

Consumer Financing Mechanisms for Solar

Kim W. Havey

Program Coordinator

Made in Minnesota Solar Incentive Program

Department of Commerce

Division of Energy Resources

Kim.Havey@state.mn.us



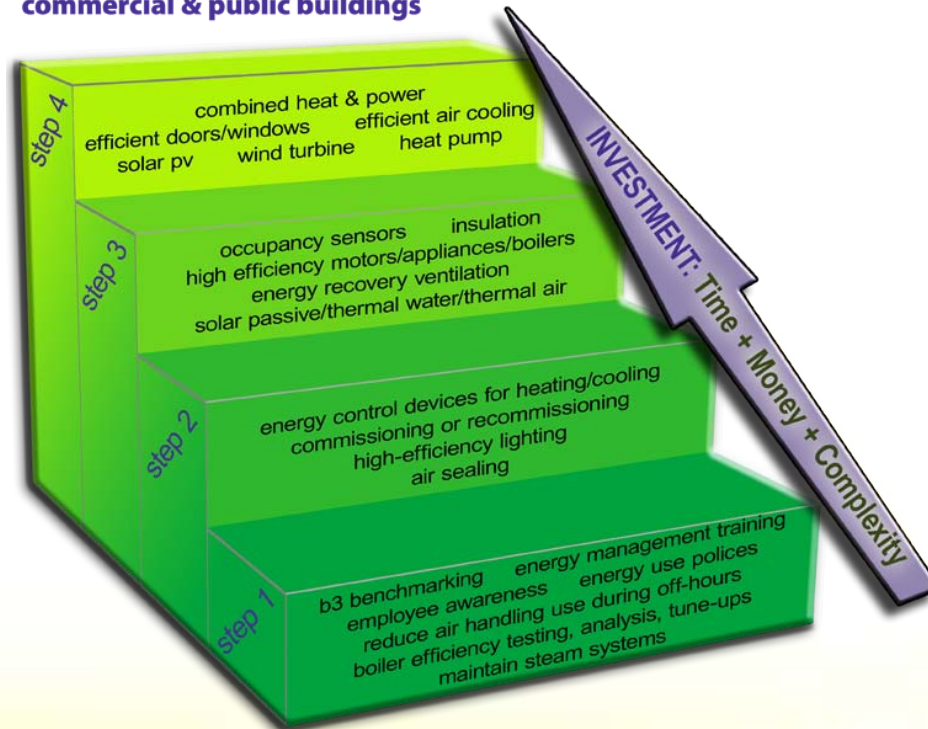
Agenda

- Start with Energy Efficiency
- 1.5% Solar Standard by 2020: Where we are today and where we will be in 2020
- Made in Minnesota Solar Incentive Program (MiM)
- Other Consumer Financing Programs



Energy Efficiency and Conservation is the First Step

The Steps to Energy Efficiency commercial & public buildings



Commercial Energy Efficiency Loan Program

- Must be existing commercial property in MN
- Fixed interest rate of 3.99%, 6 – 120 month term
- Includes Solar
- More info at www.mnlendingcenter.org

