

Electricity and Green Power

Maryland is a de-regulated energy state. This means that you are charged separately for two components: electricity supply and delivery.

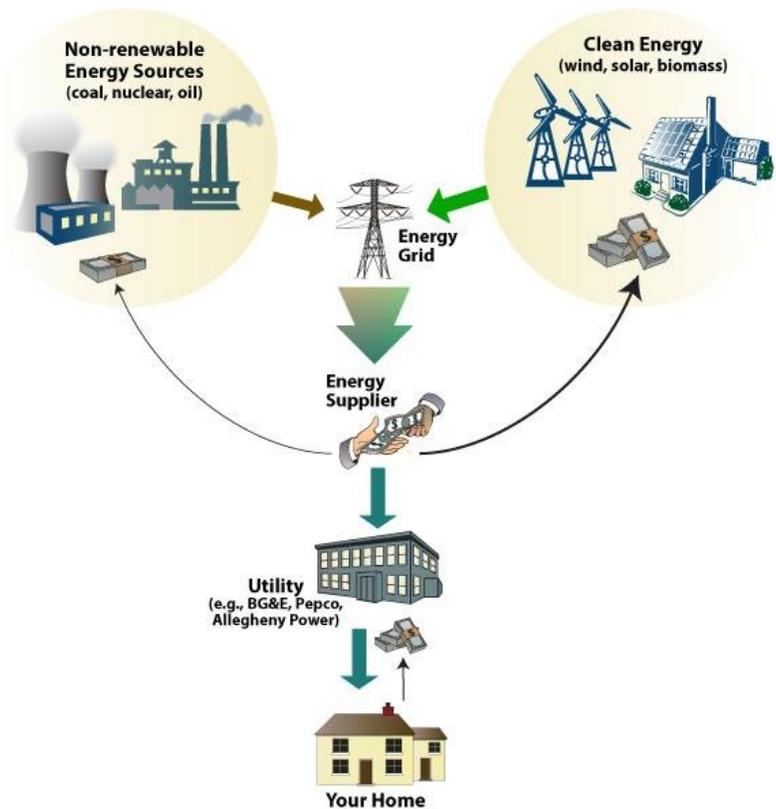
- **Electricity Supply:** Supply refers to the generation of electricity. Coal, natural gas and nuclear energy are the principal fuel sources to generate electricity in the United States. With the advent of electricity deregulation, customers can buy electricity from competing suppliers and buy a percentage (or all) of their electricity from green energy sources like wind or solar. If you do NOT choose an alternative supplier, your local electric utility buys power for you and passes along the cost for the Standard Offer Service.
- **Electricity Delivery:** The other part of getting electricity to you is delivery. This is referenced as distribution on your customer bill. Distribution rates cover the costs of maintaining, expanding and improving the electric system – the power poles, lines, meters, linesmen and customer service representatives who serve you. Potomac Electric Power Company (Pepco), a subsidiary of Pepco Holdings, Inc., provides electric service to residential and commercial customers in Washington, D.C., and Montgomery and Prince George’s counties in Maryland.

Tip: [You Can Comparison Shop for Electricity Suppliers in Maryland](#)

Generating and getting electricity to your home

The diagram shows how energy moves from energy generators to your home or business.

- Electricity generated from both conventional power (coal, nuclear and natural gas) as well as green power sources (wind, solar, biomass) is transferred to the energy grid.
- Your utility company or your clean energy supplier purchases power from the electricity generators.
- This electricity is then transmitted through the grid to your area where the utility company distributes the electricity to your home.



Energy Diagram, [Montgomery County Department of Environmental Protection](#).

Energy Sources for Electricity

Not all sources of power generation have the same environmental costs and benefits.

- **Conventional power** includes combustion of fossil fuels (coal, natural gas and oil) and the nuclear fission of uranium. The environmental impacts from the combustion of fossil fuels are considerable, from mining, drilling, extraction and the emissions of greenhouse gases and air pollution. Although nuclear power does not emit greenhouse gases during power generation, it does require mining, extraction and long-term radioactive waste storage.

For Pepco customers that have not chosen an alternative electricity supplier, Figure 1 illustrates the fuel sources (2011) for Pepco customers with Standard Offer Service.

