Canopy Trees and Rooftop Solar

Trees play a large role in our environment. A large canopy tree will sequester carbon; provide stormwater mitigation through avoided surface runoff and rainfall interception; remove air pollutants such as carbon monoxide, ozone and more; create energy savings from shade in summer and wind break in winter; as well as providing safe shelter and food for birds and wildlife. You can quantify the value your trees provide at https://mytree.itreetools.org/#/dashboard

Consider all the ecological and environmental impacts when considering solar panels - it isn't a tree versus solar situation. You can enjoy energy savings from solar panels while sitting in the shade of your trees listening to bird songs!

Your house plays a role in reducing energy consumption. To reduce the use of fossil fuel energy in your home, the first step is to conduct an energy audit to see if you can realize savings from better insulation and updated appliances. The results will provide information before paying to add solar panels (see https://www.dominionenergy.com/virginia/save-energy/home-energy-assessment).

Rooftop Solar panels assist in reaching 100% renewable electricity. Reducing fossil fuel pollution from generation to its use is another important environmental goal. The potential benefit of rooftop solar for your house can be assessed at https://www.energy.gov/eere/solar/homeowners-guide-going-solar.

Rooftop Solar panels and Trees can coexist. Note that newer, more efficient rooftop panels can work more efficiently with reduced diffuse light so you can retain the tree while realizing some reduction in solar energy output. This is especially important for canopy trees shading your roof in the morning or late afternoon. Consider the following:

A Tree Steward member had to interview three solar panel installation companies before finding one that didn't want to remove the northern red oak in his front yard. The chosen company noted that the tree would reduce electricity generation to some extent, but the system would still pay for itself. Since installation, the homeowner had an arborist trim a few small limbs that were threatening to grow directly over some panels, but the trimming was less than 1 percent of the tree. After the oak drops its leaves, the panels generate more power than the house uses and the tree steward gets a credit toward future electric bills. This is a win-win: lower utility bills and they still have birds nesting outside their window!

Tree Stewards recommend the following steps:

1) Perform an energy audit of your house first to help identify the greatest energy and environmental impact.
2) Interview several solar panel installation companies to find one that is willing to discuss the pros and cons of any large trees impacting energy production, as well as other tree benefits mitigating stormwater and air pollution.
3) Have a qualified arborist (found through www.treesaregood.org/treeowner) assess trees that might impact panels and prune as necessary. Should the arborist determine a tree is damaged and should be removed, plant another in a better location. In Arlington, you can obtain a free tree through www.ecoaction.arlington.org/trees and in Alexandria through www.alexandriava.gov/Trees.
4) If your home is not a candidate to have solar panels installed, or you don't want to prune or remove a tree, you can participate in a Community Solar program to purchase electricity from sustainable sources (https://www.dominionenergy.com/virginia/renewable-energy-programs/community-solar).

Prepared by Tree Stewards of Arlington and Alexandria (www.treestewards.org)