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Stephen Astle,

Director, Defense Industrial Base Division, Office of Strategic Industries and Economic Security,
U.S. Department of Commerce Head of Trade and Economics

Recipient Head of Trade and Economics: "BIS-2025-0191. Please refer to XRIN 0694-XC133"

Dear Mr. Astle:

Thank you for considering the following. As you will see [here](#) (pitch deck at the bottom of the page shows tests results and art for various Wind blade solutions), I have been trying to solve various challenges for the renewables industry, particularly Wind and Solar, for many years, including a coating which can help reduce corrosion on turbine towners and blades (which may reduce failure). One of the reasons I have so many innovations, solutions to improve several challenges for the global wind industry is from trying to decarbonize energy in the mining industry. In 2012, I pitched a mine site to add Wind and Solar, they said only if the industry figured out how to recycle the wind blades when they fell off from corrosion or a lightning strike anXd they said it wasn't green when the blades were buried in landfills. Additionally, people also said they didn't like that most components were made in China (back then). So, I tried to find solutions for all of these challenges. Off and on since, I worked on solving these problems, which also double to scale to portside infrastructure (less pollution, corrosion, longer lifecycle concrete) and to help prevent offshore wind environmental damage to marine life and shores (preventing toxin and plastic pollution).

1. To breakdown PFAS, oil or lubricant residue down blades, towers impacting the environment; I was aware years ago of the PFAS pollution impacting EU soil and that's a big factor why they banned landfilling.
2. Circular Solar offers anti-corrosion benefits, which is one cause of failure or ongoing care & maintenance or replacement parts.
3. Proven healthy vegetation growth below floating Wind or the ground around onshore wind. I contacted Vattenfall when I heard they had a group going to grow seaweed off their floating turbines; I already began my field study where the Circular Solar seaweed growth would be less toxic than the Vattenfall's since our composite above the waterline had pollution removal; please see comparison images online.
4. Solved how to increase EoL Wind recycling rates from 90% to 95-100%.

The Department is particularly interested in comments and information directed at the criteria listed in § 705.4 of the regulations as they affect national security, including the following:

(vii) the potential for export restrictions by foreign nations, including the ability of foreign nations to weaponize their control over supplies of wind turbines and their parts and components.

(viii) the feasibility of increasing domestic capacity for wind turbines and their parts and components to reduce import reliance; If Circular Solar coating is added to U.S. components (or to production of components made with allies) this can help mitigate corrosion which can cause failure. With photocatalytic self-cleaning, this can breakdown, oxidize, various pollutants which can accelerate corrosion, thus failure. Circular Solar's Founder, Cherise first created a small example with infrastructure (installed in 2008, over glass and concrete which enabled visual inspections of breaking down vehicle pollution and verifying pollution removal byproduct and cleaner water benefited plants and soil below). Then in 2018 rebuilding a prototype to simulate offshore wind in a high pollution area (including airborne and waterborne PFAS, heavy metals, VOCs, microplastics) by 2023 test sections were breaking down those pollutants, and a long-term marine growth comparison test created showing mitigation of algae bloom, instead the cleanest possible OAE seaweed growth; see image gallery near the bottom [of this page](#).

(xi) the ability of foreign persons to weaponize the capabilities or attributes of foreign-built wind turbines and their parts or components.

It is essential that components ensure no cyber security breaching. In 2022, a specific minigrid was designed on a small composite vessel as a solar-battery minigrid placed by high electromagnetic interference (from rail, including interference thru the water/across the Oakland Estuary). After years of research, particular brands of equipment, technology were chosen for inverter, mppts, and WiFi. If additional WiFi security is added (to prevent backdoor hacking) with the DOE's latest cybersecurity, and this equipment, foreign adversary breaching potential will be eliminated (in my humble opinion).

Foreign-built wind blades could contain PFAS. PFAS free or PFAS mitigation should be required for all Wind components on U.S. soil and waterways. This is a factor in Europe's 2025 Wind landfill ban. This is a reason why our team was in Turkiye, who has a fair reciprocal tariff, visting a Wind blade OEM in [Izmir is a major Wind OEM port](#); major EU export market and a trip to Germany, Europe in 2023-2024; to try to gain a customer, partnership, investor for the Circular Solar nanotechnology coating and alkaline materials (dolomite rocks, alkaline recycled concrete aggregates coated in the product) to installed below Wind Turbines onshore in the event of failure, the debris is contained and leaking of toxins has a barrier which breaks down those contaminants. This is a similar method to our decommissioned wind blades, nacelle Circular Solar farms, where the whole blades are placed over this toxin, pollution barrier to protect farmland, soil, solar farms are installed over that, generating the highest possible solar daily yields (from albedo effect), the nacelle's house the electronics, BESS system. The system was also designed as a wind landfill diversion project, where the whole materials are transported to mine sites where they can recycle the e-waste (steel to REE's from the generators) and stored on land suitable for hazardous waste, and the metals are a feedstock for sustainable critical minerals.

Circular Solar farms can offer Tribal energy security and backup renewable power for the mine sites; using Reclamation land to host the project, providing ongoing energy and community benefits. All interested, can see some art in the pitch deck near the [bottom of this page](#).

(xii) any other relevant factors. When the Vineyard Wind GE blade failure occurred, I immediately contacted VW to share that drone with IR, thermal cameras, needed to be deployed for inspection of the turbine with failure, as IR cameras can find corrosion, wetness, cracks. And for IR drones to immediately survey, scan over the water to find the white fiberglass pieces and I explained how for years I use IR cameras over white fiberglass on water and how its reflectivity can create a heat signature on the surface of the water so the debris could be found. I also let them know I have a project to purpose the blades, even pieces (with solar, for mounting or below with albedo effect, reflectivity, and downcycled into concrete with my product mix for cool EV charging concrete spaces). Additionally, the OAE project Circular Solar offers, could be added to the shorelines beach to help breakdown potentially toxins from the debris (microplastic toxins, epoxy BPA VOCs to PFAS); as now seen in the image gallery on our website; including mitigating red tide/algae bloom toxic runoff can generate red tide growth).

Sadly, despite contacting multiple people at VW, including Copenhagen Partners CEO, the only response I received was a thank you. This is not unlike how the Nantucket local residents were treated. They were not properly consulted during the failure and the impact on its tourism community and fisherman source of income, fishing. The permit was rushed; there should have been more community engagement on preparation in the event of failure. Based on that failure, and this will obviously come off as self-serving, but this event was exactly why additional consultation with the community and additional tools to inspect and prevent failure may be necessary.

Thank you for considering the above comments,

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