



Energy Square

1111 "O" Street, Suite 223

Lincoln, Nebraska

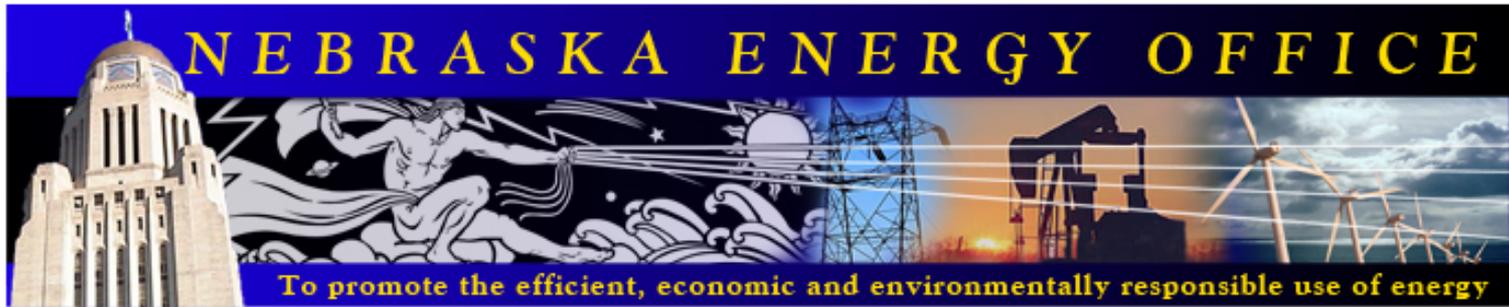
Website: www.neo.ne.gov

Phone: 402-471-2867

www.neo.ne.gov

WorldWideWeb.NebraskaEnergyOffice.NEbraska.GOVernment

Official Nebraska Government Website



1111 "O" Street, Suite 223 • Lincoln, NE 68508 • Phone 402-471-2867 • Fax 402-471-3064

Nebraska Energy Office Services

- Home Energy Rating
- Home Weatherization
- Loans

Information

- Agency Organization
- Agency Programs
- Annual Reports
- Energy Codes
- Energy Saving Tips
- ENERGY STAR®
- Energy Statistics
- Glossary
- Green Built Homes
- Help
- Housing
- Links

Winter Fuels

Upcoming Winter Fuel Advisory
Sept. 30, 2009



The Latest...

Gasoline Prices

- Daily
- Weekly
- Monthly

Supplies
Gasoline Price

ENERGY PROJECTS

American Recovery and Reinvestment Act of 2009



Deadline: Feb 3, 2010

Energy Efficiency & Conservation Block Grant Solicitation



Energy Star

2.5% Loans

For Wind, Solar, Biomass and Fuel Cell Projects

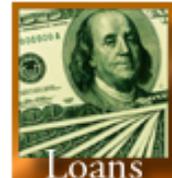


2.5% Loans up to \$750,000

Commercial & Industrial Building Projects



2.5%



Loans

Dollar and Energy Saving Loans



Energy Statistics

Nebraska Energy

A Newsletter of the Nebraska Energy Office

Office

Grants

- Federal grants can be found and searched at www.grants.gov
- Grants offered by the Energy Office are typically federally funded and must follow federal guidelines.
- Grant opportunities related to energy efficiency are generally posted on the Energy Office website, www.neo.ne.gov.

www.grants.gov

Alert: Grants.gov will be unavailable Saturday, February 6, 2010 from 12:01 a.m. EST through February 9, 2010 11:59 p.m. EST for scheduled system maintenance. We apologize for any inconvenience.

FOR APPLICANTS

- Applicant Login
- Find Grant Opportunities
- Get Registered
- Apply for Grants
- Track My Application
- Applicant Resources
- Search FAQs, User Guides and Site Information

APPLICANT SYSTEM-TO-SYSTEM

FOR GRANTORS

ABOUT GRANTS.GOV

HELP

CONTACT US

SITE MAP

Find. Apply. Succeed.

Grants.gov is your source to FIND and APPLY for federal grants. The U.S. Department of Health and Human Services is proud to be the managing partner for Grants.gov, an initiative that is having an unparalleled impact on the grant community. [Learn more](#) about Grants.gov and determine if you are eligible for grant opportunities offered on this site.

