

Ascend Elements raises additional \$162 million for Kentucky battery recycling facility

Ascend Elements has raised a total of \$1.2 billion toward construction of its Apex 1 facility, said to be the first factory in North America to recycle cathode precursor and cathode active materials for electric vehicle battery use.

FEBRUARY 21, 2024 **JERUSHA KAMOJI**

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Ascend Elements' building under construction in Kentucky.

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Ascend Elements, a Massachusetts-based manufacturer of recycled battery materials raised \$162 million in new equity investments to complete the construction of what it says is the first factory in North America to recycle electric vehicle (EV) battery components.

The capital will go toward completing the construction of Ascend Elements' Apex 1 cathode precursor (pCam) manufacturing plant in Hopkinsville, Ky., . The facility is expected to begin operation at the end of 2025 and will produce repurposed pCam and cathode active materials (CAM) for up to 750,000 EVs annually.

The majority of global pCam and CAM are produced in China from finite, mined metals. However, Ascend Elements reports that it generates these materials from black mass, a dark, powdery mixture of metals, including lithium, cobalt and nickel.

Ascend Elements patented the hydro-to-cathode direct precursor synthesis process leeches out impurities from a spent battery and keeps the valuable metals in a solution, as opposed to procuring the necessary metals out of a spent battery. Ascend Elements' says its method reduces costs associated with pCam and CAM recovery by 50% and greenhouse gas emissions by 90%.

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Direct Precursor Synthesis



Cathode
Production



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A study published in [ScienceDirect](#), found that battery cells with recycled anode and cathode materials had the best lifecycle result, enabling 4,200 and 11,6000 cycles at 80% and 70% capacity retention, respectively. Researchers report that the durability and performance of battery cells with recycled anode and cathode materials perform 33% and 53% better than cells made from state-of-the-art commercial anode and cathode matter.

“Ascend Elements’ Hydro-to-Cathode technology provides a sustainable option for production of critical battery materials, championing circularity in an industry that is poised to scale significantly,” said Aruna Ramsamy, a managing director at Just Climate.

Ascent Elements says it can also deliver intermediate commodity metals for producing battery materials or use in other applications through its lithium-ion battery recycling process. They include cobalt sulfate, manganese sulfate, nickel sulfate, and lithium carbonate.

“With its first pCAM facility in construction in the United States, Ascend Elements has the potential to unlock the supply of critical battery materials to accelerate the roll out of electric vehicles,” said Ramsamy.

Climate change solution investor Just Climate, venture capital firm Clearvision Ventures and global investment firm IRONGREY are the primary financiers.

The \$162 million adds to the \$542 million Ascend Elements raised last year, receiving equity investments from Decarbonization Partners, a venture capital and growth equity platform launched by BlackRock and Temasek that supports proven decarbonization technologies. The Qatar Investment Authority also provided funds and the Department of Energy provided two grants totaling \$480 million.

“This diverse group of leading climate investors and industry partners underscores the confidence that the market has placed in our business,” said Mike O’Kronley, CEO of Ascent Elements.

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