FINANCING FRESH AIR: INCENTIVIZING BOILER CONVERSIONS IN NEW YORK CITY

ASSEMBLYMEMBER DAN QUART, JANUARY 2014

A BRIEF HISTORY OF POOR AIR QUALITY IN NEW YORK CITY

In the 1950's and 1960's, New York City's poor air quality was at crisis levels. Isolated smog events were widely reported as emergencies, killing hundreds over the course of a few separate weeks.[1] In 1953, New York suffered from what is still the nation's worst air pollution disaster: 11 days of smog during November resulted in the death of somewhere between 175 and 260 people, due to a temperature inversion.[2, 3] Later, in the 1960's, temperature inversions were responsible for two more pollution events, leading to the death of 200 people in 1963 and 168 in 1966.[4]

These individual events are attention-grabbing, but air quality before environmental regulation was also alarming. For example, sulfur dioxide, one of the earliest pollutants to be tracked, is now monitored at an order of magnitude higher than it was in the mid-twentieth century. A study of the 1953 smog crisis lists the normal level of sulfur dioxide at the end of the crisis as .09 ppm (parts per million).[5] In 2013, sulfur dioxide levels were reported to have dropped from 5.6 ppb (parts per billion) to 1.7 ppb, or .0017ppm.[6] We now know that the health effects of sulfur dioxide exposure, including bronchoconstriction and increased asthma symptoms, can be experienced at much lower levels than previously believed. Currently, the EPA has set a long-term standard for sulfur dioxide at .03 ppm, 300% lower than typical sulfur dioxide levels in the 1950's.[7] The lack of air quality monitoring throughout much of the 20th century ensures that we'll never know exactly what the effects were of the poor air quality that plagued New York throughout the 20th century. However, it is undeniable that lowered productivity, adverse health impacts and even deaths can be attributed to air pollution.

Air quality improved across the country after the enactment of the Clean Air Act and the establishment of the National Ambient Air Quality Standards (NAAQS) in 1970.[8] Still, New York City's air remained notably more polluted than the rest of the country. The EPA's study, National-Scale Air Toxics Assessment 2002 County-Level Modeled Ambient Concentrations, Exposures, and Risks, identifies New York County as the third worst county in the country (out of a total of 3223) for cancer risk caused

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[1] Center for Chemical Process Safety. "Historical Perspective on Air Pollution Control." In *Safe Design and Operation of Process Vents and Emission Control Systems*, by Center for Chemical Process Safety, 297-307. Hoboken, NJ: John Wiley & Sons, Inc., 2006.

[2] Vincoli, Jeffrey W. *Basic Guide to Environmental Compliance*. New York City: John Wiley & Sons, Inc., 2006.

[3] Typically, the air in the lower atmosphere of the Earth is warmer than the air in the upper atmosphere, trapping heat and keeping the Earth at a habitable temperature. This pattern can reverse itself, a situation known as a temperature inversion. During a temperature inversion, air does not move as freely, leaving air pollutants in place for longer than normal, increasing the pollutants' effect on the health of members of nearby communities.

[4] *Browner v. American Trucking Associations, Inc., et al*. 99-1257 (Supreme Court, September 11, 2000).

[5] Greenburg, Leonard, Morris B. Jacobs, Bernadette M. Drolette, Franklin Field and M. M. Braverman. "Report of an Air Pollution Incident in New York City, November 1953." *Public Health Reports*, 1962: 7-16.

[6] New York City Department of Health and Mental Hygiene. "New York City Trends in Air Pollution and its Health Consequences." New York City, 2013.

[7] Agency for Toxic Substances and Disease Registry. "Agency for Toxic Substances and Disease Registry ToxFAQ." *Agency for Toxic Substances and Disease Registry*. June 1999.

[8] Buckley, Shannon M. and Myron J. Mitchell. "Improvements in Urban Air Quality: Case Sutdies from New York State, USA." *Water, Air, & Soil Pollution*," 2011:93-106.

by airborne chemicals. The Bronx ranks 8th, Brooklyn is 9th, and Queens County is 13th.[9] Clearly, even today, New York City and New York State need to devote resources to discovering the specific causes of our poor air quality and eradicating them.

In 2007, then Mayor Michael Bloomberg released his PlaNYC, an effort to reenvision New York City as "the first environmentally sustainable 21st century city,"[10] targeting air quality as an area in need of improvement. PlaNYC identified $PM_{2.5}$ levels as the most important air quality indicator, based on health impacts; the document attributed 3,000 deaths, 2,000 hospital admissions and 6,000 emergency room visits annually to $PM_{2.5}$ exposure.[11] As part of PlaNYC, the New York City Department of Health and Mental Hygiene, in partnership with Queens College, instituted the Community Air Survey (CAS), a comprehensive survey of street-level air quality in New York City, which monitors levels of $PM_{2.5}$ at more than 100 locations across the city. The data gathered from the CAS made clear that while New York City suffers from the same traffic-based air pollution as other urban areas, a significant portion of the pollution was attributed to a surprising factor: boilers. Residential heating emissions from a group of 10,000 buildings (about 1% of New York City's housing stock) burning residual heating oils was responsible for more $PM_{2.5}$ emissions than all car and truck traffic combined.

BOILERS

New York City apartment buildings with oil-burning boilers have three fuel choices: #6, #4 and #2 oils. #6 oil is the lowest-grade, most viscous option, with the most impurities. This oil is mostly made from the material remaining from the production of higher grade fuel oil, like #2.[12] #4 oil is made of a blend of #6 and #2.[13] As demonstrated in Figure 1, both #6 and #4 fuel oils are significantly more emissive than #2 oil or natural gas. The 10,000 buildings identified by PlaNYC all burn the highly-emissive #4 or #6 oils.[14] In an effort to improve air quality, the Mayor finalized Department of Environmental Protection (DEP) regulations that mandate that all New York City buildings convert to cleaner-burning fuels. As of April 2011, new boiler installations were not permitted to use #4 or #6 oils. As of July of 2012, boilers that burn #6 oil were required to convert before the expiration of their 3-year operation permit. Finally, by 2030, or when a boiler or burners are replaced, building owners will be required to use only the cleanest burning fuels, including #2 oil, natural gas, steam or biodiesel.[15]

[9] US Environmental Protection Agency. "National-Scale Air Toxics Assessment 2002 County-Level Modeled Ambient Concentrations, Exposures, and Risks." 2002.
[10] Bloomberg, Michael. "NYC Media." *PlaNYC 2011 Update*. 2011.
[11] Bloomberg, Michael. *PlaNYC Update April 2011: A Greener, Greater New York*. New York: The City of New York, 2011.
[12] Wikipedia contributors, *Fuel oil*.
[13] Wallace, Rick. "Definitions of EIA Distillate Categories and Fuels Contained in the Distillate Grouping." *Oregon Department of Energy*. n.d.
[14] Bloomberg, Michael. *PlaNYC Update April 2011: A Greener, Greater New York*. New York: The City of New York, 2011.
[15] New York City Department of Environmental Protection. "Promulgation of Amendments to Chapter 2 of Title 15 of the Rules of New York City Rules Governing the Emissions from the Use of #4 and #6 Fuel Oil in Heat and Hot Water Burners and Boilers." *Heating Oil Regulations.* April 2011.

