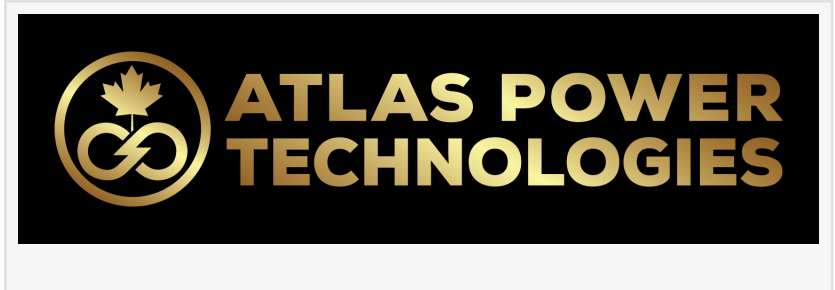


Atlas Achieves 160µm Ultra-High Loading Lithium-Ion Battery Electrodes with Innovative Water-Based NMP-Free Process

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[/EINPresswire.com/](https://EINPresswire.com/) -- [Atlas Power](#)



[Technologies](#) Inc., has achieved a major breakthrough in lithium-ion battery manufacturing: a water-based, NMP-free electrode process capable of producing ultra-thick electrodes (160µm) with the potential to exceed areal capacity of 4 mAh/cm². This innovation offers a cost-effective

and scalable alternative to traditional solvent-based methods, lowering both capital expenditure and battery production costs while remaining fully compatible with existing gigafactories.

“

This breakthrough manufacturing process is a game-changer for the industry, offering battery producers a scalable and safer solution that will save billions while maintaining exceptional performance”

Mitchell Miller, CEO of Atlas Power

“We have successfully demonstrated comparable performance to conventional PVDF-NMP in half-cells while reaching the theoretical capacitance of LFP. Additionally, Atlas’ LFP-graphite full cells show an area capacity above 2 mAh/cm²., completely free of toxic NMP”, said Ali Khosrozadeh, CSO of Atlas.

A Game-Changer for Battery Manufacturing

Traditional electrode manufacturing relies on toxic solvents like N-methyl-2-pyrrolidone (NMP), which increases costs, production complexity, and regulatory burdens. Atlas’s innovative process eliminates the need for NMP while maintaining the simplicity and scalability of conventional wet coating techniques. Unlike conventional slurry-based electrodes, which can crack or delaminate at higher thicknesses, this NMP-free electrode technique produces electrodes with exceptional flexibility and mechanical integrity. By adopting Atlas’s technology, battery manufacturers can reduce CapEx by up to 25% when building new facilities, and lower overall battery production

costs by up to 15%.

Turnkey Compatibility with Existing Gigafactories:

Atlas's water-based electrode process is designed for seamless integration into current battery manufacturing lines. Unlike dry-electrode manufacturing, which requires entirely new equipment, Atlas's method is backward-compatible with existing infrastructure, enabling a rapid and cost-effective transition for large-scale battery producers.

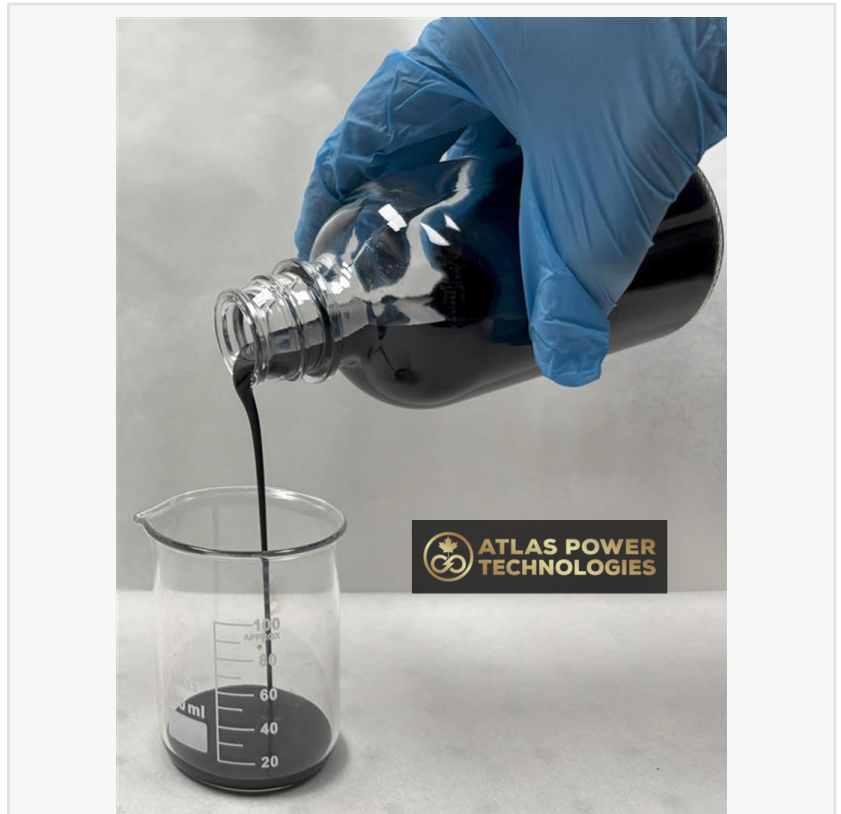
Seeking Strategic Partners:

