

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

Clean Energy Fund Investment Plan:  
Innovation Capacity and Business  
Development Chapter

Portfolio: Innovation & Research

**Submitted by:**

**The New York State Energy Research and Development Authority**

April 29, 2016

## 10 Innovation Capacity and Business Development

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NYSERDA seeks to support a vibrant, self-sustaining clean energy technology innovation ecosystem that will accelerate the growth and scale of new business enterprises focused on serving the clean energy market in New York State. Activities are designed to capture innovative and entrepreneurial activity in the State at the invention stage, direct it toward the development of solutions to meet market-defined clean energy technology needs/opportunities, and provide the support infrastructure and mentorship to build the entrepreneurial and management skills necessary to increase the likelihood of the commercial success of the ventures. The broad objectives of the program include:

- Increase the number and success rate of clean energy technology startups.
- Stimulate and connect quality investment opportunities at New York State startups with the private investment community.
- Accelerate movement of new clean energy hardware through the manufacturing stage and to a first customer.
- Facilitate strategic partnerships between startups and corporate partners.

The first initiative described in this Chapter is the Cleantech Startup Growth initiative, which is targeted at cleantech incubators and ignition grants. Program goals include: accelerating the time to market for cleantech incubator client companies; deploying the lessons learned and best practices across the cleantech incubators so they are more quickly able to address client company needs; and, increasing the ability of incubator client companies to raise seed and follow-on capital from investors and secure commercialization assistance from development partners.

Projected additional initiatives under development include: connecting cleantech startup companies with the venture and growth investors necessary to grow, commercialize technologies, and bring innovations to market; programs to provide strategic business coaching, management resources, and market intelligence to increase the commercial readiness and growth of startup and early-stage clean energy technology companies; increasing private capital investment in manufacturing build-out and scale-up activities through a portfolio of programs to optimize the manufacturability of clean energy technology and move them through early manufacturing; facilitating corporate partnerships; and, Proof-of-Concept Centers that build on the experience of the first round of the Proof-of-Concept Center initiative with the goal to translate innovations from research institutions into market validated and scalable businesses.

Program investments and activities will be informed via engagement with stakeholders and subject matter experts.

## 10.1 Cleantech Startup Growth

### 10.1.1 Overview

<p><b>Present Situation</b></p>	<ul style="list-style-type: none"> <li>• Many startup companies commercializing clean energy technologies continue to face a difficult path to market as a result of the capital intensity and long lead times associated with the cleantech commercialization process.</li> <li>• Incubators, which are organizations that help new and early-stage ventures develop and grow, can dramatically improve the success rate of these cleantech startup companies.</li> <li>• NYSERDA founded its incubator program in 2009 to foster the viability and growth of the state’s most promising cleantech startup companies by providing ready access to investors, mentors, development partners, and commercialization resources.</li> <li>• Through the end of 2015, NYSERDA has invested \$13.8 million in six cleantech incubators from Buffalo to Long Island, which in turn have supported 141 cleantech companies that have attracted more than \$215 million in private capital and created 980 high-quality jobs.</li> <li>• For example, Ephesus Lighting, a graduate of NYSERDA’s cleantech incubator in Central New York, has achieved great success with its light emitting diode (LED) arena and stadium lighting systems, which have been used in the Super Bowl and other high-profile sports and entertainment venues. The company was recently acquired by Eaton, a global Fortune 500 power management company, and continues to operate in Syracuse.</li> <li>• In addition, United Wind, a graduate of NYSERDA’s cleantech incubator in New York City, has raised \$4 million from the NY Green Bank and secured an additional \$200 million in project equity capital to expand its small wind lease program for distributed wind projects throughout the United States.</li> <li>• NYSERDA’s six cleantech incubators continue to provide needed commercialization and business development support to startup companies across New York State.</li> <li>• A notable geographic gap in NYSERDA’s prior cleantech startup growth program offerings was in the Southern Tier, an 11-county, 8,605 square mile region which is largely unserved by NYSERDA’s existing cleantech incubators.</li> </ul>
<p><b>Intervention Strategy</b></p>	<ul style="list-style-type: none"> <li>• This initiative is a continuation of NYSERDA’s successful cleantech incubator strategy and will continue the evolution of the existing incubator program by making additional, competitively awarded funding available for cleantech incubators and ignition grants.</li> <li>• NYSERDA’s strategy for the incubator program is to provide operational and programming support for cleantech incubators that offer commercialization resources and business development assistance to client companies in order to accelerate their time to market.</li> <li>• The strategy for the new ignition grants program is to deploy timely, highly targeted infusions of capital to qualified incubator client companies in order to achieve near-term technical and business milestones that will better position them to raise follow-on capital and form corporate/strategic partnerships.</li> <li>• The individual activities that make up this initiative (listed in the Activities section) will focus on maximizing the flexibility of NYSERDA’s</li> </ul>

