

Part V

Finance: Incentives and ROI

- Financial Incentives – utility rebates, tax incentives and other rebates
- The National Database for State Incentives for Renewable Energy - “DSIRE”
- Methods of determining financial “bottom line”



Financial Incentives

1. Grants, Rebates & Loans
2. Income Tax Credits and Deductions
3. Sales Tax Incentives
4. Property Tax Incentives
5. Utility Leasing Programs
7. Production Incentives



Energy Policy Act of 2005: Federal Tax Deduction for Energy Efficient Commercial Buildings

- On August 8, 2005 President George W. Bush signed H.R. 6, the Energy Policy Act of 2005 which provides a tax deduction for investments in commercial building energy efficiency.
- The deduction is for energy-efficient commercial property expenditures made by the taxpayer, up to \$1.80 per SF (for 50% or more energy savings)
- Where the 50% reduction is not met a partial deduction of up to \$0.60 per SF is allowed (for $16\frac{2}{3}$ % or more energy savings plus other requirements)

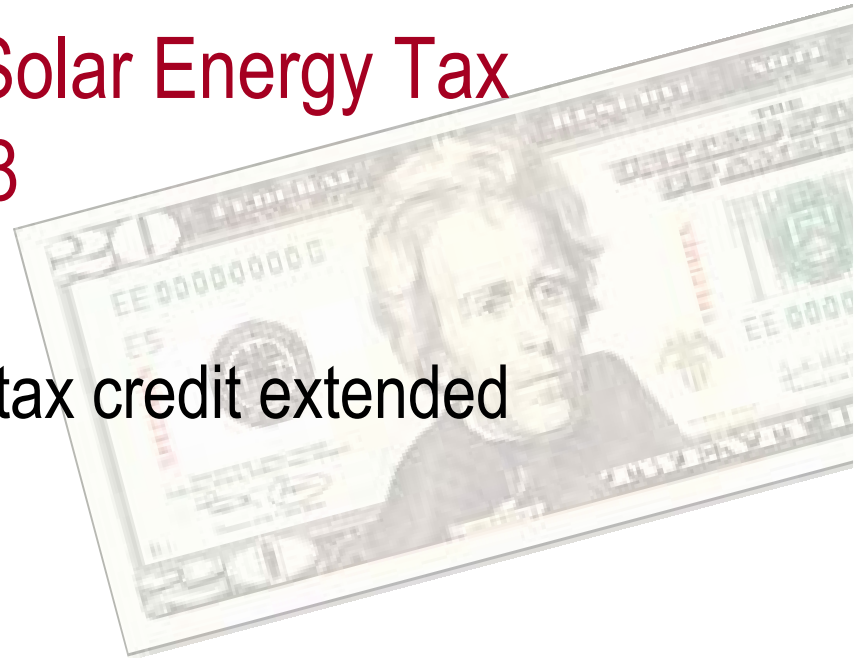
Energy Policy Act of 2005:
Federal Tax Deduction for
Energy Efficient Commercial Buildings

In Public Architecture the Designer benefits

- For energy-efficient commercial property expenditures made by a public entity, such as public schools, the regulations *allow the deduction to be allocated to the person primarily responsible for designing the property* in lieu of the public entity.

Congress Extends Federal Solar Energy Tax Credits Through End of 2008

- Residential Solar 30-percent tax credit extended (limited to \$2,000)
- Business Solar Tax Credit and Fuel Cell Tax Credit of 30-percent extended. (NO LIMIT – but after December 31, 2008, the credit reverts to a permanent 10-percent level)



Re-Arch: **The Initiative for Renewable Energy in Architecture**
Design Guidelines for Integrating Renewable Energy in Commercial Buildings
Business Tax Credits, Rebates and Production Incentives

Tax Incentives

- Federal Tax Credit: Thirty (30) percent of the cost of solar thermal and PV systems.
- State Sales Tax Exemption: Solar & Wind RE Systems are exempt from MN State sales tax.