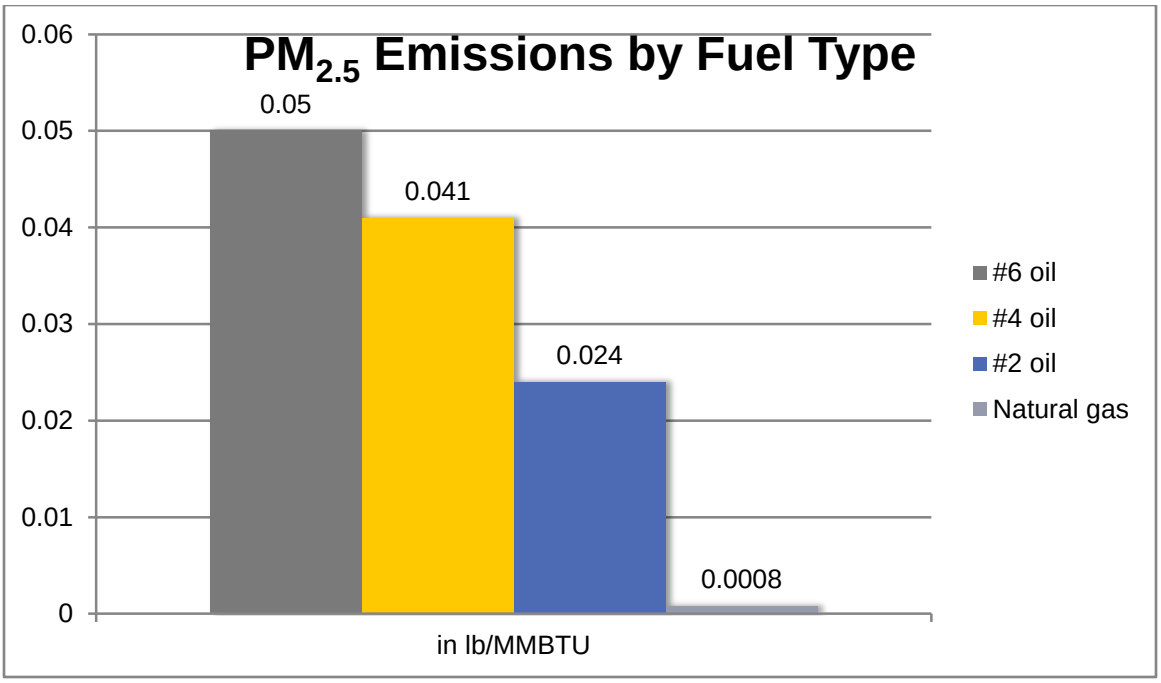

FIGURE 1[16]

THE RESPONSE SO FAR

As of November 2013, the number of buildings burning #6 and #4 oil has been reduced from 10,000 to 5429, a decrease of more than 40%.[17] While this progress is important, there still remain 5429 buildings with boilers burning dirty fuels. Of these 5429 buildings, 2589 are buildings that failed to meet their conversion deadline in 2012 and 2013.[18] While many buildings are complying with the regulations, a significant proportion are not. It is likely that some percentage of buildings with deadlines in 2014 and 2015 will also not comply, indicating that further action will be necessary to achieve the mandated air quality goals. Further, PlaNYC recognizes the importance of encouraging buildings to phase out the use of even #4 oil ahead of the 2030 deadline. However, it is clear that additional incentives will be needed to accomplish this goal.

The cost of conversion is a factor in the reluctance of some building owners to convert from #6 and #4 oils. The Environmental Defense Fund, in their report, *Bottom of the Barrel*, estimated the costs to be $57,500 for a conversion from #6 to #2 oil and $35,000 for a conversion from #6 to natural gas.[19] A 2011 environmental assessment statement by the New York State Department of Environmental Protection estimates that a conversion to #2 oil is estimated to be $272,670 and a conversion to natural gas would cost $327,170.[20] Even if the EDF's lower estimates are more accurate, these costs require a significant investments for buildings without deep financial reserves, particularly buildings with rent-regulated tenants and a resultant limited ability to increase rents to satisfy the capital outlay.

[16] ibid
[17] NYC Clean Heat 2013. "Clean Heat Data for Distribution." *Spot the Soot!* November 2013
[18] ibid
[19] Environmental Defense Fund; M.J. Bradley & Associates, LLC; Urban Green Council. *The Bottom of the Barrel: How the Dirtiest Heating Oil Pollutes Our Air and Harms Our Health*. Environmental Defense Fund, 2009.
[20] New York State Department of Environmental Protection 2011, reported in Stringer, Tenants and Toxins.

In 2011, Manhattan Borough President Scott Stringer released a report, *Tenants and Toxins*, comparing a random sample of buildings burning #6 and #4 fuel oils.[21, 22, 23] His research determined that 62% of #6 and #4 burners were rent-regulated buildings, and he extrapolated from this finding that cost is likely to be a serious driver of non-conversion.

DATA AND ANALYSIS

Since 2011, a significant number of buildings have converted from #6 and #4 oil. As of November 2013, the total number has dropped from approximately 10,000 to 5429 buildings. While this is a positive change, it is critical to identify the factors preventing the remaining buildings burning #6 and #4 oils from converting. Our research was designed to test whether financial costs of converting are a serious contributor to non-conversion. Because financial reports of residential buildings are not publicly available, we have used rent regulation status as a proxy variable for financial need.

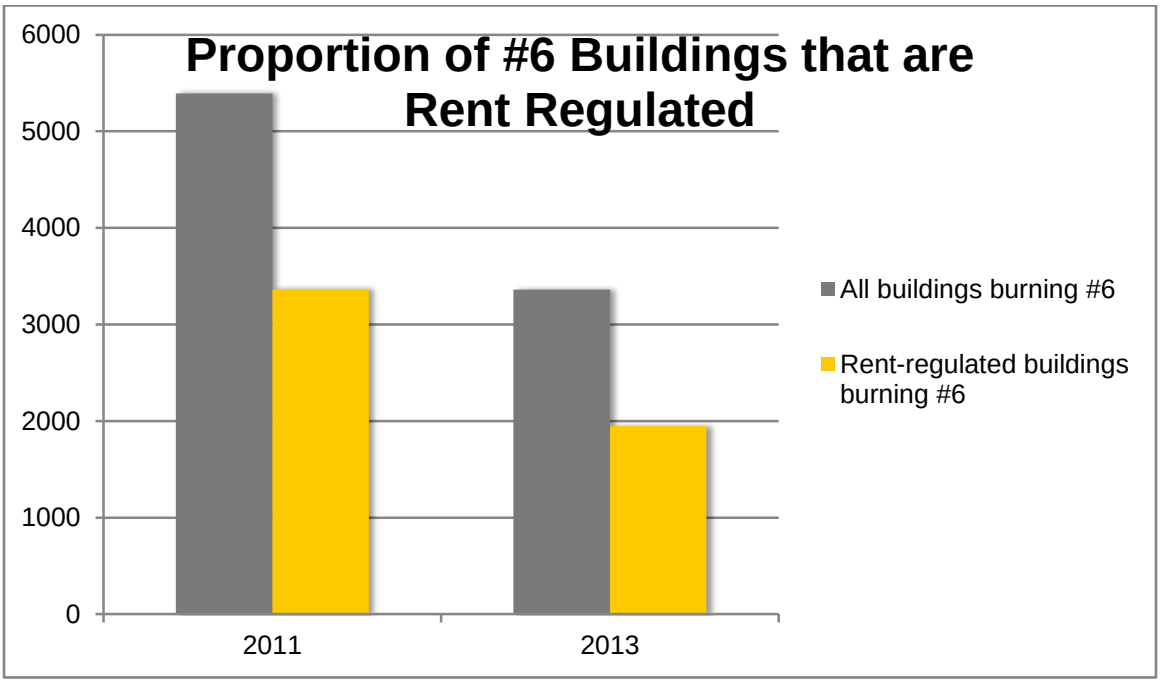

FIGURE 2

My office cross-referenced each building included in the list of buildings burning heavy oil, available from NYC Clean Heat [24] with the New York State Department of Housing and Community Renewal (DHCR) database of rent-regulated buildings.[25] While it is possible that some of the buildings in the DHCR database no longer have any rent-regulated units, we believe that a history of rent regulation is

[21] Stringer used data compiled by the Environmental Defense Fund and the list of rent-stabilized buildings published by the New York City Rent Guidelines Board.
[22] Stringer, Scott. *Tenants and Toxins*. New York City: Manhattan Borough President's Office, 2011.
[23] NYC Clean Heat 2013
[24] ibid
[25] Database is found at http://www1.dhcr.state.ny.us/BuildingSearch/default.aspx. This database lists each building that has registered with DHCR at least once since 1984 as having rent-regulated units.

