

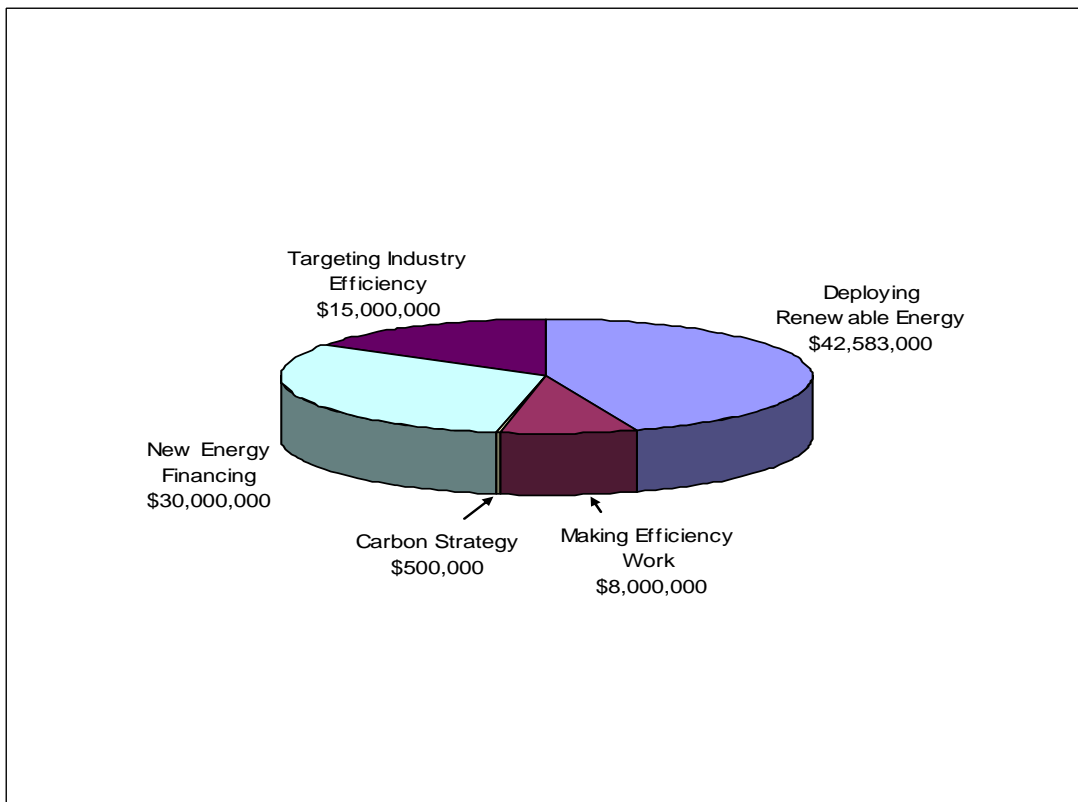
Executive Summary

American Recovery and Reinvestment Act – State Energy Program Funding Opportunity Announcement DE-FOA-0000052 CFDA Number: 81.041

The American Recovery and Reinvestment Act (ARRA) strengthens Ohio's economy by building upon its strategic investments in the advanced energy industries. The State Energy Plan (SEP) will enable Ohio to stimulate the creation and retention of jobs, save energy, increase energy generation from renewable energy, and reduce greenhouse gas emissions. The program is a collaboration between the Ohio Department of Development and the Ohio Air Quality Development Authority with input from additional state agencies. The level of SEP funding allocated to Ohio is \$96,083,000.

With feedback from stakeholders and work completed by an interagency task force, the State of Ohio, through the Ohio Department of Development, submitted its proposal on May 12, 2009, for approval by the U.S. Department of Energy to utilize the ARRA-SEP funds allocated to Ohio. Below is an executive summary of Ohio's proposal and includes five general categories as described on the following pages.

Proposed Activities Relative to Total Budget Amount



Note: If you have not done so already, please submit your project ideas at the State of Ohio's ARRA website at: <http://recovery.ohio.gov/>. Please stay tuned for email updates to learn next steps on the application process. After the State of Ohio receives approval on its proposal, specific opportunities will be announced publicly. It is not necessary to contact the Ohio Department of Development or other state agencies directly with your specific project ideas or proposals at this time.

