A 2013 Minnesota Clean Energy Success Story: A Template for Wisconsin?

WIDRC Presentation
April 11, 2014

Lynn Hinkle,
Minnesota Solar Energy Industries Association
Solar Works For Minnesota

In May 2013 MN passed a clean energy bill:

- 10% by 2030 solar goal, 1.5% by 2020 solar standard for IOUs, w/ carve out for <20kW projects
- Community Solar Gardens projects
- Value of Solar Tariff (MN first in nation!)
- Improves PACE, adds new solar incentives and Made in Minnesota
- Commissions 40% by 2030 study
- Increases utility energy saving goal to at least 1.5% annual sales, requires prioritizing energy savings over all other power
How did we get here?

Building for a Big Vision

- No fossil fuels resources in Minnesota, burgeoning solar industry, overwhelming public support for solar
- Build a big, powerful, united coalition
- Solar Works for Minnesota – a coalition formed three years ago
- Public education and outreach, educate policymakers
- Strategy: governor Dayton as a champion
Solar Works For Minnesota

Preliminary Minnesota Value of Solar Calculation

$0.16
$ per kilowatt-hour

$0.12

$0.08

$0.04

$0.00

Value of Solar

Avoided Environmental Cost
Avoided Distribution Capacity
Avoided Trans Capacity Cost
Avoided Reserve Capacity Cost
Avoided Gen Capacity Cost
Avoided Plant O&M - Variable
Avoided Plant O&M - Fixed
Avoided Fuel Cost

Source: Xcel Energy filing to MN PUC on Docket No. E999/M-14-65, 2/13/14
Calculating The Value of Solar

- The solar market price includes eight separate factors, but four account for the lion’s share of the value: 25 yrs of avoided natural gas purchases, as well as avoided new peaker power plant purchases, transmission capacity, and environmental costs.

- The preliminary market value of solar estimate by Xcel Energy (14.5¢ per kWh) for Minnesota comes fairly close to the levelized cost of solar projects in Minnesota using the federal 30% Investment Tax Credit (ITC). Residential projects installed at $4/Watt will cost 17.2¢ per kWh over 25 years (and be eligible for state incentives). Commercial projects installed at $3/Watt will cost 12.9¢ per kWh over 25 years.

Source: John Farrell, March 17, 2014 Renewable Energy World blog post
Solar Works For Minnesota

- Why Solar works better than other resources in Minnesota because we have:
  - No Oil
  - No Coal
  - No Natural Gas
  - No Uranium
  - And No Large-Hydropower
Minnesota’s Story!

- Minnesotans export at least $20 billion ($3800 per Minnesotan) per year to other states and countries to pay for energy, according to 2008 U.S. DOE, Energy Information Administration data. Keeping more energy dollars cycling in the state will have a significant positive impact on our economy.
Solar Works For Minnesota

Three most important aspects of any campaign!

- Public Support
- Building a Strong Coalition
- Developing a Campaign with Compelling Talking Points
Public Support for Solar

- 92% of Americans think it is important for the nation to develop and use solar energy.
- 77% of Americans believe the Federal government should make solar power development a national priority, including the financial support needed.
- Almost half (49%) of all Americans are currently pondering solar power options for their home or business.
- 43% of Americans favor solar as their top energy source, far behind the public’s second choice, wind.(17%)

Kelton Research, October 08, 2009
Reasons why solar is so popular!

- Costs are declining.
- Greater concern about energy security.
- Greater concern about environmental impacts of fossil fuels.
- Better understanding of the benefits of distributed generation.
- Better understanding local economic benefits.
- Society now understands systems-technology can change quickly, such change is embraced and desired.
- Solar Industry is better organized and more sophisticated in its strategies.
Solar Works For Minnesota

Minnesota’s Polling Numbers

- 2/3 of voters a candidate who wants to promote more use of clean, renewable energy – like wind and solar power;

- A strong majority of voters back 10% solar requirement, across party lines: 88% of Democrats, 66% of Independents and 57% of Republicans;

- Four out of five voters support legislation to encourage solar use on public buildings with 94% of Democrats, 79% of Independents and 68% of Republicans;

- Voters are willing to pay more for solar and efficiency (if needed) with 56% supporting paying as much as $6
Solar Works For Minnesota

**Minnesota’s Polling Numbers**

- Solar Energy has strong support across party lines;
- Both men and women support solar overwhelmingly: 90% women and 83% men;
- In MN 87% of those polled supported solar energy;
- In MN 86% support solar on roof tops of homes, businesses or public buildings;
- 2/3 of Voters believe that increasing the use of efficiency, wind and solar will create jobs;
Solar Works For Minnesota

Putting the Sun to Work for Minnesota Short Film Contest

See the Winners
Solar Works for Minnesota is a coalition that includes more than 150 non-profits, businesses and unions with Legislative victories in 2010, 2011 and 2012 help position us for 2013 and 2015.

