

**NYSERDA Commercial/Institutional
Emerging Technology and Accelerated Commercialization (ETAC)
Advisory Group Meeting**
October 1, 2012
1:30 – 4:00pm
NYSERDA Board Room
Albany, NY

Attended In Person:

- John D’Aloia, NYSDPS
- Gordon Furlani, Capital Region BOMA
- Li Kou, NYPA
- Indu Lnu, University at Albany
- Mark Steiner, RPI
- Paul Torcellini, NREL
- Todd Baldyga, NYSERDA
- Tom Barone, NYSERDA
- Chris Coll, NYSERDA
- Marilyn Dare, NYSERDA
- Jason Doling, NYSERDA
- Kathryn Fantauzzi, NYSERDA
- Liz Hanna, NYSERDA
- Janet Joseph, NYSERDA
- Valerie Milonovich, NYSERDA
- Ed Morrison, NYSERDA
- Susan Moyer, NYSERDA
- Megan Oberst, NYSERDA
- Paula Rosenberg, NYSERDA
- Peter Savio, NYSERDA
- Nichole Whaley, NYSERDA

Attended via Conference Call:

- David Gilford, NYCEDC
- Shawn Herrera, DoE FEMP
- Nicholas Holt, Skidmore Owens Merrill
- Ryan Kerr, Gas Technology Institute
- Ron Mineo, Genesys Engineering
- Debbie Pickett, NYSEG/RG&E
- Harvey Sachs, ACEEE
- Chris Smith, Energy 350
- Rebecca Sterling, NYSERDA

Attended via Video Conference:

- Vicki Kuo, Con Edison
- Lee Butler, NYSERDA
- Ariella Cohen, NYSERDA
- Harris Schaer, NYSERDA
- Kelly Tyler, NYSERDA

Materials distributed prior to the meeting:

- 1) Meeting Agenda
- 2) Presentation Slides
- 3) List of Advisory Group Members

I. Welcome & Introductions

Liz Hanna welcomed the group, and each participant introduced themselves. Tom Barone thanked the members for their time and participation, and introduced the new ETAC initiative. Emerging Technology programs exist in other parts of the country, particularly the West Coast, but results don’t always translate to the Northeast due to differences in climate, markets, and regulatory environment.

II. Background and Overview of the ETAC Initiative

Todd Baldyga spoke about NYSERDA's focus on both resource acquisition programs (the EEPS portfolio) and technology and market development programs (including the ETAC initiative). ETAC will support large scale demonstrations of proven technologies and approaches that have not yet achieved significant market penetration for any of a variety of reasons, with the goal of encouraging more widespread use of these technologies. This initiative is a five year commitment across NYSERDA's departments, with initiatives in the small residential, multifamily, and commercial/industrial sectors. The focus of this Advisory Group (AG) and today's meeting is on the commercial and institutional (C/I) sector.

Peter Savio addressed NYSERDA's energy innovation chain – NYSERDA's R&D unit has supported activities across the first three links of the chain, while its deployment units support the Market Adoption and Expansion link, as well as Standard Practice (codes and standards). The ETAC initiative will help to strengthen some of the in-between links on the chain, to better move projects from R&D through deployment. NYSERDA will also draw from products, technologies and approaches developed in the national labs, at universities, in private industry, and so on.

The ETAC initiative has an overall budget of \$30 million, of which \$19 million is dedicated to the C/I sector. (The rest will support residential and multifamily ETAC.) Of the \$19 million, NYSERDA expects about half to be dedicated to demonstration projects, and the other half to market research, monitoring and verification (M&V) of demo projects, and program facilitator support. An additional \$2.7 million is dedicated to a Deep Energy Savings pilot initiative, to be developed in coordination with the New Construction and Existing Facilities programs.

III. Overview of the Advisory Group

The role of the Advisory Group is to provide input and guidance on the development of the program, while representing stakeholder interests. Pete provided an example of how NYSERDA's successful demand response program was established through sustained interaction with the market, including ESCOs and utilities. NYSERDA hopes this Advisory Group will similarly engage with us in guiding the ETAC program to success. Advisory Group members are not precluded from participating in ETAC demonstration projects once the program is launched, but such interests should be disclosed, and an Advisory Group member may have to recuse him/herself from discussions.

