

Welcome to the webinar!

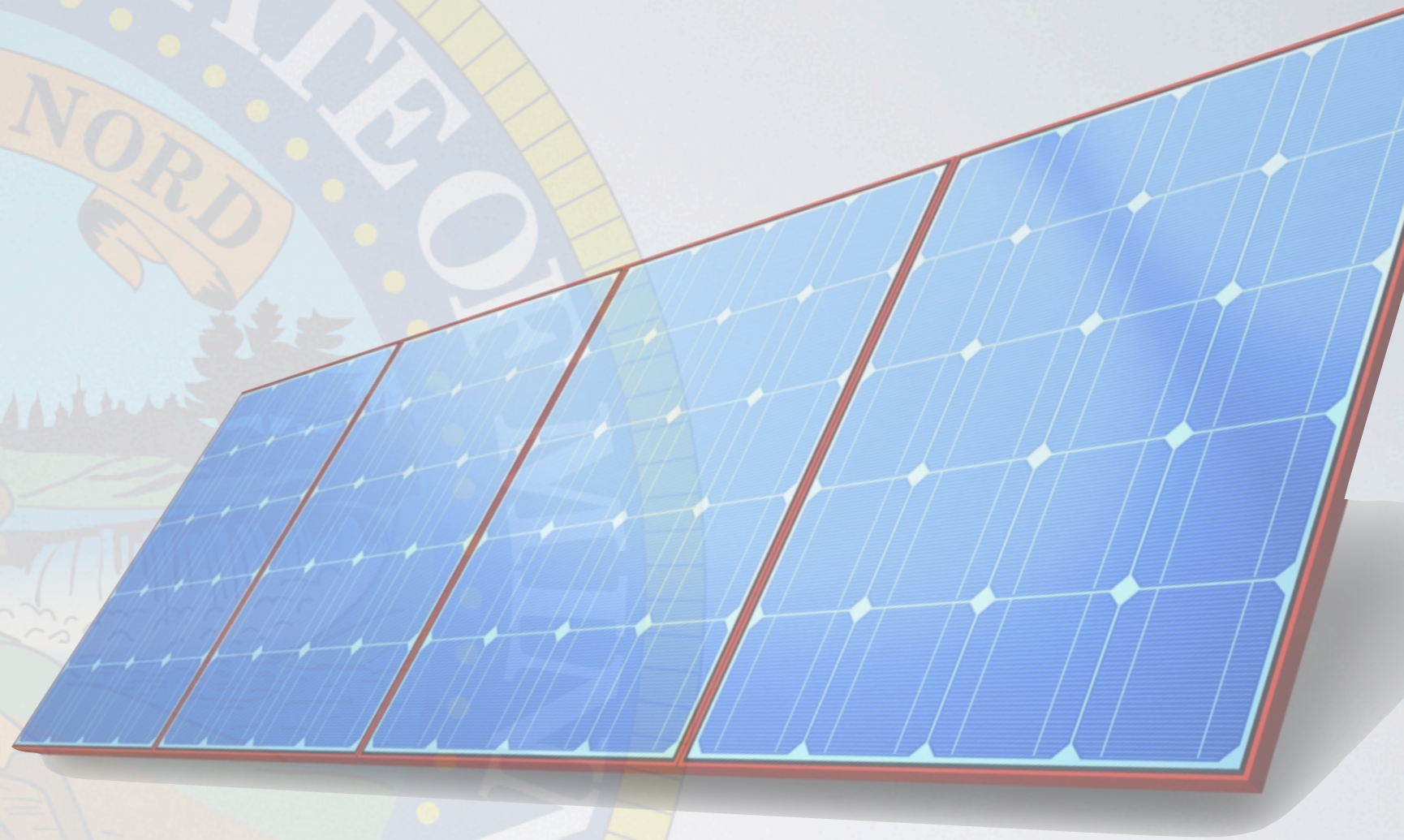


Lessons from Minnesota: A Solar Success

GLAD TO HAVE YOU...WE'LL GET STARTED
IN A FEW MINUTES



Lessons from Minnesota: A Solar Success



TURNING MOMENTUM INTO A SOLAR VICTORY:

Strategy, policy, and the 2013 Success

LAY OF THE LAND

- Department of Commerce DG process
- DFL legislature
- Past Solar Rewards rebate
- Ongoing solar campaign



