**NEIGHBORHOOD SOLAR EQUITY**

**FREQUENTLY ASKED QUESTIONS**

**PROJECT PARTNERS**

The George Washington University (GW), the host for the solar panels, is a private research institution located in the heart of the nation’s capital. The university envisions a world with healthy and thriving resource systems for all.

The District’s Department of Energy and Environment’s (DOEE) “Solar for All” Innovation and Expansion Grant provided funding for the project. DOEE is the leading authority on energy and environmental issues affecting the District of Columbia. Using a combination of regulations, outreach, education, and incentives, the agency administers programs and services to fulfill its mission.

[New Columbia Solar](https://newcolumbiasolar.com/) (NCS), a D.C.-based solar energy company, owns the solar panel system on GW’s rooftops through its legal entity Neighborhood Solar Equity (NSE). NCS will operate the system for 20 years. The project was developed by [Community Renewable Energy](http://communityrenewableenergy.com/), a solar developer helping low-income residents and nonprofits access solar, and [Root + Branch](https://rootandbranchinc.com/), an organization focused on renewable energy and community development. GOT Electric, LLC was the electrical contractor on the project. NCS, in partnership with Root + Branch, will disburse the financial benefits from the project to provide financial assistance to low-to-moderate-income residents and local nonprofits across the District.

**PROJECT BACKGROUND**

1. Why did GW agree to host a rooftop solar electricity project?
2. What is the DOEE Solar For All Grant?

**PROJECT DETAILS**

1. Where are the solar panels located on GW’s campus? Can the public tour any of the solar panels?
2. Can the public monitor how much electricity is generated by the solar electricity system?
3. What is the size of the solar electricity system?

**PROJECT IMPACT**

1. What are the benefits of the solar electricity project?
2. How much of GW’s electricity demand is offset by the energy generated from the solar electricity system?
3. What is the greenhouse gas emissions reduction resulting from this clean and renewable energy project?

**GW COMMITMENT**

1. What is GW’s sustainability strategy and why is sustainability important to GW?
2. How does this project align with GW’s commitment to sustainability and what additional sustainability projects have been implemented by GW?

**1. Why did GW agree to host a rooftop solar electricity project?**

In 2010, GW implemented a comprehensive sustainability strategy that includes a target to be carbon neutral while aiming to generate 10% of energy demand through onsite low-carbon technologies.  The university is also committed to providing a test bed, a safe space for learning and inquiry, and opportunities to amplify what we learn and accomplish.

While GW lacks the space to install extensive solar arrays on its urban campuses, the university does its best with the space it has. Consistent with GW’s carbon neutrality target and its commitment to developing, piloting, and demonstrating models for urban sustainability, GW pursued solar photovoltaic panels on multiple rooftops to increase renewable energy on campus and provide an opportunity for innovation.

The partnership with NCS builds on GW’s existing renewable energy purchases and technology on campus. In 2015, the university began to receive half of its electricity from three solar farms in North Carolina through the award-winning [Capital Partners Solar Project](https://provost.gwu.edu/capital-partners-solar-project) with Duke Energy Renewables. The Virginia Science and Technology Campus has a small solar photovoltaic array over a walkway dubbed “Solar Walk.” GW also hosts several solar thermal systems that heat water in residence halls on the Foggy Bottom Campus. The university is now expanding its portfolio to include solar photovoltaics.

**2. What is the DOEE Solar For All Grant?**

Solar for All, a program of DOEE, was established by the Renewable Portfolio Standard Expansion Amendment Act of 2016 (The Act). The Act intends to expand DC’s solar capacity, to increase the amount of solar generated within the District, and to provide the benefits of locally-generated solar energy to low-to-moderate-income households, small businesses, nonprofits, and seniors. Funded by the Renewable Energy Development Fund (REDF) and administered by DOEE, Solar for All’s specific targets are to provide the benefits of solar electricity to 100,000 low-to-moderate-income households (at or below 80% area median income), and to reduce their energy bills by 50% (based on the 2016 residential rate class average) by 2032. More information about Solar for All is available [here](http://doee.dc.gov/solarforall).

