



engineers | architects | planners | environmental specialists
land surveyors | landscape architects | interior designers

MEMO

604 Wilson Avenue
Menomonie, WI 54751
715-235-9081
800-472-7372
FAX 715-235-2727

DATE: April 14th, 2016
TO: Village of North Hudson Public Works Committee Members
FROM: Kevin Oium, Village Engineer
REGARDING: Village Hall Solar Panel Energy Options

The Village has been exploring a couple of energy saving options for the Village Hall. One of them being the installation of solar panels on top of the Village Hall roof while the other is buying into a community solar garden offered by Xcel Energy. Please note that the Village Hall used 41,220 kWh of electricity in 2015. Below is a summary of our findings for each option:

Solar panels installed on top of the Village Hall roof

- Subscription Size: 15kW
- Solar Production: 16,495 kWh/year
- Initial Cost of Installation: \$52,900 (updated cost as of 3/16)
- Estimated Annual Electrical Savings: \$1,979
- Focus on Energy Incentives: \$600/kW up to 4kW for a total of \$2,400. Also provide a 0% interest loan for up to half of the installation cost.
- Payback period of 19-20 years (assumes a 3.5% increase in electrical rates each year)
- Life expectancy of equipment: 25-30 years
- Two year warranty on equipment not including labor
- Installer implies there is no yearly maintenance cost associated with this system.
- Visible showing of being “green”

Community Solar Garden

- Subscription Size: 16 kW
- Solar Production: 20,568 kWh/year
- Initial Cost of Installation: \$28,480 (\$3,200 initial deposit with remanding due at the end of the year)
- Estimated Annual Electrical Savings: \$1,420 (Xcel mentioned that the Village should see additional savings over the life of the contract with higher electrical rates)
- Payback period of 17-20 years
- Contract period: 25 years
- No maintenance cost over the life of the contract
- More difficult of showing the community you’re “green” with the solar garden being at a different location. However, Xcel Energy indicated there would be a commitment on their part of getting the word out.

Based on this information, we are recommending the Village consider buying into the community solar garden over the solar panel option. Some of the factors that contributed to this conclusion include the smaller investment cost, shorter payback period and no maintenance cost over the life of the contract.