

The Home Depot - Financing a Renewable & Alternative Energy Commitment

RILA Retail Energy Management Program: January 2018



Implementation Model:

Renewable and Alternative Energy Market Options Enable Expanding Commitments

BARRIER

Paying for renewable and alternative energy projects.

SOLUTION

Leverage financing options like Power Purchase Agreements (PPAs) and community solar that eliminate the need for internal capital and/or renewables operations and maintenance (O&M) expertise.

OUTCOME

In 2017, Home Depot procured a total of about 475,000 megawatt-hours (MWh) of renewable and alternative electricity from fuel cells, solar panels, offsite wind, and community solar and has committed to even more.

Overview

The Home Depot, the world's largest home improvement retailer, has more than 2,200 stores across North America. In 2015, the company established a renewable energy target of procuring 135 megawatts (MW-ac) of energy through renewable and alternative sources by 2020 (approximately 62 MW of wind, 43 MW of fuel cells, 15 MW of offsite solar, and 15 MW of rooftop solar). Home Depot also established an energy efficiency target to reduce total store electricity use 20 percent by 2020. Throughout the years, the retailer has taken advantage of the most appropriate market options to implement a variety of onsite and offsite renewable energy projects to help achieve its targets.

"Our alternative energy projects are important elements of our sustainability and operations efforts as they reduce carbon emissions while also lowering our energy costs."

David Hawkins

*Vice President of Labor and Operations
The Home Depot*



This Implementation Model was completed with support from the Department of Energy's Office of Energy Efficiency and Renewable Energy and the Better Buildings Initiative to highlight innovative proven energy solutions from market leaders in the Retail sector. Find more ideas at the Better Buildings Solution Center at betterbuildingsolutioncenter.energy.gov

Process

In 2013, Home Depot began working with Edison Energy to help identify potential renewable energy projects to pursue. Through this partnership, Home Depot identified onsite solar, community solar, and offsite wind as viable options to help more cleanly power its facilities. Internally, Home Depot also identified fuel cells to include as part of its strategy.

For rooftop solar and fuel cell projects, the Energy Team leveraged a type of financing called a third-party power purchase agreement (PPA). A PPA is an arrangement where a non-utility owner of a distributed generation system sited on the premises of a retail electric customer (like a solar array on a store roof) sells the electricity generated by the system to that retail electric customer, typically at a competitive price.

Home Depot also decided to pursue some virtual PPAs, which are financial contracts (as opposed to contracts for power, like physical PPAs) to buy power typically from offsite, larger scale renewable sources – in Home Depot’s case, wind. In a virtual PPA, the off-taker agrees to pay the seller a fixed price for renewable energy delivered to the facility and comes out ahead so long as that price is lower overall than the cost of procuring energy from the local utility company.

The two PPA structures appealed to Home Depot because, instead of investing capital and needing internal resources to install and maintain the system, it could buy power from a company that would handle all aspects of getting the project up and running, including financing the project. The company was specifically interested in pursuing renewable energy projects that would not require additional costs while reducing exposure to

electricity price volatility. Home Depot decided not to purchase Renewable Energy Certificates (RECs) to achieve its renewable energy goals, because (1) RECs do not include access to the fixed-price benefits received with a PPA and (2) RECs are purchased at a premium, on top of the utility rate. The company retains RECs from its own PPAs on a project-by-project basis, so long as the project economics will remain favorable.

To quickly identify and execute energy projects and transactions that met its requirements, Home Depot aligned its internal assessment and execution process by looking ahead at the renewables project pipeline and identifying compelling opportunities early. Gathering information about project pricing, development timelines, and execution risk early helps Home Depot capture the best possible returns as it works towards its renewable energy targets.

For onsite options, Edison Energy helped evaluate Home Depot’s physical portfolio, as well as the regulatory environment in which its facilities operate to identify the most promising stores for solar implementation:

Physical Portfolio Considerations	Regulatory Environment Considerations
<ul style="list-style-type: none"> • Landlord engagement levels • Roof replacement schedules • Roof weight-bearing capacity 	<ul style="list-style-type: none"> • Utility tariffs • Incentive structures • Utility market structure (regulated vs. competitive)

Because the age of most of its facilities’ rooftops presented added challenges, Home Depot ultimately pursued offsite and fuel cell projects before tapping into its onsite rooftop solar potential. Researching multiple procurement options strengthened the business case by allowing the retailer to prioritize based on potential net benefits.

To get projects approved, the Home Depot Energy Team had to secure internal approval from multiple functions throughout the company. Home Depot employs a “dual-track” approval process, in which the Energy Team must secure approval and buy-in from both the Operations and Finance Teams. Within each side of the company, the Energy Team sought out support from multiple departments, such as Financial Planning & Analysis and Treasury.

Since the company was leveraging either a PPA or virtual PPA model, none of the internal approvals required securing internal capital. However, the Energy Team still had to explain PPA project structures and their implications, as well as technology types. Economically viable projects were ultimately presented grouped in terms of state location or other shared attributes, so that internal stakeholders could examine comparable projects efficiently.

