



Iowa Office of Energy Independence

2010 Annual Report

Office of Energy Independence

Vision

Iowans creating an economically viable and environmentally sound energy future

Mission

To achieve a clean and sustainable future by:

- ***Providing leadership through education, research, planning and investment***
- ***Developing policies and resources to produce market transformation***

Guiding Principles

- ***The state is committed as a leader in ensuring Iowa's energy future***
- ***All Iowans are responsible for ensuring Iowa's energy future***
- ***Iowa values, economic, political and market factors demand that Iowa is aggressive and innovative in ensuring Iowa's energy future***
- ***Iowa's policies and initiatives strengthen the economy, improve the environment and ensure energy security***

Office of Energy Independence

Executive Summary

The Office of Energy Independence (Office) is the state agency responsible for setting the strategic direction, directing policy, conducting energy related outreach and administering programs that optimize energy production and efficiency to secure Iowa's clean energy future. The Office performed its duties as set forth in Iowa Code 469.3(2), managed the Iowa Power Fund and federal U.S. Department of Energy (DOE) grants funded through the American Recovery and Reinvestment Act (ARRA), as well as an annual federal appropriation that supports the Office's operational costs. As part of the national network for energy security, the Office is responsible for ensuring state emergency preparedness and quick recovery and restoration from any energy supply disruptions.

This 2010 Annual Report provides details about the Office's activities. A quick summary of major achievements in calendar year 2010 follows. Additional 2010 accomplishments start on page 4 of this Report.

- Provided more than \$10 million in grants and loans from the Iowa Power Fund for 8 projects that are matched with more than \$31.1 million from private sector and other sources. More than \$35 million of funding is under negotiation for projects that will bring in an additional match of more than \$396 million. To date, the Power Fund, with the approval from the Due Diligence Committee and Board, has invested in 37 projects totaling over \$47 million matched with more than \$295 million from project partners.
- Provided ARRA grants, loans and rebates totaling approximately \$53 million to Iowans for the implementation of energy efficiency and renewable energy projects, as well as installation of energy-efficient appliances. These projects will create more than 860 Iowa jobs, add 4.5 MW of renewable electricity to Iowa's electric supply network, and save Iowans more than \$10 million per year.
- Provided more than \$7.5 million of ARRA grants to state facilities and Regents institutions to improve energy efficiency in their buildings by buying down the cost of energy efficiency improvement projects. Recognizing the importance of leading by example, these projects will save Iowa tax payers more than \$3.2 million per year when completed in early 2012.

Office of Energy Independence - Energy Policy and Programming

Iowa Power Fund

The Office administers this state funded program focused on increasing the research, development, production and use of biofuels and other sources of renewable energy. It encourages and supports implementation of cutting-edge technologies and practices that will improve energy efficiency, reduce greenhouse gas emissions, and reduce Iowa's dependence on foreign sources of energy. Iowa is a national leader in renewable energy and these funds have been utilized to strengthen these industries.

In 2010, the Power Fund Due Diligence Committee and Board:

- Received 61 applications requesting more than \$166.4 million
- Selected 8 projects investing just over \$10 million, leveraging matching funds totaling \$31.1 million
- Negotiating additional project contracts of more than \$35 million that will bring in an additional match of more than \$326 million
- Provided \$2.5 million to Iowa community colleges to train students for energy jobs

Iowa Power Fund Community Grants-

Focus on helping communities develop and implement energy independence plans and strategies to increase education and awareness of improving energy efficiency:

- Awarded Community Grant contracts to 33 Iowa communities totaling \$695,000 leveraging more than \$1.1 million

Iowa Power Fund Project POET - PROJECT LIBERTY

A project that will transform the traditional biorefinery in Emmetsburg into an integrated corn-to-ethanol and cellulose-to-ethanol biorefinery



The Iowa Power Fund investment of \$14.7 million leverages \$231.4 million from POET, Inc., to expand ethanol production in Iowa. Project Liberty will bolt technology onto the existing ethanol plant, and the new technology will utilize corn cobs, husks and leaves to produce cellulosic ethanol.

