# Dossier: CARBONCYCLE LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,900,000.00

**Award Date:** 2024-08-18

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

CarbonCycle LLC appears to focus on developing and deploying innovative solutions for carbon fiber recycling and upcycling, addressing the growing need for sustainable materials management within the aerospace and defense industries. Their core mission likely revolves around creating a closed-loop carbon fiber lifecycle, minimizing waste, reducing the environmental impact associated with carbon fiber production and disposal, and providing cost-effective recycled carbon fiber materials with performance characteristics suitable for various applications. Their unique value proposition likely lies in offering a sustainable and economically viable alternative to landfilling or incineration of carbon fiber composites, potentially providing high-quality recycled carbon fiber materials at a lower cost than virgin carbon fiber. They may also be offering a secure and traceable recycling process which would be valuable in the defense sector.

**Technology Focus:**

* Proprietary technology for depolymerization or pyrolysis (or a combination) to reclaim carbon fibers from composite materials, ensuring fiber length and strength retention. Precise specifics are limited without further internal investigation.
* Development of tailored recycled carbon fiber reinforced polymers (rCFRP) materials with customized properties for specific aerospace and defense applications, targeting performance requirements such as strength, stiffness, and weight.

**Recent Developments & Traction:**

* Partnership announced with Composite Recycling Technology Center (CRTC) in Port Angeles, Washington, focusing on scaling up composite recycling capabilities. (Information is less specific and current than desired, requiring deeper investigation if this were a real investment opportunity.)
* Awarded a grant/contract (specifics unavailable without further research but indications suggest small business innovation programs) to explore the use of recycled carbon fiber in specific defense applications (e.g., unmanned aerial vehicle components).
* Relatively quiet period; needs more diligence to assess current operational status, product launches are not readily apparent without deeper web searching or direct contact.

**Leadership & Team:**

Due to limited publicly available information, leadership details are scarce and need further investigation to determine key personnel. Further due diligence is required to uncover management team experience.

**Competitive Landscape:**

One potential competitor includes ELG Carbon Fibre Ltd (now part of Toray Advanced Composites). CarbonCycle's differentiator could be a more specialized focus on defense applications or a unique, proprietary recycling technology resulting in superior material properties. A second competitor would be Vartega Carbon Fiber Recycling LLC. CarbonCycle's differentiation from Vartega would need to be investigated further via competitive intelligence to see if they have an edge in specific defense applications or are more specialized.

**Sources:**

1. [https://compositesrecycling.org/](https://compositesrecycling.org/) (Composite Recycling Technology Center, mention of partnership)

2. [www.thomasnet.com/profile/11535693/carboncycle-llc](http://www.thomasnet.com/profile/11535693/carboncycle-llc) (General company information, product categories)

3. Various Google searches related to "CarbonCycle LLC", "carbon fiber recycling", and "recycled carbon fiber aerospace" - yielding limited substantive results, highlighting the need for more direct investigation.