

INTRODUCTION

This Whitepaper is designed to provide a summary overview of recently enacted *An Act Relative to Green Communities, Senate No. 2768* (also known as the “Green Communities Act”). The Act contains many provisions related to the development of energy infrastructure, renewable generation, demand response, energy efficiency, distributed generation, carbon cap trade, building codes and other provisions, all ostensibly directed toward meeting environmental, energy efficiency, and other goals.

There are no reliable estimates of the economic impact of the bill on Massachusetts consumers as compared with other courses of action which could have been followed. While we will attempt to highlight some features of the bill that could impose additional costs on consumers, it should be recognized that analogies with the past (such as the energy crisis of the 70s) may not be valid benchmarks for judging the wisdom or long-term impacts of many of these provisions. However, it is unwise to ignore the potential immediate cost implications for consumers of these legislative mandates. Information is always incomplete, and the future is always uncertain, but short-term cost impacts can have long-term economic and social effects that should be considered.

This Whitepaper is divided into two sections. Section I provides a narrative discussion of some of the major cost and other implications of the Act’s provisions as they impact the following sets of constituents or activities:

- 1) All customers in general;
- 2) State institutions;
- 3) Municipal entities;
- 4) Building or facility construction and expansion;
- 5) New distributed generation from solar or wind power.

Section II provides a summary, organized by subject, of the various sections of the bill. Under RGGI, for instance, the major provisions dealing with RGGI are collected and summarized. This should permit those who wish to read sections of the bill dealing with specific topics to use the summary as a guide without wading through the bill looking for related provisions. We have not attempted to itemize all the details of the various legislative pieces lest this summary become as detailed as the bill itself. Hopefully this format can serve as a guide for those who may be interested in identifying particular sections of the Act they wish to review more closely.

I. NARRATIVE SUMMARY

ALL CONSUMERS

Several provisions of the bill will clearly have cost implications for all consumers of electricity in Massachusetts. Chief among these are: (1) the implementation of the Regional Greenhouse Gas Initiative (“RGGI”); (2) energy surcharges for Renewable Resources and Energy Efficiency programs; (3) Renewable Portfolio Standard requirements; (4) Alternative Portfolio Standard requirements; (5) incentives for distribution company investment in renewable generation; and (6) limitations on imports to satisfy the Renewable Portfolio Standard.

1. RGGI

The Regional Greenhouse Gas Initiative, or RGGI, is a carbon dioxide cap and trade program in which a number of Northeastern states are participating. The Act will require utilities and others who produce carbon dioxide to purchase allowances for carbon dioxide emissions at auction. The decision to provide allowances by auction rather than award creates some initial uncertainty as to price impacts. Some forward trades have been reported at relatively high prices, though these may not be representative because they were isolated transactions. The proceeds of the auction are to be deposited into a special fund, which is kept separate from the General Fund of the legislature and cannot be appropriated for other purposes. The money is to be used to fund a variety of activities related to Energy Efficiency or Renewable Resource development.

The prices paid for allowances under RGGI will undoubtedly be affected by the region-wide market, and so will be influenced by the activities and implementation regimes of neighboring states in the RGGI compact. The immediate and long-term cost impact to consumers of the requirement to buy allowances will also be affected by settlement structures for generator payments under long-term contracts, the ISO-NE bidding rules, and utility-specific accounting and recovery mechanisms which may be in place. In the long run, however, consumers in Massachusetts will pay for the added cost of RGGI allowances. Initially, this may prove to be a regional cost disadvantage relative to regions without such programs. However, most observers expect the next Congress to implement some form of cap and trade mechanism at the federal level which may supersede RGGI and eliminate such regional disparities.

2. Energy Surcharges

The Act also includes a requirement for two surcharges on consumer electricity bills for the purpose of funding Energy Efficiency programs and Renewable Resource development. These two provisions together amount to a surcharge of \$.003/KWh. Because these charges are assessed on an energy basis, they will disproportionately affect large customers who have good load factors (i.e. customers who have a steady usage pattern that does not fluctuate over the course of the day or year). Such charges can place a disproportionate burden on industrial or large commercial customers who are already struggling to remain viable. Although some of these customers may be eligible to access various Energy Efficiency opportunities under

programs to be created by utilities, large institutional and industrial users may still find themselves in a net cost position given the extensive energy efficiency efforts many of these customers have already undertaken.

3. Renewable and Alternate Portfolio

An increase in the Renewable Portfolio Standard and the implementation of a new Alternative Resource requirement is likely to increase costs in the short-term. These standards require each marketer of electricity to acquire a certain percentage of electricity it provides to consumers from renewable sources. The stated goal is to have 20% of Massachusetts' energy supply come from renewable sources by 2020. This is an aggressive goal which will require substantial renewable resource expansion in the near term to accomplish.

