



## Introduction to Renewable Energy Options for Charlottesville Businesses and Residents



**Kilowatt hour (kwh):** A measure of electricity used on your electricity bill.

**1000 kilowatt hours:** The amount of electricity used by the average American home in 1 month. Equal to 1 megawatt hour (1 Mwh)

### Renewable Energy Certificate (REC)

One REC represents the environmental benefits associated with producing 1 Megawatt hour of renewable energy. According to Dominion Energy, "RECs are increasingly seen as the 'currency' of renewable electricity and green power markets. They can be bought and sold between multiple parties, and they allow their owners to claim that renewable electricity was produced to meet the electricity demand they create . . . the more RECs that are sold, the more demand is created for renewable power. As renewable facilities sell their RECs, demand shifts to bring more renewable energy sources online."

### Carbon Offset

One carbon offset is the equivalent of removing 1 metric ton of carbon dioxide from the atmosphere. If you buy the number of carbon offsets equal to your business's carbon emissions, you can claim that your business is **carbon-neutral**.

Carbon offsets are generated by projects that remove greenhouse gasses from the atmosphere, or prevent them from being emitted in the first place. Examples include planting trees, managing forests that would otherwise be cut down, or capturing methane that would otherwise escape from landfills. If these projects could not move forward without outside funding, *and* if they are removing greenhouse gasses from the atmosphere *above and beyond* what would occur without the funding, they can sell carbon offsets.

### Green-e Certification

Green-e is an independent third-party certification with strict environmental and consumer protection standards. When you buy a Green-e certified REC or Carbon Offset certificate, you can be sure that the value of that product is legitimate and has been sold only to you. All of the products described on the reverse side of this handout are Green-e certified.

#### Sources:

"Facts about Dominion Energy's Green Power Program." 2018. Dominion Energy. <https://www.dominionenergy.com/home-and-small-business/renewable-energy-programs/va-green-power/faqs> Accessed September 26, 2018

"Green-e" 2018. Center for Resource Solutions. <https://www.green-e.org/> Accessed September 26, 2018

## Renewable Energy Options for Charlottesville Businesses and Residents

Program	Who can participate?	Type	Description	Strengths	Weaknesses	Cost
Dominion "Community Solar"	Electricity Bill Payers	RECs	Solar power generated within the Virginia Dominion Energy territory. You can purchase a "subscription" to cover 100% of your electricity bill, or you can purchase 100kwh "blocks" of solar energy. Sign-up for program begins within the next 6 months, energy generation within 18 months.	You can claim that your business runs on 100% Solar energy, generated in Virginia. 1-year commitment.	You don't "own" the panels, you're just purchasing the electricity they produce. Residential customers have priority over small commercial customers.	<b>\$20.10 per REC</b> = 2.01¢/kwh = \$2.01 per block of 100 kwh 1-year contract
Dominion Green Power Program	Electricity Bill Payers	RECs	Dominion buys and retires RECs on your behalf from renewable energy generated in multiple states. You can purchase RECs to cover all of your electricity, or buy "blocks" of renewable energy.	You can claim that your business runs on 100% renewable energy. No long-term commitment.	1/3 of the renewable energy is "biomass," releasing carbon dioxide when burned	<b>\$13.00 per REC</b> = 1.3¢/kwh = \$2 per "block" of 154 kwh
Bonville Environmental Foundation Renewable Energy Certificates	Everyone	RECs	Buy RECs through a third-party non-profit. You support renewable energy projects, creating incentive for more renewable to be built	Can buy as little as 1 REC. Can purchase even if you don't have an electricity bill	You CANNOT claim that your business <i>runs</i> on renewable energy. But you CAN <i>support</i> renewable energy. Some sources are biomass.	<b>\$8 per REC</b> = 0.8¢/kwh
Bonneville Environmental Foundation Carbon Offsets	Everyone	Carbon Offsets	Use carbon offsets to make your business - or a portion of your business - carbon neutral. Through a non-profit broker, buy carbon offsets to cancel out the carbon emissions associated with your transportation, electricity, food, or other aspect of your business.	Can buy as few as 1 carbon offset (1 metric ton). Covers <i>all</i> your carbon emissions, including those from sources other than electricity.	Even with a rigorous certification process, the exact amount of carbon actually removed from atmosphere is not 100% certain. A solution would be to buy extra offsets.	<b>\$10 -\$12 per metric ton</b> of Carbon Offset = .45¢/pound to .54¢/pound of carbon dioxide

Go to [cvillebizchallenge.org](http://cvillebizchallenge.org) to link to these programs through our Energy Catalyst Toolkit. The links will also be on the event page for this Lunch n' Learn.