Energy/Environment

Timeline

1. January 18, 2007: Governor Patrick signs the Regional Greenhouse Gas Initiative, committing the Commonwealth of Massachusetts to a multi-state effort to reduce emissions of carbon dioxide and tackle global climate change (A-2).
2. April 17, 2007: Governor Patrick announces a commitment by the Commonwealth to the goal of 250 megawatts of solar power generating capacity by 2017 (A-6).
3. April 18, 2007: Governor Patrick issues Executive Order 484, "Leading By Example—Clean Energy and Efficient Buildings," (B-8).
4. May 1, 2008: Governor Patrick outlines his comprehensive clean energy strategy to the Greater Boston Chamber of Commerce (A-9).
5. May 28, 2008: Governor Patrick signs "An Act Relative to Oceans" that requires Massachusetts to develop a first-in-the-nation comprehensive plan to manage development in its state waters (A-17, text of law B-285).
6. July 2, 2008: Governor Patrick signs "An Act Relative to Green Communities," a comprehensive energy reform bill (A-20, speech A-23, text of law B-293).
7. July 28, 2008: Governor Patrick signs "An Act Relative to Clean Energy Biofuels" (B-370).
8. August 13, 2008: Governor Patrick signs "An Act Establishing the Global Warming Solutions Act," which will make Massachusetts a national leader in climate protection, and "An Act Relative to Green Jobs in the Commonwealth," which will support the development of the clean energy technology industry (A-25, text of laws B-383 & B-391, respectively).
9. January 13, 2009: Governor Patrick sets a goal of developing 2,000 megawatts of wind power capacity by 2020 (A-27).
10. April 22, 2009: Governor Patrick announces the launch of the Green Communities Program (A-29).
11. May 25, 2010: Governor Patrick designates 35 cities and towns as the first official "Green Communities," making them eligible for $8.1 million in grants for local renewable power and energy efficiency projects (A-40).
12. December 29, 2010: Energy and Environmental Affairs Secretary Ian Bowles sets the statewide greenhouse gas emissions limit for 2020 required by "An Act Establishing the Global Warming Solutions Act" at 25 percent below 1990 levels (A-47, letter B-2).
13. October 20, 2011: Governor Patrick joins the American Council for an Energy-Efficient Economy (ACEE) to announce that Massachusetts has been named number one in ACEEE's annual state-by-state energy efficiency scorecard (A-51, scorecard C-40).
14. July 24, 2012: Governor Deval Patrick announces that Massachusetts is now home to over Green Communities (A-57).
15. May 1, 2013: Governor Patrick announces that Massachusetts reached its goal of 250 megawatts of solar power generating capacity 4 years early. He also announced a new goal of 1,600 megawatts by 2020 (A-67, speech A-70).

Results

Executive Order No. 484 "Leading By Example—Clean Energy and Efficient Buildings" (B-8)

- All Commonwealth agencies as a whole and, to the greatest extent feasible individually shall meet the following targets:[1]
    - Reduce greenhouse gas emissions that result from state government operations by 25% by fiscal year 2012, 40% by 2020 and 80% by 2050.
    - Reduce overall energy consumption at state owned and leased buildings by 20% by fiscal year 2012 and 35% by 2020.
    - Procure 15% of agency annual electricity consumption from renewable sources by 2012 and 30% by 2020.
    - Utilize bio heat products with a minimum blend of 3% bio based materials for all heating applications that use #2 fuel starting in the winter of 2007-2008, and 10% bio heat blend by 2012.
    - Effective April 18, 2007, all new construction and major renovations must meet the Massachusetts LEED Plus green building standard.
    - Reduce potable water use, as compared to 2006, by 10% by 2012 and 15% by 2020.
- Creates a Clean Energy Committee that reports annually to the governor on the results of energy conservation actions taken by agencies during the previous fiscal year, the environmental and economic impacts of those actions, and recommendations for future energy reductions.[2]

An Act Relative to Oceans (B-285)

- Requires, for the first time in any state, comprehensive science based planning of the Commonwealth's ocean waters to assure long-term protection and sustainable use.[3]
- Creates a 17-member Ocean Advisory Commission and a Ocean Science Advisory Council comprised of 9 experts in marine sciences and data management to provide advice to the Secretary of the Executive Office of Energy and Environmental Affairs as the office develops the oceans plan.[4]
- The Bill amends section 15 of the Ocean Sanctuaries Act to allow for the siting of "appropriate scale" offshore renewable energy facilities in state waters, provided that the facility is consistent with the ocean plan.[5]

