

# Municipal Sustainable Energy Loan Program—Commercial Property Assessed Clean Energy (PACE)

**New York State General Municipal Law 5L**

**Guidance Document**

June 2024



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# 1 What is PACE Financing?

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Property Assessed Clean Energy (PACE) financing programs use authority given to a municipal corporation (county, town, city, or village) to offer financing for property owners to fund energy efficiency and renewable energy projects on existing residential and commercial structures, through a property owner's voluntary agreement to have a special assessment or special tax charge placed on their annual property tax bill. This provides financing for these types of improvements over time without requiring the property owner to make a large upfront investment.

New York State General Municipal Law Article 5-L (PACE Statute) authorizes municipal corporations to create a sustainable energy loan program to provide financing to property owners for the installation of eligible Renewable Energy Systems or Energy Efficiency Improvements (as described in section 1 below) repaid through a charge for the real property benefited by such financing, levied and collected at the same time and in the same manner as municipal property taxes.<sup>1</sup> The PACE Statute requires the New York State Energy Research and Development Authority (referred to herein as NYSERDA, or "the Authority") to provide certain guidance regarding the implementation of PACE in New York.

This document provides such guidance for commercial PACE programs, which for all purposes of this guidance also includes certain types of residential buildings. Properties can encompass one multifamily building or a portfolio of similar or related residential buildings of any height located on the same site, or adjacent and associated sites. Owner-occupied one- and two-family homes, or townhomes as defined within the Definitions section of the 2015 International Building Code, are not currently eligible to access PACE programs. While certain portions of this guidance may also be applicable in the residential sector, NYSERDA does not suggest that this guidance should be used for residential PACE; indeed, NYSERDA may issue additional guidance in the future regarding PACE in the owner-occupied residential sector.

In accordance with the PACE Statute, NYSERDA is required to:

1. Certify contractors to perform energy audits or approve entities to certify contractors to perform Energy Audits (section 2) and Renewable Energy System Feasibility Studies (section 7).
2. Develop state-wide criteria for municipal corporations and certifying entities desiring to certify contractors to perform Energy Audits (section 4) and Renewable Energy System Feasibility Studies (section 7).
3. Establish criteria for determining when an Energy Efficiency Improvement is cost-effective and to approve lists of such cost-effective Energy Efficiency Improvements (section 5).

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<sup>1</sup> Municipal Sustainable Energy Loan Program, New York State General Municipal Law Article 5L § 119E-119GG (2015)

4. Approve for PACE financing “Renewable Energy Systems” in addition to those listed in the PACE Statute (section 6).
5. Establish the form and manner by which municipal corporations should verify and report on the installation and performance of the Energy Efficiency Improvements and Renewable Energy Systems (section 9).

## 2 Minimum Requirements for PACE Energy Audits

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An Energy Audit is defined in the PACE Statute as “a formal evaluation of the energy consumption of a permanent building or structural improvement to real property...for the purpose of identifying appropriate energy efficiency improvements to be made to or incorporated into the construction of the property.” The law further clarifies that “no such loan shall be made for energy efficiency improvements unless determined to be appropriate through an energy audit...” Energy Efficiency Improvements (sometimes referred to as “Improvement(s)”) are defined in the PACE Statute as:

“[A]ny improvement to real property, whether as a component of the new construction of a building or as the renovation or retrofitting of an existing building to reduce energy consumption, such as window and door replacement, lighting, caulking, weatherstripping, air sealing, insulation, and heating and cooling system upgrades and similar improvements determined to be cost-effective pursuant to criteria established by [NYSERDA]. However, ‘energy efficiency improvement’ shall not include lighting measures or household appliances that are not permanently fixed to real property.”

NYSERDA defines Energy Audit to include the term “energy modeling” as it pertains to both existing and new structures. The term “energy modeling” is generally associated with all new construction projects.

NYSERDA recommends the following minimum requirements to help clarify what should be included in an Energy Audit. NYSEDA strongly encourages contractors to use a whole building analysis approach for the Energy Audit, but single (custom) measure evaluations are also acceptable. The certifying entity (see section 2 below) should ensure contractors perform high-quality Energy audits that are clear, accurate, and present useful recommendations to the property owner.

The Energy Audit requirement may be met when an American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Level 2 or 3 energy audit is conducted for a commercial property, in accordance with ASHRAE 211 Standard for Commercial Building Energy Audits. Additionally, the municipal corporation or its agent may also consider alternative calculation methods, such as automated audit software (e.g., ENERGY STAR® savings calculation tools), which can serve to satisfy the Energy Audit requirement.

