

**What: A proposal to advance the City of Madison's efforts to achieve its 100% renewable energy/net zero carbon goal through financing the construction of 14 MW of solar generation in western Wisconsin.**

Before the Sustainable Madison Committee

June 25, 2018

# The Participants

Developer/Owner: OneEnergy Renewables

Financing Entity #1: Five WI municipal utilities

Financing Entity #2: City of Madison

# SMC Working Group

## Participants

Sam Breidenbach

Sam Dunaiski

Stacie Reese

Joseph Ryan

Michael Vickerman

The working group reviewed the proposal and met on April 26, 2018, to discuss its merits and determine whether or not to recommend that the full committee pass a resolution to authorize the City to enter into a contract with OneEnergy under the terms specified.

# The Arrangement

- OneEnergy has contracts with five municipal electric utilities to supply them with electricity from new solar arrays w/in their service boundaries
- Agreed-upon price is ~90% of what's needed to fully finance the projects and start construction
- The remainder of the financing can be supplied through a forward purchase of unbundled renewable energy credits (REC's)
- Under this arrangement, the first project financing entity receives 100% of the physical product and the second project financing entity receives 100% of the unbundled REC's

# Crucially Important Facts to Remember

- The participating utilities are indifferent to the renewable attributes from these projects. The electricity is the only thing that matters to them.
- The sale price of that power has to be on par or lower than what the utilities would normally receive from their wholesale supplier.
- The project cannot proceed to construction without both streams of financing.

# Project Performance

Aggregate capacity: 14 MWdc  
Estimated output (Year 1) 20,910 MWH  
Estimated output (Year 25) 18,540 MWH<sup>1</sup>  
Total output after 25 years 493,450 MWH

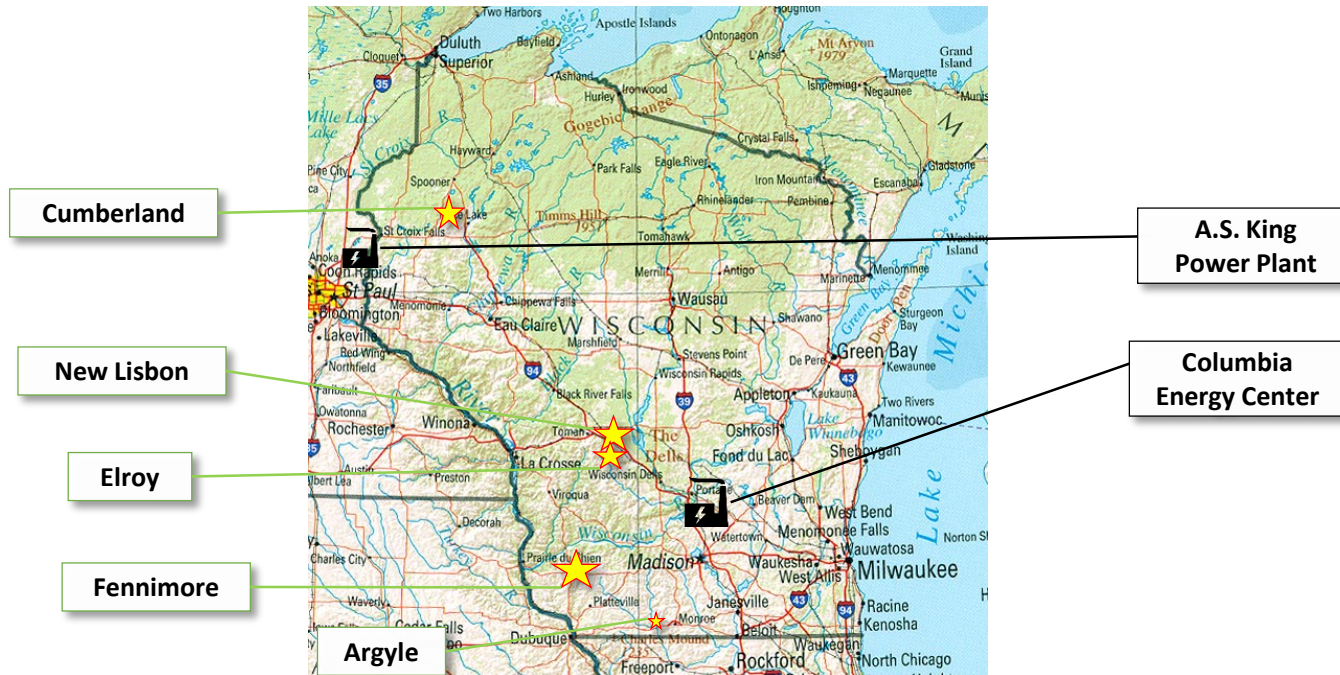
Percentage on average of  
City's annual use: 37.2%

<sup>1</sup>Assumes a degradation rate of 0.5%/year



# Array Locations

Municipality	Capacity	Nearest Coal Plant
Argyle	1.1 MW	Columbia
Cumberland	3.4 MW	A.S. King
Elroy	2.0 MW	Columbia
Fennimore	4.1 MW	Columbia
New Lisbon	3.4 MW	Columbia



# Contract terms and pricing

Five arrays → five up-front purchases for 25 years of RECs

Contracts staggered → one per year starting in 2019

Total cost of contracts with OneEnergy → \$1,396,000

Nominal cost of RECs → \$4.75/MWH (0.47 cents/kWh)

Levelized cost of RECs<sup>1</sup> → \$2.83/MWH (0.28 cents/kWh)

<sup>1</sup>Assumes a 6% discount rate



# Value to City

- Quickest way to acquire new renewable sources of renewable electricity
- Supports rural WI communities
- Very cost-effective arrangement for large-scale commitments to renewables

# Other Notable Facts

- Increases in-state solar capacity today by 15%
- 40,000 solar panels will produce enough power for 2,500 WI households
- Catalyzes nearly \$20 million in clean energy investment for rural Wisconsin
- Establishes 70 acres of pollinator-friendly habitat beneath the solar arrays
- Only solar project in the pipeline right now



# Recommendation

We ask the Sustainable Madison Committee to put forward a resolution to authorize the City to enter into a contract that will provide critical financing for the construction of 14 MW new solar generating capacity to be constructed by OneEnergy. Under the contract with OneEnergy, the City will purchase 100% of the Renewable Energy Credits generated by these solar arrays over a 25-year period. This purchase will enable to the City to make substantial progress toward achieving its 100% renewable energy/net zero carbon goal in a cost-effective and timely manner.

# Thank you!



Solar Project Financing Proposal - Sustainable  
Madison Committee