

# STATE OF NEW YORK

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535

2021-2022 Regular Sessions

## IN ASSEMBLY

(Prefiled)

January 6, 2021

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Introduced by M. of A. CAHILL -- read once and referred to the Committee on Energy

AN ACT to amend the energy law, the public service law, the public authorities law and the rural electric cooperative law, in relation to establishing the "New York grid modernization act"

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

1 Section 1. Short title. This act shall be known and may be cited as  
2 the "New York grid modernization act".

3 § 2. Legislative findings and purpose. The legislature finds that the  
4 widely acknowledged bottlenecks in the state's aging infrastructure have  
5 resulted in high delivery costs for the downstate region and struggling  
6 power plants upstate. This outdated transmission system is leading to  
7 unnecessary congestion costs. Additionally, increasingly frequent traumatic  
8 weather events have highlighted the unreliability and uncertainty  
9 of our current system. Investments to modernize the state's infrastructure  
10 are needed to reach our energy goals as society's growing reliance  
11 on electricity along with advancements in smart grid technology have  
12 made the old model obsolete.

13 The legislature further finds and recognizes that as the available  
14 resources and technologies evolve, the design of the smart grid must be  
15 capable of adapting to shifting conditions and priorities to meet utility  
16 and customer needs. In the short term, utilities should pursue established  
17 and reliable technologies that can provide a relatively certain  
18 return on investment.

19 In the longer term, federal investment has provided for smart grid  
20 projects nationwide, which will generate a significant base of knowledge  
21 that will help identify technologies that are most effective.

22 The legislature also finds that half of the current workforce involved  
23 in the production and delivery of our electricity will be retired or no

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

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longer in that workforce within the next several years. Workforce recruitment campaigns developed by utilities, in conjunction with training facilities that provide certification for skilled positions and offer tuition assistance, will attract knowledgeable workers who will be instrumental in the implementation of a modernized electric grid.

§ 3. Section 6-102 of the energy law is amended by adding a new subdivision 7 to read as follows:

7. The board shall take an active role in advising the public service commission in the development of, and any subsequent revisions to, the grid modernization order required pursuant to section sixty-six-q of the public service law.

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

§ 66-q. Establishment of grid modernization program. 1. Definitions. As used in this section: (a) "Electric transmission and distribution company" or "transmission and distribution company" shall be known as an investor-owned utility having annual revenues in excess of two hundred million dollars that transmits and distributes electricity within this state or a municipality that distributes electricity and receives less than its entire electric supply from the power authority of the state of New York and is subject to the jurisdiction of the commission with respect to the regulation of the price of electricity.

(b) "Full load municipal electric customer", shall be known as a municipality that distributes electricity and receives its entire electric supply from the power authority of the state of New York;

(c) "Cooperative" shall have the same meaning as such term is defined in subdivision (a) of section two of the rural electric cooperative law.

(d) "New York transmission and distribution coordinating council" or "transmission council" shall be known as a consortium which shall be formed pursuant to this act for the purpose of identifying areas of electrical congestion within New York's high voltage transmission system comprising:

(i) Consolidated Edison, Orange and Rockland Utilities, Central Hudson Gas and Electric, Niagara Mohawk d/b/a National Grid, New York State Electric and Gas and Rochester Gas and Electric;

(ii) Public power authorities; and

(iii) the New York state energy research and development authority;

(e) "New York's high voltage transmission system" or "high voltage transmission system" shall mean electric transmission lines as such term is referred to in paragraph (a) of subdivision two of section one hundred twenty of this chapter, provided that electric transmission lines shall also include electric transmission lines located wholly underground in a city in excess of one hundred twenty-five thousand persons or a primary transmission line approved by the federal energy regulatory commission in connection with a hydro-electric facility and other equipment necessary for electric transmission.

(f) "Public power authorities" shall be known as the power authority of the state of New York and the Long Island power authority.

(g) "Smart grid" shall be known as investments and policies that together promote one or more of the following goals:

(i) Increased use of digital information and controls technology to improve reliability, security and efficiency of the electric grid;

(ii) Dynamic optimization of grid operations and resources, with full cyber security;

(iii) Deployment and integration of distributed resources and generation, including renewable resources;

1 (iv) Development and incorporation of demand-response, demand-side  
2 resources, and energy efficiency resources;

3 (v) Deployment of "smart" technologies, real-time, automated, interac-  
4 tive technologies that optimize the physical operation of appliances and  
5 consumer devices for metering, communications concerning grid operations  
6 and status, and distribution automation.

7 (vi) Integration of "smart" appliances and consumer devices;

8 (vii) Deployment and integration of advanced electricity storage and  
9 peak-shaving technologies, including plug-in electric and hybrid elec-  
10 tric vehicles, thermal-storage air conditioning and renewable energy  
11 generation;

12 (viii) Provision to consumers of timely information and control  
13 options;

14 (ix) Development of open access standards for communication and inter-  
15 operability of appliances and equipment connected to the electric grid,  
16 including the infrastructure serving the grid;

17 (x) Identification and lowering of unreasonable or unnecessary barri-  
18 ers to adoption of Smart Grid technologies, practices, services, and  
19 business models that support energy efficiency, demand-response, and  
20 distributed generation; and

21 (xi) Advanced metering infrastructure.

22 (h) "Advanced metering infrastructure" or "AMI" shall be known as the  
23 communications hardware and software and associated system software that  
24 is designed to create a network between advanced meters and electric  
25 transmission and distribution company systems and allow for collection  
26 and distribution of information to customers and other authorized  
27 parties in addition to providing information to transmission and  
28 distribution companies.

29 (i) "Smart grid advisory council" means the group of stakeholders  
30 formed pursuant to paragraph (a) of subdivision two of this section for  
31 purposes of advising and working with the public service commission to  
32 determine the feasibility of the development and implementation of a  
33 Smart Grid Advanced Metering Infrastructure Deployment Plan.

34 (j) "Workforce development" shall mean training initiatives and  
35 curriculum sponsored by transmission and distribution companies and  
36 public power authorities that will ensure sufficient staffing to imple-  
37 ment the grid modernization programs. Such workforce development  
38 programs shall be undertaken through partnerships with state universi-  
39 ties, community colleges, boards of cooperative education and other  
40 entities accredited by the American National Standards Institute for the  
41 purposes of implementing grid modernization programs.

42 2. Smart grid advisory council. (a) Within one hundred eighty days of  
43 the effective date of this section the smart grid advisory council  
44 ("council") shall be established. The council shall be composed of seven  
45 voting members, with each member possessing either technical, business  
46 or consumer expertise in smart grid technology. Five members shall be  
47 appointed by the governor, one member shall be appointed by the tempo-  
48 rary president of the senate and one member shall be appointed by the  
49 speaker of the assembly. The governor shall appoint the chairperson of  
50 the New York state energy research and development authority to serve as  
51 chairperson of the council. Members of the council, except those that  
52 are employees or officers of the state, its authorities or agencies,  
53 shall not receive a salary or other compensation, but shall be allowed  
54 the necessary and actual expenses incurred in the performance of duties  
55 under this section. Any reasonable costs associated with functioning of

1 the council shall be borne by the New York state energy research and  
2 development authority.

