



Circular Solar LLC

\$2M Seed Round | \$20M Pre-Money Valuation

(Potential LOI for first facility expected soon, supporting higher pre-money value)

The Opportunity

Billions of tons of CDW (construction demolition waste), certain mine tailings and conflict and disaster rubble and future reconstruction zones (for example post earthquake) must be managed while the world scales bifacial solar, BESS, and permanent carbon dioxide removal. In parallel, large mine sites offer significant potential for surficial mineralization — an opportunity we have been actively scouting and de-risking off and on since 2002 working with advanced metal oxide thin film coatings and then again in 2008 after a successful, small micro CDR infrastructure pilot. Circular Solar turns these challenges into a multi-solve solution.

Our Solution

High-albedo Nanorocks produced from recycled concrete aggregate (RCA) or mine-site waste rock, finished with advanced metal oxide technology. Deployed alongside solar and BESS arrays, they deliver:

- **Maximized Energy Output with recycled materials:** Significant bifacial yield gains and cooler operating module temperatures, recycled materials for landfill avoidance.
- **Optimized Operations:** Reduced soiling accumulation and lower ongoing O&M costs.
- **Permanent Carbon Mineralization:** An engineered CDR pathway via Puro.earth using surficial mineralization.
- **Socio-Economic Impact:** Local job creation, regional pollution reduction, and direct alignment with multiple UN SDGs.

The primary commercial demonstration facility focuses entirely on the **surficial mineralization method**, powered by a Circular Solar BESS Nanorock farm utilizing mine-site waste rock or RCA. The underlying science and material performance have been validated through years of testing on our California testbed, building directly on data from our 2008 micro-infrastructure FOAK installation (which confirmed a 10–12 year photocatalyst lifespan before reapplication).

To support large-scale deployment across two separate post-conflict countries, this facility establishes a scalable, bulk-volume model optimized for rapid regional reconstruction and verified carbon removal.

Traction & De-Risking Milestones

- Early R&D and commercialization of advanced metal-oxide thin-film coatings beginning January 2002 (24-year foundation)
- 2008 FOAK micro-infrastructure pilot (passive carbon mineralization + early hand-rolled Nanorock samples)
- Ongoing scouting and intermittent de-risking (passive version) of mine-site surficial mineralization since 2008 and real-world tests onboard prototype for pollution management; controlled comparison study and impact on water since Q1 2023
- That real-world infrastructure validation later supported by Purdue research on TiO₂ performance
- Official onboarding with Puro.earth (video statement at the bottom of this page: <https://circularsolar.net/innovation-%26-testing>)
- In the process of submitting the proposal to Carbon-to-Sea OAE research funding for “field research facility” at our long standing Alameda test site (R&D since 2020).
- Passive Circular Solar and Nanorock shoreside system positioned for Caltrans road shoulders and Nanorocks for bioswales, coastal abutments to support S.A.L.M.O.N. Act (AB 1798) requirements.
- Integration into CalRecycle Zero Waste Plan
- WindEurope EoLIS presentation; investment includes for Circular Solar Wind farms
- Hybrid Energy Corridors whitepaper and high-level policy engagement dispursed
- Seed will fund first small pilot of Circular Solar Nanorock farm (model installations for scaling 1MW - 20MW Circular Solar Nanorock farms)

Market Opportunity

- Massive RCA and rubble recycling demand in post-conflict or earthquake reconstruction
- Growing need for resilient, energy dense high-albedo ground cover solar + BESS farms
- Premium, durable CORCs with multi-solve co-benefits
- Multiple site targets for surficial mineralization (under CM CDR) and scaling solar farms

Business Model

Dual revenue streams from the same material:

1. Sale of Nanorocks for solar/BESS farms and construction (performance + albedo value)
2. Premium carbon credits (CORCs) from engineered carbon mineralization

The Ask

\$2M seed at \$20M pre-money valuation

Successful LOI expected to support a higher post-money / follow-on valuation of \$35M - \$40M+.

Where it all began (to decarbonize and innovate the mining industry):

<https://circularsolar.net/consulting-services-1>

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