LINOVA Energy

High Energy Polymer Cathode Battery

February 2025

Metal-Free Polymer Cathodes

LiNova Energy is developing ultra-high-energy batteries utilizing a Polymer Cathode for the EV, Energy Storage and Aerospace (JDA with SAFT for aerospace) industries.

ENERGY DENSE

Significantly higher energy then NMC

LOW COST

1/10th the cost of NMC

SAFE

Intrinsically stable with no chance of thermal runway

SUSTAINABLE

No transition metals. Polymers sourced locally around the world

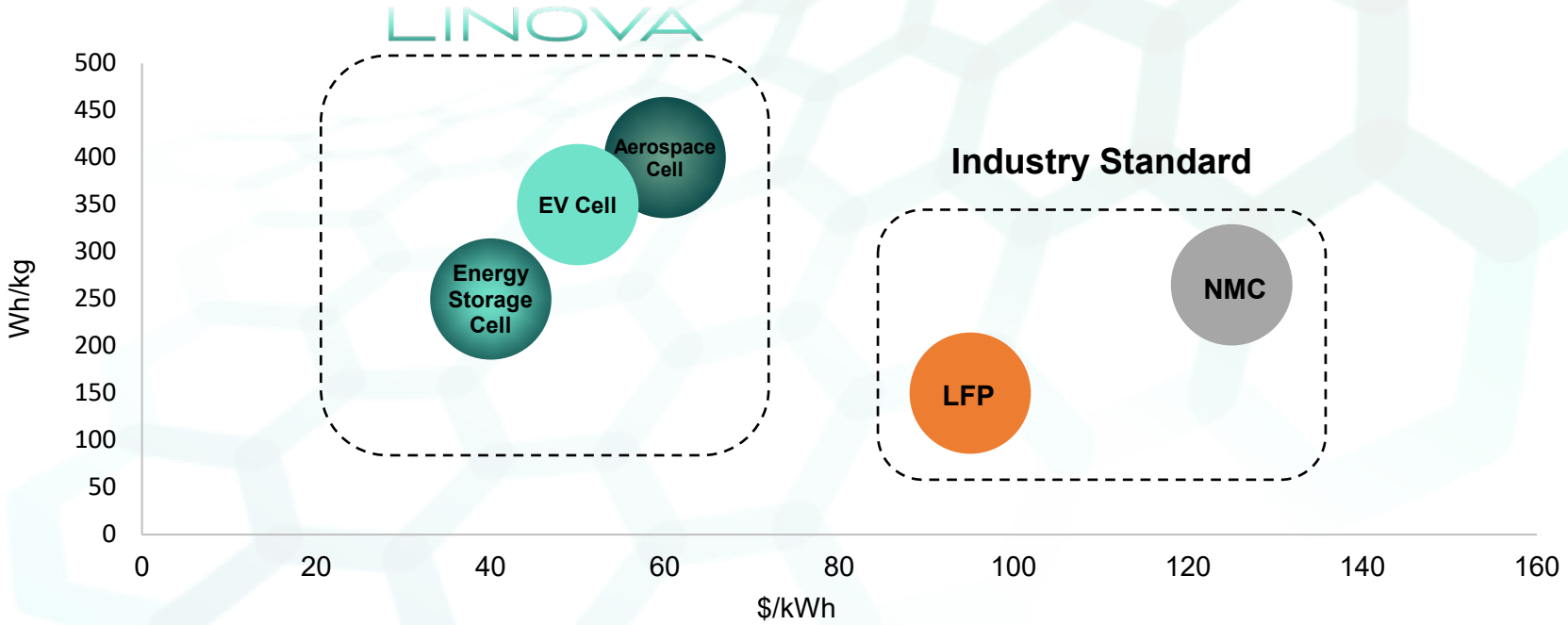
Series A Financing

- LiNova closed a $15.8M series A financing on April 4th 2024 with Catalus Capital, Chevron Technology Ventures (CTV) and SAFT, a subsidiary of TotalEnergies.