3 (b) Within six months of the establishment of the council, the smart  
4 grid advisory council shall submit a report to the commission on the  
5 feasibility of establishing a statewide smart grid system. Such report  
6 shall analyze the potential for the statewide development of a smart  
7 grid system that would:

8 (i) utilize digital information technology and communications networks  
9 to gather and submit information on electricity usage, real time whole-  
10 sale and retail electric prices, voltage level, and disruptions on local  
11 electric distribution networks;

12 (ii) allow for the integration of AMI to measure and transmit data on  
13 consumer electric usage;

14 (iii) incorporate consumer products, including household appliances  
15 and electric plug-in vehicles;

16 (iv) promote the use of distributed generation, including renewable  
17 technologies; and

18 (v) protect the privacy of consumers and consumer usage data.

19 3. New York transmission and distribution coordinating council. With-  
20 in one hundred eighty days of the effective date of this section the New  
21 York transmission and distribution coordinating council shall be  
22 created. Any reasonable costs associated with the functioning of the  
23 committee shall be borne by the New York state energy research and  
24 development authority. Within one hundred eighty days of the creation of  
25 such council, the council shall submit to the commission a report iden-  
26 tifying areas of concern within the state's high voltage transmission  
27 system. Such report shall:

28 (a) locate and identify and propose upgrades or replacement of high  
29 voltage transmission lines and/or components of the high voltage trans-  
30 mission system that are in service as of the effective date of this  
31 section;

32 (b) Identify equipment upgrades or installations that are necessary to  
33 relieve areas of congestion within the high voltage transmission  
34 network; and

35 (c) Provide a cost analysis of proposed high voltage transmission line  
36 component upgrades or replacement over a ten-year period, which such  
37 cost analysis shall include:

38 (i) a proposal for the cost sharing of proposed transmission upgrades  
39 or replacement projects that directly or indirectly benefit customers in  
40 the respective service territories of two or more electric transmission  
41 and distribution companies;

42 (ii) strategies for attracting private investment for proposed trans-  
43 mission upgrades or replacement projects identified in the report;

44 (iii) an analysis of the financial and other impacts of proposed tran-  
45 smission upgrades or replacement projects on electric ratepayers; and

46 (iv) any other information, studies, maps or analyses the transmission  
47 council deems necessary.

48 4. Commission review of smart grid advisory council report. (a) The  
49 commission, thirty days upon receiving the "smart grid advisory council"  
50 report pursuant to subdivision two of this section, shall determine the  
51 reasonableness, efficacy and expense of the development of a ten year  
52 statewide smart grid deployment by transmission and distribution compa-  
53 nies and public power authorities. In making its determination the  
54 commission shall consider whether smart grid deployment would serve the  
55 public interest, with consideration of the impact on the safety and  
56 reliability of local distribution networks, the retail cost of electric-

1 ity to residential, commercial and industrial customers and the security  
2 and privacy of customer energy usage information and data.

3 (b) If the commission determines that smart grid deployment meets the  
4 public interest it shall require, in its grid modernization order, made  
5 pursuant to subdivision five of this section that transmission and  
6 distribution companies invest in smart grid deployment.

7 (c) If the commission determines that smart grid deployment would not  
8 meet the public interest for reasons specified in paragraph (a) of this  
9 subdivision it shall provide a statement in its grid modernization  
10 order, made pursuant to subdivision five of this section detailing the  
11 reasons that smart grid deployment would not serve the public interest.

12 5. Commission grid modernization order. No later than two years  
13 following the effective date of this section, the commission, after  
14 consultation with the state energy planning board, established pursuant  
15 to article six of the energy law, the New York transmission and distrib-  
16 ution coordinating council and the smart grid advisory council, shall  
17 approve an order approving a ten year grid modernization program to be  
18 undertaken by transmission and distribution companies.

19 (a) The order establishing the program shall include high voltage  
20 transmission system improvements, which shall include, where applicable,  
21 but not be limited to, the replacement or upgrade of transmission facil-  
22 ities or transmission lines, which, due to their years in service or  
23 limited transfer capacity have created or have the potential to create  
24 within ten years of the effective date of this section a significant  
25 electric system reliability problem, or as determined by the commission  
26 have contributed to a significant increase in the wholesale cost of  
27 electricity. The commission shall not approve any proposal to invest in  
28 new transmission facilities that would require the acquisition of  
29 substantial new rights of way. Any high voltage transmission system  
30 improvements ordered by the commission shall:

31 (i) encourage the interconnection of existing and proposed electric  
32 generating facilities, with an emphasis on renewable energy technolo-  
33 gies, including but not limited to solar and wind;

34 (ii) allow for the economic and cost-effective transmission of elec-  
35 tricity from existing and proposed electric generating facilities  
36 located in New York to energy intensive regions located within the elec-  
37 tric transmission system operated by the bulk system operator serving  
38 the state's electric system;

39 (iii) be sited only on existing transmission rights of way, provided  
40 further that the acquisition of additional lands parallel to such rights  
41 of way be minimal;

42 (iv) be designed to reduce susceptibility to power outages caused by  
43 events such as storm-related damage including, but not limited to, high  
44 winds, thunderstorms and ice storms; and

45 (v) meet any other standards for economy and reliability established  
46 by the commission in developing its grid modernization program.

47 (b) The order establishing the program shall also include distribution  
48 system improvements such as but not be limited to underground residen-  
49 tial distribution cable injection and replacement, mainline cable system  
50 refurbishment and replacement, wood utility pole inspection, treatment  
51 and replacement, the replacement or relocation or underground conversion  
52 of certain circuits or other similar measures to minimize outages caused  
53 by damage to infrastructure and equipment that have been identified as  
54 susceptible to damage from events such as storm-related damage, includ-  
55 ing, but not limited to, high winds, thunderstorms and ice storms.  
56 Distribution system improvements made pursuant to this order shall:



1 (i) be designed to reduce the susceptibility to electrical outages  
2 including those caused by events such as storms;

3 (ii) where possible and practicable, be designed and located in a  
4 manner that will reduce the reliance on utility right of way maintenance  
5 practices including tree and brush cutting; and

6 (iii) where possible and practicable allow for and encourage the inte-  
7 gration of AMI if the commission finds that it would be in the public  
8 interest.

9 (c) The order establishing the program shall also include energy low-  
10 income assistance and energy usage education, which shall include but  
11 not be limited to:

12 (i) residential and non-residential and small business utility rate-  
13 payer hardship programs;

14 (ii) grants and other payment concessions to disabled veterans,  
15 defined as a veteran who has received a compensation rating from the  
16 United States department of veterans affairs or from the United States  
17 department of defense because of a service-connected disability incurred  
18 in the line of duty in the active military, naval or air services who  
19 demonstrate a hardship, a disabled veteran who became severely and  
20 permanently disabled as a result of injury or illness suffered or  
21 incurred during military training in preparation for duty in a combat  
22 theater or combat zone of operations who demonstrate a hardship and  
23 members of the armed services or a member of the national guard or  
24 reserve as defined in 10 U.S.C. Section 101 (d) (1), or a member of the  
25 state organized militia, and is called or ordered to active duty for the  
26 state, as defined in subdivision one of section six of the military law  
27 and who demonstrates a hardship; and

28 (iii) budget assistance programs that provide tools and education to  
29 the general public with an emphasis on low-income customers and senior  
30 citizens to assist them with obtaining information regarding energy  
31 usage and effective means of managing energy costs.

32 (d) Energy low-income assistance and education programs made pursuant  
33 to this section shall be designed to reduce or prevent disconnection of  
34 utility service to residential and non-residential customers due to any  
35 potential increase in monthly utility bills.

