

Multifamily Solar Water Heating

4600 Connecticut Case Study



PROJECT DESCRIPTION

Skyline Innovations, Inc. provides solar energy to the 4600 Connecticut Avenue Condominium through a price-indexed power purchase agreement. The project location is a 267 unit high-rise multifamily building located at 4600 Connecticut Avenue NW in Washington, DC and the system was placed in service on January 20, 2012. Skyline provided the financing, project development services, and ongoing operations, maintenance and monitoring of a roof-mounted solar hot water system for offsetting the building's use of natural gas for domestic hot water.

TECHNOLOGY

The technology provided to 4600 Connecticut Avenue consists of roof-mounted solar thermal collectors for domestic water heating with an integrated monitoring system. The monitoring system consists of temperature sensors, flow meters, BTU meters, and a networked central data monitor (the Skybox, a product developed by Skyline) that sends solar energy consumption and system performance data to Skyline for monitoring, maintenance and billing.



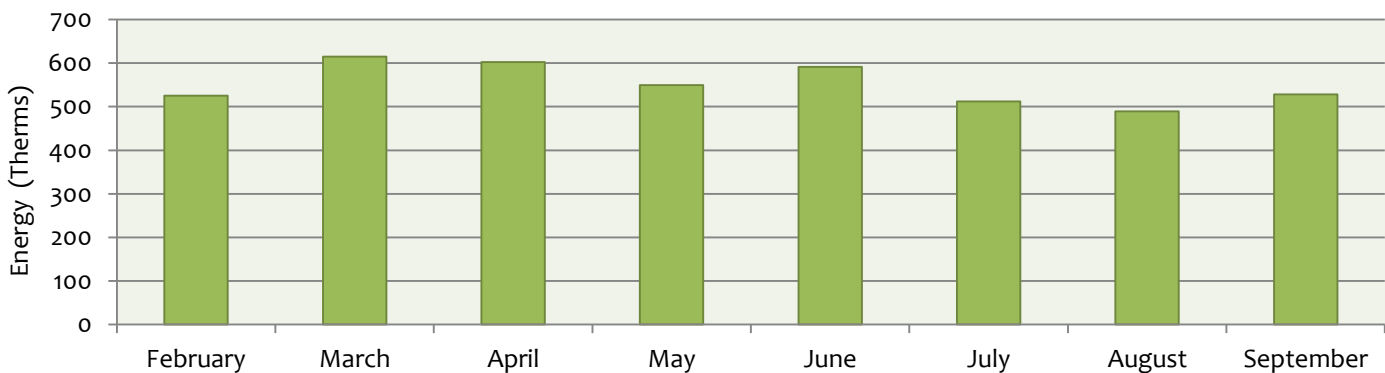
4600 Connecticut Solar Water Heating System

SYSTEM SPECIFICATIONS & POWER GENERATION

Collector Type	Collector Model	Collector Quantity	System Storage	Avg. Daily kBTU Delivered/Panel
Evacuated Tube	Apricus AP-30	64	3,000 gallons	28.7

Over its first eight months in operation, the system consistently delivered an average of 551.5 therms of heat energy monthly, or 28.7 kBTU per collector per day. This amount of energy is equivalent to 16.2 MWh of electricity generated monthly, or 8.4 kWh per collector daily.

