investment in large-scale renewable energy development in New York State, including wind power, hydropower, offshore wind, utility scale solar, fuel cells, sustainably-sourced biomass, and biogas. These technologies are necessary to help New York achieve the 50% by 2030 goal included in the State Energy Plan, but will also bring the benefits of keeping energy dollars in-state, supporting local jobs, achieving cleaner air, and reducing electricity price volatility. We are pleased that the February 26, 2015 Commission Order in REV affirmed the criticality of large-scale renewables, as did the Clean Energy Fund Information Supplement.

ACE/AEEI/NECEC support the inclusion of \$150 million in the Clean Energy Fund for a 2016 RPS Main Tier solicitation, as a gap in large-scale renewable development in New York would interrupt development progress and investment in New York. We very much hope and assume that the new large-scale renewable (LSR) program will be designed and ready to be implemented in 2016 so as to offer procurement opportunities in 2017. If this

turns out not to be the case, it may be necessary to further support the continuation of the program using Clean Energy Fund monies, and we urge NYSERDA to consider that contingency. We note also that \$844 million in RPS Main Tier funds were transferred from their intended purpose into the Clean Energy Fund, while only \$161 million from the CEF is proposed to support large-scale renewables. It may be necessary to reexamine this balance as analysis on how best to achieve the 50% renewable energy goal unfolds.

ACE/AEEI/NECEC have submitted detailed Comments in the LSR proceeding (Case 15-E-0302), but we note here our position that the LSR Program should be target-based and designed to achieve a specified portion of the 50% renewable energy goal. Towards that end, in addition to the LSR soft cost initiatives outlined in the Clean Energy Fund Information Supplement, NYSERDA should develop scenario analyses regarding pathways to achieve the 50% goal, and the new LSR Program should be target-based with a cost cap rather than remain budget-based. For example, if NYSERDA analysis indicates that a cost-effective scenario involves new LSR achieving 20% of total load by 2030, the LSR Program should require utilities to procure new LSR generation at levels necessary to achieve periodic milestones towards that 20% (e.g. 4% in year 3, 8% in year 6, etc.).

The CEF Information Supplement goes on to summarize planned activities to support LSR market development.

- We support the continuation of work on NYGATS and efforts to support the voluntary market. We suggest here that New York State itself, including executive agencies, authorities, CUNY, and SUNY, could be an ideal voluntary market participant and procure renewable energy using long-term contracts to cover its own electricity demand.
- We support continuing NYSERDA analysis regarding how to integrate LSR values, such as fuel diversity and price suppression, into market-based mechanisms.
- We support other activities to improve economics and reduce costs, including potential activities of the New York Green Bank.

- We suggest that support for “smaller” large scale renewables might be ideal targets for this work, as a project that is behind-the-meter but in the 2 – 20 MW range could be more in need of efforts to reduce development and interconnection costs.

### *Offshore Wind*

AEEI/ACE/NECEC agree with NYSERDA in the recognition of offshore wind as an emerging technology with significant development potential in New York State, as well as the description of offshore wind as “vast and vital” relative to New York’s ability to meet clean energy and GHG reduction goals and ensure long-term price stability and fuel diversity for New York consumers. NYSERDA compares OSW to land-based wind 10 years ago in terms of current challenges and a pathway for widespread commercialization. Support from NYSERDA was key to bringing land-based wind to commercialization in New York, and we appreciate New York’s interest in supporting OSW in a similar fashion. We support the intention to use the CEF to reduce OSW development costs, including site and resource specific assessments; assessing project engineering and economic viability; engaging in cost reduction activities; shortening development cycle time; and reducing regulatory and business risks. We appreciate that New York has, “stated its intention to work toward a meaningful long-term commitment to develop the OSW resources to maximize the energy, climate, and economic value for the State,” and that CEF funding will be used to initiate a multi-state collaboration, achieve economies of scale in the supply chain, and support NYS Department of State efforts.

