

## **Putting Solar Panels on your Church during a Pandemic**

Judson Memorial Baptist Church in Minneapolis, Minnesota began the process of installing PV (photovoltaic) solar panels on our building's roof in the late fall of 2019. After making an initial contact with a Buff Grace, a representative of Minnesota Interfaith Power and Light (MNIPL), a nonprofit network of faith communities, concerning participating in their Twin Cities Congregational Solar Bulk Buy program, Judson filled out MNIPL's site assessment form in early January of 2020, which started the formal process. That information provided by our church qualified Judson for their program, with the caveat that our old flat roof (which was the program's preferred location to install solar panels) had to be replaced prior to installing solar panels. This was not a total surprise as the old roof was nearly 30 years old and we had started to have a few leaks.

We met with Buff Grace and representatives with Sundial Energy, a Minneapolis based solar developer/installer, about the size and type of solar system that our building could accommodate. Judson requested from our utility (Xcel Energy) provider two years of past electrical usage which Sundial used to recommend that we not only use the flat roof portion for solar panels but also a portion of our adjacent sloping roof. This increased our potential solar array size from 35 kW (95 panels) to 56 kW (140 panels). Once the solar array size was decided, Sundial estimated the costs for installing the system and using incentives from the utility, possible grant from the city of Minneapolis, federal government tax rebate programs, and local low interest financing sources, provided the church with several financial packages to consider for the project. Our finance committee reviewed the financial packages and decided on the shorter (10 year) loan term to reduce total costs even though it increased our yearly payments.

Normally the church would have called a congregational meeting and presented both construction projects, one to replace our existing flat roof and another to add solar panels to that roof plus the adjacent sloping roof. After our church council approved both projects during a zoom meeting, we prepared and sent to all church members, a 3-page letter that gave the financial and engineering details of both projects, another Q&A sided sheet that asked and answered typical questions about the roof replacement and solar installation, and finally a ballot for both proposals to be mailed in within 3 weeks. Several of us on the church council held two Zoom information sessions, 1 and 2 weeks before the ballot due date where we got a relatively small number of questions and concerns about the projects. These were addressed and documented in our minutes. We received roughly 100 completed ballots, which is much higher voting turnout than we normally get during a traditional congregational meeting, and both projects were nearly unanimously approved.

Both the roof and solar projects were approved in June, 2020. The roofing company selected to install the new roof completed that project on schedule by the end of August. The solar project proved to be quite a different story. The solar installers started work on our project in late summer, including the financial, engineering and interconnection agreement with the utility supplier. For a variety of reasons, including supply chain issues experienced during the pandemic, the solar panels on our flat roof were finally delivered and installed in mid-December of 2020 as shown in the attached photo. The sloped roof panels were not installed until 6 weeks later (early February, 2021) due to a delay in getting the

fasteners used to secure them to the shingled roof (see photo). Connecting the new solar array to the church electrical system was done in February/March when temperatures were warm enough to work outdoors in Minnesota. Interconnection permits and final inspections by the utility and the city were finally completed by mid-April. The solar system was activated (see photo of myself flipping the circuit breaker lever) on April 29, 2021, roughly 16 months after Judson started the process. Although it took much longer than we planned we were pleased with the results.





Since the solar system was activated (8 weeks of operation) we have generated slightly over 16,000 kWh of carbon free electrical energy. Our solar system is estimated to produce almost 70,000 kWh of energy annually so after nearly 2 months of long sunny days, we are over 20% to our yearly goal. Probably of greater importance, we have saved nearly 12 tons of CO<sub>2</sub> from being released into the atmosphere.

Our suggestions to other churches for putting solar on their building is to find a trusted solar installer in your area and if possible work with a non-profit organization like the Interfaith Power & Light ([info@interfaithpowerandlight.org](mailto:info@interfaithpowerandlight.org)) that promote climate change policies and actions. The Minnesota Interfaith Power & Light (MNIPL) staff helped us located a local solar installer who had previously worked with churches, plus identify funding sources that included both grants and low interest loans. Although our project did not get a grant from the city of Minneapolis (grant program was suspended last year due to the many expenses incur after the death of George Floyd), it was still extremely helpful to have experienced individuals from MNIPL let you know the numerous forms needed plus what materials required by the solar installer and the utility provider to complete the project. Also, having reliable and transparent financial and construction proposals that could be presented to the congregation made it relatively easy to secure approval for the project. It is certainly possible for a church to go it alone but it would take extra effort on the part of church administration and leadership to jump through all the hoops needed to complete a solar project. So as the last photo taken by a drone early in June of our completed system shows, Judson church looks forward to be an example and community supporter of renewable energy and climate justice in the city of Minneapolis.





Larry D. Jacobson, Judson property committee chair and co-project manager for roof & solar projects.