Grants.gov does not provide personal financial assistance. To learn where you may find personal help, check [Government Benefits](#), [Student Loans](#) and [Small Business Start-up Loans](#).

RECOVERY.GOV

In response to The American Recovery and Reinvestment Act or Recovery Act, Grant-making agencies are posting Recovery Act specific grant opportunities on Grants.gov. [View all opportunities >](#)

Other information and opportunities regarding the Recovery Act is available. [Learn more >](#)

Update-to-date information on the state of recovery. [Learn more >](#)

[Feature Stories](#)

Recovery Act Grant Opportunities

Archived Webinars

What's New at Grants.gov

- New Opportunities This Week
- Grants.gov Contact Center scheduled closing
- Important CCR Update
- View Recovery Act Webinar for Nonprofits
- Verify if your Adobe Reader version is compatible with Grants.gov

Important information for Federal grantees, subgrantees, and other subrecipients regarding the Association of Community Organizations for Reform Now

Sign-up for our "Succeed" Quarterly Newsletter

Quick Links

Latest News!
[Grants.gov Blog](#)
[\[Exit Disclaimer\]](#)

FOR APPLICANTS

- [Grant Search](#)
- [Grant Email Alerts](#)
- [Get Registered](#)
- [Applicant Login](#)
- [E-Biz POC Login](#)
- [Track My Application](#)

FOR GRANTORS

- [Grantor Login](#)
- [New Agency Users](#)
- [Resources](#)

Register for Grant Email Alerts (daily update of available grants)

What a Grant Email Alert Looks Like

DOI

Department of the Interior

Fish and Wildlife Service

Klamath River Restoration Issues Website Grant

<http://www07.grants.gov/search/search.do?&mode=VIEW&opd=52427>

- Find a grant that matches what you want to do! – As opposed to trying to make what you want to do sound like what the grant is asking for!
- Competitive – 100% failure rate for those who don't apply!



Dollar and Energy Saving Loan Program



- A revolving loan program to encourage Nebraskans to adopt energy efficiency through low-cost financing available through Nebraska banks, savings institutions & credit unions.
- Interest rate to borrower is fixed at 5% for most loans. Loans for commercial building improvements, renewable energy, and industrial improvements are available at a fixed rate of 2.5%.
- There are no income guidelines but the borrower must be a Nebraska resident, and property or operation located in Nebraska.
- Started in 1990, the loan pool was originally capitalized with \$10 million in oil overcharge funds which were returned to the state through court orders from over-pricing in the 1970's and early 80's. Currently the loan pool is \$36 million
- There are over 600 lender locations across the state eligible to make loans under this program.
- Since the programs inception these loans have financed nearly \$250 million in energy efficiency improvements in all 93 Nebraska counties.

Efficiency Improvement Projects which can be funded using the Loan Program

- Air Sealing – Caulking & Weather stripping
- Seal Ductwork
- Insulation
- Heating and Cooling Equipment
- Lighting Retrofits
- Roofing and Siding, as part of an Insulation Project
- Window and Door Replacement
- Energy Efficient Appliances
- Energy Efficient Office Equipment
- Wind, Solar, and Fuel Cell Projects (\$5,000/kWh – Max \$125k)
(above this point, in approximate order of energy savings/improvement dollar)
 - Payback on renewable will vary greatly depending on purchase price
- Waste Minimization Projects
- Irrigation projects
- No-Till Farm Equipment
- Grain Dryers
- Alternate Fuel Vehicle Projects
- Telecommunication Equipment
- Construction – New Energy Star, 5 Star Plus, Single Family detached homes – 2.5%



2.5%, \$750,000 Loan Limit
For Commercial and Industrial
Building Improvements.



You may not commit or obligate yourself to a project prior to NEO approval.



! SPECIAL !



