Montgomery
County Council

Committee PHED
Staff: Jeff Zyontz, Senior Legislative Analyst
Purpose: To introduce agenda item – no vote expected
Keywords: #Solar collection, #solar panels, #AR zone

AGENDA ITEM 6A
January 21, 2020
Introduction

SUBJECT

20-01, Solar Collection System – AR Zone Standards

EXPECTED ATTENDEES

NA

COUNCIL DECISION POINTS & COMMITTEE RECOMMENDATION

NA

DESCRIPTION/ISSUE

ZTA 20-01 would revise the Solar Collection System use standards to allow larger facilities in the Agricultural Resource (AR) zone. The total amount of collection systems on all parcels would be limited to 1,800 acres. Any collector system constructed under the proposed text amendment must be designated pollinator-friendly under the Maryland Pollinator-Friendly Designation Program.

SUMMARY OF KEY DISCUSSION POINTS

Solar panels are only allowed in the AR zone as an accessory use. The Zoning Ordinance defines that as a facility that produces no more than 120% of on-site electrical needs. ZTA 20-01 would expand the opportunities for solar power. An uncodified provision of the ZTA would require the Department of Permitting Services to annually report on the number of total acres used for Solar Collection Systems.

This report contains:

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Zoning Text Amendment No.: 20-01
Concerning: Solar Collection System – AR Zone Standards
Draft No. & Date: 4– 1/14/20
Introduced:
Public Hearing:
Adopted:
Effective:

COUNTY COUNCIL FOR MONTGOMERY COUNTY, MARYLAND SITTING AS THE DISTRICT COUNCIL FOR THAT PORTION OF THE MARYLAND-WASHINGTON REGIONAL DISTRICT WITHIN MONTGOMERY COUNTY, MARYLAND

Lead Sponsors: Councilmember Riemer and Council Vice President Hucker

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AN AMENDMENT to the Montgomery County Zoning Ordinance to:

- revise the Solar Collection System use standards to allow larger facilities in the AR zone;
- amend the provisions for Solar Collection Systems in other zones; and
- amend the provisions for site plan approval in the AR zone.

By amending the following sections of the Montgomery County Zoning Ordinance, Chapter 59 of the Montgomery County Code:

Division 3.7.	"Miscellaneous Uses"
Section 3.7.2.	"Solar Collection System"
Division 7.3.	"Regulatory Approvals"
Section 7.3.4.	"Site Plan"

EXPLANATION: ***Boldface*** *indicates a Heading or a defined term.*
Underlining indicates text that is added to existing law by the original text amendment.
[Single boldface brackets] indicate text that is deleted from existing law by original text amendment.
Double underlining indicates text that is added to the text amendment by amendment.
[[Double boldface brackets]] indicate text that is deleted from the text amendment by amendment.
** * * indicates existing law unaffected by the text amendment.*

ORDINANCE

The County Council for Montgomery County, Maryland, sitting as the District Council for that portion of the Maryland-Washington Regional District in Montgomery County, Maryland, approves the following ordinance:

Sec. 1. DIVISION 59-3.7 is amended as follows:

Division 3.7. Miscellaneous Uses

* * *

Section 3.7.2. Solar Collection System

A. Defined

Solar Collection System means an arrangement of panels or other solar energy devices that provide for the collection, inversion, storage, and distribution of solar energy for electricity generation, space heating, space cooling, or water heating. A Solar Collection System includes freestanding or mounted devices.

B. Use Standards

Where a Solar Collection System is allowed as a limited use, it must satisfy the following standards:

1. In the Agricultural Reserve zone, all of the standards in Subsection 3.7.2.B.2 and the following standards apply:

   [a. A Solar Collection System must be an accessory use as defined in Section 3.1.3.]

   [b]a. Written authorization from the local utility company must be provided for a Solar Collection System that will be connected to the utility grid.

   [c]b. Removal of trees or landscaping otherwise required or attached as a condition of approval of any plan, application, or permit for the installation or operation of a Solar Collection System is prohibited.

   [d. Solar panels may encroach into a setback as allowed under Section 4.1.7.B.5.c and may exceed the maximum height as allowed under Section 4.1.7.C.3.b.]