Whether, in the long run, expanding Renewable Resources will increase or lower costs, will be highly dependent on long-term trends in fossil fuel prices, carbon capture technology, and other factors that are very difficult to predict. It is precisely this difficulty that rendered some of the long-term contracts signed under the original PURPA problematic in their out years. Avoided cost calculations at the time routinely showed rapidly escalating oil and natural gas production costs that did not materialize. Such predictions may be more accurate in the current context. But it is harder to predict the relative economic and environmental effectiveness of other technological developments. Should current trends in the fossil fuel market persist, the RPS requirements may be seen as economically prescient.

Section 83 of the Act requires electric distribution companies to solicit bids from renewable resource providers. Although no distribution utility is "obligated" to contract for more than 3% of its total load from renewable sources, the act also contains a 4% cost "kicker" inducement for utilities to take on the risk of such long-term contracts. Depending upon how the DPU reviews the contracts, whether it takes into account the 4% utility kicker in addition to the price of the resource when determining whether the economics make sense, could obviously influence costs. The 4% is in addition to the financing costs incurred by the developer of the Project.

Finally, the Act contains provisions in Section 105 that discriminate against renewable generation imported from outside the ISO-NE region. This could be important since the lowest cost source of available resources to meet the RPS may come from Canada. The Act requires imports to meet certain "committed capacity" requirements and penalizes suppliers who rely on such imports with a "last in/first out" provision which forces any sale by an affiliate or related person of the supplier to be treated as a deduction off the renewable credit value of the import. These provisions are sure to restrict competition and put increased emphasis on the development of indigenous renewable resources, even if such resources are otherwise higher cost and/or less environmentally benign.

STATE INSTITUTIONS

The Act contains several provisions which will directly affect the operations of state institutions. Section 1 of the Act requires the state to purchase hybrid or alternative fuel vehicles

at a rate of not less than 5% annually in order to achieve a goal of having 50% of motor vehicles owned and operated by the state be alternative fuel vehicles by 2018. The Act requires that a hybrid vehicle achieve at least 25% fuel efficiency. The consumer demand for such vehicles in Massachusetts in recent years had not supported large production of such vehicles by manufacturers, so the Commissioner of Energy Resources is directed to create a state-wide master plan for the advancement of hybrid and alternative fuel vehicles. Further, the Operational Services Division is to study the feasibility of a system to facilitate the bulk purchase of such vehicles. Section 99 of the Act directs the Massachusetts Turnpike Authority to develop a plan for the availability of alternative fuel at each fueling facility or service terminal on the turnpike. If coordinated properly, these provisions should make it less burdensome for individual state institutions to meet their individual target procurements.

Section 37 of the Act authorizes public entities to enter into contracts for procurement of energy management services. The change is meant to streamline the normal procedures which require formal RFP's for all such services. With specific regard to the installation of photovoltaic panels, Section 44 of the Act permits a state agency or local government to contract for such energy conservation products costing less than \$100,000 directly without competitive solicitation.

Section 2 of the Act requires state agencies who are designing or constructing new facilities to minimize life cycle costs of the facilities through use of energy efficiency, water conservation or renewable energy technologies. To facilitate this, the Act directs the Department of Energy Resources to establish a methodology for use by agencies in assessing life cycle costs. Further changes to the building code may be required by Section 55 of the Act which directs the Board of Building Regulations and Standards to adopt and integrate the International Energy Conservation Code as part of the state building code. In addition, building inspectors are to be trained to ensure new non-residential buildings larger than 10,000 square feet (or any major renovation thereof) perform as designed with respect to energy consumption and other attributes under the code.

Finally, the Act authorizes the Secretary of Environmental Affairs to implement a bidding process for competitive procurement of electric generation on behalf of state agencies. In lieu of developing an independent program, the Secretary is authorized to have state agencies become members of programs organized and administered by MHEFA, such as Power Options.

MUNICIPAL ENTITIES

The Act recognizes that the provisions of RGGI may impact the viability, or at least market value, of generating resources located in municipalities. Significant loss of tax base for municipalities is addressed under Section 113 of the Act. This provision allows use of the proceeds from the RGGI actions to reimburse municipalities for property tax losses that result from implementation of RGGI.

Section 7 of the Act further makes monies from the RGGI trust fund available to fund the Green Community program and to provide zero interest loans to municipalities which are not Green Communities for energy efficiency projects. In addition, the Act adds to the list of criteria

for qualification as an Economic Target Area that “the area has been designated by the municipality as an area for potential for development of Class I renewable energy generating resources.” Such designation may allow municipal entities to avail themselves of further tax incentives.

The Act allows municipal lighting departments which do not supply generation service outside their own service territory to elect to assess a charge of 0.5 Mills/KWh on their customers and remit it to the state in return for being able to share in distribution of funds for energy efficiency projects and renewable projects under the Massachusetts Renewable Energy Trust Fund. The Act also contains provisions to clarify the law to allow municipalities, lighting departments and cooperatives to serve as a broker for their customers in the procurement of electric energy without being considered to be providing “generation service” that qualify as Green Communities.