Net metering

CLEAN Program

< 2 MW

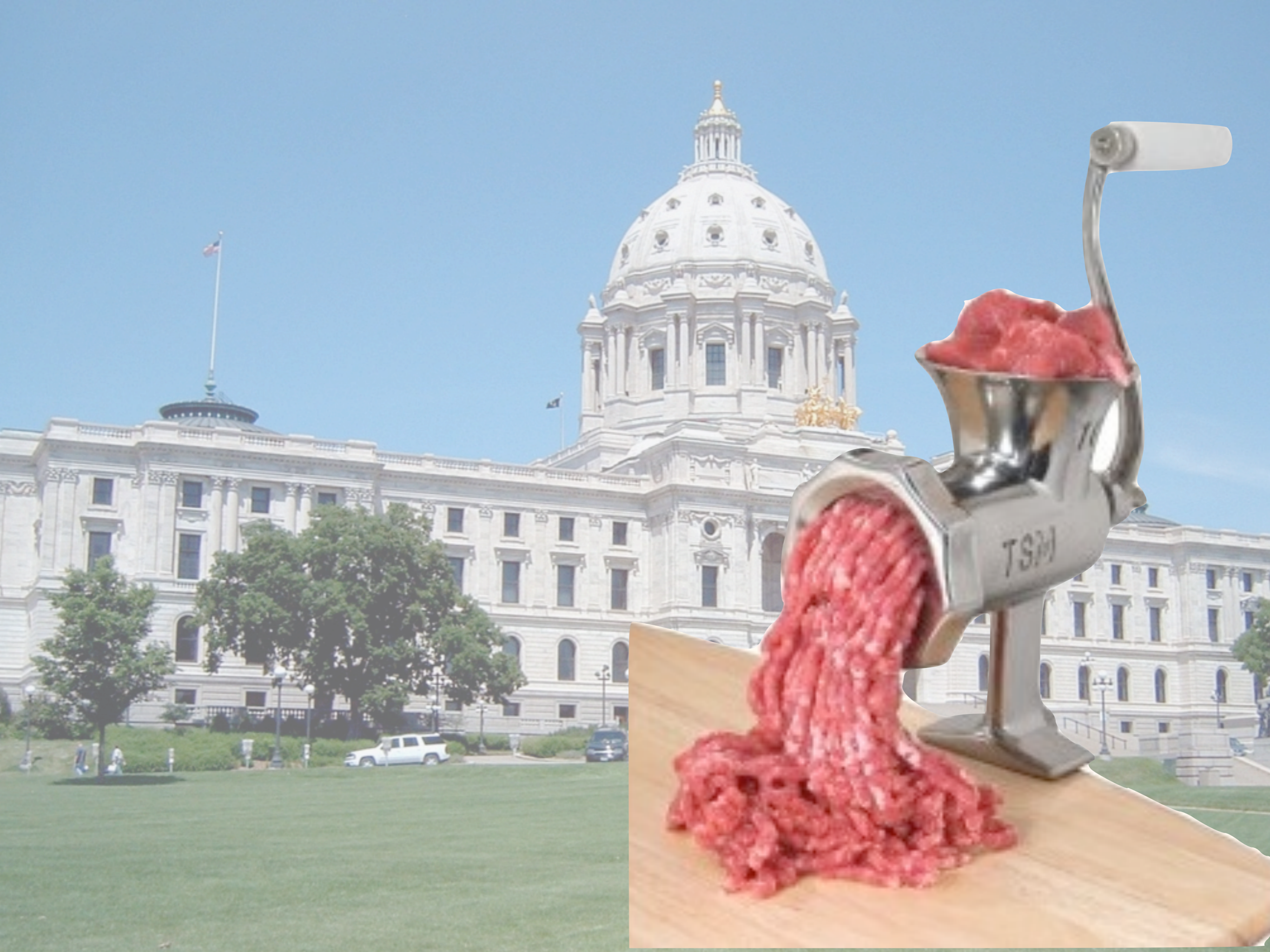
2100 MW

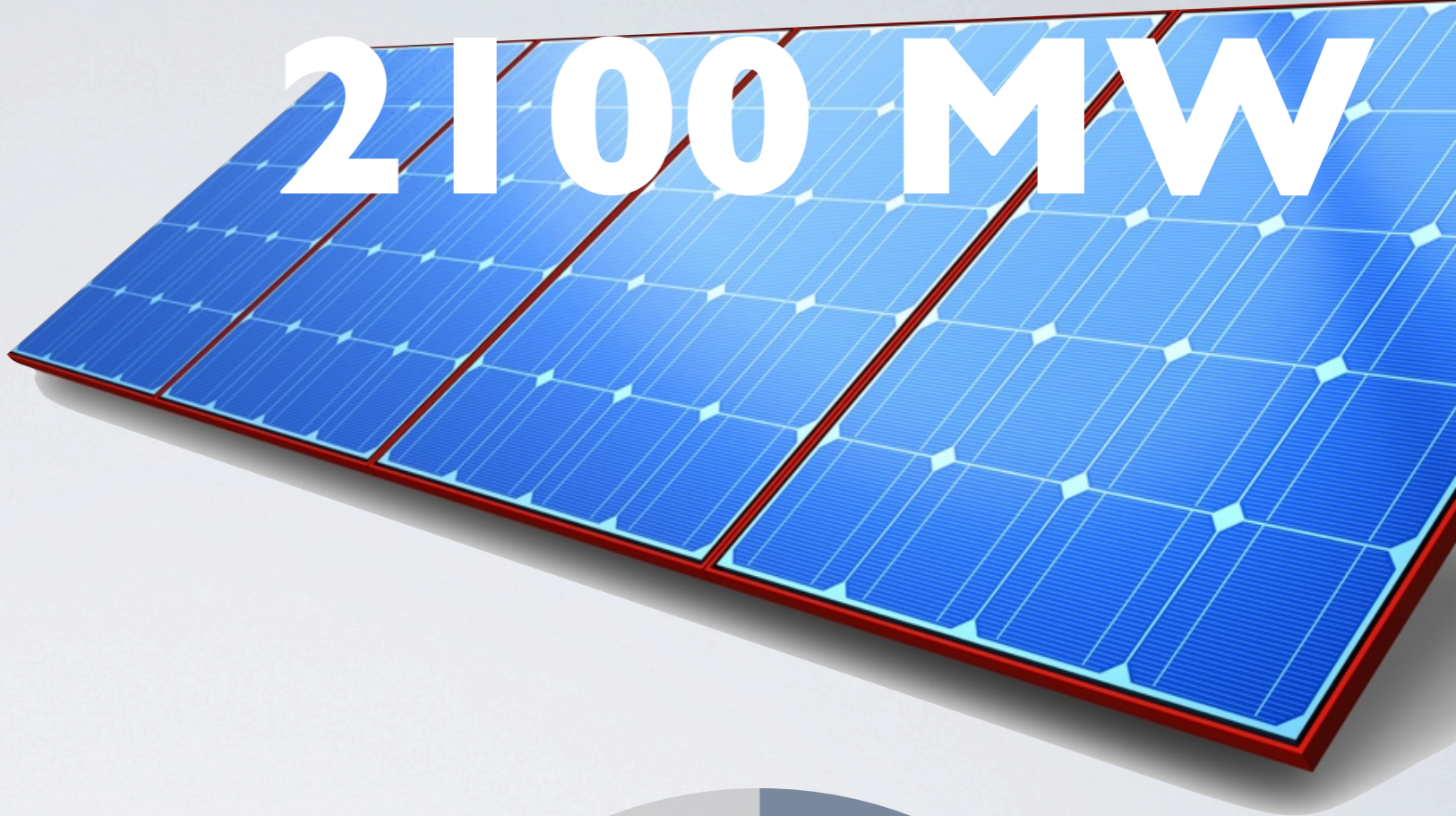
**10% Solar
by 2030**

Community solar

On-bill incentive fee