2.5% INTEREST

NOW THRU DECEMBER 31st

**ON ALL QUALIFYING
LOANS**

Borrower Maximums for Home, Building or System Energy Improvements

Limited Time Offer in all Categories
2.5% rate available for up to a 15 year term
on loan applications received through
December 31, 2010

Loan Categories

Common Home, Building or System Energy Improvements for:



Loan Category	5% Dollar & Energy Loans	2.5% Loans up to \$750,000	2.5% Loans for NPPD Customers For Heat Pumps	2.5% Loans For Wind, Solar and Fuel Cell Projects
Single-family homes (including townhouses and condominiums)	\$75,000	\$750,000*	\$75,000	Wind/Photo Voltaic/Fuel Cell: \$125,000 Solar Hot Water
Multi-family buildings (duplex or larger)	\$250,000	\$750,000*	\$250,000	
ENERGY STAR® Partners	\$250,000	\$750,000*	\$250,000	
Nebraska Businesses, Manufacturers, Institutions and Non-Profits	\$250,000	\$750,000*	\$250,000	
Farms and Ranches (borrowers must produce at least \$1,000 of agricultural products during a calendar year)	\$250,000	\$750,000*	\$250,000	
Local governments and all political subdivisions, except public school districts and state government	\$250,000	\$750,000*	\$250,000	
Public School Districts	N/A	\$750,000*	N/A	
Telecommunications Projects	\$250,000	\$750,000*	N/A	
Dedicated Alternate Fuel Projects	\$250,000	\$750,000*	N/A	
ENERGY STAR® Certified Home Electronics	\$25,000	\$750,000*	N/A	
ENERGY STAR® Certified Office Electronics	\$50,000	\$750,000*	N/A	

Renewables
are still
limited to 25
kW per
installation /
location, and
\$125,000

* Note: Qualifying projects exceeding the maximum loan amount and term will be considered on a case by case basis.

Loan Program Limits on Wind & Solar

- For Systems 10kW and Smaller
 - \$14,000 for the first kW and \$4,000 for each other kW
 - i.e. 4 kW would be eligible for - - \$14,000 for the first kW, and \$4,000 for the other three kW (\$12,000), total of \$26,000
- For Systems Larger than 10kW
 - \$19,000 for the first kW, \$4,000 for each other kW up to 15kW, and \$5,000 per kW for each kW thereafter - - up to a 25 kW limit (\$125,000) – this matches Nebraska’s net metering limit of 25 kW
 - i.e. 16 kW would be eligible for - - \$19,000 for the first kW, \$4,000 for the next 14 kW (\$56,000), and \$5,000 for the last (16th) kW, total of \$80,000.



- Application is made through local Participating Nebraska Lenders.
- The Participating Nebraska Lender determines credit worthiness.
- You may not commit or obligate yourself to a project prior to NEO approval.

Why \$5,000 per kW on Renewable Loans?

- AWEA small wind manf's enlisted for info on installed pricing, PV pricing reviewed from adds and the web, and tax credit limits reviewed (\$3,000 per kW on Fuel Cells). \$5,000/kW exceeded all pricing and limits information and should cover all costs.

ECONOMICS:

Consider a 4 kW system - \$20,000 cost - \$26,000 loan eligible – 1 kW per hour average

1 kW/hr X 365 days/year X 24 hr/day X \$0.0658/kWh = \$576.408/year

\$20,000 divided by \$576.408/year = 35 year simple payback (no interest calculated)

= 84 year payback when including 2.5% interest

30% tax credit, \$20,000 => \$14,000 => 24 year simple payback

38 year payback @ 2.5% interest

\$4,000 per kW => \$16,000 system => 28 year simple payback

49 year payback when including 2.5% interest

19 year simple with 30% tax credit

27 year payback w/30% & 2.5% interest

\$3,000 per kW => \$12,000 system => 21 year simple payback

30 year payback when including 2.5% interest

15 year simple with 30% tax credit

19 year payback w/30% & 2.5% interest

Commercial units rating to average hourly is 1/3.

Energy Statistics

Annual Average Price per Kilowatthour by State
(Lowest to Highest Rate as of 2008)

Rank	State	Average Electricity Rate for All Sectors (Cents per Kilowatthour)
1	West Virginia	5.61
2	Wyoming	5.67
3	Idaho	5.69
4	Kentucky	6.26
5	Utah	6.49
6	Washington	6.55
7	Nebraska	6.58 ← ●
8	North Dakota	6.69
9	Missouri	6.84
10	Iowa	6.89
11	Indiana	7.09
12	South Dakota	7.14
13	Oregon	7.23
14	Kansas	7.45
15	Arkansas	7.60
16	Montana	7.72
17	Minnesota	7.79
18	Oklahoma	7.81