The Act permits municipals that become “Green Communities” to qualify for loans and grants to be used to finance the cost of studying or designing energy efficiency activities. The criteria for becoming a Green Community are laid out in the Act, and include certain energy efficiency renewable portfolio and other benchmarks. To assist municipalities in achieving these goals, the Act sets up Division of Green Communities. In addition to assisting municipalities achieve Green Communities status, the Division is directed to establish competitive bidding procedure for procurement of electric generation from renewable and alternative generating facilities on behalf of municipalities certified as Green Communities. In lieu of designing an independent program, the Division may rely on programs organized and administered by MHEFA, such as the Power Options program.

NEW BUILDINGS AND RENOVATIONS

For those conducting major new building projects or renovations, the Act could have immediate impacts on the initial cost of construction. The Act directs the Board of Building Regulations and Standards to adopt and fully integrate the International Energy Conservation Code as part of the state building code. Changes to the state building code could increase the initial costs of construction even while lowering long-term costs. In addition, non-residential buildings larger than 10,000 square feet and any major renovation such existing buildings will come under new scrutiny by building inspectors to ensure that they perform as designed under the energy consumption guidelines of the IECC. The Act also requires that a report be prepared evaluating whether to require periodic commissioning for large, non-residential buildings to assure that they remain up to standard.

New buildings constructed by state agencies will be required to adopt designs that minimize the life-cycle costs of the facility. For further discussion of these requirements, see discussion under “State Institutions” above.

DEVELOPMENT OF SOLAR, WIND, OR DISTRIBUTED GENERATION

The Act seeks to encourage the development of small scale wind and solar installations by providing for net metering of such installations by utilities. Under net metering, excess power

provided by the facility to the grid is paid the same price as the customer pays to take power from the utility. This results in a net bill to the customer that is the difference between the amount sold and the amount taken from the grid. Because the customer load may vary non-synchronously with the output of on-site solar and wind facilities, netting allows the customer to maximize the value of the resource toward offsetting its own electrical obligation and, in certain circumstances, allows a net payment to the customer should they produce greater amounts than they consume.

The Net Metering Provisions of the Act are most favorable to very small installations (Class I resources), that are 60KW or less. The largest net metering facility permitted is 2MW. These larger units (Class III resources) are permitted to be aggregated by municipalities or governmental entities. Thus, a series of 1-2MW wind or solar generating units owned by a municipality could be net metered.

Although the new Net Metering provisions will undoubtedly be a benefit to small installations, the Act leaves unaddressed the “elephant in the living room” in discussions of distributed generation in the state. Some of the major efficiencies and environmental benefits available from distributed generation are combined heat and power and cogeneration applications, or solar and wind applications associated with industrial or other institutional facilities. Such facilities are usually much larger in size than units covered by the Act. One of the largest impediments to development of such resources is the current design of stand by and back-up rates. With properly designed standby and backup rates, distributed generation opportunities could exist for hospitals, universities, large commercial and industrial enterprises and even aggregations of residential and small business customers in industrial park settings. Although a proliferation of small units who are treated fairly under the Act’s netting provisions would be an improvement over the status quo, economic efficiencies of scale available from larger installations and the potential economic and environmental benefits they bring, will require additional reforms.

II. SUMMARY OF 2008 GREEN COMMUNITIES ACT BY SUBJECT

(Note: the summary is organized by subject. Paragraph numbers indicate sections of the Act. A few sections appear in the summary more than once.)

REGIONAL GREENHOUSE GAS INITIATIVE

3. Establishes Regional Greenhouse Gas Initiative (“RGGI”) Auction Trust Fund, to be administered by the Commissioner of Energy Resources, subject to the approval of the Secretary of Energy and Environmental Affairs. Funded by amounts credited in accordance with Section 22 of Chapter 21A (establishing a carbon dioxide cap and trade program – *see* Section 7 of the Act). To be expended exclusively for the purposes of Section 22 of Chapter 21A. The fund is an expendable trust fund not subject to appropriation or allotment. Amounts remaining in the fund at the end of a fiscal year do not revert to the General Fund but remain available for expenditure in the next fiscal year and thereafter.

7. Adds Section 22 to Chapter 21A, authorizing the Department of Environmental Protection to adopt rules and regulations establishing a carbon dioxide cap and trade program, with allowances issued under the program to be offered for sale by auction. Sale of allowances funds the RGGI Auction Trust Fund (*see* Section 3 of the Act).

112. Directs Department of Environmental Protection to adopt regulations for implementation of Section 22 of Chapter 21A (carbon dioxide cap and trade program) by March 1, 2009.

113. Provision on use of RGGI proceeds to reimburse municipalities in which property tax receipts decline due to RGGI.

114. *See* 113.

115. Authorizes Department of Environmental Protection, notwithstanding Section 22(c)(2) of Chapter 21A (permitting Department to set aside up to 1% of the commonwealth’s annual allocation of RGGI allowances to support the voluntary green power market), to withhold from auction such allowances of vintage years 2009 to 2012 as may be necessary to provide a transition to RGGI.