Value of Solar + PBI

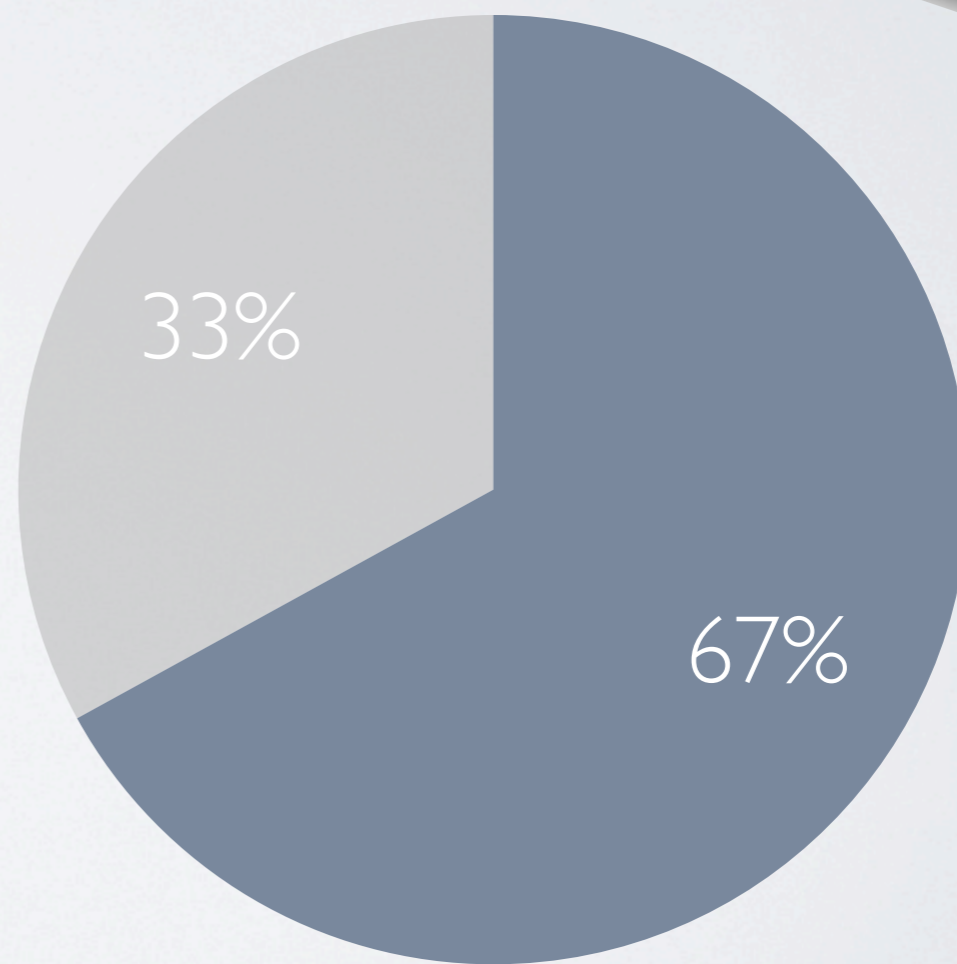




- **10% by 2020**

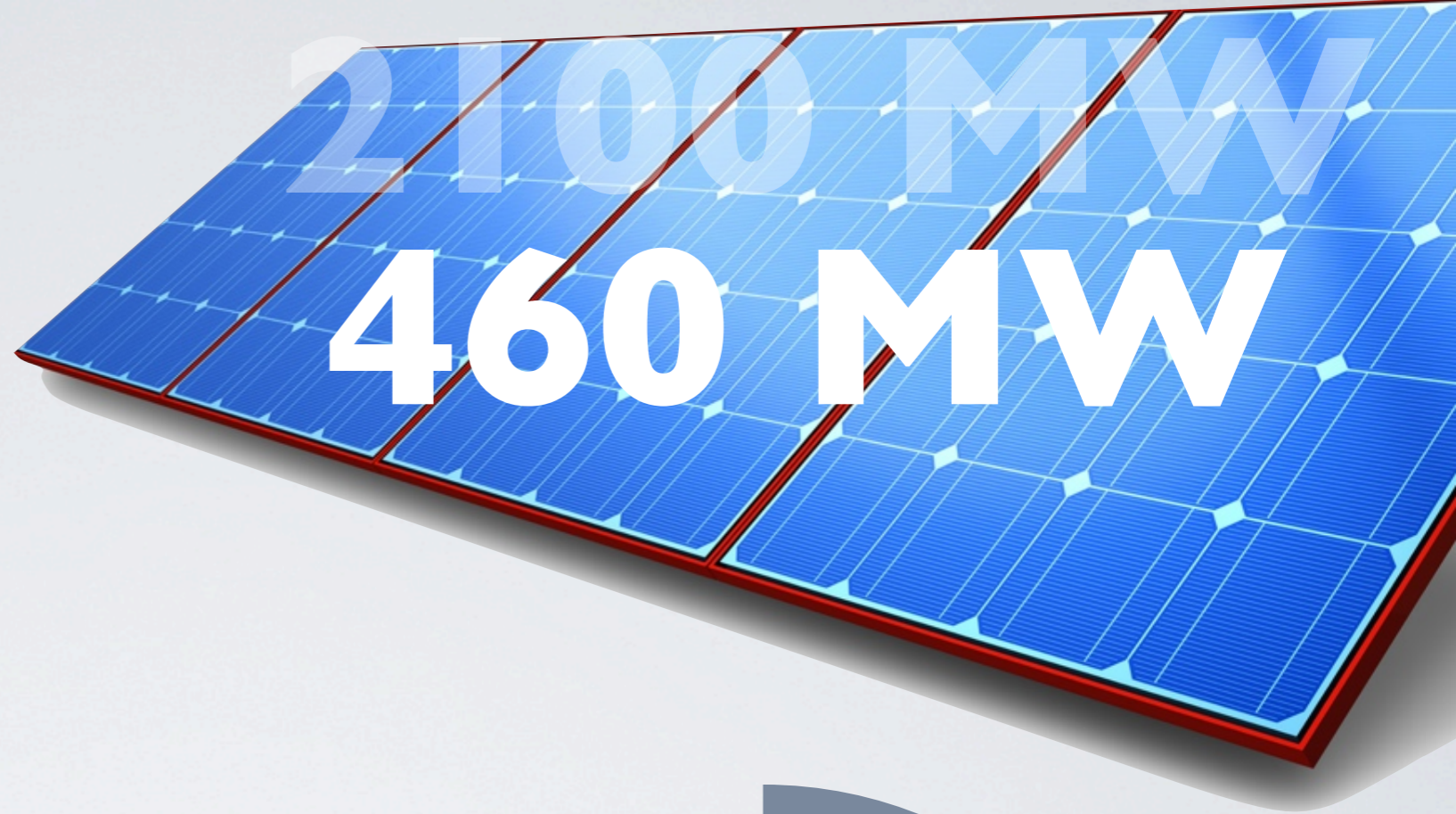
- Mostly DG

- All utilities

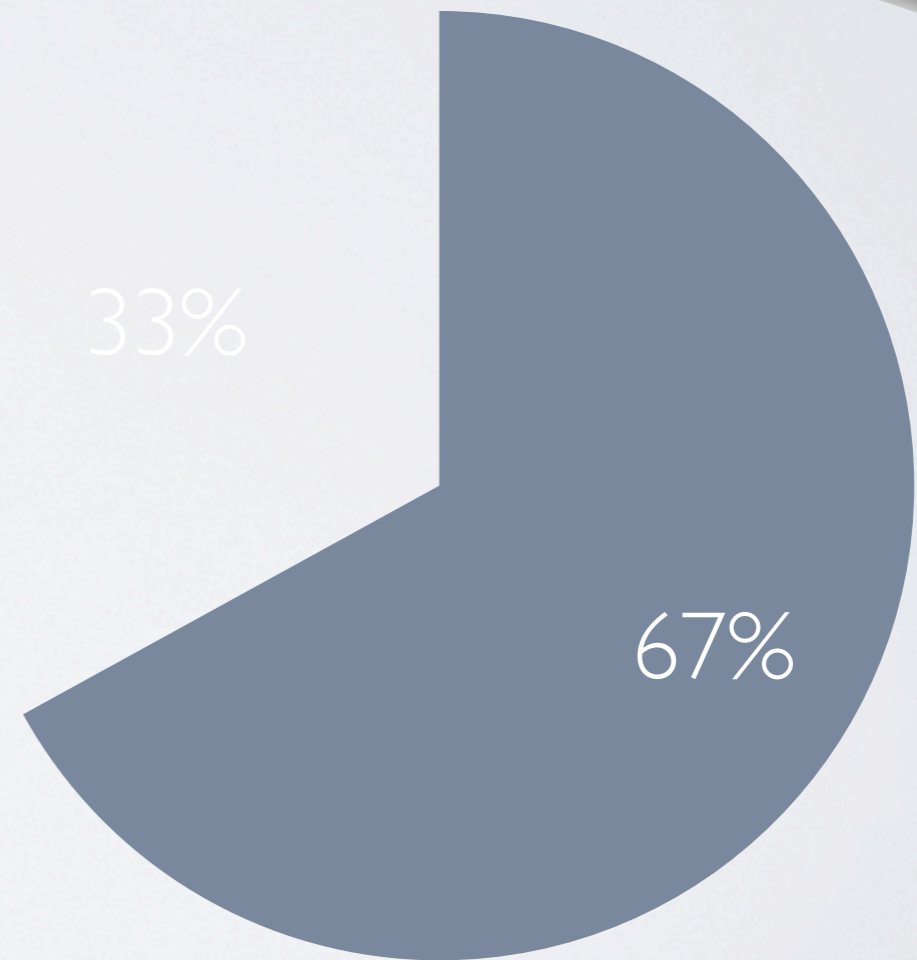


● IOUs