Rebates

- Minnesota Department of Commerce Rebate: \$2,000 per Kilowatt (KW) of capacity, up to \$20,000 (10 KW)
Contact: www.commerce.state.mn.us, (651) 296-5175
- Minnesota Power Solar Electric Rebate Program (MN Power customers only): \$2,000 per KW up to \$4,000 (20 KW). Contact: www.mnpower.com, 1-800-228-4966 x2843
- Great River Energy Solar Electric Rebate Program (Customers of GRE or GRE-member coops only): \$2,000 per KW of capacity, up to \$4,000 (2 KW). Contact: www.greatriverenergy.com, (763) 441-3121

Production Incentives

- Net Metering: Minnesota utilities must purchase excess power from small renewable energy producers at the same price that they charge.
- Solar Choice Program: Three municipal utilities offer a production credit (over and above the retail rate) instead of a rebate ([Austin](#), [Owatonna](#), and [Rochester](#) municipal utilities). The credit can vary.



Minnesota Solar Rebate Program Summary

- Average installation size: 3.9 kW
- Median installation size: 2.5 kW
- The program is out of funds until restored by legislative action
- Currently there are 71 projects on a waiting list

Installations funded through 12/31/06:

Year	2002	2003	2004	2005	2006	In progress	Total
Count	1	12	35	22	34	33	137
kW	1.7	29.9	104.9	68.9	111.3	183.3	500
Rebates	\$3,300	\$59,560	\$204,428	\$137,762	\$222,612	\$372,338	\$1,000,000


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Design Guidelines for Integrating Renewable Energy in Commercial Buildings


The screenshot shows a web browser window displaying the DSIRE website. The browser's address bar contains 'g/'. The website has a red header with navigation links: 'NC Solar Center', 'IREC', 'Contacts', 'About Us', and 'IES'. Below the header is the DSIRE logo, which includes a sun icon and the text 'DSIRE Database of State Incentives for Renewable Energy'. A paragraph of text explains that the database is a comprehensive source of information on state, local, utility, and selected federal incentives. Below this text is a map of the United States with state abbreviations. A small map of the United States with 'FED' is labeled 'Federal Incentives'. A larger map of the United States with state abbreviations is labeled 'US Territory Incentives'. A search bar with the text 'Quick Keyword SEARCH' and a 'Go' button is located on the left side. The text 'Last Updated: 2/21/03' is visible at the bottom left. The footer contains a navigation menu: 'FAQs | Summary Maps | Summary Tables | Search By | Glossary | Other Resources'. The browser's status bar at the bottom right shows 'Internet'.


g/


NC Solar Center | IREC | Contacts | About Us | IES

 **DSIRE**
Database of State Incentives for Renewable Energy

The Database of State Incentives for Renewable Energy (DSIRE) is a comprehensive source of information on state, local, utility, and selected federal incentives that promote renewable energy. To access information, use the menu to the left or click on the maps below.

 Federal Incentives



 US Territory Incentives

DSIRE
Database

Quick Keyword **SEARCH**

Go

Last Updated: 2/21/03

[FAQs](#) | [Summary Maps](#) | [Summary Tables](#) | [Search By](#) | [Glossary](#) | [Other Resources](#)

Internet

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Design Guidelines for Integrating Renewable Energy in Commercial Buildings

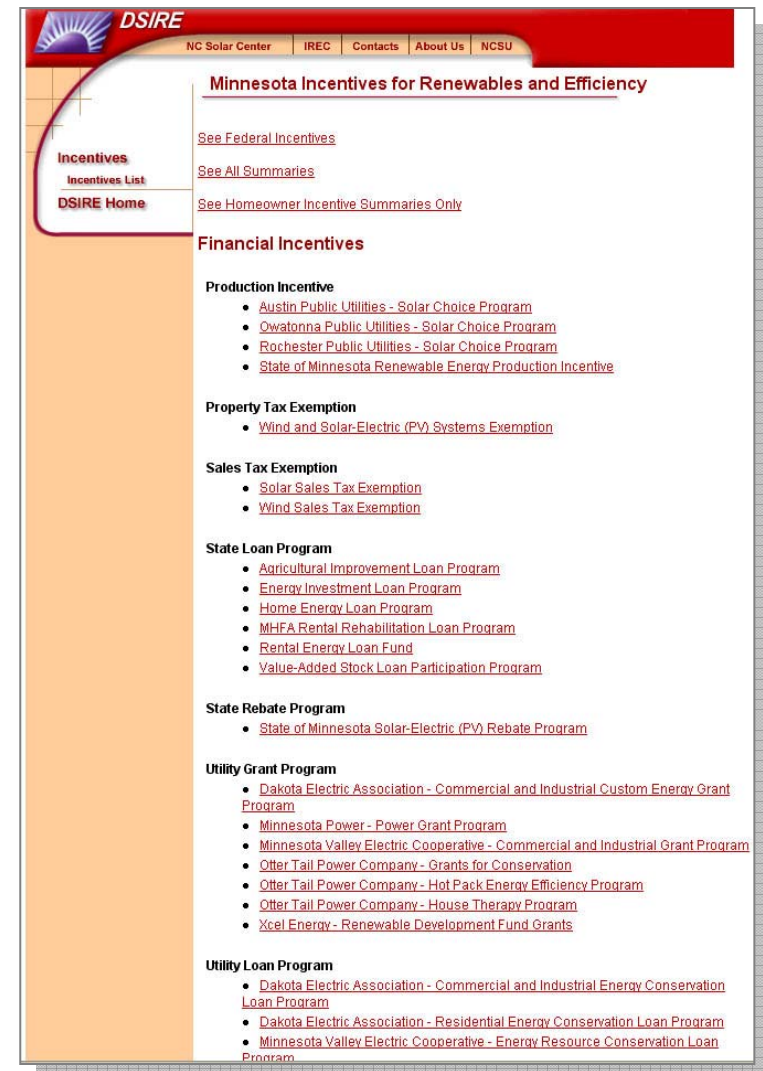
The National Database for State Incentives for Renewable Energy