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- **Deploying Renewable Energy in Ohio**

Total Budget: \$42,583,000

U.S. Department of Energy Minimum Job Creation Estimate: 381

Deploying Renewable Energy in Ohio is divided into three programs: (1) renewing manufacturing through deployment, (2) transforming waste to energy, and (3) advancing biofuels beyond the basics. The program will utilize a variety of renewable energy sources, including solar, wind, and biomass waste. It will also include related technologies, such as fuel cells, and deploy energy storage technologies for electricity, heat, biofuel, and bioproducts.

1. **Renewing Manufacturing Through Deployment**

Ohio's manufacturing prowess has brought prosperity to generations of Americans. Today, a number of its manufacturing industries, including steel, glass and others that supplied the automotive and durable goods markets, are retooling to supply the growing markets for wind, solar and other renewable energy technologies important for the conversion to lower carbon-power technologies. This program creates a market for their products and includes the following activities: procurement of renewables, solar power and wind energy, energy storage, fuel cells, brownfields to solar fields, demand reduction, and distributed energy generation.

Goals: Fund deployment projects that propel Ohio forward in the renewable energy and advanced energy industries and strengthen Ohio's renewable energy industry.

Objectives: Leverage existing public (government and educational including public and private colleges) investments and facilities to deploy significant solar, wind, energy storage, fuel cell, and other renewable energy projects, and to demonstrate a market in Ohio to support existing and emerging Ohio wind, solar, fuel cell, and energy storage manufacturers and attract investment from across the nation and globe to expand and produce in Ohio.

Examples: Grants to companies for purchasing and installing wind turbines and solar panels, replacing fossil-fuel powered equipment with fuel cell powered equipment, installing large scale wind turbines for communities or commercial campuses, and installing solar thermal systems for domestic hot water for retirement communities, hospitals, or other institutions.

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2. Transforming Waste to Value

Ohio is transforming its economy to recapture the value from what has traditionally been considered waste. Research conducted by the Biomass Task Force in 2004 suggested that sufficient biomass resources were available for Ohio to capture significant energy from waste. However, limited resources have been available to explore this energy source. This initiative will support the development of a variety of technologies to determine the greatest market opportunities in food waste, farm waste, or municipal solid waste and sludge. This initiative will add the following activities: biomass power and waste management and recycling.

Goals: Convert municipal solid wastes and food and farm wastes to electricity, heat, fuel, and/or bio-products and to create jobs by building market-demand for Ohio manufacturers and distributors of biodigester components.

Objectives: Create a portfolio of Ohio anaerobic digester projects around the state to build technical expertise and encourage the creation of a waste-to-energy industry in the State of Ohio; reduce regulatory and market barriers to anaerobic digester technology adoption; and raise public awareness about the benefits of waste to energy technologies.

Examples: Grants to projects for installing anaerobic digesters to convert food waste, animal manure, and/or municipal solid waste to methane to generate power and to create conditioned methane gas, and for installing gasification equipment to create bio-based products such as char for soil amendments.

3. Advancing Biofuels Beyond the Basics

The biofuels industry in the U.S. and elsewhere has encountered opposition to the energy intensity and the water intensity of its first generation production processes. This initiative seeks to assist facilities that are making progress towards second-generation refining – breaking down cellulosic materials found in crop waste and energy crops grown and harvested using an ecological systems approach. Advancement will occur through an incremental process requiring investments to improve existing processes to retain jobs and build a knowledgeable and skilled workforce. The following activities are included: alternative fuels, bioenergy and bio-based products, and innovation for commercialization.

Goals: Expand and improve upon the viability of Ohio's ethanol refining capacity by assisting in progress towards second generation refining and increase the availability of ethanol and biodiesel refined from algae.

Objectives: Improve the sustainability of ethanol bio-refining processes and accelerate the production of biodiesel from algae.

Examples: Grants for implementing corn feedstock fractionation improvements in existing biorefineries, piloting a cellulosic ethanol biorefinery, and increasing algal biodiesel production for use in commercial applications.

