

CARROLL COUNTY ENVIRONMENTAL ADVISORY COUNCIL

JULY 15, 2026

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WHAT WE WILL COVER TODAY

Answering the ECA's questions about solar development

1. **Brief Intro to Chaberton**
2. **Cost & Savings —**
The cost/benefit of owning a residential system vs. subscribing to Community Solar
3. **Site Selection —**
How developers determine where projects can be built
4. **Decommissioning —**
What's involved and associated costs
5. **Soil Health —**
Are there risks?
6. **Q&A**

We hope this is conversational and invite you to ask questions along the way.



ABOUT US



WHO WE ARE

Chaberton empowers communities with locally produced energy that saves residents and businesses money, improves grid reliability, and delivers economic benefits to the areas we serve.

**Inc.
5000**
2024 & 2025

**Inc.
Best in
Business**
2024



Public benefit corporation headquartered in **Rockville**



Two-time **Inc. 5000** awardee, #34 in 2024 and #53 in 2025



200MW+ of distributed energy in development in Maryland



Through Chaberton Cares, **more than \$200K** donated to nonprofits local to our projects



Completed development on **125MW+** across **33 projects**



150+ projects in development nationwide, with a **1 GW+** pipeline

Chaberton Energy develops community-scale energy projects, with a focus on distributed solar and energy storage.

HOW WE HELP

Driven by the core values of creativity, excellence and humanity

- We work with landowners who want to host distributed energy projects, then develop those projects from inception through construction.
- We work with local jurisdictions to permit the project, and with the local utility for interconnection approval.
- Our portfolio is composed of community solar projects, storage projects, aggregate net energy metering (ANEM) projects for institutional clients, and other PPA-based projects.



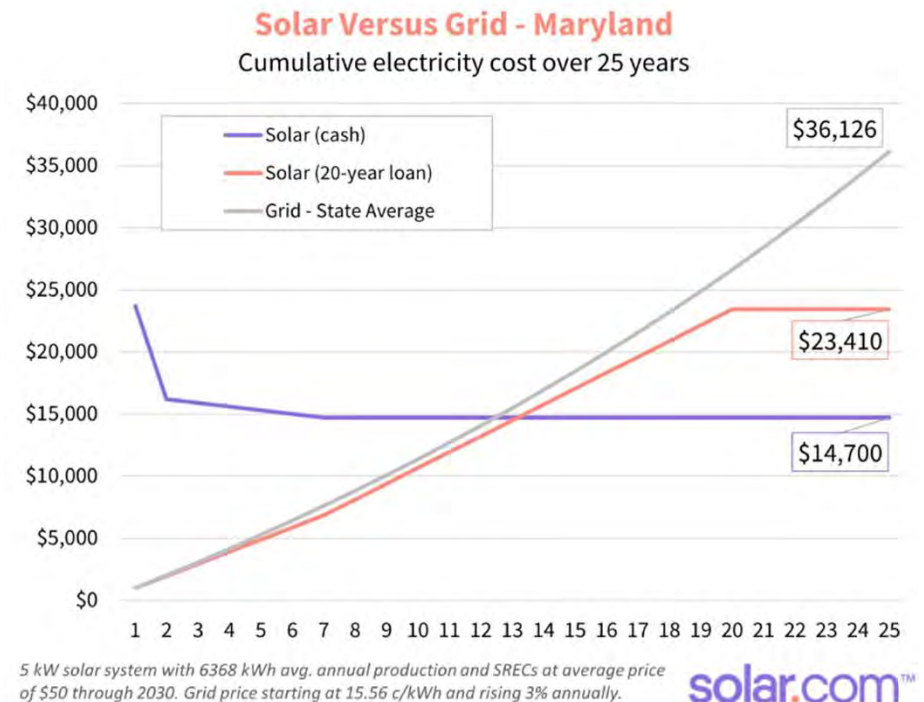


COST AND SAVINGS DIFFERENCES BETWEEN RESIDENTIAL & COMMUNITY SOLAR



RESIDENTIAL SOLAR OWNERSHIP: COSTS AND SAVINGS

- Residential solar carries a significant upfront cost, with savings realized gradually over years or decades
- In Maryland, the average residential solar installation costs **\$37,031** (EnergySage)
- Over 25 years, the average homeowner saves **\$71,585** — but actual savings vary widely from home to home
- Savings depend heavily on how much sunlight a system can capture
- Ownership isn't the right fit for everyone as it requires either a large upfront payment or financing



Solar ownership can pay off long-term, but the upfront costs are prohibitive to many and the savings vary by home



COMMUNITY SOLAR: SAVINGS WITHOUT UPFRONT COST

- A **CSEGS subscription** lets renters and homeowners who can't install their own systems benefit from solar — no upfront cost, easy sign-up
- These systems **optimize sunlight capture**, increasing electricity production compared to a typical home system
- Maryland subscribers typically see a **10–25%** savings on their utility bill, depending on income
- In BGE territory, that's roughly **\$200–250/year** in savings for an average subscriber and up to **\$500/year** for LMI subscribers
- Over a 35-year system life, that's an estimated **\$8,000** in savings for non-LMI subscribers and **\$17,000** for LMI subscribers — with no money out of pocket

**Community solar delivers real savings with
no upfront cost or need for perfect roof conditions**





OWNERSHIP VS. SUBSCRIPTION — WHICH MAKES SENSE?