36 (e) If the commission determines that it is in the public interest,  
37 the order establishing the program shall also include smart grid deploy-  
38 ment. Smart grid infrastructure deployment made pursuant to this order  
39 shall:

40 (i) be designed to allow for electric customers to obtain real-time  
41 retail electric pricing data and consumer demand data within their  
42 respective company's service territory through the installation of AMI,  
43 which may include smart meters or interactive consumer software and  
44 communications applications;

45 (ii) protect customer privacy, including personal financial informa-  
46 tion and data relating to personal electrical usage;

47 (iii) allow any customer of an electric transmission and distribution  
48 company to, at no penalty, fee or service charge, to decline the permis-  
49 sion of his or her respective company to replace a current meter with an  
50 AMI device or install any AMI device at his or her property for the  
51 measurement of and storage of electric usage data;

52 (iv) accommodate and encourage the use of smart appliances and plug-in  
53 or hybrid electric vehicles; and

54 (v) include initiatives to educate consumers on the proper usage of  
55 technologies with the aim of promoting system-wide reduction of peak  
56 energy usage.

1     (f) The order establishing the program shall also require electric and  
2 transmission distribution companies to administer a workforce develop-  
3 ment program designed to ensure that each such company will recruit and  
4 maintain adequate certified full-time and part-time employees and  
5 contracted workers to carry out the requirements pursuant to paragraphs  
6 (a), (b), and (c) of this subdivision. Workforce development program  
7 made pursuant to this subdivision shall:

8     (i) Require each transmission and distribution company with annual  
9 gross revenues in excess of two hundred million dollars to maintain, at  
10 a minimum, one in-state training facility located within its respective  
11 service territory for the purposes of providing full-time and part-time  
12 employees and contracted workers any necessary instruction and hands-on  
13 training required for smart grid deployment made pursuant to this  
14 section;

15     (ii) Require each transmission and distribution company to create a  
16 tuition and financial assistance fund with any monies made available  
17 pursuant to paragraph (d) of subdivision six of this section to cover  
18 the costs of training prospective full-time and part-time employees  
19 through state universities, community colleges, boards of cooperative  
20 education and other entities accredited by the American National Stand-  
21 ards Institute.

22     (iii) Require each transmission and distribution company to develop  
23 workforce recruitment programs to ensure that each such company main-  
24 tains sufficient full-time and part-time employees to offset any poten-  
25 tial workforce reductions attributed to retirement.

26     6. Electric transmission and distribution company program plan. No  
27 later than one year following the commission's grid modernization order,  
28 each electric transmission and distribution company shall file a program  
29 plan for the purpose of complying with such order made pursuant to this  
30 section.

31     (a) The commission shall approve each such plan, or may modify it as  
32 it deems appropriate, if the commission finds that the plan would result  
33 in achievement of the company's obligations, promotes the sustained and  
34 orderly development of the statewide electric power grid, and protects  
35 ratepayers from significant retail electric rate increases. The commis-  
36 sion shall require each electric transmission and distribution company  
37 to begin implementation of its grid modernization programs within three  
38 hundred sixty-five days of its approval.

39     (b) The ten year plans submitted by the transmission and distribution  
40 companies pursuant to this subdivision shall be designed to include  
41 annual investment targets; intervenor funds; rebates for households  
42 eligible for energy low-income assistance; consumer education and work-  
43 force development; AMI deployment plans for customers with electricity  
44 demands less than 300 kilowatt hours; workforce and cyber security  
45 systems to protect customer financial information and data relating to  
46 personal electrical usage.

47     (c) The commission shall not approve a rate proposal due to expendi-  
48 tures made in order to comply with this section made by an electric  
49 transmission and distribution company if such proposal would increase  
50 electric rates for customers above two and one-half percent. In the  
51 event that such cap would be exceeded, the commission may, in its  
52 discretion order a transmission and distribution company to reduce  
53 expenditures in the following reporting year to a level sufficient for  
54 achieving grid modernization benchmarks without significant impact to  
55 ratepayers.

(d) The commission shall proportionally credit and make available funds for the purposes of creating a fund for tuition and financial assistance as required by subparagraph (ii) of paragraph (f) of subdivision five of this section from assessments on transmission and distribution companies under direct oversight of the commission collected on or after July first, two thousand ten for the purpose of funding electric utility public benefit programs, including, but not limited to, energy efficiency and energy conservation programs, other energy technology and education programs and any interest earned by the fund.

7. No later than July first, two thousand twenty-four, and every two years thereafter, the commission shall, after notice and provision for the opportunity for public comment, issue a comprehensive review of the program established pursuant to this section. The commission shall determine, among other matters:

(a) the progress of each transmission and distribution company in meeting its obligations pursuant to this act and progress in meeting the overall annual targets for modernization; and

(b) annual commitments and expenditures. The commission shall evaluate the reasonableness of the any modifications to its grid modernization order.

§ 5. Section 66 of the public service law is amended by adding a new subdivision 29 to read as follows:

29. (a) Each electric and gas corporation with annual gross revenues in excess of two hundred million dollars shall not employ or otherwise contract for the services of a lineworker, utility substation technician, relay technician, engineering technician, alternative fuel technician, meter technician, natural gas technician, gas service technician, corrosion technician, generation instrument and control technician, mechanical technician, electrical technician, auxiliary equipment operator, plant operator, radiation protection technician, unless the person meets one of the following:

(i) has successfully completed an educational program and holds and maintains a certificate administered by an American National Standards Institute (ANSI) accredited Center for Energy Workforce Development (CEWD) Energy Industry Fundamentals Approved Course Provider;

(ii) has completed an appropriate training program in the United States Army, Navy, Air Force, Marine Corps that is comparable to training provided by the entities listed in subparagraph (i) of this paragraph;

(iii) was employed by an electric and gas corporation to perform the duties related to services required of one or more of the positions identified in this paragraph on or in the two years immediately prior to the effective date of this paragraph; or

(iv) is in the service of an agency or department of the federal government, to the extent the person is performing services comparable to the positions listed in this paragraph.

A person may be employed or contracted by an electric or gas corporation to perform the duties related to services required of one or more of the positions identified in this paragraph during the twelve month period immediately following successful completion of an educational program under subparagraph (i) of this paragraph, but may not continue to be employed or contracted with beyond that period without documentation that the employee or contracted worker holds and maintains the certification required in subparagraph (i) of this paragraph.

(b) A person who qualifies to perform the duties related to services required of one or more of the positions identified in paragraph (a) of



1 this subdivision must annually complete at least thirty-five hours of  
2 continuing education to remain qualified to be employed or contracted  
3 with for such services by an electric and gas corporation. Any expenses  
4 associated with the continuing education requirements of this subpara-  
5 graph shall be the responsibility of the employer.

6 § 6. Section 1005 of the public authorities law is amended by adding a  
7 new subdivision 28 to read as follows:

8 28. Establishment of grid modernization program. 1. Definitions. As  
9 used in this section:

10 (a) "Electric transmission and distribution company" or "transmission  
11 and distribution company" shall be known as an investor-owned utility  
12 having annual revenues in excess of two hundred million dollars that  
13 transmits and distributes electricity within this state or a munici-  
14 pality that distributes electricity and receives less than its entire  
15 electric supply from the power authority of the state of New York and is  
16 subject to the jurisdiction of the commission with respect to the regu-  
17 lation of the price of electricity.