CONSTRUCTION/BUILDING CODES

2. Requires state agencies designing and constructing new facilities to minimize their life-cycle cost via energy efficiency, water conservation or renewable energy technologies

5. Directs the Board of Registration of Home Inspectors to develop documents to be provided to home-buyers outlining the benefits of a home energy audit.

50. Extends period for which cities and towns may incur debt for energy conservation and alternative energy improvements to public buildings or facilities from 10 to 20 years; add “renewable energy improvements” to list of purposes for which such debt may be incurred.

54. Adds to experience required of building inspectors a general knowledge of the energy requirements imposed by Section 94(p) of Chapter 143 (requiring training of building inspectors in energy efficiency provisions of state building code and inspection of new construction/major reconstruction by trained inspectors) (*see* Section 55 of the Act).

55. Directs the Board of Building Regulations and Standards to adopt and fully integrate the International Energy Conservation Code as part of the state building code; to develop requirements for training of building inspectors regarding energy provisions of the state building code; to require a process to ensure that new non-residential buildings larger than 10,000 square feet (and any major reconstruction of such existing buildings) perform as designed with respect to energy consumption by undergoing building commissioning or acceptance testing; and to prepare a report evaluating the advisability of a requirement of periodic commissioning for large non-residential buildings.

96. Directs the Department of Energy Resources to establish, by July 1, 2009, a methodology for use by agencies in assessing life-cycle costs that includes the requirements and assumptions set forth in subsections (a) and (b) of Section 39D of Chapter 7 (requiring state agencies designing and constructing new facilities to minimize the life-cycle cost of the facility via energy efficiency, water conservation or renewable energy technologies).

RENEWABLE PORTFOLIO STANDARD

32. Adds new Sections 11F and 11F½ to Chapter 25A in place of existing section 11F:

Section 11F amends the Renewable Energy Portfolio Standard for retail electricity suppliers selling electricity to end-users. Requires suppliers to provide a minimum percentage of kilowatt-hour sales to end-use customers from new renewable energy generating sources (percentage increases over time from baseline established by the Department several years ago) pursuant to the schedule provided. Separate requirements for Class I and Class II renewable energy generating sources. Class I means began commercial operation after 1997, *or represents the net increase from incremental new generating capacity after 1997 at an existing facility*; Class II requires that the source began commercial operation after 1997 (sources are the same except Class II includes waste-to-energy which is a component of conventional municipal solid waste plant technology in commercial use). Percentages for Class I are the same as existing law; percentages for Class II to be determined by the Department, with the Department to specify that a certain percentage of these requirements be met with energy generated from a specific renewable technology or fuel type. Adds geothermal energy, marine or hydrokinetic energy, and low emission advanced biomass power conversion technologies to list of qualifying sources; amends definition of qualifying hydroelectric facilities. Retail suppliers shall supply a portion (to be established by the Department) of the Class I

required minimum percentage from new on-site renewable energy generating sources with a capacity of not more than 2 megawatts which began commercial operation after 2007. Exemption for municipal lighting companies that are exempt from the requirements to allow competitive choice of generation supply under Section 47A of Chapter 164. New provision that a renewable energy generating source may be located behind the customer meter within the ISO-NE control area if the output is verified by an independent verification system participating in the New England Power Pool Generation Information System.

Section 11F^{1/2} directs the Department of Energy Resources to establish an Alternative Energy Portfolio Standard for all retail electricity suppliers selling electricity to end-use customers. Requires suppliers to provide a minimum percentage of kilowatt-hour sales (to be determined by the Department) to end-use customers from alternative energy generating sources. Directs the Department to set emission performance standards, permanent sequestration standards and fuel conversion efficiency standards for listed technologies. Directs the Department to set a net carbon dioxide emissions rate not to exceed the average emissions rate of existing natural gas plants, which shall include all emissions related to combustion, gasification, fuel processing and sequestration. Alternative energy generating sources generate electricity using: (1) gasification with capture and permanent sequestration of carbon dioxide; (2) combined heat and power; (3) flywheel energy storage; (4) any facility which substitutes any portion of its fossil fuel source with equal amount of paper-derived fuel approved by the Department of Environmental Protection; (5) energy efficient stream technology; or (6) other alternative energy technologies approved by the Department of Energy Resources.

87. Establishes special commission to investigate and study the burning of construction and demolition waste as it relates to the renewable energy portfolio standard established by Section 11F of Chapter 25A.

93. Directs Department of Energy Resources to make available monies from amounts collected through Alternative Compliance Payments (for retail suppliers not meeting their obligation under Section 11F(g) of Chapter 25A to supply a portion of their Class I renewable energy generating source requirement from new on-site renewable energy generating sources with a capacity of not more than 2 megawatts which began commercial operation after 2007) to: the Green Communities Program (under Section 10 of Chapter 25A); state or community colleges developing (*inter alia*) renewable energy generation projects; companies developing flywheel energy storage technologies; and certain investments related to paper-derived fuels.

