Grand Rapids Community Solar Plus

A Preliminary Vision, October 2018

The Grand Rapids Public Utilities (GRPU) is working with the Itasca Clean Energy Team (ICET) on a proposal to develop a Community Solar Garden. Community solar has become popular in recent years, because it takes a lot of worry out of "going solar." Subscribers don't need a south-facing property or an adequate rooftop; they may even be renters. There is no worry about building permits, inspections and tax forms, and they can transfer their program membership to another address if they move. There is no maintenance, and there is a lot to be proud of as each share in a community solar project is a long-term source of local, clean energy.

If the Commission opts to move ahead, the utility may also request bids on energy storage for the project. A solar-charged battery would run during periods of highest energy use city-wide, every month. That way, the utility could avoid the high cost of energy during those "peak hours," and pass the savings along to the community at large. This approach is fairly new, but has been successful for a growing number of utilities. Subscribers to this solar plus battery project also may sign up at the same time for load management, such as air conditioner cycling or electric water heater load control. Thanks to new electronic meters, the utility can send a signal to cycle this equipment during peak times in a way that will not affect customers' comfort or convenience, yet could extend the peak load reduction value of the overall program. Other aspects of the program may promote energy efficiency, so community solar becomes the centerpiece of an updated customer-service plan.

GRPUC Community Solar Plus could be located on about eight acres of readily available, local land. The site could be developed as a "pollinator garden," attractive for school groups and families to drive past or visit. Opportunities to work directly with schools could be explored. For schools as well as tech-savvy customers, the project could offer an online portal, with easy-to-read, real-time information about project performance. The plan also might include working with local partners to reach lower-income customers. This proposed program is for homeowners and renters, young and old; supportive local government and school facilities; small businesses—and in short, any GRPU customers who wish to participate. Yet the program would be voluntary and would *not* shift costs onto ratepayers who choose not to participate.

Local market research predicts a strong reception for this program, especially with a "pay as you go" pricing plan. This approach offers subscribers the chance to sign up for blocks of solar generation, delivered to the local grid from this project. Assuming the project moves forward, a rate per kilowatt-hour ($/kWh) to subscribe to the Solar Plus project would be finalized, once developer bids are reviewed. Economic analysis so far suggests a new solar rate would add about *one cent* on top of the applicable customer rate. As energy rates are expected to rise in future years, this fixed Solar Plus rate is likely to be *lower than* the conventional rate within six 6 years or less. See page 2 for more details.

A Glimpse at One Possible "Solar Plus" Offer

The proposed **GRPUC Community Solar-Plus** plan is designed so it will be a good deal for participants, while not shifting costs onto utility ratepayers who choose not to participate. The final pricing and details of the offer will depend on preliminary approval of the GRPUC, and then on bids that utility receives from competing project developers. However, an economic analysis that looks at the program from both the utility's perspective (representing the community at large) and the subscriber's view shows that from either point of view, the benefits of this program outweigh the costs. It is estimated that, over the course of the 25-year life of the expected solar-plus-storage project, the utility could save twice as much on energy and peak-demand costs as its total project cost, and the monthly bill savings for subscribers would generously outsize the premium charged in the program's early years.

Community BENEFIT$ ~ 1½ TIMES COSTS

The technologies and the financing agreement for this solar plus battery project are long-term. However, community-wide savings begin to accrue in Year 1. For subscribers, the Solar Plus rate ($/kWh) would be more expensive than standard electricity *at first*. But the Solar Plus rate will be fixed, while thanks to inflation and market pressures, the standard rate is likely to rise. Within 6 to 8 years, the Solar Plus rate is likely to be lower than the standard rate, and Solar Plus savings would begin to add up. The utility would review the program in Year 10, to ensure that ongoing costs are covered. Yet it would likely continue the to provide savings for another 10 years or more.

The initial 10-year subscription term is suggested as a way to keep the Solar Plus rate fixed long enough to cumulatively offset most costs of the solar plus battery project—and to produce savings for subscribers, relative to rising conventional electricity rates. In addition, there will be options for subscribers to transfer their shares or withdraw early.

Sample Rate (Estimated)*

Current Estimated (Blended) GRPUC Residential Electricity Rate: $0.096/kWh
New GRPUC Solar Plus Rate—Applies to Solar Portion of the Bill: $0.106/kWh
Solar Premium: 1¢ per kWh on Solar Portion of the Bill

***** Note that subscribers will continue to pay the GRPUC utility service fee, taxes and the full cost per kWh for electricity use that is not covered by their Solar Plus Share/s.

For marketing purposes, the Solar Plus rate may be expressed as participant Shares. For example, the solar generation from a 1-kW Share of the project would be 130 kWh/month on average. If billed on the sample Solar Plus Rate, the first-year cost of this Share would be about $1.30 more per month than the cost for standard electricity. Households wishing to solarize a greater percentage of their electric bill could simply subscribe to multiple Solar Plus Shares, resulting in greater total benefits in time.

In its final iteration, this program could offer a range of benefits specifically for subscribers, but the majority of its local, clean energy benefits would be shared community-wide. This includes savings on "peak demand" costs on GRPUC's wholesale power bill, adding up year after year, to $6 million or more. Thus, this program would help keep GRPUC financially strong—and more able to modernize service community-wide for years to come.