NEBRASKA PUBLIC POWER DISTRICT

NPPD Retail Program for Community Solar

Nebraska Wind & Solar Conference
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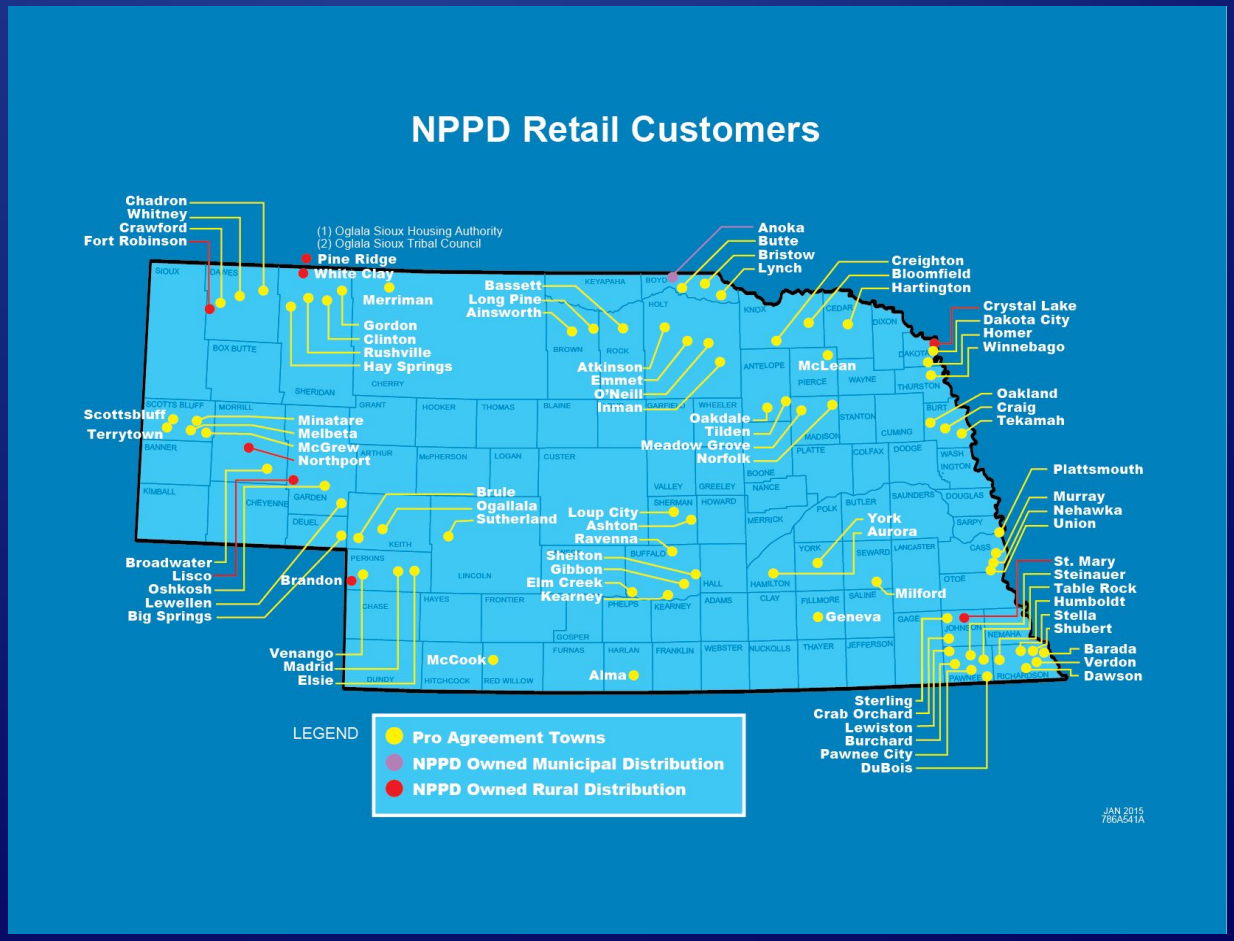
NPPD Retail at a Glance



NPPD Community Solar

- Not large scale projects
- Driven by Communities
- Located in Retail Communities
- Not a single location

Guiding Principles for Installation of Community Solar in an NPPD Retail Community (PRO Town)

- Enable NPPD Retail communities (PRO Towns) the ability to install community solar if they wish to do so
- Limit the cost shift to non-participating NPPD Retail communities or other NPPD end-use customers

NOTE: Assumes the PRO Town is a party to the community solar arrangement

Existing Renewable Rate Options for NPPD End-use Retail Customers

- Net Metering Rider
  - Installations of 25 kW or less
  - Aggregate limit 1% of total peak annual demand
  - Credit at full retail rate up to Net Excess Generation (NEG)
  - NEG credited at NPPD wholesale avoided costs (Summer/Winter)
- Simultaneous Buy/Sell Rider
  - Installations > 25 kW
  - NPPD buys all of the output of the generator at stated or agreed-upon price
  - NPPD sells to the retail customer all power and energy requirements pursuant to their applicable rate schedule

