



# The Minnesota Solar Challenge

Reducing the Soft Costs of Solar

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# USDOE Sunshot Initiative

## Program Goal:

- ✓ To make solar electricity cost-competitive with conventional grid sources of electricity by 2020
- ✓ Focus on soft cost reductions

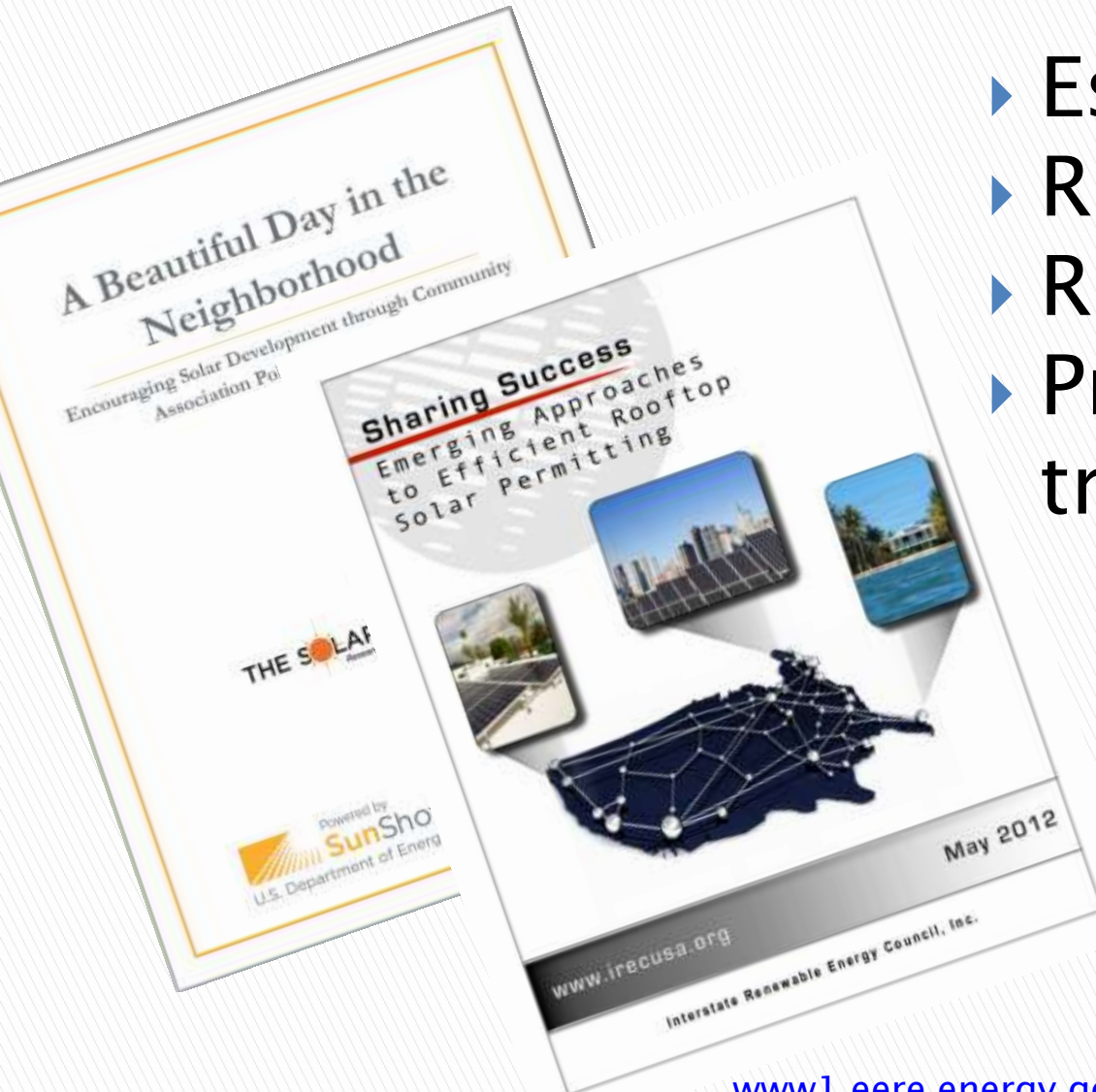
# The Soft Costs of Solar

- ✓ Non-equipment, non-labor costs
- ✓ Fees and time related to:
  - Permitting & interconnection
  - Regulatory arena
    - Zoning
    - Historic preservation
  - Net metering (lack of)
  - Financing projects