The PACE Program Administrator(s) are to review the Energy Audit for compliance and to ensure that the Energy audit is completed by an entity qualified to perform such an audit.

### 2.1 Existing Structures

For single (custom) measure evaluations in existing buildings and whole building energy-modeling projects, the Energy Audit should include, at least the following:

- A description of the existing conditions and operations including existing equipment, fuel type, etc.
- A description of the proposed Improvements including energy efficiency measures, projected energy savings (from a code-minimum baseline and including all assumptions, calculations, and

conversion factors), implementation costs, and average life calculations of the proposed Improvements. Additionally, the Energy Audit may include maintenance savings and the societal benefits associated with certain energy efficiency measures including, but not limited to, health benefits, greenhouse gas emissions reductions, or other environmental benefits.

- For adaptive re-use and renovation(s) in historic structures that are currently vacant and for which therefore existing energy consumption and Energy Code do not apply, the project sponsor may submit an alternative energy consumption baseline. The Program Administrator in consultation with NYSERDA may consider an alternative energy consumption baseline for the purposes of establishing projected energy savings and performing cost and benefits analysis. For buildings that also include unregulated loads, the municipal corporation may at its sole discretion consider an alternative accommodation. Project sponsors may use exceptional calculations provided in ASHRAE 90.1 to model savings for unregulated loads.
- An analysis of customer provided utility bills (preferably 12 months of historical utility bills, including bills for delivered fuels with respect to measures addressing oil, propane, or other delivered fuel systems) that relate to the whole building and/or the portion of the building that will be impacted by the proposed Improvements.
- Input data for the building and for each proposed Improvement presented in a manner which allows easy identification of input parameters.
- Output data from model with clear and precise presentation of the results in both tabular and narrative forms.
- A simple payback analysis and/or life cycle cost or other more detailed financial analysis (i.e. return on investment, internal rate of return, etc.).
- Verification that interactive effects were considered.

In preparing the Audit components noted above, the following standards should be followed:

- Modeling software approved for use by the New York State Energy Conservation Code or approved by the municipal corporation should be utilized for the Audit.
- Implementation costs must include, at a minimum, material and labor costs associated with each Improvement or installation of a complete building system, as well as source citations from reliable industry sources.
- The project payback period is to be calculated based on the weighted average of the estimated useful life (EUL) of the systems and measures included in the project.
  - The following is the only acceptable EUL source: the New York State Technical Resource Manual.
- In instances when an EUL is not listed in the sources above, the EUL may be based on the weighted average of the EUL of all measures, the length of manufacturer's warranty for the specific measure or the length of the specific measure's contract.

- Rule of thumb assumptions and percentage savings calculations are not acceptable.
- Utility-related cost calculations should include cost savings from both demand and use components of the customer’s electric bill, as well as any natural gas, oil, propane, or other delivered fuel. If customers purchase chilled water, hot water and/or steam; cost savings associated with the purchase of these types of utilities should be included in the savings calculations only if those savings result from the project. Water savings may also be considered in the payback calculations as long as the efficiency measure achieves both energy and water savings, simultaneously. Only water savings measures, not entire water transfer systems (including building plumbing), are eligible measures.
- Electric savings should also include cost savings from both demand (peak kW) and use (kWh), as well as any fossil fuel savings (e.g., natural gas, oil, propane, wood, etc.). If customers purchase chilled water, hot water and/or steam, energy savings resulting from the project for those utilities should be presented as the it relates to the original fuel used to create the purchased commodity (e.g., natural gas use to make the steam). Total energy savings should identify if they are presented as site or source energy savings if the savings are converted to BTUs. Such savings may also be presented as separate fuels in which case they should clearly identify units (kWh, kW, therms, gallons, etc.).

The Energy Audit must include all measures considered for C-PACE financing and the proposed C-PACE measures must result in a cost benefit ratio (CBR) of 1 or greater considering all costs and all eligible savings to be considered for C-PACE financing, except in the following instances:

- If the retrofit is designed so the building is completely electrified according to local code and regulations, then the CBR requirement is waived.
- If the retrofit design is not for a completely electrified building, an incremental cost approach may be applied to the CBR calculation. Refer to the CBR calculation guide provided on NYSERDA’s web site at <https://www.nyserdera.ny.gov/All-Programs/Programs/Commercial-Property-Assessed-Clean-Energy>.