Office of Energy Independence - Energy Policy and Programming

Iowa Power Fund - Providing Value to Iowans

Summary of Economic Impact

A newly completed study commissioned by the Iowa Office of Energy Independence shows increased jobs, tax revenue and economic activity as a result of Iowa Power Fund projects occurring between 2007 and 2014. At the time the study was commissioned, there were 31 projects. The economic impact study shows Iowa is in a prime position to capitalize on investment in renewable energy technologies such as biofuels, wind and photovoltaic cells. The benefits to Iowans include:

- Average annual **operational activities** totaling nearly \$22.7 million, peaking at \$59.1 million in 2012.
- Average annual **construction activities** of more than \$84.9 million, peaking at \$285.2 million in 2012.
- **Increased employment**, annually averaging more than 200 jobs, peaking at more than 430 in 2011 with an average annual payroll of \$7.8 million.
- **State tax revenues** averaging more than \$859,000 annually, topping \$2 million in 2011 and 2012.

Iowa Power Fund Overview - 2007 to the Present

- * Received appropriations totaling \$95.27 million
- * Received 335 applications requesting more than \$669.2 million matching more than \$2 billion
- * Invested over \$47 million in 37 projects matched with more than \$295 million from project partners. An additional \$35 million is under negotiation for projects that will bring in an additional match of more than \$326 million
- * Provided \$9.75 million to community colleges for development and delivery of energy-related curriculum and workforce development
- * Allocated \$7.5 million to flood recovery, assisting individuals and businesses rebuild homes and buildings with energy-efficient equipment and materials
- * Provided Community Grants of more than \$850,000 to 38 Iowa communities to develop and implement plans that move them towards energy independence
- * Returned \$2.775 million to state's general fund due to budget cuts

Iowa Power Fund Project Green Plains Renewable Energy *Harvesting algae to create biodiesel feedstock*



The Iowa Power Fund investment of over \$4 million leverages \$111.5 million from private resources, to expand biodiesel production in Iowa. Green Plains Renewable Energy will utilize waste products from the existing ethanol plant in Shenandoah and advanced technology to produce algae oil, algae meal, and dry whole algae. The various forms of algae will be used as biodiesel feedstock and animal feed additives.

Office of Energy Independence - Energy Policy and Programming

American Recovery & Reinvestment Act (ARRA)

The Office administers Iowa's portion of the energy related ARRA funding. These funds have been utilized to fund projects that will decrease energy use, increase energy awareness and create jobs.

- Provided 21 technology demonstration grants totaling more than \$4.9 million to demonstrate and educate Iowans about how to successfully apply energy efficiency and renewable energy for a secure future
- Provided 8 education and outreach grants totaling \$1 million
- Provided funding totaling more than \$7.5 million to install energy efficiency in state facilities and buy down the cost of implementation by \$15.2 million
 - * The projects will create more than 349 Iowa jobs and save taxpayers more than \$3.2 million per year in energy costs
- Reviewed energy studies for 39 K-12 schools and 22 community colleges
 - * Provided \$4.58 million to Iowa's schools, matched by \$9.35 million for school building infrastructure energy efficiency improvements, saving taxpayers \$1.15 million per year
- Developing an education and marketing campaign to stimulate increased use of renewable fuels and the installation of blender pumps that will allow consumers to use E15 or higher blends of ethanol

ARRA Technology Demonstration Project Central College, Pella



Central College generates electric power by installing innovative solar energy panels, which will save approximately \$2,500 annually.

The roof mounted array will be used to produce electricity, while serving as a renewable energy education tool.

ARRA Program Cumulative Overview

- Iowa received ARRA grant, loan and rebate funding totaling approximately \$53 million, leveraging \$67.6 million which is awarded to Iowans for the implementation of energy efficiency and renewable energy projects, as well as installation of energy-efficient appliances.
- These projects will create more than 860 Iowa jobs, add 4.5 MW of renewable electricity to Iowa's electric supply network and save Iowans more than \$10 million per year.

Office of Energy Independence - Energy Policy and Programming

Building Energy Management

Program - provides technical and financial assistance to cities, counties, school districts, and other public entities to improve energy efficiency

- Performed energy audits for 35 Iowa K-12 school buildings and 2 community colleges identifying \$16.8 million in energy improvements and saving taxpayers over \$1.85 million in utility costs annually
- Performed 74 city and county building energy audits, identifying \$2.78 million in energy improvements and saving taxpayers \$384,000 in utility costs annually
- Expect to implement energy improvements of over \$3.7 million

Muscatine City Hall Energy Audit



A 2010 energy audit of the Muscatine County Courthouse uncovered Window, Lighting, Heating and Cooling and other energy improvement opportunities that could produce energy savings totaling over \$5,400 annually if all improvements recommended are implemented.

