

Metro Transit Solar Portfolio Update



Transportation Committee

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Presented by

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Metro Transit, Engineering and Facilities

Solar Programs available in MN

- Net Metering allowed up to 1 MW DC
 - Previous allowed up to .040 MW DC
 - Rail Support Facility and 610 and Noble Park and Ride
 - RFP for Net Metering up to 3 MW DC at six transit facilities
- Community Solar Gardens (CSG)
 - Blue Lake WWTP 1.6 MW DC
 - RFP Solar sites 4 MW DC



Net Metering

Conventional
Net Metering



Meter spins backward
when on-site production
exceeds consumption

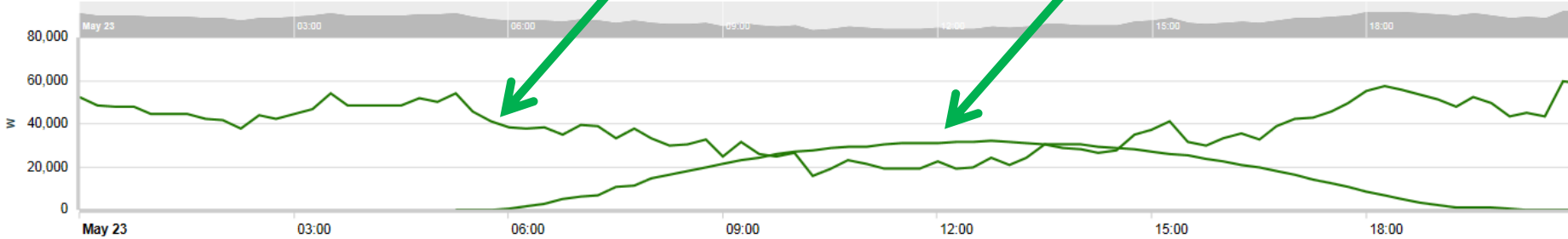
System located on-site



Rail Support Facility

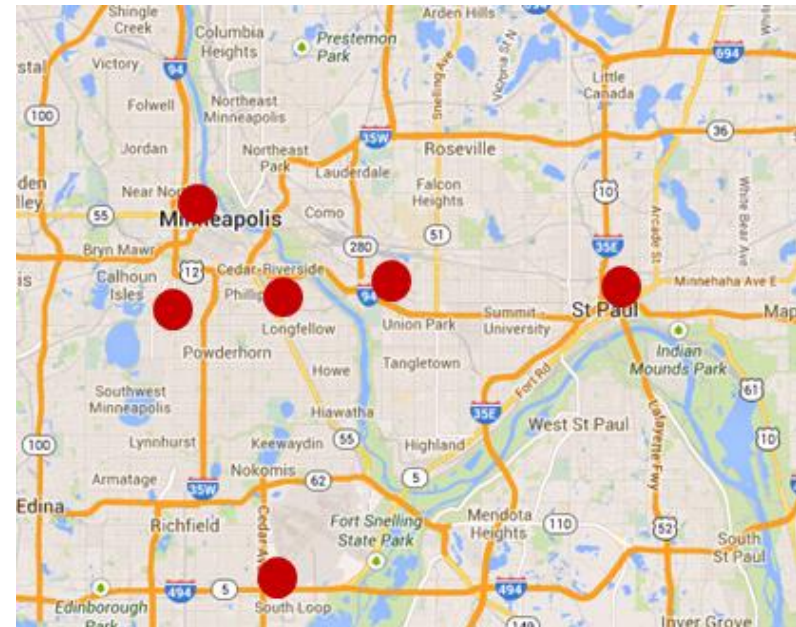
Power

1D 7D 30D 12M WTD MTD YTD