- LiNova and SAFT entered into a joint development agreement (JDA) to develop LiNova's battery technology for commercialization in SAFT's key markets of Aerospace, Defense and Rail.

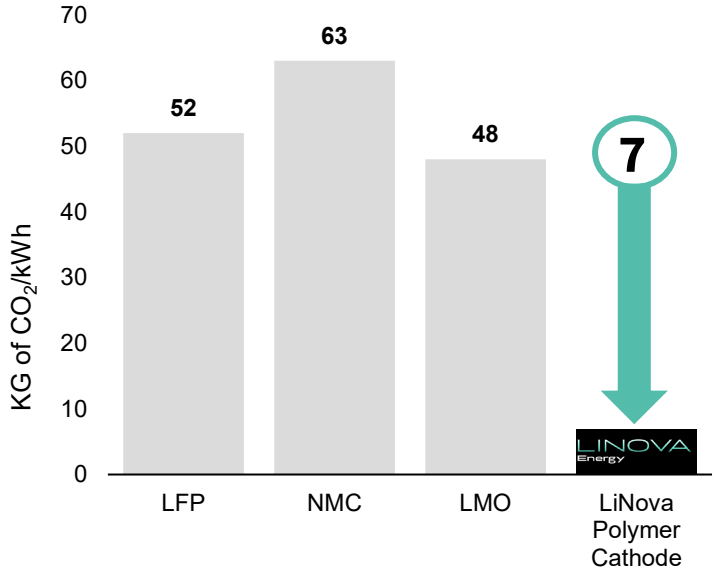
Energy and Cost Advantages

LiNova's polymer battery offers a significant cost advantage over the LFP and Li-Ion NMC cathode competitors, while offering a higher energy density. The Company's polymers are abundant and readily available throughout North America and around the world.

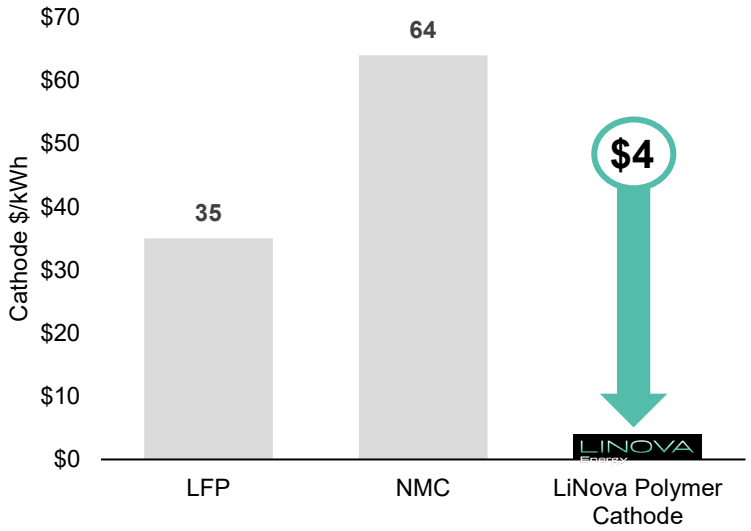


Significant CO_2 and Cost Reduction

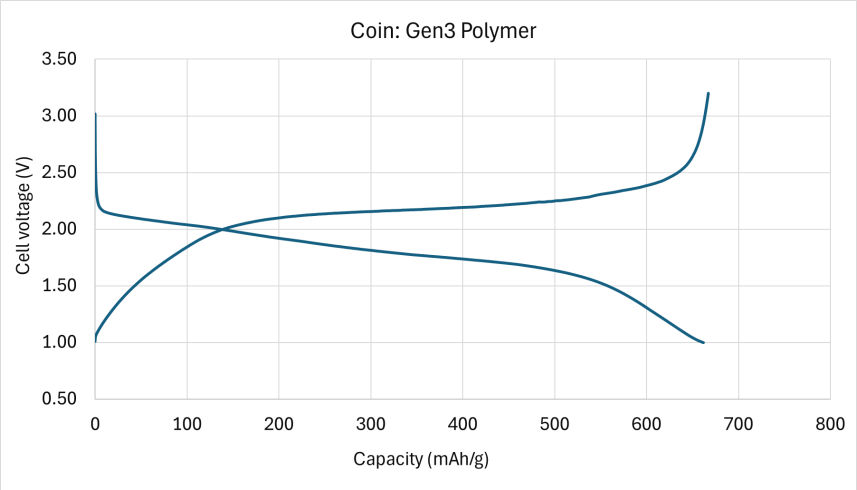
Cathode manufacturing GHG's (KG of CO_2/kWh)