The campaign was endorsed by the MN Solar Energy Industries Association, the Minnesota Environmental Partnership, The Blue Green Alliance of Minne and others, including the MN-AFL

Minnesota Clean Energy & Jobs Campaign, launched early 2013
Solar Works For Minnesota

www.solarmn.org
Geronimo: Five Reasons Solar Wins over Natural Gas in Minnesota

**Least Cost** - In 2014, the cost of electricity from solar (for meeting peak needs) wins in Minnesota.

**Fuel Price Predictability** - The fuel price of solar is set and not volatile.

**Grid Reliability** - The winning solar proposal in Minnesota will place 100 MW of solar in 2-10 MW discrete projects at existing utility substations, able to provide power and grid support where it’s needed.

**Less Infrastructure** - Avoiding expensive, new electrical infrastructure upgrades helps give the nod to the Geronimo distributed solar project.

**Job Growth** - A 100 MW solar project, if installed in 2015, would create an estimated 2,331 jobs and $260 million in economic activity, (NREL JEDI Model).

Source: John Farrell, March 3, 2014 Grist blog post
Solar Works For Minnesota

Solar - Minnesota’s Jobs Engine

- Family Supporting Jobs Now
- Jobs Grow Across the State
- Energy Independence Adds Jobs
- SES Makes Minnesota an Investment Target
- New Reliable Grid and More Solar Jobs
Solar Works For Minnesota

Good Paying Jobs All Over Minnesota –
Jobs that support families:

- Installing solar projects;
- Designing and engineering solar products;
- Manufacturing materials, equipment, and components;
- Training solar professionals; and
- Developing and financing projects
Solar Works For Minnesota

Lots of Jobs

- At least 3,000 family wage jobs (most manufacturing) thru 2020 with 58 MW of Solar each year (DOE’s National Renewable Energy Lab’s Jobs and Economic Development Impacts (JEDI) calculator).

- 14.1 jobs per $1M invested is created by solar compared to 5.3 jobs for fossil fuel energy development (Political Economy Research Institute - PERI at the University of Massachusetts)

- Inclusion: The solar industry creates job across all skill and educational levels, with significant opportunity for workers with lower skill and education credentials. (PERI)
SES Makes Minnesota target for Investment

- Minnesota presently has more than 100 companies producing Solar products and services and a 1.5% SES moves Minnesota from “not considered” to a state targeted for significant investment.

- Information from the MN DEED/MnSEIA/DER Dec. 2010 Solar Manufacturing Supply Chain Roundtable.
Solar Works For Minnesota

Minnesota Solar Manufacturing Supply Chain Jobs

33 MN Manufacturing Companies
2,000 Direct Jobs

4,000 Manufacturing Supplier Jobs

6,000 MN Solar Mfg Jobs
Solar Works For Minnesota

100,237 Americans work in solar today

Solar employment grew 6.8% while the general economy grew 0.7%
Solar Works For Minnesota

Minnesota’s Environmental Community

- Environment Minnesota, Sierra Club, Fresh Energy and others
- Selected by MN Environmental Partnership as a priority issue in 2011 and 2012
- Membership audience of nearly 500,000 Minnesotans
- Long legacy of successful environmental and clean energy policies
Solar Works for Minnesota

Governor Dayton…Clean Energy Champion

“We owe it to ourselves, we owe it to our children, and we owe it to our grandchildren to look for ecologically sustainable, environmentally renewable sources of energy, and if we put our ingenuity together, we’ll find it.”
- Governor Mark Dayton
What’s next for 2014?

2014 Legislative Action – Another Omnibus Energy Bill

Prospects for Wisconsin?
Solar Works for Minnesota

Lynn Hinkle
Policy Director  MnSEIA
hinkle@mnseia.org
612-310-4742