IV. Identifying Technologies and Approaches for Demonstrations

Liz Hanna took the group through the program elements and definitions.

What is an Emerging Technology?

- product has been tested and performance data available (prefer independently-verified data)
- commercially available, but under-used
- few/no large-scale demonstrations in NYS

A few examples of emerging technologies include solid state lighting, day-lighting, or more efficient HVAC rooftop units, including automated fault detectors. But the ETAC program will also look to explore novel approaches, such as deep energy savings and net-zero energy new construction.

Liz discussed a number of barriers other than first cost. Barriers will be identified in each individual project. Such barriers may include:

- perception of unproven savings and lack of awareness
- disruption to usual business and purchasing practices
- lack of purchasing channels and service networks
- challenges with regulatory, legal, codes & standards
- procurement rules, requirements, standards
- securing demonstration sites and access to data for M&V
- liability issues

A number of market research activities to date were reviewed. Consultant DNV KEMA has produced a report on emerging technology programs and promising technologies that will be distributed to advisory group members in the near future. Consultants ERS and Viridian have been undertaking research on deep energy savings and net-zero energy buildings in support of new pilot program development. Additionally, ERS has researched the promising field of advanced thermostats.

V. Demonstrations

NYSERDA plans to support three different types of demonstration projects. All projects will include: analysis and M&V to better understand performance or reduce barriers; detailed tracking of benefits and costs; and dissemination of results, including participation by developers and host sites in outreach. Outlined below are the major features of the three types of demonstration projects:

Streamlined:

- NYSERDA will provide funding for a percentage of the installation
- rolling application review
- project funding limited to ~\$100-150K
- M&V provided by NYSERDA
- eligibility may be limited to selected technology areas and approaches

Large Projects:

- NYSERDA will provide funding for a percentage of the installation
- competitively selected, likely with periodic due dates
- project funding will be greater than ~\$100-150K
- M&V provided by NYSERDA

Energy Savings Validation:

- applicant (technology developer or site owner) funds installation
- rolling application review
- M&V provided by NYSERDA

These demonstration projects will be supported with assistance from a program facilitator (to be selected via PON/RFP), and M&V contractors under contract to the Existing Facilities program.

Draft demonstration proposal requirements include:

- technology is commercially available and performance data is available
- avoid areas covered by other NYSERDA programs (e.g., no stand-alone renewable or technologies on EEPS prequalified list)
- include 2+ demonstration sites
- include plan for M&V and measuring impact
- include dedicated strategies for dissemination of results

The main project elements sparked a number of discussions, as summarized below:

Comment: DPS shares NYSERDA's vision of adding energy savings opportunities to help meet policy goals. ETAC can feed into EEPS programs, to the benefit of other program administrators and market players, as well as NYSERDA. New delivery mechanisms and new partnerships may develop.

Question: Will federal buildings be eligible to participate in ETAC?

Response: Yes, as long as the site is a SBC-paying customer located in NYS.

Question: Will non-energy benefits such as O&M be included in tracking of project benefits/costs?

Response: Yes, non-energy benefits should be included.

Question: What time period will be required for tracking performance and benefits/costs?

Response: A year will probably be the minimum, although some feel this won't be long enough. May be somewhat dependent on the nature of the project (e.g., non-weather-dependent approaches or technologies may not require as much monitoring).

Question: What level of data will be required from applicants in terms of the criteria for performance data? Will manufacturer claims be sufficient?

Response: This is under discussion, and may vary by category of demonstration project. Projects applying for the Energy Savings Validation category would not be required to have independent, third-party verified performance data, but Large demos might require this level.

Comment: Suggest focusing on and/or undertaking market-building/market transformation activities at the same time as data-gathering is underway. This will build awareness in the market and help to get installers and other market participants involved early on.

Comment: Initial cost is a process towards a lower cost. Suggest capturing cost data in a way that helps understand the declining cost.

Response: There may be an unfulfilled promise of future price declines.

Comment: If you know what models are used to make decisions, and what the energy savings are, you can figure out price points. Large customers (such as big-box retail establishments) can tell manufacturers that they will purchase large quantities at a specified price point.