NYSERDA recognizes that the Energy Audit and other pre-development work, such as improvement design work, are stand-alone PACE eligible measures provided that the proposed Improvement(s) comply with the technical standards set forth in these guidelines. As stand-alone PACE eligible measures, the finance term for Energy Audits and other pre-development work may not exceed five years.

## 2.2 New Construction

This section includes gut renovation projects.

A whole-building Energy Audit meeting the relevant building performance standards should be completed, where practical. The whole-building Energy Audit for a new building or a substantial alteration (gut renovation) shall be satisfied by an energy model of the design of the new building in

accordance with the New York State Energy Conservation Construction Code in effect at the time of permit approval, which should adhere to the guidance outlined below.

- Buildings must be designed to meet local energy code or NYStretch Energy Code, whichever is more stringent, or to meet the following standards:
  - U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) v4, LEED for Building Design and Construction (LEED BD+C) or LEED for Interior Design and Construction (LEED ID+C), with a minimum of 20 Energy and Atmosphere (EA) Credits and all EA Prerequisites claimed.
  - Passive House Institute (PHI) certification to achieve Plus Class in accordance with PHI Criteria for Buildings: Passive House – EnerPHit – PHI Low Energy Building, v10c.
  - Phius certification to achieve Phius CORE in accordance with the Phius 2021 Performance Criteria.
- A building commissioning plan for each project is required.
- A description of the proposed measures is required, including energy efficiency measures, projected energy savings (from a code-minimum baseline) and/or projected performance based on the standard selected (including all assumptions, calculations, and conversion factors), implementation costs, and average useful life calculations of the proposed measures. Such costs and calculations may be on a measure-by-measure or whole building basis. Additionally, the Energy Audit may include maintenance savings and the societal benefits associated with certain energy efficiency measures including, but not limited to, health benefits, greenhouse gas emissions reductions, or other environmental benefits. Such savings are to be documented.
- Implementation costs should be disaggregated by construction division where new energy efficiency measures are considered.
- Simple payback analysis and/or life cycle cost or other detailed financial analysis (i.e., return on investment, internal rate of return, etc.) is required.
- The project payback period (EUL) is to be calculated based on a maximum of 30 years. At the Program Administrator’s discretion this can be reduced.
- Verification that interactive effects were considered for a whole building approach is required.
- Rule of thumb assumptions and percentage savings calculations are not acceptable.
- Input data for the building and for each proposed Improvement must be provided, presented in a manner which allows easy identification of input parameters.
- Output data from the model must be provided, with clear and precise presentation of the results in both tabular and narrative forms.
- Utility-related cost calculations should include cost savings from both demand and use components of the customer’s electric bill as well as any natural gas, oil, propane, or other delivered fuel. Some customers also purchase chilled water, hot water and/or steam. Cost



savings associated with purchase of these types of utilities should also be included in the savings calculations if those savings result from the project. Water savings may also be considered in the payback calculations as some efficiency measures achieve both energy and water savings simultaneously. Only water savings measures, not entire water transfer systems, including building plumbing, are eligible measures.

- Electric savings should also present both demand (peak kW) and use (kWh) savings, as well as any fossil fuel savings (e.g., natural gas, oil, propane, wood, etc.). If customers purchase chilled water, hot water and/or steam, energy savings resulting from the project for those utilities should be presented as the it relates to the original fuel used to create the purchased commodity (e.g., natural gas use to make the steam). Total energy savings should identify if they are presented as site or source energy savings if the savings are converted to BTUs. Such savings may also be presented as separate fuels in which case they should clearly identify units (kWh, kW, therms, gallons, etc.).
- For buildings designed to be electrified and in compliance with local code, the CBR requirement is waived. Otherwise, a minimum CBR of 1 is required.

### 3 NYSERDA's Approval of Entities to Certify Contractors to Perform PACE Energy Audits

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The PACE Statute provides that the Energy Audit must be performed by a contractor who is certified by NYSERDA or a certifying entity approved by NYSERDA for this purpose.

NYSERDA will not directly certify contractors to perform commercial PACE Energy Audits. As provided for in the PACE Statute, NYSERDA has instead established a process by which it will approve PACE Certifiers.