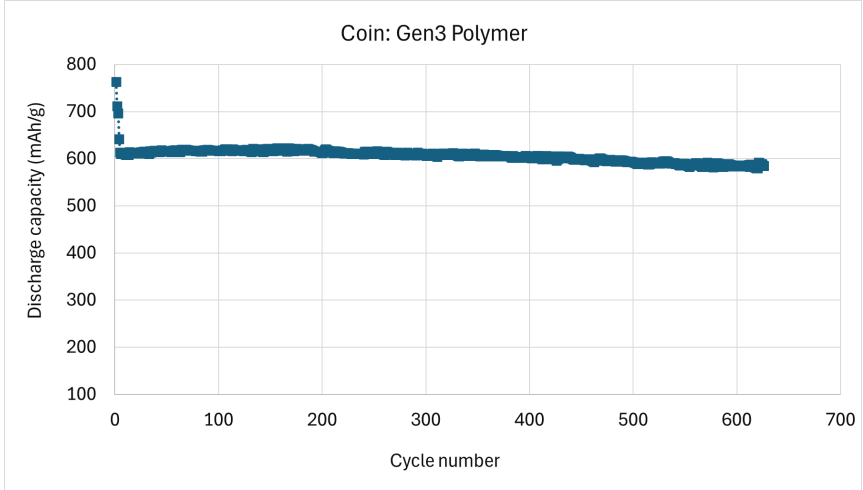


Cathode cost $/kWh



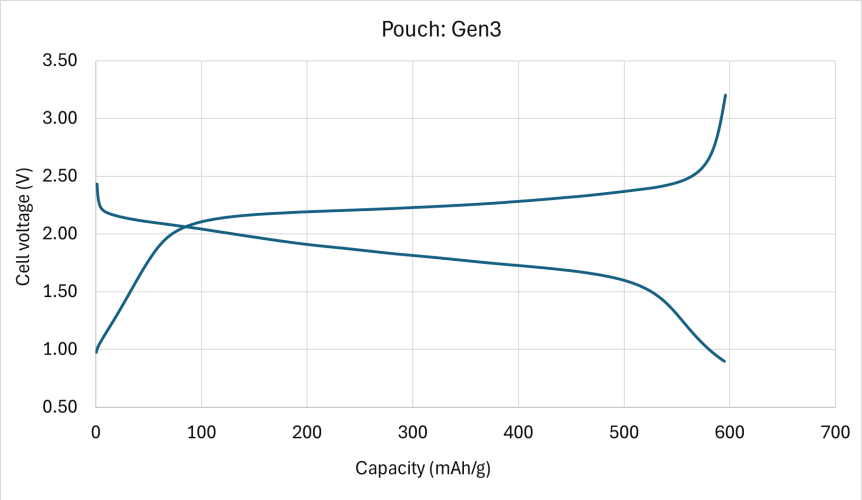
Polymer Cathode Cycling

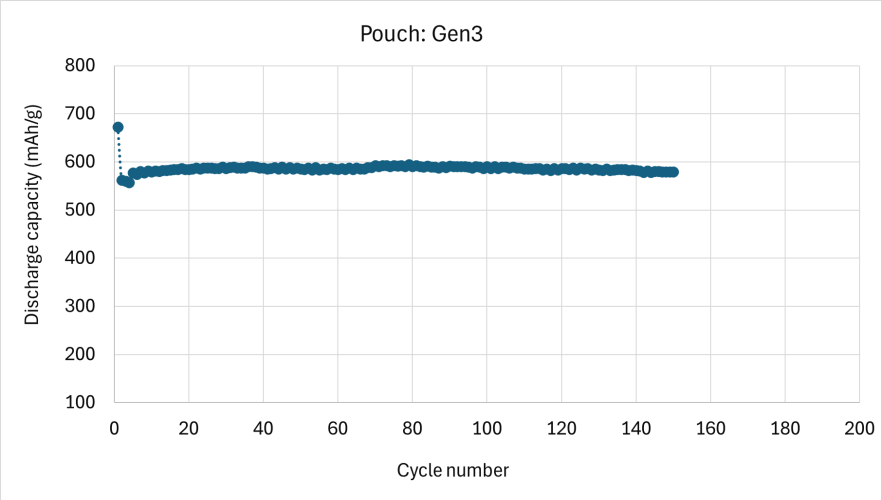




- Stable cycling at 1C
- No appreciable capacity decay (620+ cycles)

