

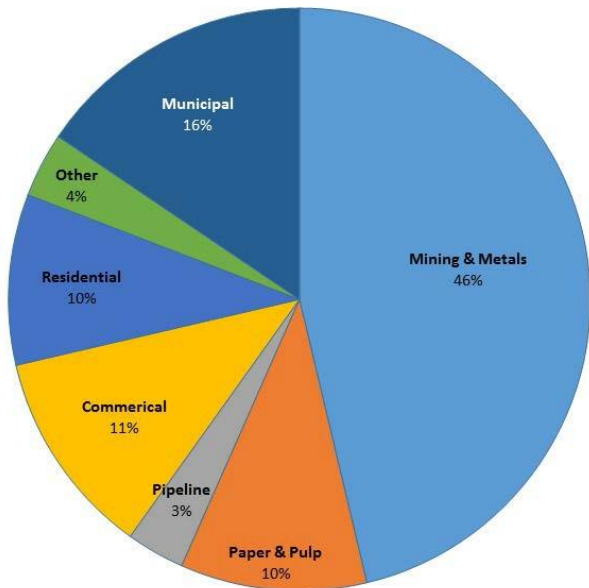


# •Minnesota Power's Community Solar Garden Program

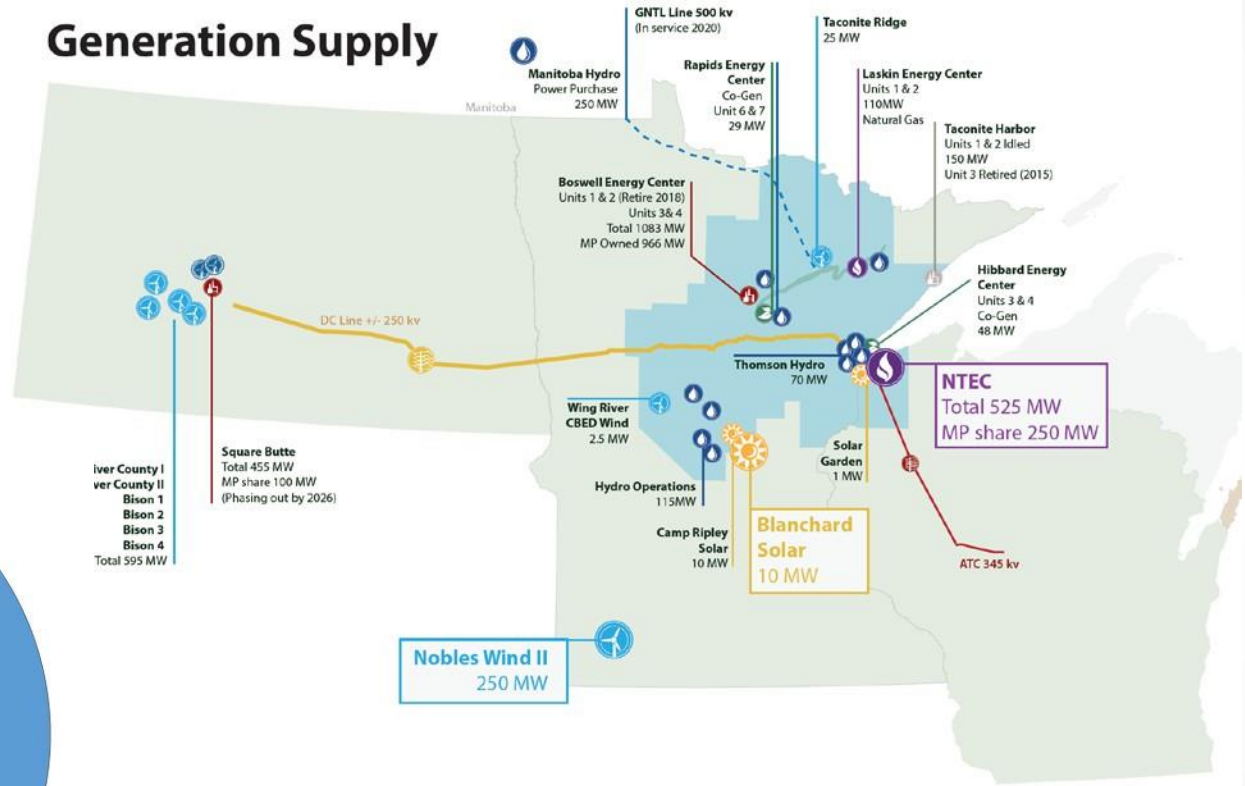
Minnesota Senate –Legislative Energy Commission

