

NYSERDA Technology and Market Development Program Semiannual Report through June 30, 2018

Final Report | August 2018

NYSERDA's Promise to New Yorkers:

NYSERDA provides resources, expertise, and objective information so New Yorkers can make confident, informed energy decisions.

Mission Statement:

Advance innovative energy solutions in ways that improve New York's economy and environment.

Vision Statement:

Serve as a catalyst – advancing energy innovation, technology, and investment; transforming New York's economy; and empowering people to choose clean and efficient energy as part of their everyday lives.

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Market Development Program**
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1 Introduction

The mission of the T&MD Program is to test, develop, and introduce new technologies, strategies, and practices that build the statewide market infrastructure to reliably deliver clean energy to New Yorkers.

Specifically, objectives designed to support this mission include:

- Moving new/underused technologies and services into the marketplace to serve as a feeder to help achieve EEPS and Renewable Portfolio Standard (RPS) goals.
- Validating emerging energy efficiency, renewable, and smart grid technologies/strategies and accelerate market readiness in New York State.
- Stimulating technology and business innovation to provide more clean energy options and lower cost solutions, while growing New York State's clean energy economy.
- Spurring actions and investments to achieve results distinct from incentive-based programs.

A Public Service Commission order issued on October 24, 2011 approved NYSERDA's T&MD Operating Plan, and the program commenced operation in 2012.¹ A January 2016 Public Service Commission order approved NYSERDA's Clean Energy Fund, subsuming the final year of T&MD, leading NYSERDA's commitment of funds to T&MD to cease in February 2016.² This report summarizes the financial status and progress of T&MD implementation post-close.

¹ Public Service Commission. Case 10-M-0457 – *In the Matter of the System Benefits Charge IV*. Issued and effective October 24, 2011.

² Case 14-M-0094 – *Proceeding on Motion of the Commission to Consider a Clean Energy Fund*, Ordering Authorizing the Clean Energy Fund Framework. Issued and effective January 21, 2016.

2 Portfolio-Level Reporting

2.1 Budget and Spending Status

Table 2-1 shows the T&MD program budget and financial status through June 30, 2018. Committed and spent funds are also shown as a percent of the total 2012–2016 budget.

Table 2-1. Budget and Financial Status for T&MD Programs through June 30, 2018

	2012-2016 Budget ^a	Spent Funds	Percent of 2012-2016 Budget Spent	Committed Funds ^{b,c}	Percent of Budget 2012-2016 Committed
Power Supply and Delivery					
Smart Grid/Electric Vehicle	\$33,890,562	\$23,645,567	70%	\$30,857,103	91%
Advanced Clean Power	\$31,396,343	\$23,829,269	76%	\$28,167,607	90%
Combined Heat and Power ^c	\$46,055,354	\$12,993,800	28%	\$37,474,326	81%
Total Power Supply & Delivery	\$111,342,259	\$60,468,637	54%	\$96,499,036	87%
Building Systems					
Advanced Buildings	\$48,393,575	\$22,712,584	47%	\$35,653,372	74%
Advanced Energy Codes & Standards	\$9,785,964	\$8,086,538	83%	\$9,111,117	93%
Total Building Systems	\$58,179,539	\$30,799,122	53%	\$44,764,489	77%
Clean Energy Infrastructure					
Market Development	\$44,255,742	\$39,960,371	90%	\$41,499,150	94%
Clean Energy Business Development	\$25,287,254	\$23,629,547	93%	\$25,025,563	99%
Environmental Monitoring, Evaluation and Protection (EMEP)	\$16,428,580	\$12,686,002	77%	\$16,407,946	100%
Workforce Development ^c	\$15,945,695	\$13,303,856	83%	\$13,446,672	84%
Total Clean Energy Infrastructure	\$101,917,271	\$89,579,777	88%	\$96,379,329	95%
Total of All Program Areas	\$271,439,069	\$180,847,535	67%	\$237,642,854	88%
Administration (8%)	\$39,765,533	\$39,585,797	100%	\$39,765,533	100%
NYS Cost Recovery Fee (1.7%)	\$7,175,497	\$4,308,179	60%	\$7,175,497	100%
Evaluation (5%)	\$22,363,455	\$7,250,223	32%	\$22,363,455	100%
Grand Total - Portfolio	\$340,743,554	\$231,991,734	68%	\$306,947,339	90%

* Totals may not sum exactly due to rounding

^a Pursuant to the January 21, 2016 CEF Order, the budget figures include reclasses to the CEF of \$182.7 million of uncommitted funds as of February 29, 2016.

