*The **Solar Racking System** that supports the panels points due South and is fixed at a 25° angle to the ground. The land under the panels has been planted in no-mow grass to reduce grounds maintenance costs.*

*754 **Solar Panel Modules** have the capacity to generate approximately 420,000 kilowatt hours each year. That is enough to power 50 homes for a year or charge 37,866,421 smart phones!*

*Two 125kW **String Inverters** convert the Direct Current (DC) output from the solar modules into Alternating Current (AC) that is used by St. Thomas' buildings and by the PECO grid.*

*Underground **Conduit** houses the wiring used to carry the Alternating Current from the inverters at the solar field to the utility interconnection site in the parking lot below St. Thomas' Preschool.*

***The solar energy system interconnects with PECO's distribution grid and the St. Thomas buildings.** One meter measures the electricity generated and the other meter measures electric usage. Excess generation goes onto the grid and results in a credit to St. Thomas.*

St. Thomas' Solar Energy Solution

Benefits of Solar

Renewable and Free: Enough sunlight reaches the earth in one hour to meet the world's power needs for an entire year. Sunlight is free, infinitely abundant and easily accessible – unlike fossil fuels which need to be mined, extracted and transported.

Environmentally Friendly: Solar energy generates clean and sustainable electricity without emissions that contribute to global warming. Each year the St. Thomas' solar system has the potential to:

- Eliminate the release of 654,589 pounds of CO_2 emissions,
- Save 687 barrels of oil, or
- Offset 1.6 rail cars of coal

Cost Efficient: Based on projected usage and typical costs, about 90% of the total electricity needs by the St. Thomas' buildings will be met with the installed system. St. Thomas' Church will assume full ownership of the solar panels by 2025, allowing for significant savings on the church campus' energy expenses.

Allows St. Thomas to Meet Its Covenant to Reduce Greenhouse Gas Emissions: The solar energy system helps St. Thomas fulfill its commitment to the Genesis Covenant, an initiative adopted by the Episcopal Church to care for God's creation. As a signatory to the covenant, St. Thomas' Church has committed to reduce green-house gas emissions from its buildings by a minimum of 50% within ten years. It is estimated that this solar energy system will reduce St. Thomas' greenhouse gas footprint by 38%, a substantial step towards meeting the 50% reduction target.

Signage development, editing/design:
www.Communication-Results.com

St. Thomas' Solar Project

The solar panel field is nestled in the northwest corner of the church campus on approximately one acre of unused land, shown in the lower right of the above photo. This area is flat with an excellent southern exposure, which makes it an ideal location.

The solar panel installation provides a means for St. Thomas' Church to reduce its electric costs and carbon footprint and meet its covenant with the Episcopal Church to reduce greenhouse gas emissions. ***This system is good for the bottom line, good for the environment and good for the stewardship of the earth.***

More details, educational resources and giving opportunities are available at the St. Thomas' Church website by clicking the code.

System Summary & Stats

Power Generation Start Date
October 23, 2020
System Developer/Installer
Solar Renewable Energy LLC
Mechanicsburg, PA
Racking System
RBI Solar Fixed-Tilt
Ground Mount System
Solar Modules
754 Trina Solar DUOMAX
Twin 405 Watt Modules
with a life expectancy of 25-30 years
Inverters
2 Chint Power Systems
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Predicted Generation
419,943 kilowatt-hours (kWh) annually
DC Capacity
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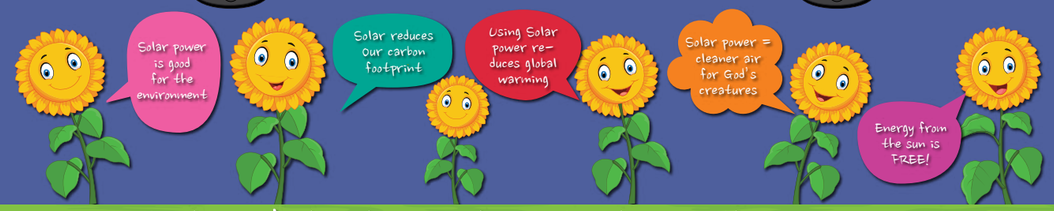
AC Capacity
250 kilowatts (kWAC)
Array Tilt
25 degrees
Array Azimuth
180 degrees (due South)