7/12/2018

# Minnesota Power's Current Customer Landscape



## Generation Supply



# Minnesota Power's Solar Strategy

CUSTOMER



**Solar Energy Analysis Program  
SolarSense Rebates**

COMMUNITY



**Community Solar Garden  
Pilot Program**

UTILITY



**10MW Camp Ripley Solar  
Project**

Activities in each segment of the solar strategy work together to promote solar development of all sizes in northern Minnesota



# MINNESOTA POWER'S COMMUNITY SOLAR PRINCIPLES

- 1. FAIRNESS** Minnesota Power values all customers and fairness is a guiding principle in any product design, as the impacts to non-participating customers are limited as much as possible.
- 2. ACCESSIBILITY** Minnesota Power recognizes that traditional rooftop solar is not accessible to the majority of customers and is offering a Community Solar Garden Pilot Program to allow more customers to participate in solar energy offerings. Additionally, Minnesota Power continues to explore options for low income customers to participate in solar energy programs.
- 3. OPTIONALITY** Minnesota Power is committed to maintaining a primary focus on our customers and providing product and service options they desire. Minnesota Power realizes flexibility is important for our customers and has designed options that are transportable, transferable and transparent.
- 4. SIMPLICITY** As Minnesota Power endeavors to offer innovative products and services that customers want, it strives to maintain a transparent and straightforward customer experience.
- 5. SCALABILITY** Scalability is a unique characteristic of solar energy and provides customers an option to participate at a level which works for them. Minnesota Power intends to use the scalability of solar assets to respond to customer interest in future community solar gardens.
- 6. REGIONAL COMMITMENT** As Minnesota Power begins to add solar energy to its power supply, siting community solar projects close to main population centers within its service territory is a priority in project development.

# CSG Program Design Considerations





# MINNESOTA POWER'S COMMUNITY SOLAR PILOT PROGRAM DESIGN ELEMENTS

1. **MINNESOTA POWER'S COMMUNITY SOLAR PROGRAM IS CUSTOMER DRIVEN.** Minnesota Power's program size will be determined by customer demand balanced with compliance needs.
2. **MINNESOTA POWER'S COMMUNITY SOLAR PROGRAM IS DESIGNED TO BE FAIR TO ALL CUSTOMERS.** The costs associated with Minnesota Power's program are intended to be covered by customer subscriptions, limiting the impact on non-participating customers.
3. **CUSTOMERS WILL BENEFIT FROM LOW COST SOLAR ENERGY.** Minnesota Power will strive to procure the lowest cost solar energy through competitive bidding processes, passing savings onto customers.
4. **SOLAR DEVELOPERS PLAY A KEY ROLE IN MINNESOTA POWER'S COMMUNITY SOLAR PROGRAM.** Solar developers have a role in Minnesota Power's program, either as an Independent Power Producer (IPP) or Engineer/ Procure/ Construct (EPC) firm.
5. **THE COMMUNITY SOLAR GARDEN IS A HASSLE-FREE ALTERNATIVE TO THE SOLAR ROOFTOP EXPERIENCE.** Minnesota Power's program is designed to replicate a solar rooftop installation by crediting customers the energy produced by their share of the garden, with options for subscribers to finance their subscriptions. However, subscribers do not have to worry about permitting, constructing, operating or maintaining the solar system.