18 (b) "Full load municipal electric customer" shall be known as a muni-  
19 cipality that distributes electricity and receives its entire electric  
20 supply from the power authority of the state of New York.

21 (c) "Cooperative" shall have the same meaning as such term is defined  
22 in subdivision (a) of section two of the rural electric cooperative law.

23 (d) "Public power authorities" shall be known as the power authority  
24 of the state of New York and the Long Island power authority.

25 (e) "New York transmission and distribution coordinating council" or  
26 "transmission council" shall be known as a consortium which shall be  
27 formed pursuant to subdivision three of section sixty-six-q of the  
28 public service law for the purpose of identifying areas of electrical  
29 congestion within New York's high voltage transmission system compris-  
30 ing:

31 (i) Consolidated Edison, Orange and Rockland Utilities, Central Hudson  
32 Gas and Electric, Niagara Mohawk d/b/a National Grid, New York State  
33 Electric and Gas and Rochester Gas and Electric;

34 (ii) Public power authorities; and

35 (iii) the New York state energy research and development authority.

36 (f) "New York's high voltage transmission system" or "high voltage  
37 transmission system" shall mean electric transmission lines as referred  
38 to in paragraph (a) of subdivision two of section one hundred twenty of  
39 the public service law, provided that electric transmission lines shall  
40 also include electric transmission lines located wholly underground in a  
41 city in excess of one hundred twenty-five thousand persons or a primary  
42 transmission line approved by the federal energy regulatory commission  
43 in connection with a hydro-electric facility and other equipment neces-  
44 sary for electric transmission.

45 (g) "Smart grid" shall be known as investments and policies that  
46 together promote one or more of the following goals:

47 (i) Increased use of digital information and controls technology to  
48 improve reliability, security and efficiency of the electric grid;

49 (ii) Dynamic optimization of grid operations and resources, with full  
50 cyber security;

51 (iii) Deployment and integration of distributed resources and gener-  
52 ation, including renewable resources;

53 (iv) Development and incorporation of demand-response, demand-side  
54 resources, and energy efficiency resources;

55 (v) Deployment of "smart" technologies, real-time, automated, interac-  
56 tive technologies that optimize the physical operation of appliances and

1 consumer devices for metering, communications concerning grid operations  
2 and status, and distribution automation;

3 (vi) Integration of "smart" appliances and consumer devices;

4 (vii) Deployment and integration of advanced electricity storage and  
5 peak-shaving technologies, including plug-in electric and hybrid elec-  
6 tric vehicles, thermal-storage air conditioning and renewable energy  
7 generation;

8 (viii) Provision to consumers of timely information and control  
9 options;

10 (ix) Development of open access standards for communication and inter-  
11 operability of appliances and equipment connected to the electric grid,  
12 including the infrastructure serving the grid;

13 (x) Identification and lowering of unreasonable or unnecessary barri-  
14 ers to adoption of smart grid technologies, practices, services, and  
15 business models that support energy efficiency, demand-response, and  
16 distributed generation; and

17 (xi) Advanced metering infrastructure.

18 (h) "Advanced metering infrastructure" or "AMI" shall be known as the  
19 communications hardware and software and associated system software that  
20 is designed to create a network between advanced meters and electric  
21 transmission and distribution company systems and allow for collection  
22 and distribution of information to customers and other authorized  
23 parties in addition to providing information to transmission and  
24 distribution companies.

25 (i) "Smart grid advisory council" means the group of stakeholders  
26 formed pursuant to paragraph (a) of subdivision two of section sixty-  
27 six-q of the public service law for purposes of advising and working  
28 with the public service commission to determine the feasibility of the  
29 development and implementation of a smart grid advanced metering infras-  
30 tructure deployment plan.

31 (j) "Workforce development" shall mean training initiatives and  
32 curriculum sponsored by transmission and distribution companies and  
33 public power authorities that will ensure sufficient staffing to imple-  
34 ment the grid modernization programs. Such workforce development  
35 programs shall be undertaken through partnerships with state universi-  
36 ties, community colleges, boards of cooperative education and other  
37 entities accredited by the American National Standards Institute for the  
38 purposes of implementing grid modernization programs.

39 (k) "Commission" shall mean the New York Public Service Commission.

40 2. No later than two years after the effective date of this section,  
41 the authority, after consultation with the commission, the New York  
42 transmission and distribution coordinating council and the smart grid  
43 advisory council, shall approve a ten year grid modernization program.  
44 The authority may collaborate with one or more transmission and distrib-  
45 ution companies. The program established by the authority shall incorpo-  
46 rate, where feasible and practicable, full load municipal electric  
47 customers. Such program shall consist of:

48 (a) High voltage transmission system improvements, including but not  
49 limited to the replacement or upgrade of transmission facilities and/or  
50 transmission lines, which, due to their years in service or limited  
51 transfer capacity have created or are projected to create within ten  
52 years of the effective date of this act a significant electric system  
53 reliability problem, or as determined by the commission have contributed  
54 to a significant increase in the wholesale cost of electricity. The  
55 authority shall not develop any plan to invest in new transmission  
56 facilities that would require the acquisition of substantial new rights

1 of way. High voltage transmission system improvements made by the  
2 authority pursuant to this section shall:

3 (i) encourage the interconnection of existing and proposed electric  
4 generating facilities, with an emphasis on renewable energy technolo-  
5 gies, including but not limited to solar and wind;

6 (ii) allow for the economic and cost-effective transmission of elec-  
7 tricity from existing and proposed electric generating facilities  
8 located in New York to energy intensive regions located within the elec-  
9 tric transmission system operated by the bulk system operator serving  
10 the state's electric system;

11 (iii) be sited only on existing transmission rights of way, provided  
12 further that the acquisition of additional lands parallel to such rights  
13 of way be minimal;

14 (iv) be designed to reduce susceptibility to power outages caused by  
15 events such as storm-related damage including, but not limited to, high  
16 winds, thunderstorms and ice storms; and

17 (v) meet any other standards for economy and reliability established  
18 by the commission in developing its grid modernization program pursuant  
19 to subdivision five of section sixty-six-q of the public service law.

20 (b) Distribution system infrastructure improvements, which shall  
21 include, where applicable, but not be limited to underground residential  
22 distribution cable injection and replacement, mainline cable system  
23 refurbishment and replacement, wood utility pole inspection, the  
24 replacement or relocation or underground conversion of certain circuits  
25 which have been identified by the commission as susceptible to outages  
26 or service disruption by events such as storm-related damage, including,  
27 but not limited to, high winds, thunderstorms and ice storms. Distrib-  
28 ution system improvements made by the authority pursuant to this act  
29 shall:

30 (i) be designed to reduce the susceptibility to electrical outages  
31 including those caused by events such as storms;

32 (ii) where possible and practicable, be designed and located in a  
33 manner that will reduce the reliance on utility right of way maintenance  
34 practices including tree and brush cutting; and

35 (iii) where possible and practicable allow for and encourage the inte-  
36 gration of AMI.

