



Iowa Energy Center Support for Iowa Colleges, Universities, and Nonprofit Organizations

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Iowa Energy Center history and funding

- Established in 1990 by the Iowa General Assembly as part of the *Iowa Energy Efficiency Act*.
- Primary funding: a small assessment on intrastate gas and electric utility revenues.
 - 85¢ on every \$1,000.
 - \$4,375,689 has been received for FY 2016.
- Additional funding:
 - External grants awarded to the Energy Center.
 - Energy Center facility user fees.
 - Interest on account balances.
 - Civil penalties imposed by the IUB (pipelines, underground gas storage, electric transmission lines).

Governance

- The Energy Center is administered by Iowa State University per Chapter 266 of the Iowa Code.
- The director is appointed by the president of ISU.
- A 13-member advisory council provides advice to the center director on the development of a budget, on the policies and procedures of the center, in the funding of research grant proposals, and regarding program planning and review.

Mission summary:

- Conduct and sponsor work that improves the environmental, social, and economic well-being of Iowans.
 - Energy efficiency and conservation.
 - Alternative, renewable energy systems.
 - Minimizing the environmental impact of energy production and consumption.
 - Reducing the state's reliance on imported, nonrenewable, and resource-depleting fuels.
 - Assessing production and efficiency technology.
 - Public and student education.
- The Energy Center is organized under four program areas:
 - Energy efficiency.
 - Renewable energy.
 - Bioenergy.
 - Education and outreach.

Initiatives

- **Alternate Energy Revolving Loan Program**
 - Established separately by the Iowa legislature in 1996.
 - Promotes the development of Iowa renewable energy production.
 - Provides partial project financing at 0% interest rate.
- **Technology development**
 - Facility infrastructure in Nevada and Ankeny.
 - Testing and scaling new bioenergy and building efficiency technologies.
- **Training and education**
 - Professional training for Iowa's workforce.
 - Objective and reliable information for Iowans on energy options.
- **Competitive grant programs**
 - Funding Iowa colleges, universities, and nonprofits.
 - Energy research, technology development, education, workforce development...

Competitive grant programs

- Four active grant programs:
 - Planning.
 - Opportunity.
 - Matching. } Core programs
- Special projects.
- Four multi-year “Legacy grant” projects from older grant programs will end this year.

A stakeholder committee reviewed the old grant programs and issued recommendations in March 2013 that helped inform the new programs.

The new grant programs are continuously open.

The published solicitations include explicit evaluation criteria.

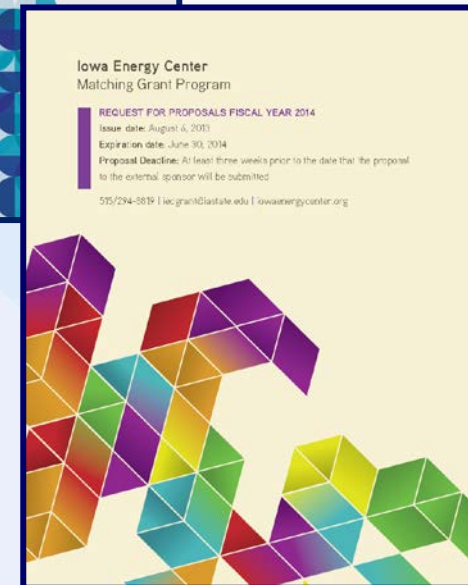
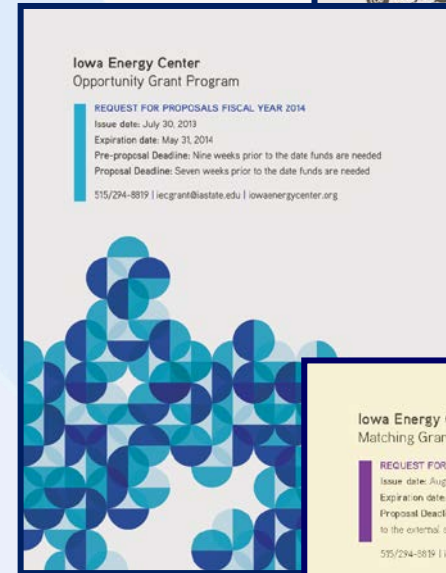
Project funding is based on merit.

The advisory council provides advice on the requests for proposals.

Core grant programs

Goal: Making Iowa more competitive for external funding.