An Act Relative to Green Communities

- Requires electric distribution utilities to increase investments in energy efficiency and demand resource programs for all customers by: mandating investment in all

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[1] Executive Order No. 484 "Leading By Example—Clean Energy And Efficient Buildings" (B-11).
[2] Ibid (B-12).
[3] Governor Patrick Signs Law Creating Signs Law Creating First-in-the-Nation Oceans Management Plan Balancing Preservation, Uses (A-18).
[4] Ibid.
[5] Ibid.

demand side resources that are cost-effective or cheaper than supply; reducing consumers' energy bills; reducing emissions; and, reducing reliance on imported fossil fuels.[6]
    - Natural gas distribution utilities are also required to increase their investments in energy efficiency programs for all customers.[7]
- Requires a new oversight council be established to provide oversight, and improve and enhance the utility-administered efficiency programs.[8]
- Authorizes the 100% auction of all Regional Greenhouse Gas Initiative (RGGI) allowances and directs proceeds to five uses: promotion of energy efficiency; reimbursement of municipalities in which tax receipts decrease due to RGGI; green communities; zero-interest loans to some municipalities for efficiency projects; and state administration of the cap and trade program.[9]
- Doubles the rate of increase in the Renewable Portfolio Standard from 0.5% per year to 1% per year, with no cap. Therefore, utilities and other electricity suppliers will be required to obtain renewable power equal to 4% of sales in 2009, 15% in 2020 and 25% in 2030.[10]
- Requires utility companies to enter into 10- to 15-year contracts with renewable energy developers to help developers of clean energy technology obtain financing to build their projects.[11]
- Requires the Board of Building Regulations and Standards to adopt the latest edition of the International Energy Conservation Code (IECC) energy code and to update its code within 1 year of any IECC revision.[12]
- Creates the Green Communities program, which will provide up $10 million in total financial and technical assistance, through grants, loans and other methods of aid, to municipalities for energy efficiency and renewable energy efforts.[1314]
    - As of July 24, 2012, there were 103 Green Communities that have committed to a total energy reduction equivalent to the annual energy consumption of 13,358 homes. This equates to a greenhouse gas emissions reduction the same as taking 22,556 cars off the road.[15]

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[6] Massachusetts 2008 Energy Bill Summary "An Act Relative to Green Communities" (C-11).
[7] Ibid.
[8] Ibid.
[9] Ibid.
[10] Governor Patrick Signs Energy Bill Promoting Cost Savings, Renewable and Clean Energy Technology (A-21).
[11] Ibid.
[12] Massachusetts 2008 Energy Bill Summary "An Act Relative to Green Communities" (C-12).
[13] Ibid.
[14] Governor Patrick Signs Energy Bill Promoting Cost Savings, Renewable and Clean Energy Technology (A-21).
[15] Governor Patrick Announces Green Communities Milestone (A-58).

- As of May 1, 2013, there are 110 designated Green Communities in the Commonwealth and nearly half of all Massachusetts residents live in a Green Community.[16]

An Act Relative to Clean Energy Biofuels

- Exempts cellulosic biofuels (non-corn-based alternatives to ethanol) from the Commonwealth's gasoline excise tax. Massachusetts is the first state to give a tax incentive to these biofuels.[17]
- Requires a minimum percentage of advanced biofuel as a component of all diesel fuel and home-heating fuel sold in Massachusetts, starting at 2% in 2010 and increasing to 5% by 2013. All biofuels must meet at least a 50% reduction of greenhouse gas emissions over their lifecycles in order to qualify for the content mandate. Massachusetts is the first state to require biofuel in home-heating fuel.[18]
- Requires Massachusetts to pursue a Low Carbon Fuel Standard that would reduce greenhouse gas emissions from the transportation sector by 10% and to seek an agreement with the member states of the Regional Greenhouse Gas Initiative to implement the Standard on a regional basis.[19]

An Act Establishing the Global Warming Solutions Act

- Requires the Executive Office of Energy and Environmental Affairs to set economy-wide greenhouse gas (GHG) emission goals for Massachusetts that will achieve reductions of 25%[20] below statewide 1990 GHG emission levels by 2020 and 80% below statewide 1990 GHG emission levels by 2050.[21]
- To ensure that these goals will be met, the Act requires the Commonwealth to:[22]
  - Establish regulations requiring reporting of greenhouse gas emissions by Massachusetts' largest sources by January 1, 2009.
  - Develop a projection of the likely statewide GHG emissions for 202 under a "business as usual" scenario that assumes that no targeted efforts to reduce emissions are implemented.
  - Establish target mission reductions that must be achieved by 202 and a plan for achieving them (report B-149).
  - Through an advisory committee, analyze strategies and make recommendations for adapting to climate change (report B-21).