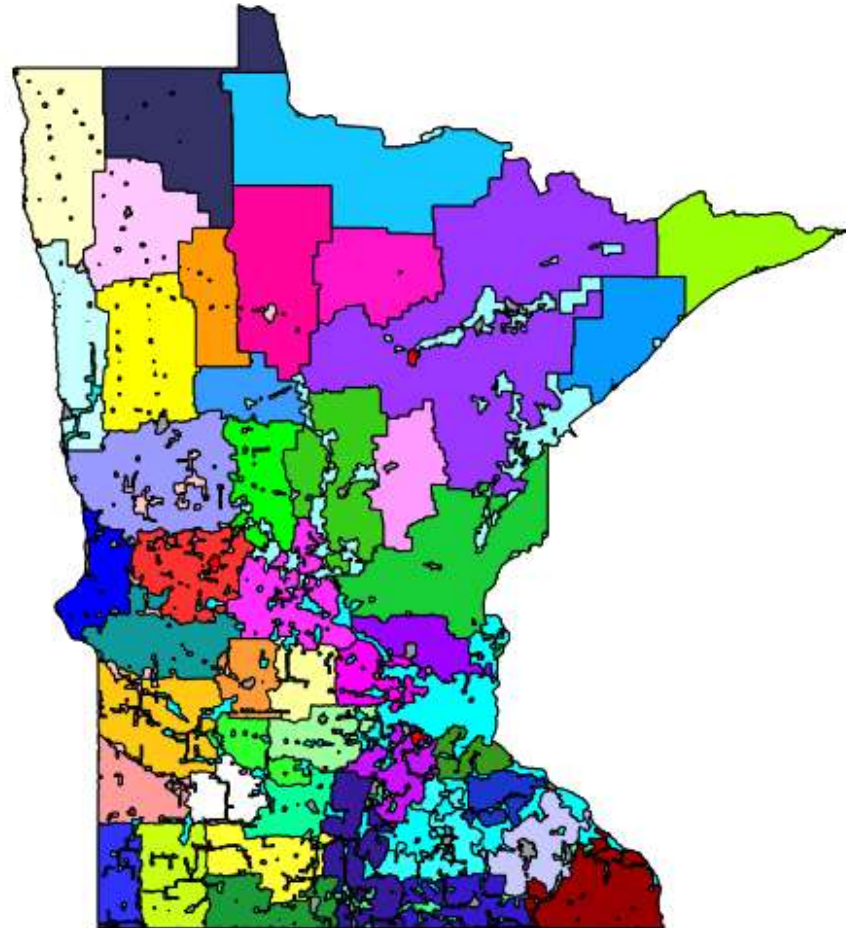
# Encourage best practices

- ▶ Establish Team
- ▶ Review National
- ▶ Revise for MN
- ▶ Provide statewide training & TA



# Minnesota Demographics

- ▶ 500+ LUGs
- ▶ ~ 175 Electric Utilities
  - Most Muni's & Coops
  - 1/3 interconnected solar
- ▶ 100's of permitting, zoning, and interconnection processes



MN Electric Utilities

# Complexity = uncertainty

- ▶ Lack of adoption
- ▶ Extended time for permitting
- ▶ Increased installation costs
- ▶ Installer beware

# Minnesota Solar Challenge

- Collaboration between the State, Twin Cities, Fresh Energy, & Xcel
- **Local governments are critical partners for carrying out new state solar policies**
  - ✓ Improve zoning and development regulations through voluntary partnerships
  - ✓ Streamline local permitting through voluntary partnerships

# Minnesota Solar Challenge

- **Develop best practices** consistent with Minnesota's local government environment and laws
  - ✓ **Promote best practices** to local governments
  - ✓ **Provide direct assistance** to 20 local governments to adopt best practices



# Recruitment / Technical assistance

- ✓ Workshops/webinars on best practices/adoption = 150 reached
- ✓ Assess existing plans, ordinances and permitting processes
- ✓ 1:1 assistance to adapt best practices
- ✓ Writing draft language for permitting and land use standards

# Keys to Success

- ▶ Knowledge
- ▶ Resources
  - Model Documents
- ▶ Relationships
  - Local Champions
  - Department of Labor / Industry
  - Code Officials

# Participants:

- ▶ Todd County
- ▶ Rosemount
- ▶ Golden Valley
- ▶ Falcon Heights
- ▶ Eagan
- ▶ Hutchinson
- ▶ Austin
- ▶ Kasson
- ▶ Elk River
- ▶ Douglas County
- ▶ Nicollet County
- ▶ Greater Bemidji Area
- ▶ Rochester
- ▶ Winona County
- ▶ Winona
- ▶ New Prague
- ▶ Duluth
- ▶ Mounds View
- ▶ Breezy Point
- ▶ Northfield
- ▶ Minneapolis
- ▶ Saint Paul

# Comprehensive Planning

- Met Council = 200 LUGs
- State law requires solar
- Set language for solar as a resource
  - Remove ambiguity
  - Set known fees
  - Set reasonable timeframes



# State Agency Partnership

- MN Department of Labor and Industry
  - NO PV in energy code
  - Building Officials
- Updated Energy Code
  - Relevant to both thermal / pv
  - Refers to National Energy Code

[www.energy.mn.gov](http://www.energy.mn.gov)

