



American Recovery and Reinvestment Act (ARRA) funding for clean energy arrived at a particularly opportune moment for Massachusetts – coming on the heels of a new landmark energy reform law – the Green Communities Act – and five other groundbreaking pieces of legislation relating to expansion of the clean energy economy. Important benchmarks Massachusetts is working toward with the assistance of ARRA funding include:

- Governor Patrick's goal to install 250 MW of solar power by 2017
- Governor Patrick's goal to install 2,000 MW of wind power by 2020
- A 10 to 25 percent cut in greenhouse gas emissions across the economy by 2020, increasing to an 80 percent cut by 2050

Grappling, along with states across the country, with the worst economic downturn since the Great Depression, the Commonwealth, through its Department of Energy Resources, also seized on stimulus funding as a valuable opportunity to do more with less – creating partnerships and implementing strategies to significantly leverage federal dollars with private funding. ARRA funding is an important new stream of funding that is enabling the Commonwealth to forge ahead with the Governor's ambitious clean energy agenda in difficult economic times. A few key examples follow.

State Energy Program (\$54.9 million)

Through the State Energy Program (SEP), the Massachusetts Department of Energy Resources (DOER) is working to support both state and national goals to increase the energy efficiency of the economy; reduce energy costs; improve reliability of electricity, fuel and energy services delivery; develop alternative and renewable energy resources; promote economic growth; and reduce reliance on imported oil.

- **Massachusetts Solar Stimulus** (\$20 million): A cornerstone of the SEP spending plan is the Massachusetts Solar Stimulus program to install solar PV systems at public-owned facilities across the state. This program has three initiatives designed to foster expansion of installed capacity in support of Governor Patrick's 250 MW by 2017 goal: **Technical Assistance**, a **State Solar** program to provide partial funding for approximately 40 projects at state government facilities, and a **Solar Stimulus Rebate** program to support a new round of the pre-existing Commonwealth Solar Rebate program.
 - **Technical Assistance** leverages other funding sources available for solar projects that might not be put to use without Technical Assistance. It is providing expertise on development of RFPs, drafting of contracts, leveraging Federal tax incentives when possible, technical review of RFP responses and other key tasks – enabling the Commonwealth to stretch

stimulus dollars and accomplish more. This program was instrumental in enabling solar energy projects at 12 public drinking water and wastewater treatment facilities to be contracted for in a compressed time frame. Projects are financed by the U.S. EPA State Revolving Funds for Clean and Drinking Water. Two Massachusetts firms, Nexamp, Inc. of Andover – an Iraq war veteran-owned firm – and Florence Electric of Taunton, were selected for the biggest solar installation contract in the Commonwealth's history to install 4.1 MW of solar power at these 12 facilities from the Berkshires to Cape Cod. Putting workers on the job beginning next month and finishing by July 2011, these projects will cut municipal energy bills, reduce greenhouse gas emissions and support the state's growing solar industry. Once complete, the solar projects will enable the 12 water and wastewater facilities to save nearly \$650,000 per year by cutting conventional energy use by approximately 4.5 million kilowatt hours annually – roughly equal to the energy needed to power 600 households per year.

- The **State Solar** program will enable the installation and operation of approximately 4 MW in solar power at Logan Airport, state colleges and universities, public housing authorities, and other buildings. Development of RFPs, bid review and contracting for these projects is accelerated by ARRA-funded **Technical Assistance**. Among projects in this first round of 19 facilities is a five-building, 483 kilowatt (kW) project at Berkshire Community College that will generate 550,000 kWh per year – more than the electricity used by 75 average homes. All told, the \$10.5 million in **State Solar** funds will support the creation of approximately 114 jobs.
- **Solar Stimulus Rebate** funding enabled Massachusetts to expand the next phase of the state's extremely popular and successful Commonwealth Solar rebate program. Created by Governor Patrick in January 2008 to catalyze installation of 22 MW of solar power by 2012, the Commonwealth Solar program did that and more in less than two years. Expending its initial allotment of \$68 million by October 2009, Phase 1 of Commonwealth Solar put clean solar energy within the financial reach of more than 1,200 homeowners, businesses and municipalities, while expanding the growth of the Massachusetts solar industry. Commonwealth Solar is recognized as a primary driver of the state's solar success story – fostering efforts that have doubled the number of jobs and quadrupled the number of companies in the solar sector in the past two years while putting Massachusetts on track to increase its complement of installed solar power 20-fold over four years. The state opened a new round of Commonwealth Solar for commercial PV systems greater than 5 and up to 200 kW with the first \$4 million block of **Solar Stimulus Rebate** funds on January 27, 2010, and fully subscribed the program *that afternoon*. This round of rebates is expected to yield approximately 4 MW of solar capacity at about 60 projects. The state will take applications on another \$4 million in rebates in

April. All told, the \$8 million in **Solar Stimulus Rebate** funding is expected to create 92 jobs and yield 8 MW of new solar power.

