



Maine Energy Investment Corp.  
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Photo by Karsten Moran

Governor Baldacci confers with Solar Market's Naoto Inoue about the Blue Link solar panel at work at the State House.

*“Solar Energy promotion will help grow the industry in Maine and create jobs.”*

~ Governor John Baldacci  
June 29, 2005

Maine Solar Energy Rebate Program Application Form. Download by clicking here: <http://www.maine.gov/msep/pdf/SolarApplicationForm.pdf>

*“Solar energy will help reduce out reliance on oil and natural gas, and provide energy independence and security...”*

~ Governor John Baldacci  
June 29, 2005

## BUYING YOUR SOLAR SYSTEM

### *Downeast Solar Co-op*

*Buying a solar energy system is a lot like paying for 5 year's heating oil up front— it can get expensive! But there's an upside: this purchase cuts fuel costs for years ahead. A solar energy system today represents a return in free solar hot water or electricity for the next 10, 20 or 30 years.*

*Helping Mainers make that investment today is in everyone's interest. Every new solar energy system helps hold down electricity prices, replace uncertain petroleum, and keep installation jobs and energy dollars in Maine. Every new solar system helps to clean Maine's air. Both state and federal programs now exist to help Mainers invest in solar systems to capture these benefits.*

**Maine's Solar Incentives:** On June 29, 2005, Governor John Baldacci signed into law *An Act to Encourage the Use of Solar Energy*, which created the Maine Solar Energy Rebate Fund. This measure creates the first significant solar incentives in Maine since the 1980s. The program provides:

- Solar electric systems: Rebates of \$3 per watt for the first 2,000 watts installed. An additional \$1 per watt will be awarded between 2,001 and 3,000 watts for a maximum rebate of \$7,000.
- Solar hot water and hot air systems (solar thermal): Rebates of 25% of system cost including installation, or \$1,250, whichever is less.
- \$375,000 per year for solar thermal systems and \$125,000 per year for solar electric (photovoltaic) systems.
- This program is due to expire in 2008. A waiting list for rebates will be developed. Completed applications will be handled on a first-come, first-served basis.

**Federal Solar Tax Credits:** The federal Energy Bill signed by President Bush in August 2005 also provides financial help for solar energy systems. While the IRS is still working out the formal guidelines<sup>1</sup>, these elements are clear:

- Federal tax filers may take an income tax credit for the installation of solar energy equipment “placed in service” between January 1, 2006 and December 31, 2007.
- Solar hot water, solar thermal, solar electric all qualify for this credit.
- The credit is worth 30% of the installed system cost, up to \$2,000. Businesses have no maximum credit.
- The federal credit is available *in addition to* the state credits. So Mainers are eligible for up to \$3,250 for a solar thermal system or \$9,000 for a solar electric system.

**Other Financial Incentives** Solar's many benefits are in addition to the indirect but still real financial benefits listed in the following sections:

- **MEIC's PV Reinvestment Fund** - Maine Energy Investment Corporation, with contributions from Bonneville Environmental Foundation, Interface Fabrics, Maine Interfaith Power and Light and the Maine State Energy Program, has assembled a limited PV rebate pool. This fund will offer an additional assistance for qualifying photovoltaic installations.<sup>2</sup>



Photo by Steve Strange

A good inverter will measure your solar electricity production, allowing you to take advantage of REC's.

(Footnotes)

<sup>1</sup> See the Frequently Asked Questions at the Solar Energy Industries Association (SEIA). <http://www.seia.org/getpdf.php?id=21>.

<sup>2</sup> For more information, call MEIC and ask to receive the Downeast Solar Co-op e-newsletter. As application materials are finalized, they will be distributed via the DSC, the DSC newsletter, and program partners.

<sup>3</sup> Based on a range of 2006 Standard Offer prices (including delivery), from Residential/SGS (15.5¢/kWh as of 3/1/06) and MGS (17¢/kWh posted for 2/28/06).