# Community Solar Garden Assets

## Two Solar Arrays Provide Generation for CSG Program

- 40kW system in Duluth, MN – more visible, community garden



**MP Owned Land in Duluth; Most Heavily Trafficked Thoroughfare in City**

# Community Solar Garden Assets

## Two Solar Arrays Provide Generation for CSG Program

- 1MW array in Wrenshall, MN – larger, lower cost





# Features of MP's Program

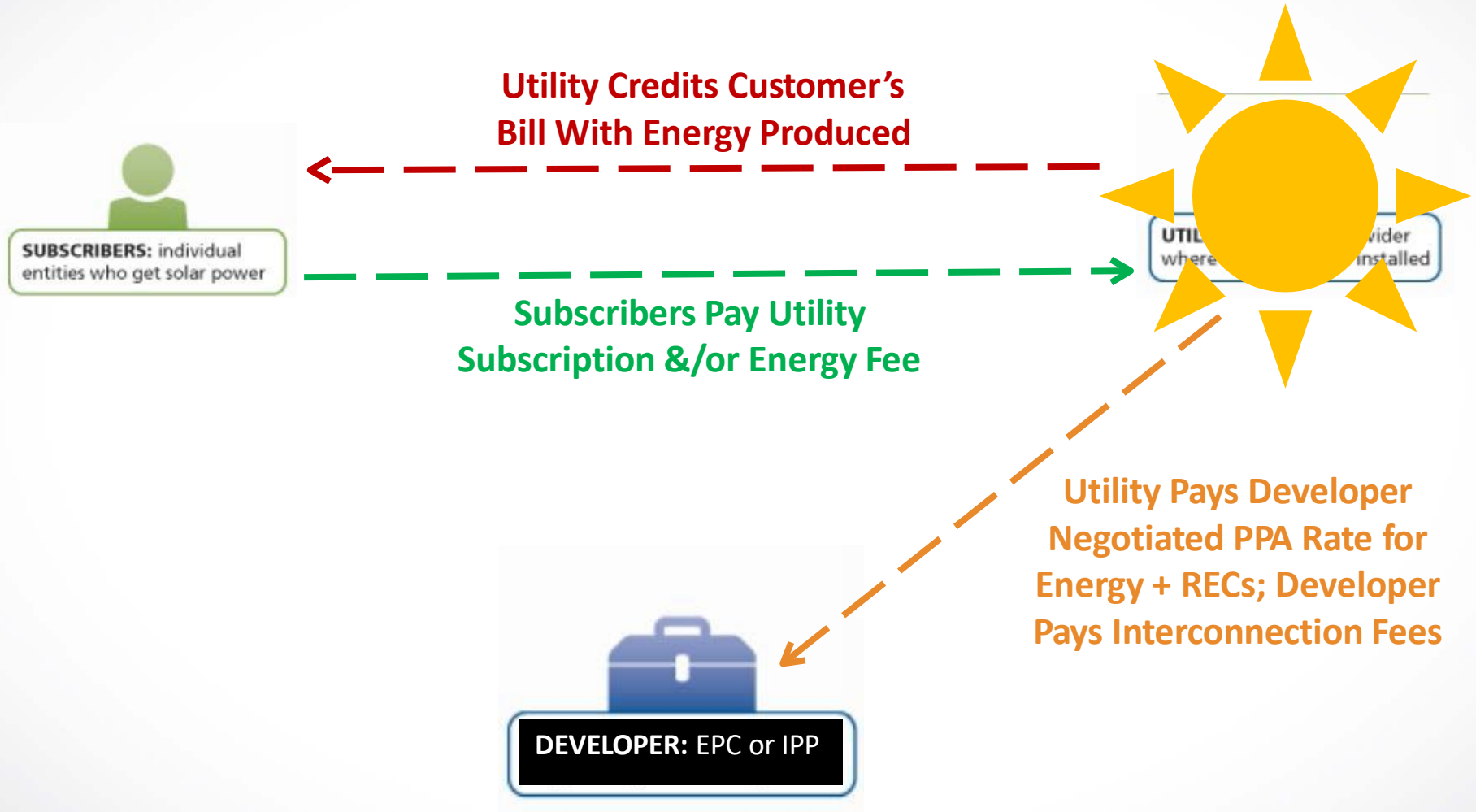
- **Customers will have three options for each garden (*optionality*)**
  1. Upfront cost for a kW block; receive kWh credit for solar
    - *This option is most comparable to a solar PV rooftop installation*
    - *Customer assumes risk of production; 16% of customers want upfront payment*
  2. Monthly subscription per kW; receive kWh credit for solar
    - *This option is comparable to a solar PV rooftop installation financed over time*
    - *69% of customers want monthly payment option*
  3. Fixed charge per kWh for the solar energy produced
    - *This option is most comparable to a green pricing program*
    - *Customer has no risk of production; pays only for what is produced*
- **All options designed to be equal in value and fixed for 25 years (*fairness*)**
- **Customers can change subscription/exit program (*flexibility*)**
- **No deposit, credit check, or minimum contract terms (*accessibility*)**