"This breakthrough manufacturing process is a game-changer for the industry, offering battery producers a scalable and safer solution that will save billions while maintaining exceptional performance," said Mitchell Miller, CEO of Atlas Power.

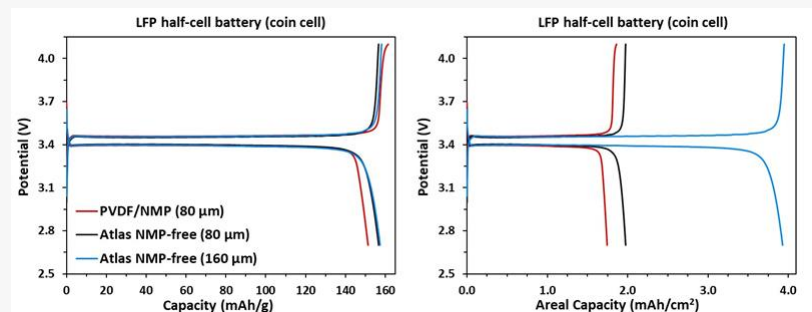
Atlas is now seeking licensing and co-development partners to accelerate the commercialization of this technology. Battery manufacturers looking to reduce costs, enhance their production capabilities, and future-proof their operations are encouraged to contact the Atlas team to discuss partnership and licensing opportunities.

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Atlas Power Technologies' NMP-free LFP slurry. This water-based formulation provides a sustainable alternative to conventional solvent-based slurries and allows for battery electrodes with customizable thicknesses.



The charge-discharge curves of LFP coin cells with electrodes prepared using Atlas water-based method and traditional PVDF/NMP method.

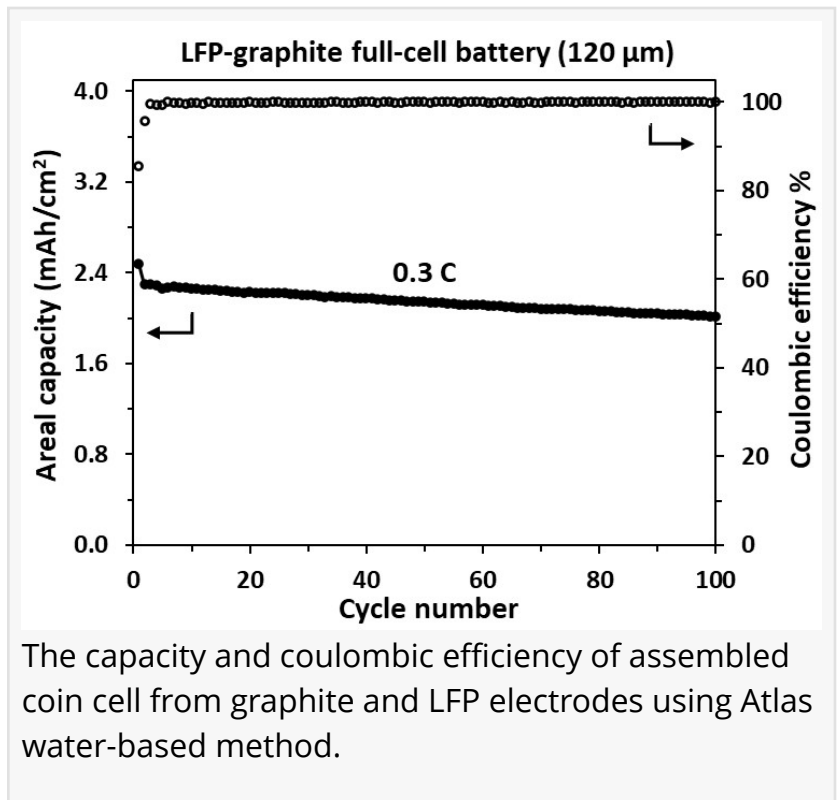
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