[e. A freestanding Solar Collection System is allowed only as an accessory use where the system produces a maximum of 120% of on-site energy consumption and must satisfy the same development standards as an accessory structure.]

c. Except as allowed under Subsection 59.7.3.4.E.5.b, the site must be designated pollinator-friendly under the Maryland Pollinator-Friendly Designation Program.

d. Cumulatively, on all AR zoned land, a maximum of 1,800 acres of land may be covered by solar panels.

2. In Rural Residential, Residential, Commercial/Residential, Employment, and Industrial zones, where a Solar Collection System is allowed as a limited use, [it must either satisfy Subsection 59.3.7.2.B.1.a through Subsection 59.3.7.2.B.1.e or] it must satisfy the following standards in either subsection a or b:

a. The Solar Collection System must be an accessory use as follows:

i. the system produces a maximum of 120% of on-site energy consumption;

ii. encroachment allowed under Section 4.1.7.B.5.C; and

iii. a maximum height allowed under 4.1.7.C.3.b.

b. The Solar Collection System must satisfy the following standards:

[a] i. Site plan approval is required under Section 7.3.4.

[b] ii. The site must be a minimum of 3 acres in size.

[c] iii. The system may produce a maximum of 2 megawatts (AC).

[d] iv. All structures must be:

[i] A. 20 feet in height or less;

[ii] B. located at least 50 feet from any property line; and

[iii] C. surrounded by a minimum 6-foot-tall fence.

[e] v. If a structure for a Solar Collection System is located in an area visible to an abutting residential use or a road:

[i] A. only solar thermal or photovoltaic panels or shingles may be used;

[ii] B. the panels or shingles must use textured glass or an anti-reflective coating; and

[iii] C. screening that satisfies Section 59.6.5.3.C.8 (Option A) on the sides of the facility visible from the residential use or road is required.

[f] vi. The Solar Collection System must be removed within 12 months of the date when the use is discontinued or abandoned by the system owner or operator, or upon termination of the useful life of the system. The Solar Collection System will be presumed to be discontinued or abandoned if no electricity is generated by the system for a period of 12 continuous months.

[g] vii. If licensed by the Public Service Commission, [A] a system designed to produce more than 2 megawatts (AC) [may be allowed as a public utility use under Section 3.6.7.E] is not restricted by Chapter 59.

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Sec. 2. DIVISION 59-7.3 is amended as follows:

Division 7.3. Regulatory Approvals

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Section 7.3.4. Site Plan

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E. Necessary Findings

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5. For property zoned AR proposed for use as a Solar Collection system:

a. grading and any soil removal will be minimized; and

b. the site must be designated pollinator-friendly under the Maryland Pollinator-Friendly Designation Program, or any land on which the solar generation facility is located that is not designated as pollinator friendly must be planted, managed, and maintained in a manner suitable for grazing farm animals.

* * *

Sec. 3. Reporting. On April 1, 2021 and annually thereafter, the Department of Permitting Services must report to the County Council the total acreage of Solar Collection System permits in the Agricultural Reserve approved by the Department since the effective date of ZTA 20-01.

Sec. 4. Effective date. This ordinance becomes effective 20 days after the date of Council adoption.

This is a correct copy of Council action.

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Selena Mendy Singleton, Esq.
Clerk of the Council

AGENDA ITEM #6A
January 21, 2020
ADDENDUM

Introduction

MEMORANDUM

January 21, 2020

TO: County Council

FROM: Jeffrey L. Zyontz, Senior Legislative Analyst

SUBJECT: ZTA 20-01, Solar Collection System – AR Zone Standards

PURPOSE: Additional Information

The sponsors of ZTA 20-01 requested the distribution of the attached fact sheet.

Hans Riemer, Chair
Planning, Housing, and Economic Development Committee

Tom Hucker, Chair
Transportation and Environment Committee

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/ccllims/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

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[2] Maryland General Assembly, *Clean Energy Jobs Act (CEJA)*, SB516.
http://mgaleg.maryland.gov/mgawebsite/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 434,434 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.

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[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