



Creating A Greener Energy Future For the Commonwealth



American Recovery and Reinvestment Act: Opportunities for Massachusetts

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Agenda

- Introduction
- Open Opportunities through MA Dept of Energy Resources
- Answers to FAQ on Federal Requirements
- Open Grant Opportunities through U.S. Dept of Energy

Open Opportunities through MA Dept of Energy Resources

State Energy Program Initiatives

- **Massachusetts Solar Stimulus**
 - Request for Proposals for first of several 5 MW tranches anticipated this month
- **Building Energy Transformation**
 - Request for Proposals for transformative building energy projects or programs anticipated within weeks
- **Energy Efficiency at State Facilities**
 - Accelerated pipeline of energy efficiency projects across state anticipated regularly over coming months

Energy Efficiency and Conservation Block Grants

- Program Description:** Grants to increase energy efficiency and renewable energy
- Program Type:** Formula grant to local governments
- Funding:** - \$12 million, maximum award of \$150,000
- Applicant:** - Local governments less than 35,000 in population; local governments over 35,000 in population receive grants directly from U.S. DOE
- Important Dates:** - Applications for sub-grants from DOER to localities less than 35,000 in population pending DOE approval of state plan
- Requested Action:** Review guidance documents at:
www.mass.gov/energy/greencommunities

Clean Energy and Industrial Efficiency

Program Description: State is aggregating applications to Federal program for deployment energy efficient technologies for combined heat and power, (CHP), district energy systems, industrial waste energy recovery, and efficient industrial equipment

Program Type: State pooling applications to competitive Federal grant

Funding:

- 12 to 72 awards
- 50% cost share, 25% considered for certain projects

Applicant: Companies, non-profits, institutions of higher education, and local and state governments

Important Dates:

- Application to MA DOER due – June 30
- Application to DOE due – July 14

Action Requested: Review Program Opportunity Notice at http://www.mass.gov/?pageID=eoeeterminal&L=4&L0=Home&L1=Energy%2c+Utilities+%26+Clean+Technologies&L2=Energy+Efficiency&L3=Residential+%26+Business+Energy+Efficiency&sid=Eoeea&b=terminalcontent&f=doer_arra_ceicp&csid=Eoeea

Answers to FAQ on Federal Requirements

Federal Requirements

- Preference to quick-start activities
- American iron and steel wherever possible, with possibility of waiver for allowed reasons
- Labor employed by contractors and subcontractors must be paid at least the prevailing wage for a locality as defined by Davis-Bacon Act
- Compliance with the National Environmental Policy Act (NEPA)
- Historic levels of transparency and accountability, including detailed reporting

Applying

- Sign up for a DUNS Number at:
www.dnb.com/US/duns_update/
- Register with Central Contractor Registration (CCR) at:
www.ccr.gov
- Register with FedConnect at www.fedconnect.net
 - Monitor Q&A posted here
 - Submit final application following instructions in Funding Opportunity Announcement
- This process can take up to 21 days, so start as soon as possible

Open Grant Opportunities through U.S. Dept of Energy

PV Technology Incubator

- Program Description:** Producing new prototypes and pilot production for the residential rooftop market, the commercial rooftop market, and the utility market.
- Program Type:** Competitive Federal grant
- Funding:**
- 6 to 10 subcontracts for no more than \$3 million each
 - 20% price participation required
- Applicant:**
- U.S. small businesses
 - U.S. small businesses, U.S. large businesses, U.S. non-profit organizations, and U.S. higher educational institutions may be subcontractors to the applicant
- Important Dates:** Letter of Intent due – July 13

National Laboratory Call for Foundational Photovoltaics and Concentrating Solar Power Research and Development

- Program Description:** Provide support for new research and development projects for Next Generation PV Technologies, PV Supply Chain and Crosscutting Technologies, and Advanced Heat Transfer Fluids and Novel Thermal Storage for Concentrating Solar Power. In addition, this FOA aims to enhance capabilities for testing and evaluating advanced Concentrating Solar Power concepts and advanced Photovoltaics manufacturing capability
- Program Type:** Competitive Federal grant
- Funding:**
- \$17 million
 - 10-15 awards
- Applicant:**
- DOE National Laboratories
 - DOE National Laboratory-led consortia can include institutions of higher education, non-profits, companies, or state or local governments
- Important Dates:** Application due – July 15

