



# Solar Electric Interconnection Safe, Consistent, Faster, Cheaper

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# RENEW Wisconsin

## Mission

*Lead and represent businesses, organizations, and individuals who seek more clean renewable energy in Wisconsin*

## History

Established 1991

RPS, Focus renewables, state requirements, media, utility relations



# SunShot Soft Costs



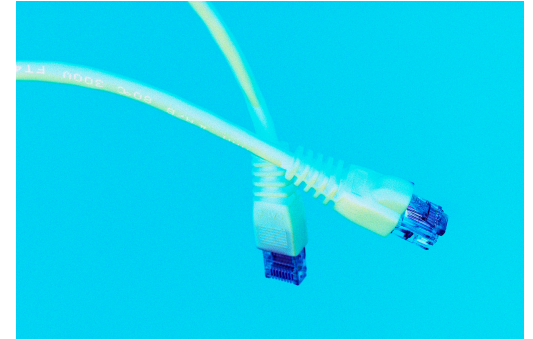
- Permitting
  - Milwaukee, Madison, Marshfield
- Net Metering
  - Consistent, 100 kW, annual true ups, no caps, REC's owned by customer, two tier fair rates
- Economic models
  - Third party ownership, group buys, community solar
- Interconnection

# Three Fundamentals of Interconnection

- Safety
- Standards
- Cost

# WI Interconnection 118 Distribution Utilities

- 11 Private (five majors)
  - WE, WPSC, Alliant, Xcel, MGE
- 84 Municipals (two main groups)
  - MEUW, WPPI
- 23 Coops (not regulated):
  - WECA





# Goal: Interconnection Soft Cost Reduction

- Consistency: same rules state wide reduces needless time to work with different:
  - Rules
  - Forms
  - Timelines
- Experience and technology can shorten the processing time, eliminate unneeded provisions, reduce cost



# Interconnection History

2002: The Wisconsin Distributed Resources Collaborative (WIDRC) is created

2004: Wisconsin: one of first states to develop statewide interconnection rules, PSC 119

- Covers IOU's and Muni's. Coops mostly follow rules

2006: FERC develops federal small generation stds.

2008-2012: IREC publishes best practices “Freeing the Grid” reports in 2008, 2010, 2012

[www.freeingthegrid.org](http://www.freeingthegrid.org)

# IREC Gives WI a “C” on Interconnection

- Three major recommendations
  1. Statewide consistency
  2. Adopt FERC Technical Screens
  3. Remove redundant external disconnect switch
- Four secondary recommendations
  1. Reduce excess insurance requirements
  2. Reduce the time for application review
  3. Improve the dispute mediation process
  4. Increase distributed generation def to 20 MW

REPORT CARD				
GRADING PERIOD	1	2	3	4
READING	A			
WRITTEN COMMUNICATION	A			
MATHEMATICS	C			
SCIENCE/HEALTH	B			
SOCIAL STUDIES	B			
ART	A			
MUSIC	A			
PHYSICAL EDUCATION	C			
Grade Average	B			
Attendance:	Present	40		
	Absent	2		
	Tardy	1		
A = Excellent • B = Good • C = Satisfactory • N = Needs Improvement U = Un satisfactory • I = Incomplete / Incomplete				
Student:				
	Grade:			Year:



# Additional Topics to Consider



- Definition of capacity
  - AC, DC, Generator, Inverter?????
- Lower cost options for telemetry
  - Communication link between generator and distribution station
  - Big ticket item can kill biogas projects

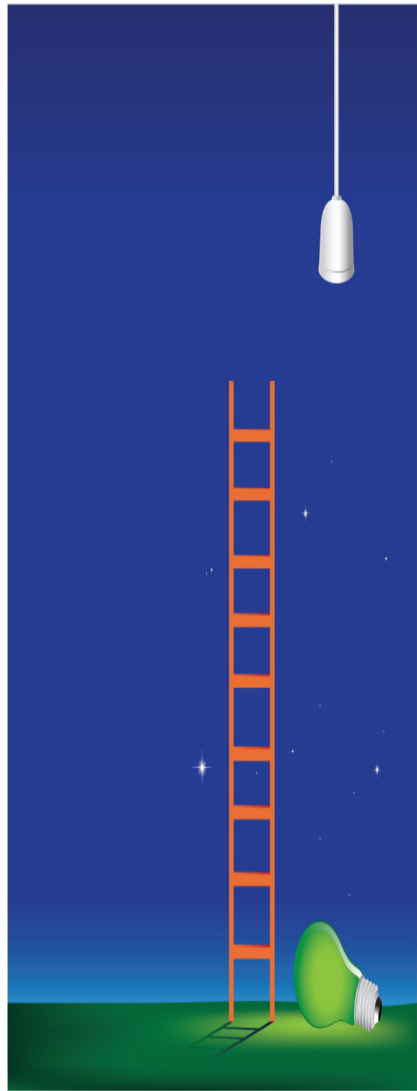


# WI Process to Improve Interconnection

- March 2012 stakeholder survey on 17 topics
- Workgroup initiated in June: 4 meetings to date
- Three part plan to upgrade Interconnection rules
  1. Petition the PSCW to consider workgroup recommended changes to PSC 119
  2. Have Coops agree to follow upgraded PSC 119
  3. Include legislation, where needed, in energy bill

# Progress to Date

- Workgroup finishing recommendations
- Will petition PSCW in November for PSC 119 upgrade
- Limited utility input thus far
- Not clear if PSCW will take up petition/ length of time for rules to go in effect
- MOU with Coops and legislation later





# Three Major Recommendations

## 1. Statewide consistency

- Ask WI Electric Cooperative Association to abide by upgrades to PSC 119

## 2. Adopt FERC Technical Screens

- Language has been drafted

## 3. Remove redundant external disconnect switch requirement

- For category one (20 kW and less), that use an inverter certified by a national testing lab



# Four Secondary Recommendations

1. Reduce excess insurance requirements
  - Under review. FERC rules being considered
2. Reduce the time for application review
  - Language drafted under technical screens
3. Improve the dispute mediation process
  - Reference to existing PSC process drafted
4. Increase distributed generation def to 20 MW
  - Will propose in next state energy bill



# Two Additional Recommendations

- Definition of capacity
  - Language drafted
- Cost options for telemetry
  - Options include fiber optics, dedicated telephone line, radio link, satellite link, T1, others
  - Language drafted to allow least cost option

# Summary: Upgrading & Streamlining Interconnection

- Minor changes in WI rules can make interconnection more consistent, easier, cheaper
- Evaluation and recommendation process nearing completion
- New rules could be in place in 2013