**3. Where are the solar panels located on GW’s campus? Can the public tour any of the solar panels?**

GW assessed every rooftop on its campuses to determine the optimal location for installing a solar system. Building and roof age, roof type, access to direct sun and shading patterns, and building function are a sampling of the criteria taken into consideration. Five locations were identified through this process and the solar photovoltaic panels are installed on the roofs of these buildings:

1. Funger and Duquès Halls
2. Charles E. Smith Center
3. Monroe Hall and Hall of Government
4. Lisner Auditorium
5. Media and Public Affairs Building

Due to safety and security precautions, the roofs are not accessible to the general public. However, digital images of the solar system are available on the university’s [website](https://sustainability.gwu.edu/campus-map).

**4. Can the public monitor how much electricity is generated by the solar electricity system?**

The system includes software to monitor its performance and provide information for educational purposes. On GW’s website, the university will share real time electricity generation data as provided by the monitoring software.

**5. What is the size of the solar electricity system?**

The solar electricity system is designed to have a nameplate capacity of 497 kWAC (or 579 kWDC). This roughly equates to clean electricity production of 660,000 kWh annually, or the reduced emissions equivalent of taking 100 cars off the road each year it operates.

**6. What are the benefits of the solar electricity project?**

The solar electricity project increases renewable energy produced on campus and in D.C., reduces GW’s electricity expenses, and demonstrates a local option for a cleaner energy alternative in the nation’s capital. In addition, since the project is partially funded by the DOEE Solar For All Grant, low-to-moderate-income D.C. residents and local nonprofit organizations will benefit from donations equivalent to 150% of the financial value of the electricity generated by the system. More information on how the NSE project is serving low-to-moderate-income residents as beneficiaries is available [here](http://solar.jpgrossman.com/).

**7. How much of GW’s electricity demand is offset by the energy generated from the solar electricity system?**

The estimated annual production of the system is 660,000 kWh, which roughly equates to 6% of GW’s electricity demand at the five locations with solar photovoltaic panels installed. The estimated annual output is the equivalent of less than 1% of GW’s total electricity demand.

**8. What is the greenhouse gas emissions reduction resulting from this clean and renewable energy project?**

The solar electricity system is estimated to generate roughly 660,000 kWh annually. As a result, approximately 450 metric tons of carbon dioxide equivalent (MTCDE) created by traditional electricity generation will not be emitted into the atmosphere annually. This is the emissions equivalent of taking 100 cars off the road each year.

**9. What is GW’s sustainability strategy and why is sustainability important to GW?**

As an institution of higher education in the heart of the nation’s capital, GW has a unique contribution to

make to address sustainability challenges. GW takes a comprehensive, strategic approach to sustainability that encompasses its physical footprint and financial resources, as well as academics and research; and seeks to extend the university's influence beyond GW’s campuses to mitigate risk and seize opportunities for innovations that will benefit the university, society, and the planet.

GW’s Ecosystems Enhancement Strategy maps a route to meet its commitments based on ambitious targets and these seven overarching goals.

GOAL 1 - Strengthen habitat and optimize natural space

GOAL 2 - Promote healthy air and climate

GOAL 3 - Foster clean and abundant fresh water

GOAL 4 - Support sustainable food production systems

GOAL 5 - Optimize waste decomposition and treatment

GOAL 6 - Encourage a connection to the natural environment

GOAL 7 - Develop sustainable investment strategies.

In an effort to enhance its campus, the nation’s capital and the world at large, the university is building a greener campus, providing research and intellectual discourse on policies and technologies for sustainable systems, and equipping students with the skills and knowledge to contribute to a sustainable future.

**10. How does this project align with GW’s commitment to sustainability and what additional sustainability projects have been implemented by GW?**

GW has a comprehensive sustainability strategy to enhance ecosystem services for all. Some of the most impressive initiatives happening at GW, including the GroW Community Garden, Sustainable Investment Fund and the ChargedUp design competition, were initiated by students and reflect their ingenuity and commitment. The Eco-Equity Challenge and DC Climathon, are additional programs that enable students to develop their ideas for sustainability on the campus and in the community. In response to student advocacy, in 2020, GW announced full divestment from fossil fuels in its endowment, and pledged to not only accelerate carbon neutrality from 2040 to 2030, but to also address historic emissions since GW’s founding in 1821.