RESIDENTIAL

- **Greater savings, but not for everyone.**
Owning a system can produce greater lifetime savings than community solar, but it isn't accessible or practical for all households.
- **Best fit for long-term homeowners.**
Ownership works best when staying long-term, with a solar-suited roof and the credit or cash to finance the system.

COMMUNITY SOLAR

- **Community solar removes the barriers.**
No roof requirements, no credit check, and no risk. If the subscriber moves, the subscription simply transfers or cancels.
- **The gap-closer.** Community solar expands access to clean, affordable energy for people who can't own a system for a variety of reasons.

The right choice depends on multiple factors unique to each situation.

SELECTING SOLAR SITES



HOW ARE PROJECT SITES SELECTED?

Developers must weigh a range of factors when siting CSEGS projects

- **Multiple criteria** have to line up before a site is viable
- **Interconnection** availability is often the first filter
 - Near a 3-phase circuit
 - Enough capacity to interconnect
 - Feeding into a substation that also has available capacity
- **Environmental conditions** must be assessed early
 - Sites with wetlands, heavy forestation, or other features are carefully considered
- **Willing landowner**
 - A signed lease agreement is required before a site can move forward

Based on grid capacity alone, the siting of distributed energy projects is very limited.





DECOMMISSIONING





DECOMMISSIONING — WHAT'S INVOLVED AND HOW LONG?

What happens when the project reaches the end of its life?

- Facilities are designed for 30-40 years of operation
- Panels carry 25- to 35-year performance warranties while energy storage is typically 10-15 years; inverters and major equipment are warranted 10–20 years
- The Decommissioning Agreement requires the project owner to fully remove the equipment (panels, racking, wiring, inverters) and restore the land
- Solar panels are either recycled, salvaged for reuse (they still hold about 80% of their power output after 25 years), or in some cases landfilled
 - NOTE: The landfill in Carroll County does not currently accept solar panels
- Energy storage systems are typically recycled at end of life to recover valuable materials for reuse
- Once equipment is removed, the property is returned to a condition suitable for whatever the landowner wants to use it for next

Routine, minimal maintenance supports decades of reliable generation



DECOMMISSIONING COSTS

Is the County on the hook for these costs?

- **Project owner pays — never the County or taxpayers.**
 - The full cost of decommissioning is the developer's responsibility
- **A bond is required before construction begins**, estimated by an independent engineer.
 - Covers equipment removal, trucking, recycling/disposal, and land restoration
- **The bond is reviewed every 5 years** to keep pace with inflation and cost changes.
- **The County and landowner are protected.**
 - If the project owner fails to perform, the County or State can draw on the bond to finish the work

The County and community bear no financial risk for decommissioning.



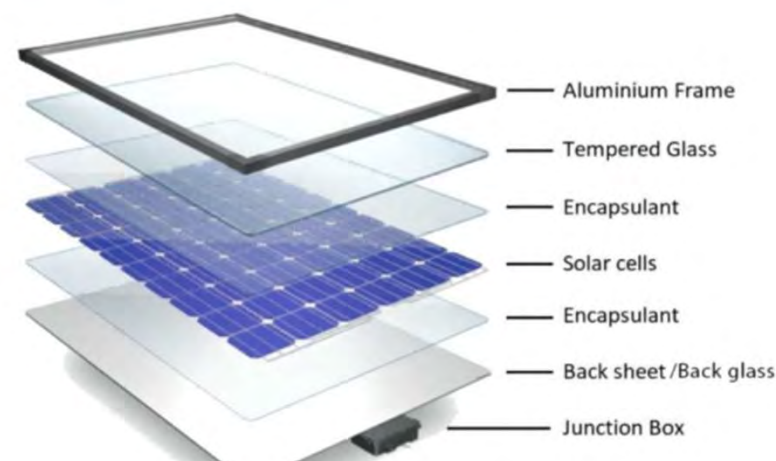
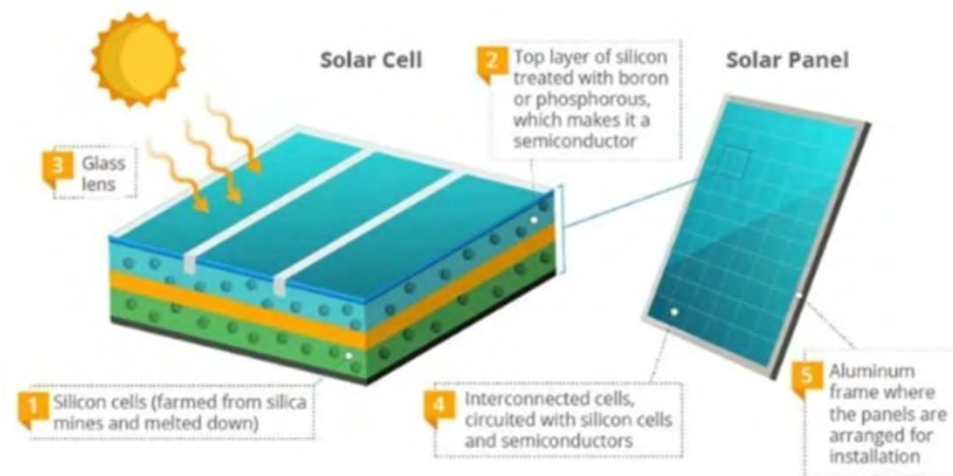
SOIL HEALTH