<sup>4</sup> This average amount will be significantly higher in the summer and lower in the winter. We assume that the \$16-\$20,000 system (final cost of \$8-\$12,000 after federal and state rebates) will return a total of \$9,300 over its 20-year life. (REC income could add another \$150/year, for a total return of \$12,300 in 20 years).

<sup>5</sup> Net system investment after rebates (\$8-\$12,000) times output of 1,500 kWh/year (valued at 2006 SO costs) each year. This calculation does not include any REC income.

<sup>6</sup> MEIC's Downeast Solar Co-op simplifies these requirements through education and aggregation. Call DSC (207) 729-9665 for electronic updates.

<sup>7</sup> Black, Andrew J.; "Why is a solar electric home worth more?" Presented at Solar 2004, Portland, Oregon, July 2004. <http://www.millionsolarroofs.org/articles/static/1/binaries/BlackASES.pdf>.

<sup>8</sup> Black quoting Alfano, S., "2003 Cost versus Value Report", Remodeling Online, <http://www.remodeling.hw.net>, March 5, 2004.

<sup>9</sup> A 30-year average in CA from 1970 to 2001. This represents a doubling of electricity costs every 12 years.

- **Federal Business Tax Credit** - The federal Energy Bill also expanded the existing 10% income tax credit for solar equipment installations by businesses to 30% for the period 2006-2007. This credit reverts to 10% after December 2007.
- **Maine State Energy Program Low-Interest Loans** - Businesses, non-profits, churches and others may be eligible for a 3% loan from the State of Maine, for the purposes of implementing the recommendations of an energy efficiency audit *including solar*. Eligibility and requirements may be found at <http://www.maine.gov/msep/LOANFACTSHEET.pdf>.

**Other Financial Returns** - There are several other financial benefits provided by solar energy systems. While these may not reduce the system's up-front cost, they do provide other forms of financial benefit and payback:

- **Electricity savings** - Each year, the kilowatt-hours (kWh) produced by a net-metered 1.0 kW PV system could displace an estimated 1,500 kWh for which the customer must otherwise pay from 15.5- 17¢ /kWh<sup>3</sup>. An "average" 2.0 kW PV system, therefore, which would produce roughly 50% of what an average Maine home consumes per year, could cut electric bills by an average of \$38-40<sup>4</sup>/month.
- **Return on Investment (ROI)** - Under conservative assumptions of output and equipment life, this same 2.0 kW system would represent (after state and federal rebates) an annual return on the original investment (ROI) of roughly 9%<sup>5</sup>. This analysis assumes that electricity stays at 2006 prices.
- **Renewable Energy Credits (RECs)** - Every kWh produced by a grid-connected PV system also represents environmental benefits, in the form of the power plant emissions that are not produced by solar electricity. By pooling and selling these RECs, owners of solar energy systems can realize an additional small financial benefit per year. Specific metering and participation requirements must be met<sup>6</sup>.
- **Increased property value** - The ability of a solar electric home to sell at a premium above its comparables has been tested in CA where a total of over 13,000 grid connected systems were expected to be installed by the end of 2005. A 2004 study<sup>7</sup> examined the value of homes both before and after the addition of solar electric systems. Among its findings:

*".. 'the increase in appraisal value for a home with an energy efficiency measure (in this case a solar electric system) is about twenty (20) times the annual reduction in operating costs due to that efficiency measure.'<sup>8</sup>"*

- **Hedge against future electricity rates** - A household that relies on free solar energy for a substantial portion of its hot water, heat and/or electricity has built in automatic protection against increases in each of these areas. Rate increases of 6.7% per year<sup>9</sup> have driven CA solar systems to paybacks of 7-15 years and internal rates of return between 10-20%.

Finally, none of these "returns" includes any societal benefits to health and the environment. Nor do we include any prospective financial returns that may one day be available to those taking voluntary action to reduce climate pollution.

**The bottom line:** Solar energy systems make sense today.