

Case Study: 470 Convent Avenue, New York City



The Story

In September of 2017, 470 Convent Avenue HDFC reached out to Solar One to learn more about rooftop solar after viewing a Solar. Uptown.Now flyer in their building. Solar One created a costs and savings estimate that broke down the available tax incentives, potential electricity production, and savings on the co-op's electric bills. Solar One also performed a site assessment to ensure their rooftop was suitable for solar. One month later, the Board held a meeting with Solar One to learn more about their solar options. Solar One explained the Solar. Uptown. Now. (SUN) campaign, a joint effort between Solar One, UHAB, Sustainable CUNY, and Harlem-based organization WE ACT for Environmental Justice.

Solar One provided the board with several options to install solar on their roof, including different variations of ballasted and mechanically integrated systems, and the option to use the entire roof or just part of the roof. The board brought these options to a shareholder vote, where it was decided to move forward with a ballasted system for part of the roof that offsets the majority of their common area load. In the SUN campaign, eleven HDFCs in Upper Manhattan and the Bronx tapped into their collective buying power by banding together to solicit bids from a single solar installer. This drove down the price for everyone. The campaign also kept the jobs generated by the campaign in the neighborhood, so five local residents of Upper Manhattan got green jobs, and over 70 residents were trained in photovoltaic installation.

Project Snapshot

Client: 470 Convent Avenue HDFC
Building Type: Limited-income cooperative
Location: Harlem, NY

Financing: Direct Purchase
Solar Installer: Grid City Energy
System Size: 21.6 kW-DC
Modules: 60 S-Energy 360-Watt
Inverters: Fronius

Lifetime Solar Production: 576,791 kWh
Lifetime CO2 Reduction: : 703,685 lbs. (or 351.84 tons)

"Over the years electrical costs, water costs, and insurance continue to go up. We have mounting costs we saw rising year after year, and this was a way to keep those costs down and keep the maintenance lower for the residents."

- Shay G., former board member

470 Convent Avenue HDFC signed their contract with Grid City Energy in June of 2018, but because of difficulties getting approval from the Landmark Preservation Commission, which delayed the project for a number of months and required them to redesign the system, permits were not issued until May 2019. However, 770 Electric mobilized for construction quickly, completing the installation by mid-June, with all inspections and approvals completed by mid-July 2019. Solar energy was just one component of the board's plan to integrate sustainable cost-saving measures in the building; the board's commitment to "greening" the building drove this project forward.

Unique characteristics

Solar in Action

The co-op celebrated their installation with a solar tour in October, where they showed off their panels with a rooftop tour packed with curious HDFC residents from nearby buildings, excited to see solar in action at an affordable co-op in their neighborhood.

Landmarked Building

As a landmarked building, 470 Convent faced the additional hurdle of getting approval from the Landmark Commission, but they were also able to receive the Historic Tax Credit - an additional 20% tax credit for the system, which can be received in the form of a refund for shareholders with limited tax liability. The 20% Historic Tax Credit was based on solar and masonry repairs occurring at the same time, maximizing the value for the shareholders.

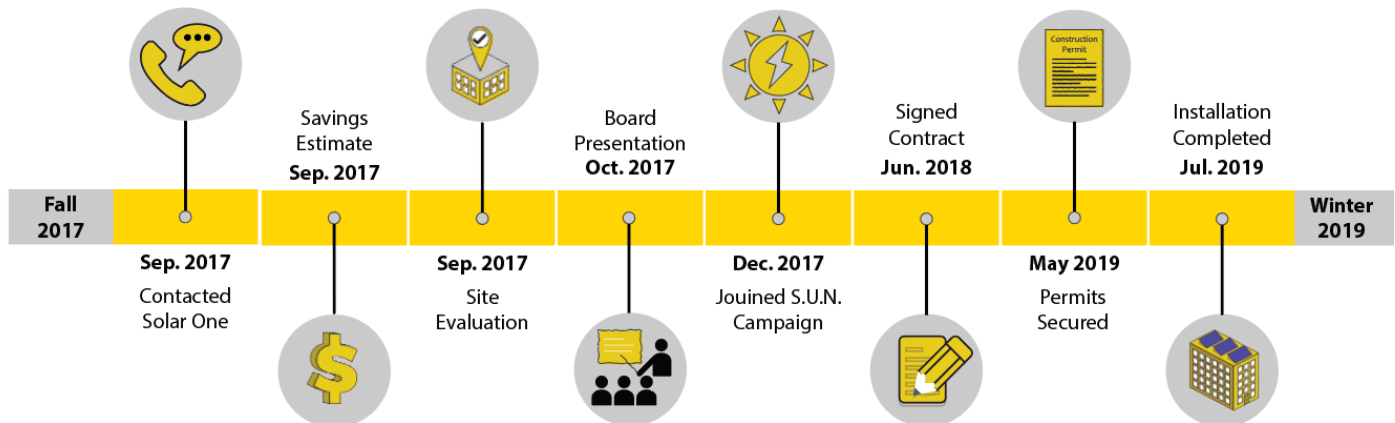
First of Its Kind

470 Convent HDFC is the first Landmarked HDFC cooperative in Manhattan to go solar.

Model for Other Buildings

470 Convent developed flyers and informational materials for their residents that Solar One was able to use as a model for other buildings.

Timeline



Economics

Project Cost	\$58,320
Incentives	\$49,140
Net Cost	\$9,180
Annual Savings	\$4,035
Payback Period	3 years
Lifetime Savings	\$124,069

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