37 (c) Energy low-income assistance and energy usage education, which  
38 shall include, where applicable, but not be limited to:

39 (i) residential and non-residential and small business utility rate-  
40 payer hardship programs;

41 (ii) grants and other payment concessions to disabled veterans,  
42 defined as a veteran who has received a compensation rating from the  
43 United States department of veterans affairs or from the United States  
44 department of defense because of a service-connected disability incurred  
45 in the line of duty in the active military, naval or air services who  
46 demonstrate a hardship, a disabled veteran who became severely and  
47 permanently disabled as a result of injury or illness suffered or  
48 incurred during military training in preparation for duty in a combat  
49 theater or combat zone of operations who demonstrate a hardship and  
50 members of the armed services or a member of the national guard or  
51 reserve as defined in 10 U.S.C. Section 101 (d) (1), or a member of the  
52 state organized militia, and is called or ordered to active duty for the  
53 state, as defined in subdivision one of section six of the military law  
54 and who demonstrates a hardship; and

55 (iii) budget assistance programs that provide tools and education to  
56 authority customers with an emphasis on low-income customers and senior

1 citizens to assist them with obtaining information regarding energy  
2 usage and effective means of managing energy costs.

3 (d) Energy low-income assistance and education programs made pursuant  
4 to this section shall be designed to reduce or prevent disconnection of  
5 utility service to residential and non-residential customers due to any  
6 potential increase in monthly utility bills.

7 (e) Smart grid deployment, if determined feasible and advisable by the  
8 trustees, which will provide customers with the technological and educa-  
9 tional resources to match personal energy usage to periods of reduced or  
10 low electric demand within their respective company's service territory.  
11 Smart grid infrastructure deployment made pursuant to this section  
12 shall:

13 (i) be designed to allow for electric customers to obtain real-time  
14 retail electric pricing data and consumer demand data within the author-  
15 ity's service territory through the installation of AMI, which may  
16 include smart meters or interactive consumer software and communications  
17 applications;

18 (ii) protect customer privacy, including personal financial informa-  
19 tion and data relating to personal electrical usage;

20 (iii) allow any customer of the authority, at no penalty, fee or  
21 service charge, to decline the permission of the authority to replace a  
22 current meter with an AMI device or install any AMI device at his or her  
23 property for the measurement of and storage of electric usage data;

24 (iv) accommodate and encourage the use of smart appliances and plug-in  
25 or hybrid electric vehicles; and

26 (v) include initiatives to educate consumers on the proper usage of  
27 technologies with the aim of promoting system-wide reduction of peak  
28 energy usage.

29 (f) The grid modernization program developed by the authority shall  
30 ensure that the authority will recruit and maintain adequate certified  
31 full-time and part-time employees and contracted workers to carry out  
32 the requirements pursuant to paragraphs (a), (b) and (e) of this subdivi-  
33 sion. Workforce development programs made pursuant to this subdivi-  
34 sion shall:

35 (i) Require the authority to maintain at a minimum, one instate train-  
36 ing facility for the purposes of providing full-time, part-time employ-  
37 ees and contracted workers any necessary instruction and hands-on train-  
38 ing required for smart grid deployment made pursuant to this section;

39 (ii) Require the authority to create a tuition and financial assist-  
40 ance fund to cover the costs of training prospective full-time and part-  
41 time employees and contracted workers through state universities, commu-  
42 nity colleges, boards of cooperative education and other entities  
43 accredited by the American National Standards Institute;

44 (iii) Require the authority to develop workforce recruitment programs  
45 to ensure that it maintains sufficient full-time and part-time employees  
46 to offset any potential workforce reductions attributable to retirement.

47 3. The grid modernization program shall promote the sustained and  
48 orderly development of the statewide electric power grid and protect  
49 ratepayers from significant retail electric price increases. The author-  
50 ity's grid modernization program shall:

51 (a) be designed to include a ten year grid modernization strategy with  
52 annual investment targets; rebates for households eligible for energy  
53 low-income assistance; consumer education and workforce development  
54 plans; advanced meter infrastructure deployment plans for customers with  
55 electricity demands less than three hundred kilowatt hours; workforce

1 development, and cyber security systems to protect customer financial  
2 information and data relating to personal electrical usage.

3 (b) The total expenditures undertaken by the authority for capital  
4 investments undertaken pursuant to this section shall not increase elec-  
5 tric rates for authority customers above two and one-half percent. In  
6 the event that such cap would be exceeded, the authority may as deemed  
7 feasible and advisable by the trustees, reduce expenditures in the  
8 following reporting year to a level sufficient for achieving grid  
9 modernization benchmarks without significant impact to ratepayers.

10 (c) No later than July first, two thousand twenty-three, and every two  
11 years thereafter, the authority shall submit to the governor, the tempo-  
12 rary president of the senate, the speaker of the assembly, the chair of  
13 the senate committee on energy and telecommunications and the chair of  
14 the assembly committee on energy a comprehensive review of the program  
15 established pursuant to this section. The report, among other matters  
16 shall contain:

17 (i) an analysis of the authority's progress meeting obligations pursu-  
18 ant to this act and progress in meeting the overall annual targets for  
19 modernization; and

20 (ii) annual commitments and expenditures.

21 § 7. Sections 1020-jj, 1020-kk and sections 1020-ll of the public  
22 authorities law, sections 1020-jj, 1020-kk and 1020-ll as renumbered by  
23 chapter 520 of the laws of 2018, and section 1020-ll as renumbered by  
24 chapter 415 of the laws of 2017, are renumbered sections 1020-kk, 1020-  
25 ll, 1020-mm and 1020-nn and a new section 1020-jj is added to read as  
26 follows:

27 § 1020-jj. Establishment of grid modernization program. 1. Defi-  
28 nitions. As used in this section:

29 (a) "Electric transmission and distribution company" or "transmission  
30 and distribution company" shall be known as an investor-owned utility  
31 having annual revenues in excess of two hundred million dollars that  
32 transmits and distributes electricity within this state or a munici-  
33 pality that distributes electricity and receives less than its entire  
34 electric supply from the power authority of the state of New York and is  
35 subject to the jurisdiction of the commission with respects to the regu-  
36 lation of the price of electricity.

37 (b) "Full load municipal electric customer" shall be known as a muni-  
38 cipality that distributes electricity and receives its entire electric  
39 supply from the power authority of the state of New York.

40 (c) "Cooperative" shall have the same meaning as such term is defined  
41 in subdivision (a) of section two of the rural electric cooperative law.

42 (d) "Public power authorities" shall be known as the power authority  
43 of the state of New York and the Long Island power authority.

44 (e) "New York transmission and distribution coordinating council" or  
45 "transmission council" shall be known as a consortium which shall be  
46 formed pursuant to subdivision three of section sixty-six-q of the  
47 public service law for the purpose of identifying areas of electrical  
48 congestion within New York's high voltage transmission system compris-  
49 ing:

50 (i) Consolidated Edison, Orange and Rockland Utilities, Central Hudson  
51 Gas and Electric, Niagara Mohawk d/b/a National Grid, New York State  
52 Electric and Gas and Rochester Gas and Electric;

53 (ii) Public power authorities; and

54 (iii) the New York state energy research and development authority.

55 (f) "New York's high voltage transmission system" or "high voltage  
56 transmission system" shall mean electric transmission lines as referred



1 to in paragraph (a) of subdivision two of section one hundred twenty of  
2 the public service law, provided that electric transmission lines shall  
3 also include electric transmission lines located wholly underground in a  
4 city in excess of one hundred twenty-five thousand persons or a primary  
5 transmission line approved by the federal energy regulatory commission  
6 in connection with a hydro-electric facility and other equipment neces-  
7 sary for electric transmission.