NYSERDA has already approved the following certifying entities to be commercial PACE Certifiers for energy audits:

- Association of Energy Engineers (AEE).
- American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).
- Building Performance Institute, Inc. (BPI).
- Investor Confidence Project (ICP).
- Any entity accredited by the American National Standards Institute (ANSI) for building energy audit or energy auditor certification.
- Any entity accredited by the International Accreditation Service (IAS) for building energy audit or energy auditor certification.
- Any entity accredited by the Green Business Certification, Inc. (GBCI) for building energy audit or energy auditor certification.
- Any entity accredited by any other qualified accreditation bodies that are in compliance with ISO/IEC 17024:2012 for building energy audit or energy auditor certification.
- NYS Department of Education Engineering Licensing Board.
- NYS Department of Education Architecture Licensing Board.

As examples, NYSERDA considers the following licenses or certifications offered by entities above to be acceptable for PACE auditors:

- New York State Licensed Professional Engineer (P.E.) who will sign and stamp the audit.
- New York State Licensed Architect (R.A. or AIA).
- AEE Certified Energy Manager (C.E.M.).
- AEE Certified Energy Auditor (C.E.A.).
- BPI Multifamily Building Analyst (multifamily audits only).
- BPI Building Analyst.

- BPI Home Energy Professional (HEP) Energy Auditor.
- ASHRAE- Building Energy Audit Professional.
- ICP Quality Assurance (QA) Assessor.

Any entity that would like to be approved by NYSERDA to certify contractors to perform Energy Audits – which entities may include PACE providers, municipal corporations, industry- based associations or contractors themselves – must submit an application to NYSERDA (<https://www.nyserderda.ny.gov/All-Programs/Programs/Commercial-Property-Assessed-Clean-Energy>) showing that it meets the requirements listed below.<sup>2</sup> NYSERDA will review the application and make a final determination within sixty (60) days as to whether the entity is approved to certify contractors to perform Energy Audits.

In considering whether to approve an entity to certify contractors to perform Energy Audits, NYSERDA will consider whether the applicant has:

- An identified staff person who is an expert in building science and who will be dedicated at least in part to the role of reviewing certification requests by contractors to perform PACE Energy Audits, and assessing whether those contractors are qualified to perform Energy Audits as they are described in section 1 above.
- An internal policy and set of procedures to ensure that auditors are subject to a probationary period until they complete a required number of successful audits.
- Quality control and quality assurance procedures in place to review the quality of the audits and to confirm satisfactory performance, in line with the requirements of section 1 above.
- A policy that provides for warning, suspension or termination of an auditor based on failure to meet the standards suggested in this guidance.
- A customer issue and dispute resolution policy and procedure that can manage – among property owners, contractors, and the approving entity – customer service or other complaints that may arise from the audit.
- An ability to make available contractor training.

This list is not exhaustive nor is it exclusive. NYSERDA reserves the right to add to or subtract from this list on an as needed basis.

As discussed above, a municipal corporation or its agent may authorize the use of alternative calculation methods, such as automated audit software in their program requirements. If so, NYSERDA’s approval of a certifying entity for such program will include a review of the entity’s experience with use and monitoring of such software.

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<sup>2</sup> No entity may be approved to certify itself to perform Energy Audits.

## 4 State-Wide Criteria for Certifying Contractors to Perform PACE Energy Audits

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The PACE Statute requires NYSERDA to adopt state-wide criteria for certifying contractors to perform PACE Energy Audits. The criteria identified in this section should be applied with respect to contractors not already certified to perform Energy Audits in an existing NYSERDA or utility program.<sup>3</sup> NYSERDA suggests that any contractor that is certified to perform Energy Audits in a NYSERDA or utility program may also be automatically certified to perform commercial PACE Energy audits. NYSERDA requires certifying entities to ensure that contractors seeking certification to perform audits submit documentation that identifies staff members who possess at least one of the following licenses or certifications:

- New York State Licensed Professional Engineer (P.E.) or Registered Architect (R.A.)
- Association of Energy Engineers Certified Energy Manager (C.E.M.) or Certified Energy Auditor (C.E.A.)
- For multifamily audits only: BPI Multifamily Building Analyst, Certified Passive House Consultant/Designer, or RESNET Qualified Home Energy Rater

In addition, NYSERDA requires certifying entities to ensure that contractors seeking certification to perform PACE Energy Audits can demonstrate to the certifying entity that they<sup>4</sup>:

- Have the personnel, technical and other expertise, and capacity to perform audits in accordance with the requirements of section 1 above.
- Comply with any relevant New York State contractor code of conduct.
- Maintain an active license, and be in good standing, with any relevant New York State or municipal licensing board with jurisdiction over the location in which the work is being performed.
- Can maintain appropriate oversight and management of employees and subcontractors who perform PACE Energy Audits through provision of organizational structure and/or relevant terms and conditions of contractual arrangements, as applicable.