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- **Making Efficiency Work**

Total Budget: \$8,000,000

U.S. Department of Energy Minimum Job Creation Estimate: 109

Ohio's existing buildings and new construction present significant opportunities for reduction in energy waste through energy audits, lighting retrofits, heating ventilation and air conditioning retrofits, geothermal installations, deployment of green building techniques and technologies, and improvements to building envelopes through air sealing and insulation. The following activities are included: demand reduction, energy building codes, geothermal, lighting, and thermal efficiency for commercial and residential sectors.

Goals: Engage Ohio manufacturers, retailers, builders, contractors, institutions, and energy saving companies in the work of measurably improving the efficiency of Ohio's new and existing building stock.

Objectives: Build partnerships with the building and contractor industries, conduct pilots of above-code new commercial and residential construction, and incentivize the participation of entrepreneurial and minority-based enterprises in the jobs created through this initiative.

Examples: Grants for commercial and residential building retrofits, installing geothermal for multi-family new construction, schools, and colleges to undertake innovative pilot projects with long-term sustainability or substantial alternative energy generation components, working with manufacturers to develop rebate programs, and residential efficiency retrofit programs that engage builders and contractors in improving existing housing stock, training programs for builders on new construction, and collaborations among code officials, builders, and policymakers to further Ohio's energy efficient building codes adoption.

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- **Banking on New Energy Financing (The Energy Alliance)**

Total Budget: \$30,000,000

U.S. Department of Energy Minimum Job Creation Estimate: 326

Ohio will develop a revolving loan program to improve access to capital for energy efficiency and renewable energy projects through a public-private partnership using State Energy Program dollars in tandem with debt or equity investment participation.

Financing for energy projects would advance several goals: (1) facilitating improvements that yield energy efficiency; (2) re-tooling existing manufacturing operations to supply the renewable energy market; (3) building domestic sources of renewable energy technologies; (4) expanding production in emerging energy companies; and (5) retaining and creating jobs associated with each of those opportunities.

Through an "Energy Alliance" initiative, federal stimulus dollars would serve as match-funding for other sources including banks, non-profits and investors willing to offer debt, equity, or low-interest financing for energy projects in the commercial, industrial, institutional, and aggregated residential sectors. The Energy Alliance will be implemented in a cost-effective arrangement through underwriting projects and loan servicing including appropriate mechanisms to preserve State Energy Program funds from unreasonable and ensure adequate reporting and accounting for State Energy Program funds. Accounting and reporting procedures will be rigorous to maintain accountability and transparency for funds as they flow through to projects and return as repayments.

The following activities are included: financing energy programs (i.e., revolving loan programs for energy efficiency and renewable energy); funding third party entities to purchase and deploy energy efficiency and/or renewable energy technologies; market transformation including engaging banks and other public and private partners in energy financing; performance contracting and manufacturing capacity expansion and attraction for energy efficiency and renewable energy products.

Goals: Transform the energy finance landscape in Ohio and bring greater dollars to energy efficiency and renewable energy projects. Financing would be available for eligible projects submitted to <http://www.recovery.ohio.gov> and otherwise eligible under any State Energy Program activities to (1) increase energy efficiency to reduce energy costs and consumption for consumers, businesses, and government; (2) reduce reliance on imported energy; (3) improve the reliability of electricity and fuel supply and the delivery of energy services; or (4) reduce the impacts of energy production and use on the environment.

Objectives: Make low interest financing available to leverage non-public funds to build clusters of companies around Ohio's investments in fuel cells, energy storage, solar, wind, and other renewable energy technologies and expand the availability of financing based on energy savings.

Examples: Loans to companies with innovative, commercially available fuel cell, energy storage, solar, wind, and other renewable products to expand in Ohio and strengthen the industry clusters developing in the Midwest. Financing would be available for eligible projects submitted to <http://www.recovery.ohio.gov>.

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- **Targeting Industry Efficiency**

Total Budget: \$ 15,000,000

U.S. Department of Energy Minimum Job Creation Estimate: 217

According to U.S. Department of Energy statistics, industrial energy usage, at 33 percent, accounts for the largest share of Ohio's energy use. Industrial energy efficiency improvement activities are shovel-ready in that many projects have been engineered and employees will not need to be retrained. Source energy savings and greenhouse gas emission reductions are typically among the most cost-effective of efficiency measures. The equipment and installation requirements of the industrial market for energy efficiency improvements will have an immediate stimulating effect on the economy as the fabrication and installation will require immediate spending by engineering companies, parts manufacturing, equipment fabricating companies, equipment vendors, and installation companies.