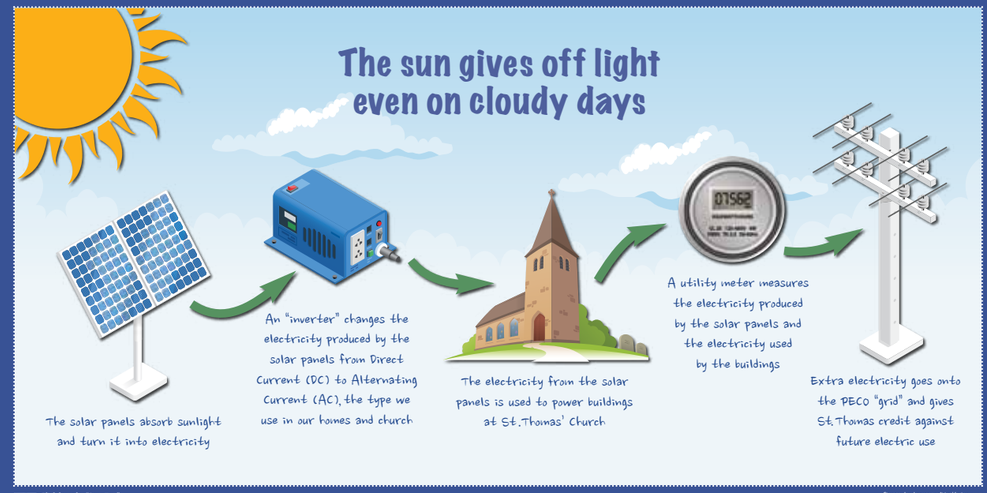
Click code to monitor real-time electricity generation by the Solar Panels

Qty. 1



St. Thomas' Church: We Choose to Shine with Solar Energy!

How Solar Panels Work



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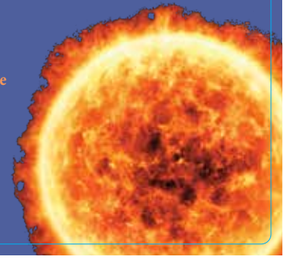
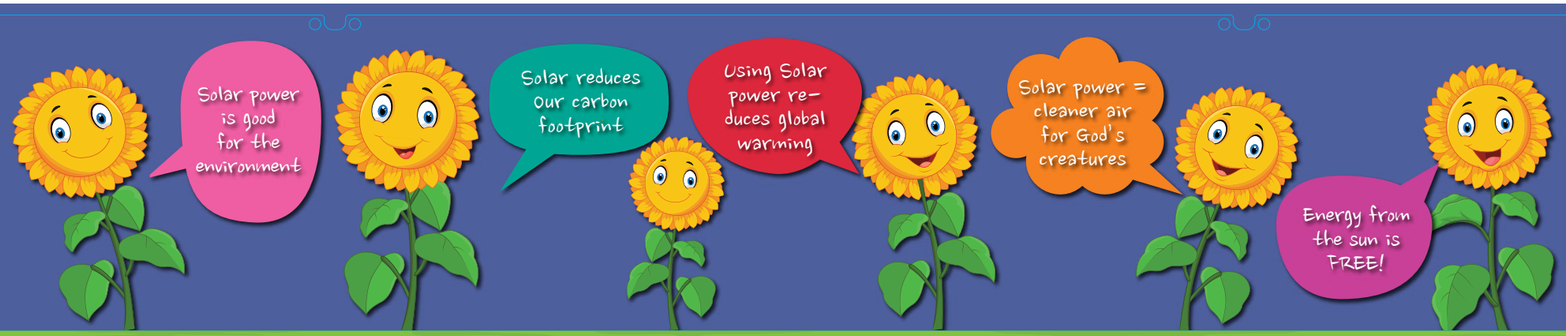
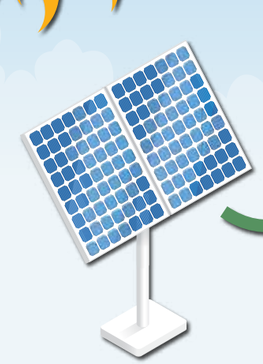