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<sup>3</sup> Refers to incentive programs offered by “utility companies that provide distribution, customer and energy services for natural gas and electricity services,” as defined by the NYS Public Service Commission. <https://dps.ny.gov/psc-energy-glossary>

<sup>4</sup> The entities seeking certification to perform audits may, in many cases, be the same entities seeking certification to perform the project; for avoidance of doubt, these criteria are only those NYSERDA requires for contractors seeking certification to perform an audit – additional criteria would apply to those entities seeking to complete the project that may be recommended through the audit including the requirement to ensure the installation of equipment complies with all laws, codes, industry standards, and other applicable rules or regulations.

- Meet any other New York State and local licensing, training, and permitting requirements.
- Maintain a valid completed W-9 form; proof of commercial general liability insurance, worker's compensation insurance, and disability benefits as required by New York State; and an ability to meet bonding requirements.
- Have three positive trade references and three positive customer references.

NYSERDA encourages certifying entities to pay attention to quality and satisfaction ratings for contractors, to the extent possible and as these become available and can reasonably be deemed reliable.

## 5 Cost-Effectiveness Criteria for Commercial PACE Energy Efficiency Improvements

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The PACE Statute requires NYSERDA to establish criteria for determining the cost-effectiveness of Energy Efficiency Improvements and to approve lists of cost-effective Energy Efficiency Improvements for different building types. This section establishes the cost-effectiveness criteria for improvements, describes how improvements are determined to be cost-effective through CBR calculations, and provides information on how to add to the list of improvements already deemed by NYSERDA to be cost-effective (“pre-qualified”).

Guidance for performing the CBR calculation is provided on NYSERDA’s web site at <https://www.nysERDA.ny.gov/All-Programs/Programs/Commercial-Property-Assessed-Clean-Energy>.

NYSERDA also recognizes that, in some cases, certain ancillary improvements must be accomplished for the Energy Efficiency Improvements to proceed. These may include, but are not limited to, mold mitigation, lead abatement, asbestos removal, flue repairs, repair of gas leaks, ventilation improvements, installation of smoke and carbon monoxide detectors and minor roof repairs. Ancillary improvements also include system components for improved systems for existing buildings, or new systems for new construction required for energy recovery, ventilation, or to heat and cool a building, such as ducts, and electrical infrastructure work needed for building electrification.

NYSERDA suggests that municipal corporations or their agents, at their discretion, consider the costs and estimated savings associated with such ancillary and necessary improvements to be included in PACE financing. However, ancillary costs related to health and safety measures should be excluded from the CBR calculation. Non-health and safety measures needed for implementation are to be included provided they don’t extend the overall project payback period beyond the weighted average of the useful life of the systems included in the project.

NYSERDA has considered how cost effectiveness potentially impacts PACE financing applicants. While an improvement may be deemed cost effective through a CBR calculation, it should be noted that the CBR calculation defines both energy savings and societal benefits as “savings” and it should therefore not be assumed that the improvement will pay for itself through energy bill savings alone over the term of the PACE financing.

### 5.1 List of Cost-Effective Energy Efficiency Improvements

For existing structures, and for new buildings that comply with local energy code or NYStretch Energy Code but are not fully electrified, an improvement is deemed to be cost-effective when it is included in the list of “Pre-Qualified Energy Efficiency Improvements” approved by NYSERDA or if it has a CBR of 1.0 or greater. Nonetheless, the Program Administrator may require the submittal of savings, as determined in the guidance for CBR calculation, for “Pre-Qualified Energy Efficiency Improvements.”

While a specific improvement may be deemed to be generally cost effective, and therefore approved as an improvement eligible for PACE financing, there is no guarantee that the improvement will be cost effective in every application. In addition, because the CBR considers societal benefits, it should not be assumed that an improvement deemed cost-effective will pay for itself in energy bill savings over the life of the PACE loan or over the average life of the improvement.