likely to indicate financial instability at a similar level to buildings with current rent-regulated apartments. 67% of the buildings on the EDF list were in the DHCR database, a five point increase from 2011.[26]

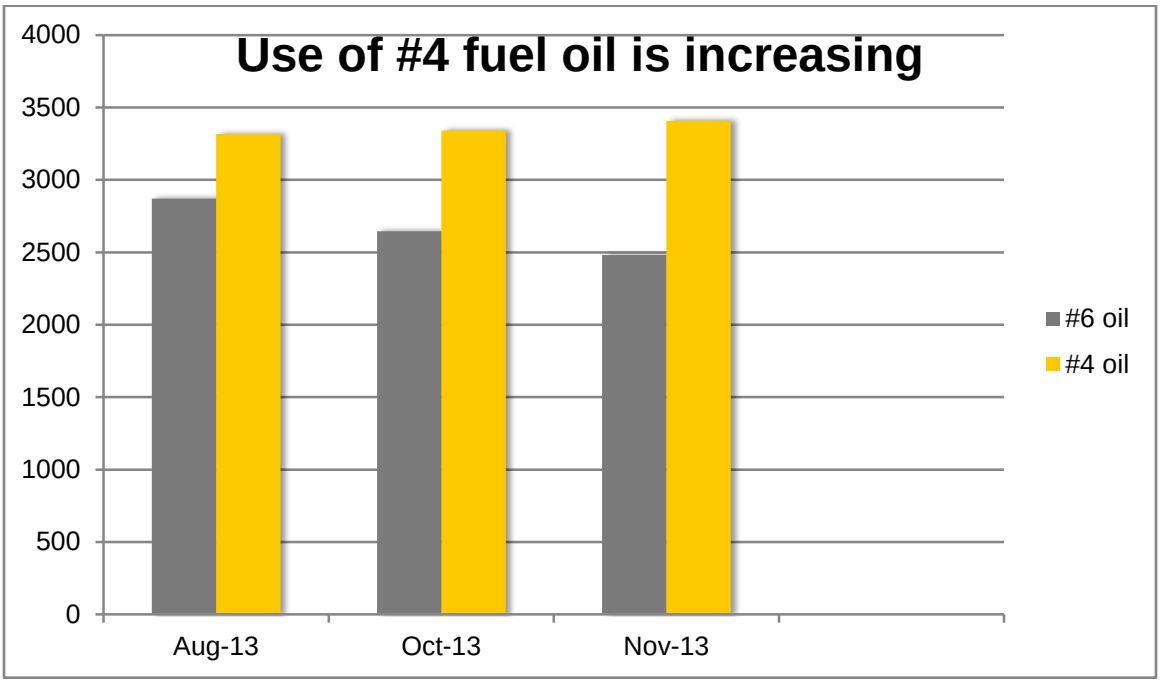

FIGURE 3

Further, even as the city continues to make progress in eliminating #6 oil completely, the number of buildings burning #4 oil are increasing, indicating that some of the buildings that convert are taking the intermediate step of converting from #6 to #4 oil, rather than converting to the much cleaner #2 oil or natural gas. While the increases are small, the environmental benefits of eliminating both #6 oil and #4 oil are significant enough that any increase is troubling.

SOLUTIONS

The City is to be commended for the extent to which it has already eliminated dirty fuel oils, particularly #6, which has already had an effect on our air quality. As reported in the Community Air Survey (CAS), $PM_{2.5}$ levels have dropped 23% between 2008-2009 and 2012-2013.[27] Further, the City has made an effort to increase the financial viability of boiler conversions through the establishment of the New York Clean Energy Efficiency Corporation (NYCEEC), which helps connect large residential buildings (over 50,000 square feet) with financing to convert their boiler.

New York State has also worked to improve the affordability of boiler conversions. The New York State Energy Research and Development authority (NYSERDA) created the Multifamily Carbon Emissions Reduction Program (MCERP), which allocated $6.5 million in 2010 to fund 170 boiler conversions.

[26] The saliency of these conclusions are dependent upon the accuracy of the data from both DHCR and the EDF. Any errors in their datasets would have been replicated in this research.
[27] New York City Department of Health and Mental Hygiene 2013

However, many applications to this program were left unfilled, a clear indicator of demand. Since then, however, NYSERDA stopped funding MCERP, instead directing applicants to a new program, the Multifamily Energy Performance Portfolio (MEPP). MEPP is a much broader program that will force small projects like boiler conversions to compete against much larger projects. MEPP also requires considerably more administrative work in order to secure funding, making it a less attractive option to buildings without the capacity to prepare the extensive application. Finally, MEPP requires a whole-building assessment as part of the program. Buildings that are prioritizing a boiler conversion over other efficiency measures will be ineligible for incentives, making MEPP an unrealistic option for these building owners. Despite my request for dedicated funding for boiler conversions, NYSERDA has refused to reinstate the successful MCERP program or use the increase of funds from the Regional Greenhouse Gas Initiative (RGGI)[28], the carbon cap-and-trade system that New York participates in, toward boiler conversions.

The time has come to improve our air quality by eliminating the use of dirty heating oils. This is clearly an achievable goal. New York State should create a reliable funding stream in the state budget to lend certainty to building owners who want to retrofit their boilers to use cleaner fuel but do not have the capital to do so. Further, funding in the state budget for this initiative will likely increase private financing for these projects, reassuring lenders of the stability of the funding. However, it is important to ensure that this funding does not go to half-measures, but instead to make serious improvements in our air quality. I am working to secure funding in the state budget for building owners who convert from either #6 oil or #4 oil to cleaner heating fuel, including #2 oil, natural gas, or a renewable heating source that would achieve the same (or better) results in $PM_{2.5}$ reduction.

To achieve truly acceptable air quality, this incentive should be paired with additional research and innovation in the use of renewable resources for residential heating. Strengthening this market will spur new developments. While both #2 oil and natural gas are considerably less-emissive than #4 and #6 oils, long-term sustainability will require an even more diversified portfolio of options. I have introduced legislation that will allow for shared renewables, one that will create a statutory renewable portfolio standard for the state and a bill that will create a community solar demonstration project. Further, a number of legislative initiatives intended to strengthen the renewable energy market are currently pending in the State Legislature, including the New York Sun Act and bills to improve access to renewables through the implementation of net metering regulations, all of which I have co-sponsored.[29] While none of these initiatives specifically target renewable sources for residential heating, any strengthening of the market will help incentivize innovation in the space. However, both the state and the city should continue to research and incentivize heating-specific ideas that will allow for more choices for New York City residential heating customers.

[28] In 2013, the carbon cap was lowered, resulting in an additional $350 million in RGGI funds for New York State from 2013-2020.
[29] See Appendix A for the text of each of these bills.

CONCLUSION

Diversifying our energy portfolio is of critical importance in improving our air quality. The prior administration deserves credit for implementing policies that will help achieve these goals, while recognizing the financial realities of many building owners by establishing realistic time deadlines for these conversions. However, the structure of this mandate does not allow for any consideration for the financial obstacles that may prevent some buildings from converting, regardless of how much time building owners have to comply. Further, the phase-out model still allows for too high a level of $PM_{2.5}$ emissions over the next 17 years. With a tax credit system and additional renewable research in place, we can achieve significant results at an accelerated rate. Clean air is one of our most precious resources; state policy should be designed to incentivize individual choices and market structures that will ensure the preservation of that resource.