Enhanced Geothermal Systems Component Research and Development/Analysis

Program Description:	Develop innovative technology for cost-effective creation, management, and utilization of enhanced geothermal systems in reservoir environments
Program Type:	Competitive Federal grant
Funding:	<ul style="list-style-type: none">- \$56 million- 20-30 awards- Cost share of 20%, 10% with appropriate justification
Applicant:	Companies, non-profits, institutions of higher education, and local and state governments
Important Dates:	Application due – July 17



Energy Efficient Information and Communication Technology

- Program Description:** Develop new technologies to dramatically improve energy efficiency in information and communications technologies with an the emphasis on new technologies that can be commercialized within the next three to five years, and to demonstrate through field testing highly energy efficient, emerging technologies that are ready for or are in the initial stage of commercial introduction
- Program Type:** Competitive Federal grant
- Funding:**
- \$50 million
 - 5-15 awards
 - Cost share of 10-20% for concept definition studies and R&D
 - Cost share of 25-50% for demonstration and field testing
- Applicant:** Companies, non-profits, institutions of higher education, and local and state governments
- Important Dates:** Application due – July 21

Regional Sequestration Technology Training

Program Description:	Provide regional CO2 sequestration technology training, including all aspects of long-term CO2 underground storage. Recipients must perform the following activities: implement an organized sponsorship development program, develop short course on carbon capture and sequestration technologies, conduct regional training and other activities through outreach and networking, perform regional/basin technology transfer services including a newsletter and training website, and plan and manage the regional program.
Program Type:	Competitive Federal grant
Funding:	\$7 million
Applicant:	Companies, trade groups, and other organizations that can develop training programs
Important Dates:	Application due – July 22

Geothermal Technologies Program

Program Description:	Validation of innovative exploration technologies to discover geothermal systems and increase reliability of site characterization; demonstration of the economic and technical feasibility of geothermal energy production from low temperature resources, for coproduced fluids from gas and oil wells, and geopressured resources; and development, collection, and maintenance of data for submission to the National Geothermal Data System.
Program Type:	Competitive Federal grant
Funding:	<ul style="list-style-type: none">- 40 awards of \$3-5 million each for exploration technologies- 20 awards of up to \$1.5 million for low temp resources and coproduced fluids and of up to \$5 million for geopressured resources- 5 awards of \$1-20 million for Data System
Applicant:	Institutions of higher education, non-profit and for-profit private entities, State and Local Governments, Indian tribes, and Tribal Energy Resource Development Organizations or Groups
Important Dates:	Application due – July 22

Clean Coal Power Initiative Round 3

Program Description:	Demonstrate at commercial scale in a commercial setting technologies that (1) can achieve a minimum of 50% CO ₂ capture efficiency and make progress toward a target CO ₂ capture efficiency of 90% in a gas stream containing at least 10% by volume, 2) make progress toward capture and sequestration goal of less than 10% increase in the COE for gasification systems and less than 35% for combustion and oxycombustion systems, and (3) capture and sequester or put to beneficial use a minimum of 300,000 tons per year of CO ₂ emissions
Program Type:	Competitive Federal grant
Funding:	- \$1.4 billion, with about \$800 million of funding through the American Recovery and Reinvestment Act - Cost share of 50%
Applicant:	Companies, non-profits, institutions of higher education, and local and state governments
Important Dates:	- Letter of Intent due – July 24 - Application due – August 24

High Penetration Solar Deployment

- Program Description:** Develop modeling tools needed for widespread deployment of solar PV on a distribution system, implement field testing of high penetration levels of PV on the distribution grid, develop monitoring, control and integration systems needed for widespread deployment of modular PV systems, and demonstrate integration of solar PV into Smart Grid systems
- Program Type:** Competitive Federal grant
- Funding:**
- 4 awards of up to \$500K for modeling tools
 - 5 awards of up to \$600K for field testing
 - 1 award of \$7.5 million for modular PV systems
 - 1 award of \$5 million for integration into Smart Grid
- Applicant:**
- Institutions of higher education, non-profit and for-profit private entities, State and Local Governments
 - All applicants must include a utility partner
- Important Dates:** Application due – July 30