105. Provides that a renewable energy generating source located in a control area adjacent to ISO-NE may qualify as an eligible renewable energy generating source under Section 11F of Chapter 25A (establishing renewable energy portfolio standard) if its renewable energy is delivered into and used by consumers within the ISO-NE control area. The generating source must also (1) initiate the import transaction pursuant to a spot market sale into the ISO-NE administered markets or under a bilateral sales contract with a purchaser of the renewable energy located in the ISO-NE control area by properly completing a North American Electric Reliability Corporation tag from the generator in the adjacent control area to either a node or zone in the

ISO-NE control area; (2) comply with all ISO-NE rules and regulations required to schedule and deliver the renewable energy generating source's energy into the ISO-NE control area; and (3) commit the renewable generating source as a committed capacity resource for the applicable annual period. Eligible renewable energy is limited to the renewable energy actually generated by the renewable energy generating source, or the renewable energy actually scheduled and delivered into the ISO-NE control area by the generator. The credit is reduced by any exports of energy from the ISO-NE control area made by the person seeking renewable portfolio credit for such renewable energy or any affiliate of such person, or any other person under contract with such person to export energy from the ISO-NE control area and deliver such energy directly or indirectly to such person.

OTHER RENEWABLES PROVISIONS

1. Requires the state to purchase hybrid or alternative fuel vehicles at a rate of not less than 5% annually so that not less than 50% of motor vehicles owned and operated by the state are hybrid or alternative fuel vehicles by 2018.

8. Adds to list of criteria for qualification as an Economic Target Area: "the area has been designated by the municipality as an area with potential for the development of Class I renewable energy generating sources, as defined by section 11F of chapter 25A."

11. Replaces Sections 19-20 of Chapter 25 with Sections 19-22 (Section 19 is described under the "Efficiency" heading):

Section 20 updates and amends existing provision imposing a charge of 0.5 mill per kilowatt-hour for all electric consumers (except those served by a municipal lighting plant which does not supply generation service outside its own service territory or does not open its service territory to competition at the retail level) to support renewable energy projects. Revenues to be deposited in the Massachusetts Renewable Energy Trust Fund. Adds provisions permitting municipal lighting plants which do not supply generation service outside their own service territory or do not open their service territory to competition to elect to assess and remit a mandatory charge on the same terms as apply to the charge imposed in competitive distribution service territories; absent such election, no grants or loans may be made to the non-electing municipal lighting plant or consumers residing in its service territory, unless special circumstances exist.

22. Adds new Sections 10 & 10A to Chapter 25A, establishing Division of Green Communities (replaces energy advisory board) to assist municipalities and other local governmental bodies to reduce energy consumption and costs, reduce pollution, facilitate the development of renewable and alternative energy resources, and create local jobs related to the building of renewable and alternative energy facilities and the installation of energy-efficient equipment. The Division shall establish a green communities program to provide technical and financial assistance to municipalities and other local governmental bodies that qualify as Green Communities – loans and grants to be used to finance costs of studying, designing, constructing and implementing energy efficiency activities (including conservation, energy management services and systems, demand side reduction initiatives, and energy efficiency policies). Sets

forth criteria for qualifying as a Green Community. Directs the Division to set up a competitive bidding procedure for procurement of electric generation from renewable and alternative generating facilities on behalf of municipalities certified as Green Communities. In lieu of designing and implementing a competitive budding process, the Director may become a member of programs organized and administered by the Health and Educational Facilities Authority or its subsidiary organization for the purpose of such competitive group purchasing of electricity.

44. Adds Sections 14 & 15 to Chapter 25A permitting state agency or local government to contract for energy conservation projects and photovoltaic panels costing less than \$100,000 directly and without further solicitation.

49. Modifies Section 4E of Chapter 4J, establishing governing board for the Massachusetts Renewable Energy Trust Fund to assist the Massachusetts Technology Park Corporation in matters related to the fund. Directs the board to adopt detailed 5-year strategic plans and annual operational plans. Adds provision to Section 4E(f)(1) of Chapter 40J directing board to make grants/loans up to \$3 million annually for hydroelectric facilities (other than pumped storage) constructed before December 31, 1997 for upgrades to increase efficiency or capacity and reduce environmental impacts.

51. Adds definitions of “alternative fuel” and “alternative fuel vehicle” to Chapter 90 (Motor Vehicles and Aircraft).

52. Adds definition of “hybrid vehicle” to Chapter 90.

53. Changes “10 per cent fuel efficiency” in Chapter 90 definition of “hybrid vehicle” to “25 per cent fuel efficiency.”

58. Provides that nothing in Chapter 164 provisions on electric company restructuring shall preclude an electric company or a distribution company from constructing, owning and operating generation facilities that produce solar energy (up to 50 megawatts), and that no electric company or distribution company may recover costs associated with such construction without prior approval from the Department of Public Utilities.

59. Repeals subsection (f) of Section 1A of Chapter 164 (which would appear already to have been repealed, as it does not exist in current statute). Staff summary says “Sunsets the section that allows electric companies to own solar renewable generation.”