8 (g) "Smart grid" shall be known as investments and policies that  
9 together promote one or more of the following goals:

10 (i) Increased use of digital information and controls technology to  
11 improve reliability, security and efficiency of the electric grid;

12 (ii) Dynamic optimization of grid operations and resources, with full  
13 cyber security;

14 (iii) Deployment and integration of distributed resources and gener-  
15 ation, including renewable resources;

16 (iv) Development and incorporation of demand-response, demand-side  
17 resources, and energy efficiency resources;

18 (v) Deployment of "smart" technologies, real-time, automated, interac-  
19 tive technologies that optimize the physical operation of appliances and  
20 consumer devices for metering, communications concerning grid operations  
21 and status, and distribution automation;

22 (vi) Integration of "smart" appliances and consumer devices;

23 (vii) Deployment and integration of advanced electricity storage and  
24 peak-shaving technologies, including plug-in electric and hybrid elec-  
25 tric vehicles, thermal-storage air conditioning and renewable energy  
26 generation;

27 (viii) Provision to consumers of timely information and control  
28 options;

29 (ix) Development of open access standards for communication and inter-  
30 operability of appliances and equipment connected to the electric grid,  
31 including the infrastructure serving the grid;

32 (x) Identification and lowering of unreasonable or unnecessary barriers  
33 to adoption of smart grid technologies, practices, services, and  
34 business models that support energy efficiency, demand-response, and  
35 distributed generation; and

36 (xi) Advanced metering infrastructure.

37 (h) "Advanced metering infrastructure" or "AMI" shall be known as the  
38 communications hardware and software and associated system software that  
39 is designed to create a network between advanced meters and electric  
40 transmission and distribution company systems and allow for collection  
41 and distribution of information to customers and other authorized  
42 parties in addition to providing information to transmission and  
43 distribution companies.

44 (i) "Smart grid advisory council" means the group of stakeholders  
45 formed pursuant to paragraph (a) of subdivision two of section sixty-  
46 six-q of the public service law for purposes of advising and working  
47 with the public service commission to determine the feasibility of the  
48 development and implementation of a smart grid advanced metering infras-  
49 tructure deployment plan.

50 (j) "Workforce development" shall mean training initiatives and  
51 curriculum sponsored by transmission and distribution companies and  
52 public power authorities that will ensure sufficient staffing to imple-  
53 ment the grid modernization programs. Such workforce development  
54 programs shall be undertaken through partnerships with state universi-  
55 ties, community colleges, boards of cooperative education and other

1 entities accredited by the American National Standards Institute for the  
2 purposes of implementing grid modernization programs.

3 (k) "Commission" shall mean the New York public service commission.

4 2. No later than two years after the effective date of this section,  
5 the authority, after consultation with the commission, the New York  
6 transmission and distribution coordinating council and the smart grid  
7 advisory council, shall approve a ten year grid modernization program.  
8 The authority may collaborate with one or more transmission and distrib-  
9 ution companies. The program established by the authority shall incorpo-  
10 rate, where feasible and practicable, full load municipal electric  
11 customers. Such program shall consist of:

12 (a) High voltage transmission system improvements, including but not  
13 be limited to the replacement or upgrade of transmission facilities  
14 and/or transmission lines, which, due to their years in service or  
15 limited transfer capacity have created or are projected to create within  
16 ten years of the effective date of this section a significant electric  
17 system reliability problem, or as determined by the commission have  
18 contributed to a significant increase in the wholesale cost of electric-  
19 ity. The authority shall not develop any plan to invest in new trans-  
20 mission facilities that would require the acquisition of substantial new  
21 rights of way. High voltage transmission system improvements made by  
22 the authority pursuant to this section shall:

23 (i) encourage the interconnection of existing and proposed electric  
24 generating facilities, with an emphasis on renewable energy technolo-  
25 gies, including but not limited to solar and wind;

26 (ii) allow for the economic and cost-effective transmission of elec-  
27 tricity from existing and proposed electric generating facilities  
28 located in New York to energy intensive regions located within the elec-  
29 tric transmission system operated by the bulk system operator serving  
30 the state's electric system;

31 (iii) be sited only on existing transmission rights of way, provided  
32 further that the acquisition of additional lands parallel to such rights  
33 of way be minimal;

34 (iv) be designed to reduce susceptibility to power outages caused by  
35 events such as storm-related damage including, but not limited to, high  
36 winds, thunderstorms and ice storms; and

37 (v) meet any other standards for economy and reliability established  
38 by the commission in developing its grid modernization program pursuant  
39 to subdivision five of section sixty-six-q of the public service law.

40 (b) Distribution system infrastructure improvements, which shall  
41 include, where applicable, but not be limited to underground residential  
42 distribution cable injection and replacement, mainline cable system  
43 refurbishment and replacement, wood utility pole inspection, the  
44 replacement or relocation or underground conversion of certain circuits  
45 which have been identified by the commission as susceptible to outages  
46 or service disruption by events such as storm-related damage, including,  
47 but not limited to, high winds, thunderstorms and ice storms. Distrib-  
48 ution system improvements made by the authority pursuant to this section  
49 shall:

50 (i) be designed to reduce the susceptibility to electrical outages  
51 including those caused by events such as storms;

52 (ii) where possible and practicable, be designed and located in a  
53 manner that will reduce the reliance on utility right of way maintenance  
54 practices including tree and brush cutting; and

55 (iii) where possible and practicable allow for and encourage the inte-  
56 gration of AMI.

1 (c) Energy low-income assistance and energy usage education, which  
2 shall include, where applicable, but not be limited to:

3 (i) residential and non-residential and small business utility rate-  
4 payer hardship programs;

5 (ii) grants and other payment concessions to disabled veterans,  
6 defined as a veteran who has received a compensation rating from the  
7 United States department of veterans affairs or from the United States  
8 department of defense because of a service-connected disability incurred  
9 in the line of duty in the active military, naval or air services who  
10 demonstrate a hardship, a disabled veteran who became severely and  
11 permanently disabled as a result of injury or illness suffered or  
12 incurred during military training in preparation for duty in a combat  
13 theater or combat zone of operations who demonstrate a hardship and  
14 members of the armed services or a member of the national guard or  
15 reserve as defined in 10 U.S.C. Section 101 (d) (1), or a member of the  
16 state organized militia, and is called or ordered to active duty for the  
17 state, as defined in subdivision one of section six of the military law  
18 and who demonstrates a hardship; and

19 (iii) budget assistance programs that provide tools and education to  
20 authority customers with an emphasis on low-income customers and senior  
21 citizens to assist them with obtaining information regarding energy  
22 usage and effective means of managing energy costs.

23 (d) Energy low-income assistance and education programs made pursuant  
24 to this section shall be designed to reduce or prevent disconnection of  
25 utility service to residential and non-residential customers due to any  
26 potential increase in monthly utility bills.

27 (e) Smart grid deployment, if determined feasible and advisable by the  
28 trustees, which will provide customers with the technological and educa-  
29 tional resources to match personal energy usage to periods of reduced or  
30 low electric demand within their respective company's service territory.  
31 Smart grid infrastructure deployment made pursuant to this section  
32 shall:

33 (i) be designed to allow for electric customers to obtain real-time  
34 retail electric pricing data and consumer demand data within the author-  
35 ity's service territory through the installation of AMI, which may  
36 include smart meters or interactive consumer software and communications  
37 applications;

38 (ii) protect customer privacy, including personal financial informa-  
39 tion and data relating to personal electrical usage;

40 (iii) allow any customer of the authority, at no penalty, fee or  
41 service charge, to decline the permission of the authority to replace a  
42 current meter with an AMI device or install any AMI device at his or her  
43 property for the measurement of and storage of electric usage data;

44 (iv) accommodate and encourage the use of smart appliances and plug-in  
45 or hybrid electric vehicles; and

46 (v) include initiatives to educate consumers on the proper usage of  
47 technologies with the aim of promoting system-wide reduction of peak  
48 energy usage.

