

Meeting Minutes: Board of Electricity

Date: January 9, 2018
Time: 9:00 a.m.
Location: Minnesota Room, Department of Labor and Industry
443 Lafayette Road North, St. Paul, MN 55155

Members Present:

David Curtis
Cole Funseth
Derrick Givens
Duane Hendricks – Secretary
Peter Lindahl
Scott Novotny – Vice Chair
Joe Vespa (via teleconference)
Daniel Westberg – Chair
John Williamson
Weston Wilson (via teleconference)

Members Absent:

Alfreda Daniels
Laura Karow

DLI Staff & Visitors:

Jeff Lebowski (DLI)
Suzanne Todnem (DLI)
John Williamson (DLI)
Dean Hunter (DLI)
Charlie Durenberger (DLI)
Todd Green (DLI)
Steve Dudley (DLI)
Marty Kumm (DLI)
Michelle Dreier (MEA)
Gary Thaden (NECA)
Sophie Thaden (NECA)
Ray Zeran (IBEW)
Andy Snope (IBEW)
David Fisch (MNESTA)
Stacy Miller (Dept. of Commerce)

1. **Call to Order**

The meeting was called to order at 9:06 a.m. by Chair Westberg. Roll call was taken by Secretary Hendricks and a quorum was declared with 10 of 12 voting members present or via teleconference.

2. **Approval of Meeting Agenda**

A motion was made by Curtis, seconded by Lindahl, to approve the agenda as presented. The roll call vote was unanimous with 10 votes in favor of the motion; the motion carried.

3. **Approval of Previous Meeting Minutes**

A motion was made by Hendricks, seconded by Givens, to approve the October 24, 2017, meeting minutes. The roll call vote was unanimous with 10 votes in favor of the motion; the motion carried.

4. **Regular Business**

- a. **Expense Approval** – reviewed and approved the per diem and expenses. A motion was made by Novotny, seconded by Givens, to approve per diem and expenses. The roll vote was unanimous with 10 votes in favor of the motion; the motion carried.
- b. **Enforcement & licensing update**
Durenberger, Director of Enforcement, Construction Codes and Licensing Division, said all of the electrical contractor licenses expire by the end of February 2018.
- c. **Inspections update**
Williamson gave a presentation titled “Inspecting Commercial Solar Installations” – see **Attachment A.**

5. Special Business

Nothing to report

6. Committee Reports

Construction Codes Advisory Council

Novotny gave an update – the last meeting was held November 30, 2017, and the Council established TAG groups for reviewing existing rule chapters or new model codes. He also referred to the Division Report available online at: https://www.dli.mn.gov/ccld_Slider1.asp

7. Complaints

No complaints brought forth

8. Open Forum

None brought forward

9. Board Discussion

Nothing brought forward

10. Announcements

Next regularly scheduled meetings – 9:00 a.m. Minnesota Room, DLI

- a. April 10, 2018
- b. July 10, 2018 (annual meeting)
- c. October 9, 2018

11. Adjournment

A motion was made by Lindahl, seconded by Givens, to adjourn at 9:25 a.m. The roll call vote was unanimous with 10 votes in favor of the motion; the motion carried.

Respectfully Submitted,

Duane Hendricks

Duane Hendricks
Secretary



Inspecting Commercial Solar Installations Annual Institute for Building Officials - January 2017

John Williamson - Chief Electrical Inspector
Marty Kumm - Senior Electrical Representative



www.dli.mn.gov

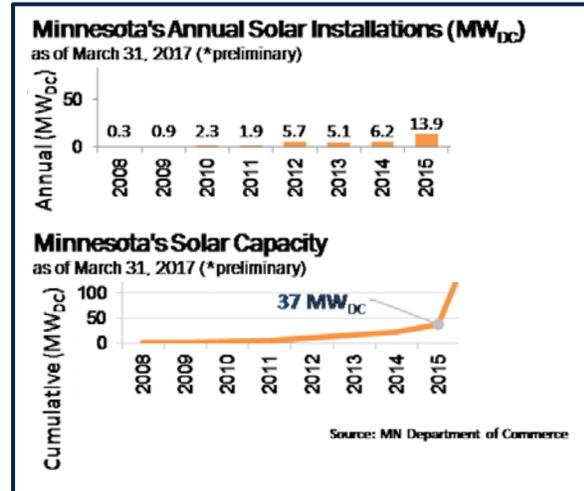


Where are we now?

