

## Case Study: Solar Installation and Tax Exemption Program

- Location: Alexandria , VA
- Building Type: Single-family  
Townhouse in a Historic District
- Existing Construction built in 1948
- 838 Square Feet
- Solar Power used for Electricity



Astrum Solar installed a 2.6 kW “photovoltaic,” or solar electric, system on the roof of owner Don Walsh’s home in 2011.

This solar electric system consists of twelve 230 watt high-efficiency photovoltaic panels, each with their own micro-inverter. This system will generate approximately 3,700 kW-hours of solar energy each year which should offset on average 80+% of the homeowner’s electricity usage, depending on the time of year. The carbon offset of this electricity savings is the environmental equivalent of planting over 70 trees per year and, over the lifetime of the solar electric system, recycling over 30 tons of waste.

The installation of this solar electric system took less than two days. In most cases, the permitting process of this type of project takes an average of 2-3 months. In circumstances where historical or architectural reviews are required, or if homeowner’s association regulations exist that initially prohibit the installation of solar panels on roofs, the process may take longer. Despite potential time delays however, homeowners such as Walsh are generally very satisfied with solar power because of the money saved on their electricity bills.

In addition to the anticipated 80+% savings on electricity costs for this homeowner, excess electricity can be “sold back to the grid”, which generates Solar Renewable Energy credits. The City of Alexandria is one of several cities and counties in Virginia that allow for full or partial property tax exemption on solar energy equipment. The owner also received Federal tax credits and a Virginia state solar grant, making this solar system even more affordable. According to owner Don Walsh,

“The federal government, the State of Virginia and the City of Alexandria’s incentives made going solar affordable for me. I wish everyone was able to use solar power so we could be less dependent on dirty energy. My system is a good return on my money and it is making me almost immune to increases in electricity prices”.