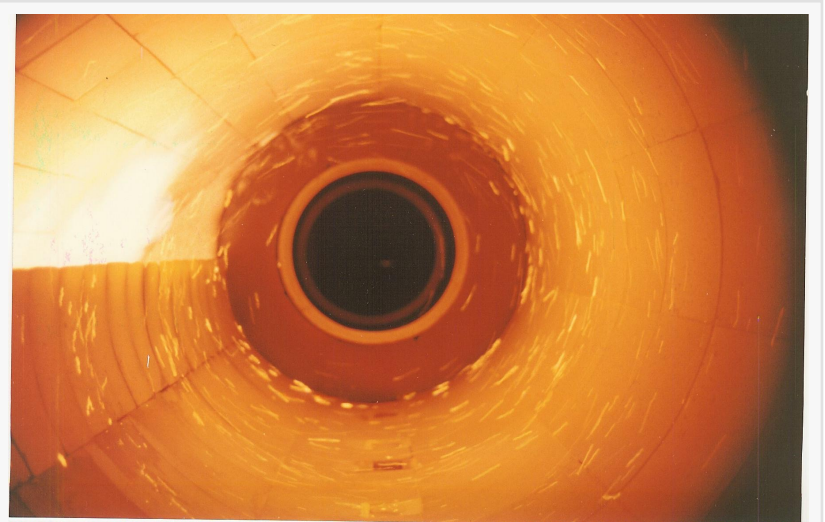


Researchers Develop Sustainable Solution for Grid-Scale Battery Cathode Material

Infinity develops sustainable and cost-effective hard carbon for grid-scale battery cathodes using wood waste, potentially reducing production costs by 90%.

MADISON, WISCONSIN, USA, May 16, 2023 /EINPresswire.com/ -- Developers at [Infinity Turbine](#) LLC have made a significant breakthrough in the development of sustainable materials for grid-scale battery cathodes. Using sawdust and wood waste, the team is developing a process to make hard carbon, a key material needed for advanced battery technology.



Biomass Gasifier

The team used a process called pyrolysis, which involves heating the sawdust and wood waste to high temperatures in the absence of oxygen, resulting in a high-quality carbon material which can be further processed into hard carbon. The pyrolysis process was conducted using gasifiers, a type of reactor that is commonly used in the biomass industry for converting solid waste into gases that can be used for fuel. The resulting cathode material from this process is 90 percent less expensive than current methods of producing hard carbon.

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Our research has shown that sawdust and wood waste can be used to create high-quality hard carbon, which has significant potential for use in grid-scale battery technology.”

Greg Giese

Grid-scale battery technology has become increasingly

important as renewable energy sources such as solar and wind power become more widely used. Large-scale batteries are needed to store excess energy generated during peak production times, allowing it to be used during times of high demand. The team is now investigating using this hard carbon material for its cathodes in the [Salgenx](#) Salt Water Battery.

Current methods for producing hard carbon involve expensive and resource-intensive processes, including the use of fossil fuels. The use of sawdust and wood waste not only provides a sustainable and cost-effective solution but also reduces the environmental impact associated with traditional methods of production.

The potential impact of this breakthrough is significant. By using waste products to create high-quality hard carbon, it has the potential to significantly reduce the cost of producing grid-scale batteries. Additionally, it will contribute to reducing the overall environmental impact of the energy sector by providing a sustainable and environmentally friendly solution.

"We are very excited about the potential of this breakthrough," said Greg Giese. "Our research has shown that sawdust and wood waste can be used to create high-quality hard carbon, which has significant potential for use in grid-scale battery technology.

The use of gasifiers in the pyrolysis process also makes it possible to produce this material at a significantly lower cost compared to current methods. With further development of the exfoliation process, we could also obtain graphene from the hard carbon material, which has many potential applications in the energy industry."

The research team is currently seeking partnerships with industry and government organizations to further develop and commercialize this technology. They hope that this breakthrough will contribute to the development of more sustainable and cost-effective solutions for energy storage, paving the way for a more sustainable future.

Infinity Turbine LLC offers a visionary future for clean and renewable fuels by providing complimentary technologies which leverage greater efficiency.



Carbon



Sawdust Gasifier

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