	<p>cleantech incubators to meet the needs of their client companies in near real-time.</p> <ul style="list-style-type: none"> <li>• For a visual representation of this strategy, please reference the flow chart entitled “Logic Model: Cleantech Startup Growth,” which can be found in Appendix A.</li> </ul>
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Accelerate the time to market for cleantech incubator client companies, which can range the full spectrum of hardware and software technologies in various stages of development.</li> <li>• Evolve the operations and programming of the cleantech incubators so they are more focused on client-driven milestones and quickly able to address client company needs.</li> <li>• Increase the ability of cleantech incubator client companies to raise seed and follow-on capital from investors and secure commercialization assistance from development partners.</li> </ul>
<b>State Energy Plan/Clean Energy Standard Link</b>	<ul style="list-style-type: none"> <li>• The State Energy Plan indicates the need to accelerate market transformation via initiatives that identify, mitigate, and remove common barriers to clean energy technology deployment. This initiative directly impacts the state’s ability to deliver on these goals, which are unattainable without the innovative clean energy technologies that are developed by startup companies, many of which receive needed commercialization and business development support from NYSERDA’s cleantech incubators.</li> <li>• The State Energy Plan also calls for supporting the development of next-generation clean energy technology solutions and innovative business models. Examples of these that are currently being developed and commercialized by cleantech incubator client companies and graduates include LED lighting systems, advanced energy storage systems and components, energy efficiency solutions for buildings, smart grid and microgrid technologies, wind turbines and components, next-generation solar technologies, biofuels, and advanced transportation technologies.</li> <li>• The State Energy Plan speaks to how research and development support will accelerate adoption of tomorrow’s energy solutions and attract jobs and investment in this area to New York State. It also calls on use of this type of support to facilitate and reduce the cost of transitioning to a REV-based energy system. Going forward, the combination of the evolved cleantech incubators along with the addition of the ignition grants have a foundational role to play in helping to achieve these goals.</li> </ul>