APPENDIX A

A8240

Section 1. The public service law is amended by adding a new section 2 66-n to read as follows:

§ 66-n. Shared renewable energy facilities. 1. Definitions. As used in this section, the following terms shall have the following meanings:

(a) "Shared renewable energy facility" means renewable energy technology that is owned or developed by an entity other than a public authority or an electric distribution company and that is manufactured, installed, and operated in accordance with applicable government and industry standards; that is connected to the electric system and operated in conjunction with an electric corporation's transmission and distribution facilities; that is operated in compliance with any standards and requirements established under this section; and where electricity generated by the facility is credited to the subscribers of the facility. A shared renewable energy facility:

(i) shall utilize one of the following renewable energy technologies as defined by sections sixty-six-j and sixty-six-l of this article: (A) solar electric generating equipment; (B) farm waste electric generating equipment; (C) fuel cell electric generating equipment; (D) micro-hydroelectric generating equipment; and (E) wind electric generating equipment;

(ii) shall have at least two subscribers; and

(iii) shall have a rated capacity of not more than two thousand kilowatts, and the commission shall have the authority to determine maximum rated capacity thresholds for shared renewable energy facilities based upon an evaluation and finding of public interest, as determined by a

stakeholder process through a proceeding to be established by the commission, and the attributes of each renewable energy technology.

(b) "Subscriber" means a customer of an electric corporation who subscribes to a shared renewable energy facility and who has identified an individual meter at any property owned or leased by the customer to which the subscription shall be attributed. Such meters shall be within the service territory of the same electric corporation to which the shared renewable energy facility is interconnected and within the same load zone of the New York independent system operator as determined by the locational based marginal price as of the date of the initial request by the subscriber organization to interconnect the shared renewable energy facility.

(c) "Subscriber organization" means an organization whose purpose is to own and operate a shared renewable energy facility for the subscribers of the shared renewable energy facility. A subscriber organization may be any for-profit or non-profit entity and shall be permitted by the state pursuant to section sixty-eight of this chapter if, as determined by the commission to be in the public interest pursuant to a stakeholder process through a proceeding to be established by the commission, the subscriber organization's shared renewable energy facility has a maximum rated capacity threshold larger than two thousand kilowatts.

(i) The subscriber organization shall file with the department of state articles of incorporation, amendment, consolidation, merger, conversion, or dissolution, when executed and acknowledged, including such affidavits as may be required by the department of state. The secretary of state shall, upon the payment of the fees as specified in this paragraph, index such articles. Upon the filing of such articles, the incorporation, amendment, consolidation, merger, conversion, or dissolution provided for therein shall be in effect. The department of state shall charge and collect for:

(1) Filing articles of incorporation, forty dollars;

(2) Filing articles of amendment, twenty-five dollars;

(3) Filing articles of consolidation or merger, twenty-five dollars;

(4) Filing articles of conversion, twenty-five dollars;

(5) Filing certificate of election to dissolve, five dollars;

(6) Filing articles of dissolution, five dollars; and

(7) Filing certificate of change of principal office, fifteen dollars.

(ii) Each subscriber organization shall file with the commission an annual report, which shall show in detail:

(1) The number of its members;

(2) The amount of its outstanding indebtedness;

(3) Its receipts and expenditures during the preceding year;

(4) The amount paid in reduction of its indebtedness and as interest upon its indebtedness;

(5) The names of its officers and the aggregate amount paid as salaries to them and the amount paid as wages to any of its employees; and

(6) The location of its plant or plants and system, with a full description of its property and franchise areas.

(d) "Subscriber agreement" means a written agreement identifying each subscriber of a shared renewable energy facility, which shall include the name, address, and the electric corporation account number to which the subscription shall be attributed. The subscriber agreement shall designate the portion of production from the shared renewable energy facility allocated to each subscriber for the purposes of calculating the bill credit to each subscriber. The subscriber agreement shall be

filed by the subscriber organization with the electric corporation to which the shared renewable energy facility is interconnected.

(e) "Subscription" means a direct or indirect ownership, lease, or financial interest in a shared renewable energy facility that enables a subscriber to receive a bill credit for a retail account with the electric corporation. Each subscription shall be sized to represent the energy production from at least one kilowatt of the shared renewable energy facility's generating capacity provided, however, that the subscription is sized to produce no more than one hundred percent of the subscriber's average annual electrical consumption. In sizing the subscription, a deduction for the amount of any existing renewable energy generation at the subscriber's premises and any subscriptions by the subscriber in other shared renewable energy facilities shall be made.

(f) "Bill credit" means an amount of money credited each billing period to an electric account based on a subscription to a shared renewable energy facility and pursuant to a subscriber agreement and the methodology used for calculation of the bill credit as established under this section.

2. Provisions pertaining to shared renewable energy facilities. (a) The determination of the bill credit available to each subscriber of a shared renewable energy facility shall be based on each subscriber's subscription in that shared renewable energy facility.

(b) For a shared renewable energy facility, the total amount of electricity generated and available for allocation to subscribers shall be determined by a production meter installed and paid for by the subscriber organization that is the owner of the shared renewable energy facility.

3. Provisions pertaining to subscribers, subscriber organizations and subscriptions. (a) A subscriber organization shall be responsible for providing to the electric corporation, at the beginning of each billing cycle, a subscriber agreement statement identifying the portion of production allocated to each subscriber. Subscriber organizations may add new subscribers to a subscriber agreement or change the individual metered accounts to which a subscriber's subscription shall be attributed at the beginning of each billing cycle by providing an updated subscriber agreement to the electric corporation. If there has been no change in the allocations from the previous submission, the subscriber organization is not required to file an updated subscriber agreement.

(b) An electric corporation may require that customers participating in a shared renewable energy facility have their meters read on the same billing cycle.

(c) The dispute resolution procedures available to parties in the electric corporation's interconnection tariff shall be available for the purposes of resolving disputes between an electric corporation and subscribers or their designated representative for disputes involving

the electric corporation's allocation of bill credits to the subscriber's electric account. The electric corporation shall not be responsible for resolving disputes related to the agreements between a subscriber, the owner of a shared renewable energy facility that is a subscriber organization or any other party. This provision shall in no way limit any other rights the subscriber may have related to an electric corporation's provision of electric service or other matters as provided by, but not limited to, tariff, decision of the commission, or statute.

(d) The following provisions may apply to a shared renewable energy facility that has a rated capacity of not more than two thousand kilowatts, based upon an evaluation and finding of public interest as determined by a stakeholder process through a proceeding to be established by the commission:

(i) Subscribers shall not be assessed standby charges on the shared renewable energy facility or the kilowatt-hour generation of such a shared renewable energy facility.

(ii) An electric corporation shall impose no other charge or fee, including back-up, standby and demand charges, for the provision of a subscription to such a shared renewable energy facility.

4. Bill crediting and collection procedures. (a) The electric corporation will credit the accounts of the subscribers of the shared renewable energy facility by applying a bill credit to each metered account associated with a subscription in accordance with the terms of the subscriber agreement. The electric corporation shall carry over any bill credit earned by a subscriber and not used in the current billing period

to offset the subscriber's consumption in subsequent billing periods. Any such bill credit shall not reduce any fixed monthly customer charges imposed by the electric corporation.

(b) The schedule applicable to a subscriber shall be identical, with respect to rate structure, all retail rate components, and any monthly charges, to the charges that the subscriber would be assigned if the subscriber did not receive a bill credit according to this section.

(c) To the extent practicable, electric corporations shall utilize existing electronic data interchange infrastructure or other existing billing infrastructure to implement their billing and collection responsibilities under this section.

(d) The commission shall ensure full and timely recovery of all reasonable costs incurred by an electric corporation to implement the program under this section, including reasonable expenses for changes to their billing system and handling of collections, and shall determine the appropriate method of allocating those costs.

5. Calculation of bill credits. (a) For subscribers to a shared renewable energy facility that are located on the same distribution feeder as the shared renewable energy facility, the value of the bill credit shall be calculated by multiplying the subscriber's portion of the kilowatt-hour electricity production from the shared renewable energy facility by the retail rate as charged to the subscriber by the electric corporation;

(b) The commission, in consultation with New York state energy research and development authority, may revise the bill credit calculation methodology at any time that it concludes that the existing methodology does not provide subscribers with the fair value of electricity

and other benefits produced by shared renewable energy facilities and that such a revision is in the public interest, as determined by a stakeholder process through a proceeding to be established by the commission. Any revision to the bill credit calculation methodology shall apply to new shared renewable energy facilities interconnected after the commission adopts a new methodology.

