Project Title:	350 kW Target Midway Solar PV Project
Contract Number:	EP4-20
Milestone Numbers:	2
Report Date:	6/2/2017
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Congressional District (Corporate):	MN Congressional District 4
Congressional District (Project):	MN Congressional District 4

MILESTONE REPORT

Executive Summary: Construction and commissioning of the 428 kW DC solar system at the Target located at 1300 University Ave. W., St Paul was completed in April 2016. The project provides energy to the Target store during daylight hours, when the PV modules receive sufficient sunlight to generate electricity. The system self generates electricity for Target and has been sized to meet the electric load of the store. It is optimally designed to avoid exporting power to Xcel Energy.

This projects aligns Target with the larger green initiatives fostered by the Energy Innovation Corridor (EIC) and is focused on increasing the penetration and visibility of solar energy in Minnesota. The learnings from this project helped inform Target's approach to other solar projects. The completion of this project and many others will help Target reach their White House Climate Pledge of 500 rooftop solar installations by 2020.

The success of this project centers on meeting four goals:

1. Energy Production: Maximize on-site renewable energy production during peak hours at Target Midway. To do this we constructed the project with a 30-degree tilt angle design. Target has typically installed systems at a 10 – degree tilt. The larger tilt will help optimize system size and account for seasonality and snow at this location. We will continue to track and analyze production numbers at this site to verify our assumptions
2. Environmental: This project is estimated to generate 583,000 kWh of renewable energy in the first year of operation and a total of 8,599,000 kWh over the 15-year term of the program. No fuels will be combusted in the project's electricity

production and the use of this energy to offset traditional energy sources will reduce air pollution and greenhouse gas emissions. The amount of renewable energy generated by this project will be enough to power approximately 200 homes per year.

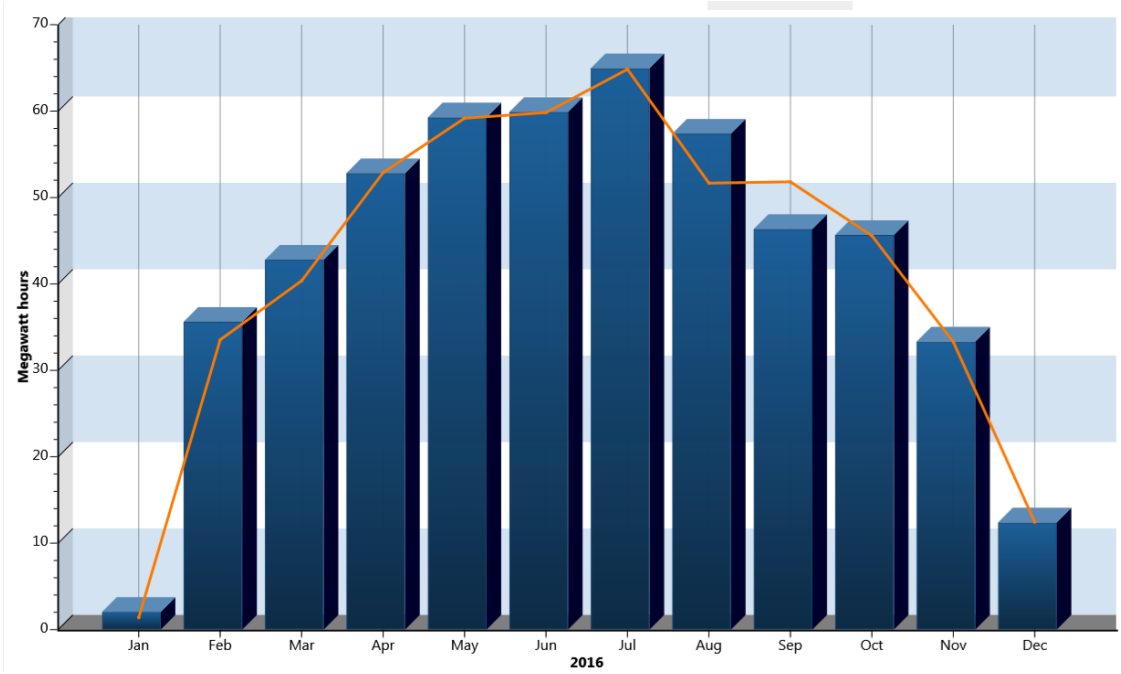
3. Education: Educate the community on the benefits of commercial-scale solar through direct engagement with Target Midway guests and regional solar professionals, developers, and other interested parties. In-store displays will highlight the main features of the project and demonstrate its benefits. Systems of this size on retail stores are commonplace in states like California and New Jersey. Minnesota, however, lags behind. The installation of the Target Midway project is a step in the right direction.
4. Ratepayer Benefit: The project went through a competitive bid process to find an engineering, procurement, and construction contractor ("EPC") to provide the best value in materials, design and construction costs. The EPC accounted for Target Midway's continuous energy demand, and designed an array that will allow Target to reduce peak usage during the day, when demand is highest. This will optimize the energy produced without generating oversupply from the most cost – effectively sized array. This investment in solar, which seeks to match optimal energy generation and system size at cost-effective pricing, supports the next generation of solar cost reduction techniques that will move the industry toward commercial viability in Minnesota's Energy marketplace.

