

Social, Economic, and Environmental Gains for the entire Richmond Region

With the latest technology, solar energy now saves taxpayers and donors money, integrates sustainability into schools, improves regional health outcomes, and raises environmental standards across Central Virginia.

Economic Benefits | Reducing utility payments with affordable solar electricity can deliver significant cost savings and provide a hedge against increasing utility rates for hundreds of schools, local government facilities, and non-profit organizations.

Investing in solar energy on-site decreases utility costs, allowing the savings to be applied to other priorities. Further, because the solar energy equipment is owned by a third party, the host site is not responsible for any operations or maintenance costs.

But the economic benefits extend don't stop on site. Solar energy is now the world's fastest growing energy source. In Virginia, the solar industry recorded more than 10% job growth during 2017 and now employs far more people than the coal industry. And yet Virginia has only a small fraction of the solar power our neighboring states have, so there's still a huge opportunity to expand well-paying clean energy jobs in the Richmond region.

Environmental Benefits | Based on measures of hazardous air pollutants from U.S. EPA's National Air Toxics Assessment Air, air quality in Richmond, Virginia is 38 on a scale to 100 (higher is better). As a clean energy technology, solar provides deep reductions in greenhouse gas (GHG) and air pollutant emissions, helping to improve air quality and protect human health and the environment. By shading roof areas, solar arrays help air conditioning systems run less, which decreases electricity demand spikes.

At the national level, a 2014 report by the Solar Foundation notes that if the 72,000 schools nationwide for which solar could be a cost-effective investment installed arrays sized proportionally to their student body size, the combined electricity generation would offset greenhouse gas emissions equivalent to taking approximately 1 million passenger vehicles off the road.

Health Benefits | In 2015, Richmond was the asthma capital of America according to several nonprofit research groups. The biggest contributors to asthma in Virginia are pollution, particulates, and poverty, and they all weigh heavily on the aging infrastructure of Richmond-area schools. Nearly 152,000 children in Virginia suffer from the condition, according to the state's Department of Health. The Central Virginia Asthma Coalition reports that three of the five health districts in the CVAC service area (Hanover: 10.4%; Richmond: 10.8%; Crater: 8.7%) have a prevalence of current asthma in adults that is higher than the state prevalence (8.4%). Clean solar energy directly reduces contributors to this health concern.

Educational Benefits | Solar arrays sited on schools or other educational institutions and designed with education in mind can stimulate students' interest in science, technology, engineering, and mathematics (STEM) by providing a hands-on teaching opportunity. Career and technical education (CTE) students in particular could benefit from direct interaction with solar power systems as part of workforce training in this booming industry.

For More Information | Additional information can be obtained from info@RVASolarFund.org. Fact sheets on *Budget Impacts and Benefits*, *Grant Funding for Sustainability Initiatives*, and *News for Facilities Managers* are also available.