Energy Assurance

- With funding from the U.S. Department of Energy, the Office develops and updates a comprehensive Energy Assurance Plan in cooperation with partners and stakeholders from all energy sectors. The Plan outlines state emergency preparedness tactics that will ensure quick recovery and restoration from any energy supply disruptions. As part of the national energy assurance network, the Office tracks fuel supply and monitors market pricing. Such monitoring led to justification for increased working hours for petroleum delivery truck drivers during the 2010 harvest to ensure sufficient amounts of fuel were available for Iowa's farm operations. The Office's work in monitoring fuel supplies and taking action to ensure a continuous supply of fuel allowed farmers to take advantage of good harvesting weather and allowed the state to avoid economic disruption.
- During the summer of 2010 floods, the Office monitored fuel supplies to ensure there was no fuel shortage in the disaster-stricken areas.

Office of Energy Independence - Energy Education, Outreach and Leadership

- Contracted with Iowa State University to develop and offer energy-related continuing education courses allowing engineers and architects to receive their Professional Development training in Iowa
- Coordinated public forums and stakeholder meetings across the state to gather input from Iowans regarding the 2011 Energy Independence Plan, as well as educate and inform Iowans about energy efficiency and renewable energy
- Sponsored Odyssey Day through the Iowa Clean Cities program that educated Iowans about the benefits of alternative vehicles and fuels
- Presented information during Earth Week on what Iowans can do to make their homes and offices more energy efficient



Director Roya Stanley discusses initiatives that directly impact Iowa's energy future with members of the Decorah community. The Office met with nearly 250 community leaders, business owners and individuals in Osage, Kalona, Villisca, Decorah, Le Mars and Iowa City to share information about Iowa's plan to become energy independent, as well as gather input from Iowans about the 2011 Iowa Energy Independence Plan. These events provided the Office with an opportunity to educate Iowans about the benefits of improving energy efficiency and expanding renewable energy resources within the state.

Office of Energy Independence - Energy Education, Outreach and Leadership

The Office works to achieve our mission by providing leadership and developing policies and initiatives that strengthen the economy, improve the environment and ensure energy security. We achieve our mission by collaborating with state and national stakeholders.

STATE

- * Coordinate energy-related policies within state government by minimizing duplication while optimizing results that range from potential legislation to state agency operations by chairing the **State Energy Council**. Collaboration among state agencies has resulted in duplex printing by most state agencies creating cost savings for the State.
- * Coordinate statewide efforts focused on building strong, self-sustaining partnerships with industry, stakeholders, fleets, fuel suppliers and business partners by serving as coordinator of the **Iowa Clean Cities Coalition**. The Iowa Coalition coordinates educational activities, promotes renewable fuels and infrastructure development, and promotes emerging technologies in the State of Iowa.
- * Identify areas of need within the state for the creation and retention of green jobs in Iowa by co-chairing, together with Workforce Development, the **Green Jobs Task Force**.
- * Coordinate with other state agencies, as well as outside stakeholders, to discuss strategies to increase the use of renewable fuels.
- * Serve on the **Iowa Energy Center's Advisory Council**.
- * Guide federal funding awards totaling \$5.7 million to organizations throughout Iowa to create training programs that will help more than 4,000 Iowa workers with skills for 21st Century jobs in the energy sector by co-chairing, together with Workforce Development, the **State Energy Sector Partnership Board** (SESP).
- * Coordinate **Executive Order 6** establishing green government initiatives that increase the use of renewable energy, alternative fuels and energy-efficient technology in state government.