"Project funding provided by customers of Xcel Energy through a grant from the Renewable Development Fund."

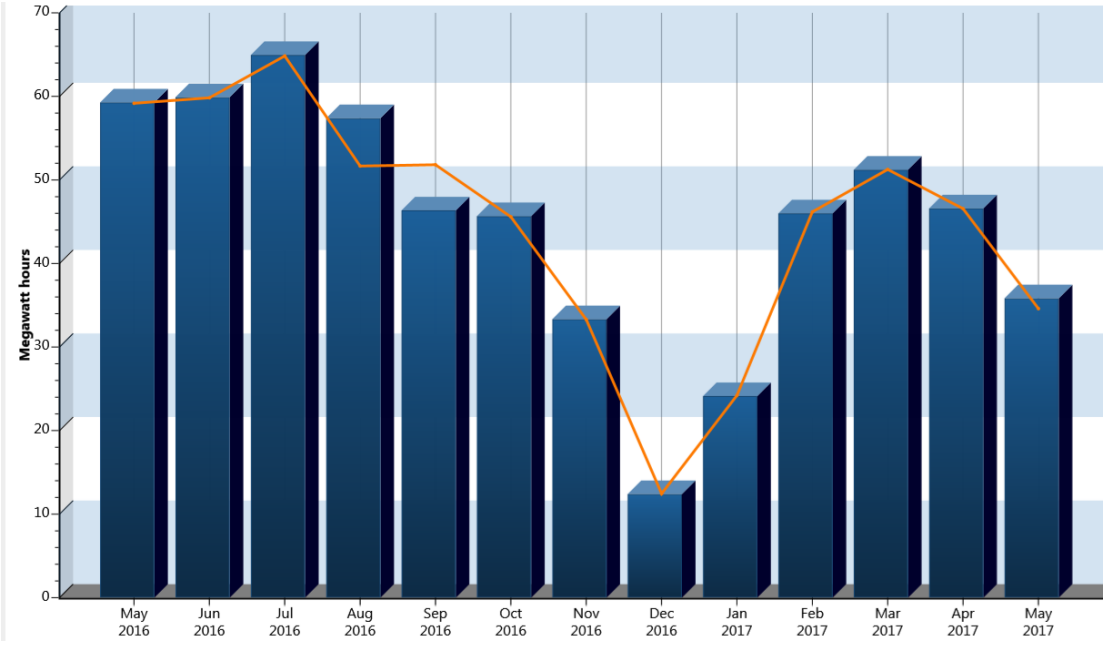
Technical Progress:

Energy Production & Environmental. As of May 16, 2017, the system has generated 717,000 kWh of energy which equates to over 718,000 lbs. of CO_2 avoided. Renewable energy credits associated with the energy production remain with Xcel Energy in support of efforts to increase the generation of renewable energy in the community.

Monthly Solar Production
(Calendar Year 2016)



Monthly Solar Production
(12 Month Period from Commercial Operation Date)



Education & Public Outreach. On June 16th 2016, Target hosted an on-site solar dedication ceremony for Xcel Members, Target team members, and solar developers. Target shared a giant fabricated light switch to represent the "solar switch on" for our team to celebrate the project going "live."

Target educated all on the benefits of onsite solar. Teaching the store team members also enabled us to continue our education efforts with our Target guests. Target team members have been equipped with info they may need to field questions and provide information to community members on a daily basis.

In March of 2017, Target continued its outreach by placing an onsite display.

Project Status: The operation of the array has been very smooth. The solar system is operating efficiently and meeting our production expectations.

Live production data for the system can be found here:

https://minisite.alsoenergy.com/Dashboard/2a566973506557334241554b772b716f3d

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