www.desireusa.org

What DSIRE Offers:

1. Current, accurate information on incentives, programs & policies for various renewables
2. Program summaries
3. Incentive program contacts
4. Links to program web sites
4. Search capabilities (by various criteria)
5. Summary tables & maps
6. Access to relevant legislation & policies
7. Other related information

Source:  IREC
INTERSTATE RENEWABLE ENERGY COUNCIL



DSIRE
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Minnesota Incentives for Renewables and Efficiency

[See Federal Incentives](#)
[See All Summaries](#)
[See Homeowner Incentive Summaries Only](#)

Incentives
Incentives List
DSIRE Home

Financial Incentives

Production Incentive

- [Austin Public Utilities - Solar Choice Program](#)
- [Owatonna Public Utilities - Solar Choice Program](#)
- [Rochester Public Utilities - Solar Choice Program](#)
- [State of Minnesota Renewable Energy Production Incentive](#)

Property Tax Exemption

- [Wind and Solar-Electric \(PV\) Systems Exemption](#)

Sales Tax Exemption

- [Solar Sales Tax Exemption](#)
- [Wind Sales Tax Exemption](#)

State Loan Program

- [Agricultural Improvement Loan Program](#)
- [Energy Investment Loan Program](#)
- [Home Energy Loan Program](#)
- [MHFA Rental Rehabilitation Loan Program](#)
- [Rental Energy Loan Fund](#)
- [Value-Added Stock Loan Participation Program](#)

State Rebate Program

- [State of Minnesota Solar-Electric \(PV\) Rebate Program](#)

Utility Grant Program

- [Dakota Electric Association - Commercial and Industrial Custom Energy Grant Program](#)
- [Minnesota Power - Power Grant Program](#)
- [Minnesota Valley Electric Cooperative - Commercial and Industrial Grant Program](#)
- [Otter Tail Power Company - Grants for Conservation](#)
- [Otter Tail Power Company - Hot Pack Energy Efficiency Program](#)
- [Otter Tail Power Company - House Therapy Program](#)
- [Xcel Energy - Renewable Development Fund Grants](#)

Utility Loan Program

- [Dakota Electric Association - Commercial and Industrial Energy Conservation Loan Program](#)
- [Dakota Electric Association - Residential Energy Conservation Loan Program](#)
- [Minnesota Valley Electric Cooperative - Energy Resource Conservation Loan Program](#)

Financial Incentives for Minnesota on DSIRE

State Loan Programs

- [Agricultural Improvement Loan Program](#)
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- [MHFA Rental Rehabilitation Loan Program](#)
- [Rental Energy Loan Fund](#)
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Financial Incentives for Minnesota on DSIRE

Utility Grant Programs

- [Dakota Electric Association - Commercial and Industrial Custom Energy Grant Program](#)
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- [Xcel Energy - Renewable Development Fund Grants](#)

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Financial Incentives for Minnesota on DSIRE

Utility Rebate Programs

[Alexandria Light and Power - Commercial Energy Efficiency Rebate Program](#)

[Alexandria Light and Power - Energy Efficient Water Heater Rebate Program](#)

[Alexandria Light and Power - Residential Energy Efficiency Rebate Program](#)