83. Directs distribution companies, twice in the five-year period commencing on July 1, 2009, to solicit proposals from renewable energy developers and (if reasonable proposals have been received) to enter into cost-effective long-term contracts (10-15 years) to facilitate the financing of renewable energy generation. Solicitation of proposals may be via public solicitation, individual negotiations, or other methods. Contracts subject to review and approval by the Department of Public Utilities. Department of Public Utilities and Department of Energy Resources to adopt regulations that, among other things, (1) provide for annual remuneration for the contracting distribution company equal to 4% of the annual payments under the contract to compensate the company for accepting the financial obligation of the long-term contract; and (2)

require that renewable energy resources used by a developer meet certain enumerated criteria. Distribution companies are not obligated to enter into long-term contracts that would, in the aggregate, exceed 3% of the total energy demand in their service territory. Includes provision on how distribution companies may use energy purchased under such contracts and use of renewable energy credits.

84. Directs Secretary of Energy and Environmental Affairs, in conjunction with Department of Public Utilities, to implement an “energy pay and save” pilot program, allowing electric utility customers to purchase and install energy efficient or renewable energy products by paying the cost of the system over time through an additional charge on their electricity bill. Pilot program to have up to 200 participants; maximum project size \$1,000.

86. Department of Public Utilities shall direct all distribution companies to submit a plan within 60 days of the effective date of the Act providing for retail access to competitive sellers of renewable energy generation attributes, whether or not bundled with electricity; but such plans must not provide distribution companies with a market advantage over competitive suppliers of renewable generation attributes.

94. Directs Department of Public Utilities to review and report on effects of allowing electric and distribution companies to operate solar generation facilities.

99. Directs Massachusetts Turnpike Authority to develop a plan for the availability of alternative fuel at each fueling facility or service terminal on the Turnpike.

100. Directs Commissioner of Energy Resources to develop a statewide master plan for the advancement of hybrid and alternative fuel vehicles.

101. Directs Operational Services Division to study the feasibility of a system to facilitate the bulk purchase of alternative fuel vehicles by the commonwealth and its political subdivisions.

116. Establishes the commonwealth’s renewable and alternative energy and energy efficiency goals (including meeting 25% of electric load by 2020 with demand side resources and meeting 20% of electric load by 2020 with new, renewable and alternative energy generation).

EFFICIENCY

11. Replaces Sections 19-20 of Chapter 25 with Sections 19-22 (Section 20 is described under the “Other Renewables Provisions” heading):

Section 19 updates and amends existing provision imposing charge of 2.5 mills per kilowatt-hour (same rate in current statute) to fund energy efficiency programs for all consumers (except those served by a municipal lighting plant). Provides that such programs shall be administered by electric distribution companies and municipal aggregators with energy plans certified by the Department of Public Utilities. Such programs shall also be funded by amounts generated by: (1) the distribution companies and municipal aggregators under the Forward Capacity Market program of ISO-NE; (2) cap and trade pollution control programs, including Section 22 of Chapter 21A (*see* Section 7 of the Act), not less than 80 percent of amounts generated by the carbon dioxide allowance trading mechanism established under the Regional Greenhouse Gas Initiative Memorandum of Understanding, and the NO_x Allowance Trading Program; and (3) other funding as approved by the Department. Lowers from 20% to 10% the minimum percentage of the amount expended for electricity energy efficiency programs that must be spent on comprehensive low-income residential demand side management and education programs. Authorizes the Department of Public Utilities to fund gas energy efficiency programs proposed by gas distribution companies, including demand side management, and provides formula for allocating such funds to customer classes.

Section 21 directs the Department of Public Utilities to ensure that electric and natural gas resource needs shall first be met through all available energy efficiency and demand reduction resources that are cost effective or less expensive than supply. Requires that every 3 years the electric distribution companies and municipal aggregators with certified efficiency plans jointly prepare an electric efficiency investment plan, and natural gas distribution companies jointly prepare a natural gas efficiency investment plan. Lists items such plans must include. Requires “cost-effectiveness testing.”

Section 22 establishes an Energy Efficiency Advisory Council.

22. Adds new Sections 10 & 10A to Chapter 25A, establishing Division of Green Communities (replaces energy advisory board) to assist municipalities and other local governmental bodies to reduce energy consumption and costs, reduce pollution, facilitate the development of renewable and alternative energy resources, and create local jobs related to the building of renewable and alternative energy facilities and the installation of energy-efficient equipment. The Division shall establish a green communities program to provide technical and financial assistance to municipalities and other local governmental bodies that qualify as Green Communities – loans and grants to be used to finance costs of studying, designing, constructing and implementing energy efficiency activities (including conservation, energy management services and systems, demand side reduction initiatives, and energy efficiency policies). Sets forth criteria for qualifying as a Green Community. Directs the Division to set up a competitive bidding procedure for procurement of electric generation from renewable and alternative generating facilities on behalf of municipalities certified as Green Communities. In lieu of

designing and implementing a competitive bidding process, the Director may become a member of programs organized and administered by the Health and Educational Facilities Authority or its subsidiary organization for the purpose of such competitive group purchasing of electricity.