● Munis & Co-ops



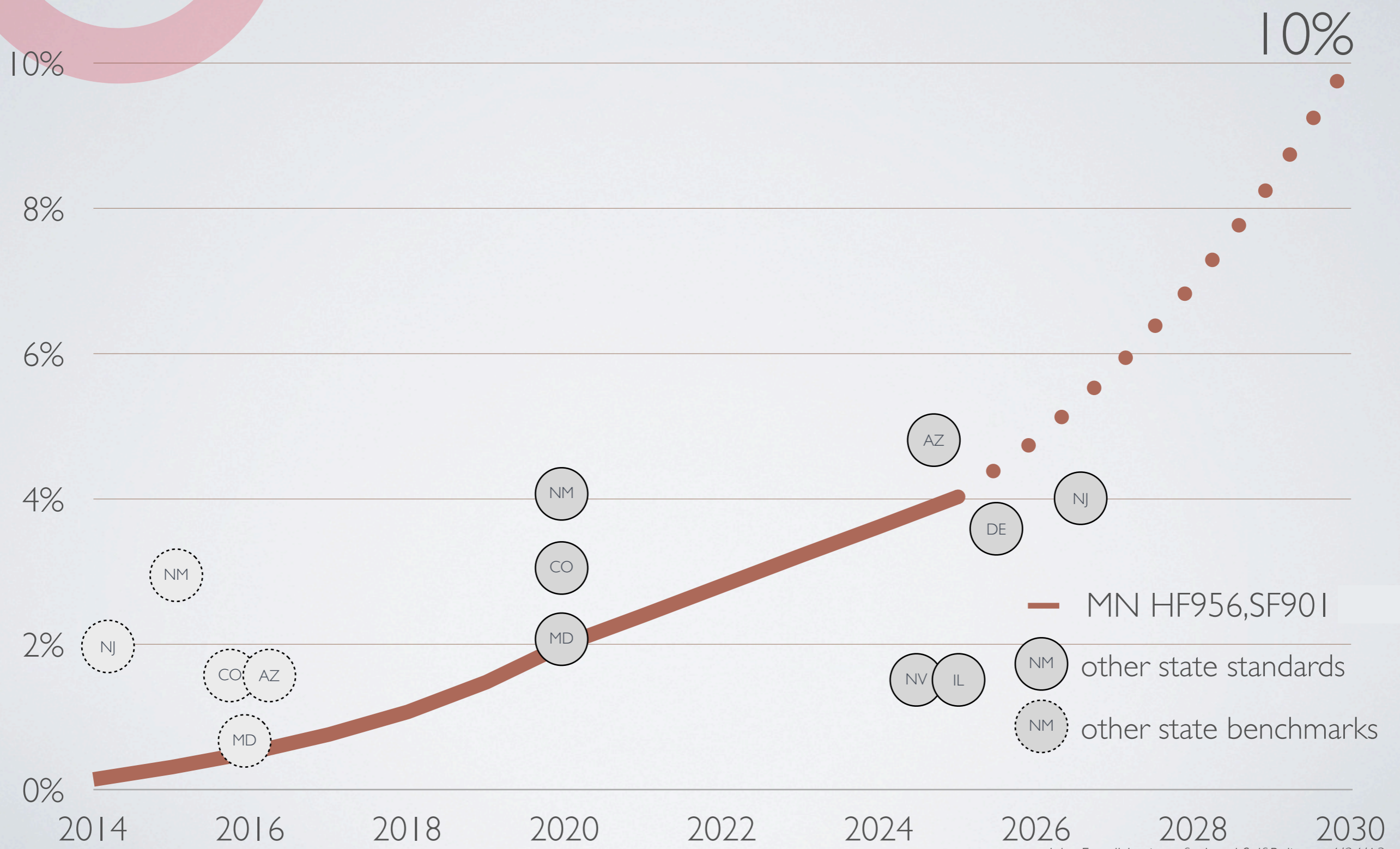
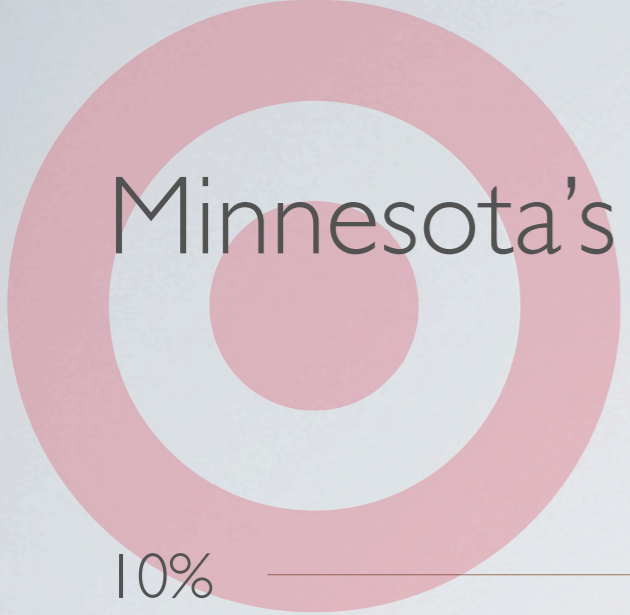
- 10% by 2020
- **1.5% by 2020**
- Mostly DG
 - 10% from < 20 kW
- All utilities
 - IOUs only