33	Pennsylvania	9.32
34	Louisiana	9.44
	National Average	9.74
35	Nevada	9.89
36	Florida	10.74
37	Texas	10.99
38	Vermont	12.33
39	Delaware	12.36
40	California	12.48
41	Maryland	13.00
42	District of Columbia	13.10
43	Maine	13.83
44	New Jersey	14.44
45	New Hampshire	14.65
46	Alaska	14.73
47	Rhode Island	16.01
48	Massachusetts	16.27
49	New York	16.57
50	Connecticut	17.79
51	Hawaii	29.20

Double

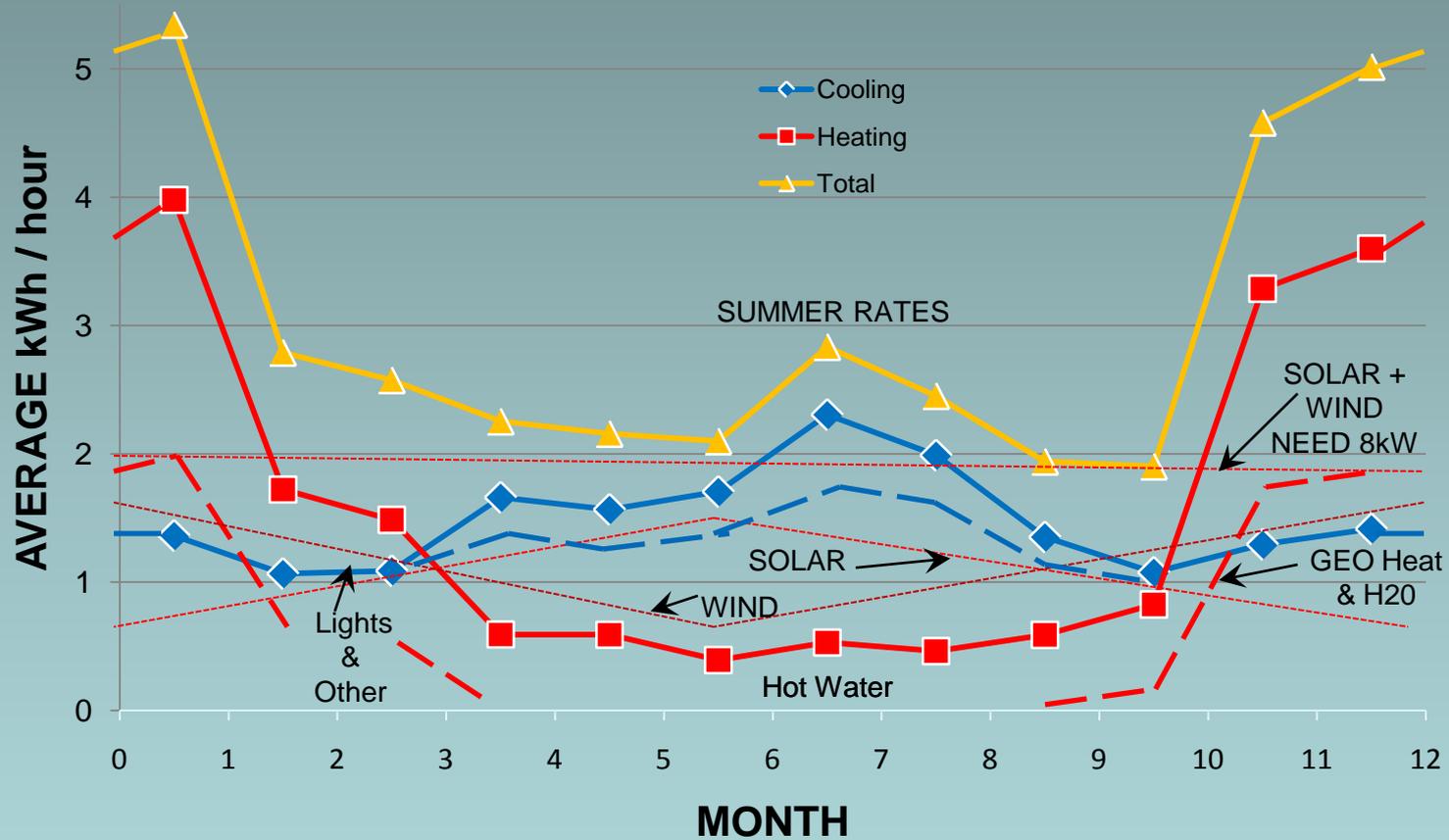
Triple



Source: *Electric Sales and Revenue*. Energy Information Administration, Washington, DC. Nebraska Energy Office, Lincoln, NE.