ADDRESSING SOIL HEALTH CONCERNS — SOLAR

Contamination risks from solar equipment are exceptionally rare and minimal.

- The most widely used panel technology is made up of **materials found in our homes** (glass, aluminum, steel, copper) and does not contain heavy metals
- While thin film modules may contain trace heavy metals, they are **fully encapsulated** and do not leach under normal operation
- Extensive studies by the U.S. Environmental Protection Agency and the International Energy Agency have found that PV panels and broken solar modules in the field pose **no significant hazardous waste risks, with heavy metal presence falling well below safety thresholds**

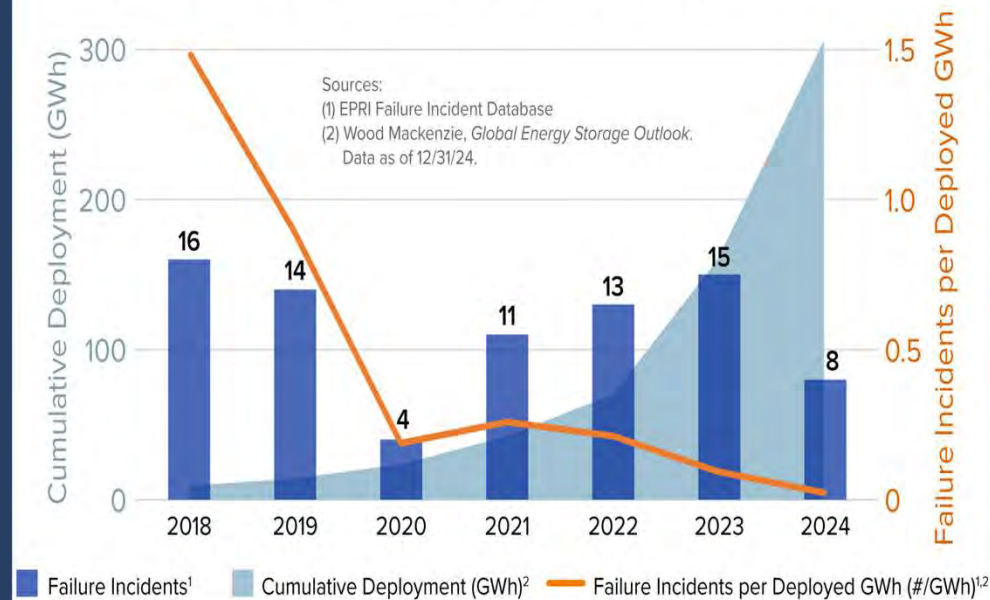


ADDRESSING SOIL HEALTH CONCERNS — STORAGE

- Energy storage projects, increasingly paired with solar, do not affect surrounding soils under NFPA-compliant design and operations
- Industry safety standards such as UL 9540 and NFPA 855 govern energy storage testing and safety design
- Fires at BESS facilities are very rare and are primarily due to overheating
 - Any emissions in that scenario would be broadly comparable to those from a typical house fire
 - With NFPA 855 and a trained fire dept, there shouldn't be air or soil issues after a thermal / fire event
- A study conducted by the Fire and Risk Alliance determined that no BESS fires from 2012 to now “resulted in contaminant concentrations that would pose a public health concern or require further remediation”

NFPA-compliant design and operations present no soil health concerns.

Global Grid-Scale Storage Deployment and Failure Statistics



Q&A

THANK YOU!

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