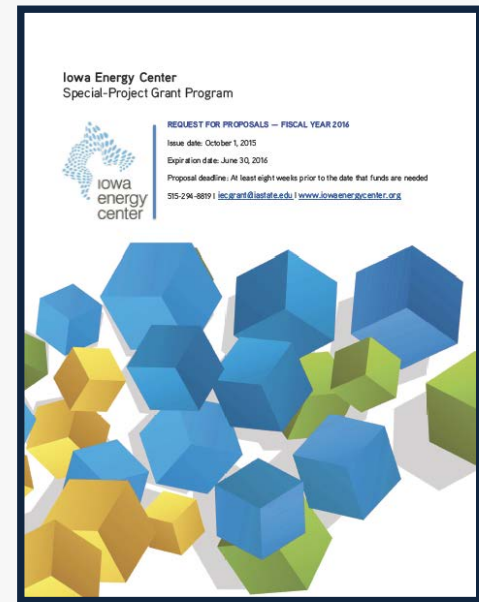
- **Planning grants**
 - Funding activities that bring partners together to target known funding opportunities.
- **Opportunity grants**
 - Funding near-term work to make Iowa proposals more competitive.
 - Pilot projects.
 - Proof-of-concept tests.
 - Economic viability analyses.
- **Matching grants**
 - Providing required cost-share dollars for external solicitations.



Special Project grant program

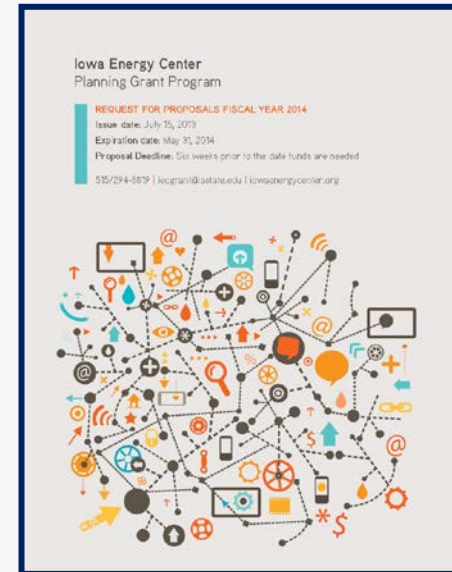
Goal: Supporting high-impact public education with statewide value.

- Helping to create an educated citizenry through
 - Capacity building.
 - Public education.
 - Knowledge creation.
- Projects may include events, publications, web development, studies, workshops, and technology demonstrations that have wide-ranging, statewide value.



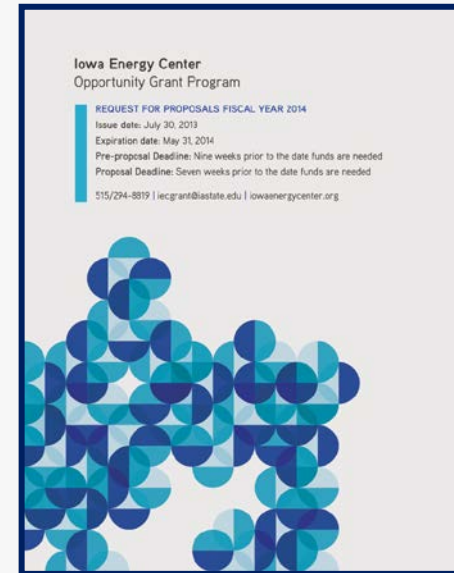
Grant selection process: Planning grants

- Individual projects are limited to \$8,000; a fast response time by the Energy Center is essential.
- Proposals are reviewed by Energy Center staff for eligibility and technical merit.
- Funding decisions are made by the Energy Center project manager, in consultation with the director, ideally within 7 days following receipt of the proposal.



Grant selection process: Opportunity grants

- Individual projects are limited to \$200,000.
- Pre-proposals are reviewed by Energy Center staff for eligibility and technical merit. Promising applications are invited for a full proposal.
- Full proposals are subject to an internal, non-technical review and an external, technical review against explicit evaluation criteria.
 - Reviewers are chosen with specific expertise relevant to the proposal.
 - Reviewers are offered payment for each review.
- The non-technical and technical review scores are combined, providing a quantitative basis for a funding decision.
- For large projects (>\$100,000) the advisory council is invited to complete non-technical reviews.
- Funding decisions can be made within 5 weeks following receipt of a pre-proposal.



ALLIANCE CONSULTING GROUP



Cornell University



ILLINOIS UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN



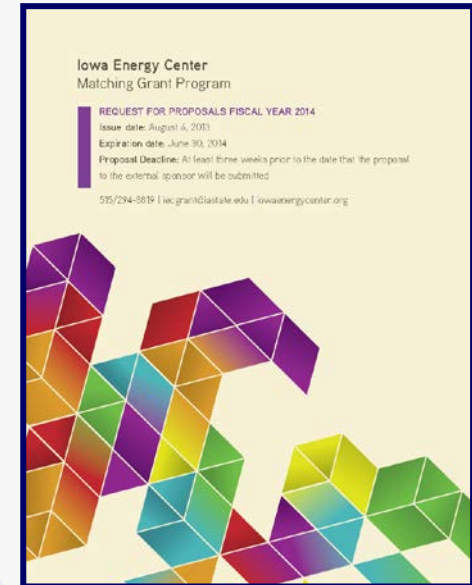
THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL



