

ET Summit 2012

Transitioning ET Solutions to EE Programs and to the Market

NYSERDA's Role

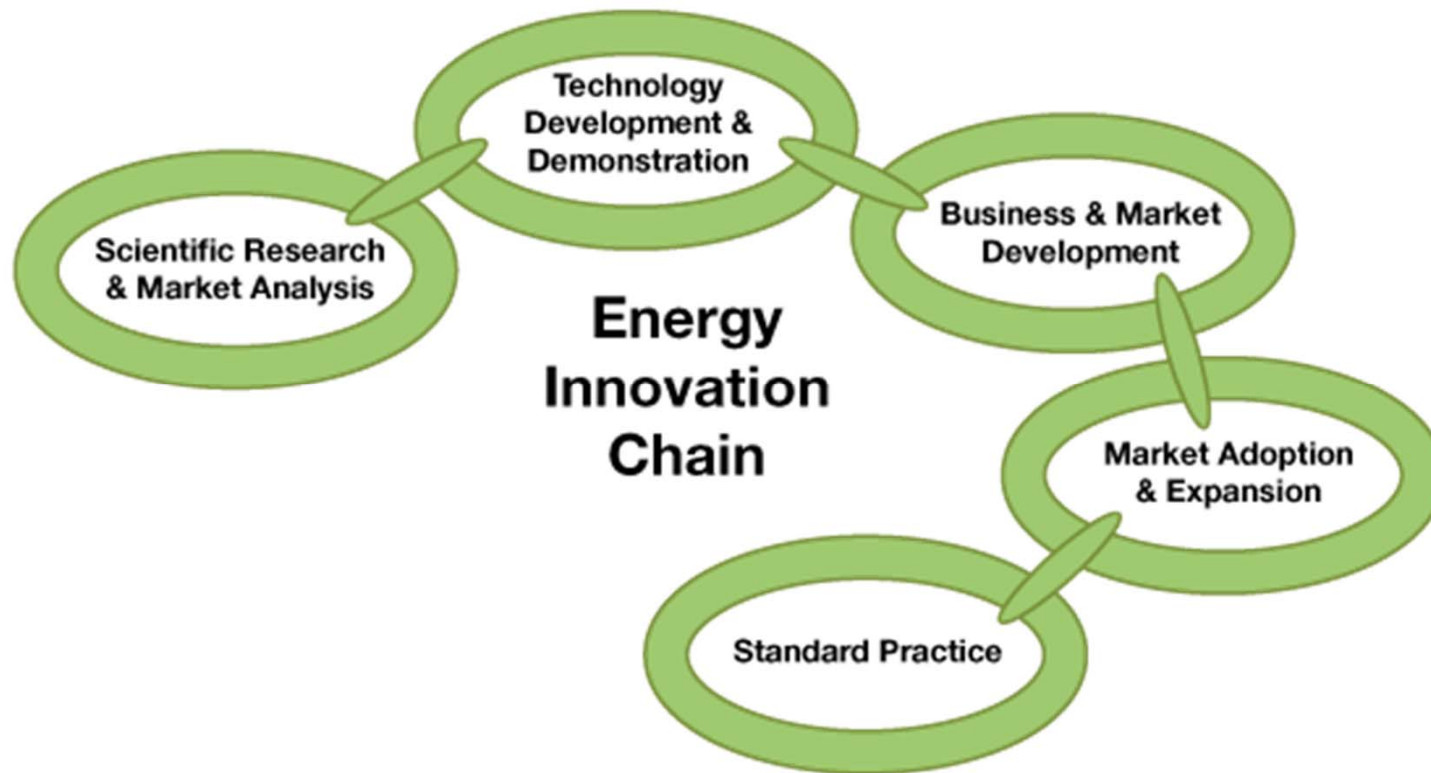
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ETAC

- Emerging Technologies are new – yet proven, energy-efficient technologies, systems, or practices that have significant energy saving potential but have not yet achieved sufficient market share to be considered self-sustaining or commercially validated in New York State.

Energy Innovation Chain



Why ETAC?

- **Accelerates** the use of emerging technologies
- **Helps** New York's residential, commercial, and multifamily building owners manage and mitigate the risk of adoption of new technologies
- **Involves** stakeholder input from industry experts to identify most promising technologies
- **Supports** demonstrations coupled with robust M&V and knowledge transfer opportunities
- **Creates** real-world evidence of the value of emerging technologies and provides benefits to those ready to lead the way

Commercial ETAC

Provide technology developers with a channel to test and validate their innovative energy products and services for large commercial buildings



Components

- ✓ Third-party validation of energy savings. Applicant covers install cost and NYSERDA provides M&V.
- ✓ Support for partnerships of end-users and technology companies to demonstrate and evaluate promising technologies at 2 or more sites.
- ✓ Incentives and M&V for large, multi-site demonstrations of cutting edge technologies and comprehensive approaches (e.g. net zero buildings)
- ✓ Case studies, dedicated website and technology transfer of results