10.1.2 Target Market Characterization

<b>Target Market Segment(s)</b>	<ul style="list-style-type: none"> <li>• Entities working with and investing in seed-stage through early-stage and growth-stage cleantech startup companies in New York State, as listed below.</li> <li>• The initiative is sector/technology agnostic for all areas of the clean energy and clean technology space.</li> </ul>
<b>Market Participants</b>	<ul style="list-style-type: none"> <li>• <b>Incubators</b> – NYSERDA currently supports six cleantech incubators across the state that are now moving to their next phase of growth and piloting new models to better serve client companies. <ul style="list-style-type: none"> <li>○ Western New York – Directed Energy at University at Buffalo</li> <li>○ Finger Lakes – Venture Creations at Rochester Institute of Technology</li> <li>○ Central New York – Clean Tech Center at The Tech Garden</li> <li>○ Capital Region – iClean at SUNY Polytechnic Institute</li> <li>○ New York City – ACRE at New York University Tandon School of Engineering</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Long Island – Clean Energy Business Incubator Program at Stony Brook University<sup>1</sup></li> <li>● <b>Client Companies</b> – High potential cleantech startup companies that are typically in the process of developing prototype products and refining their business models in order to raise additional capital from investors to commercialize their technologies and bring them to market.</li> <li>● <b>Investment Community</b> – Full spectrum of seed-stage through early-stage and growth-stage investors, including angel investors, venture capital funds, impact investors, family offices, foundations, government agencies, and corporate/strategic investors.</li> <li>● <b>Venture Development Organization Partners</b> – NYSERDA’s cleantech incubators work with a number of venture development organization partners to help support the needs and growth of client companies and graduates. Examples of these key partners include NYSERDA Proof-of-Concept Centers (NYSERDA currently supports three across the state which help innovators translate research and intellectual property from the laboratory into scalable businesses that then work with the cleantech incubators), NYS Innovation Hot Spots and Certified Business Incubators (Empire State Development currently supports more than 20 across the state, including the Southern Tier Startup Alliance), Regional Technology Development Centers (Empire State Development currently supports 10 across the state), Upstate Venture Association of New York, Upstate Venture Connect, Launch NY, Business Incubator Association of New York State, Northeast Clean Energy Council, NY-BEST Test and Commercialization Center, National Grid, and many others. These partners offer specialized, complimentary support to cleantech startup companies on an as-needed basis whereas NYSERDA’s cleantech incubators provide continuous, ongoing commercialization and business development support to client companies in order to ensure their continued growth.</li> </ul>
<b>Market Readiness</b>	<ul style="list-style-type: none"> <li>● New York’s clean energy market is steadily growing, especially given REV and the aggressive energy and emissions goals that have been established.</li> <li>● Cleantech startup companies and the investment community are essential to the continued growth of the sector and benefit greatly from the commercialization support and collaboration that is characteristic of incubators and venture development organizations.</li> <li>● As a result, the time is ripe for NYSERDA to continue and expand its successful investment in cleantech incubators through additional operational and programming support focused primarily on client-driven milestones as well as the introduction of ignition grants to better position client companies to raise follow-on capital and form corporate/strategic partnerships.</li> </ul>
<b>Customer Value</b>	<ul style="list-style-type: none"> <li>● Through NYSERDA’s cleantech incubator and proof-of-concept center program portfolios, there are approximately 190 seed-stage through early-stage and growth-stage ventures working to build businesses that actively seek commercialization resources from NYSERDA like cleantech incubators which provide access to investors, mentors, and development partners to help fuel growth.</li> </ul>

<sup>1</sup> The Order Authorizing the Clean Energy Fund Framework acknowledged that “there may be limited circumstances for CEF support, other than direct customer incentives, outside the State’s investor-owned utilities’ territories where it provides direct energy, environmental, and economic benefits to the ratepayers of the State’s investor-owned utilities and meaningfully advances the objectives of REV.” As this initiative contributes to developing the “cleantech ecosystem” across New York, and due to the benefits previous NYSERDA investments have made in this area accruing statewide (a NYSERDA investment of \$13.8 million supporting 141 cleantech companies that have attracted more than \$215 million in private capital and created 980 high-quality jobs), NYSERDA will offer this initiative statewide.

	<ul style="list-style-type: none"> <li>• NYSERDA will continue to provide commercialization and business development support through the cleantech incubators to client companies in order to best position them to raise capital, commercialize new products, and generate revenue. The cleantech incubators do this by providing high-impact, targeted assistance that looks to improve the technical, market, and investor readiness of client companies.</li> <li>• This initiative will contribute towards the commercialization of cleantech products and mobilization of capital in a way that would most likely not occur in the absence of these programs.</li> <li>• It is expected that through enhancements in the way the cleantech incubators work with their client companies and the introduction of the ignition grants program, the historical investment leverage ratio of \$15 of outside investment to every \$1 of NYSERDA funding for the incubator program will be maintained over time. Maintaining the incubator program's historical 15:1 leverage ratio – through the evolution of the cleantech incubators to focus primarily on client-driven milestones and the introduction of ignition grants – is an appropriate target for this initiative as it took over seven years and almost \$14 million to get to that point.</li> </ul>
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10.1.3 Stakeholder/Market Engagement

