



Norfolk Solar & Battery Storage Update

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NPPD Board of Directors Meeting
Strategic Session
July 2023

Pat Hanrahan, Retail General Manager
Dave Rich, Sustainable Energy Manager



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What is Community Solar?

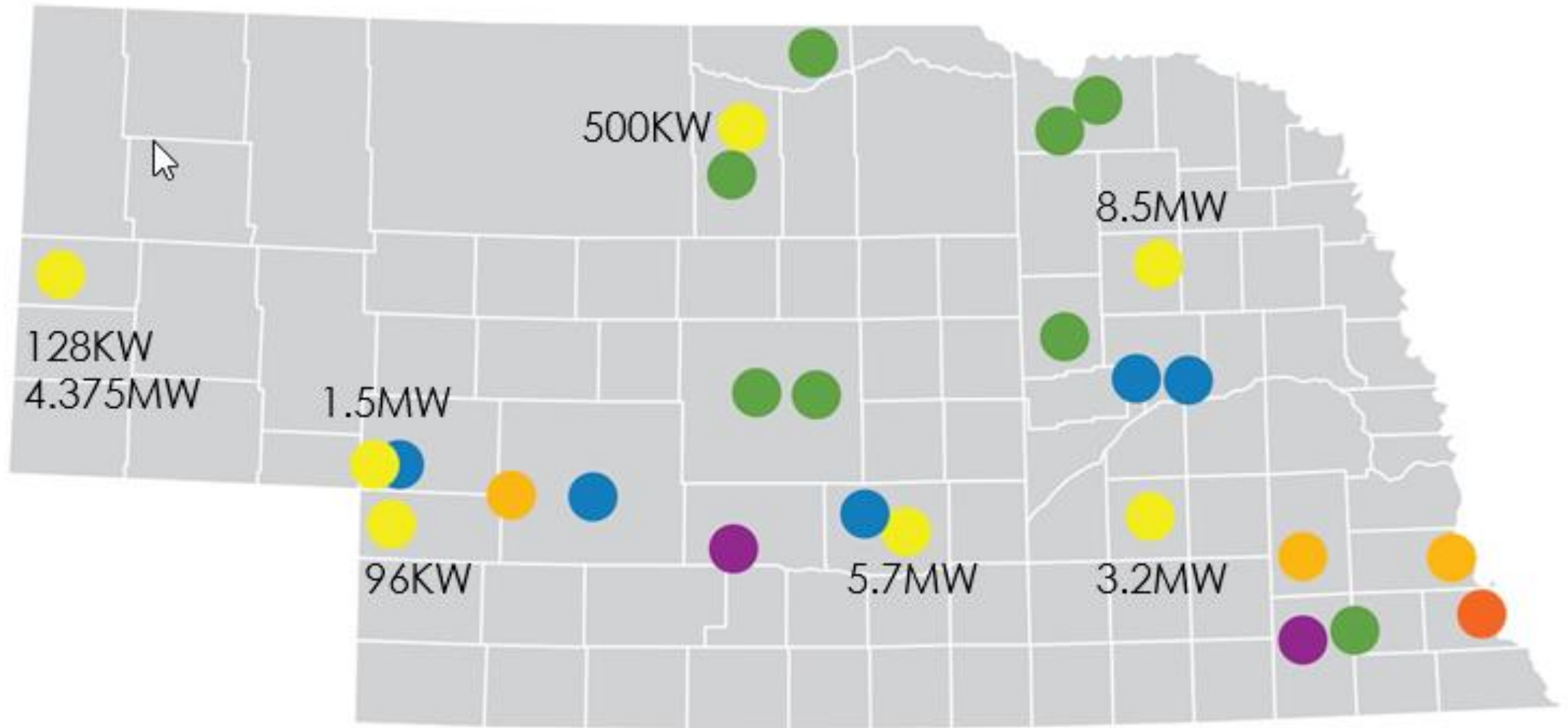
- Utility Scale Solar Facility
- Allows many participants within the Community
- Advantages of Community Solar
 - ✓ Avoidance of “up front” capital investment by the City/Customers
 - Eliminates taxes, insurance, and electrical inspections to City/Customer
 - Developer is responsible for all solar facility maintenance
 - Land Lease agreement between Community and Solar Developer
 - ✓ Economies of Scale – larger system equates to lower per KW cost
 - ✓ Strengthens relationship between Community and NPPD
 - Potential for partnerships (community, developer, vendors, investor)
 - Pollinator Crop
 - Public Information/Education
 - ✓ Minimal impact to City’s Lease Payment

Sunwise Community Solar

Guiding Principles

1. Enable NPPD Retail Communities the ability to participate in community solar.
2. Limit cost shift to non-participating NPPD Retail communities and other non-participating NPPD end-use customers.
3. Program is scalable for all communities.
4. Program designed to be simple for the community, customers, and NPPD.

Community Solar Installations



~24MW Solar



Norfolk Community Solar & Battery

N-Solar *

- 8.5 MW Solar Generation
 - ✓ ~26,000 Solar Panels
 - ✓ Single-Axis Tracking System
- ~1 MW / 2 MWH Battery Storage
 - ✓ Li-ion Battery System
 - ✓ Fractal Energy Management System
- 70-Acre Site – owned by City of Norfolk, city well field

* **Sol Systems, GenPro Energy Solutions & Mesner Development Co.**

Norfolk Battery Energy Storage System Procurement

- Applied September 2018 and received a Nebraska Environmental Trust grant in April 2019 of \$490,000
- RFP issued (April 2020) – Sol Systems was selected for the solar and battery project
 - ✓ 30% tax credit for the both solar and battery when built as the same project
 - ✓ Tax credit required battery to be charged 100% from solar

Norfolk Solar & Battery 2023 Results

Battery Operation at NPPD Peak

Date	Hour Ending	Solar Output (8,500 kW Max)	BESS Output* (951 kW Max)
January 30 th	0900	917 kW	
February 24 th	0900	616 kW	
March 2 nd	0900	567 kW	944 kW
April 5 th	0900	1200 kW	843 kW
May 31 st	1900	7,171 KW	941 KW

*Commercial Operation 3/1/2023 (Battery output reduced by 100 kW in April by vendor)

Battery Operation

- NPPD schedules operation of the BESS
 - ✓ Coordination with Sol Systems and Fractal Energy





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Questions

Stay connected with us.



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