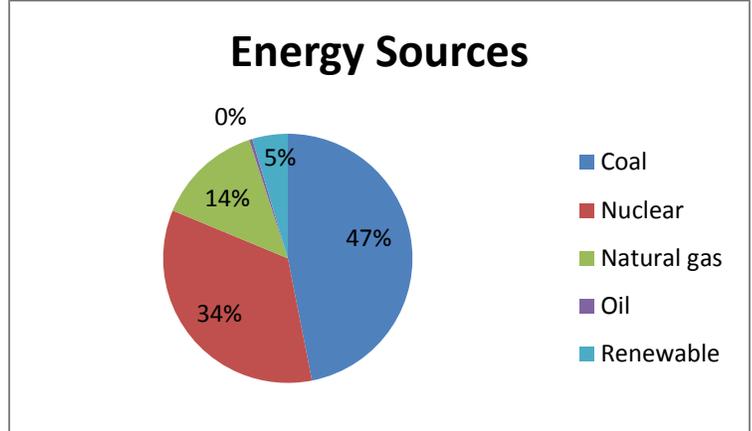


Figure 1: Power plants generate electricity from a number of different fuel sources, resulting in different emissions. In 2011, Pepco reported the contributions of different fuel sources to our region's Standard Offer Service.

- **Renewable energy sources** can restore themselves over shorter periods of time and do not diminish. The five most common renewable energy sources include: solar, wind, geothermal, water (hydropower) and biomass (wood, solid waste, landfill gas and biogas).
 - **Green power** is a subset of renewable energy that represents those renewable energy sources and technologies that provide the highest environmental benefit. The U.S. Environmental Protection Agency (EPA) defines [green power](#) as electricity produced from solar, wind, geothermal, biogas, biomass and *low-impact* small hydroelectric sources.

According to the Maryland Strategic Energy Plan (2008), Maryland faces significant electricity challenges that have real world impacts on its economy, environmental quality and overall standard of living. Growing demand, limited supply and highly congested transmission capacity are challenges to maintaining affordable, reliable and sustainable electricity to power homes and businesses. Energy efficiency and renewable energy are part of the solution. Maryland's Renewable Portfolio Standard (RPS) requires that 20 percent of Maryland's electricity be generated from renewable energy resources by 2022, including 2 percent from solar. Rockville is contributing to this statewide goal by participating in innovative government and community energy initiatives.

Green Power Community Challenge

The U.S. Environmental Protection Agency's (EPA) [Green Power Partnership](#) is a voluntary program that encourages organizations to buy green power as a way to reduce the environmental impacts associated with conventional electricity use. The Partnership currently has more than 1,400 Partner organizations, including the City of Rockville, that together voluntarily purchase billions of kilowatt-hours of green power annually. Partners include a wide variety of leading organizations such as Fortune 500 companies, small and medium sized businesses, local, state, and federal governments, and colleges and universities.

The [Green Power Community Challenge](#) is a national campaign that encourages communities across the nation to use green power to promote environmental sustainability, energy innovation and a reduction in carbon emissions.

The Rockville Mayor and Council agreed unanimously on February 28, 2011 to partner with EPA to become a Green Power Community, and now the City is issuing a challenge to residents and businesses to voluntarily switch their electricity source to green power. Competitive prices for clean energy products make purchasing clean energy more affordable and easy.

Why is Rockville Participating in the Challenge?

The challenge is a continuation of Rockville's commitment to sustainability and climate action outlined in the *Strategy for a Sustainable Rockville*, the Mayors Climate Protection Agreement and the "Quality Environment" theme in the *Mayor and Council Vision 2020*.

By participating in the Challenge, Rockville is joining more than 36 cities and towns throughout the nation in competition to increase the nation's green power capacity. Benefits of the program include:

- Increased national support for the development of new renewable energy capacity, energy innovation and green jobs.
- EPA recognition and technical support for communities that take a leadership role in the promotion of green power.
- Collective environmental benefits, such as improved air quality and reduced carbon emissions, resulting from the actions of households and businesses across the nation. Every average American home that uses 100 percent green power helps avoid more than 18,000 pounds of CO₂ emissions—that is the same emissions savings as taking 1.6 passenger vehicles off the road, saving 918 gallons of gasoline or recycling 2.7 tons of waste.

How is Rockville Contributing to the Challenge?

Rockville is designated as an official "Green Power Community" by the United States Environmental Protection Agency in recognition of its commitment to green power use. All of Rockville's municipal buildings, City utility systems and streetlights are powered by approximately 60 percent green energy from wind (more than 9.6 million kilowatt hours). This is enough green energy to offset approximately 17 million pounds of carbon dioxide emissions in one year. That is equivalent to eliminating:

- Greenhouse gas emissions generated by 1,493 passenger vehicles in one year;
- CO₂ emissions from 878,299 gallons of gasoline consumed; or
- CO₂ emissions from the electricity use of 948 average American homes for one year.