<p><b>Stakeholder/Market Engagement and Customer Discovery</b></p>	<ul style="list-style-type: none"> <li>• NYSERDA has conducted extensive, ongoing customer discovery and market engagement work to refine and evolve the incubator program over the past several years.</li> <li>• Incubator directors report there are many entrepreneurs and startup companies that do not have the entrepreneurial and/or commercialization expertise necessary to successfully bring technologies to market, and that NYSERDA's cleantech incubators fill a gap by providing commercialization and business development assistance.</li> <li>• Client companies and graduates of the cleantech incubators are all strongly in favor of NYSERDA's continued support of the incubator program. <ul style="list-style-type: none"> <li>○ Jack Baron, President and Chief Operating Officer of Sweetwater Energy, a graduate of NYSERDA's cleantech incubator in the Finger Lakes, noted, "Venture Creations helped set the stage for the early success of Sweetwater. The combination of technical expertise that we found at RIT, business expertise inside Venture Creations, and through extended resources such as High Tech Rochester were absolutely essential to give the company a solid foundation."</li> <li>○ Nayeem Hussain, Co-Founder and Chief Executive Officer of Keen Home, a graduate of NYSERDA's cleantech incubator in New York City, stated, "ACRE provided Keen Home the support we needed during the formative stages of our company's growth. In our early quest for product-market fit, the incubator was a conduit for mentorship, fundraising, engagement with fellow founders, and press opportunities."</li> </ul> </li> <li>• Investors report the incubator program provides them with a direct pipeline of quality, curated cleantech deal flow and are in strong support of the addition of the ignition grants program.</li> </ul>
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10.1.4 Theory of Change

<p><b>Technology Opportunities and Barriers Addressed</b></p>	<ul style="list-style-type: none"> <li>• <b>Entrepreneurs and startup companies often lack the commercialization and business development expertise necessary to successfully bring clean energy technologies to market.</b> The problem is even more prevalent for cleantech startup companies developing advanced hardware technologies that are located outside of New York City.</li> <li>• <b>Many cleantech startup companies in New York State do not have active relationships or deep connections with the investment community and/or development partners.</b> This creates an opportunity for NYSERDA’s cleantech incubators, through this initiative, to continue to build networks and increase the potential for productive, meaningful interactions between client companies and investors/development partners.</li> </ul>
<p><b>Testable Hypotheses</b></p>	<ul style="list-style-type: none"> <li>• If NYSERDA continues to provide commercialization and business development support through the cleantech incubators, then the private and follow-on capital raised by client companies and graduates will remain at the incubator program’s historical rate of \$15 to every \$1 of NYSERDA investment.</li> <li>• If there are highly targeted and timely infusions of capital through the introduction of ignition grants, then the incubator client companies will be in a better position to attract follow-on capital from investors and secure commercialization support from development partners.</li> <li>• If incubators are performing successfully, then they will be able to attract funding from other sponsors to help sustain their operations and programs while retaining a focus on NYSERDA’s clean energy goals. Over time, this may allow NYSERDA to step down the level of its investment in cleantech incubators and ignition grants.</li> </ul>
<p><b>Activities (Resources)</b></p>	<ul style="list-style-type: none"> <li>• <b>Incubators</b> – NYSERDA’s six cleantech incubators will re-compete for funds through competitive solicitations, which will be open to other incubators and venture development organizations in New York State that are not currently supported by NYSERDA. Some or all of the existing cleantech incubators may be awarded funding and new cleantech incubators may be awarded through the competitive process. This process will capture the lessons and best practices from developing and growing the incubator program over the past six years and apply them to the next round of cleantech incubators. <ul style="list-style-type: none"> <li>○ <b>Operations</b> – Activities related to the operational administration of the incubator. For example, quarterly or annual reporting for NYSERDA.</li> <li>○ <b>Programs</b> – Activities related to the programming and services that the incubator provides to client companies. For example, networking events, boot camps, mentor office hours, advisory board meetings, hackathons, etc.</li> <li>○ <b>Client-Driven Milestones</b> – Activities related to incubator client company success, including private capital raised, non-NYSERDA grants awarded, new commercial products tested/introduced, revenue generated, and jobs created/retained, etc. These client-driven milestones, which ensure that compensation for the cleantech incubators is aligned with the performance and success of their client companies and graduates, will be the primary focus of NYSERDA’s continued support for the incubator program.</li> </ul> </li> <li>• <b>Ignition Grants</b> – Moving forward, the cleantech incubators will evolve to include the ignition grants program, which will allow them to offer timely, highly targeted infusions of capital to qualified client companies. Activities funded by the ignition grants (up to \$100,000 per ignition grant) may include, but not be limited to intellectual property work, market validation work, testing services, manufacturing development, etc. The ultimate goal of the ignition grants program is to best position the client companies working with the cleantech incubators to</li> </ul>