6. Conditions of service. (a) An electric corporation shall provide for the interconnection of shared renewable energy facilities owned or operated by a subscriber organization, provided the subscriber organization has paid or agreed in writing, along with the furnishing of reasonable security, to pay the electric corporation for the material and installation costs relating to any portion of a distribution line, service line and appurtenant facilities that exceeds the portion which the electric corporation is required to provide without contribution, which costs shall be defined in the electric corporation's tariff, and

that the subscriber organization enters into a contract with the corporation or complies with the corporation's applicable schedule and complies with standards and requirements established under this section.

(b) On or before three months after the effective date of this section, each electric corporation shall develop a model contract and file a schedule that establishes consistent and reasonable rates, terms and conditions for shared renewable energy facilities, according to the requirements of this section. The commission shall render a decision within three months from the date on which the schedule is filed.

(c) In the event that the electric corporation determines that it is

necessary to install a dedicated transformer or transformers, or other equipment to protect the safety and adequacy of electric service provided to other customers, a subscriber organization shall pay the electric corporation's actual costs of installing the transformer or transformers, or other equipment as determined by the electric corporation subject to review, upon request of such subscriber organization, by the commission.

(d) On or before three months after the effective date of this section, each electric corporation shall establish standards that are necessary for shared renewable energy facilities and the interconnection of shared renewable energy generating equipment to its system and that the commission shall determine are necessary for safe and adequate service and further the public policy set forth in this section. Such standards may include, but shall not be limited to:

(i) equipment necessary to isolate automatically the energy generating equipment from the utility system for voltage and frequency deviations; and

(ii) a manual lockable disconnect switch provided by the subscriber organization which shall be externally accessible for the purpose of isolating the energy generating equipment.

§ 2. This act shall take effect immediately.

A8241

Section 1. The public service law is amended by adding a new article 12 to read as follows:

ARTICLE 12

RENEWABLE PORTFOLIO STANDARD

Section 250. Purpose and scope.

6 251. Definitions.

7 252. Amount of renewable energy required.

8 253. Energy that qualifies for a solar renewable energy certif-

9 icate; registration requirement.

10 254. Using renewable energy certificates and solar renewable

11 energy certificates for renewable portfolio standard

12 compliance.

13 255. Issuance of renewable energy certificates and solar renewa-

14 ble energy certificates.

15 256. Alternative compliance payments.

16 257. Demonstrating compliance, reporting and recordkeeping.

17 258. Enforcement.

18 § 250. Purpose and scope. 1. Each electric corporation that sells

19 electricity to retail customers in New York state, shall include in its

20 electric energy portfolio electricity generated from renewable energy

21 sources. This article is designed to encourage the development of renew-

22 able sources of electricity and new, cleaner generation technology;

23 minimize the environmental impact of air pollutant emissions from elec-

24 tric generation; reduce possible transport of emissions and minimize any

EXPLANATION--Matter in italics (underscored) is new; matter in brackets [ ] is old law to be omitted.

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1 adverse environmental impact from deregulation of energy generation; and

2 support the reliability of the supply of electricity in the state.

2. This article governs the retail electricity sales of each electric corporation. This article does not govern installed capacity obligations.

3. This article does not apply to a private or government aggregator that contracts for electric generation service or electric related services, either separately or bundled, for its own facilities or on behalf of other business and residential customers in this state. This article does not apply to an energy agent. An electric corporation that is contractually obligated to sell electricity to an aggregator shall comply with this article by including the amount sold to the aggregator as part of its energy portfolio.

§ 251. Definitions. As used in this article, unless the context otherwise requires, the following terms shall have the following meanings:

1. "Alternative compliance payment" means a payment of a certain dollar amount per megawatt hour, which an electric corporation may submit to comply with the renewable energy requirement set forth in this article.

2. "Attribute" means a characteristic associated with electricity generated using a particular renewable fuel, such as its generation date, facility geographic location, unit vintage, emissions output, fuel, state program eligibility, or other characteristic that can be identified, accounted, and tracked.

3. "Bioenergy crop" means plants cultivated and harvested specifically for use as fuel for the purpose of generating electricity.

4. "Biomass" means any organic matter that is available on a renewable or recurring basis (excluding old-growth timber), including dedicated energy crops and trees, agricultural food and feed crop residues, aquat-

ic plants, wood and wood residues, animal wastes, and other waste materials.

5. "Black liquor" means a viscous liquid containing inorganic chemicals and organic material such as lignin and aliphatic acids, which is separated from wood during chemical pulping.

6. "Energy portfolio" means all of the electrical energy supplied by a particular electric power supplier or basic generation service provider to retail customers in the state.

7. "Energy year" means the twelve month period from April first through March thirty-first and shall be numbered according to the calendar year in which it ends.

8. "Fossil fuel" means natural gas, petroleum, coal, or any form, of solid, liquid, or gaseous fuel derived from such material.

9. "Fuel cell" means an electrochemical device that converts chemical energy in a hydrogen or hydrogen-rich fuel directly into electricity, without combustion.

10. "Generation attribute tracking system" means the environmental and emissions attributes tracking system for electric generation that is administered by New York state energy research and development authority pursuant to subdivision nineteen of section eighteen hundred fifty-four of the public authorities law.

11. "Geothermal energy" means energy generated by a steam turbine, driven by hot water or steam extracted from geothermal reservoirs in the earth's crust.

12. "Installed capacity obligation" means the requirement for an electric power supplier or basic generation service provider to obtain an amount of electrical generation capacity to meet load service obli-

gations under the reliability rules of the New York independent system operator. Installed capacity includes the generation capacity which a company considers part of its own electric system, including wholly owned units, jointly-owned units, non-utility generation (NUGs), and purchases.

13. "Net metering" means a system of metering and billing for electricity in which the electric corporation or the electric distribution company:

(a) credits a customer-generator at the full retail rate for each kilowatt-hour produced by a renewable energy system installed on the customer-generator's side of the electric revenue meter, up to the total amount of electricity used by that customer during an annualized period, except for residential micro combined heat and power (micro-CHP) and fuel cell systems, which are credited at the avoided cost rate; and

(b) compensates the customer-generator at the end of the annualized period for any remaining credits, at a rate equal to the electric corporation's avoided cost of wholesale power.

14. "Old-growth timber" means wood or plant matter taken from a forest in the late successional stage of forest development, including plant matter taken from the forest floor. Late successional forests contain live and dead trees of various sizes, species, composition, and age class structure. The age and structure of old-growth timber varies significantly by forest type and from one biogeoclimatic zone to another.

15. "Qualification life" means, for any solar electric generation

facility, the period beginning on the date on which the facility was authorized to energize and ending on the first March thirty-first that is at least fifteen years after the date of authorization to energize. A solar facility's qualification life applies to the facility itself, and to each piece of equipment included in the facility, regardless of any interruption in the solar facility's operation; or of any disassembly, relocation, sale or transfer of any piece of equipment included in the facility.

16. "Renewable energy certificate" means a certificate representing the environmental benefits or attributes of one megawatt-hour of generation from a generating facility that produces renewable energy, but shall not include a solar renewable energy certificate.

17. "Renewable fuel" means a fuel that is naturally regenerated over a short time scale and is either derived from the sun (such as thermal, photochemical or photoelectric), or from other natural sources such as wind, hydropower, geothermal and tidal energy, or photosynthetic energy stored in biomass. This term does not include a fossil fuel, a waste product from a fossil source, or a waste product from an inorganic source.

18. "Resource recovery facility" means a solid waste facility that incinerates solid waste for the purposes of producing energy and recovering metals and other materials for reuse.

19. "Solar alternative compliance payment" means a payment of a certain dollar amount per megawatt-hour, which an electric corporation may submit to the commission to comply with the solar electric generation requirements set forth in this article.

20. "Solar electric generating facility" or "solar facility" means

53 equipment used to produce solar electric generation.

54 21. "Solar electric generation" means creation of electricity using a

55 system that employs solar radiation to produce energy that powers an

1 electric generator. Solar electric generation includes technologies

2 that utilize the photovoltaic effect.