NORTHWESTERN UNIVERSITY

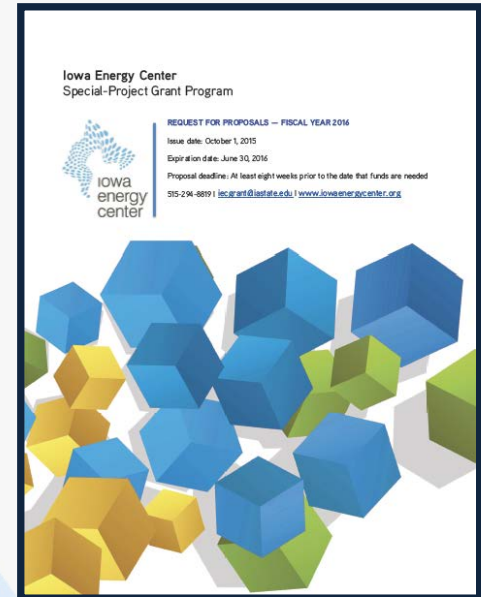
Grant selection process: Matching grants

- The Energy Center will commit up to 20% (up to \$200,000) per year of new funding coming to Iowa.
 - Must be for a competitive external program that requires or encourages cost sharing.
 - An Energy Center *award* is made only upon winning the external competition.
- Proposals are reviewed by Energy Center staff for eligibility and non-technical merit.
 - Technical merits are judged competitively by the external sponsor.
- For large projects (>\$100,000) the advisory council is invited to provide advice on how to make the proposed project more successful (e.g., through partnerships).
- Endorsement decisions are made by the Energy Center project manager, in consultation with the director, within 2 weeks following receipt of the proposal.