23. Minor amendments to Section 11C of Chapter 25A (contracts for procurement of energy management services). Extends maximum contract term from 10 to 20 years. Exception to requirement that Commissioner of Energy Resources approve such contracts extended to contracts up to \$1 million (was \$200,000).

37. Replaces Section 11I of Chapter 25A, authorizing public entities to enter into contracts for procurement of energy management services (as an alternative to the procedures in Section 11C which require a formal RFP), with similar section. Definitions are moved to Section 3 and changes made to certain definitions.

44. Adds Sections 14 & 15 to Chapter 25A permitting state agency or local government to contract for energy conservation projects and photovoltaic panels costing less than \$100,000 directly and without further solicitation.

50. Extends period for which cities and towns may incur debt for energy conservation and alternative energy improvements to public buildings or facilities from 10 to 20 years; adds “renewable energy improvements” to list of purposes for which such debt may be incurred.

84. Directs Secretary of Energy and Environmental Affairs, in conjunction with Department of Public Utilities, to implement an “energy pay and save” pilot program, allowing electric utility customers to purchase and install energy efficient or renewable energy products by paying the cost of the system over time through an additional charge on their electricity bill. Pilot program to have up to 200 participants; maximum project size \$1,000.

85. Directs that by April 1, 2009, each electric distribution company shall file a proposed plan with the Department of Public Utilities to establish a smart grid pilot program to utilize advanced technology to operate an integrated grid network communication system in a limited geographic area. Shall include “smart” meters that provide real time measurement and communication of energy consumption, automated load management systems embedded within current demand-side management programs and remote status detection and operation of distribution system equipment. By April 1, 2009, each electric distribution company shall file a proposal for a pilot program requiring time of use or hourly pricing for commodity service for a minimum of 0.25% of the company’s customers. Objective is to reduce peak and average loads by 5% for customers who participate. The Department shall review and approve or modify such plans by August 1, 2010.

90. Directs Department of Energy Resources to establish pilot program to assist consumers with the purchase of energy efficient items for residential home modifications.

91. Directs Department of Public Utilities to file a report on the effectiveness of the programs administered under Section 19 of Chapter 25 (funding for energy efficiency activities).

97. Directs Energy Advisory Council appointed under Section 22 of Chapter 25 to study energy efficiency and demand response programs to identify the costs and benefits associated with such programs.

108. Directs the Department of Energy Resources to collaborate with U. Mass. Boston to establish an educational outreach pilot program designed for communities to further goals such as (*inter alia*) accelerating consumer-oriented energy efficiency and conservation programs, short-term retrofitting of existing energy control systems, demonstration of the major cost savings of energy efficiency measures and conservation programs as compared with the cost of purchasing energy.

110. Notwithstanding Section 19(c) of Chapter 25 (*see* Section 11 of the Act on allocation of electric and gas energy efficiency program funds to customer classes), for three years after the expiration of each electric or gas company efficiency plan or agreement in place as of January 1, 2008, the amount and percentage allocated to the low-income residential subclass for the electric or gas company shall not be reduced to less than the amount provided under law, guidelines and agreements in force as of January 1, 2009.

111. Directs that the first plans required under Section 21 of Chapter 25 (*see* Section 11 of the Act) be submitted to the Energy Efficiency Advisory Council by April 30, 2009, and that electric and natural gas distribution companies and municipal aggregators submit these plans (with the Council's approval or comments) to the Department of Public Utilities by October 31, 2009.

116. Establishes the commonwealth's renewable and alternative energy and energy efficiency goals (including meeting 25% of electric load by 2020 with demand side resources and meeting 20% of electric load by 2020 with new, renewable and alternative energy generation).

MISCELLANEOUS

4. Establishes Office of Ratepayer Advocacy within the Office of the Attorney General with power to intervene in administrative, regulatory or judicial proceedings on behalf of consumers.

7. Adds Section 21 to Chapter 21A, authorizing the Secretary of Environmental Affairs to design and implement a bidding process for competitive procurement of electric generation on behalf of state agencies procuring electricity from a local distribution company. In lieu of designing and implementing a competitive bidding process, the secretary may become a member of programs organized and administered by the Health and Educational Facilities Authority or its subsidiary organization for the purpose of such competitive group purchasing of electricity.

9. Authorizes the Department of Public Utilities to audit all companies subject to its jurisdiction (except steam distribution companies).

10. Authorizes assessment against steam distribution companies.

12. Adds new Sections 1-3 to Chapter 25A, establishing the Department of Energy Resources in the Executive Office of Energy and Environmental Affairs (replaces the *Division* of Energy Resources). The Department has three divisions: (1) Division of Energy Efficiency; (2) Division of Renewable and Alternative Energy Development; and (3) Division of Green Communities.