The passage of Ohio's electric restructuring bill in 2008 (S.B. 221) provides Ohio's investor owned utilities the ability to recover the cost of investing in energy efficiency projects in order to meet the mandated efficiency standards. These utility investments will create two opportunities for this initiative.

First, improving the efficiency of industries that create high greenhouse gas or criteria pollutant emissions in non-attainment areas while developing carbon management plans will improve both the environmental quality of the surrounding communities and provide much needed information about the actual costs of various carbon reduction tactics.

Second, improving the efficiency of those industries targeted in the State's economic development strategic plan will improve Ohio's core economic sustainability. This initiative will incentivize efficiency investments for companies not otherwise served by utility efficiency programs in these targeted industries: Advanced Energy and Environmental Technologies; Aerospace and Aviation; Agriculture and Food Processing; Bioscience and Bio-products; Refrigerated Warehousing and Distribution; Instruments, Controls, and Electronics; Motor Vehicle and Parts Manufacturing; and Polymers and Advanced Materials. This initiative covers the following activities: combined heat and power, demand reduction, distributed energy generation, industrial assessments for carbon mitigation opportunities, industrial processing, industries of the future, and motors and other industrial systems.

Goals: Reduce energy use, greenhouse gases, and criteria pollutant emissions, and to assess the economics of carbon reduction activities in the industrial sector.

Objectives: Improve the sustainability of Ohio's industry, reduce greenhouse gas and other criteria pollutant emissions in non-attainment areas, and to build expertise and awareness in industrial carbon management projects.

Examples: Grants to companies for replacement of inefficient process equipment with higher efficiency equipment and install cogeneration equipment to capture waste heat and generate electricity in grid-connected applications, efficiency planning and technical assessments, and carbon assessment of industrial efficiency measures.

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- **Setting the State for Ohio's Carbon Management Strategy**

Total Budget: \$ 500,000

U.S. Department of Energy Minimum Job Creation Estimate: 5

Ohio's energy policy made giant strides forward from the start of the current administration with the issuance in February 2007 of Executive Order 2007-02s. This Executive Order called for the creation of the position of Energy Advisor to the Governor and the convening of cabinet level representatives to an energy policy formulation effort. It also required a 15 percent reduction in energy usage in all state facilities by 2011 and called for an increase in use of biofuels in the state fleet (an endeavor that just received national recognition). Further progress was made with the 2008 bipartisan passage of the Jobs, Energy, and Progress Act (S.B. 221) which, among other policy changes, instituted both an Energy Efficiency Standard of 22 percent by 2025 and an Advanced Energy Portfolio Standard of 25 percent by 2025, half of that to be renewable energy and half to be generation delivered within the state. Ohio is the fifth-largest user of energy in the nation, and more than 80 percent of the electricity generated comes from coal.

This initiative will utilize an integrated collaborative planning process to address energy policy related to energy diversity, sustainability, and innovative policies to help secure a reliable energy future, led by the Governor's Energy Advisor. Other components of the strategy will build on climate change planning, energy use and modeling, policy and energy legislation.

The Ohio Department of Development's Energy Office, Ohio Air Quality Development Authority and Public Utilities Commission of Ohio will actively support this effort. The strategy development will be based upon a thorough review of best practices, appropriate modeling and outreach to stakeholders across Ohio, the Great Lakes region and the nation. This initiative will develop an energy strategy for the next five to 10 years that will assess the opportunities and risks for Ohio's economy around key energy issues including carbon policy and market options. It will cover the following activities: climate change planning, energy use and modeling, and policy and energy legislation.

Goals: Develop an integrated energy and carbon strategy for the state that integrates with the region and the nation's planning over a five to 10 year planning horizon.

Objectives: Identify industries and businesses that are at risk under varying carbon regimens, to assess the economic impacts, and develop scenarios from best to worst case that provide policy guidance for economic development over the planning horizon.