71% of customers want small amount of solar now, option to increase in future (*scalability*)

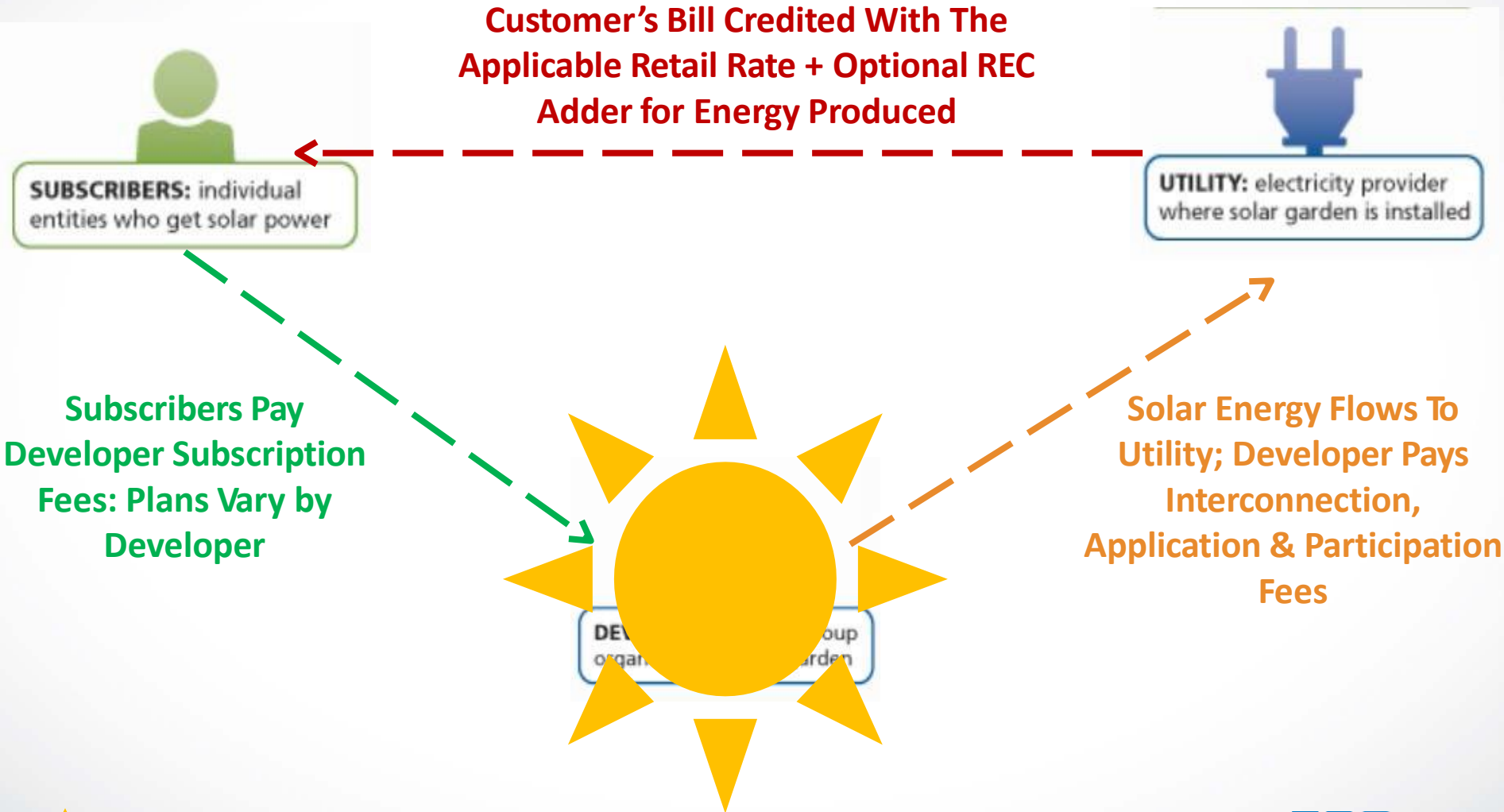
# MP's Community Solar Model ("L")