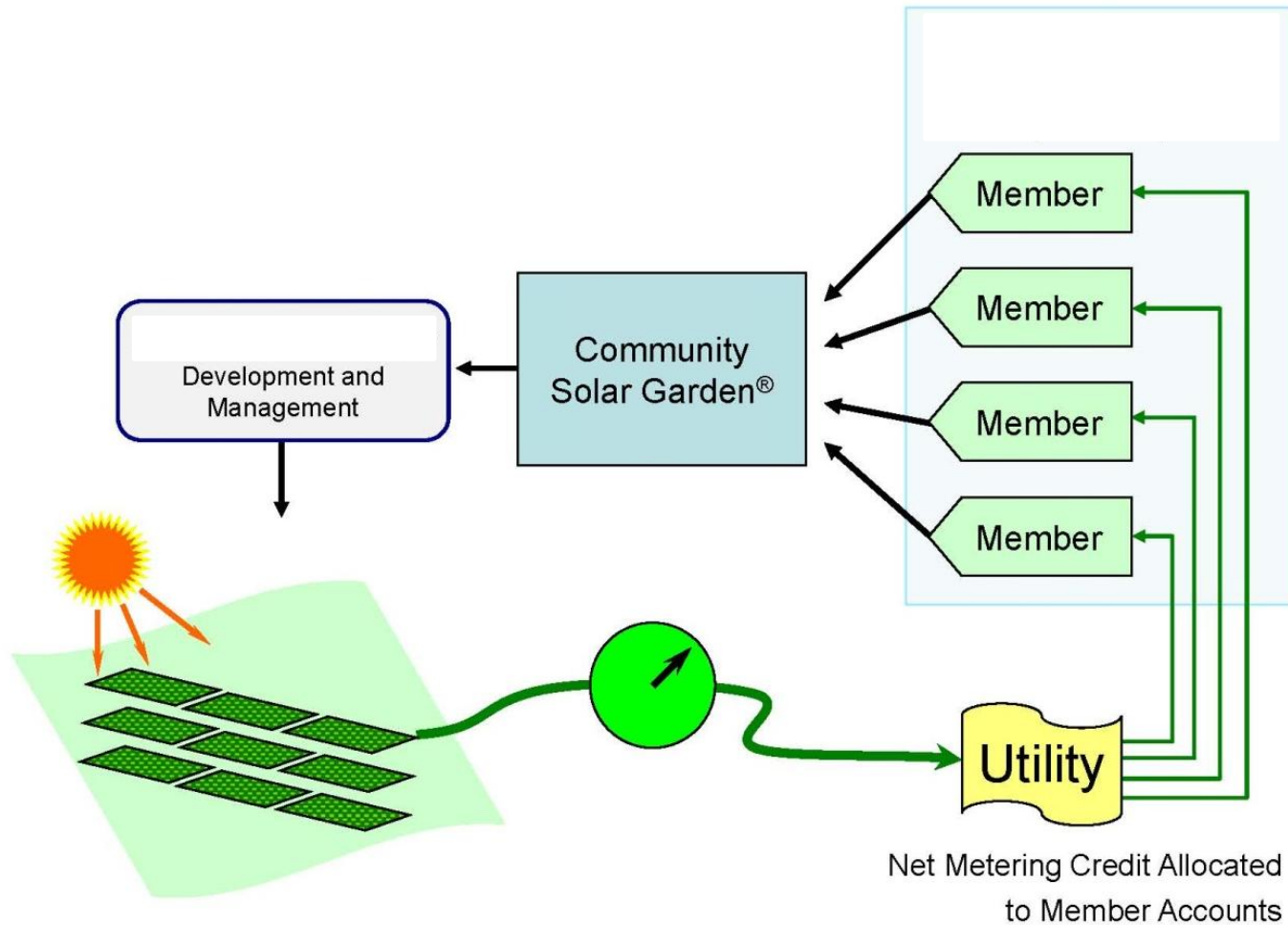


Net Metering RFP

- Joint procurement with ES/MT to purchase electricity at a lower rate than commercially available
- FTH, Nicollet, South, Mpls LRT O&M, OHB, EMTF
- Roof top solar arrays totaling 3.0 MW DC
 - 9,500 solar panels
- Generates 3.45 MWh annually
 - 25% of electrical consumption
- Useful life 40 years
- Estimated savings \$3,745,000 (25yr)
- Operational 2016



Community Solar Garden Program



Blue Lake CSG Project Details

- Four solar gardens totaling 4MW DC
 - 15,152 solar panels; -20 acres
- Garden up to 1 MW
- Have a minimum of 5 subscribers
- Max subscription is 40% of total
- Generates -6.5M kWh annually
 - Met Council will receive 80% or 5.2M kWh
 - Remaining 20% goes to cities and counties
- Resides on Met Council land
- System's useful life is 40 years
- Online in 2016