SKYLINE ENERGY DELIVERED



Multifamily Solar Water Heating

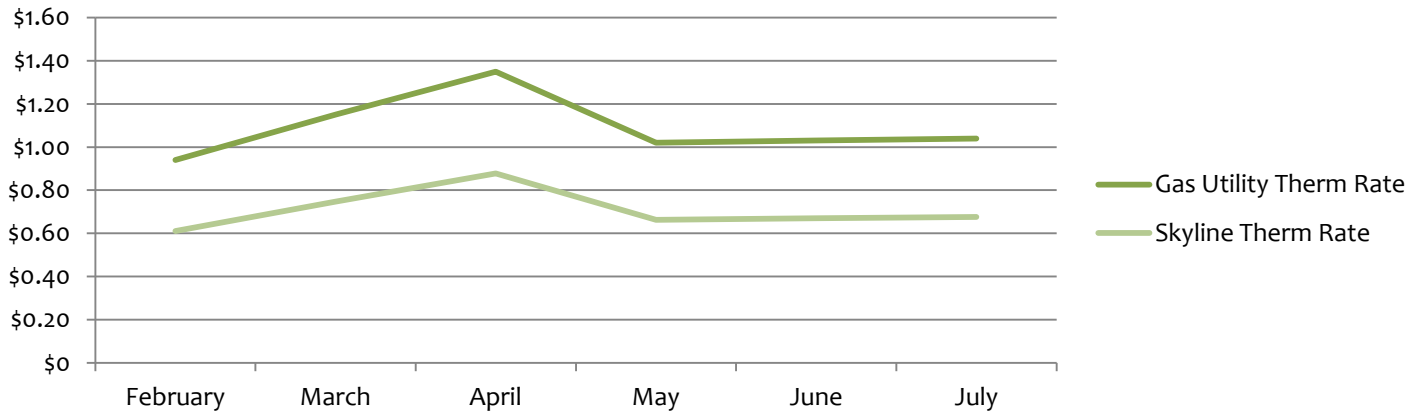
4600 Connecticut Case Study



PROJECT COST

The system was provided to 4600 Connecticut Avenue as a solar power purchase agreement, and the cost to customer for the system was \$0. Total cost amounted to \$288,000, which was financed entirely through Skyline. For the 10-year contract term, the customer will pay 35% less than its natural gas utility rate for each therm of solar hot water delivered, regardless of fluctuations in their conventional utility rate.

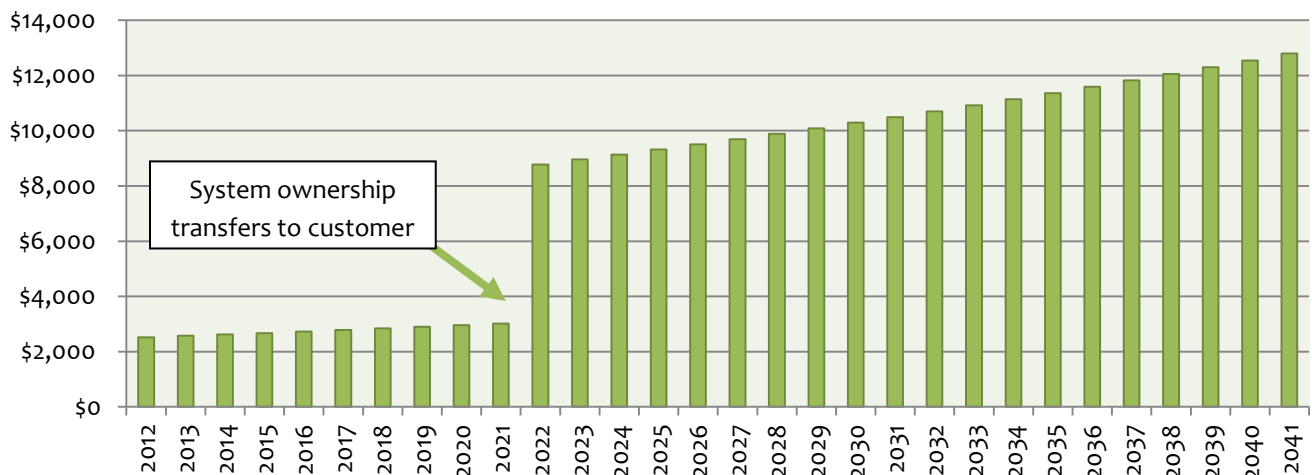
ENERGY RATE COMPARISON



FINANCIAL IMPACT

With Skyline's guaranteed savings model, the residents of 4600 Connecticut Avenue have seen an average of 19% monthly savings in their domestic water heating bills. For the six-month period between February and August, this averaged \$216 per month for a total savings of over \$1,300. Based on actual system performance and utility rates, their first year savings is projected to be \$2,520. During the length of their 10-year contract with Skyline, they are estimated to save a total of \$27,603, after which the system ownership will transfer to the customer and result in a cumulative 30-year savings of \$240,935.