[Alliant Energy-IP&L - Business Energy Efficiency Rebate Programs](#)

[Alliant Energy-IP&L - Farm Equipment Energy Efficiency Incentives](#)

[Alliant Energy-IP&L - Residential Energy Efficiency Incentives](#)

[Anoka Municipal Utility - Commercial Energy Efficiency Rebate Program](#)

[Anoka Municipal Utility - Residential Energy Efficiency Rebate Program](#)

[Austin Public Utilities - Commercial and Industrial Energy Efficiency Rebate Program](#)

[City of North St. Paul Electric Utility - Commercial and Industrial Energy Efficiency Rebate Program](#)

[City of North St. Paul Electric Utility - Residential Energy Efficiency Rebate Program](#)

[Crow Wing Power - Residential Energy Efficiency Rebate Program](#)

[Dakota Electric Association - Commercial and Industrial Energy Efficiency Rebate Program](#)

[Dakota Electric Association - Residential Energy Efficiency Rebate Program](#)

[East Central Energy - Residential Energy Star Rebate Program](#)

[Elk River Municipal Utilities - Residential Energy Efficiency Rebate Program](#)

[Great River Energy - Solar-Electric \(PV\) Rebate Program](#)

[Lake County Power - Residential Energy Efficiency Rebate Program](#)

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Financial Incentives for Minnesota on DSIRE

More Utility Rebate Programs

- [Marshall Municipal Utilities - Residential Energy Efficiency Rebate Program](#)
- [Minnesota Power - Energy Star Lighting and Fixture Program](#)
- [Minnesota Power - Energy Star Qualified Appliance Program](#)
- [Minnesota Power - HVAC Energy Efficiency Incentives Program](#)
- [Minnesota Power - Power Grant Energy Efficiency Rebate Program](#)
- [Minnesota Power - Solar-Electric \(PV\) Rebate Program](#)
- [Minnesota Valley Electric Cooperative - Commercial and Industrial Energy Efficiency Rebate Program](#)
- [Minnesota Valley Electric Cooperative - Residential Energy Efficiency Rebate Program](#)
- [Moorhead Public Service Utility - Lighting and Custom Energy Efficiency Rebate Program](#)
- [New Ulm Public Utilities - Energy Efficiency Rebate Program](#)
- [Otter Tail Power Company - Energy Efficiency Rebate Program](#)
- [Owatonna Public Utilities - Commercial and Industrial Energy Efficiency Rebate Program](#)
- [Owatonna Public Utilities - Residential Conserve and Save Rebate Program](#)
- [Rochester Public Utilities - Commercial and Industrial Energy Efficiency Rebate Program](#)
- [Shakopee Public Utilities - Commercial and Industrial Energy Efficiency Rebate Program](#)
- [Shakopee Public Utilities - Residential Energy Efficiency Rebate Program](#)
- [Willmar Municipal Utilities - Residential Energy Efficiency Rebate Program](#)
- [Wright-Hennepin Cooperative Electric Association - Energy Efficient Lighting Rebate Program](#)
- [Wright-Hennepin Cooperative Electric Association - Residential Energy Efficiency Rebate Program](#)
- [Xcel Energy - Business Energy Efficiency Rebate Programs](#)
- [Xcel Energy - Residential Conservation Programs](#)

General rules and recommended practice

Solar PV Financial Analysis Example

- **Project Cost**

<i>Initial Investment</i>	
10 kw Solar Electric System	\$85,000
MN Buy-down Rebate (\$2.00 per Watt up to the first 10 kw)	\$20,000
MN Power Rebate (\$2.00 per Watt up to 2 kw)	\$4,000
Federal Tax Credit (30% of total out of pocket expense)	\$18,300
End Cost to Business	\$42,700

- **Project Generation**

- Based on the average output of a PV system located in MN Power service area, a 10 kilowatt AC (kWhAC) PV system will generate approximately 16,000 kWh-AC of electricity in the first year.*

- **Project Savings**

- In this example, the PV system offsets electricity costs of approximately \$1,850 per year including peak energy charges. These savings will increase as electricity prices increase in future years resulting in a payback of about 15 years.

