An Overview of Renewable Energy Choice Options for Consumers

As **renewable energy** technologies and the green economy evolve, county residents are increasingly considering alternatives to purchasing electricity from conventional sources. Whether driven by potential cost savings or a desire to play a greater individual role in environmental stewardship, today's energy consumers have many options to consider.

This document provides a basic overview of types of alternative (green or renewable) energy supplies available to Carroll County residents. It outlines the primary alternatives to purchasing energy from the default option selected by your utility. It introduces the key terms and considerations with which a prospective customer should be informed. **It is intended as a companion document to the Environmental Advisory Council's (EAC) energy-related guides, helping to understand the relationship between those options and other choices.** Any reference to a specific company in this document does not represent an endorsement by Carroll County or the EAC.

The electric distribution utilities currently serving Carroll County are Baltimore Gas & Electric (BGE) and Potomac Edison (PE). Prior to Maryland's deregulation of the energy market in 1999, the electric distribution utility provided all aspects of your electric service. This included generating the electricity (supply) and delivering it to your home or business (distribution). Now, consumers can choose a third-party company to fulfill their electricity generation (supply) needs as an alternative to their utility. Distribution of the energy supply still rests with BGE and PE. ☀

About This Document

The information in this document is not meant to be comprehensive or all-inclusive. Rather, it provides links and resources to help point you in the right direction to find more information.

This document, and additional energy guides, can be found on the Carroll County Environmental Advisory Council's website at 🖱**carrollcountymd.gov/government/ boards-commissions/environmental- advisory-council-eac/solar/**. ☀

Power Supply Purchase Through Your Utility

Utilities have traditionally offered one option, called a Standard Offer Service (SOS), for supply of the energy they generate. SOS energy sources typically include a mix of conventional and alternative energy. In this scenario, the consumer purchases energy at the SOS rate, which may be increased over time according to rules established by the Maryland Public Service Commission (PSC). Increased energy market competition has led some utilities to offer alternatives to the SOS. Check with your utility to determine if alternatives are offered in your service area. ☀

Acronyms

- ☼ BGE = Baltimore Gas & Electric
- ☼ CSEGS = community solar energy generating systems
- ☼ kW = kilowatts
- ☼ kWh = kilowatt-hour (1,000 watts)
- ☼ MW = megawatt (1,000,000 watts or 1,000 kilowatts)
- ☼ OPC = Maryland Office of People's Counsel
- ☼ PE = Potomac Edison
- ☼ PPA = Power Purchase Agreement
- ☼ PSC = Maryland Public Service Commission
- ☼ SOS = Standard Offer Service

🖱*Denotes hyperlinked text. This symbol is not part of the title or web address.*
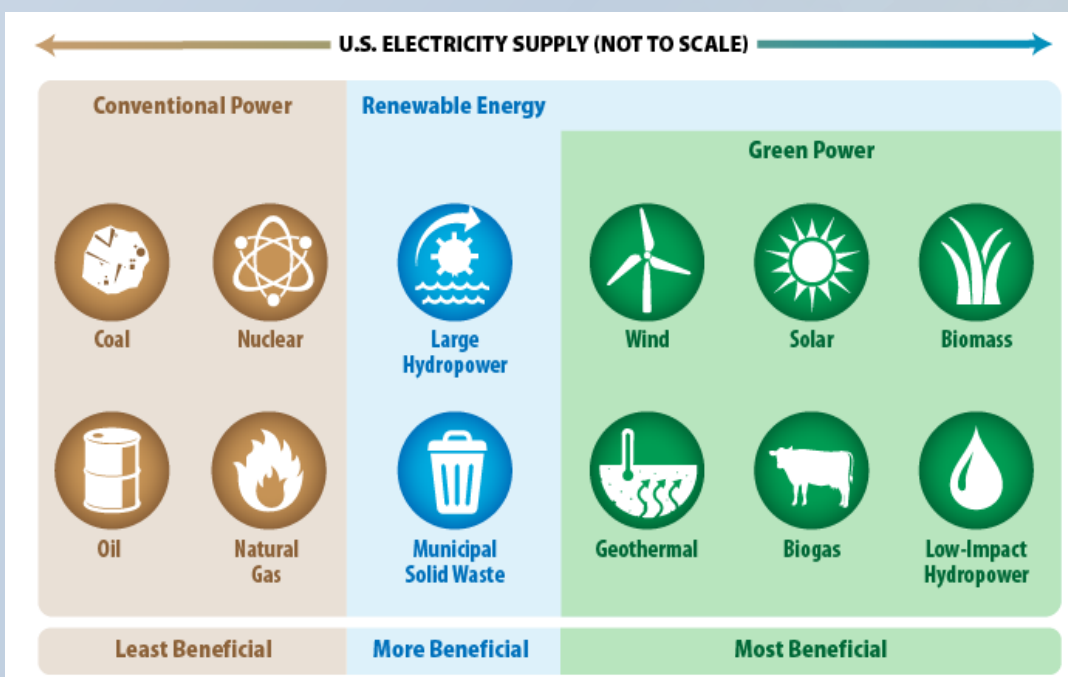
Power Supply Purchasing Through Third-Party Suppliers