	<p>attract and secure sufficient follow-on capital to commercialize clean energy technologies and bring them to market.</p> <ul style="list-style-type: none"> <li>• <b>Geographic Coverage</b> – Business incubation services will be provided through a competitive process to selected cleantech startup companies in the Southern Tier and southern Western New York regions, which are unserved by NYSERDA’s existing cleantech startup growth program offerings. These services may be provided through existing incubators that are not yet members of NYSERDA’s cleantech incubator network or other venture development organizations providing similar services. Some candidate existing incubators are located in Binghamton, Ithaca, Corning, Alfred, Fredonia, and Olean. Complementary programming aimed at building a business environment in the region that supports the growth of cleantech startup companies may include entrepreneurship training, corporate/investor and university connection activities, startup community development activities, and mentoring programs. Client companies of NYSERDA’s cleantech incubators that are located in the Southern Tier will also be eligible to compete for the ignition grants.</li> </ul>
<b>Key Milestones</b>	<p><u>Milestone 1 (Years 3-7)</u></p> <ul style="list-style-type: none"> <li>• Private capital is raised by client companies and graduates (dollar value and number of investments)</li> </ul> <p><u>Milestone 2 (Years 3-7)</u></p> <ul style="list-style-type: none"> <li>• Non-NYSERDA grants are awarded to client companies and graduates (dollar value and number of grants)</li> </ul> <p><u>Milestone 3 (Years 4-7)</u></p> <ul style="list-style-type: none"> <li>• New products are commercialized by client companies and graduates (number of products)</li> </ul> <p><u>Milestone 4 (Years 5-7)</u></p> <ul style="list-style-type: none"> <li>• Revenue is generated by client companies and graduates (dollar value of revenue)</li> </ul> <p><u>Milestone 5 (Years 1-7)</u></p> <ul style="list-style-type: none"> <li>• Jobs are created/retained by client companies and graduates (number of jobs)</li> </ul> <p><u>Milestone 6 (Years 1-7)</u></p> <ul style="list-style-type: none"> <li>• Program funding from other sponsors is leveraged by incubators (dollar value of program co-funding)</li> </ul>
<b>Goals Prior to Exit</b>	<ul style="list-style-type: none"> <li>• The potential impact of this initiative includes: <ul style="list-style-type: none"> <li>○ Accelerating the time to market for incubator client companies.</li> <li>○ Achieving key incubator client company and graduate milestones, including: <ul style="list-style-type: none"> <li>▪ Closing major financing rounds (Seed, Series A, Series B, Series C, etc.)</li> <li>▪ Entering into development/partnership agreements with corporate/strategic partners</li> <li>▪ Reaching significant sales milestones</li> <li>▪ Achieving liquidity events (mergers and acquisitions, initial public offerings, etc.)</li> </ul> </li> <li>○ Maintaining NYSERDA’s historical investment leverage ratio for the incubator program – \$15 of private and follow-on capital mobilized for every \$1 NYSERDA invests.</li> </ul> </li> <li>• The overarching goal of this initiative is to accelerate the time to market for startup companies through the support of cleantech incubators and ignition grants in order to ultimately enable these companies to raise investment and secure development/partnership agreements with corporate/strategic partners.</li> </ul>



	<ul style="list-style-type: none"> <li>• NYSERDA will continue to evaluate the effectiveness of its approach towards cleantech startup growth and will adjust its strategies accordingly based on the needs of customers and partners in the market. As the cleantech incubators have evolved and gained traction, NYSERDA has shifted the focus of milestones from those for operations and programming to primarily client-driven milestones.</li> <li>• Establishment of a level of cleantech startup and business incubation activity in the Southern Tier approaching the levels found in other major regions of the state.</li> <li>• In the ideal scenario, the end state of the market that would enable NYSERDA to exit this initiative is one where cleantech startup companies in New York State are able to attract follow-on capital and secure partnerships/development agreements without any support from cleantech incubators or ignition grants. It is highly unlikely that this end state would be achieved in the next four years. As a result, the need for cleantech incubators and other key programs like ignition grants is not envisioned to go away after the end of proposed funding for this initiative in 2019. NYSERDA intends to continue to support the activities at a level that is commensurate with the market need for these activities beyond 2019.</li> </ul>
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10.1.5 Relationship to Utility/REV