NYSERDA approves measures from the following lists as being cost effective “Pre-Qualified Energy Efficiency Improvements,” provided that the measures also meet the definition of “Energy Efficiency Improvement” set forth in the PACE Legislation:

- Electric heating ventilation and cooling (HVAC) equipment and systems with efficiencies that meet or exceed the requirements of the most recently published version of ASHRAE 90.1.
- Electric domestic hot water equipment and systems with efficiencies that meet or exceed the requirements of the most recently published version of ASHRAE 90.1.
- Electric energy recovery ventilators that meet or exceed the requirements of the most recently published version of ASHRAE 90.1.
- “Prescriptive measures,” as defined in the Technical Resource Manual<sup>5</sup> and approved by the New York State Department of Public Service
- Energy efficiency measures identified as being eligible for incentives in NYSERDA or utility commercial energy efficiency programs.
- Resiliency measures provided such measures pertain to both energy consumption and the improvement being made and are addressed in the Energy Audit. PACE financing is not allowed for stand-alone resiliency measures.
- Energy efficient products certified by [ENERGY STAR®](https://www.energystar.gov/products?s=mega) (<https://www.energystar.gov/products?s=mega>); Products on the list of Energy Efficient Equipment published by the Consortium for [Energy Efficiency, Inc \(CEE\)](http://www.cee1.org/content/cee-program-resources) (<http://www.cee1.org/content/cee-program-resources>).
- Energy efficient products certified by the Federal Energy Management Program (FEMP) (<https://www.energy.gov/eere/femp/search-energy-efficient-products>).
- Qualifying equipment identified as meeting the definition of “Beneficial Electrification” as defined by local code (e.g., 1 RCNY §103-14).

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<sup>5</sup> Department of Public Service, “Technical Resource Manual”, revised as of January 1, 2022 available at: <https://dps.ny.gov/system/files/documents/2022/11/technical-resource-manual-version-9-filed-october-27-2021-effective-january-1-2022.pdf>

If a contractor, manufacturer, or other entity requests that an improvement be added to the list, NYSERDA requires that a CBR, along with all calculations, factors, and assumptions, be provided to NYSERDA for review and approval. The calculations required and process for submitting the Request for Approval of Cost-Effective Energy Efficiency Improvement are posted on NYSERDA's web site at <https://www.nyserderda.ny.gov/All-Programs/Programs/Commercial-Property-Assessed-Clean-Energy>. NYSERDA also recommends that a benefit/cost analysis (BCA) be conducted for NYSERDA review and approval. The BCA divides the total savings (including energy, societal benefits, and other project-related benefits as described below) over the lifetime of the project (present value) by the typical eligible implementation costs as defined in section 2.



## 6 NYSERDA's Approval of Additional Renewable Energy Systems

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The PACE Statute defines a Renewable Energy System that may be financed with PACE as, “an energy generating system for the generation of electric or thermal energy, to be used primarily at such property, by means of solar thermal, solar photovoltaic, wind, geothermal, anaerobic digester gas-to-electricity systems, fuel cell technologies, or other renewable energy technology approved by the Authority not including the combustion or pyrolysis of solid waste.”

In determining what other renewable energy technology may be eligible, NYSERDA carefully considers relevant NYS legislation and Public Service Commission Orders, most significantly the January 21, 2016, NYS Public Service Commission Order Authorizing the Clean Energy Fund Frameworks,<sup>6</sup> and the Climate Leadership and Community Protection Act<sup>7</sup> (CLCPA), 2019. Based on the CLCPA and relevant PSC orders, and consistent with the PACE Statute, NYSERDA identifies new eligible renewable energy technologies to be added to the Commercial Property Assessed Clean Energy Eligible Renewable Energy System Technologies Guidance document, available on NYSERDA's website.<sup>8</sup>

NYSERDA recognizes that the feasibility study and other pre-development work, such as system design work, are stand-alone PACE eligible measures provided that the proposed improvement(s) would comply with the technical standards set forth in these guidelines. As stand-alone PACE eligible measures, feasibility studies and other pre-development work may only have a finance term which does not exceed five years.

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<sup>6</sup> The PSC Order defines eligible technologies as “on-site renewable energy sources, energy efficiency, energy storage, smart grid, demand response, distributed generation, renewable thermal and other low carbon technologies.”

<sup>7</sup> The CLCPA defines Renewable Energy Systems as “systems that generate electricity or thermal energy through use of the following technologies: solar thermal, photovoltaics, on land and offshore wind, hydroelectric, geothermal electric, geothermal ground source heat, tidal energy, wave energy, ocean thermal, and fuel cells which do not utilize a fossil fuel resource in the process of generating electricity.”

