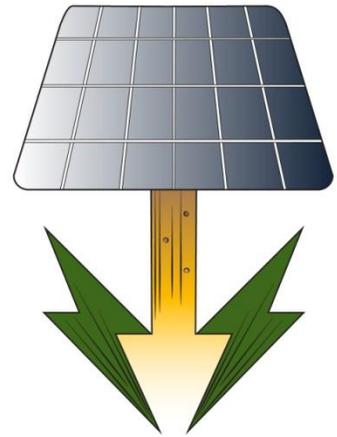


Grand Rapids Community Solar Garden Investment Opportunities Illustration

One goal for the Grand Rapids Community Solar Garden is local economic development. The tax treatment of solar energy can make a solar garden a great investment opportunity for people with sufficient tax exposure, but that opportunity is usually taken by sophisticated investors from outside the community. This is a rough outline of how a group of local investors could take advantage of the opportunities created by a Grand Rapids Community Solar Garden of approximately 1 MW in size.



One MW is the current target size established by the Itasca Clean Energy Team for a local solar garden but the actual size will depend on a number of different factors. The numbers here are therefore only illustrative of the potential investment opportunities that a Community Solar Garden could create. They are not intended to be a description of a specific investment opportunity, but to allow people to assess whether this type of investment might fit their own financial profile.

The role of private investors in a community solar garden is to help finance construction of the solar facility based on a purchase agreement for the power. Ultimately the power is distributed by the PUC to individual subscribers. While buying a subscription for power is the primary investment opportunity for most people, this document is intended to describe how a group of investors can take the opportunity for a much larger investment.

Approximate cost of building a 1mw solar garden = \$2 million dollars.

Federal Solar Tax Credit 30% of project cost = \$600,000

The federal solar tax credit is valuable to people who have a federal tax liability that they can offset. Since the Grand Rapids PUC, as a public agency, does not pay federal income tax one of the advantages of involving private investors would be to take advantage of this federal program. The full 30% tax credit is available for projects starting before 2020.

Accelerated Depreciation = \$400,000 annual deduction over 5 years

In addition to the tax credit, investors in a Community Solar Garden would also be eligible to claim accelerated depreciation on their investment over 5 years. For someone in the highest marginal tax bracket of 39.6% this would save **\$158,000 per year.**

Sell or retain ownership

After the tax advantages of the investment have been taken, the investors retain ownership of the solar facility and will continue to receive any revenue from the purchase agreement. For a variety of reasons, there may be financial advantages to selling the retained ownership to the PUC or other investors.

Summary for an entirely investor funded project

\$2,000,000 investment
- \$600,000 tax credit
- \$792,000 accelerated depreciation
\$608,000 net investment after 5 years

Other factors

While the investor/owners of the project get the tax benefits of the full cost of the project, they often do not provide all the initial capital. There are at least two other potential sources for funding. One is using the solar garden as collateral for a loan. The other is from upfront purchases by subscribers.

In the example above, the project could borrow the \$608,000 net investment, allowing investors to recover their entire investment in 5 years, while still owning the solar facility. A larger loan could provide an immediate return on the investment.

Solar Garden Revenue Summary

Ultimately, a community solar garden is paid for by subscribers to the solar power it produces. This cash flow pays for operating costs as well as repaying any remaining investment costs or loans for construction. It also provides investors with any investment returns beyond tax advantages. How the cash flow works will depend on a number of factors. Here is one simple example:

Actual Power Production with Capacity factor of 13%

1MW x 24 (hours/day) x 365 (days/year) x 13% (capacity factor) \approx 1,138,800 kwh

Example of annual return on investment at current retail rates

Annual value of power at current retail rate 1,138,000 *\$.083 = \$94,454

– Administrative costs @ \$.01/kwh \$13,138

Net Revenue \$81,316 per year

4.0% first year return on \$2 million investment

4.7% year two return on remaining 1,722,000 after receiving \$278,000 tax benefits

5.6% year three return on remaining 1,444,000 after receiving \$278,000 tax benefits

7.0% year four return on remaining 1,166,000 after receiving \$278,000 tax benefits

9.1% year five return on remaining 888,000 after receiving \$278,000 tax benefits

13.4% return in following years on remaining 608,000 after receiving final \$278,000 tax benefits

The actual returns and their timing will depend on details of the financial plan including the power purchase agreement and future electric rates.

Summary

For investors with sufficient tax exposure an investment in a community solar garden can provide a substantial return on their investment. The tax benefits are exhausted over the first five years. After that, the solar garden's revenue provides a substantial cash flow to investors based on the remaining value of their initial investment. The details of that return depend on the specific financial plan the investment group creates and negotiations with the PUC and public over how revenue and costs are shared.