Solar Market Transformation

- Program Description:** Address impediments within the market to adopting solar technologies and to establish a national training effort for solar installation. This FOA includes two topics: Solar America Cities special projects and Solar Workforce Development
- Program Type:** Competitive Federal grant
- Funding:**
- 5-20 awards up to \$100,000 to \$2 million for the Solar America Cities Special Projects
 - 6-10 awards for up to \$2 million to \$3.5 million for regional training
 - 1 award of up to \$2.5 million to \$6 million for the National Consortium
- Applicant:**
- Previous Solar America Cities for special projects
 - Companies, non-profits, higher education institutions for others
- Important Dates:** Application due – July 30

Enhanced Geothermal Systems Demonstrations

Program Description:	Support projects in a variety of geologic formations that will quantitatively demonstrate and validate stimulation techniques that successfully sustain sufficient fluid flow and heat extraction rates for 5-7 years that produce up to 50 MWe per year per project site/geothermal reservoir
Program Type:	Competitive Federal grant
Funding:	<ul style="list-style-type: none">- \$90 million- 10 awards for up to \$25 million- Cost share of 50%, or 25% with justification
Applicant:	<ul style="list-style-type: none">- Companies, non-profits, higher education institutions, state/local governments
Important Dates:	Application due – July 30

Site Characterization of Promising Geologic Formations for CO2 Storage

Program Description:	Characterization of at least 10 “high potential” geologic formations for CO2 storage. The recipients will develop comprehensive data sets of formation characteristics
Program Type:	Competitive Federal grant
Funding:	- \$49.75 million for approximately 10 awards - Cost share of 20%
Applicant:	Companies, non-profits, institutions of higher education, and local and state governments
Important Dates:	Application due – August 3

Geothermal Technologies Program: Ground Source Heat Pumps

Program Description:	Support technology demonstration projects to overcome market barriers that currently exist for ground source heat pumps; research papers for data gathering and analysis regarding system costs, performance, and installation techniques; and creation of a national certification standard for the ground source heat pump industry
Program Type:	Competitive Federal grant
Funding:	<ul style="list-style-type: none">- \$50 million for approximately 21 awards- Cost share of at least 25%, preferably 50%, for demonstration- Cost share of at least 10%, preferably 20%, for research papers
Applicant:	Companies, non-profits, institutions of higher education, and local and state governments
Important Dates:	Application due – August 6

Large Wind Turbine Drivetrain Testing Facility

Program Description:	Support the design and construction of a new drivetrain testing facility for large wind turbines
Program Type:	Notice of Intent for Competitive Federal grant
Funding:	\$45 million for one award
Applicant:	Must include organizational participants from university, state and local government
Important Dates:	Application due – August 6

CCS from Industrial Sources and Beneficial CO2 Use

Program Description:	The goal for the large-scale industrial carbon capture and sequestration area of interest is to demonstrate advanced technologies that will capture CO2 emissions from industrial sources and sequester the CO2 or put it to beneficial use. Potential targets for the innovative concepts for beneficial CO2 use area of interest include, but are not limited to, CO2 mineralization to carbonates directly through conversion of CO2 in flue gas or indirectly through capture of CO2 from air; use of CO2 from power plant or industrial applications to grow algae/biomass; or, conversion of the CO2 to fuels and chemicals.
Program Type:	Competitive Federal grant
Funding:	<ul style="list-style-type: none">- \$1.3 billion for large-scale industrial CCS projects- \$100 million for innovative concepts for beneficial CO2- Cost share of 20%, with a target of 50% for commercial-scale demonstration projects
Applicant:	Companies, non-profits, institutions of higher education, and local and state governments
Important Dates:	Application due – August 7