3 22. "Solar renewable energy certificate" means a certificate issued by

4 the commission or its designee, which represents one megawatt-hour of

5 solar energy that is generated by a facility connected to the distrib-

6 ution system in New York, and has value based upon, and driven by, the

7 energy market.

8 23. "Voluntary clean electricity market" or "voluntary clean electric-

9 ity program" means any program, system, market or procedure through

10 which retail electric customers may elect to purchase a renewable energy

11 product on a voluntary basis. New York's power to choose program is a

12 voluntary clean electricity program.

13 § 252. Amount of renewable energy required. 1. Each electric corpo-

14 ration that sells electricity to retail customers in the state shall

15 ensure that the electricity it sells each energy year in the state

16 includes at least the minimum amount of qualified renewable energy

17 required for that energy year. The minimum amount of qualified renewable

18 energy shall be:

19 (a) for energy years two thousand fifteen through two thousand nine-

20 teen, thirty percent;

21 (b) for energy year two thousand twenty, forty percent with at least

22 two percent derived from solar energy.

2. The commission shall adopt rules setting minimum amounts of renewable energy required for energy year two thousand twenty-one and each subsequent energy year. The minimum amounts of renewable energy required shall be no lower than those required for energy year two thousand twenty. The commission, in consultation with the department of environmental conservation, electric distribution companies, the utility intervention unit of the department of state, the Public Utility Law Project of New York, Inc., the solar energy industry and relevant stakeholders, shall periodically consider increasing the renewable energy portfolio standards beyond the minimum amounts set forth in this chapter, taking into account the cost impacts and public benefits of such increases including, but not limited to:

(a) reductions in air pollution, water pollution, land disturbance and greenhouse gas emissions;

(b) reductions in peak demand for electricity and natural gas and the overall impact on the costs to electricity and natural gas customers;

(c) increases in renewable energy development, manufacturing, investment and job creation opportunities in New York; and

(d) reductions in state and national dependence on fossil fuels.

3. An electric corporation shall meet the requirements for solar electric generation through:

(a) retirement of solar renewable energy certificates through a renewable energy trading program approved by the commission in consultation with the department of environmental conservation; or

(b) submittal of one or more solar alternative compliance payments.

4. The following shall apply to the type of energy, and type of documentation, used for compliance with each of the requirements in this

article:

(a) solar renewable energy certificates may be used to meet any requirement for solar electric generation;

(b) renewable energy certificates may be used to meet renewable energy requirements, but shall not be used to meet solar electric generation requirements.

5. An electric corporation shall not demonstrate compliance with this article using direct supply of any type of renewable energy.

6. The same renewable energy shall not be used for more than one of the following:

(a) creation of a solar renewable energy certificate; or

(b) creation of a renewable energy certificate; or

(c) creation of a renewable energy certificate, or of any other type of attribute or credit, under authority other than the authority granted in section two hundred fifty-five of this article such as another state's renewable energy standards or any voluntary clean electricity market or voluntary clean electricity program.

7. Each megawatt-hour of retail electricity supplied in New York by an electric corporation subject to this article carries with it an accompanying solar obligation. All electric corporation solar obligations, taken together, must equal the statewide solar obligation set forth in subdivision nine of this section for energy year two thousand twenty.

8. For electricity supplied during energy year two thousand twenty, an electric corporation shall calculate its solar obligation as two percent of the total energy generated by the electric corporation.

9. The total statewide solar obligation shall be two percent of the total electricity sold to all retail customers.

§ 253. Energy that qualifies for a solar renewable energy certificate; registration requirement. 1. To be eligible to form the basis for a solar renewable energy certificate usable for compliance with this article, electricity shall meet all requirements in this section, as well as all other applicable requirements in this chapter. The registration process required in this section for construction of new solar electric generation facilities is intended to provide advance notice to the public and the renewable energy markets when increases in solar electric generation capacity in the state are planned. The registration process shall be administered by the commission or its designee.

2. To be eligible for issuance of a solar renewable energy certificate usable for compliance with this article, electricity shall:

(a) meet the definition of solar electric generation in section two hundred fifty-one of this article;

(b) be generated at a facility that has been issued either:

(i) for installations with a nameplate generating capacity of twenty-five thousand kilowatts or more, a certificate from the New York state board on electric generation siting and the environment pursuant to article ten of this chapter; or

(ii) for installations with a nameplate generating capacity of less than twenty-five thousand kilowatts, the relevant permits or certificates issued by the local authority.

(c) be generated during the generating facility's qualification life. Solar electric generation produced after the end of a facility's qualification life shall not be used as the basis for a solar renewable ener-

gy certificate; and

(d) be generated using equipment that meets either of the following criteria:

(i) the equipment is new; or

(ii) the equipment was previously used in a solar facility with an unexpired qualification life and all of the following criteria are met:

(1) the previous solar facility was located in New York;

(2) the previous solar facility was issued either:

(A) for installations with a nameplate generating capacity of twenty-five thousand kilowatts or more, a certificate from the New York state

board on electric generation siting and the environment pursuant to article ten of this chapter; or

(B) for installations with a nameplate generating capacity of less than twenty-five thousand kilowatts, the relevant permits or certificates issued by the local authority.

(3) there are at least twelve full months left in the qualification life of the previous solar facility; and

(4) any sale or other transfer of the equipment during the qualification life of the previous solar facility is recorded with the commission.

3. To comply with paragraph (b) of subdivision two of this section, a solar electric generating facility:

(a) for installations with a nameplate generating capacity of twenty-five thousand kilowatts or more, that was not issued a certificate from the New York state board on electric generation siting and the environ-

ment pursuant to article ten of this chapter prior to the effective date of this article shall obtain such a certificate through the registration process established pursuant to subdivision six of this section; or

(b) for installations with a nameplate generating capacity of less than twenty-five thousand kilowatts, that was not issued the relevant permits or certificates issued by the local authority prior to the effective date of this article shall obtain the relevant permits or certificates issued by the local authority through the registration process established pursuant to subdivision six of this section.

4. A solar electric generating facility, and all equipment included in or appurtenant to the solar facility, shall permanently retain the qualification life originally assigned to the solar facility, regardless of any interruption in the solar facility's operation, or any relocation, sale or transfer of the facility or of any of the equipment.

5. If the applicable submittal deadline in subdivision three of this section is met, solar renewable energy certificates, based on electricity generated by the solar facility, shall be usable for compliance with this chapter immediately upon the issuance of either a certificate from the New York state board on electric generation siting and the environment pursuant to article ten of this chapter or the relevant permits or certificates issued by the local authority for the facility, subject to any other applicable limits on use of solar renewable energy certificates. If the applicable deadline is not met, any solar renewable energy certificates based on electricity generated by the solar facility shall not be usable for compliance with this article until twelve months after the solar facility has received authorization to energize in accordance with the commission's standardized interconnection rules.

6. The commission shall determine and publicize the process for registration of a solar electric generating facility within ninety days of the effective date of this article; provided, however, that such registration process shall require:

(a) the submittal of an initial registration no later than:

(i) ten business days after execution of the contract for purchase or installation of the photovoltaic panels to be used in the solar facility;

(ii) if a contract for purchase or installation of photovoltaic panels for the solar facility was executed prior to the effective date of this section the deadline for submittal of an initial registration package shall be ninety days after the effective date of this section; or

(iii) in a case where a conditional registration or extension was previously issued but expired before construction of the solar facility

was substantially completed, a new registration package shall be submitted prior to completion of construction;

(b) that construction of the solar facility shall not begin until the commission has issued a conditional registration for the facility; and

(c) that construction of the solar facility shall be completed and local code approval granted prior to the expiration of the conditional registration or any extension of such conditional registration.