Proposed Renewable Rate Option– Community Solar

- Installation of community solar in PRO Town
  - Solar facility not interconnected behind NPPD retail end-use customer meter like traditional net metering installation
  - Would result in no cost shift to other PRO Towns
  - Leverages the concepts of the existing Net Metering program, where possible
- Currently not governed by State Statutes

Benefits of Community Solar

- Economies of Scale – typically lower cost
- Eliminates poor roof top orientation and tree shading issues
- Eliminates taxes, insurance, and electrical inspections for end-use customer
- One solar array allows many participants
- Virtual net-metering applicability
- Potential for partnerships (community, developer, vendor, investor, utility)
- Potential Tax Credits – Available for Private use (investor/developer)
  - 30% through 2016 (Solar PV must be operational by 12/31/2016
  - 10% after 2016 (currently)
- Potential USDA Grants - Available for Private use (investor/developer)
  - 25% of total project cost
  - Cap of $2 million ($250k maximum grant)

Community Solar - Proposed Arrangement

- Neither solar developer nor Pro Town can sell to NPPD end-use retail customer
  - NPPD is the sole operator of their system per PRO agreement
  - No retail wheeling in Nebraska
- Could require separate agreement between NPPD Retail and PRO Town (assuming NPPD is not the solar developer/owner)
  - NPPD purchases 100% of the output of the solar installation
  - Includes a make whole payment

Make Whole Arrangement

- Required to avoid cost-shifting to non-participating NPPD Communities
- Example:
  - If PPA = 6¢/kWh & wholesale energy = 5¢/kWh
    - NPPD Community would owe 1¢/kWh to NPPD Retail
  - If PPA = 6¢/kWh & wholesale energy = 7¢/kWh
    - NPPD Retail would owe 1¢/kWh to NPPD Community

Solar Interest in NPPD Retail Communities

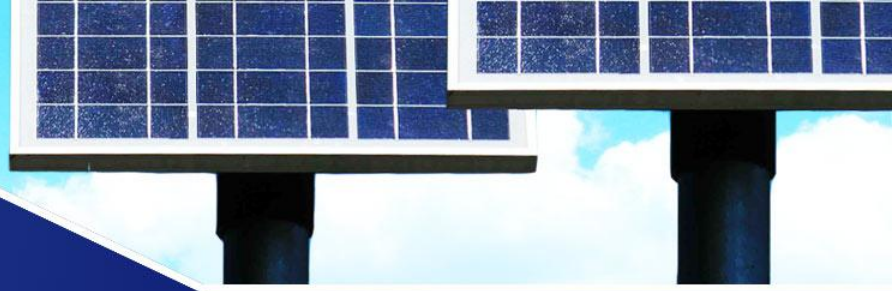
- Kearney
- Venango
- Scottsbluff
- Aurora
- McCook

Kearney

- 6 MW project (Initially 10 MW project)
  - Developer/City initiated
  - Make-Whole arrangement with NPPD Retail necessary
  - City of Kearney executed an exclusive land contract (53 acres) with Infigen for a Utility Scale Solar project
  - Land contract requires Power Purchase Agreement (PPA) with NPPD or Nebraska utility
  - SunPower (Modesto, CA) purchased Infigen solar assets (including land contract)
  - Current challenges surrounding site and SunPower
  - Generation Interconnection Agreement (GIA) submitted to developer
  - Negotiating purchasing terms

Venango

- 100 – 200 kW project
  - Entrepreneur initiated
  - Make-Whole arrangement with NPPD Retail necessary
  - Issued RFP's and Evaluating prices
  - Storage option (battery) included in RFP
  - Challenges with injection into distribution system
    - Minimal loading
    - Weak distribution system - radially fed



Scottsbluff

- 100 kW project
  - NPPD/City initiated
  - Make-Whole arrangement with NPPD Retail necessary
  - Met with City Council on July 6th
  - RFP's issued and returned October 2nd – Evaluating prices
  - Location of project on NPPD property

Aurora

- 250 kW project
  - City/NPPD initiated
  - Make-Whole arrangement with NPPD Retail NOT necessary
  - Behind end-use meter installation at Waste Water Treatment Facility (WWTF) Plant
  - Not eligible for net-metering service rider rate schedule (NM-Rider) due to > 25 kW project size
  - Eligible for simultaneous buy/sell service rider rate schedule (SI-Rider)
  - City currently weighing options and recruiting potential 3rd party private investors
    - Access to investment tax credits
    - Access to USDA REAP Grants

McCook

- Project size unknown at this time (50-60 kW -?)
  - Developer initiated
  - Developer's low income housing project with accompanying solar equipment was funded
  - Location of housing project and associated solar equipment unknown at this time
  - Potentially community solar or virtual net-metering arrangement
  - Make Whole arrangement with NPPD Retail unknown at this time

Questions?