Where are we now?

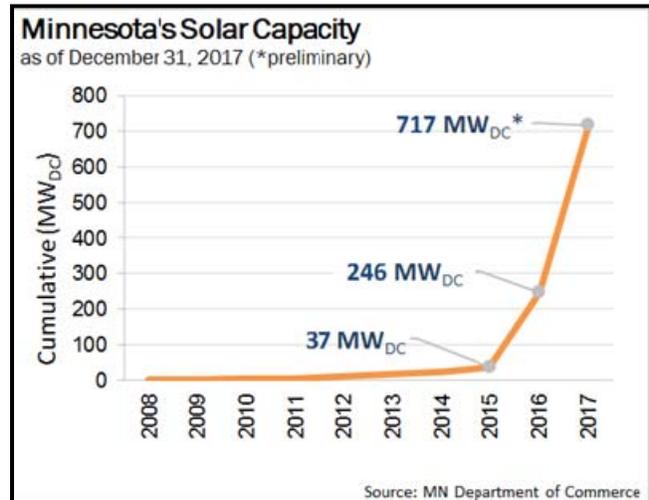
At the end of 2015...

- Minnesota had less than 40 MW DC
- Minnesota was in the bottom half of solar markets in the United States
- According to the Minnesota Department of Commerce...
- ...all of that has changed since then...



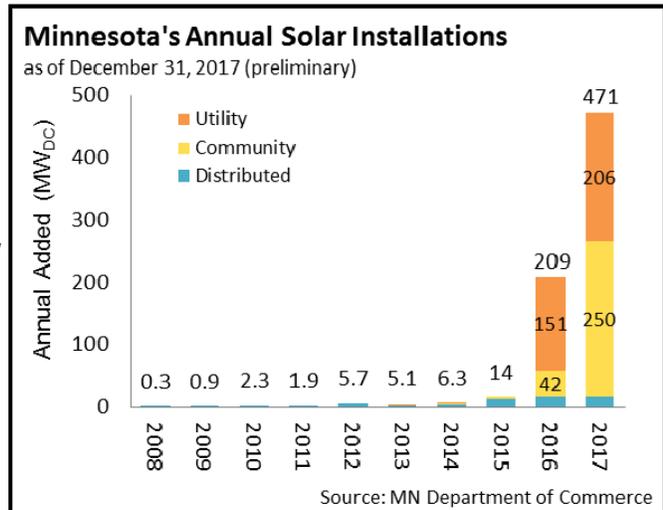
Where are we now?

- In 2016 Minnesota added 207 MW DC
- In the 1st quarter of 2017 another 203 MW DC was installed
- By the end of 2017 Minnesota had a cumulative solar capacity of 717 MW DC
- Minnesota was no longer in the bottom half of the US solar market



Where are we now?

- Approximately 470 MW installed in calendar year 2017
- A cumulative total of 717 MW in Minnesota at the end of 2017
- The Department of Commerce saw growth in all sectors in residential, commercial and utility-scale
- Community Solar Gardens (CSG) have played major role



So what's in a Megawatt (MW)?

- 1 megawatt is 1,000,000 watts
 - Coffee maker = 1,000 watts
 - LED lightbulb = 10 watts
 - Smartphone charger = 5 watts
- 9.5 million homes could be powered by 47,000 MW of cumulative U.S. capacity
- National average: 1MW can power 164 homes
- Minnesota average: 1MW can power 140 homes
 - Sunshine, wind, temperature, household consumption and other variables are factors in the calculation



Source: SEIA <https://www.seia.org/initiatives/whats-megawatt>

What are some other reasons for the growth?