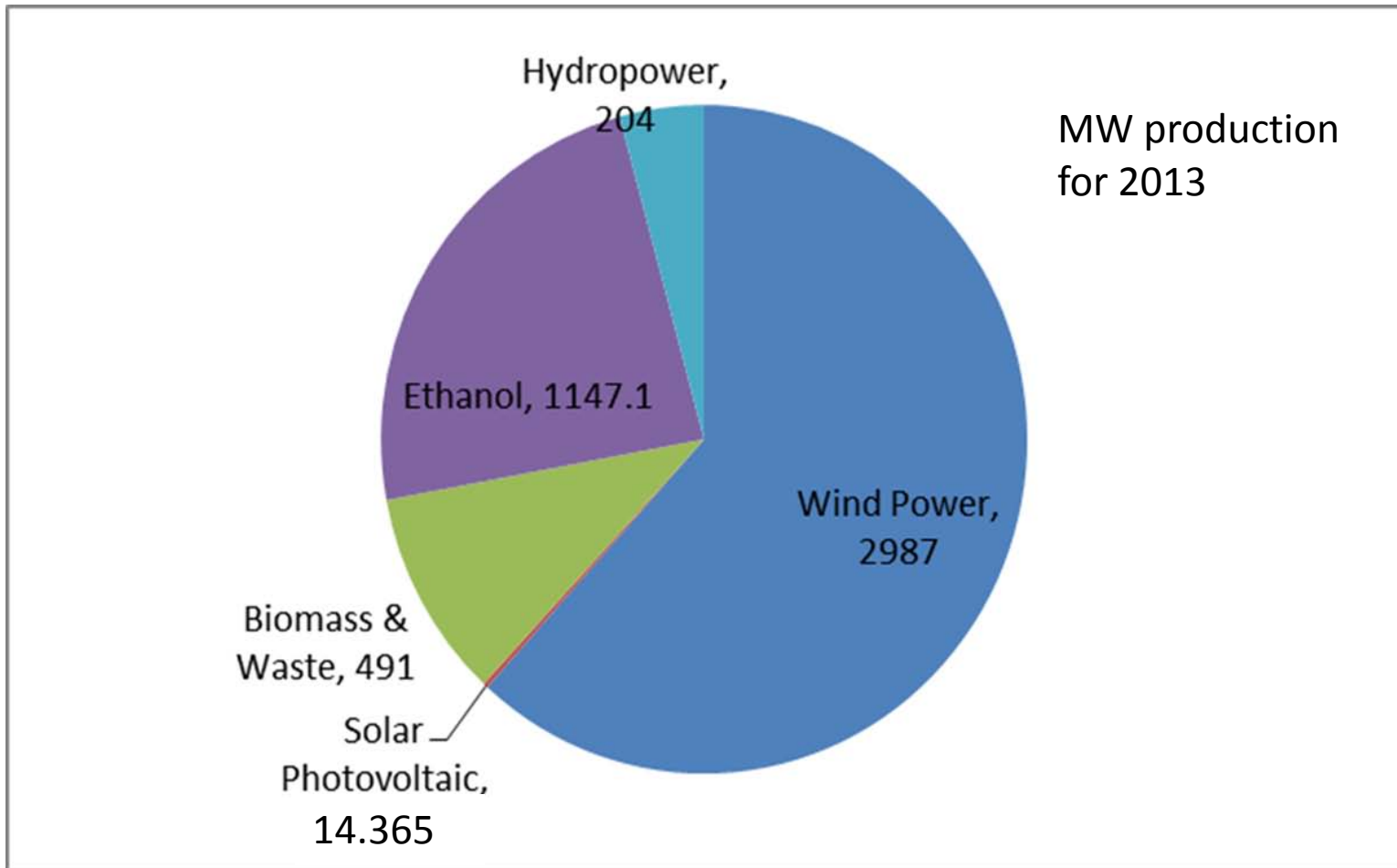


Energy Savings Fund for 501(c)(3) Nonprofits

- 0% fixed interest rate up to \$25,000 - 7 year loan
- Improvements must achieve a payback of 2 – 10 years - Includes Solar
- More info at www.mnlendingcenter.org