PROJECTED SAVINGS WITH SKYLINE*



*Assumes 2% annual increase in energy prices as projected by the U.S. Energy Information

Multifamily Solar Water Heating

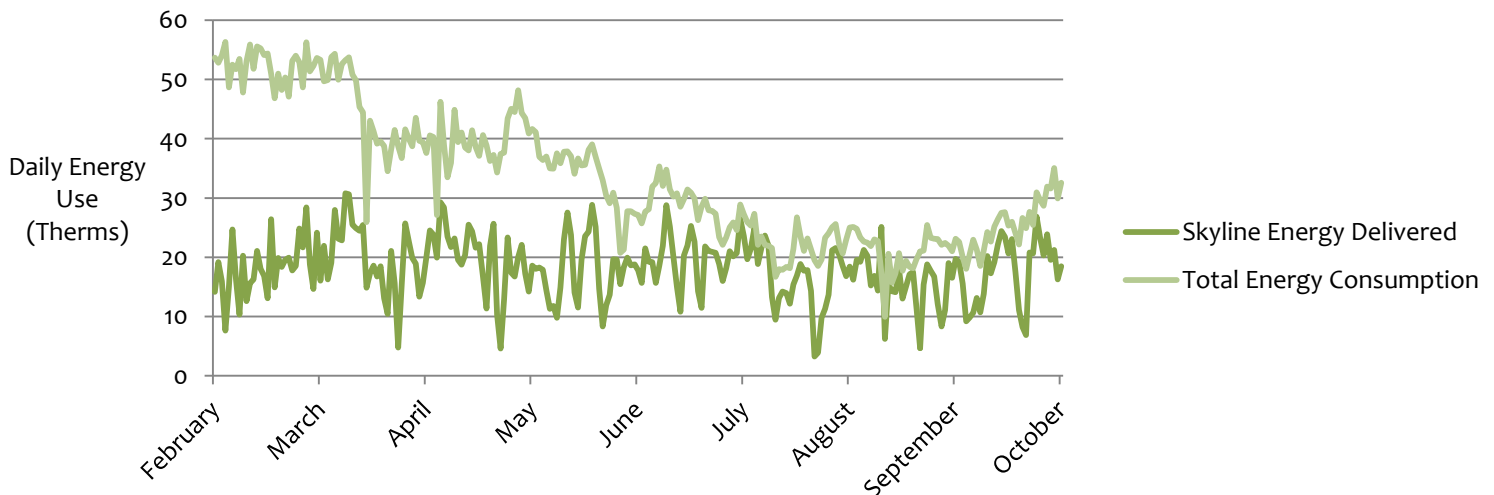
4600 Connecticut Case Study



SYSTEM RELIABILITY

The solar water heating system at 4600 Connecticut Avenue has had 98% uptime since installation. No measures have been necessary to increase system reliability. Prorated to the installation date of January 20, 2012 the projected total energy production is 478,176 kBtu. The actual energy *delivered* for this time period is 449,315 kBtu. Actual energy delivered is a function of how much domestic hot water is used on site (customer demand), which accounts for the variance between the projected usage and actual energy delivered. Through Skyline's power purchase agreement, the customer purchases only the solar hot water used – not all generation – from the system.

WATER HEATING ENERGY OFFSET



CONCLUSION

At no cost to the customer for installation, monitoring, or maintenance, Skyline was able to provide over 54% of their domestic water heating needs through clean, renewable energy.¹ The client was able to take advantage of this energy with no capital outlay, achieving project payback on day one. Regardless of fluctuation in the price of natural gas, Skyline guarantees its renewable energy rates will be a fixed percentage lower than the conventional utility provider.

¹ Generation and savings vary depending on building size, building type, local incentives, municipal inlet water temperature, and geographical insolation.

INTERESTED?

Are you interested in partnering with Skyline Innovations for your building? Please call 202.719.5297 or email us at info@skylineinnovations.com.

GUARANTEED SAVINGS THROUGH GREEN ENERGY