<sup>8</sup> <https://www.nyserdanycgov/media/Project/Nyserda/Files/Programs/Commercial-Property-Assessed-Clean-Energy/Commercial-PACE-Eligible-Technologies-Guidance-Document.pdf>

## 7 NYSERDA's Approval of Entities to Certify Contractors to Perform Renewable Energy System Feasibility Studies

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The PACE Statute provides that the Renewable Energy System Feasibility Study must be performed by a contractor who is certified by NYSERDA, or a certifying entity approved by NYSERDA for this purpose. As in the context of Energy Audits, NYSERDA will not directly certify contractors to perform Renewable Energy System Feasibility Studies (as described in section 7). However, NYSERDA suggests that any contractor that is certified to perform Renewable Energy System Feasibility Studies in a NYSERDA or Utility Program may also be automatically certified to perform commercial PACE Renewable Energy System Feasibility Studies.

NYSERDA has established a process NYSERDA has already approved the following certifying entities be PACE Certifiers for feasibility studies:

- North American Board of Certified Energy Practitioners (NABCEP) for solar certification, PV Technical Sales, or PV Installation Professional programs.
- Underwriter Laboratories (UL) for PV System Installer.
- International Brotherhood of Electrical Workers (IBEW) Solar Installer program.
- International Ground Source Heat Pump Association (IGSHPA) GeoExchange Designer certification or accredited installer.
- BPI Air Conditioning and Heat Pump program.
- BPI Heating program.
- North American Technician Excellence (NATE).
- Chimney Safety Institute of America (CSIA) for chimney sweep certification.
- National Fireplace Institute (NFI) for pellet stove specialist certification.
- Any entity accredited by the American National Standards Institute (ANSI) for certification for the NYSERDA approved renewables technology.
- Any entity accredited by the International Accreditation Service (IAS) for certification for the NYSERDA approved renewables technology.
- Any entity accredited by any other qualified accreditation bodies who are in compliance with ISO/IEC 17024:2012 for the NYSERDA approved renewables technology.
- NYS Department of Education Engineering Licensing Board for approving entities that can certify contractors to perform Renewable Energy System Feasibility Studies. Entities that would like to certify contractors to perform Renewable Energy.

System Feasibility Studies – which entities may include, as in the energy efficiency context, PACE providers, municipal corporations, industry based credentialing organizations or installers themselves –

must allow NYSERDA to establish that they have the ability to determine whether contractors are, at a minimum, able to perform the feasibility study in accordance with the Commercial PACE Technical Guidance Document for Renewable Energy System Feasibility Studies found on NYSERDA's website, and to continue to monitor such compliance. Entities must submit an application to NYSERDA (<https://www.nysERDA.ny.gov/All-Programs/Programs/Commercial-Property-Assessed-Clean-Energy>) showing that they meet the requirements listed below.<sup>9</sup> NYSERDA will review the application and make a final determination within sixty (60) days as to whether the entity is an approved entity for purposes of certifying contractors to perform commercial PACE Renewable Energy System Feasibility Studies.

The list of factors that NYSERDA will consider when determining whether to approve an entity as an approved entity for purposes of certifying contractors to perform Renewable Energy System Feasibility Studies is the same non-exhaustive, non-exclusive list as NYSERDA will use for purposes of assessing approved entities in the energy efficiency context, as enumerated in section 2 above.

For solar photovoltaic installations of 25kW or less, the municipal corporation or its agent may authorize the use of alternative calculation methods, such as the National Renewable Energy Laboratory's PVWatts® Calculator, which can serve to satisfy the Renewable Energy System Feasibility Studies requirement in its program requirements. NYSERDA's approval of a certifying entity for such program will include a review of the entity's experience with use and monitoring of this and other alternative calculation methods.

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<sup>9</sup> No entity may be approved to certify itself to perform Renewable Energy System Feasibility Studies.

## 8 State-Wide Criteria for Certifying Contractors to Perform Renewable Energy System Feasibility Studies

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The PACE Statute requires NYSERDA to adopt state-wide criteria for certifying contractors to perform PACE Renewable Energy Feasibility Studies. Under the PACE Statute, no financing shall be made for Renewable Energy Systems unless determined to be feasible through a Renewable Energy System Feasibility Study. The PACE Law defines a Renewable Energy System Feasibility Study as: “a written study...for the purpose of determining the feasibility of installing a renewable energy system.” NYSERDA suggests that minimum requirements for contractors seeking to perform commercial PACE Renewable Energy Feasibility Studies should be the same as those required for Energy Audits as described in section 4 above and shall also include example experience specific to renewable energy systems.