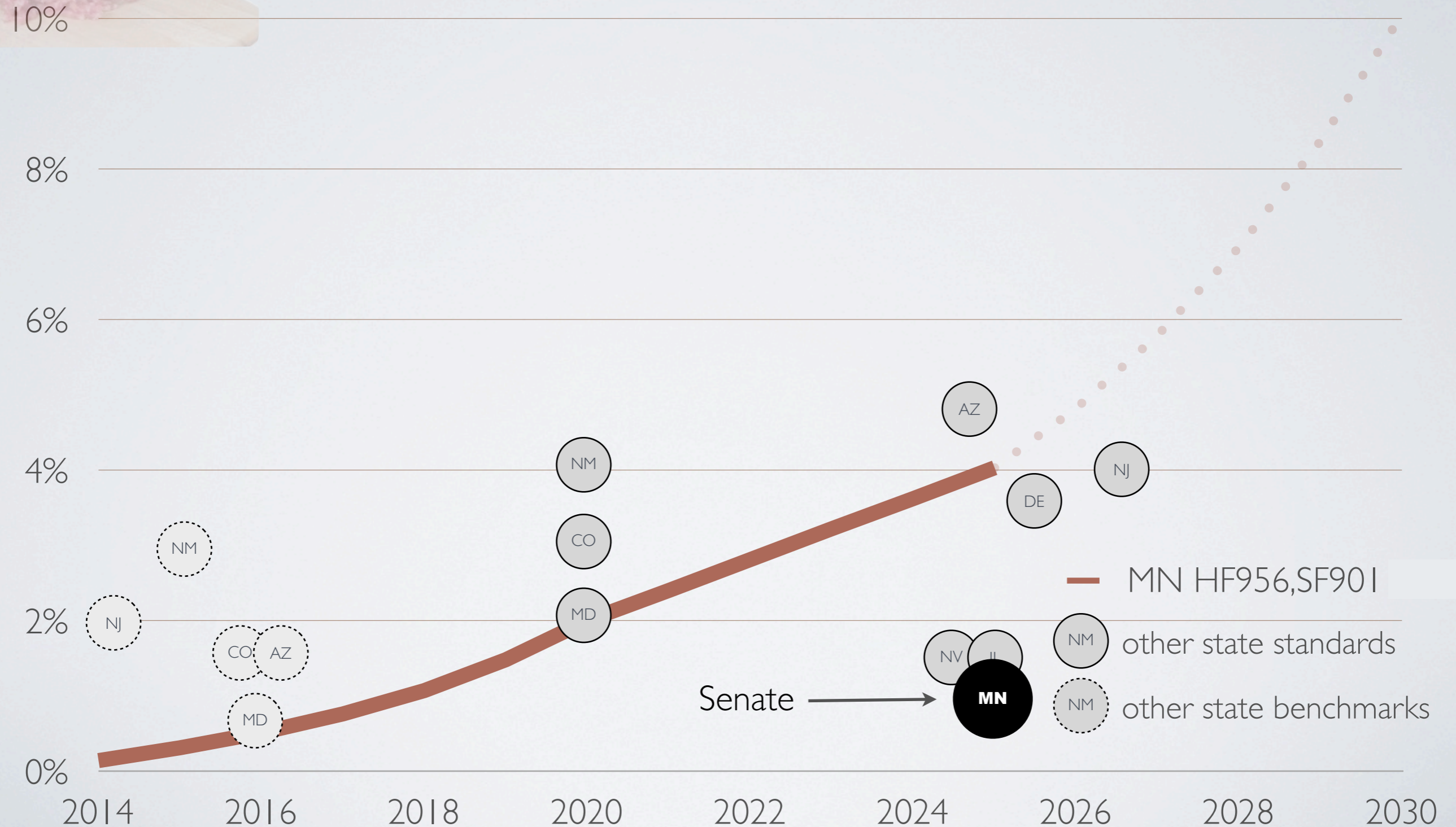
● IOUs Munis & Co-ops

DOE SunShot goal
14% by 2030

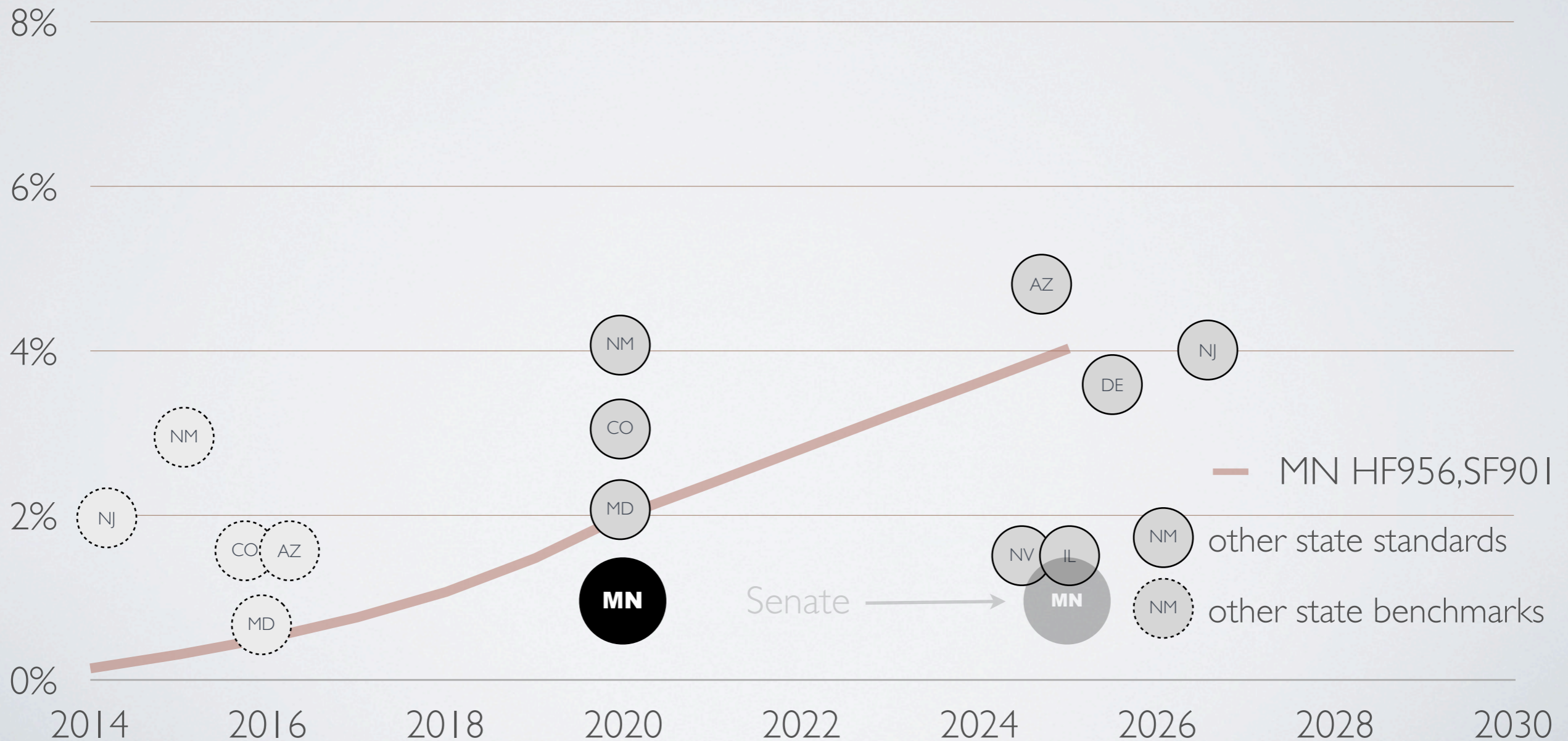
Minnesota's Proposed Solar Standard in Comparison