<p><b>Utility Role/Coordination Points</b></p>	<ul style="list-style-type: none"> <li>• The implementation of REV over the coming years will provide new market and business opportunities for startup companies developing emerging clean energy technologies.</li> <li>• NYSERDA will continue to promote active and ongoing coordination between its cleantech incubators and the utilities that operate in their respective markets. It will achieve this by creating new opportunities for the cleantech incubators to meet and network with utilities through existing and future program offerings and events.</li> <li>• Several of NYSERDA’s cleantech incubators, including those in the Capital Region and New York City, have received financial support in the past from utilities like National Grid.</li> <li>• Utilities could serve as pilot and demonstration partners and for incubator client companies to accelerate their time to market. NYSERDA will help to engage utilities as appropriate to help establish these connections.</li> <li>• This initiative will leverage the investments being made to modernize the utility business model through the work of cleantech startup companies that are developing innovative products and solutions.</li> </ul>
<p><b>Utility Interventions in Target Market</b></p>	<ul style="list-style-type: none"> <li>• The New York utilities do not have any similar offering to this market.</li> </ul>

10.1.6 Budgets & Expenditures

An annual commitment budget for all activities included in this chapter is shown in Table 1. The annual expenditure projection is included in Table 2. Budgets and expenditures do not include Administration, Evaluation, or Cost Recovery Fee; these elements are addressed in the Budget Accounting and Benefits chapter filing. The budget as presented in the Budget Accounting and Benefits Chapter will serve as the basis for any subsequent reallocation request. The additional level of detail presented within the table below is intended for informational purposes only.

**Table 1: Annual Innovation & Research Budget Allocation – Commitment Basis**

<b>Commitment Budget</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>Total</b>
Business Support	\$6,000,000	\$6,500,000	\$3,500,000	\$3,000,000	\$19,000,000
Total	\$6,000,000	\$6,500,000	\$3,500,000	\$3,000,000	\$19,000,000

**Table 2: Annual Expenditures Projection**

<b>Expenditures</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>Total</b>
Total	10%	21%	24%	26%	13%	4%	2%	100%

### 10.1.7 Progress and Performance Metrics

Table 3 provides program Activity/Output indicators representing measurable, quantifiable direct results of activities undertaken in the initiative. Outputs are a key way of regularly tracking progress, especially in the early stages of an initiative, before broader market changes are measurable. Outcome indicators can encompass near-term through longer-term changes in market conditions expected to result from the activities/outputs of an intervention. Outcome indicators will have a baseline value and progress will be measured periodically through Market Evaluation.

**Table 1. Initiative Specific Metrics**

<b>Indicators<sup>2</sup></b>		<b>Baseline (Before/ Current)<sup>3</sup></b>	<b>2019 (Cumulative)</b>	<b>2022 (Cumulative)</b>
<b>Activity/Outputs</b>	Incubators – Companies Engaged	0	118	145
	Incubators – Companies Graduated (Graduates)	0	12	21
	Geographic Coverage – Companies Engaged	0	24	24
<b>Outcomes</b>	Products Commercialized	0	15	45
	Revenue <sup>4</sup>	\$0	\$15,000,000	\$45,000,000
	Private Investment <sup>5</sup>	\$0	\$75,000,000	\$225,000,000

<sup>2</sup> A 0 (zero) denotes that the actual value is currently believed to be zero for baseline/market metrics.

<sup>3</sup> Cleantech incubators will be re-competing for funds through a competitive solicitation process as part of this initiative, therefore the Baseline figures are either 0 or \$0.

<sup>4</sup> In this instance, Revenue refers to revenue generated from both new commercial products that are just entering the market as well as products that have previously been commercialized by incubator client companies and graduates.

<sup>5</sup> In this instance, Private Investment refers to private and follow-on capital raised by incubator client companies and graduates as well as the program funding leveraged by the incubators through sponsors other than NYSERDA. This also assumes a 3-year lag from the time funds are committed for Incubators and Ignition Grants to realizing the 15:1 target investment leverage goal.

In addition to the above outcomes, NYSERDA will also assess the following broad outcomes:

- Continued investment in the incubator program will maintain the historical investment leverage levels of incubator client companies and graduates.
- Highly targeted and timely infusions of capital through the ignition grants program will better position incubator client companies to attract follow-on capital from investors and/or secure commercialization support from development partners.
- High-performing cleantech incubators will be able to attract funding from other sponsors to help sustain their operations and programs while retaining a focus on NYSERDA's clean energy goals.