- **High Performance Buildings** (\$20 million): The largest initiative under this area is a grant program. An RFP issued by the DOER last fall for proposals to demonstrate innovative solutions that could transform the use of energy in buildings across Massachusetts opened a floodgate of creativity and innovation – yielding 112 proposals with over \$250 million in requested project costs. This month, DOER is expected to select several projects for awards of \$500,000 to \$5 million each. Winning projects must be able to achieve scalable and dramatic improvements in the energy performance of all existing buildings in the Commonwealth beyond what existing energy efficiency programs can accomplish, paving the way for widespread building energy performance improvements. Once up and running, these projects are estimated to create 485 jobs, of which 163 will result from ARRA funds alone.
- **Leading by Example (LBE)** (\$14.9 million): **LBE** is expanding and accelerating projects to cut energy waste and increase renewable energy at public buildings in support of the goal of the Governor's Executive Order 484 "to reduce greenhouse gas emissions that result from state government operations by 25 percent by FY 2012." Among **LBE**'s four key initiatives is initiating a two-year pipeline of over \$237 million in energy efficiency projects at dozens of state buildings. The Commonwealth used \$3.3 million in SEP dollars to fund the project management capacity required at the state's Division of Capital Asset Management (DCAM). Through DCAM's efforts, Massachusetts will complete more energy efficiency projects at state facilities in the next two years than it has done over *the past two decades*. The project management grant leverages the full capital cost of projects which will be financed using state bonds, with debt service paid for through a share of the energy savings. This work got off the ground last week, when Governor Patrick announced that \$1.25 million in Recovery funds will speed completion of a comprehensive energy efficiency upgrade at North Shore Community College's two campuses. With a total cost of \$3.6 million (the balance financed through state-backed bonds), the project includes installing an energy management system and water conservation measures, putting in new insulation, and setting up new rooftop A/C units. The work will support an estimated 41 jobs and enable the college to reduce energy use by 32 percent for annual savings of \$400,000.

LBE will also award up to \$10 million in SEP funds for a nation-leading Enterprise Energy Management System (EEMS). The EEMS will help the state lower energy use by enabling real-time monitoring of trends and anomalies and management of building energy performance. The project is estimated to create 108 jobs.

Energy Efficiency and Conservation Block Grants (\$14.75 million)

ARRA-funded **Energy Efficiency and Conservation Block Grants (EECBG)** are another example of the nexus between ARRA funding and the Commonwealth's enhanced focus on clean energy. Through its Green Communities Division – a new program to assist Massachusetts's 351 cities and towns created by the Green Communities Act – the DOER last month awarded \$12.2 million for renewable energy and energy efficiency projects in 97 communities with populations under 35,000. (Larger Massachusetts communities got direct ARRA grants totaling over \$27.4 million from U.S. DOE for similar projects.) Governor Patrick announced the \$12.2 million in municipal grants at Melrose Veterans Memorial Middle School, a state-certified "green" school where \$150,000 will go toward a solar PV array to help light the building and power computers. Capped at \$150,000 each, **EECBG** awards assist shovel-ready projects at municipal buildings and schools, including solar photovoltaic and solar thermal installations; thermal efficiency measures in oil- or propane-heated buildings, such as new high efficiency boilers and furnaces or improved efficiency in existing ones, replacement or improvement of heat delivery systems, and increased insulation or window replacement; and reduction ("buy-down") of the total cost of efficiency measures identified by energy performance contractors – projects estimated to save or create at least 200 jobs.

DOER set aside \$825,000 in **EECBG** funds to provide technical consulting services valued up to \$50,000 per community. The 35 communities who qualified for this assistance – all but 14 of which were also awarded grants – will receive assistance from independent third parties with expertise in the negotiation and management of energy projects, enabling municipalities to undertake work they might otherwise forego due to lack of in-house expertise. DOER is also using a portion of **EECBG** funding to make clean energy technical assistance services available to all 351 Massachusetts cities and towns, regardless of size. Included in these services is a newly launched MassEnergyInsight energy information reporting system that provides comprehensive community-by-community energy usage and cost data, allowing municipalities to benchmark energy consumption and identify priority targets for efficiency investments, and to inventory, track and report municipal emissions reductions. Nearly 100 communities have already received training on the system, which was unveiled at the end of January.

Under a contract with the Massachusetts-based Center for Ecological Technology (CET), DOER is using \$175,000 in **EECBG** funds to conduct energy code training for municipal officials across the state. CET grew from about 50 employees a year ago to over 100 today, with positions ranging from field technicians and quality control personnel to IT and customer service specialists, and attributes part of that growth to ARRA-funded training programs – as well as ramped-up utility administered energy efficiency programs funded with Regional Greenhouse Gas Initiative auction proceeds.

Weatherization Assistance Program (\$122 million)

The Massachusetts Department of Housing and Community Development (DHCD) is applying \$122 million in U.S. DOE ARRA funds toward a goal of weatherizing, insulating and/or improving the energy efficiency of 17,000 low-income households by March 31, 2012 – and is well on its way to meeting that goal. Since October, more than 1,800 units have been weatherized and another 1,500 are in process, utilizing the skills of 38 newly-trained and certified energy auditors to identify projects and 30 new weatherizing contracting firms to do the work. These firms have already added 200 workers to their payrolls, and DHCD estimates that total jobs created through the ARRA weatherization funding will be approximately 300. The department is targeting \$25 million of the \$122 million to state-managed public housing developments to replace antiquated heating systems for tenants who pay for heat and/or hot water – with these households expected to see energy savings of 25 to 30 percent and annual cost savings of \$500 to \$575 once improvements are complete. Governor Patrick last week announced the award of over \$7 million of this funding to 19 public housing authorities across the Commonwealth – (Bedford, Belmont, Brockton, Clinton, Dedham, Easthampton, Fitchburg, Gardner, Greenfield, Marblehead, Mattapoisett, Medford, Methuen, North Andover, North Attleborough, Stoneham, Stoughton, Uxbridge and Westfield).

The National Association for State Community Services Programs has ranked Massachusetts within the top ten states for implementation of ARRA weatherization funds.