Minnesota's Proposed Solar Standard in Comparison



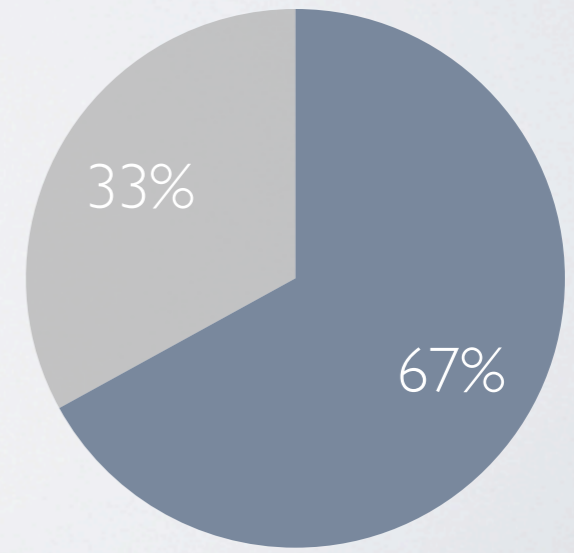
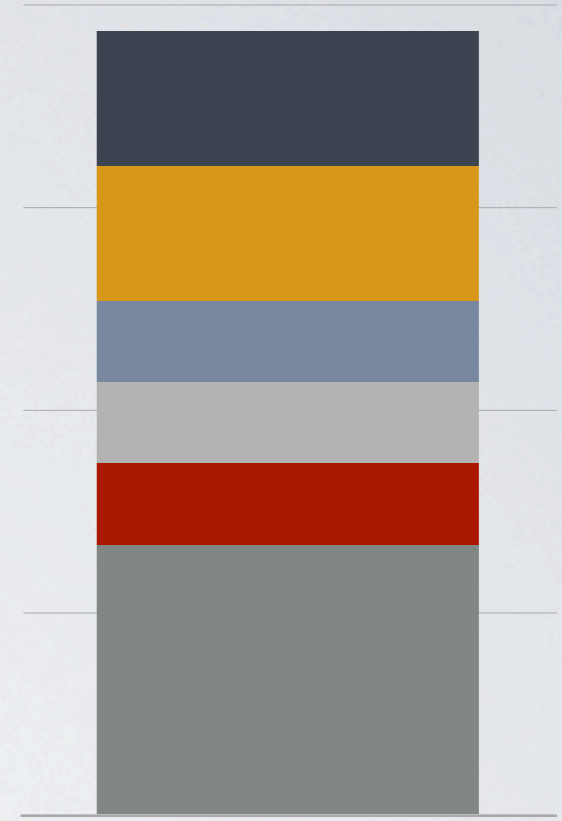
Minnesota's Proposed Solar Standard in Comparison





- Customer choice
- Robust formula ($>$ retail rate)
- Buy-all, sell-all
- 20-year, fixed price contract

Value of Solar

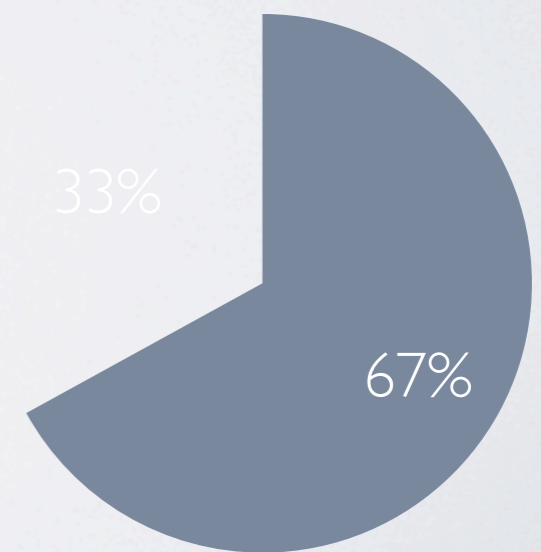
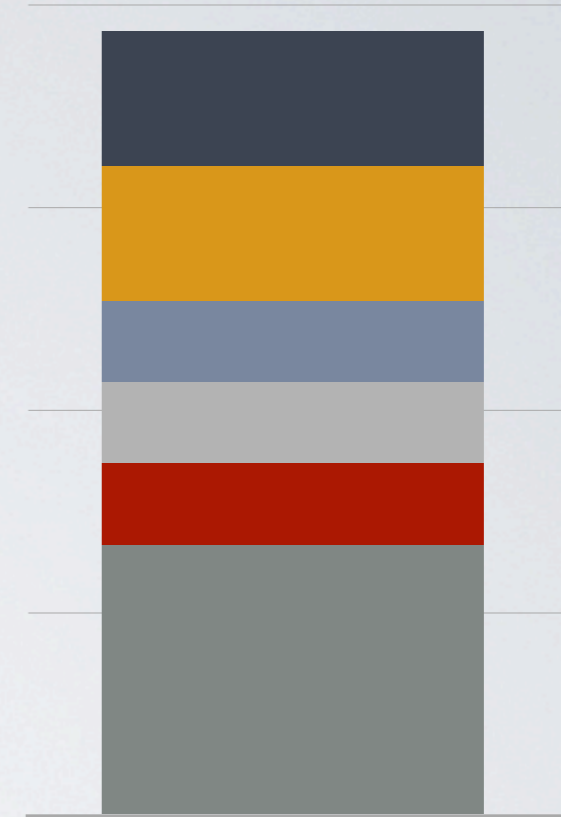


● IOUs ● Munis & Co-ops



- Customer choice
 - Utility option
- Robust formula ($>$ retail rate)
 - 3 yr. retail price floor
- Buy-all, sell-all
 - No payment for excess generation
- 20-year, fixed price contract
 - 20-year, fixed price contract
- Capped at 1 MW