Renewables in MN

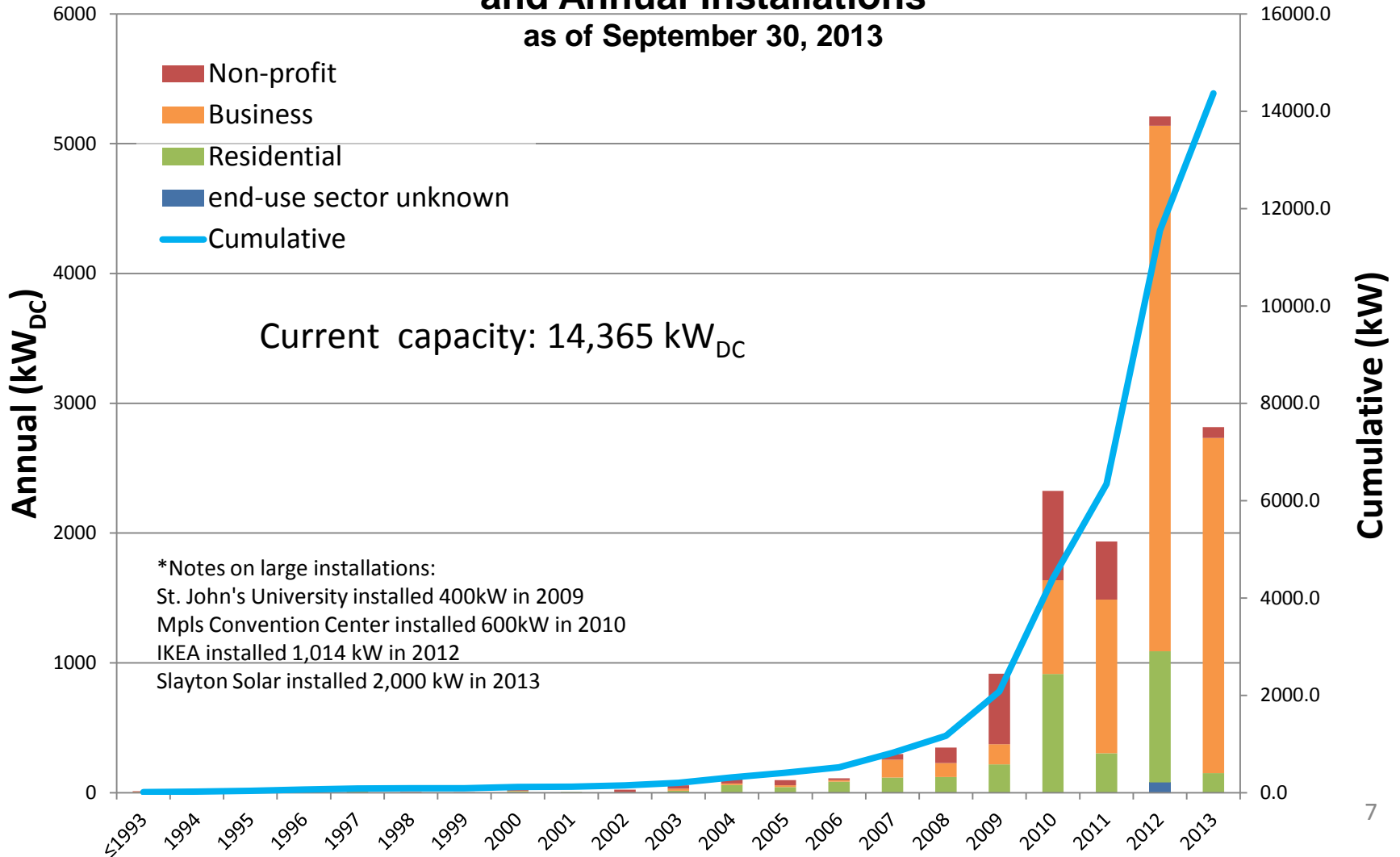


Made in Minnesota: PV

Minnesota's Solar Capacity

and Annual Installations

as of September 30, 2013



2020: MiM and Solar*Rewards Program Capacity Estimates

- Made in Minnesota 2,700 systems: 40 MW
- Solar*Rewards 1,600 systems: 24 MW
- 4,300 New Small PV Systems under 40 kW
- 1.5% Standard to achieve 400 MWs

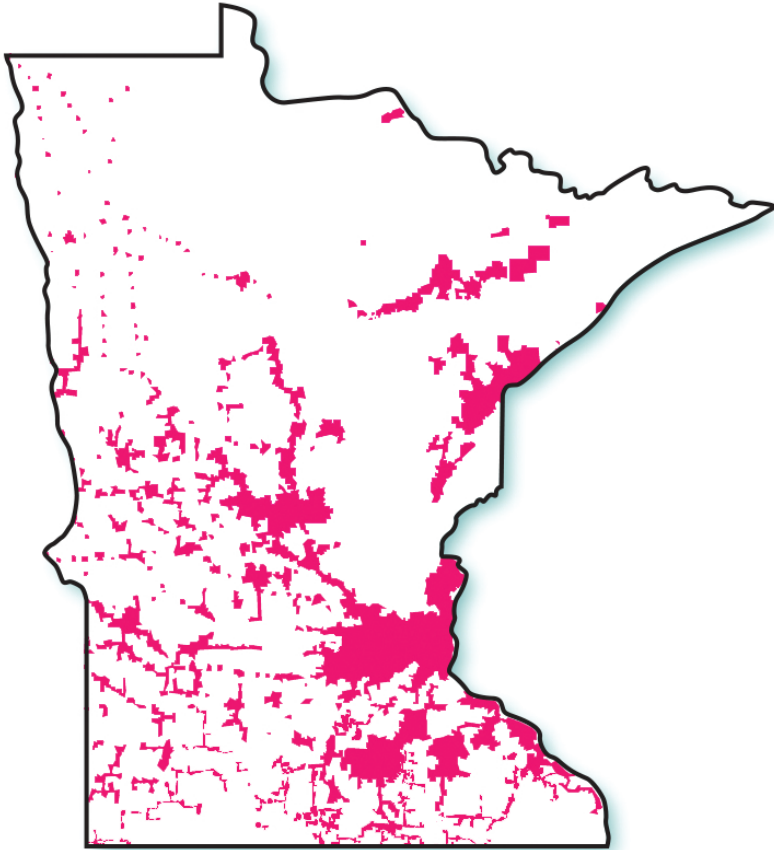


Made in Minnesota (MiM)

- \$15M awarded annually 2014 - 2023 (=\$150M)
- Electric: Production Based Incentives (PBI)
- Thermal: Rebate
- CIP and RDF Funding