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[16] Patrick-Murray Administration Reaches 2017 Solar Energy Target, Sets New Goal (A-68).
[17] http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/advanced-biofuels/clean-energy-biofuels-act.html.
[18] http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/advanced-biofuels/clean-energy-biofuels-act.html.
[19] Ibid.
[20] Determination of Greenhouse Gas Emission Limit for 2020 (B-2).
[21] http://www.mass.gov/eea/agencies/massdep/air/climate/overview-of-the-global-warming-solutions-act-gwsa.html.
[22] Ibid.

An Act Relative to Green Jobs in the Commonwealth

- Provides $68 million in funding ($43 million from the fiscal year 2007 surplus and $5 million per year from the Massachusetts Renewable Energy Trust) over five years to support the growth of the clean energy technology industry within the Commonwealth.[23]
- Creates the Massachusetts Clean Energy Center,[24] to invest in early-stage clean energy companies and accelerate the growth of the Massachusetts clean energy. Since it began operating in 2009, MassCEC has accomplished its mandate through its three divisions:[25]
    - The Renewable Energy Generation Division provides financing and planning assistance to communities, businesses and residents seeking to adopt clean energy projects.
    - The Industry and Innovation Support works with clean energy businesses to grow their operations, provide training and workforce development, develop industry reports and sector analysis, and acts as a connector across academia and incubators to entrepreneurs and investors.
    - The Investments in Clean Technology Division provides strategic and early-stage investments growing clean energy companies in order to promote the development of innovative technologies, leverage private capital and create jobs in the Commonwealth.

Overall Accomplishments

- As of May, 1 2013, Massachusetts surpassed Governor Patrick's solar goal of 250 megawatts of solar power generating capacity 4 years early and the Governor announced a new goal of 1,600 megawatts by 2020. The amount of solar energy installed in Massachusetts has increased 80 times from the 3 megawatts in 2007.[26]
    - Massachusetts' current solar power capacity generates enough electricity to power more than 37,000 homes for a year and is the equivalent of eliminating greenhouse gas emissions from nearly 26,000 cars a year.[27]
    - In 2012, $476 million was invested in Massachusetts to install solar on homes and businesses. This represents a 210% increase over 2011 and is expected to increase again in 2013.[28]
    - Average installed residential and commercial photovoltaic system prices fell by 14% in 2011.[29]
- In 2011[30] and 2012,[31] Massachusetts ranked #1 in the nation in energy efficiency by the American Council for an Energy-Efficient Economy (ACEE).

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[23] Governor Patrick Signs Bills to Reduce Emissions and Boos Green Jobs (A-25).
[24] http://www.masscec.com/news/masscec-announces-clean-energy-job-growth-massachusetts.
[25] http://www.masscec.com/about.
[26] Patrick-Murray Administration Reaches 2017 Solar Energy Target, Sets New Goal (A-67).
[27] Ibid.
[28] http://www.seia.org/state-solar-policy/Massachusetts.
[29] Ibid.

    - From the 2011 Scorecard: "Central to Massachusetts' success is the continued implementation of the 2008 Green Communities Act, which laid the foundation for greater investment in energy efficiency programs."[32]
- As of 2012, Massachusetts has 4,995 clean energy firms employing 71,523 clean energy workers. These workers represent 1.7% of total workers in the Commonwealth.[33]
- From 2011-2012, clean energy employment has grown by 11.2%, nearly 10 times faster than the overall 1.2% growth rate among all industries in Massachusetts over the same period.[34]

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[30] The 2011 State Energy Efficiency Scorecard (C-44).
[31] Patrick-Murray Administration Announces Comprehensive, Nation-Leading Energy Audits for Massachusetts Military Bases (A-64).
[32] The 2011 State Energy Efficiency Scorecard (C-44).
[33] Massachusetts Clean Energy Industry Report 2012 (C-27).
[34] Ibid.