

What's the Value of Solar for the District of Columbia?

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The Office of the People's Counsel for the District of Columbia is pleased to join the Washington Informer 2017 Sustainability Supplement in Honor of Earth Day. Highlighting Environmental and Climate Literacy is in keeping with OPC's mandate to raise awareness about energy efficiency, the conservation of natural resources and the preservation of environmental quality for the benefit of consumers in all eight wards.

In support of our mandate, and in response to a DC Council legislative directive, in 2016 the Office of the People's Counsel commissioned two studies to determine the value to DC residents that investments in solar technology may provide. The studies are the first of their kind Value of Solar (VoS) studies produced in the District based on DC specific data.

This article addresses findings contained in the VoS Study: "Distributed Solar in the District of Columbia, Policy Options, Potential Value of Solar and Cost-Shifting District of Columbia," by Synapse Energy Economics, Inc. The second OPC Study is entitled: "Solar Generation Potential and of Distributed Energy Resources in Low-and Moderate-Income Communities in Washington,

DC," by Jerome S. Paige & Associates, LLC. The findings from these studies are intended to assist District policymakers in their quest to deliver the benefits of solar to all DC consumers and to lay the groundwork for the District's energy future.

Solar in DC: Solar power is sunlight that is converted into usable electricity using panels or Photovoltaic (PV) cells. The District averages 4.23 hours of sunshine per day that is freely available throughout the year. Generating electricity from this sunlight could contribute to meeting up to 20 percent of the power demands of local homes and businesses, while reducing the air and water pollution impacts of other fuels such as coal, oil or nuclear energy otherwise used to generate electricity.

Installation of solar panels requires major financial investment. The VoS Study indicates solar generation is the least cost option to produce local energy compared with the cost of purchasing electricity generated from other energy sources. The declining costs of installation and policies to expand solar programs bring solar within reach of many more residents. Our experts forecast that solar will grow to over 200 MW (megawatts) over the next decade, and if existing barriers are removed or reduced, the District could achieve its goal of 5 percent of all electricity coming from sites in the District so-



Solar panels on the roof of Florida Avenue Baptist Church, the first African American church to go solar in the Washington area.

lar by 2032, by producing 550 MW.

Barriers: Solar adoption faces both financial and nonfinancial barriers and challenges. Critical to consumers are the up-front costs of a solar system and how quickly that system will pay for itself. Since 2006, the cost of installing a typical 4-kW (kilowatt) system has dropped from about \$36,000 to about \$13,000. The payback period for a new residential system averages 5 years.

In the past, the time required for the electric company to process and approve interconnection of solar systems created extended installation delays. Reductions in connection times have greatly improved the process. The timeline to move from application for a residential solar system, to operation of that system, is currently about 80 days. Other barriers include adequate rooftop structure, and useable space availability, permitting, and consumer education. OPC continues to seek ways to further educate consumers

and streamline the process.

Potential: The VoS Study concluded the technical potential for rooftop solar is large. The Study compared solar, combined heat and power, biogas, wind turbines, biomass and municipal solid waste, and fuel cells as potential technologies to contribute to the District's renewable energy mix. Solar PV showed the most growth, largely due to feasibility factors and local policy initiatives. Solar photovoltaic was clearly the most accessible and abundant renewable resource in the District. The analysis found approximately 85,000 suitable small residential buildings currently without existing PV systems, which represents significant unrealized potential.

The Study found that the District has a maximum solar generation potential of 1700 GWh (gigawatt). Of this potential, 21percent can be generated from small residential rooftops. In contrast, 79 percent of the solar PV potential can be generated from rooftops on large multi-family-

buildings, government, commercial and industrial buildings due to the larger available footage.

Solar Investment Return: Under existing Renewable Procurement

Standards (RPS), the District is mandated to supply 5 percent of its electricity from solar by 2032. If current incentives remain in effect or increase, investment in all solar generation systems could be recovered within five years.

Non-Solar Customers Cost-Shifting: The Study found that non-solar consumers could potentially see costs rise by 7-cents per month should solar adoption expand rapidly. A key concern is that higher costs may be imposed on non-solar electric customers as those with solar systems gradually contribute less to the maintenance and operation of the existing distribution system. The Study suggests, however, that changes to current electricity tariff may result in non-solar consumers saving about 2-cents per month.

OPC remains firmly committed to pursuing only those initiatives that will provide sustainable environmental and economic benefits to all District consumers across all wards and income levels. OPC also intends to ensure that low- and fixed- income consumers realize the substantial savings that solar can render.

Copies of the studies are available at: www.opc-dc.gov. Contact OPC at: 202-727-3071. Happy Earth Day! **SS**



Rev. Dr. Earl D. Trent Jr, Senior Pastor of Florida Avenue Baptist Church in Northwest, shows Deputy People's Counsel Karen Sistrunk and People's Counsel Sandra Mattavous-Frye (center) solar panels on the church's roof.

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