

Project Name:

DENVER HOUSING AUTHORITY SOLAR GARDEN

Groundbreaking community solar project for public housing serves only income-qualified housing

Size:

2.0 MW_{DC}

Location:

2950 N Hudson Road, Watkins, CO 80137

of LMI customers:

737

Project Website:

<https://www.denverhousing.org/denver-housing-authority-launches-community-solar-garden/>

BEST PRACTICES

- Federal grants other federal funding
- Tax equity investment
- Investment tax credits
- Investor owned utility incentives



Overview

The [Denver Housing Authority](#) (DHA) provides affordable housing to the city of Denver, Colorado. DHA is the owner and operator of the DHA Solar Garden, located on City of Aurora property. DHA was the first housing authority in the United States to develop, own, and operate a community solar installation. Energized in 2017, the DHA Solar Garden is a 2 MW ground mount, single-axis tracking array that supports over 700 income-qualified residents, and serves only income-qualified housing. The project originated from [DHA's 2016 CARE Project](#) (Clean Affordable Renewable Energy).

In 2019, DHA won first place in the U.S. Department of Energy's (DOE) [Solar in Your Community Challenge](#), and was awarded \$500,000. This nation-wide competition ranked organizations based on their ability to provide solar energy to low-income affordable housing.

DHA operates market rate and subsidized housing to individuals and families with household incomes lower than 80% of the Area Median Income (AMI - determined annually by HUD, using census data). The project directly benefits the DHA by reducing the energy burden of their affordable housing buildings. Other Denver metro housing authorities and affordable housing developers (which include [Aurora Housing Authority](#) and [Mercy Housing](#)) participate as subscribers. To apply, the affordable housing agency submits their utility ([Xcel](#)





[Energy](#)) account credentials to DHA, who allocates a portion of the solar capacity to match the energy demand of the property. The subscriber buys energy from DHA, and receives bill credits on their monthly bill. Overall, subscribers receive approximately 15-20% average energy savings.

Any remaining capacity is subscribed by individual residents that pay their electric bills directly. For these participants, subscriptions are offered at no cost (per an Xcel Energy requirement), saving about \$15 – \$30 per month. Currently, 11 income-qualified homeowners receive free solar energy from the project.

An additional benefit of the project is workforce development. Through [GRID Alternatives Colorado](#), DHA provides hands-on training, certification, and employment in the solar industry for more than 10 affordable housing residents per year. This meets another DHA project goal - that DHA residents can acquire the technical understanding and training needed to be employed in the solar industry. Trainees from this program participated in the construction of the DHA Solar Garden installation.

Many partners were involved in the project:

- DHA is the project developer and owner, and has a long-term site use agreement with SolarTAC.
- [Russell Pacific Construction Services](#) (RPCS) installed the array.
- [Namasté Solar](#) served as the Engineering Procurement and Construction Contractor.
- [SolarTAC](#) manages the array site and has a long-term lease agreement with the City of Aurora. SolarTAC is one of the largest test facilities for solar technologies in the United States.
- GRID Alternatives Colorado provided project management and policy expertise, as well as workforce training, which included hands-on training, certification, and employment.
- [Enterprise Community Loan Fund](#) was the project lender.
- The [National Housing Trust](#) acted as a financial advisor for the project.
- [Monarch Private Capital](#) was a tax equity investor.

The DHA Solar Garden project cost \$3.8 million. Monarch Private Capital was the tax-advantaged equity investor. They develop, finance, and manage a portfolio of projects that generate both federal and state tax credits, and specialize in integrating environmental, social, and governance criteria into their investment process. Monarch Private Capital was able to monetize the federal Investment Tax Credit (ITC) as well as the Modified Accelerated Cost Recovery (MACR) tax deduction, which together supported about 32% of project capital costs. The remaining costs were financed through a loan from Enterprise Community Loan Fund (63%) and DHA equity (5%). The \$500,000 DOE award was split equally between DHA and GRID Alternatives Colorado, and used to fund other initiatives.

In addition, Xcel Energy conducts a competitive RFP for RECs from community solar projects. Bid evaluation factors include 'level of low-income subscribership' and 'innovative proposals that benefit low-income subscribers throughout the life of the contract.' To support the long-term financing of the system, DHA acted as the counterparty to the arrangement. It committed to subscribe the 2 MW system in its entirety or pay the financing partners in lieu of PPA payments. The system was sized and the PPA rates were designed in order to produce a 20% savings on electricity costs.

Innovative Approaches

- **The City and County of Denver's sustainability goals** spurred DHA to look for ways to reduce energy consumption and increase the production of renewable energy.
- **Workforce development** provided additional benefits to public housing residents.
- **Using a tax equity investor** allowed financing costs to be reduced, resulting in lower energy rates for subscribers. Those savings are allocated to maintain the housing units and to provide support services to residents.

Lessons Learned

DHA found it very difficult to develop and interconnect a large solar installation using Xcel Energy's RFP process.



LIFT
by Groundswell

This case study is a part of the LIFT Toolkit initiative. To explore more case studies and best practices visit LIFT.Groundswell.org
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