While all of the efforts described above and in section 7.2.4 of the CEF Information Supplement will likely prove helpful, the two primary findings of the NYSERDA/University of Delaware report, *New York Offshore Wind Cost Reduction Study*, referenced in the Supplement were that (1) technology and industry advances are going to reduce the levelized cost of offshore wind energy by 20%, and (2) New York State could directly affect offshore wind costs by an additional 30% by committing to a pipeline of projects, modeled in the study as 4 projects summing to 2,400 MW. The most timely and logical policy mechanism for making this commitment is the proposed LSR Program. NYSERDA’s efforts to support OSW should encompass not only the initiatives listed in section 7.2.4, but also

(and primarily) the design of a specific policy mechanism for committing to that pipeline of projects either through the new LSR Program or in partnership with NYPA, LIPA, and/or NYC, or a combination of both.

## **Chapter 8: Innovation and Research**

AEEI/ACE/NECEC support the innovation and research portfolio as proposed and support the focus on REV-enabling innovation.

## **Chapter 9: Evaluation, Reporting and Transparency**

We support NYSERDA's proposed changes to Evaluation, Reporting, and Transparency in the CEF. NYSERDA has proposed a lighter and more flexible evaluation regime that is better suited to address the proposed market-oriented approaches. We agree broadly that the objectives of transparency and accountability should guide NYSERDA's approach to evaluating and reporting on the results of its initiatives. It will be essential to track progress in order to ensure that the CEF programs are meeting their stated targets.

To ensure that the CEF drives change at the pace envisioned in the plan, we urge NYSERDA to ensure that program evaluation expedites market transformation. In our experience, the evaluation of NYSERDA programs can take significant time and resources from NYSERDA, private sector partners and stakeholders, both in the planning stages and in the evaluation and reporting stages. Delays on either the front or back end of projects can slow the deployment of programs and reduce the pace of innovation. The evaluation planning process must keep pace with the timelines that are necessary to develop new markets, transform existing markets, and spur innovation.

NYSERDA should also treat program evaluation as an opportunity to adopt innovative approaches that enhance traditional practices. The field of energy analytics and evaluation is adapting and changing as new technologies offer ways to increase depth, detail, and speed of evaluation and reporting. NYSERDA should use the CEF programs to test, deploy, and grow the market for such technologies.



## **Chapters 10 & 11: NY Green Bank & NY-SUN**

We support the CEF allocations to the NY Green Bank and NY-Sun. We view NYGB as a promising experiment and look forward to future programming. We support matching capitalization to demand in order to timely meet the needs of NYGB without having funding lie idle when it is needed for other initiatives. Further, we urge NYSERDA to ensure that, as much as is practicable, the NYGB supports a varied portfolio of energy efficiency, distributed renewables, and large-scale renewables, to reflect the original sources of much of the NYGB funding, (i.e. EEPS, SBC, the RPS Main Tier, and RGGI). Further, because the Green Bank is a division of NYSERDA and operated by a public authority, we strongly support its inclusion in the CEF portfolios and the integration of its reporting with the CEF reporting and metrics. The NYGB should strive to maximize transparency and opportunities for stakeholder input, including hosting roundtable discussions with various portions of the clean and advanced energy industry sector.

We enthusiastically support NY-Sun and the capitalization of that effort. We appreciate that the Clean Energy Fund Information Supplement reiterates the State's support for solar and we recognize the success of the State's overall solar program, which includes not only the NY-Sun declining megawatt block incentives, but also the related NYSERDA market development activities and supporting policies, e.g. net metering and tax incentives. The suite of initiatives continues to prove to be successful in supporting and diversifying New York's solar industry sector.

## **Chapter 12: Budget and Benefits**

ACE/AEEI/NECEC support the overall Program Authorization for 2016-2025; Proposed CEF Collections Cap for 2016 and Thereafter; and Anticipated CEF Expenditures. We also support the "Bill-as-You-Go Approach" as well as the contribution of RGGI auction proceeds to the annual CEF budget.