- In 2007, Minnesota legislation established a mandatory renewable portfolio standard (RPS)
- At least 25% of retail electricity sales must be generated or procured using eligible renewable sources by 2025



What are some other reasons for the growth?

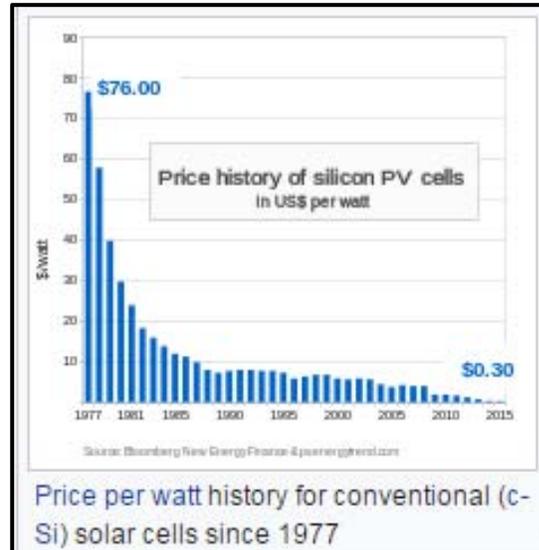
- In 2013, Minnesota legislation created an additional requirement that all public utilities have 1.5% of retail electricity sales be generated or procured using solar energy by 2020
- The legislation also established a statewide goal of 10% of retail electric sales from solar by 2030



What are some other reasons for the growth?

The cost of solar modules have dropped significantly!

- In 1977 the cost was approximately \$76 per watt
- In 2000 the cost was approximately \$9 per watt
- Today the cost is less than 50 cents a watt!



What are some other reasons for the growth?

- Just within the last few years the cost of solar installations has significantly dropped
- Twelve years ago solar installations were about \$10 per watt
- Today it's approximately \$3 watt depending on size and location
- Today's utility-scale systems are less than \$2 per watt due to economy of scale and massive projects



What are some other reasons for the growth?

In an effort to reduce carbon emissions...

- Xcel plans to shutdown 2 of the 3 coal-fired units at its Sherburne Co. plant by 2026
- By shutting down these 2 coal-fired units Xcel will retire 1500 MW of capacity
- They have plans to install 1800 MW of wind
- They have plans for 1400 MW of solar
- The nuclear plants at Monticello and Prairie Island will shut down in the 2030's



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BY ADAM UREN

Adam is a GOMN senior producer and editor of the Tip Jar column. He's British, but don't hold that against him.

<https://www.gomn.com/news/heres-what-xcel-energys-plan-for-mn-power-plants-means-for-you>

What does the future of solar PV look like?

Minnesota

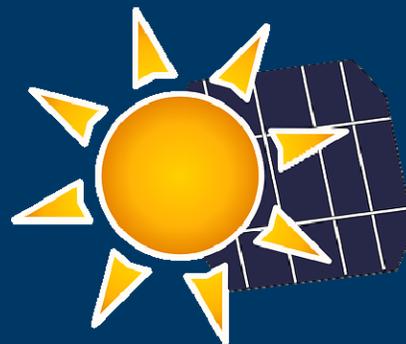
- 2018
 - Residential (trending flat)
 - Non-Residential (trending up) (CSG's)
 - Utility-Scale (trending flat)
- 2019
 - Residential (trending up)
 - Non-Residential (trending up)
 - Utility-Scale (trending up)
- 2020
 - Residential (trending up)
 - Non-Residential (trending up)
 - Utility-Scale (trending up)

By 2022, 25 states will each have more than 1 GW of solar PV operating capacity

United States

- 2018
 - Residential (trending flat)
 - Non-Residential (trending down)
 - Utility-Scale (trending flat)
- 2019
 - Residential (trending up)
 - Non-Residential (trending up)
 - Utility-Scale (trending up)
- 2020
 - Residential (trending up)
 - Non-Residential (trending up)
 - Utility-Scale (trending up)

U.S. Solar Market Insight, gtmresearch SEIA Q4 2017



Go Solar!