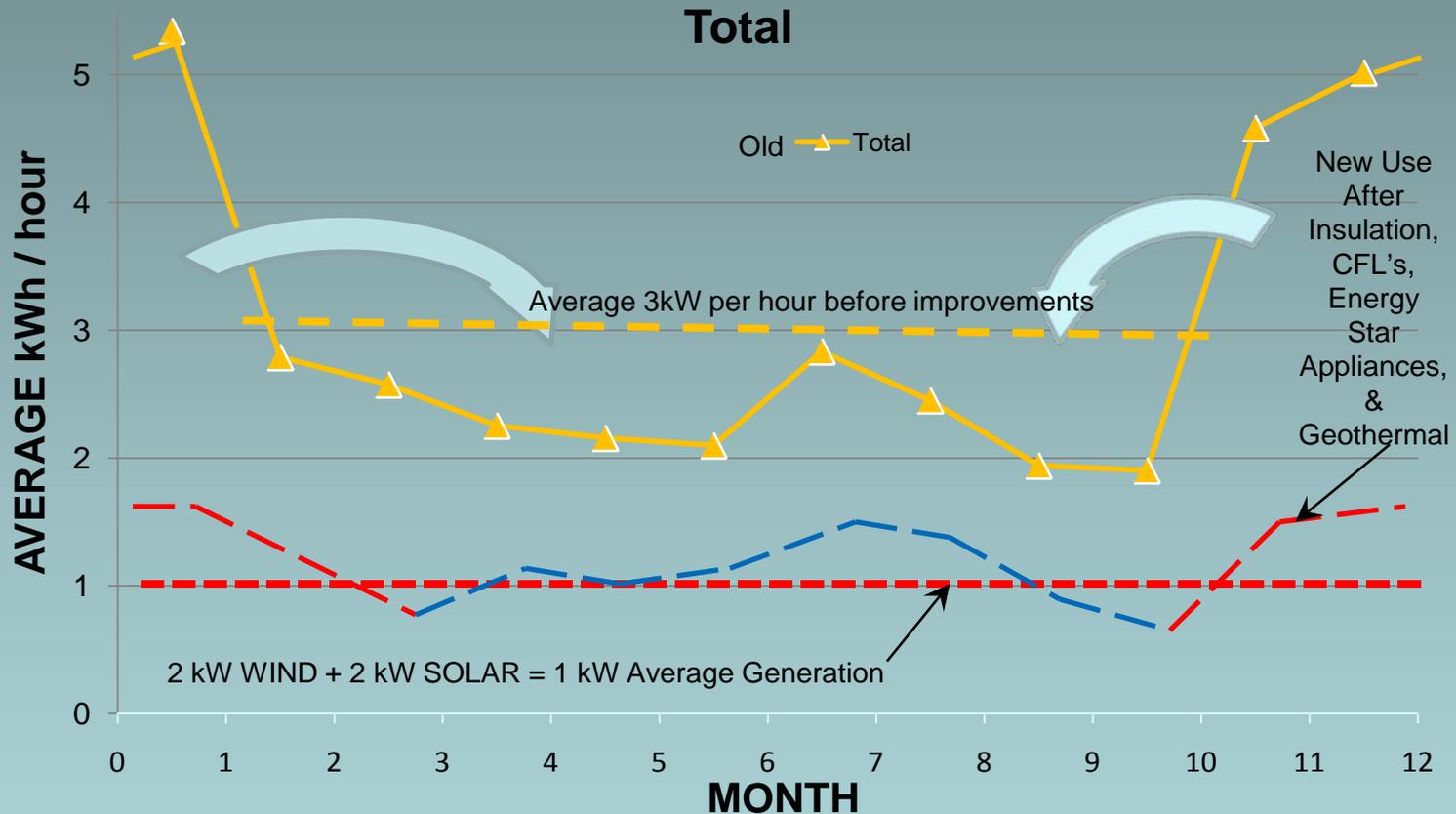
Utility Bill kWh ÷ Days/Month ÷ Hours/Day = kWh/hour

What size of Renewable?