§ 254. Using renewable energy certificates and solar renewable energy certificates for renewable portfolio standard compliance. 1. A renewable energy certificate or solar renewable energy certificate shall be used to meet renewable portfolio standard requirements for specific energy

years, based on the type of renewable energy upon which the renewable energy certificate or solar renewable energy certificate is based, and the energy year during which the renewable energy was generated, as follows:

(a) A solar renewable energy certificate based on energy generated on or after April first, two thousand twenty shall be used to comply with renewable portfolio standard requirements for any one of the following three energy years:

(i) the energy year in which the underlying energy was generated; or

(ii) either of the two energy years immediately following the energy year in which the underlying energy was generated;

(b) A solar renewable energy certificate based on energy generated before April first, two thousand twenty shall be used only to comply with the requirements of this article for the energy year during which the underlying energy was generated, and/or the subsequent energy year; and

2. Once a renewable energy certificate or solar renewable energy certificate has been used for compliance with this article, the renewable energy certificate or solar renewable energy certificate shall be permanently retired and shall not be used again.

§ 255. Issuance of renewable energy certificates and solar renewable energy certificates. 1. The New York state energy and research development authority shall issue renewable energy certificates and solar renewable energy certificates for use in complying with this article.

2. The commission may issue an order discontinuing the designation of the New York state energy and research development authority under subdivision one of this section, and/or approving use of renewable ener-

gy certificates or solar renewable energy certificates issued by another entity for compliance with this article. The commission shall post a notice of its intent to issue such an order at least thirty days prior to issuing the order, and may, in its discretion, choose to accept public comment on the notice.

3. Beginning April first, two thousand twenty, in measuring generation to determine the number of renewable energy certificates or solar renewable energy certificates to issue, the commission or its designee shall accept only readings of a meter that records kilowatt-hour production of electrical energy, and which meets all applicable requirements of this subdivision. The readings may be taken or submitted by any person, but shall be verified by the commission or its designee in accordance with the American National Standards Institute (ANSI) Standard C12.1-2008, Electric Meters Code for Electricity Metering, as amended or supplemented.

4. The commission or its designee shall issue renewable energy certificates and solar renewable energy certificates in whole units, each

representing the environmental attributes of one megawatt-hour of electric generation.

5. Electric generation qualifies for issuance of renewable energy certificates or solar renewable energy certificates only if:

(a) it is solar electric generation produced by a generating facility that is interconnected with an electric distribution system that supplies electricity to one or more end users located in New York; or

(b) it is renewable energy, other than solar electric generation, and

one or more of the following requirements is met:

(i) the generating facility reports its generation electronically to the New York state energy research and development authority no less frequently than monthly, and complies with any additional requirements established by the New York state energy research and development authority;

(ii) both of the following requirements are met:

(1) the generating facility reports its generation electronically no less frequently than monthly to an electric distribution company that then provides the generator's report electronically no less frequently than monthly to the New York state energy research and development authority; and

(2) the generating facility complies with any additional requirements established by the New York state energy research and development authority.

6. If a generator has accumulated a fraction of a megawatt-hour by the end of an energy year, the fraction may be carried over and combined with energy generated in a subsequent energy year in order to make a full megawatt-hour that is eligible for a renewable energy certificate or solar renewable energy certificate. In such a case, the combined energy shall be eligible for issuance of a renewable energy certificate or solar renewable energy certificate only during the energy year in which accumulated generation reaches one full megawatt-hour. Only a fraction of a megawatt-hour shall be carried over.

7. The commission shall require submittal of information and certifications needed to enable the commission or its designee to verify the generation that forms the basis of the requested renewable energy

certificates. The commission shall require inspections, as appropriate, of generation equipment, monitoring and metering equipment, and other facilities relevant to verifying electric generation. The commission shall impose application fees, inspection fees and other charges for any work required to verify electric generation and issue renewable energy certificates or solar renewable energy certificates.

8. The commission or its designee shall not issue a renewable energy certificate or solar renewable energy certificate based on electric generation that has previously been used for compliance with this article, or that has been used to satisfy another state's renewable energy requirements or any voluntary clean electricity market or program.

9. A customer-generator that is eligible for net metering owns the renewable attributes of the energy it generates on or after April first, two thousand twenty, unless there is a contract with an express provision that assigns ownership of the renewable attributes. The owner of a solar electric generation facility that is not eligible for net metering owns the renewable attributes of the energy it generates on or after April first, two thousand twenty, unless there is a contract with an express provision that assigns ownership of the renewable attributes.

§ 256. Alternative compliance payments. 1. An electric corporation may choose to comply with renewable portfolio standard requirements by

submitting one or more alternative compliance payments or solar alternative compliance payments. An electric corporation that wishes to use alternative compliance payments or solar alternative compliance payments to comply with this article shall meet the requirements of this section.

2. The chairman of the commission shall appoint an alternative compliance payments advisory committee to provide recommendations to the commission regarding the appropriate cost of alternative compliance payments and solar alternative compliance payments, as well as other characteristics of their use. The commission shall consider the advisory committee's recommendation and shall, through commission order, set prices for alternative compliance payments and solar alternative compliance payments. At a minimum, the price of an alternative compliance payment or a solar alternative compliance payment shall be higher than the estimated competitive market cost of the following:

(a) the cost of meeting the requirement through purchase of a renewable energy certificate or solar renewable energy certificate; or

(b) the cost of meeting the requirement through generating the required renewable energy.

3. The commission shall establish and maintain a fifteen year solar alternative compliance payment schedule. The commission may increase the solar alternative compliance payment amount for one or more energy years after appropriate notice and opportunity for public comment and public hearing. However, the commission shall neither reduce the previously established solar alternative compliance payment amounts, nor provide any type of relief from the obligation to pay a solar alternative compliance payment.

4. The commission shall review the amount of alternative compliance payments, other than solar alternative compliance payments, at least once per year, in consultation with the alternative compliance payments advisory committee, and shall adjust these amounts as needed to comply with paragraphs (a) and (b) of subdivision two of this section and to

reflect changing conditions in the environment, the energy industry and markets.

5. To comply with this article using alternative compliance payments or solar alternative compliance payments, an electric corporation shall submit the following to the commission, as applicable:

(a) one alternative compliance payment for each megawatt-hour of renewable energy required; or

(b) one solar alternative compliance payment for each megawatt-hour of solar electric generation required.

6. The commission shall use the alternative compliance payments monies submitted to meet the requirements of this article to fund renewable energy projects through the green jobs-green New York program.

7. For each energy year, all solar alternative compliance payment monies submitted to comply with solar electric generation requirements for that energy year shall be refunded to ratepayers by the electric distribution companies. The commission shall divide the total statewide solar alternative compliance payment monies to be refunded for a particular energy year among the electric distribution companies as follows:

(a) determine the total megawatt-hours of electricity subject to solar renewable portfolio standard requirements that was delivered by all electric distribution companies combined during the subject energy year;

(b) determine the number of megawatt-hours of electricity subject to solar renewable portfolio standard requirements that was delivered by the electric distribution company during the energy year;

(c) divide the number determined in paragraph (b) of this subdivision

by the number determined in paragraph (a) of this subdivision to obtain a fraction that represents the electric distribution company's share of the total megawatt-hours of electricity subject to solar renewable portfolio standard requirements that were delivered during the energy year; and

(d) for each electric distribution company, multiply the fraction determined in paragraph (c) of this subdivision by the total statewide solar alternative compliance payment monies to be refunded for the energy year, to obtain a dollar figure for the amount of solar alternative compliance payment monies the electric distribution company shall refund.

§ 257. Demonstrating compliance, reporting and recordkeeping. 1. By October first of each year, each electric corporation shall file an annual report with the commission, demonstrating that the electric corporation has met the requirements of this article for the preceding reporting year.

2. If the annual report required under subdivision one of this section does not demonstrate that the electric corporation has supplied the renewable energy certificates or solar renewable energy certificates required by section two hundred fifty-two of this article for the previous reporting year, the annual report shall be accompanied by alternative compliance payments and/or solar alternative compliance payments in sufficient quantities to make up the shortfall.