Residential ETAC

Components

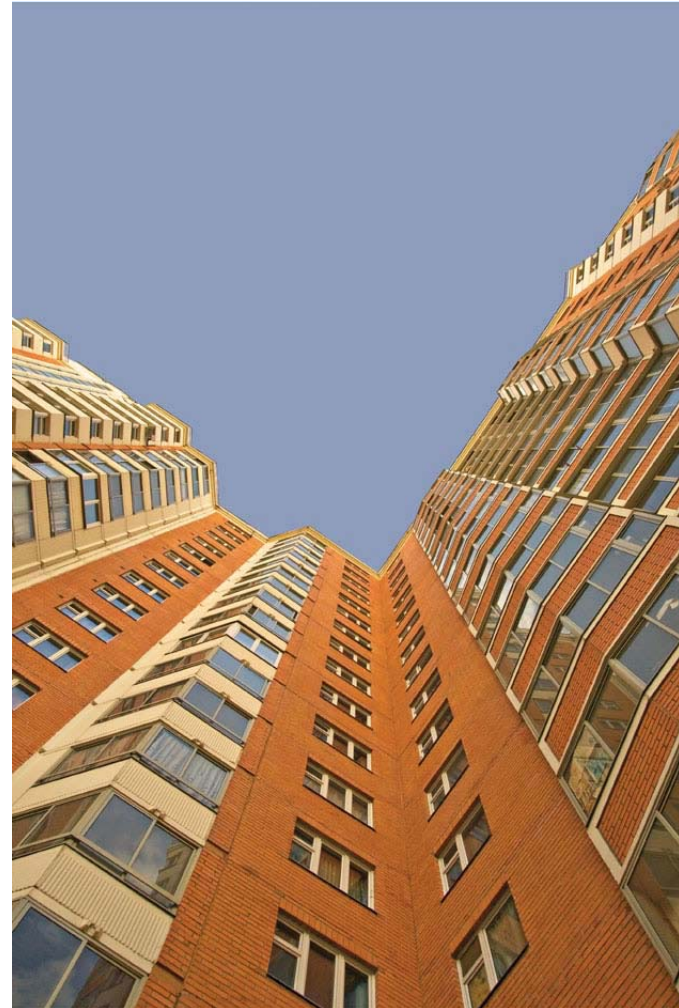
- ✓ Provides funds and demonstration opportunities for commercially available, yet under-used technologies and products in the residential efficiency market.
- ✓ Engages collaborative teams of technology companies, builders, contractors, installers, design and trade professionals.
- ✓ Conducts 4-6 multi-site demonstrations per year.
- ✓ First year focus on advanced solid-state lighting.
- ✓ Stakeholders help define next focus areas.



Multi-Family ETAC

Components

- ✓ Increase energy efficiency in the multi-family sector with technologies and practices that are available but under-used.
- ✓ Show multi-family building owners how implementing new technologies can offer a high return on investment.
- ✓ Provide incentives to teams of technology companies, distributors and vendors, along with building owners and property managers for 5 – 12 demonstrations annually.
- ✓ Robust M&V and publication of success to motivate others



ETAC: Communicating Success

- Multiple channels will be used to communicate the outcomes of the demonstrations across sectors to capitalize on success and move New York forward
- New technologies, when shown to be cost-effective through demonstration and replication will be part of New York's "tool kit" for reaching the Governor's clean energy goals

Commercial/Institutional ETAC

Overview and Background

- Component of NYSERDA's Technology & Market Development Program - Advanced Buildings initiative
- Goal: accelerate the adoption of commercially available yet underutilized energy-saving technologies and approaches in commercial and institutional settings

Commercial/Institutional ETAC

Program Scope

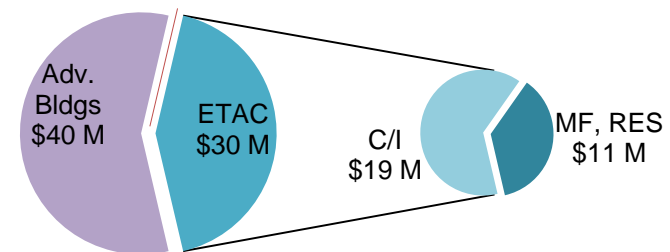
Elements: market research, demonstrations, and information sharing

- Commercially available, underutilized technologies and approaches (e.g., technology bundles)
- Promising technologies with proven performance
- Barriers may be financial, or may require development of new business models or other approaches
- Could benefit from targeted larger-scale demonstrations

C/I ETAC Budget

- ETAC budget = \$30 M (2012-16)
 - C/I Budget = \$19 M
- Additional \$2.7 M for Deep Energy Savings initiative (2012-16)
- Residential, Multifamily, and Industry R&D programs also have ETAC components