When communicating with the Finance Team, the Energy Team presented projected results from several internally-developed scenarios. The scenarios included projected benefits and costs (determined through electricity rate assumptions) compared to a base case, and what cost savings would result. The Energy Team modeled scenarios that assumed no rate increases at all, as well as scenarios including different levels of rate increases. The Energy Team showed Finance that many projects still displayed a positive net present value (NPV), even assuming electricity rates remain the same long-term.

By the Numbers:

Project Type	Description & Results
Community Solar	Through 2017, 6.8 MW of operational capacity and an additional 8.2 MW under contract. Immediate savings of approximately 20 percent compared to current rate tariff.
Offsite Wind	Through 2017, 62 MW of utility-scale wind transactions.
Onsite Solar	Deploying more than 15 MW of solar at 50 stores across five states and the District of Columbia.
Fuel Cells	Deployed approximately 36 MW at over 180 stores collectively; producing over 90 percent of the electricity used by a store on an annual basis.

Outcomes

Leveraging PPA financing, Home Depot selected two well-financed, low-risk developer partners to deploy more than 15 MW of onsite solar on 50 stores across five states and the District of Columbia in 2017. Tapping into offsite virtual PPAs as well, Home Depot executed an additional 62 MW of utility-scale wind transactions in Texas (50 MW) and Mexico (12 MW), as of mid-2017. The power procured through the wind transaction in Texas alone is equal to the annual usage of approximately 95 Home Depot stores.

Home Depot’s onsite distributed generation projects also include fuel cells, which use natural gas to create electricity, but release significantly fewer carbon emissions than traditional power sources. Fuel cells present a distributed energy source option for buildings with aging roofs, which are unsuitable for onsite solar. A solar installation

typically requires that a roof be structurally sound for at least 15 years; otherwise, the cost of removing and reinstalling the system after the roof has been replaced erodes financial benefits. From an initial deployment in 2014, Home Depot has now installed fuel cells at more than 180 stores—all financed through PPAs. The fuel cells produce more than 90 percent of an individual store's electricity annually.

For its operations in Massachusetts, Home Depot identified offsite community solar as an effective economic and risk-protection strategy. After subscribing to this program, the retailer receives credits on its bills through "virtual net metering." Home Depot pays a contracted rate to the solar developer for every MWh produced by the projects. In turn, the utility gives Home Depot credits on its electric bill based on the same volume of MWh. The portfolio of offsite solar projects provided immediate savings of approximately 20 percent compared to its current rate tariff.

Home Depot advises that other retailers looking to procure renewable energy under resource constraints understand their options and consider whether third-party relationships could make a difference when evaluating options. Third parties will have updated data on market options and experience creating a procurement strategy that works for a particular company's needs. For offsite projects, third-party consultants can help companies navigate the policy and regulatory landscape. For onsite projects, third-party developers can help manage the project. For retailers that do not have the resources to effectively manage renewable projects internally, these relationships can be more practical than trying to build out the staff necessary to do the job right.

Home Depot expects all its projects will be cash-flow positive in every year of the agreement or contract. The success of these renewable energy projects and demonstrating the business case for each, has spurred further investment in renewable energy at the company.

Edison Energy's own Renewable Energy Purchase Agreement is available by request to companies interested in renewables procurement. Companies can may email blaine.collison@edisonenergy.com for more information.

Internal Process Spotlight: Assessing Renewable Energy Procurement Options with Limited Internal Capital

Assessing potential viable renewable energy projects with a piecemeal approach can be time-intensive and consequently expensive. Understand the company's preferences for financing and ownership structures to assess options ranging from purchasing Renewable Energy Credits (RECs) to owning and operating its own systems. Establishing these key criteria will narrow down the many options to a scalable approach.

BENEFITS

- ✓ Accelerates future project roll-out across company;
- ✓ Lowers overall project cost by reducing labor required to identify and begin executing projects;
- ✓ Creates cohesive renewable energy portfolio strategy by identifying project timelines, pricing, and risk early.

RILA Energy Management Program

Program Background

Retailers have a significant opportunity to reduce the energy consumption and associated greenhouse gases of their vast portfolio of locations, to the benefit of both companies and the environment. The Retail Industry Leaders Association (RILA) is committed to helping its members overcome barriers to enhanced energy performance across their building portfolio through its [Retail Energy Management Program](#).

Program Workstreams:

RILA and its program members are working to (1) Develop Implementation Models, (2) Educate the Industry, and (3) Spur Adoption of Implementation Models with a focus on three key areas:

1. **Financial management**, by exploring how to “speak finance”, improve project proposal and piloting processes, create innovation funds, and utilize external financing.
2. **Leased store management**, by engaging landlords and internal real estate, construction, and store associate teams to overcome the additional energy management challenges faced in leased store locations.
3. **Renewable energy**, by partnering with existing renewable energy organizations to educate energy managers on the landscape of renewable energy procurement options.

Join the Program

Retail energy managers interested in participating should email Erin Hiatt, Senior Manager of Sustainability & Compliance, at Erin.Hiatt@RILA.org.

Learn more at rila.org/energy

Find more Better Buildings resources at betterbuildingsolutioncenter.energy.gov

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