Reduction of overall building load – lights – insulation- heating & cooling equipt.
 What kind of heat? Hot water? Other that's not electric? Summer/Winter Rates?
 This particular chart is for a home with gas heat-gas hot water-air conditioning.
 Smallest kWh/hour X 4 – Maybe a small amount larger, i.e. summer rates.

Efficiency + Renewable



Efficiency not only reduces our renewable need,
it also reduces our overall need for energy!

Efficiency saves \$42k to \$50k

Between \$12k & \$20k saved on renewables depending on \$3k to \$5k on installed cost.

Additional 1kW energy saved, translates into \$30k saved over 50 yr life of geo wells.

(365 days x 24 hours x 1kW x \$0.0658/kWh x 50 years) (savings does not include reduced cost of HVAC due to reduced equipment size)

(geo indoor equipment replacement costs are less than replacement costs of typical HVAC equipment – savings not included)

(P/A – \$48.04 monthly annuity, 2.5% interest, 50 year period, yields \$16,000 present value for 1 kW saved, \$32k for 2 kW saved)



Tax Credits

– I am **NOT** a tax consultant!

- Tax credits are available for owners of residential property for their own home. 30% of the cost of the qualifying improvements, up to a one time maximum of \$1500, with the exception that there is no limit for geothermal and certain renewable energy. (See - IRS Form 5695)
- \$1.80 per square foot tax deduction is available for commercial buildings, \$0.60 for Building Envelope, \$0.60 for Lighting, and \$0.60 for HVAC and Hot Water. (IRS – Forms 1120, 1120-S, 1065 - “Other Deductions”) (179D Property)
 - Designer may claim on Government and Non-Profit buildings -
- Commercial Tax Credit or GRANT for Geothermal heating & cooling and certain renewable energy option – 30% - U.S. Department of Treasury.

It is recommended that you enlist the services of an engineer, tax consultant, the IRS, or a combination of these, for further information visit the IRS (www.irs.gov).

www.dsireusa.org

Click on “NE” from the map, also click on “See Federal Incentives”

www.dsireusa.org

DSIRE
Database of State Incentives for Renewables & Efficiency

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy
North Carolina Solar Center | IREC

Home | Glossary | Links | FAQs | Contacts | About Us

DSIRE SOLAR
DSIRE is a comprehensive source of information on state, local, utility and federal incentives and policies that promote renewable energy and energy efficiency. Established in 1995 and funded by the U.S. Department of Energy, DSIRE is an ongoing project of the N.C. Solar Center and the Interstate Renewable Energy Council.

Choose one or both databases:
 Renewable Energy Energy Efficiency

Federal Incentives

Resources
Summary Maps
Summary Tables
Library
Search
What's New?

Map of the United States showing state abbreviations.

www.dsireusa.org

Federal Incentives

DSIRE: Incentives/Policies by State: Federal: Incen...

Home Paste

Resources

- Summary Maps
- Summary Tables
- Library
- Search
- What's New?

Financial Incentives

Corporate Deduction

- [Energy-Efficient Commercial Buildings Tax Deduction](#)

Corporate Depreciation

- [Modified Accelerated Cost-Recovery System \(MACRS\) + Bonus Depreciation \(2008-2009\)](#)

Corporate Exemption

- [Residential Energy Conservation Subsidy Exclusion \(Corporate\)](#)

Corporate Tax Credit

- [Business Energy Investment Tax Credit \(ITC\)](#)
- [Energy-Efficient New Homes Tax Credit for Home Builders](#)
- [Renewable Electricity Production Tax Credit \(PTC\)](#)

Federal Grant Program

- [Tribal Energy Program Grant](#)
- [U.S. Department of Treasury - Renewable Energy Grants](#)
- [USDA - Rural Energy for America Program \(REAP\) Grants](#)

Federal Loan Program

- [Clean Renewable Energy Bonds \(CREBs\)](#)
- [Energy-Efficient Mortgages](#)
- [Qualified Energy Conservation Bonds \(QECBs\)](#)
- [U.S. Department of Energy - Loan Guarantee Program](#)
- [USDA - Rural Energy for America Program \(REAP\) Loan Guarantees](#)

Industry Recruitment/Support

- [Energy-Efficient Appliance Manufacturing Tax Credit](#)
- [Qualifying Advanced Energy Manufacturing Investment Tax Credit](#)

Personal Exemption

- [Residential Energy Conservation Subsidy Exclusion \(Personal\)](#)

Personal Tax Credit

- [Residential Energy Efficiency Tax Credit](#)
- [Residential Renewable Energy Tax Credit](#)

Production Incentive

- [Renewable Energy Production Incentive \(REPI\)](#)

www.dsireusa.org

Renewable Energy Grant

http://www.dsireusa.org/incentives/incentive.cf...