While we generally support NYSERDA flexibility to reprogram funding in the CEF, we believe that unlimited flexibility for the 10-year period is not appropriate for a program of this scale. AEEI/ACE/NECEC put forward the following flexibility framework:

- NYSERDA must seek Commission approval for transferring funds among any of the four portfolios.
- NYSERDA mentions in the Supplement that the rolling, 3-year Annual Investment Plans will be submitted to the Commission. This submittal should take place in the context of this CEF proceeding, with opportunity for public comment.
- We propose that NYSERDA be allowed to transfer funds within the NY-SUN, Green Bank, Market Development, and Innovation and Technology portfolios, and describe these transfers within the rolling 3-year Annual Investment Plans. If during the course of the year, the Investment Plan changes so that one or more programs have a change of +/- 20%, NYSERDA will inform the Commission and the public regarding this transfer of funds between programs within the same portfolio.

AEEI/ACE/NECE support the provision of fuel neutrality for the CEF programs; bureaucratic adherence to fuel silos over the years has hampered the state's progress toward its clean energy goals. Fuel neutrality allows for comprehensive treatment of buildings, capturing electric and thermal efficiencies and their interactions, while adding to simplicity for customers, who will see lower energy bills overall. Further, fully one-third of New York residents rely on heating oil and propane, a fact that needs to be incorporated into comprehensive energy treatments and planning. We also support the use of RGGI allowance proceeds as long as such use is included in the RGGI Operating Plan.

While we understand and appreciate the 10-year timeframe, we believe NYSERDA's effort to address energy issues including climate change and to support emerging technologies (that we cannot imagine today) will not end in 2026. While surcharge collections beyond ten years need not be proposed or authorized at this time, we hope and assume that NYSERDA acknowledges that additional efforts will be needed to meet the state's 2030 emissions reduction obligation under the Clean Power Plan. A recent Union of Concerned

Scientists analysis<sup>2</sup> states that current efforts in New York State will only achieve 45% of the required reduction by 2030, illustrating the need for NYSERDA to plan beyond 2026 to meet those goals.

## Chapter 13: Conclusion

ACE/AEEI/NECEC view the reorientation of NYSERDA's programs as a positive development and we appreciate NYSERDA's concerted and comprehensive effort to re-design their programs to maximize advanced energy deployment, including energy efficiency and renewables, reduce GHG emissions and electric bills, and increase private capital investments in clean energy technologies. Recognizing that the proposal represents a \$1.5 billion reduction in clean energy funds as compared to a 10 year extension of business-as-usual surcharge collections, we appreciate the need to increase the impact of these programs to achieve policy goals related to renewable energy, energy efficiency, GHG reductions, and bill reductions.

With respect to energy efficiency, we remain concerned about the apparent backsliding in achievable energy efficiency savings in the transition period. We recommend either a percentage target for energy efficiency in the electric sector to reflect the State Energy Plan goal or a requirement that utilities pursue "all cost effective" energy efficiency; we believe the overall energy efficiency enterprise needs to be strengthened by a target. We recognize that REV and CEF are rightly pursuing evolution in energy efficiency programming, but we believe that transformation would be improved by inclusion of an ongoing stakeholder effort to inform and monitor progress.

As for renewable energy, NYSERDA's activities under the CEF should continue to support both distributed and large-scale renewables deployment, as well as the full range of RPS technologies. In these support programs, NYSERDA should remain cognizant of the pace of

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<sup>2</sup> Jeremy Richardson, et al., "States of Progress Update." Union of Concerned Scientists. August 13, 2015. Page 19. Available at: <http://www.ucsusa.org/sites/default/files/attach/2015/08/States-of-Progress-Update-Slidedeck.pdf>

development of REV markets and phase out support for on-site technologies accordingly, and not prematurely.

We support New York's continued support of the Green Bank, and look forward to learning more about successful Green Bank projects. We believe that the portfolio of the Green Bank should strive to support a mix of distributed renewables, energy efficiency, and large-scale renewables to reflect the original source and intent of NYGB funds, including SBC, RGGI, EEPS, and RPS Main Tier. With respect to the Green Bank, it should strive for frequent disclosure, maximum transparency, and opportunities for stakeholder input into the operation of this ratepayer-funded, public authority initiative.