CSG Financial Benefit: Example at Year 1



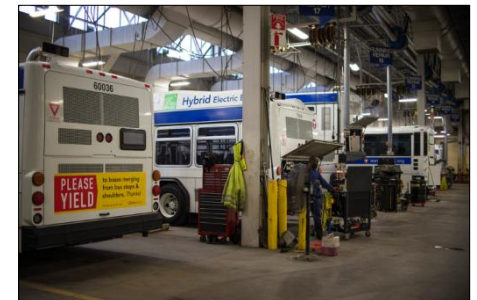
CSG
Developer

buy kwh produced
→
9.5 cents/kwh (fixed)



Utility

Bill credit 9.5 cents/kwh
→
(3% annual increase)



CSG Financial Benefit: Example at Year 6



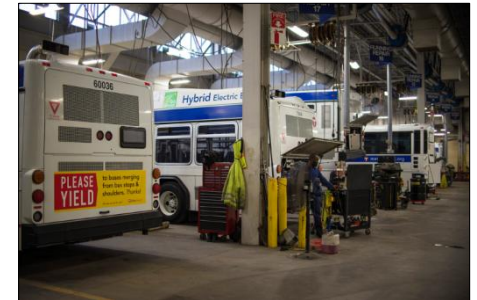
CSG
Developer

buy kwh produced
9.5 cents/kwh (fixed)

Bill credit 11 cents/kwh
(3% annual increase)



Utility



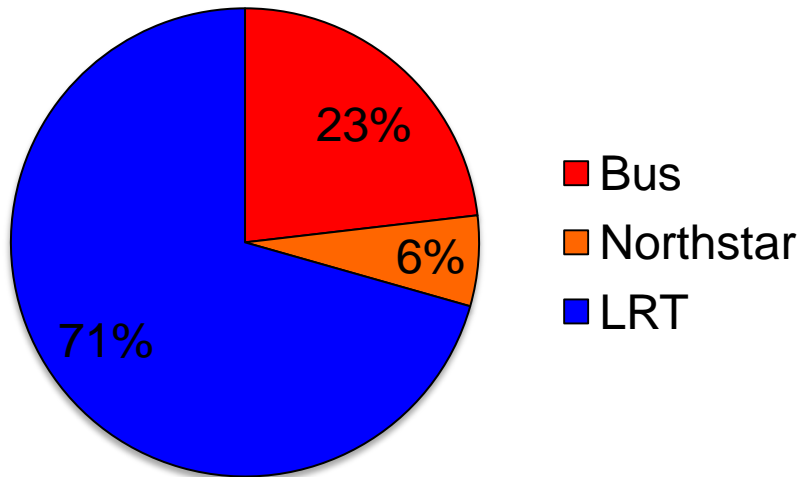
CSG Financial Benefit: 25 Years

Year	\$/kWh	Bill Credit	MT Payment	MT Energy Credit	MT Savings
2016	\$0.095	\$0.095	\$203,298	\$203,942	\$0.00
2020	\$0.095	\$0.110	\$199,893	\$231,931	\$31,837
2025	\$0.095	\$0.127	\$194,946	\$261,991	\$67,045
2030	\$0.095	\$0.148	\$190,120	\$296,202	\$106,081
2039	\$0.095	\$0.193	\$181,734	\$369,429	\$187,694

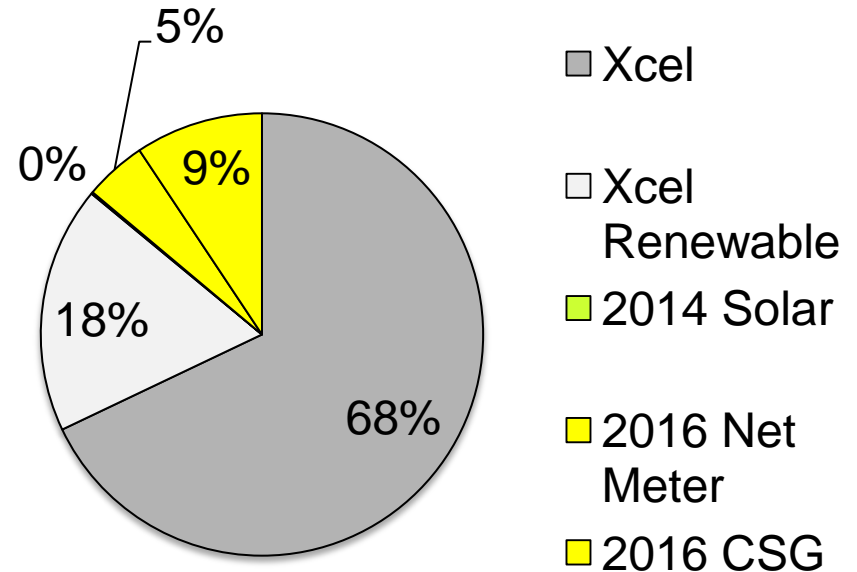
Accumulated Savings= **\$2.1 million** (over 25 years)