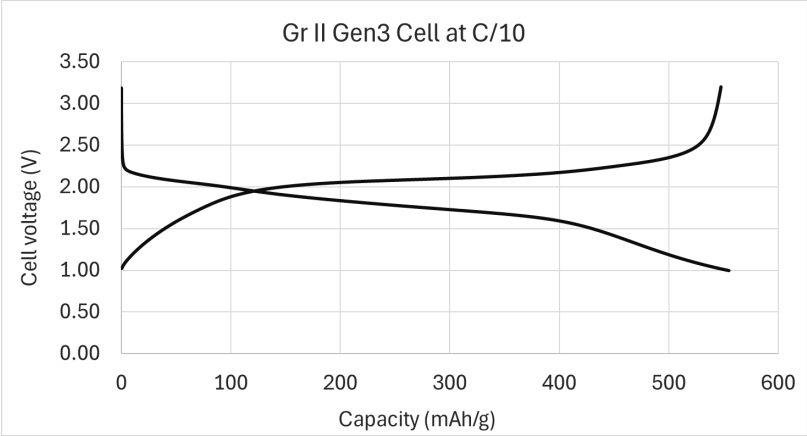
1Ah Li-Metal/Polymer Cathode, 150+ cycles

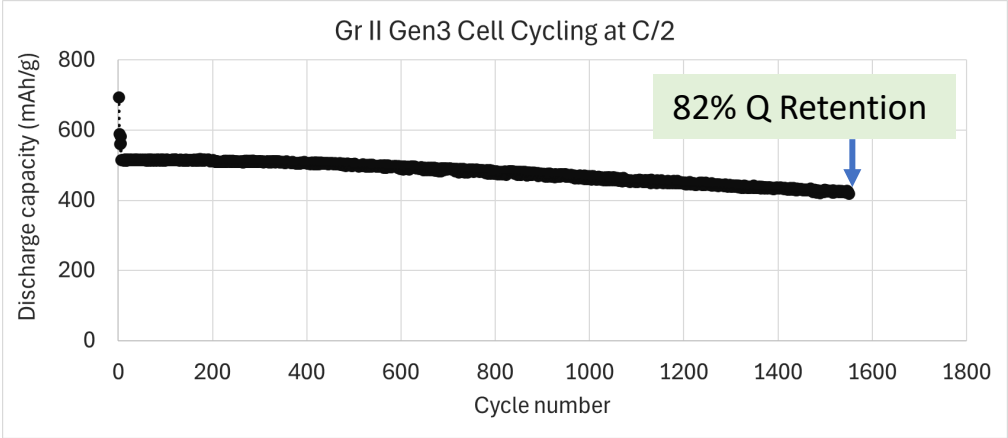




- Stable cycling at C/5
- No appreciable capacity decay (150+ cycles, on going)