# Simplified Engineering Review

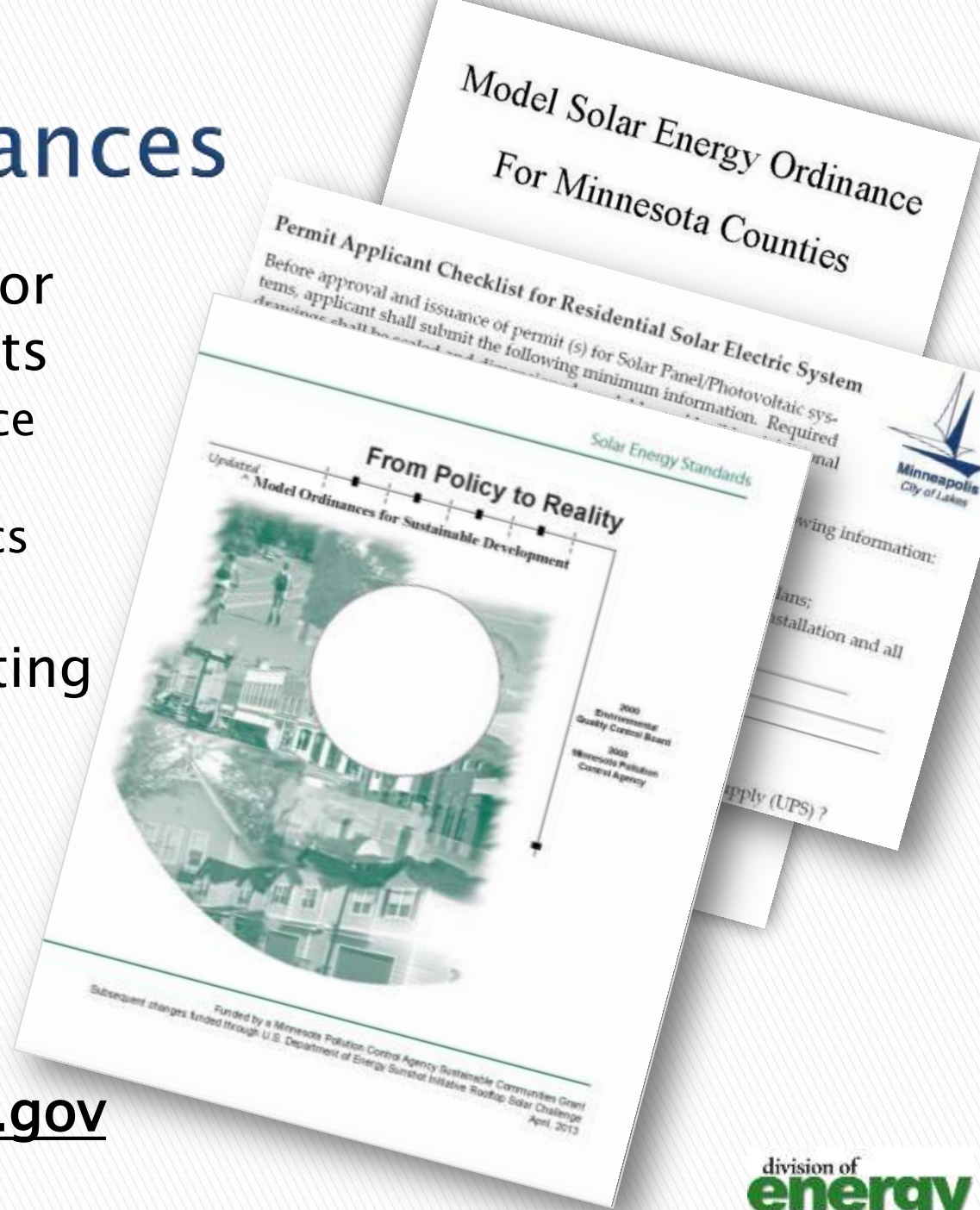
- Building Officials = Safety
- \$500–\$1000/review
- Standardized Load Tables
  - Residential
  - PV & Thermal
  - Flush mounted systems
  - Reduces time/ cost
  - Supports installers in accurate bidding



[www.energy.mn.gov](http://www.energy.mn.gov)

# Model Ordinances

- ▶ Model Ordinances for Zoning Requirements
  - Rural areas, with space
  - Urban, set backs and control over aesthetics
- ▶ Streamlined permitting processes



[www.energy.mn.gov](http://www.energy.mn.gov)

# Beyond the Solar Challenge

- ▶ Training established
- ▶ Ongoing work with Cities
- ▶ Posting of model documents
- ▶ Legislation



# Beyond the Solar Challenge

## 2013 Legislative Highlights:

- ▶ Value of Solar Tariff:
  - Methodology for solar credit
- ▶ Value of Solar Thermal:
  - Study to determine costs & benefits
- ▶ Renewable Energy Integration and Transmission Study:
  - Engineering study on reliability of grid at 40%+
- ▶ Scoping for Renewable Energy Study
  - Transition to a sustainable energy system

# Beyond the Solar Challenge

## 2013 Legislative Highlights:

- ▶ 1.5% Solar Energy Standard
- ▶ Community Solar
- ▶ Solar Energy Incentive Program
- ▶ Made in Minnesota: Incentive Program
  - \$150M, 20 year program
  - Investor owned utilities
  - Commercial and residential
  - PV (production incentive) and thermal (rebates)

# Thank you~

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