Comment: Benefits can be presented as both the present cost of saved energy for specific project, as well as the future cost of saved energy assuming product is scaled up.

Comment: Labor costs (installation and ongoing maintenance) can be more of a barrier than the cost of the technology.

Comment: Put less emphasis on cost, and more on potential of cost to decline – technologies at earlier stages of adoption may look less cost-effective but may have larger potential for cost effectiveness over time.

Comment: Perceived risks and benefits may be more important than costs – for instance, a known/reliable manufacturer has an advantage. Warranties from unknown companies may not carry as much weight as a recognized “brand name”.

Comment: With products with high system complexity and many components, costs may never come down. The key to controlling costs is the ability to standardize.

Comment: Suggest no required benefit-cost screening.

Response: ETAC does not have the same screening threshold requirements as EEPS programs (TRC test), but info will still be gathered.

Comment: Must consider how to factor in economic benefits to NYS. Require manufacturers to disclose mfg. location. Look into teaming up with manufacturing-incentive programs in the state. “Buy America Act” has definitions of American-made products that may be useful.

Comment: For end-users, viable product and price are the two most important factors. Where product was manufactured is less important.

Question: Could a DC mini-grid PV project be supported under ETAC?

Response: If this is a novel approach, not supported under NYSERDA’s existing PV programs, it would be considered.

Liz then detailed the proposed project selection criteria, listed below.

- statewide impact (potential energy savings and market size)
- cost-effectiveness (ROI, lifecycle costs, simple payback, incremental cost, percentage of cost-share proposed)
- probability of success (including disruption to customer, availability of performance data, assessment of market barriers, distribution and service channels)

Comment: Consider evaluating the cost-effectiveness of this early installation, as well as future installations' cost-effectiveness.

Question: Will a project being undertaken in multiple states be evaluated more favorably?

Response: There is value in that sort of collaboration. NYSERDA will encourage replication and will try to track it both within and outside NYS.

Comment: Include non-energy benefits in project selection criteria.

Question: Will projects with the potential to impact load pockets be considered?

Response: Load pockets may be considered in project selection criteria.

NYSERDA asked for ongoing feedback on the best measures of cost-effectiveness, especially in terms of how end-users are most likely to look at cost-effectiveness.

Finally, Liz discussed measuring and verifying project results, as well as opportunities for outreach. NYSERDA seeks the Advisory Group's input on best practices for M&V. Several options are under consideration, such as the International Performance Measurement & Verification Protocol (IPMVP) and the DOE Uniform Methods Project. Advisory Group members offered that it may be counter-productive to come up with a common protocol for M&V when projects may be quite different from each other.

In terms of outreach opportunities, Liz listed a few ways in which NYSERDA expects to disseminate results, with engagement from developers and sites. These include:

- case studies
- press events, press releases, articles
- tours
- presentations at seminars and conferences, webinars
- NYSERDA website
- stakeholders

NYSERDA seeks continuing input from the Advisory Group on how best to reach the relevant audiences.

Comment: The strength/value of a demonstration is in being able to see the product in action and to be able to speak to someone who's installed it.

VI. Open Discussion; Next Steps; Adjourn

Liz discussed ETAC-CI's next steps:

For program launch, we plan a phased roll-out, with the Energy Savings Validation and Streamlined programs to be released first (targeted for late 2012 – early 2013). A solicitation for large demonstrations will follow. A website is under development; interested host sites and technology developers will be able to sign up through an on-line form. NYSERDA will keep interested parties apprised of program opportunities and project successes, and may facilitate some matching of host sites and technology developers.

Advisory Group next steps include:

- NYSERDA will provide several follow-up materials when available, including meeting notes; the DNV KEMA Emerging Technologies assessment; and a distilled list of promising technologies and evaluation criteria used to select them;
- Before the next Advisory Group meeting, NYSERDA will seek feedback and input from the group on several items, likely to include: a draft of the program website; key criteria to be used to distill the comprehensive list of promising technologies; and suggested M&V approaches.
- The next Advisory Group meeting will be scheduled (tentatively planning on January 2013).

Liz and Pete reiterated their thanks for the group's engagement and willingness to participate, and asked that the members feel free to contact us at any time, via phone or email.

Adjourn.