Increasingly, third-party suppliers (such as Constellation and CleanChoice Energy) are now offering a variety of power purchasing agreements (PPAs) geared toward environmentally conscious consumers who may prefer to source their electricity from renewable, green, or sustainable energy generating facilities. Third-party suppliers buy electricity in bulk at wholesale costs from energy traders. The third-party supplier then sells the electricity directly to consumers. Third-party suppliers' prices are not regulated by the PSC; however, third-party suppliers must be licensed by the PSC before they can sell energy in the state and must agree to comply with extensive consumer protection requirements. It is these unregulated, different prices that can raise or lower consumers' bills compared to the option of just sticking with the prices overseen by the PSC." (Laurel Peltier and Arjun Makhijani, Ph.D. (December 2018). *Maryland's Dysfunctional Residential Third-Party Energy Supply Market: An Assessment of Costs and Policies*. Abell Foundation. Accessed September 9, 2019, at abell.org/sites/default/files/files/Third%20Party%20Energy%20Report_final%20for%20web.pdf.)

The transmission and distribution lines, or grid, are owned by your utility company. This means that, if you do choose an alternative energy supplier, you use the same wires as you do now to bring electricity into your home, and you still contact your local electric utility company if the power goes out. Your local utility is still responsible for maintaining the grid. Therefore, your electric utility will continue to respond to any emergency involving electric service. However, this also means that, no matter what third-party supplier you choose, you will still have to pay a delivery charge to your utility company to help defray the costs of that maintenance. (Maryland Energy Administration. *Energy 101*. Accessed September 6, 2019, at energy.maryland.gov/Pages/Info/index.aspx.)

Some energy suppliers specialize in 100% renewable/green energy contracts or may offer a blend of renewable and non-renewable energy sources. Some even offer power derived almost exclusively from one type of source, such as wind turbines. Potential consumers should be aware that vendors commonly use terms such as *renewable energy, green power, and clean energy* that do not have standardized definitions within the industry. Therefore, it is best to ask specifically what the sources of electricity are when you looking to buy "renewable energy." Websites for the PSC (psc.state.md.us/electricchoice/shop-and-compare/) and the Office of People's Counsel (OPC) (opc.maryland.gov/Portals/0/Retail%20Suppliers/2019%20Charts/July%202019%20Electric%20Supplier%20Combined.pdf) provides lists of authorized third-party energy suppliers for each utility, including contact information (phone number and website).

Because suppliers may change their energy generation sources and contract terms regularly, it is necessary to check with them directly to ensure the most up-to-date information is available.

The "U.S. Electricity Supply" graphic depicts how the U.S. Environmental Protection Agency (EPA) categorizes different types of energy sources based on their relative environmental benefits.

For more information regarding the various types of green power purchasing options, the EPA provides a helpful online guide, which can be found at epa.gov/greenpower/green-power-supply-options.

U.S. ELECTRICITY SUPPLY (NOT TO SCALE)

Conventional Power
- Coal
- Nuclear
- Oil
- Natural Gas

Renewable Energy
- Large Hydropower
- Municipal Solid Waste

Green Power
- Wind
- Solar
- Biomass
- Geothermal
- Biogas
- Low-Impact Hydropower

Least Beneficial — More Beneficial — Most Beneficial

Source: www.epa.gov/greenpower/what-green-power

Power Supply Purchasing Through Community Solar

The Maryland General Assembly passed legislation in 2015 to establish a pilot program for community solar projects. Broadly speaking, a community solar project (or shared solar) is a solar energy generating system whose electricity is shared by more than one household or customer. *"The primary purpose of community solar is to allow members of a community the opportunity to share the benefits of solar power even if they cannot or prefer not to install solar panels on their property. Project participants benefit from the electricity generated by the community solar farm, which costs less than the price they would ordinarily pay to their utility. Community solar allows people to go solar even if they do not own property on which to put their own system."* (Energy Sage. *Community Solar: What is it?* Accessed September 6, 2019, at energysage.com/solar/community-solar/community-solar-power-explained/.)

A multi-year pilot program, which is slated to end in 2024, is underway in Maryland that allows subscriber organizations (which can include utilities, retail electricity suppliers, solar developers, etc.) to apply to the PSC for approval and subsequently implement a program. As a Carroll County resident or business, you are eligible to participate in projects that are located within your utility's service territory and that have available subscriptions/capacity. The energy generated, or the value of the energy generated, through community solar projects is available to Carroll County residents and property owners by subscribing to the project through a subscriber organization.