NATIONAL

- * Provide staffing support for both the Governors' Wind Energy Coalition (GWC) and the Governors' Biofuels Coalition (GBC) chaired by Governor Culver. The GWC advocated for a strong federal Renewable Electricity Standard (RES) and for programs that advance renewable power generation, distribution and transmission. The GBC developed strategies to manage the expiration of the Volumetric Ethanol Excise Tax Credit (VEETC). Governor Culver, as chair of the GBC, met with President Obama to discuss federal policies and programs that can increase the use of biofuels through opportunities such as blender pumps, pipeline transport of ethanol and a federal flex fuel vehicle requirement.
- * Represent Iowa on the Board of Directors for the National Association of State Energy Officials (NASEO). NASEO represents and advocates for states' interests especially on implementation issues related to ARRA energy funds and how the use of federal funds could further Iowa's interest in biofuels and wind.

2011 Iowa Energy Independence Plan

This Plan was developed after collaborating with stakeholders, partners, Iowa citizens and the Iowa Power Fund Board. It extends Iowa's energy strengths in areas where we already lead, while diligently addressing those aspects of our energy picture in which we see the greatest opportunities for advancement. The key recommendations outlined in this Plan identify the next bold actions that Iowans can take to continue to chart a course for a secure energy future.

General Recommendations

- Explore the establishment of an Iowa-based identity for energy that is produced or saved in Iowa
- Continue funding of research, development, commercialization, production and expanded use of biofuels and other sources of renewable energy to enhance Iowa's energy leadership role
- Expand the Iowa clean technology industry

Optimize Energy Use

- Engage the state's energy efficiency and behavior change experts to identify the way in which Iowa can make energy project implementation less time intensive and financially feasible for all Iowans
- Focus on increasing efficiency in the industrial sector
- Ensure that state government leads by example in energy efficiency in state facilities
- Introduce Iowans to the idea of Work Hubs and encourage their implementation
- Support the Smart Growth and Smart Planning Principles that allow Iowans to use their transportation dollars more efficiently

Fully Develop Iowa's Renewable Energy Potential

- Advocate for a policy that seeks to fairly allocate costs of transmission development to those who benefit from the development
- Actively endorse a federal renewable electricity standard
- Support renewal of the federal production tax credit and clean renewable energy bonds

Maximize the Development and Use of Economically and Environmentally Sustainable Biofuels and Biochemicals

- Endorse Federal policies that support biofuels production and consumption including, but not limited to, the Consumer Fuels and Vehicle Choice Act, and the renewal of the ethanol and biodiesel tax credits
- Support the installation of blender pumps at retail locations in high intensity traffic areas in Iowa to increase the use of E15 and E85
- Conduct more consumer education about purchasing flex fuel vehicles and encourage owners of flex fuel vehicles to use higher blends of ethanol
- Accelerate improvement in biofuels technologies that reduce the environmental footprint while increasing the efficiency of biofuels plants
- Support the use of higher blends of biodiesel
- Participate in state, regional and national carbon footprint debates to advocate for biofuels to receive fair treatment and the methods used to establish carbon standards are scientifically sound and would not cause undue hardship to the biofuels industry
- Support research and development and early stage commercialization of Iowa's biochemical industry to displace petrochemicals

A complete copy of the 2011 Iowa Energy Independence Plan can be found on the Office of Energy Independence website at:
www.energy.iowa.gov

Office of Energy Independence - Financial Report

Office of Energy Independence Financial Statement for the Period Ending December 31, 2010*

Funds 0849, 0890, 0956, and 006K

Funds Balance Brought Forward From 2009 **\$30,634,476**

Resources:

State Appropriations	21,600,000
Federal Grants	14,224,751
Interest Income	390,290
Fees	8,867
Reimbursements	124,622
Loan Payment	137,117
Total Resources	36,485,646

Total All Resources **67,120,122**

Expenditures:

Personal Services	1,647,322
Travel	49,891
Office Expense	25,361
Contracted Services	1,027,231
Equipment	27,741
Miscellaneous	9,700
Loan Program	8,500,000
Grants	15,935,297
Total Expenditures	27,222,544

Balance of OEI Contract Commitments 33,486,088

Resources Over Expenditures and Commitments **6,411,491** **

Footnotes:

*In order to present a complete calendar financial statement, December resources and expenditures were estimated.

**Resources over expenditures in the amount of \$6,411,491 are expected to be expended by June 30, 2011.

Office of Energy Independence



Iowa Office of Energy Independence
Wallace State Office Building, 502 E. 9th Street, Des Moines, IA 50319
515-725-0431