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MONTGOMERY COUNTY COUNCIL

ROCKVILLE, MARYLAND

Fact Sheet

ZTA 20-01, Community Solar in the Agricultural Reserve

Fast Facts

- Montgomery County has committed to eliminating greenhouse gas emissions
- Community Solar is not currently allowed in the Ag Reserve
- ZTA 20-01 would allow Community Solar on up to 2% of the Ag Reserve (1,800 acres)
- ZTA 20-01 would allow enough solar to power 54,000 homes
- ZTA 20-01 could reduce overall County carbon emissions by up to 4.4%

Background

As a national environmental leader, Montgomery County has declared a climate emergency and committed to “100% elimination” of carbon emissions by 2035 (and 80% by 2027).¹

Eliminating carbon emissions will require tackling their sources -- the emissions that come from fossil fuels used to power buildings and transportation, particularly. According to the Metropolitan Washington Council of Governments, 51% of County emissions come from the energy used to power our buildings.

Changing how much energy buildings consume is crucial but it is a later timeline payoff when we need immediate timeline results. Achieving a quicker reduction of buildings’ emissions requires transforming the sources of energy that our buildings use. That means increasing solar energy production.

¹ Montgomery County Council, *Climate Emergency Mobilization*, Resolution No. 18-974.
https://apps.montgomerycountymd.gov/ccllms/DownloadFilePage?FileName=8727_1_4838_Resolution_18-974_Adopted_20171205.pdf

On the positive side, the State of Maryland has adopted the requirement that 50% of the energy grid must be powered by renewable sources by 2030, of which 14.5% must come from in-state solar.²

Montgomery County must do its part to generate solar locally, and all parts of the County must contribute. The County is adding solar to County facilities and has established various incentives to encourage solar on private parking lots and buildings. These approaches are valuable, but they have yet to move the emissions needle in the big picture.

Montgomery County needs the more drastic and immediate increase in solar capacity that can only be achieved with larger solar projects.

Why Community Solar

Maryland's community solar law allows solar providers to sell solar energy to larger groups of consumers -- most notably, entire apartment buildings or development complexes. The ability to sell directly to groups of consumers is what ensures that additional solar arrays will be built. With community solar, providers can negotiate bulk rates with a competitive price for energy, creating a win-win -- if they can build the arrays at an affordable price. As the cost of producing solar has come down substantially, there is tremendous potential now to move to scale.

Community solar arrays are smaller than "utility scale" arrays. They may produce up to 2 megawatts of electricity, which generally requires 10-12 acres of land. These projects are financed by the private-sector and require no public money. They are an important part of the solar solution because they enable smaller providers to compete in the solar generation market.

The Council removed prohibitions against community solar in most zones in May 2018 when it passed ZTA 18-01.³ There are two community solar projects moving through the process, but unfortunately not nearly enough to support our ambitious climate goals. One key reason for the sluggish growth of community solar is that providers are finding it very difficult to find sites of 10-12 acres where they can build solar arrays. Parcels of that size in residential or commercial zones are very rare.

ZTA 20-01, Community Solar in the Agricultural Reserve

ZTA 20-01 would open up 1,800 acres (or about 2%) of the County's 93,000 acre Agricultural Reserve for community solar as a limited use. Currently, the zoning code prohibits community solar in the Agricultural Reserve.⁴ The ZTA includes a number of reservations to support agriculture, including requirements that the ground under the panels have pollinator-friendly plants or is suitable for grazing

² Maryland General Assembly, *Clean Energy Jobs Act (CEJA)*, SB516.

<http://mgaleg.maryland.gov/mgaweb/Legislation/Details/sb0516/?ys=2019rs>

³ Montgomery County Council, *Solar Collection Systems - Standards*, ZTA 18-01.

https://www.montgomerycountymd.gov/COUNCIL/Resources/Files/zta/2018/20180515_18-43.pdf

⁴ A recent Maryland Court of Appeals decision held that solar fields larger than 2 megawatts cannot be prohibited by local zoning. Maryland Court of Appeals, *Washington County v. Perennial Solar*, July 15, 2019.

<https://www.courts.state.md.us/data/opinions/coa/2019/66a18.pdf>

and that soil and tree removal is minimized. It also has site size, setback, height and fencing requirements.

The goal of our ZTA is to get solar deployed quickly while limiting impact on the overall Agricultural Reserve. In addition to other protections in the ZTA, community solar is limited to 2% of the Agricultural Reserve (1,800 acres), in order to achieve that balance.

The Climate Impact

Community solar projects produce up to 2 megawatts (or about 4,464,000 kWh's) of clean energy, which replaces energy derived from fossil fuels in the electrical grid. From a climate perspective, there is nothing more urgent or that will have greater impact than substituting fossil fuel energy sources with clean renewable sources.

Using the EPA's Greenhouse Gas Equivalencies calculator,⁵ each 2 megawatt community solar project would reduce carbon emissions by 3,156 metric tons, which is equivalent to the emissions created by 364 single family houses in a year. Extrapolating to the full buildout of 1,800 acres in the AR zone, the solar energy produced would provide enough clean energy for 54,631 homes. Zooming out a bit further, a full buildout under this ZTA would reduce approximately 473,434 metric tons of carbon emissions, or 4.4% of the County's total emissions.⁶ That would be a sizable step toward meeting our climate goals.

Putting these numbers into context, there are approximately 7.6 megawatts of solar energy on County facilities. That is equivalent to reducing the emissions of 1,384 homes. The solar array on the Council Office Building reduces the emissions equivalent to 3.1 homes. While these projects are valuable, we need to move faster. We need bigger and bolder solutions.

While we must embrace an all-of-the-above approach, we should also understand that changing building codes, for example, will pay off incrementally -- by reducing energy consumption as buildings are constructed or renovated. The timeline, however, is very long-term as it can take decades for the building stock to turn over. The climate emergency is now.

Swapping clean energy for fossil fuels will achieve results regardless how successful those other measures may be in reducing consumption.

Solar providers are eager to build new community solar arrays and sell that energy to Montgomery County residents. Let's open the door.

⁵ United State Environmental Protection Agency, *Greenhouse Gas Equivalencies Calculator*, <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

⁶ Based on data from the Metropolitan Washington Council of Governments (MWCOG), there were 11.34 million metric tons of carbon emissions in the County in 2015. https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/outreach/air/Montgomery-County-MD_Community-Wide-Greenhouse-Gas-Inventory-Summary-Factsheet.pdf