Home Paste

Resources

Summary Maps

Summary Tables

Library

Search

What's New?

U.S. Department of Treasury - Renewable Energy Grants

Last DSIRE Review: 07/31/2009

Program Overview:

State:	Federal
Incentive Type:	Federal Grant Program
Eligible Renewable/Other Technologies:	Solar Water Heat, Solar Space Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Landfill Gas, Wind, Biomass, Hydroelectric, Geothermal Electric, Fuel Cells, Geothermal Heat Pumps, Municipal Solid Waste, CHP/Cogeneration, Solar Hybrid Lighting, Hydrokinetic, Anaerobic Digestion, Tidal Energy, Wave Energy, Ocean Thermal, Microturbines
Applicable Sectors:	Commercial, Industrial, Agricultural
Amount:	30% of property that is part of a qualified facility, qualified fuel cell property, solar property, or qualified small wind property 10% of all other property
Maximum Incentive:	\$1,500 per 0.5 kW for qualified fuel cell property \$200 per kW for qualified microturbine property 50 MW for CHP property, with limitations for large systems
Web Site:	http://www.treas.gov/recovery/1603.shtml
Authority 1:	H.R. 1: Div. B, Sec. 1104 & 1603 (The American Recovery and Reinvestment Act of 2009)
Date Enacted:	2/17/2009
Date Effective:	1/1/2009
Authority 2:	U.S. Department of Treasury: Grant Program Guidance
Date Enacted:	07/09/2009

Summary:

www.dsireusa.org

Business Investment Tax Credit

http://www.dsireusa.org/incentives/incentive.cf...

Home ▾ Paste

Resources

Summary Maps

Summary Tables

Library

Search

What's New?

Business Energy Investment Tax Credit (ITC)

Last DSIRE Review: 06/10/2009

Program Overview:

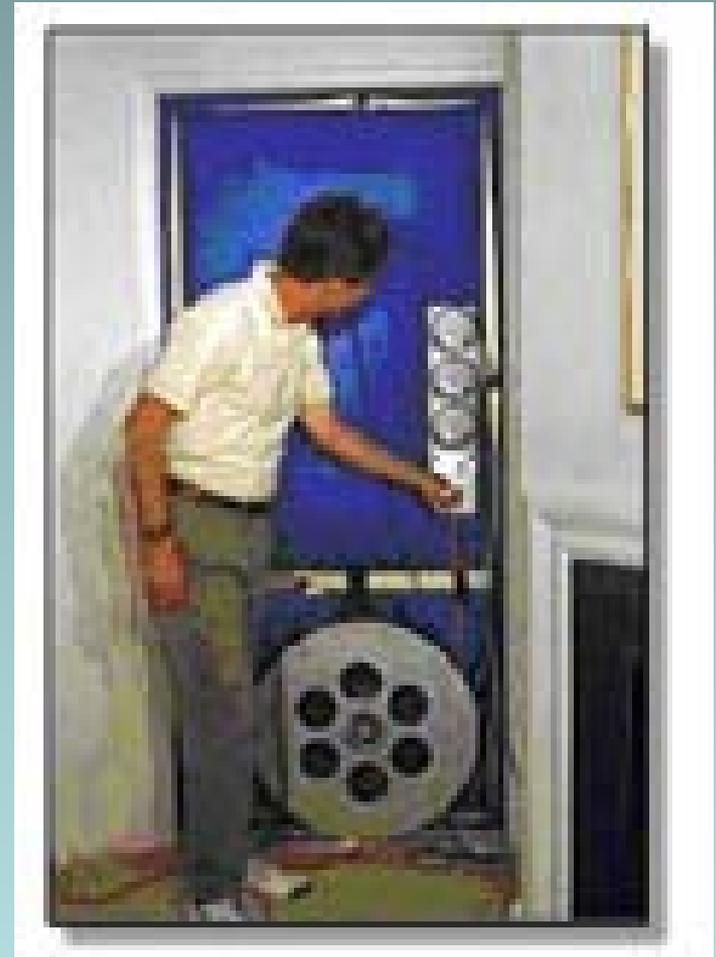
State:	Federal
Incentive Type:	Corporate Tax Credit
Eligible Renewable/Other Technologies:	Solar Water Heat, Solar Space Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Wind, Biomass, Geothermal Electric, Fuel Cells, Geothermal Heat Pumps, CHP/Cogeneration, Solar Hybrid Lighting, Microturbines
Applicable Sectors:	Commercial, Industrial, Utility
Amount:	30% for solar, fuel cells and small wind;** 10%** for geothermal, microturbines and CHP
Maximum Incentive:	Fuel cells: \$1,500 per 0.5 kW Microturbines: \$200 per kW Small wind turbines placed in service 10/4/08 - 12/31/08: \$4,000 Small wind turbines placed in service after 12/31/08: no limit All other eligible technologies: no limit
Eligible System Size:	Small wind turbines: 100 kW or less** Fuel cells: 0.5 kW or greater Microturbines: 2 MW or less CHP: 50 MW or less**
Equipment Requirements:	Fuel cells, microturbines and CHP systems must meet specific energy-efficiency criteria
Authority 1:	26 USC § 48
Authority 2:	Instructions for IRS Form 3468
Authority 3:	IRS Form 3468