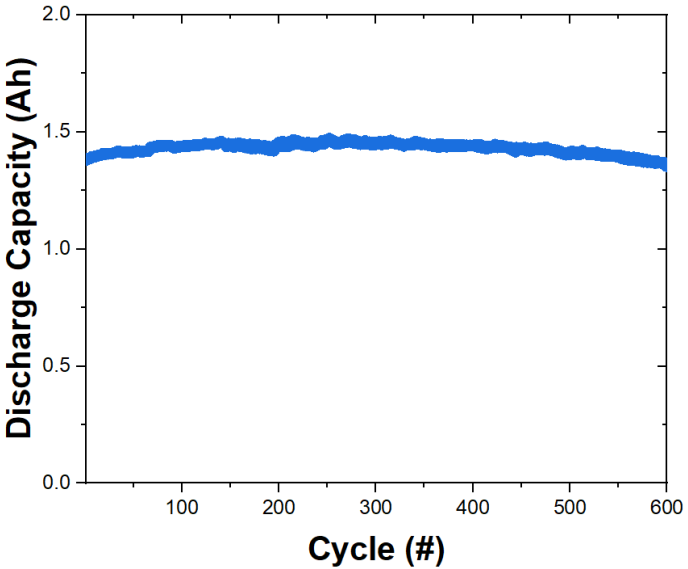
Graphite Anode/Polymer Cathode

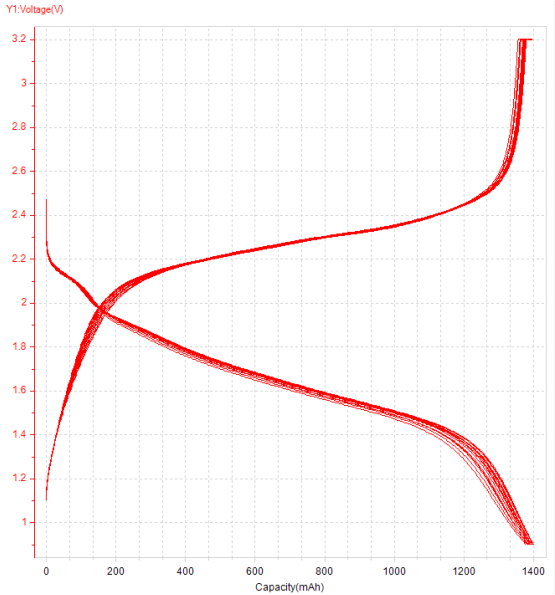




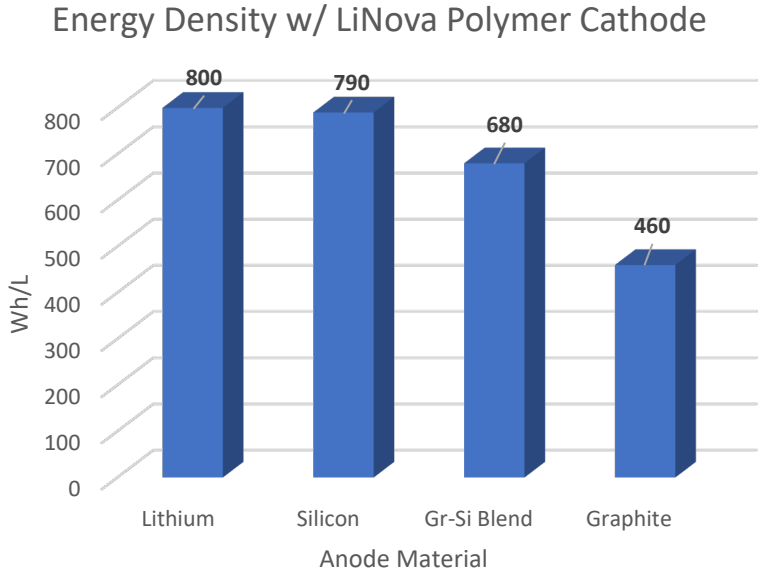
- 1550 cycles at C/2 and on going (82% capacity Retention)

