

Renewables in Practice

Federal Renewable Initiatives CASE REPORTS

PHA Leverages Power Purchase Agreement for Jurisdiction-wide Scattered Site Solar Installations

Denver Housing Authority

Colorado



ACTIVITY TYPE

Solar Photovoltaic

PROJECT DETAILS

Retrofit

*System Coverage: Multifamily and Scattered Site Single Family Residences
- 385 buildings; 666 units*

*Size/Rating: 2.5 MW; 10470 panels
- Average 3.8kW per unit*

*On Site Generation: 3,397,576kWh/yr
- Average: 5,101 kWh per unit/year*

Completion Date: April, 2013

SOLAR PROVIDER

Oak Leaf Energy Partners LLC;
Enfinity America Corporation

SOLAR INSTALL

Namaste Solar

GREEN BENEFITS

3,479 tons CO₂ E reduction per year

FINANCIAL DETAILS

Cost: \$ 10 million (Avg \$4.00/ watt)

*Project Financing: - Power Purchase Agreement
- 20 year term with purchase option*

*Leveraged Resources: - Federal Investment Tax Credits
- Utility Rebates
- Qualified Energy Conservation Bonds*

The Housing Authority of the City and County of Denver (DHA) launched a public-private partnership to install solar photovoltaic systems across its portfolio of scattered site, single family residential buildings. The installations are financed through a Power Purchase Agreement (PPA) with a solar provider that enables the PHA to achieve solar installations with no up-front capital costs. Under the PPA, the meter holders would pay for the power generated from the installed systems, initially priced at a rate roughly comparable to the current rates. Energy savings would occur in out-years as utility rates increased beyond the energy rate specified in the PPA.

This is the first time a large rocky mountain region public housing authority used a PPA to achieve solar investments across an entire segment of the PHAs portfolio, and is a model that can be used by other PHA's to initiate "whole portfolio" renewable solutions.

A key motivation for the project was to secure fixed and predictable long-term utility costs and purchasing energy production from a renewable source.

The project began in summer 2011, when DHA, represented by Ballard Spahr, issued a competitive request for proposals to solicit a private party to install, own, and operate solar electric generation systems on the buildings. Thereafter DHA selected a private project developer and executed a Power Purchase Agreement and Site License Agreement.

The PPA was developed by groupings of existing multi-family properties and housing units for a large-scale solar electric project. In all, over 10,000 panels were placed on 350 building serving 665 residences.

A significant challenge was in locating a source of capital for a renewable energy project scattered across 350 sites. To accomplish this, DHA was able to take advantage of low-cost debt financing provided through the issuance of Qualified Energy Conservation Bonds. The rates on those bonds for borrowers with strong credit are near zero percent over a 20-year term.

In addition to supporting community renewable energy objectives, the project created 40 new green jobs in Denver.