2016 Electrical Profile Metro Transit

Electric Usage (by Mode)
75,000,000 kWh total

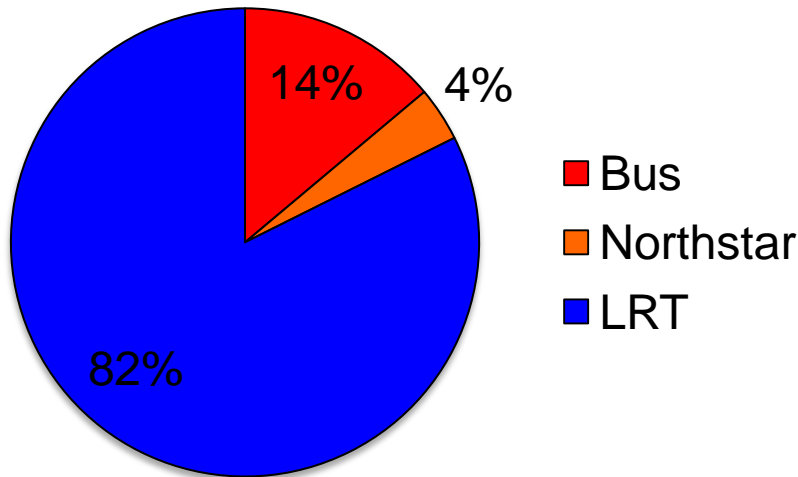


Electricity (by Source)
Total -75,000,000 kWh
Solar-10,500,000 kWh

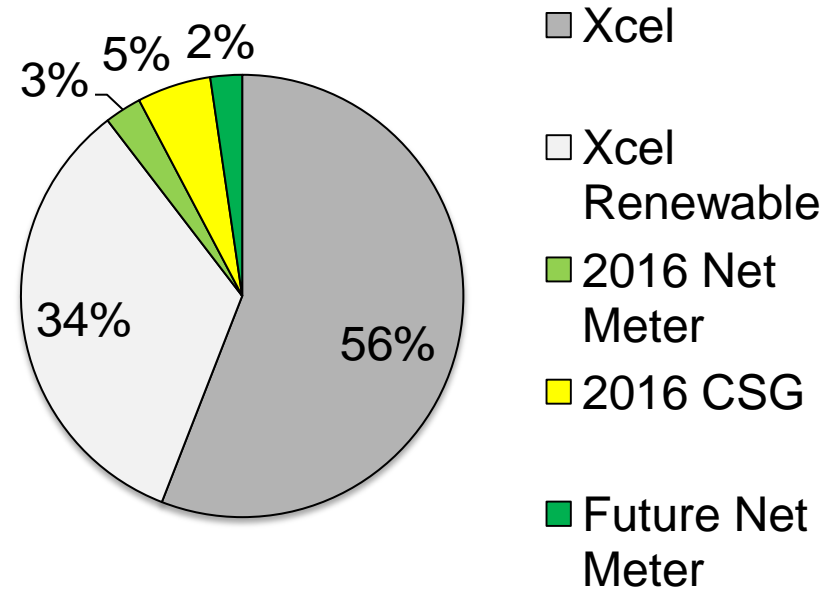


2025 Electrical Profile Metro Transit

Electric Usage (by Mode)
125,000,000 kWh total



Electricity (by Source)
Total -125,000,000 kWh
Solar-17,500,000 kWh



Questions?



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