Year One Annual Solar Meeting Summary

April 18, 2017

Comments:
We were disappointed to see the performance of the solar energy (PV) systems not meet our expectations for the first year of production. It was about 8.7% less than expected.

Our investors personally reached out to SunVest to obtain some explanations, and also did some work on their own -- in particular, by looking at other solar energy (PV) systems in our portfolio, for comparison purposes. There are three reasons for the under-performance:

1) In general, the solar radiation reaching the surface of the earth (in the vicinity of Darlington, Wisconsin and, in fact, in Wisconsin in general) was lower than in previous years and slightly lower than modeled expectations, by about 2-3%. This is not abnormal... from year-to-year, variations in solar radiation levels are to be expected.

2) The past winter (2016-2017), although generally mild, produced a number of wet snow and freezing rain events. This type of snow and ice results in the modules being covered for longer periods of time (as compared with drier snow events). This resulted in a larger "snow loss factor" than we had modeled, by about 2-3%. As with solar radiation, this is not abnormal and tends to even out after a number of winters.

3) As you may know, and as reported on the monthly invoices, we had multiple inverter problems throughout the year. Even if only one inverter is impacted at a time, this still can result in a material loss if problems recur. In our case, the need for firmware upgrades became paramount and accordingly, I have been in touch with John Daugherty, Adam Gusse, and Geoff Cushman of SunVest. I know Geoff was there recently and confirmed that all 6 inverters are now running on the latest firmware. We are hopeful the inverter problems will be a thing of the past! I should note that inverters are often the fail point in solar energy (PV) systems. It is good to know we have a quality contractor providing O&M services and, of course, the long-term extended warranties are important. I estimate the reduction (due to inverter problems) was about 3-3.5% for the year. Let's hope we no longer witness this category of under-performance in the future.

In general, the "true-up" process is working as it should: for year one, there was under-performance and because we have a true-up, the burden of the under-performance is carried by DCSD Solar Ed Project, not by the District.