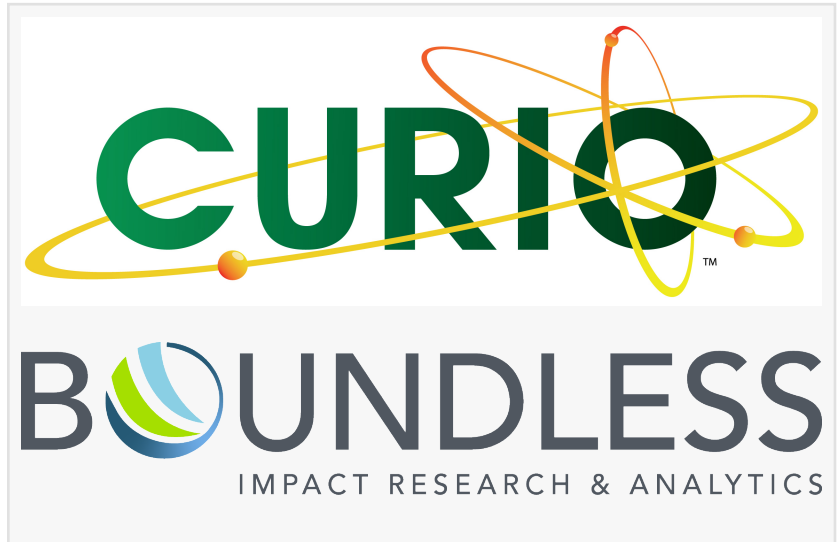


Curio's NuCycle Process Cuts Nuclear Carbon Emissions by Up to 87%

NuCycle Process Revolutionizes Nuclear Fuel Recycling, Cutting Nuclear Industry Carbon Emissions by Up to 87%

WASHINGTON, DC, UNITED STATES, October 17, 2024 /EINPresswire.com/ -- [Curio](#), a leader in nuclear fuel recycling technology, has unveiled transformative findings from a recent ISO-compliant Life Cycle Assessment (LCA) conducted by [Boundless Impact Research & Analytics](#). The July 2024 report, commissioned through the U.S.

Department of Energy's Energywex program, demonstrates that Curio's NuCycle process significantly reduces environmental impacts, achieving up to an 87% reduction in greenhouse gas (GHG) emissions compared to conventional nuclear fuel production.



“

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Edward McGinnis

The results of the study are a testament to Curio's innovative approach to managing nuclear waste. Each year, U.S. nuclear power plants generate approximately 2,000 metric tons of spent nuclear fuel, which poses long-term environmental and health risks. Curio's NuCycle process not only mitigates these risks by recycling spent fuel but also allows for the extraction of more energy compared to traditional methods.

Key Findings from the Boundless LCA Report Include:

□ 87% reduction in GHG emissions compared to

conventional nuclear fuel production when evaluated from fuel production to enrichment (cradle-to-enrichment).

□ 32% reduction in GHG emissions when evaluated from fuel production through power generation and waste management (cradle-to-grave).

□ 67% reduction in fossil energy footprint when evaluated from fuel production to enrichment (cradle-to-enrichment), further showcasing NuCycle's energy efficiency.

“NuCycle represents a paradigm shift in the nuclear industry, providing an efficient and environmentally friendly alternative to traditional nuclear fuel production,” said CURIO CEO Edward McGinnis. “Our goal is to support the expanded use of nuclear in the most environmentally sustainable, safe, and secure manner, and this report proves we are on the right path.” Alex Wheeler, the lead researcher for Curio on this project, emphasized the groundbreaking nature of the findings: “Our work on NuCycle has shown that we can dramatically reduce the environmental impact of nuclear energy production while maximizing the energy output of recycled nuclear fuel. This is a critical step in securing a sustainable and clean energy future for the U.S. and beyond.”

NuCycle: The Future of Nuclear Energy

Curio’s NuCycle process is designed to provide the most environmentally responsible solution for establishing our nation’s future nuclear supply and management chain by integrating Curio’s recycled nuclear fuel and process directly into the existing fuel cycle. This integration will allow NuCycle fuel to be enriched and used in current and future reactors, providing a seamless transition to a cleaner and more sustainable fuel source.

The Boundless report, conducted in accordance with ISO 14040 and 14044 standards, used the latest U.S.-specific data from the ecoinvent 3.9.1 database. The assessment, based on IPCC 2021 Global Warming Potential metrics, offers a thorough comparison of NuCycle’s reduced environmental footprint against traditional nuclear fuel methods. “Curio’s NuCycle process is a significant advancement in nuclear energy. Boundless’ ISO-compliant LCA reinforces that this innovative approach dramatically reduces both greenhouse gas emissions and fossil energy consumption, making it a key player in the move toward a sustainable energy future,” said Reagan Cerci, Research Analyst at Boundless Impact Research & Analytics.

About Curio

Curio is a pioneering company dedicated to developing next-generation nuclear technologies, including NuCycle, which aims to create a closed nuclear fuel cycle. By focusing on reducing radioactive waste and enhancing energy production, Curio is positioning the U.S. as a leader in clean energy and sustainable nuclear solutions.

For more information, visit curio.energy

About Boundless

Boundless Impact Research & Analytics is an environmental research and analytics firm that provides rigorous and actionable analysis to move investment dollars more quickly toward clean technologies and companies driving positive environmental change. The Boundless method uses a science-based, data-driven approach, grounded in the proven methodology of Life Cycle Assessment, and serves a growing universe of investors, companies, and funds.

For more information, visit boundlessimpact.net

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