Value of Solar



● IOUs

Munis & Co-ops



INCENTIVES

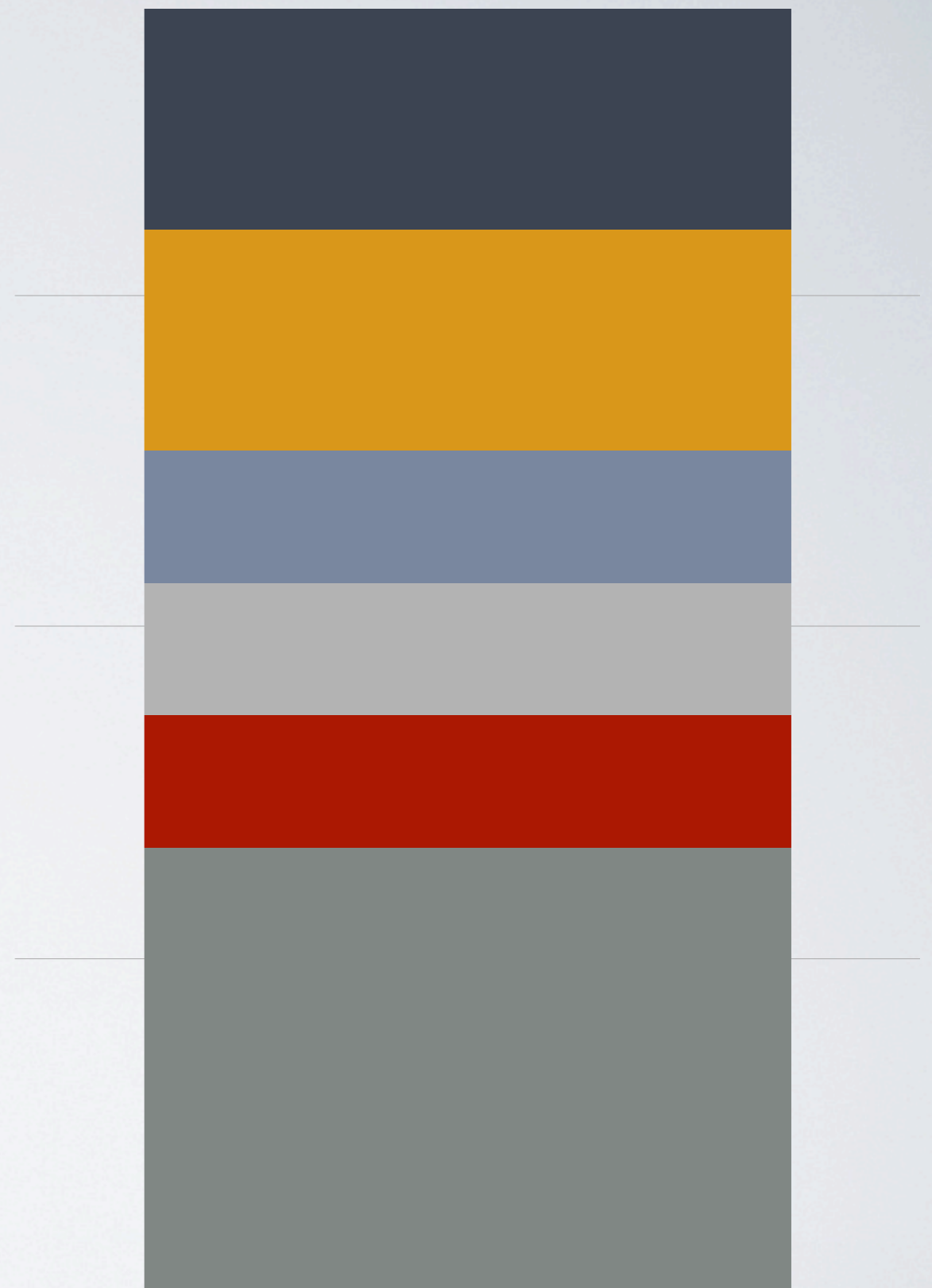
- Sized to solar array
- Part of 20-year VOST contract
- Only for 2 MW and smaller
- Include bonus payment for Made in MN



INCENTIVES

- Sized to solar array
- Part of 20-year VOST contract
- 10-year, separate incentives
- Only for 2 MW and smaller
- Incentive only for < 20 kW, Xcel customers
- Include bonus payment for Made in MN
- Made-in Minnesota incentive statewide, < 40 kW

- Other
- Environment
- Trans/dist.
- Trans. capacity
- Gen. capacity
- Energy

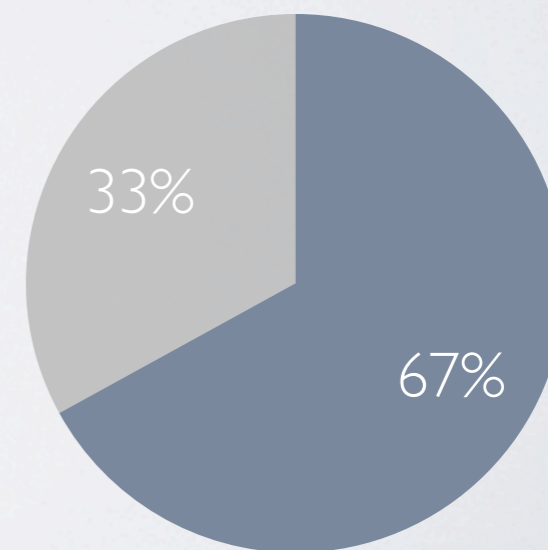


Value of Solar



Net Metering

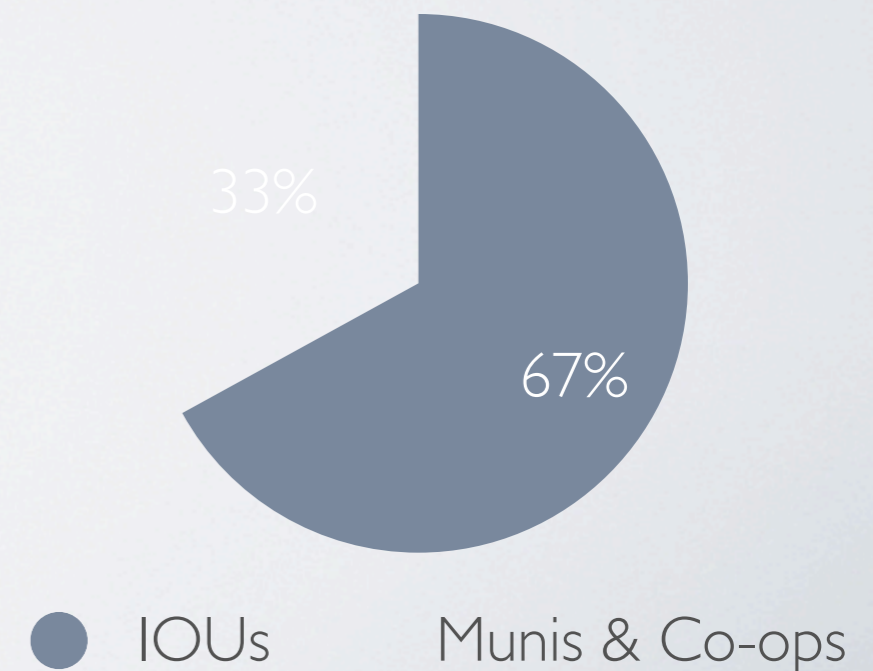
- Cap raised to 1 MW
- Aggregate metering
- Limits on standby