Summary of Financial Incentives Available

1. Federal Tax Credit 30% RE cost – no max.
2. Income Tax Deductions Up to \$1.80/sf max., plus
Accel..Deprec., Alt. Fuels Credit, etc.
3. Sales Tax Incentives Exempt (>5% savings)
4. State Buy-down \$2/W for PV and wind – \$20,000 max.
5. Financing Incentives Low interest loans may be available
6. Utility Rebate Programs Up to \$4,000 or more D.O. Utility
7. Production Incentives Net Metering plus local supplements
8. Grants available OEA, DNR, DOE, NSF, etc.
(go to: www.grants.gov)

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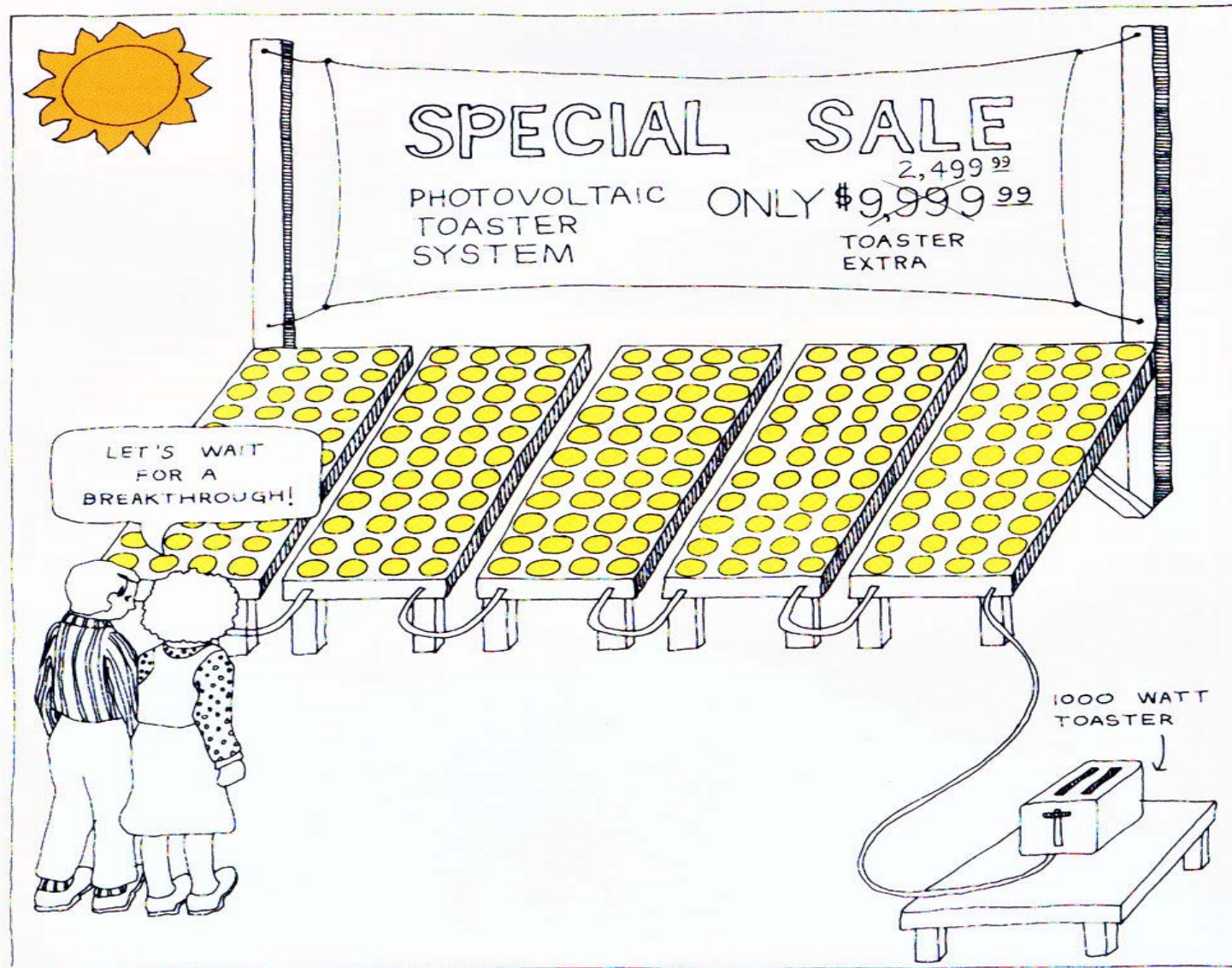


Figure 4.8 People witnessing a breakthrough without knowing it.

Source: The Return of the Solar Cat Book by Jim Augustin, illust. By Hildy Paige Burns