Summary:

Home Energy Rating System (HERS)

Quite possibly the best start in determining what energy efficiency measures are best for you.

The Energy Office was at one time a HERS provider for Nebraska raters, and was instrumental in bringing the HERS program to Nebraska. **The HERS rating is one of the most accurate means of measuring a home's energy load**, and is the only means of qualifying an Energy Star home. It is required for certain federal tax credits. A HERS rating typically costs in the neighborhood of \$300 to \$600, and is one of the best tools to determine where energy dollars can be saved in an existing home.



Using An Engineer or Architect to Design your Project

The use of an Engineer or Architect are required for the design of any building/structure erected or renovated in the State, private or public. However there are a number of exceptions.

Those exceptions are listed in the Architects Regulation Act (Statute Sections 81-3401 through 81-3455, particularly 81-3452) (<http://www.ea.state.ne.us/PDFs/statute.pdf>), and also in Title 110 – Nebraska Administrative Code Chapters 1 through 11 (particularly Chapter 10)(<http://www.ea.state.ne.us/PDFs/booklet.pdf>).

The exemptions are numerous, and are based on certain building usage, the floor area of a building or area of a building affected by a renovation, the number of people that might occupy the space, and the cost of a renovation for a public works project.

Double check to ensure your Engineer or Architect is licensed in the State by visiting the State of Nebraska Board of Engineers & Architects web site, www.ea.state.ne.us, and using their Licensee Lookup feature.

The Future – www.iter.org

the way to new energy

iter

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search: ITER Staff

GO

HOME THE MACHINE THE SCIENCE THE ORGANIZATION THE PROJECT GLOSSARY CONTACT

why iter
history
building iter
to iter and beyond
milestones

Launched as an idea in 1985, the construction of ITER has now begun in Southern France.

FOR:
Why ITER?
ITER History
Building ITER
ITER & Beyond
ITER Milestones

The Project

Scientists from all over the world have come together in ITER to work toward a lofty goal: harness the energy produced by the fusion of atoms to help meet mankind's future energy needs.

ITER is a large-scale scientific experiment intended to prove the viability of fusion as an energy source, and to collect the data necessary for the design and subsequent operation of the first electricity-producing fusion power plant.

Launched as an idea for international collaboration in 1985, the ITER Agreement includes China, the European Union, India, Japan, Korea, Russia and the United States, representing over half of the world's population.

The incredibly complex ITER Tokamak will be nearly 30 metres tall, and weigh 23 000 tons. The very small man dressed in blue at bottom right gives us some idea of the machine's scale.

- Yr 2019
- \$14 Billion
- 270 Million °F
- 360 Tons/Ring (18 Rings) (One Boeing 747 = 360 tons)
- 500 Megawatts (2 Sheldon's, but only 5/8 Cooper)



GOALS

- Maximize the efficient use of traditional energy resources
- Encourage Nebraskans to adopt energy efficiency through low-cost financing
- Encourage the development and use of renewable energy resources
- Advise the executive and legislative branches of state government on energy policy and security

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