Resource Assessment and Interconnection-Level Transmission Analysis and Planning

Program Description:	Facilitate the development or strengthening of capabilities in each of the three interconnections serving the lower 48 states of the United States, to prepare analyses of transmission requirements under a broad range of alternative futures and develop long-term interconnection-wide transmission expansion plans. The interconnections are the Western Interconnection, the Eastern Interconnection, and the Texas Interconnection
Program Type:	Competitive Federal grant
Funding:	<ul style="list-style-type: none">- \$60 million- 6 awards- Cost share encouraged
Applicant:	Companies, non-profits, institutions of higher education, and local and state governments
Important Dates:	Application due – August 14

Systems Level Technology Development, Integration, and Demonstration for Efficiency Class 8 Trucks (SuperTruck) and Advanced Technology Powertrains for Light-Duty Vehicles (ATP-LD)

Program Description:	Development and demonstration of significant increases in vehicle efficiency for Class 8 trucks and for development of cost-competitive engine and powertrain systems for light-duty vehicles
Program Type:	Competitive Federal grant
Funding:	<ul style="list-style-type: none">- \$170 to \$185 million- 3-5 awards of \$40 million to \$80 million for work on Class 8 trucks- 3-6 awards of \$5 million to \$15 million for work on light-duty vehicles- Cost share Of 50%, or 25% with justification
Applicant:	Companies, non-profits, institutions of higher education, and local and state governments
Important Dates:	Application due – September 9

Geologic Sequestration Training and Research

Program Description:	Provide grants for University Training and Research for graduate and undergraduate students that will provide the human capital and skills required for implementing and deploying Carbon Capture and Storage (CCS) technologies.
Program Type:	Notice of Intent for Competitive Federal grant
Funding:	TBD
Applicant:	Restricted to higher education institutions, with eligibility divided into 2 categories: (1) all universities; (2) Historically Black Colleges and Universities and Other Minority Institutions (HBCU/OMI).
Important Dates:	Funding Opportunity Announcement was to be released in May 2009

Smart Grid Investment Program

Program Description:	Stimulate the rapid deployment and integration of advanced digital technology that is needed to modernize the nation's electric delivery network for enhanced operational intelligence and connectivity. Portion of the funding will be allocated specifically to promote the deployment and integration of phasor measurement unit (PMU) technology
Program Type:	Notice of Intent for Competitive Federal grant
Funding:	<ul style="list-style-type: none">- \$500K to \$40 million for Smart Grid- \$100K to \$5 million for PMU- Cost share of 50%
Applicant:	Utilities, energy distributors, manufacturers of appliances and equipment
Important Dates:	Funding Opportunity Announcement to be released in June 2009

Smart Grid Demonstration Program

Program Description:	Support regionally unique demonstrations to verify smart grid technology viability, including time-synchronized phasor measurement technologies, and energy storage quantify smart grid costs and benefits, and validate new smart grid business models, at a scale that can be readily adapted and replicated around the country
Program Type:	DRAFT Funding Opportunity Announcement for Competitive Federal grant
Funding:	- \$615 million - 24 to 36 awards from \$5 million to \$40 million
Applicant:	Companies, non-profits, institutions of higher education, and local and state governments
Important Dates:	Funding Opportunity Announcement to be released in June 2009

Biomass and Biofuels R&D

Program Description:	Address deployment of intermediate ethanol blends and R&D on algal and advanced biofuels
Program Type:	Notice of Intent for Competitive Federal grant
Funding:	\$786.5 million
Applicant:	TBD
Important Dates:	Funding Opportunity Announcement to be released in summer 2009

Additional Information

- State web pages
 - Department of Energy Resources at <http://www.mass.gov/doer>
 - Clean Energy Center at <http://massCEC.com>
 - Both include information on many other stimulus programs focused on energy conservation, energy manufacturing, workforce development, etc
- Federal web pages
 - <http://www.energy.gov/recovery/funding.htm>
- Contact
 - Please submit questions or requests to speak to someone about a specific subject via the following online form so we route appropriately:
<http://masscec.com/index.cfm?cdid=10353>