^b Committed funds include amounts spent plus remaining funding obligated under a contract, purchase order, or incentive award. In addition, committed funds include planned funding for contracts awarded and under negotiation and planned funding under active development through solicitations with specific due dates.

^c Committed program funds may decrease from period to period and equate to less than 100% of the 2012–2016 budget as a result of the disencumbrance/cancellation of contracts or due to the actual award amount(s) resulting from a due date solicitation being less than the planned award.

2.2 Program Implementation Status

The following program activities and accomplishments have occurred during this reporting period. Given that T&MD funding has sunset and many performance metrics are tracked on a calendar year basis, the summary of activity and accomplishments represents highlights in areas where the more significant spending occurred. Other programs not highlighted here also made progress toward their targets. NYSERDA's December 2018 semiannual report will include a more complete accounting of progress across all programs.

2.2.1 Combined Heat and Power (CHP)

The following key program activities and accomplishments occurred during this reporting period:

CHP Aggregation and Acceleration:

- In the first half of 2018, one project with T&MD funding has been installed for a total T&MD Peak kW reduction of 20 kW (this project received split-funding, and the remainder of the 200 kW nameplate capacity is credited to Indian Point Energy Center funding).
- All other T&MD commitments are embedded in contracts that have been executed and are working their way toward completion.

CHP Performance:

- Various projects have financial partnerships with the NY Green Bank, the Dormitory Authority of the State of New York, as well as the New York City Energy Efficiency Corporation. Such arrangements bridged financing gaps for applicants who seek an opportunity to replace existing infrastructure with cleaner, more efficient CHP systems, thus generating substantial energy and greenhouse gas savings throughout the 20+ year lifetime of their equipment.
- Seven projects, representing more than 30MW of nameplate capacity, are under construction. As they prepare for their respective measurement and verification periods, the aggregated peak load reduction commitments exceed 20MW.

2.2.2 Environmental Monitoring, Evaluation, and Protection (EMEP)

The following key program activities and accomplishments occurred during this reporting period:

- The Environmental Research Program continues to be heavily involved in the long-term monitoring of sulfur, nitrogen, and mercury deposition in New York State. NYSERDA has supported four National Atmospheric Deposition Program (NADP) deposition monitoring networks at nine sites located in the Adirondacks, Catskills, Long Island, and Western New York. Results have shown the deposition of atmospheric pollutants resulting from fossil fuel combustion, including those derived from the generation of electricity, have decreased since the Clean Air Act Amendments of 1990 were passed. These projects are nearing completion but have been renewed for an additional five years through the Clean Energy Fund to continue monitoring trends and evaluating impacts of climate change.
- NYSERDA supported the long-term monitoring of cloud water for sulfate, nitrate, and select cations at the summit of Whiteface Mountain since 2014 to better understand the transformation and transport of anthropogenic emissions from the atmosphere. In addition to this long-term monitoring project, a recent study that is nearing completion looked at the influence of sources and aqueous processes on the dissolved organic compounds in cloud water collected from WFM. Results from this project were presented at the 2017 AGU Fall Meeting held in New Orleans, Louisiana (December 15, 2017) and published in the *Atmospheric Chemistry and Physics* journal (December 21, 2017).³ The Clean Energy Fund will extend the monitoring of cloud water through 2022, and in addition to sulfate, nitrate, and select cations, organic acids are being measured.
- NYSERDA supported the long-term monitoring of wildlife directly impacted by acidic or mercury deposition. Some of these projects, which are nearing completion, include how the addition of lime at Honnedaga Lake could accelerate the recovery of streams, soils, and brook trout from acid rain effects; and how spatial and temporal trends of mercury levels in loons can effectively inform the public of the impact of mercury pollution on Adirondack aquatic ecosystems and aquatic food webs.

³ <https://www.atmos-chem-phys.net/17/15167/2017/>

NYSERDA, a public benefit corporation, offers objective information and analysis, innovative programs, technical expertise, and support to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels. NYSERDA professionals work to protect the environment and create clean-energy jobs. NYSERDA has been developing partnerships to advance innovative energy solutions in New York State since 1975.

To learn more about NYSERDA's programs and funding opportunities, visit nyserda.ny.gov or follow us on Twitter, Facebook, YouTube, or Instagram.

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