In addition, NYSERDA suggests that entities certifying contractors to perform Renewable Energy System Feasibility Studies assess the criteria for certifications, expertise or experience included in the “Commercial PACE Contractor Requirements for Renewable Energy System Feasibility Studies.” Upon certification, NYSERDA also suggests that contractors follow the guidelines for performing commercial PACE Renewable Energy System Feasibility Studies included in the “Commercial PACE Technical Guidance Document for Renewable Energy System Feasibility Studies.” Both documents can be found on NYSERDA’s website at [www.nyserda.ny.gov/cpace-guidelines](http://www.nyserda.ny.gov/cpace-guidelines).

## 9 Guidance Related to Verification and Reporting on Installation and Performance

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The PACE Statute requires NYSERDA to establish the form and manner by which municipal corporations or their agents can verify and report on the installation and performance of the Improvement(s) and Renewable Energy System(s) (“System(s)”) installed in their districts. To meet this requirement, municipal corporations or their agents are required to verify and report “on the installation and performance” of Improvement(s) and System(s) that are financed through a municipal sustainable energy loan program in their district.

As part of this verification and performance reporting, NYSERDA suggests that the municipal corporation or its agent shall establish a process to ensure that a financing is not finalized until after the property owner has verified that the Improvement(s) and/or System(s) were installed. Proof of installation can be confirmed through:

- Confirmation from a NYSERDA or utility program that the Improvement(s) and/or System(s) were installed; or
- Receipt of paid invoices for the cost of the Improvement(s) and/or System(s), and a site inspection by a municipal corporation-approved inspector or a certificate of completion signed by the installer and the property owner.

NYSERDA further suggests that the municipal corporation or its agent establish a reporting system to report annually on the activity of financings issued through its program including but not limited to:

- Number of financings issued (reported annually).
- Total dollar amount of financings issued/closed/disbursed.
- Total cumulative dollar amount billed for financing repayments.
- Total cumulative dollar amount collected for financing repayments.
- Total future financing repayments assessed but unpaid.
- Specific characteristics of the Improvements or Systems being financed (e.g. number, size, efficiency, etc.).
- Projected energy savings (kWh, kW, MMBtu), project savings, project cost, and projected energy cost savings.

To support municipal corporation reporting requirements, all data and information that is collected should be in an accessible electronic format.

The following may be included in the PACE finance agreement to confirm that the Improvement(s) and System(s) being installed are operational:

- Property Owner Covenants in Finance Agreement:
  - The property owner shall have the Improvement(s) and System(s) maintained in good condition and repair within the benefited property;
  - If requested, property owner shall promptly deliver or cause to be promptly delivered a written status report of the Improvement(s) and System(s) to the municipal corporation or its agents and representatives; and
  - For purposes of examining the workmanship of the Improvement(s) and System(s), observing the quality of and otherwise evaluating Improvement(s) and System(s), the property owner grants the municipal corporation, its agents and representatives the right to enter and visit the property at any reasonable time, after giving reasonable notice to the property owner, for a period of two (2) years from the completion of the Improvement(s) and System(s). The property owner also agrees to participate in all surveys conducted about the program.
  - 3rd Party Ownership: In addition to the above, provisions confirming:
    - The Improvements will remain operational and cannot be removed through the term of the PACE finance agreement; and
    - The Improvement(s) and System(s) and all agreement(s) and/or contract(s) creating a third-party arrangement are to be transferable to any new property owner, fourth party (e.g., tenant) and/or Improvement(s) and System(s) owner for the duration of the term of the PACE finance agreement.

## 10 Data Release Forms, Data Collection and Property Access

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To allow for municipal corporations to verify and report on the installation and performance of the Improvement(s) and System(s), all financing recipients should be asked to sign an energy data release form, allowing the municipal corporation or its agent to receive from the property owner's electric and gas utilities or non-regulated fuel provider two-years pre- and two-years post-project implementation energy usage and other related information. Additionally, all PACE financing recipients should be asked to agree to allow the municipal corporation or its agent to access the property where the Improvement(s) or System(s) are installed to inspect and measure operation/performance of the installed Improvements and/or Systems. This access may occur before, during or up to two (2) years following project implementation.

Additionally, the municipal corporation or its agent should require financing recipients to identify whether they received any NYSERDA or utility funding for their project and, if so, through what program. A municipal corporation or its agent may be able to use verification and performance reporting done by NYSERDA or the utility to satisfy their own verification and performance reporting requirements.



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