Advanced Buildings Program



ETAC Advisory Group Members

- Members include:
 - Large end-users, A/E firms, EE consultants, program administrators, regulators, academics, ESCOs, R&D managers, economic development professionals
- Members provide NYSERDA with input and guidance in the development of the program
- Kick-off meeting held 10/1/2012
- Advisory Group activities and discussions will be posted on NYSERDA website

Identifying Technologies and Approaches

- What is an emerging/under-utilized technology?
 - Products are tested, licensed, code compliant, UL listed, meet or exceed minimum standards
 - Performance data available
 - Commercially available but not widely used
 - Few or no large-scale demonstrations with meaningful validation in NYS or the region
- Novel approaches and strategies to be considered as well

Identifying and Overcoming Key Market Barriers

- Barriers other than first cost – e.g.:
 - perceived unproven savings
 - lack of awareness
 - disruption to usual business and/or purchasing practices
 - distribution channels and/or service network
 - Regulatory, legal, codes & standards challenges
 - Lack of clear and broadly supported performance standards
 - Procurement rules/requirements/standards
 - finding first demonstration sites with access to data for validation
- Identification of barriers to also include engagement of Advisory Group and EEPS deployment programs

Identifying Technologies and Approaches

Market Research Activities to Date

- Review of other ET programs and promising technologies (KEMA-DNV)
- Deep energy savings and net-zero energy buildings (ERS, Viridian)
- Advanced thermostats (ERS)
- Others planned or under consideration

Identifying ETAC Opportunities

- All-source approach includes NYSERDA R&D, National Labs, DOE, CEE, Universities, Incubators, Utilities and Program Administrators, Advisory Groups
- Strong track record with NYSERDA R&D identifying and developing new ET opportunities
 - Auto DR and Aggregated DR
 - Efficient electronic controllable ballasts
 - Energy Performance Contract models
 - Controlled dispatch of aggregated backup generators for DR
 - CHP interconnect technology for constrained networks
 - Bi-level Stairwell Lighting

C/I ETAC Planned Initiatives

- Demonstrations
 - Streamlined
 - Large Projects
 - Energy Savings Validation
- Deep Energy Savings Pilot
 - Goal: To achieve “deep” savings (NZE capable) in new construction and retrofit projects
 - Coordinating with New Construction and Existing Facilities program staff to develop pilot

Demonstration Projects

Streamlined

- Funding for % of installation
- Rolling application review
- limited to ~\$100-150K
- M&V provided by NYSERDA
- May limit eligibility to selected technology areas/approaches

Large Projects

- Funding for % of installation
- Competitively selected w/periodic due dates (likely)
- < ~\$100-150K
- M&V provided by NYSERDA

Energy Savings Validation

- Applicant (technology developer or site owner) funds installation
- M&V provided by NYSERDA

Program Facilitator, M&V Contractors

Project Elements

- ETAC projects will include
 - analysis and M&V of technologies and approaches/strategies to better understand performance or reduce barriers
 - detailed tracking of costs and benefits
 - dissemination of results, including agreements from project developers and demonstration site hosts to participate in outreach (e.g., press events, tours)

Demonstrations

Proposal Requirements (Draft):

- Commercially available (technologies)
- Performance data available
- Avoids areas covered by other NYSERDA programs
 - e.g., no stand-alone renewables or technologies on EEPS prequalified list (Existing Facilities program)
- Includes at least two demonstration sites
- Includes plans for monitoring & validation (M&V)/measuring impact
- Includes dedicated strategies for dissemination of results

Project Selection Criteria

- Statewide impact (potential energy savings and size of market)
- Cost-effectiveness (ROI, lifecycle costs, simple payback; incremental cost; % of cost-share proposed)
- Probability of success (including disruption to customer, availability of performance data, assessment of market barriers, distribution and service channels)
- Replicability and market uptake

Results and Outreach

- Developing minimum requirements for M&V
- Disseminate results, with engagement from developers and sites, to include:
 - Tours for interested parties and EEPS Program Administrators
 - Case studies
 - Press events, press releases, articles
 - Tours
 - Presentations at seminars and conferences, webinars
 - NYSERDA website
 - Advisory Group Members

Process and Communications

- Advisory Group and EEPS Programs involved in:
 - Development of project screening and selection criteria
 - Development of performance validation requirements
 - Efforts to establish data requirements to position ET to address regulatory requirements, including TRC screening
 - Deliberate and regular communications of results and findings

Program Launch – Next Steps

Phased Roll-out

- Website – sign up interested host sites and technology developers
- Program for Streamlined and Validation of Savings projects to be released first
 - Target: late 2012 – early 2013
- Solicitation for Large Demonstrations to follow

Thank You!

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