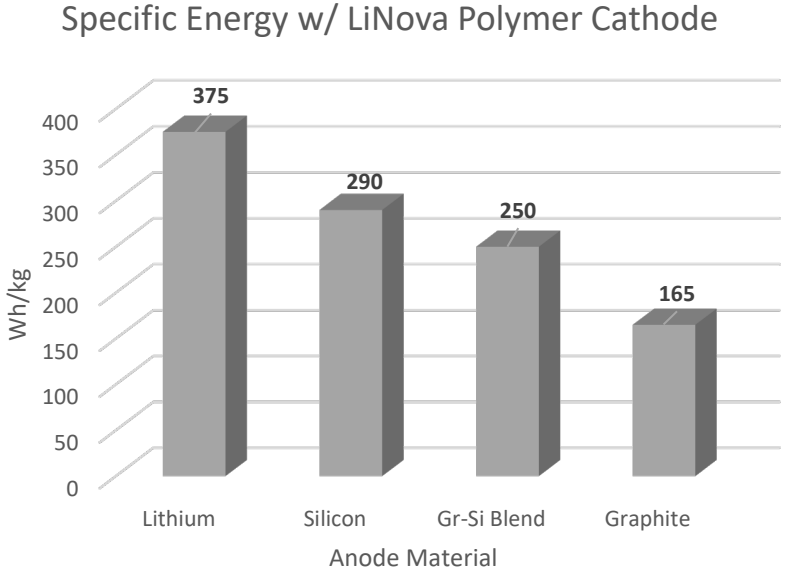
Graphite Anode/Polymer Cathode Performance





LiNova Cell Energy (2025)



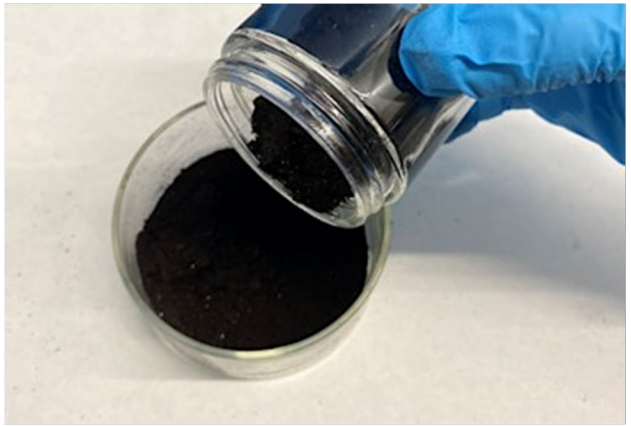


EV Cell Safety Test

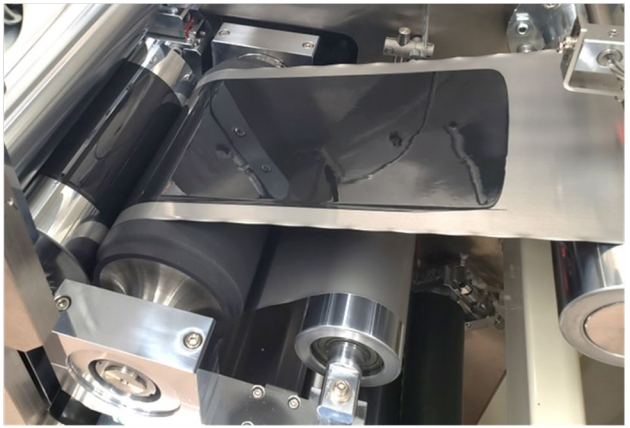
https://youtu.be/YD1uykEXzKU?si=x4CWMMe3XxEGCkot

Facility

LiNova Electrodes are Scalable



LiNova cathodes are made using the same methods and equipment as today's Li-ion batteries with over 90% active material.



Solvent-free coating and water-based binder are utilized to coat the polymer cathode. Dry-process cathode coating can be utilized.

LiNova Polymers are Scalable

- LiNova has scaled up Poly-M to 100 kg batches using a 3rd party Toll Chemical manufacturing company.
- Infrastructure currently in place within the US can scale LiNova's polymer cathode to 100's of GWh/year.

4 kg batch
LiNova Facility

100 kg batch
LiNova's 3rd party toll manufacturer

100's GWh/year
Industrial scale manufacturing available in NA, Europe and Asia

LINOVA Energy