Four Participating Utilities



Xcel Energy,
Minnesota Power,
Alliant Energy, &
Otter Tail Power



Made in Minnesota: PV

- Commercial systems up to 40 kW
- Residential Systems up to 10 kW
- 50% Commercial & 50% Residential mix
- Distribution proportional to funding by utility



Made in Minnesota: PV

- Applications accepted annually:
January 1 - February 28
- Lottery selection method
- Incentives paid annually
- 10 years of payments
- Projects must be installed in the calendar year



2014 PV Incentives per kWh

Solar Module	Commercial For Profit up to 40 kW DC	Non-Profit/Government Up to 40 kW DC	Residential up to 10 kW DC
tenKsolar TKS-CXXXXXX 180 TKS-EXXXXXX 180 TKS-DXXXXXX 190 TKS-FXXXXXX 190 XT-A 410	\$0.13 per kWh	\$0.20 per kWh	\$0.29 per kWh
Silicon Energy Minnesota SiE-150*, SiE-155*, SiE 160*, SiE 165, SiE 170, SiE 175, SiE 180, SiE 185, SiE 190, SiE 195, SiE 200, SiE 205*	\$0.18 per kWh	\$0.27 per kWh	\$0.39 per kWh



How to Calculate a PBI

$$\begin{aligned} &6,446 \text{ kWh} \\ &\times \underline{\$.39/\text{kWh}} \\ &\$2,519.94 \\ &\times \underline{10 \text{ years}} \\ &\$25,139.40 \end{aligned}$$



Solar Thermal Rebate Program

- \$250,000 annually
- 50% water heating; 50% air heating
- Application period to reopen on March 17th



2014 Approved Solar Thermal Collectors

Solar Collector	Commercial Properties	Multi-Family Residential	Single Family Residential
Energy Conservation Solarway 6000 Solar Skies Rural Renewable Energy Alliance	The lesser of 25% of the installed cost of a complete system or \$25,000	The lesser of 25% of the installed cost of a complete system or \$5,000	The lesser of 25% of the installed cost of a complete system or \$2,500



MiM 2014 Summary

- Applications for Commercial and Nonprofit PV: 332
- Applications for Residential PV: 287
- Total PV applications PV: 619

- Total Thermal Applications: 14

- Total Funding requested \$30 million+

- Total Installed PV capacity of 13+ MWs



Xcel Energy Solar*Rewards

- \$5 million Annual Production Based Incentive (PBI)
- 20 kW system size maximum
- 2014 rate of \$.08/kWh for 10 years
- Solar system size is limited to 120% of the customer's on-site annual energy consumption
- More information: xcelenergy.com



MN Power Solar Sense

- Rebate program based on installed capacity
- Up to \$2,000 per kW installed
- Program is based on a first come, first served basis
- More information: solarprogram@mnpower.com



Residential Loans for Solar

- Fixed rate 10 year term
- Maximum loan amount of \$20,000
- Maximum size of 8 kW
- More information: www.mnlendingcenter.org



Other Financing for Solar

- Property Assessed Clean Energy (PACE)
- Trillion BTU
- Guaranteed Energy Savings Program
- Utility Incentives
- Federal tax incentives



Incentives: Residential and Commercial



The screenshot shows the DSIRE website interface. At the top, there is a red banner with the DSIRE logo and the text "U.S. DEPARTMENT OF ENERGY" and "IRE". Below the banner is a navigation menu with links for Home, Glossary, Links, FAQs, Contact, and About. The main content area features a "DSIRE SOLAR" logo with the text "solar policy information" and a play button icon. To the right, there is a map of Minnesota and the heading "MINNESOTA RESIDENTIAL INCENTIVES Incentives/Policies for Renewable Energy". Below this heading is a link "See All Summaries". A "Resources" sidebar on the left lists: RPS Data, Summary Maps, Summary Tables, Library, What's New?, and Search. The main content area is titled "Financial Incentives" and lists several programs:

- Local Loan Program**
 - [City of Duluth - Residential Energy Efficiency Loan Program](#)
- Local Rebate Program**
 - [City of Duluth - Residential Energy Efficiency Rebate Program](#)
- PACE Financing**
 - [Local Option - Energy Improvement Financing Programs](#)
- Performance-Based Incentive**
 - [Made in Minnesota Solar Energy Production Incentive](#)
 - [Renewable Energy Production Incentive](#)
 - [Value of Solar Tariff](#)
 - [Xcel Energy - Solar Production Incentive](#)



Thank You...

Kim W. Havey
Kim.Havey@State.mn.us

Minnesota Department of Commerce

Division of Energy Resources

energy.mn.gov
mn.gov/made-in-minnesota