49 (f) The grid modernization program developed by the authority shall  
50 ensure that the authority will recruit and maintain adequate certified  
51 full-time and part-time employees and contracted workers to carry out  
52 the requirements pursuant to paragraphs (a), (b) and (e) of this subdivi-  
53 sion. Workforce development programs made pursuant to this subdivi-  
54 sion shall:

55 (i) Require the authority to maintain at a minimum, one instate train-  
56 ing facility for the purposes of providing full-time, part-time employ-

ees and contracted workers any necessary instruction and hands-on training required for smart grid deployment made pursuant to this section;

(ii) Require the authority to create a tuition and financial assistance fund to cover the costs of training prospective full-time and part-time employees and contracted workers through state universities, community colleges, boards of cooperative education and other entities accredited by the American National Standards Institute;

(iii) Require the authority to develop workforce recruitment programs to ensure that it maintains sufficient full-time and part-time employees to offset any potential workforce reductions attributable to retirement.

3. The grid modernization program shall promote the sustained and orderly development of the statewide electric power grid and protect ratepayers from significant retail electric price increases. The authority's grid modernization program shall:

(a) be designed to include a ten year grid modernization strategy with annual investment targets; rebates for households eligible for energy low-income assistance; consumer education and workforce development plans; advanced meter infrastructure deployment plans for customers with electricity demands less than three hundred kilowatt hours; workforce development, and cyber security systems to protect customer financial information and data relating to personal electrical usage.

(b) The total expenditures undertaken by the authority for capital investments undertaken pursuant to this section shall not increase electric rates for authority customers above two and one-half percent. In the event that such cap would be exceeded, the authority may as deemed feasible and advisable by the trustees, reduce expenditures in the following reporting year to a level sufficient for achieving grid modernization benchmarks without significant impact to ratepayers.

(c) No later than July first, two thousand twenty-three, and every two years thereafter, the authority shall submit to the governor, the temporary president of the senate, the speaker of the assembly, the chair of the senate committee on energy and telecommunications and the chair of the assembly committee on energy a comprehensive review of the program established pursuant to this section. The report, among other matters shall contain:

(i) an analysis of the authority's progress meeting obligations pursuant to this act and progress in meeting the overall annual targets for modernization; and

(ii) annual commitments and expenditures.

§ 8. Article 7 of the rural electric cooperative law is renumbered article 8 and sections 70, 71 and 72 of such law are renumbered sections 80, 81 and 82.

§ 9. The rural electric cooperative law is amended by adding a new article 7 to read as follows:

#### ARTICLE 7

##### ESTABLISHMENT OF GRID MODERNIZATION PROGRAM

Section 70. Establishment of grid modernization program.

§ 70. Establishment of grid modernization program. 1. Definitions. As used in this section:

(a) "Electric transmission and distribution company" or "transmission and distribution company" shall be known as an investor-owned utility having annual revenues in excess of two hundred million dollars that transmits and distributes electricity within this state or a municipality that distributes electricity and receives less than its entire electric supply from the power authority of the state of New York and is

1 subject to the jurisdiction of the commission with respect to the regu-  
2 lation of the price of electricity.

3 (b) "Full load municipal electric customer" shall be known as a muni-  
4 cipality that distributes electricity and receives its entire electric  
5 supply from the power authority of the state of New York.

6 (c) "Public power authorities" shall be known as the power authority  
7 of the state of New York and the Long Island power authority.

8 (d) "New York transmission and distribution coordinating council" or  
9 "transmission council" shall be known as a consortium which shall be  
10 formed pursuant to subdivision three of section sixty-six-q of the  
11 public service law for the purpose of identifying areas of electrical  
12 congestion within New York's high-voltage transmission system compris-  
13 ing:

14 (i) Consolidated Edison, Orange and Rockland Utilities, Central Hudson  
15 Gas and Electric, Niagara Mohawk d/b/a National Grid, New York State  
16 Electric and Gas and Rochester Gas and Electric;

17 (ii) Public power authorities; and

18 (iii) The New York State Energy Research and Development Authority.

19 (e) "New York's high voltage transmission system" or "high voltage  
20 transmission system" shall mean electric transmission lines as referred  
21 to in paragraph (a) of subdivision two of section one hundred twenty of  
22 the public service law, provided that electric transmission lines shall  
23 also include electric transmission lines located wholly underground in a  
24 city in excess of one hundred twenty-five thousand persons or a primary  
25 transmission line approved by the federal energy regulatory commission  
26 in connection with a hydro-electric facility and other equipment neces-  
27 sary for electric transmission.

28 (f) "Smart grid" shall be known as investments and policies that  
29 together promote one or more of the following goals:

30 (i) Increased use of digital information and controls technology to  
31 improve reliability, security and efficiency of the electric grid;

32 (ii) Dynamic optimization of grid operations and resources, with full  
33 cyber security;

34 (iii) Deployment and integration of distributed resources and gener-  
35 ation, including renewable resources;

36 (iv) Development and incorporation of demand-response, demand-side  
37 resources, and energy efficiency resources;

38 (v) Deployment of "smart" technologies, real-time, automated, interac-  
39 tive technologies that optimize the physical operation of appliances and  
40 consumer devices for metering, communications concerning grid operations  
41 and status, and distribution automation;

42 (vi) Integration of "smart" appliances and consumer devices;

43 (vii) Deployment and integration of advanced electricity storage and  
44 peak-shaving technologies, including plug-in electric and hybrid elec-  
45 tric vehicles, thermal-storage air conditioning and renewable energy  
46 generation;

47 (viii) Provision to consumers of timely information and control  
48 options;

49 (ix) Development of open access standards for communication and inter-  
50 operability of appliances and equipment connected to the electric grid,  
51 including the infrastructure serving the grid;

52 (x) Identification and lowering of unreasonable or unnecessary barri-  
53 ers to adoption of smart grid technologies, practices, services, and  
54 business models that support energy efficiency, demand-response, and  
55 distributed generation; and

56 (xi) Advanced Metering Infrastructure.



(g) "Advanced Metering Infrastructure" or "AMI" shall be known as the communications hardware and software and associated system software that is designed to create a network between advanced meters and electric transmission and distribution company systems and allow for collection and distribution of information to customers and other authorized parties in addition to providing information to transmission and distribution companies.

(h) "Smart Grid advisory council" means the group of stakeholders formed pursuant to paragraph (a) of subdivision two of section sixty-six-q of the public service law for purposes of advising and working with the public service commission to determine the feasibility of the development and implementation of a smart grid advanced metering infrastructure deployment plan.

(i) "Workforce development" shall mean training initiatives and curriculum sponsored by transmission and distribution companies and public power authorities that will ensure sufficient staffing to implement the grid modernization programs. Such workforce development programs shall be undertaken through partnerships with state universities, community colleges, boards of cooperative education and other entities accredited by the American National Standards Institute for the purposes of implementing grid modernization programs.

(j) "Commission" shall mean the New York Public Service Commission.