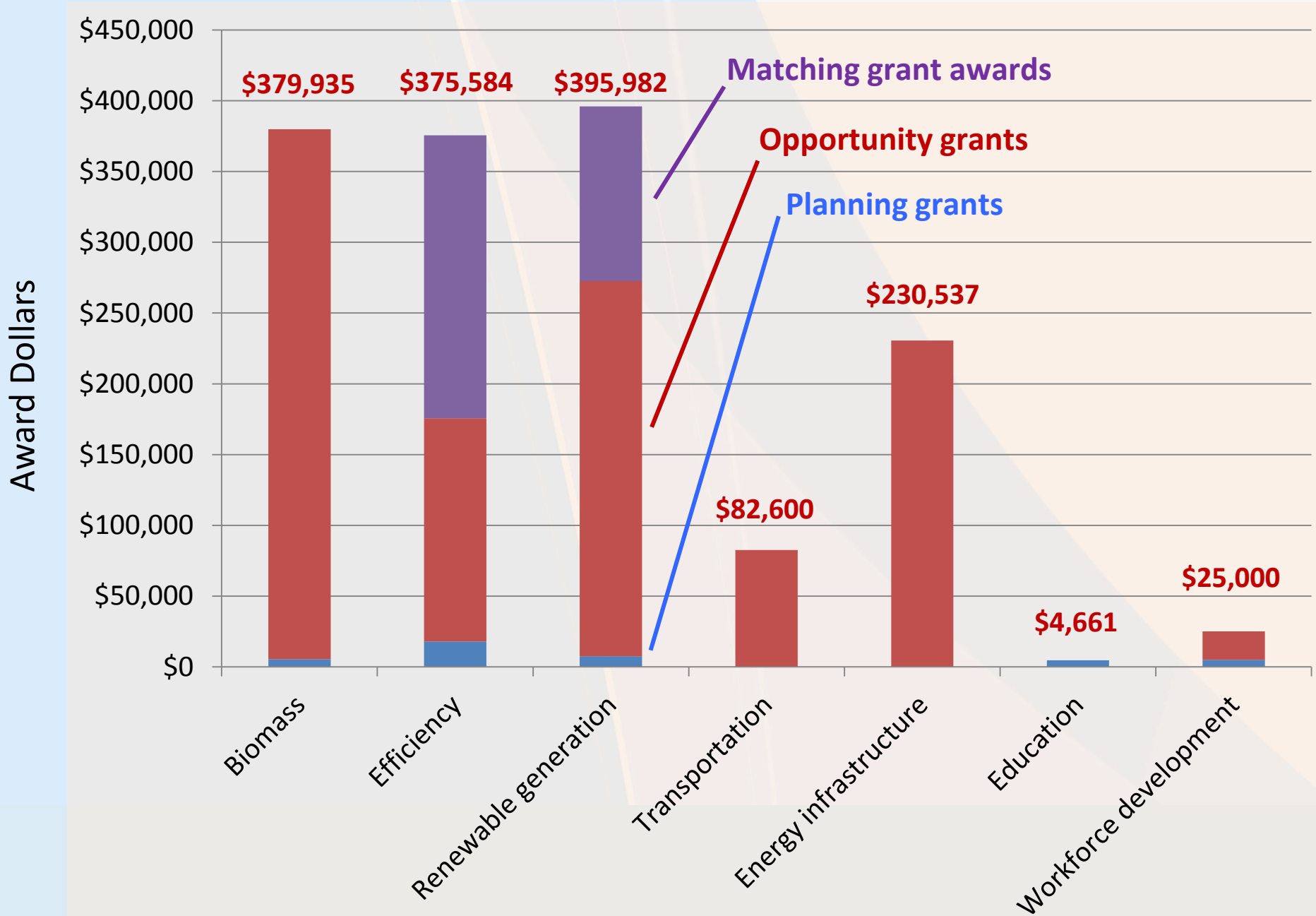


Grant selection process: Special project grants

- Individual projects are limited to \$15,000.
- Proposals are reviewed by Energy Center staff for eligibility and merit.
- Proposals that pass the internal review are passed to the advisory council, on a monthly cycle, for its review.
- The average review score of a council quorum is the basis for a funding decision by the director.
- Funding decisions can be made within 5 weeks following receipt of a proposal.



Core-program grants since July 2013



Grants since July 2013

- 9 Special Project grants.
 - 11 Planning grants.
 - 2, so far, have gone on to capture external funding.
 - 44 Matching grant endorsements.
 - 7 have gone on to capture external funding.
 - 9 are awaiting award decisions.
 - 16 Opportunity grants (3 proposals currently under review).
 - 7, so far, have gone on to capture external funding.
- ↙ **An 18% hit rate**
- ↙ **A 20% hit rate**
- ↙ **A 44% hit rate**

Return on investment since July 2013

Core grant programs:

- Total Energy Center awards = \$1,494,299
- Total new external awards = \$6,136,012
- ROI = **4.11 : 1**

Example outcomes for Iowa

- **Planning and Opportunity grants:**

Data-Driven Multi-Agent Systems Approach to Building HVAC Systems Control for Energy Efficiency

- Partnering with industry to develop and test an intelligent system to control an array of commercial building subsystems.
- Led to a National Science Foundation award to validate the technology to move it toward commercialization.

- **Planning and Matching grants:**

Grants to Green

- Led to a nonprofit foundation award to perform energy assessments and efficiency upgrades of nonprofit facilities in a six-county region near Dubuque.
- The work is reducing the building energy usage at shelters, food banks, medical clinics, day-care centers, preschools, private schools, social halls, retirement centers, museums, theaters, libraries, and other nonprofit facilities.

New initiatives —

K-12 energy education and energy workforce development

- Six pilot projects underway — testing mechanisms for statewide content dissemination.
- Grant program launch expected in July 2016.

| Pilot | Partners | | | | | | | Infrastructure | | | |
|---|----------------|------------|----------------|------------------------|---------------------|----------------------|--------------------|-------------------------|------------|-------|-------------------|
| | Private Sector | Nonprofits | Public Schools | Dept. of Ed./STEM Hubs | Regent Universities | Independent Colleges | Community Colleges | Governor's STEM Council | AEA Online | ICCOC | Train the Trainer |
| IALF Ag-Energy Education | | X | | X | | | | | X | | |
| Drake Energy e-Curricula | | | | X | | X | | | X | | |
| ICCOC Energy Courses | | X | | | | | X | | | X | |
| Harlan Energy Resource Assessment Curriculum | X | | X | X | | | | | X | | |
| ISU Building Envelope Commissioning Training | | | | | X | | X | | | | X |
| SE Polk – Trane Building Energy Assessment Scale-Up | X | | X | X | | X | | X | | | |

New initiatives —

DOE Smart Manufacturing Innovation Institute

- **\$65 million** proposed over five years; **~\$12 million** for Iowa.
- Objective: manufacturing energy efficiency.
 - 15% energy efficiency improvements by year 5.
 - 50% energy efficiency improvements by year 10.
- Iowa is partnering with groups from Texas, Florida, Ohio, South Carolina, Wisconsin, Illinois, California, and others.
 - The Iowa Energy Center
 - Ames Laboratory
 - TechWorks
 - Iowa State University
 - The University of Iowa
 - Des Moines Area Community College
 - Hawkeye Community College
 - Eastern Iowa Community College
 - The University of Northern Iowa



Ways To Connect

www.iowaenergycenter.org