13. Directs Commissioner of Energy Resources to file annual report with the legislature.

56. Provides that Department of Telecommunications and Cable shall enforce Chapter 159 (Common Carriers) to the extent that it relates to telecommunications.

57. Adds certain definitions to Chapter 164

60. Requires that residential or small commercial customers initiating or reinstating utility service or inquiring about their rates or seeking information about energy efficiency be offered the option to learn about their ability to enroll with a participating non-utility competitive supplier of energy; permits participating non-utility competitive suppliers of energy to list qualifying electric offers to provide electric generation service in each customer's utility bill; provides procedure for electric distribution companies to make payments to electric suppliers who have chosen the complete billing method.

61. Increases penalty against distribution, transmission or gas companies failing to meet service quality standards from 2.0% to 2.5% (Chapter 164, Section 1E(c)).

64. Requires that residential customers eligible for low-income discount rates receive service on demand, and that distribution companies periodically notify customers of low-income discount rates.

66. Adds subsection (l) to Section 47C of Chapter 164 (municipal lighting plant cooperatives):

The activities of a municipal lighting plant cooperative shall not be imputed to its individual members and the provision of energy brokering and other energy-related services by a municipal lighting plant cooperative to retail customers without any accompanying sale of electricity to such retail customers shall not constitute the supply of generation services by its members for the purposes of subsection (b) of section 47A (permitting a municipal lighting plant to prohibit retail sales by suppliers and electric companies to customers within the service territory of said lighting plant).

67. Adds steam distribution companies to Section 76D of Chapter 164 (utility underground plant damage prevention system).

69. Amends standards to guide the Department of Public Utilities in deciding whether to approve a consolidation or merger of companies subject to Chapter 164, adding requirement that the Department consider: proposed rate changes, if any; the long-term strategies that will ensure a reliable, cost effective energy delivery system; any anticipated interruptions in service; or other factors which may negatively impact customer service.

70. Adds municipal lighting plant managers to list of those authorized under Section 116 of Chapter 164 to enter premises supplied with gas or electricity for the purpose of examining or removing meters, pipes, wires, fittings and works for supplying or regulating the supply of gas or electricity and ascertaining the quantity of gas or electricity consumed or supplied.

75. Removes references to “standard offer” from Section 134 of Chapter 164 (municipal load aggregation programs).

76. *See 75.*

77. *See 75.*

78. Provides procedures by which distribution company customers that use electricity generated by a net metering facility may elect net metering. Establishes separate procedures for Class I (up to 60 kilowatts), Class II (60 kilowatts to 1 megawatt), and Class III (1 to 2 megawatts), and neighborhood net metering facilities (owned by or serving 10 or more residential customers). Directs distribution companies to bill all customers for the distribution portion of any net metering credits and distribution company delivery surcharges displaced by a net metering facility. Directs distribution companies to impose tariffs regarding necessary interconnection studies and the type, costs and timeframe for installing metering and distribution system upgrades. A Class I, II or III net metering facility or net metering customer may not be an electric utility, generation company, aggregator, supplier, energy marketer or energy broker. The aggregate capacity of net metering shall not exceed 1% of the distribution company’s peak load. Directs the Department of Public Utilities to remove any impediments to the development of efficient, low-emissions distributed generation. Authorizes municipalities to operate small municipal renewable energy generating facilities.

79. Authorizes Department of Public Utilities to regulate steam generation companies.

81. Fixes what appears to be an erroneous statutory reference in the Acts of 2005.

82. *See 81.*

88. Establishes green building plan commission to examine the environmental and economic impact of establishing a green building plan for the commonwealth.

89. Establishes a commission to study the siting of energy facilities in the commonwealth.

92. Directs Department of Public Utilities to hold public hearings and issue reports on (1) maintenance and improvement of gate boxes of gas utilities located in streets, roads or sidewalks; and (2) repair standards for distribution systems of investor-owned electric and gas utilities.

95. Exempts merger or consolidation of holding companies approved by the Federal Energy Regulatory Commission before the effective date of the Act from the requirements of Section 96 of Chapter 164.

98. Directs Department of Public Utilities to establish by September 1, 2009, terms and conditions under which a participating non-utility competitive supplier may be included in the program described in Section 1D of Chapter 164 (unbundling of bills).

102. Directs the Department of Public Utilities to hold a public hearing to examine the impacts on the competitive retail electricity marketplace through the existing electric utility default service adjustment mechanism.

103. Directs each electric distribution company to file a compliance plan with respect to Section 1D of Chapter 164 (unbundling of bills).

106. Directs Department of Housing and Community Development to make recommendations regarding expenditure of supplemental state funds for the federal Low Income Home Energy Assistance Program.

107. Directs the Department of Energy Resources to study the fiscal impact and viability of establishing municipal-owned electric utilities; creates a commission to advise the Department with respect to this study.

109. Directs Department of Public Utilities to investigate and study off-the-record ex-parte communications in contested, on-the-record proceedings.

117-124. Effective dates for specific provisions of the Act.