● IOUs ● Munis & Co-ops

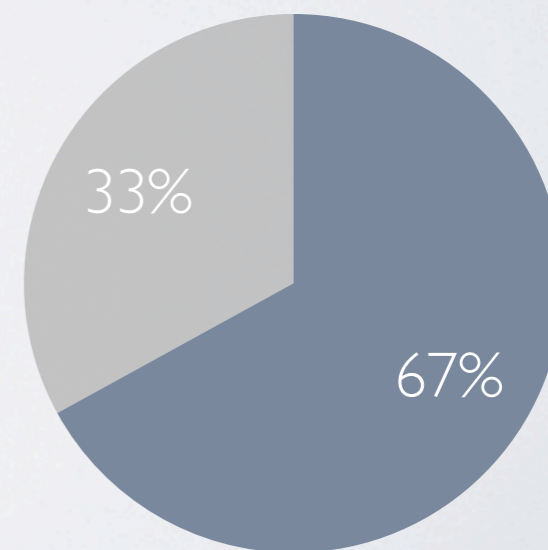


- Cap raised to 1 MW
- Aggregate metering
- Limits on standby
- 120% of load (> 40 kW)
- 4% “check-in” (IOUs)





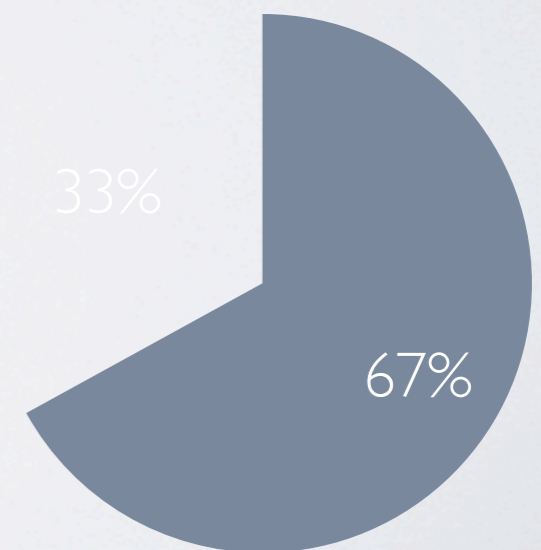
- Distributed projects (< 2 MW)
- Low threshold for participation
- No program cap
- Robust payments



● IOUs ● Munis & Co-ops



- Distributed projects (< 2 MW)
 - 1 MW and smaller
- Low threshold for participation
 - 5 participant min.
- No program cap
 - No cap
- Robust payments
 - Retail rate placeholder or VOST

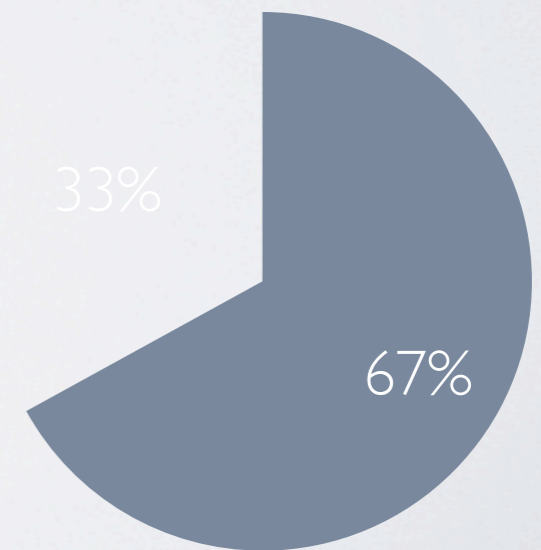


● IOUs

● Munis & Co-ops



- Also:
- 40% max. share per person
- Contiguous counties
- 200 W min. / 120% max.



● IOUs

● Munis & Co-ops

NEXT...

- Implementation
 - 2013 - State DER - Value of solar rate
 - 2014 - PUC - Value of solar rate
 - Xcel - community solar
- Solar standard in Integrated Resource Plans
 - 100 MW solar bid for RFP

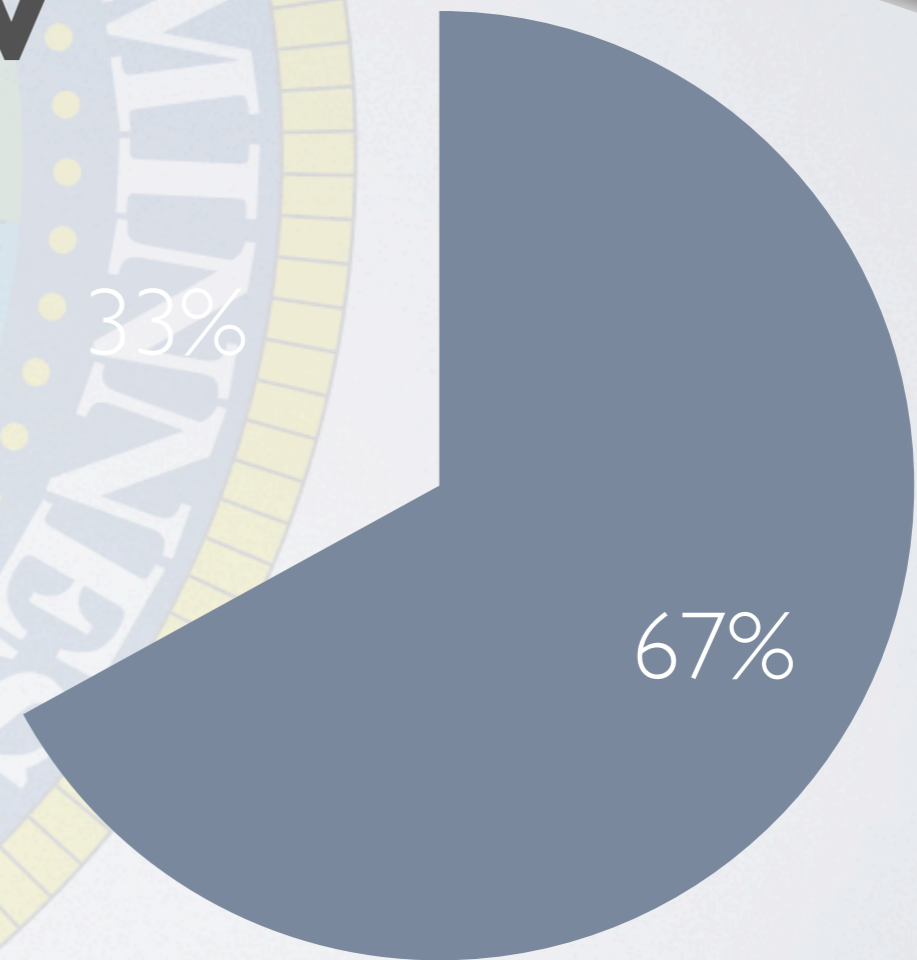
IN THE YEAR 2014...

- 3rd party ownership (*again*)
- Decoupling
- Rooftop design standards
- Tiered interconnection for small projects
- Other initiatives (muni/coop customer fairness campaign?)



460 MW

- **1.5% by 2020**
- **Net Metering to 1 MW**
- **Community Solar**
- **Value of Solar**
- **Small incentives**



● IOUs

Munis & Co-ops

Lessons from Minnesota: A Solar Success

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TURNING MOMENTUM INTO A SOLAR VICTORY:

Strategy, policy, and the 2013 Success

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