Benefits shown in Table 4 and Table 5 are direct, near-term benefits associated with this initiative's projects. These benefits will be quantified and reported on a quarterly basis and will be validated through later evaluation. Private Investment refers to private and follow-on capital raised by incubator client companies and graduates as well as the program funding leveraged by the incubators through sponsors other than NYSERDA. As such, there will be lag from the time funds are committed for Incubators and Ignition Grants to realizing the leverage (estimated as ~3 years); this lag is not shown in table 4 due to impacts being expressed on a commitment-year basis.

**Table 2. Direct Impacts**

Primary Metrics <sup>6</sup>		2016	2017	2018	2019	Total
Energy Efficiency	MWh Annual	-	-	-	-	-
	MWh Lifetime	-	-	-	-	-
	MMBtu Annual	-	-	-	-	-
	MMBtu Lifetime	-	-	-	-	-
	MW	-	-	-	-	-
Renewable Energy	MWh Annual	-	-	-	-	-
	MWh Lifetime	-	-	-	-	-
	MW	-	-	-	-	-
CO <sub>2</sub> e Emission Reduction (metric tons) Annual		-	-	-	-	-
CO <sub>2</sub> e Emission Reduction (metric tons) Lifetime		-	-	-	-	-
Customer Bill Savings Annual (\$ million)		-	-	-	-	-
Customer Bill Savings Lifetime (\$ million)		-	-	-	-	-
Private Investment (\$ million)		\$75.0	\$82.5	\$37.5	\$30.0	\$225.0

**Table 3. Annual Projected Initiative Participation**

	2016	2017	2018	2019	2020	2021	2022	Total
Participants <sup>7</sup>	32	92	15	16	11	12	13	191

<sup>6</sup> Impacts are expressed on a commitment-year basis, and are incremental additions in each year. Benefits are rounded to three significant figures. Totals may not sum due to rounding.

<sup>7</sup> Participants include incubator client companies and graduates.

### 10.1.8 Fuel Neutrality

<p><b>Fuel Neutrality</b></p>	<ul style="list-style-type: none"> <li>• Incubator client companies and graduates are generally involved in developing new business models to bring innovative technologies and solutions to market that will help achieve New York State’s greenhouse gas emission, renewable energy, and energy efficiency goals.</li> <li>• The innovative technologies and startup companies that will advance through these six regional incubators will provide a range of benefits for New York ratepayers to advance REV objectives, potentially including higher efficiency end-use devices, energy management systems, new grid tech solutions, better performing renewable energy systems, and a range of improved DER options.</li> <li>• There could also be instances where the primary target market for a technology or solution being offered by a client company or graduate is as an alternative fuel.</li> </ul>
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### 10.1.9 Performance Monitoring and Evaluation Plans

<p><b>Performance Monitoring &amp; Evaluation Plan</b></p>	<p><b>Test-Measure-Adjust Strategy</b></p> <ul style="list-style-type: none"> <li>• NYSERDA will continue to collect and analyze established innovation metrics for the cleantech incubators, client companies, and graduates (private capital raised, non-NYSERDA grants awarded, new commercial products introduced, revenue generated, jobs created/retained, and program funding leveraged from other sponsors). This will be done for each individual cleantech incubator and investment (for the ignition grants) to assess progress toward the overall outcomes/goals of the initiative.</li> </ul> <p><b>Market Evaluation</b></p> <ul style="list-style-type: none"> <li>• Market Evaluation will draw on the logic model and will include baseline and longitudinal measurement of key indicators of programmatic and broader market success.</li> <li>• Baseline measurements of key market indicators will occur soon following initiative approval and will provide additional insights that will allow NYSERDA to adjust the strategy. They include but are not limited to: client companies engaged, client companies graduated, and geographic coverage of client companies engaged.</li> <li>• Regular (e.g., annual or biennial) updates to key performance indicators and measurement of market change, including, but not limited to, accelerating the time to market for cleantech startup companies, product commercialization, revenue generated by new commercial products and products that have previously been commercialized, and jobs created/retained by client companies.</li> <li>• Sources of data include intervention data, public and commercially available data, and primary data collection through surveys of key market actors.</li> </ul>
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# Appendix A – Logic Models

## LOGIC MODEL: Cleantech Startup Growth