See the EAC's **Guide to Becoming a Community Solar Subscriber in Carroll County** for more specific information related to community solar. ⚙

Related Online Resources:
⚙ **Maryland Public Service Commission.** psc.state.md.us/electricity/community-solar-pilot-program/

Residential Self-Supply Energy Options

Homeowners have several options available for alternative energy generation systems that can be installed at your home to specifically to power your home or property. Certain types of energy generation systems – *residential solar photovoltaic, geothermal, and wind energy systems* – currently can be constructed on your residential property as an accessory use, if the power generated is to serve your own property only and is in accordance with other Carroll County zoning and permitting regulations.

See the EAC's **Guide to Residential Solar Installation in Carroll County** for more specific information related to self-supply solar energy. ⚙

Related Online Resources:
⚙ **Carroll County Zoning Code.** *Solar Energy Generation Systems.*
library.amlegal.com/nxt/gateway.dll/Maryland/carrollcounty_md/carrollcountymarylandcodeofordinances?f=templates$fn=default.htm$3.0$vid=amlegal:carrollcounty_md
Click on Chapter 158 Zoning ➡ Specific Uses ➡ §158.153 Solar Energy Generation Systems.
⚙ **Carroll County Permits & Inspections.** *Solar Panels (Residential).*
carrollcountymd.gov/government/directory/public-works/permits-inspections/residential-projects/permits-inspections-requirements-solar-panels-residential/
⚙ **Carroll County Zoning Code.** *Wind Energy Generation Systems.*
library.amlegal.com/nxt/gateway.dll/Maryland/carrollcounty_md/carrollcountymarylandcodeofordinances?f=templates$fn=default.htm$3.0$vid=amlegal:carrollcounty_md
Click on Chapter 158 Zoning ➡ Specific Uses ➡ §158.151 Wind Energy Generation Systems.
⚙ **Carroll County Permits & Inspections.** *Requirements for Wind Energy.*
carrollcountymd.gov/government/directory/public-works/permits-inspections/residential-projects/wind-energy-systems/

Key Considerations Regardless of Option Type

Websites and direct mail information from energy companies can be unclear whether they are energy suppliers (a company that has its own energy generating system or a contract to purchase electricity), energy brokers (a company that sells and trades energy in the wholesale marketplace but not directly to you as a consumer), or aggregators (a broker that acts on behalf of a group of customers, or multiple customers such as a homeowners association). There are important differences, and you will always need to have a contract with an energy supplier if you do not purchase your electric directly from your utility company. You should understand these differences before you sign a paper contract or sign a contract throughout a Company website (yes, an Internet "sign-up" is a contract) The OPC's ⌐**"What are Energy Suppliers, Brokers, Aggregators?"** at the website shown below describes the differences between these types of parties.

On the OPC website, it may be helpful to review the guide to contracting for electricity and natural gas supply, the pricing information for electric suppliers and natural gas suppliers, and the price comparison information. Also, check on the PSC website for licensed suppliers before you make any decisions on contracting with a supplier. See the helpful links under the "Additional Online Resources" section below for this information from the OPC and PSC. ☼

Additional Online Resources

⚡**Maryland Office of People's Counsel (OPC)**

Maryland OPC is an independent State agency whose mission is to represent the interests of residential consumers of electricity, natural gas, telecommunications, private water, and certain transportation services in Maryland. OPC advocates for residential utility customer interests, through acting as a party in PSC and federal agency proceedings, providing testimony at legislative bill hearings affecting utility consumers, and providing information and assistance to customers and the public.

⌐**opc.maryland.gov/**

⌐**opc.maryland.gov/Consumer-Corner/Clean-Energy**

Consumer Corner, Clean Energy. Provides definitions of various energy buzzwords.

⌐**opc.maryland.gov/Consumer-Corner/Retail-Suppliers**

Consumer Corner – Retail Suppliers (of Electricity and Natural Gas)

⌐**opc.maryland.gov/Portals/0/Renewable%20Energy.pdf?ver=2014-10-20-115027-913**

Renewable Energy Supplier Contracts: What Maryland Consumers Need to Know

⌐**opc.maryland.gov/Regulatory-Activities/Publications#Consumer_Publications**

Publications. List of publications from OPC, including some consumer advocacy publications.

⌐**opc.maryland.gov/Portals/0/WHAT%20ARE%20ENERGY%20SUPPLIERS.pdf**

"WHAT ARE ENERGY SUPPLIERS? BROKERS? AGGREGATORS?" Describes important differences for consumers between these categories of energy companies.

⚡**Maryland Energy Administration (MEA)**

⌐**energy.state.md.us/Pages/Info/index.aspx**

Energy 101. Energy 101 is an energy guide for Maryland. Energy 101 encourages you to explore enerEnergy Basics, browse Consumer Choices, and delve into Energy Policy. There are graphics, links to additional energy information, and source material that provides even more detail on the topics you've learned about here.

⚡**Maryland Public Service Commission (PSC)**

⌐**psc.state.md.us/**

⌐**psc.state.md.us/supplier-search/**

Supplier search. ☼