St. Thomas' Church: We Choose to Shine with Solar Energy!

How Solar Panels Work

The sun gives off light even on cloudy days

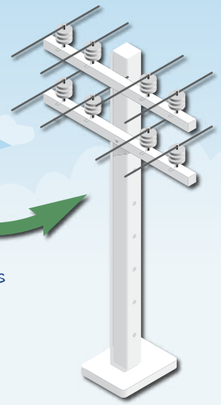


The solar panels absorb sunlight and turn it into electricity

An "inverter" changes the electricity produced by the solar panels from Direct Current (DC) to Alternating Current (AC), the type we use in our homes and church

The electricity from the solar panels is used to power buildings at St. Thomas' Church

A utility meter measures the electricity produced by the solar panels and the electricity used by the buildings



Extra electricity goes onto the PECO "grid" and gives St. Thomas credit against future electric use

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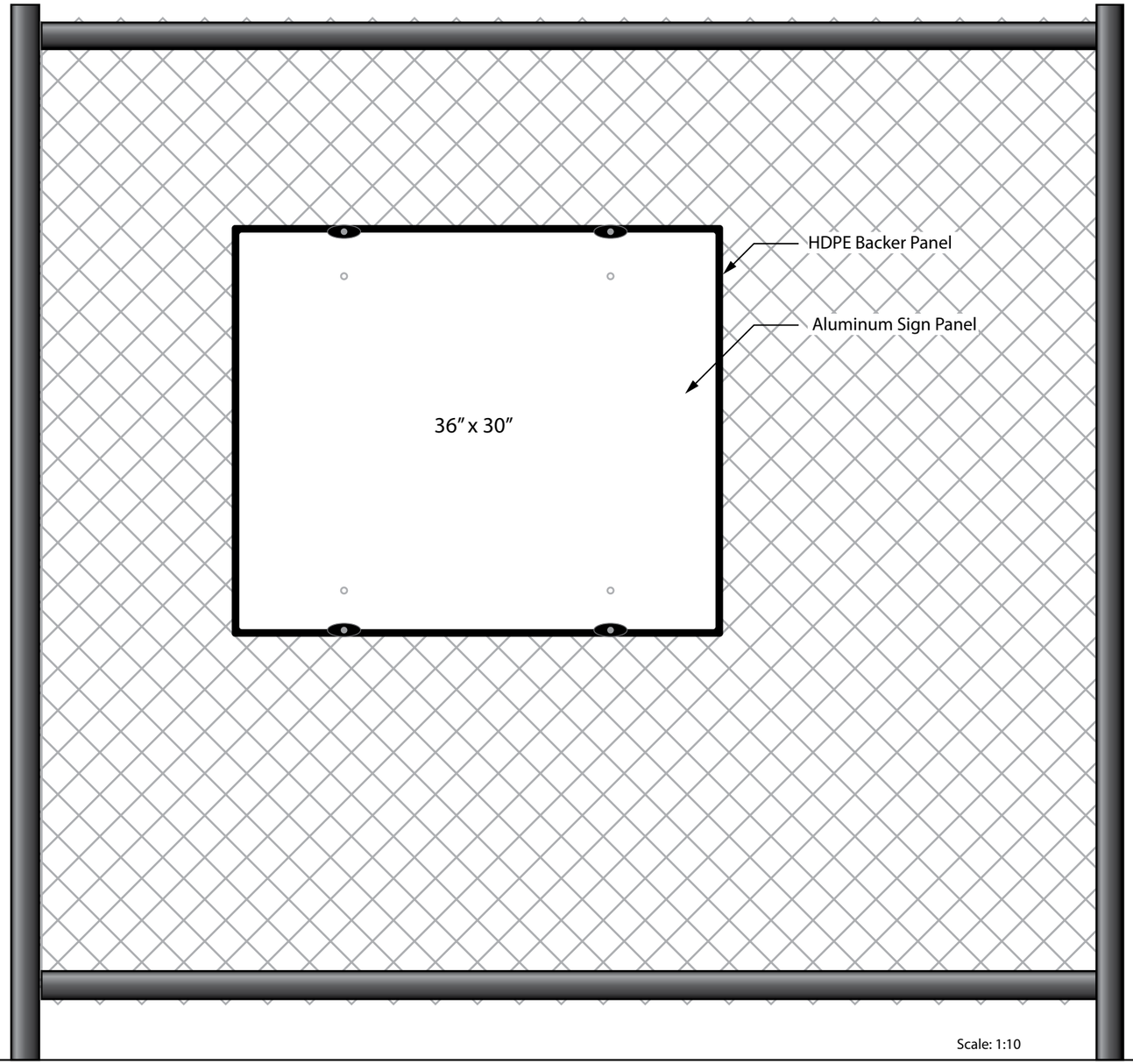

