



South Church Andover, MA

Solar Photovoltaic System



In the Beginning: For many years, South Church has had an active Green Team which promotes creation care. From bringing renowned author and environmental activist, Bill McKibben, in to speak, to working with environmental interns from Andover High School, the Green Team is invested in building working relationships with the broader community. In this vein, members of South Church were instrumental in guiding the Town to install a solar panel on the roof of Doherty Middle School several years ago, made possible with funds provided by the former Mass. Technology Collaborative.

In October 2011, South Church began to look closely at installing solar photovoltaic (PV) panels on their roof to generate electricity. Vendors had started to advertise systems with Power Purchase Agreements (PPAs) in which the host (the church) simply provided the space and agreed to purchase the solar power produced, at a discounted rate. The owner paid for the system – designed, installed and maintained it – and collected the tax benefits and the Solar Renewable Energy Certificates or SREC's.

Evaluating Proposals: South Church contacted *Massachusetts Interfaith Power & Light*, who recommended several contractors with expertise in installing solar PV systems. South Church then requested proposals from three contractors, and evaluated them for cost savings, the experience and reputation of the designer/installer, the quality of the equipment, and the warranties. They selected *SunBug* Solar, and have been completely satisfied with their service.

Congregational Support: As soon as South Church had preliminary proposals in hand, relevant church boards were brought into a conversation regarding the various benefits and risks, and members of the congregation were consulted in order to determine the best option. In April 2012, a proposal was selected. South Church obtained approval from the Historic Commission to move forward, and the system was then installed.

The System:

Solar System Size: 52.32 kW DC

Panels: 160 SunPower 327 Watt panels, with 20 % efficiency

Inverters: 4 Fronius 11.4 kW inverters

Estimated Energy Production in Year 1: 63,860 kWh (Guaranteed)

Estimated Annual Decrease in Production: 0.5 % (Guaranteed not to exceed)

System Owner: Great Green Enterprises, LLC

Performance:

The results thus far are impressive, both from a creation care and a cost-saving standpoint!

- **Estimated Annual Carbon Savings: 55 Tons of carbon dioxide**
- **Estimated Annual Savings: \$3,000**
- Energy Produced: 64,050 kWh (October 20, 2012 – October 2, 2013)
- The system produces about 92% of South Church's electricity needs. When it produces more than the church needs the utility gives them a credit on their bill for other months.