3. The annual report shall contain the following basic information for the preceding reporting year:

(a) the total number of megawatt-hours of electricity sold to retail customers in the state;

(b) the total number of renewable energy certificates retired statewide for the purpose of compliance with this article;

(c) the percentage of the electric corporation's total statewide retail sales that the amount set forth under paragraph (b) of this subdivision represents;

(d) the total number of solar renewable energy certificates retired for the purpose of compliance with this chapter;

(e) the percentage of the electric corporation's total retail sales that the number in paragraph (d) of this subdivision represents;

(f) the total amount of solar electric generation and other renewable energy represented by renewable energy certificates submitted with the annual report;

(g) the total number of alternative compliance payments and solar alternative compliance payments submitted with the annual report;

(h) a summary demonstrating how compliance with the requirements of section two hundred fifty-two of this article has been achieved;

(i) an accounting issued by New York state energy research and development authority that shows the number of renewable energy certificates purchased or held by the electric corporation; and

(j) the price of each renewable energy certificate and solar renewable energy certificate that was retired during the energy year.

4. The documentation required by subdivision three of this section shall include the following:

(a) identification of each generating unit, including its location, fuel and technology type, and any unique state or federal facility or plant identification number;

(b) an affidavit from the operator of each generating unit that the

specified amount of megawatt-hours from each renewable energy source was generated by or sold to the electric corporation and that the electric corporation has sole and exclusive title to the renewable energy and has not been used to meet the renewable portfolio standard energy requirements in any other state or jurisdiction;

(c) an affidavit from the electric corporation that the specified megawatt-hours were delivered into New York and complied with the commission's standard interconnection rules; and

(d) for each solar renewable energy certificate submitted, certification of compliance with the requirements of subdivision two of section two hundred fifty-three of this article that the renewable energy certificate has not been used to satisfy another state's renewable energy requirements. The certification shall be in a form required by the commission and available on the commission's website.

5. Failure of an electric corporation to demonstrate compliance with this article in accordance with this section, within the deadlines set forth in this section, shall subject the electric corporation to penalties under section two hundred fifty-eight of this article.

6. Each electric corporation shall keep all records pertaining to the requirements in this article for a period of five years, including data on megawatt-hours resulting from owned generation, contracts, purchases from the wholesale market, and purchases of renewable energy certificates. Each electric corporation shall make all pertinent records available for review upon request by the commission or its designee.

§ 258. Enforcement. 1. Failure to comply with any provision of this

article shall subject the violator to the following penalties in accordance with the commission's regulatory and statutory authority:

(a) suspension or revocation of an electric power supplier's license or any other previously issued commission approval;

(b) financial penalties;

(c) disallowance of recovery of costs in rates; and

(d) prohibition on accepting new customers.

2. In determining the appropriate sanction, the commission shall consider the following criteria and any other factors deemed appropriate and material to the violator's failure to comply:

(a) the good faith efforts, if any, of the entity charged in attempting to achieve compliance;

(b) the gravity of the violation or failure to comply with the requirements in this chapter;

(c) the number of past violations by the entity charged regarding these standards and other standards adopted by the commission; and

(d) the appropriateness of the sanction or fine to the size of the company charged.

§ 2. This act shall take effect immediately.

A8307

Section 1. The public service law is amended by adding a new section 66-n to read as follows:

§ 66-n. Community solar pilot program. 1. The commission shall establish a New York state pilot program promoting the use of community solar energy.

2. The commission shall oversee the implementation of the pilot

program and shall issue an order of the commission authorizing the construction of a solar installation.

3. The commission shall invite consumers to participate in the program as subscribers, provided that:

a. the commission shall set a subscription schedule, including the price per watt to subscribe and the percentage of the total installation each subscription level shall represent;

b. subscribers shall make a one time payment to the commission and, in return, subscribers shall be paid a quarterly dividend for the energy generated by the watts covered by their subscription level;

c. a consumer shall be paid on a quarterly basis based on the consumer's subscription level;

d. the commission shall set a maximum number of subscriptions at each level; and

e. the minimum price per subscription shall not exceed five hundred dollars.

4. All energy generated by the solar installation shall be sold back to an investor-owned utility.

EXPLANATION--Matter in italics (underscored) is new; matter in brackets [ ] is old law to be omitted.

LBD13079-01-3

5. One percent of all payments due to subscribers shall be held by the commission to pay for the capital investment into the original solar installation. After the original installation has been paid in full, the one percent held by the commission shall be used to fund new solar

installations in the same manner.

6. The state shall retain ownership of the solar installation and of any renewable energy credits generated by the installation.

7. Subscribers shall be paid for energy generated at the retail rate and not at the avoided-cost rate.

8. The maximum size of the installation shall be two thousand kilowatts.

9. Subscriptions may not be resold to any entity other than the state.

§ 2. This act shall take effect immediately.

A5060D

Section 1. Short title. This act shall be known and may be cited as the "NY Sun Act of 2013".

§ 2. The public service law is amended by adding a new section 66-n to read as follows:

§ 66-n. Solar incentive and financing program. 1. As used in this section:

EXPLANATION--Matter in italics (underscored) is new; matter in brackets [ ] is old law to be omitted.

LBD04599-07-3

(a) "Electric distribution company" means an investor-owned electric corporation that distributes and delivers electricity within this state and has annual revenues in excess of two hundred million dollars; and

(b) (i) "Qualified solar photovoltaic generating system" means a system of components that generates electricity from sunlight by means of the photovoltaic effect, whether or not the device is coupled with a

device capable of storing the energy produced for later use, that is (A) installed and operated in New York state within one of the service territories of an electric distribution company as defined in this section, and (B) installed after January first, two thousand fourteen.

(ii) a qualified solar photovoltaic generating system shall not include: (A) a solar photovoltaic generating system owned by a public authority, where such authority does not consume all of the electricity produced and instead sells all or a portion of said electricity to another entity, other than when said authority uses such system to engage in net energy metering as defined in paragraph (c) of subdivision one of section sixty-six-j of this article, and (B) a solar photovoltaic generating system that is owned by an electric distribution company.

2. Within forty-five days of the effective date of this section, the commission shall commence the consideration of modifications to its existing programs that encourage the development of qualified solar photovoltaic generating systems and, no later than September first, two thousand fourteen, the commission shall make a determination establishing modifications to its existing programs that encourage the development of qualified solar photovoltaic generating systems in conformance with this section. The department shall consult with the New York state energy research and development authority in the preparation of its recommendations to the commission for such determination. The program modifications shall require:

(a) administration by the New York state energy research and development authority;

(b) planned statewide annual expenditures including all costs of a minimum of one hundred fifty million dollars, taking into consideration

the solar-based programs administered by the Long Island power authority, commencing in calendar year two thousand fourteen and sustained each year through calendar year two thousand twenty-three;

(c) a diversity of project sizes, geographic distribution, and participation among customer classes, subject to cost-effectiveness considerations;

(d) incentive or financing structures that maximize cost-effectiveness and practicality through competitive procurements, standing-offers, production incentives or capacity incentives at the wholesale or retail level as in the judgment of the commission provide for the most effective program;

(e) for projects exceeding 100 kilowatts, incentive or financing structures that take into consideration the economic benefits to the state of New York;

(f) program designs that take into consideration the avoidance of long-term costs to the transmission and distribution system and minimization of peak load in constrained areas;

(g) annual reports on the achievements and effectiveness of the program; and

(h) such other issues deemed appropriate by the commission.

§ 3. This act shall take effect immediately.

A6367

Section 1. Paragraph (b) of subdivision 4 of section 66-j of the public service law, as amended by chapter 355 of the laws of 2009, is amended to read as follows:

(b) In the event that the amount of electricity produced by a customer-generator during the billing period exceeds the amount of electricity

used by the customer-generator, the corporation shall apply a credit to the next bill for service to the customer-generator for the net electricity provided at the same rate per kilowatt hour applicable to service provided to other customers in the same service class which do not generate electricity onsite[, except for micro-combined heat and power or fuel cell customer-generators, who will be credited at the corporation's avoided costs. The avoided cost credit provided to micro-combined heat and power or fuel cell customer-generators shall be treated for ratemaking purposes as a purchase of electricity in the market that is includable in commodity costs].

§ 2. This act shall take effect on the one hundred twentieth day after it shall have become a law.

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