2. No later than two years after the effective date of this section, each cooperative operating in New York, after consultation with the commission, the New York transmission and distribution coordinating council and the smart grid advisory council, shall approve a ten year grid modernization program, provided that such program is consistent with any federal law, rule or regulation applicable to cooperatives. Said cooperatives may collaborate with one or more transmission and distribution companies or public power authorities in administering its program. The program established by each cooperative shall consist of:

(a) High voltage transmission system improvements, including but not limited to the replacement or upgrade of transmission facilities and/or transmission lines, which, due to their years in service or limited transfer capacity have created or are projected to create within ten years of the effective date of this article a significant electric system reliability problem, or as determined by the commission have contributed to a significant increase in the wholesale cost of electricity. A cooperative shall not develop any plan to invest in new transmission facilities that would require the acquisition of substantial new rights of way. High voltage transmission system improvements made by the authority pursuant to this section shall:

(i) encourage the interconnection of existing and proposed electric generating facilities, with an emphasis on renewable energy technologies, including but not limited to solar and wind;

(ii) allow for the economic and cost-effective transmission of electricity from existing and proposed electric generating facilities located in New York to energy intensive regions located within the electric transmission system operated by the bulk system operator serving the state's electric system;

(iii) be sited only on existing transmission rights of way, provided further that the acquisition of additional lands parallel to such rights of way be minimal;

(iv) be designed to reduce susceptibility to power outages caused by events such as storm-related damage including, but not limited to, high winds, thunderstorms and ice storms; and

1 (v) meet any other standards for economy and reliability established  
2 by the commission in developing its grid modernization program pursuant  
3 to subdivision five of section sixty-six-q of the public service law.

4 (b) Distribution system infrastructure improvements, which shall  
5 include, where applicable, but not be limited to underground residential  
6 distribution cable injection and replacement, mainline cable system  
7 refurbishment and replacement; wood utility pole inspection, the  
8 replacement or relocation or underground conversion of certain circuits  
9 which have been identified by the commission as susceptible to outages  
10 or service disruption by events such as storm-related damage, including,  
11 but not limited to, high winds, thunderstorms and ice storms. Distrib-  
12 ution system improvements made by a cooperative pursuant to this act  
13 shall:

14 (i) be designed to reduce the susceptibility to electrical outages  
15 including those caused by events such as storms;

16 (ii) where possible and practicable, be designed and located in a  
17 manner that will reduce the reliance on utility right of way maintenance  
18 practices including tree and brush cutting; and

19 (iii) where possible and practicable allow for and encourage the inte-  
20 gration of AMI.

21 (c) Energy low-income assistance and energy usage education, which  
22 shall include, where applicable, but not be limited to:

23 (i) residential and non-residential and small business utility rate-  
24 payer hardship programs;

25 (ii) grants and other payment concessions to disabled veterans,  
26 defined as a veteran who has received a compensation rating from the  
27 United States department of veterans affairs or from the United States  
28 department of defense because of a service-connected disability incurred  
29 in the line of duty in the active military, naval or air services who  
30 demonstrate a hardship, a disabled veteran who became severely and  
31 permanently disabled as a result of injury or illness suffered or  
32 incurred during military training in preparation for duty in a combat  
33 theater or combat zone of operations who demonstrate a hardship and  
34 members of the armed services or a member of the national guard or  
35 reserve as defined in 10 U.S.C. Section 101 (d) (1), or a member of the  
36 state organized militia, and is called or ordered to active duty for the  
37 state, as defined in subdivision one of section six of the military law  
38 and who demonstrates a hardship; and

39 (iii) budget assistance programs that provide tools and education to  
40 authority customers with an emphasis on low-income customers and senior  
41 citizens to assist them with obtaining information regarding energy  
42 usage and effective means of managing energy costs.

43 (d) Energy low-income assistance and education programs made pursuant  
44 to this section shall be designed to reduce or prevent disconnection of  
45 utility service to residential and non-residential customers due to any  
46 potential increase in monthly utility bills.

47 (e) Smart grid deployment, if determined feasible and advisable by the  
48 trustees, will provide customers with the technological and educational  
49 resources to match personal energy usage to periods of reduced or low  
50 electric demand within each cooperative's service territory. Smart grid  
51 infrastructure deployment made pursuant to this section shall:

52 (i) be designed to allow for electric customers to obtain real-time  
53 retail electric pricing data and consumer demand data within the cooper-  
54 ative's service territory through the installation of AMI, which may  
55 include smart meters or interactive consumer software and communications  
56 applications;

1 (ii) protect customer privacy, including personal financial informa-  
2 tion and data relating to personal electrical usage;

3 (iii) allow any customer of a cooperative, at no penalty, fee or  
4 service charge, to decline the permission of the cooperative to replace  
5 a current meter with an AMI device or install any AMI device at his or  
6 her property for the measurement of and storage of electric usage data;

7 (iv) accommodate and encourage the use of smart appliances and plug-in  
8 or hybrid electric vehicles; and

9 (v) include initiatives to educate consumers on the proper usage of  
10 technologies with the aim of promoting system-wide reduction of peak  
11 energy usage.

12 (f) The grid modernization program developed by the cooperative shall  
13 ensure that each such cooperative will recruit and maintain adequate  
14 certified full-time and part-time employees and contracted workers to  
15 carry out the requirements pursuant to paragraphs (a), (b) and (e) of  
16 this section. Workforce development programs made pursuant to this  
17 subdivision shall:

18 (i) require each cooperative to create a tuition and financial assist-  
19 ance fund to cover the costs of training prospective full-time and part-  
20 time employees and contracted workers through state universities, commu-  
21 nity colleges, boards of cooperative education and other entities  
22 accredited by the American National Standards Institute;

23 (ii) require each cooperative to develop workforce recruitment  
24 programs to ensure that it maintains sufficient full-time and part-time  
25 employees to offset any potential workforce reductions attributable to  
26 retirement.

27 3. The grid modernization program shall promote the sustained and  
28 orderly development of the statewide electric power grid and protect  
29 ratepayers from significant retail electric price increases. A cooper-  
30 ative's grid modernization program shall:

31 (a) be designed to include a ten year grid modernization strategy with  
32 annual investment targets; rebates for households eligible for energy  
33 low-income assistance; consumer education and workforce development  
34 plans; advanced meter infrastructure deployment plans for customers with  
35 electricity demands less than three hundred kilowatt hours; workforce  
36 development, and cyber security systems to protect customer financial  
37 information and data relating to personal electrical usage.

38 (b) The total expenditures undertaken by a cooperative for capital  
39 investments undertaken pursuant to this section shall not increase elec-  
40 tric rates for cooperative customers above two and one-half percent. In  
41 the event that such cap would be exceeded, a cooperative shall reduce  
42 expenditures in the following reporting year to a level sufficient for  
43 achieving grid modernization benchmarks without significant impact to  
44 ratepayers.

45 (c) No later than July first, two thousand twenty-three, and every two  
46 years thereafter, each cooperative shall submit to the governor, the  
47 temporary president of the senate, the speaker of the assembly, the  
48 chair of the senate committee on energy and telecommunications and the  
49 chair of the assembly committee on energy a comprehensive review of the  
50 program established pursuant to this section. The report, among other  
51 matters shall contain:

52 (i) an analysis of the cooperative's progress meeting obligations  
53 pursuant to this act and progress in meeting the overall annual targets  
54 for modernization; and

55 (ii) annual commitments and expenditures.

1     § 10. This act shall take effect immediately, provided that section  
2 five of this act shall take effect one year after it shall have become a  
3 law.