\*\*\*Similar to CSG models used by Cooperative Utilities in Minnesota



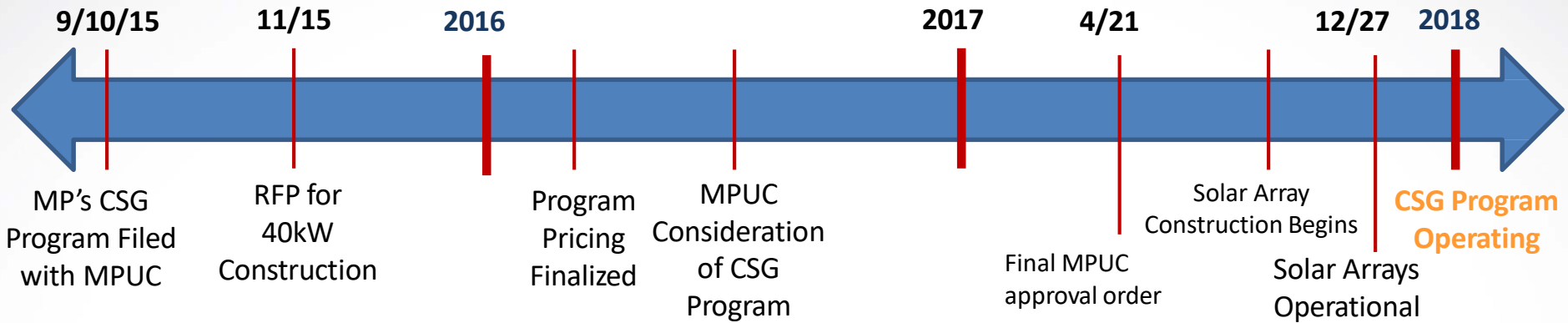
= Customer Interface

# Xcel's CSG Model ("Triangle")



= Customer Interface

# Program Timing



Request for Proposal (RFP) Process for 1MW Solar PPA Opened



# Current Status of Program

- Program began full operations in January 2018
- As of July 1 ~90% subscribed
- Evaluation criteria:
  - Customer preferences
  - Internal processes
  - SES compliance needs



We're Growing Solar



# Questions or Discussion?

Paul Helstrom  
Renewable Program Lead  
[phelstrom@mnpower.com](mailto:phelstrom@mnpower.com)  
218-355-3227