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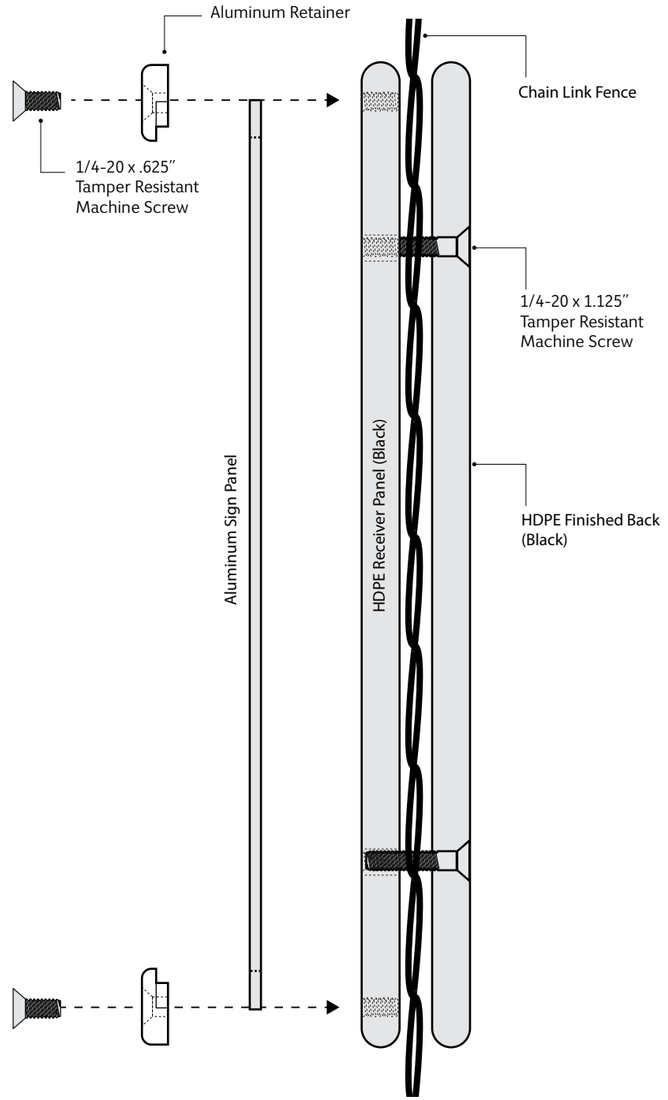

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