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Enerpoly - Sustainable Zinc-Ion Batteries Enabling the World's Shift to Clean Energy

Stockholm, Sweden (ots) -

To meet the world's growing energy storage needs, Enerpoly develops and manufactures environmentally friendly, cost-effective and safe zinc-ion batteries for commercial, industrial, grid-scale energy and residential use

Enerpoly (enerpoly.com) is a Swedish company using patented technology to develop zinc-ion batteries that allow for sustainable energy storage, providing a crucial step towards a world powered by renewable energy.

Enerpoly utilises proprietary battery chemistry rooted in research conducted by co-founder **Dr. Mylad Chamoun** (CTO) during his PhD at Stockholm University and work at Princeton University, along with the sustainability expertise of co-founder **Dr. Samer Nameer** (CSO), who conducted research at Stanford University and completed his PhD at KTH Royal Institute of Technology.

Founded in 2018, the company addresses worldwide battery demands and meets raw material supply challenges by producing battery cells and packs that are safe, ecologically friendly and affordable. Enerpoly is run by CEO **Eloisa de Castro**, who previously designed space systems used by NASA and the U.S. Missile Defense Agency.

The Need for Resilient Manufacturing and Complementary Technology

Energy storage, the capture and storage of energy for later use, is a market worth between $44B and $55B in 2023, and it's predicted to reach up to $150B by 2030. However, it faces major economic and supply challenges related to the usage of batteries made with scarce and price volatile materials that have concentrated supply chains, which pose a huge risk to energy security, access and sustainability.

Lithium-ion batteries currently dominate the energy storage market, due to their high energy and power density. According to a report commissioned by Eurometaux, in order to meet clean energy goals, Europe will require 21 times more lithium in 2050 compared with today. However, lithium is a finite resource that is geographically constrained, with future projections expecting demand for lithium to far exceed supply. And as a result of high production costs and supply challenges, lithium battery prices in Europe are up to 33% above global averages.

Lithium-ion batteries also carry significant safety risks due to their thermal runway, and pose sustainability challenges, as their manufacturing demands high energy consumption with a high carbon impact, and the batteries themselves are currently non-recyclable. These challenges, alongside the geographically concentrated supply chain, demonstrate the need for alternative battery solutions.

Zinc-ion: The Next Generation of Battery

Enerpoly uses zinc and manganese - globally available and cost-effective raw materials - to deliver affordable batteries that are sustainably built and scalable. Its patented technology innovates on the rechargeability of the single-use zinc-manganese dioxide alkaline battery. With 2-10 hour durations, Enerpoly's batteries are suitable for large-scale stationary applications, such as renewable energy generation, energy grid upgrade deferrals, and backup power.

Zinc is plentiful and mined responsibly in Europe, ensuring low, stable material costs, with Enerpoly's batteries estimated to have

lower upfront costs and cost 35% less over lifetime than typical energy storage solutions.

Enerpoly boasts a safe battery product and manufacturing process. This is mainly due to its processes and components being water-based, making them non-flammable, non-toxic, and non-explosive. Additionally, the batteries are fully recyclable and have 80% less carbon impact.

Enerpoly's Patented Technology: Industry Recognition

Garnering recognition from across the energy sector, Enerpoly has been awarded several grants. Grants from the EU's Horizon 2020 programme and the Swedish Energy Agency funded the development of commercial cell prototypes and testing work with battery integrators such as Polarium. Another EU grant alongside EET furthers zinc-ion battery integration to help deliver renewable energy to all households in Europe.

Enerpoly plans to use more recently secured grants to rapidly scale manufacturing capacity over the next two years to meet surging demand, optimising its production process and material sourcing to reduce costs and improve battery performance and efficiency. Enerpoly will also continue working with battery integrator customers and end-users to pilot and further develop the zinc-ion battery cell and pack.

"It's time to power our world with sustainable innovation," said **Enerpoly CEO Eloisa de Castro**. "At Enerpoly, we believe the climate and energy crises require fresh solutions that get people excited about a cleaner, brighter future. Our patented zinc-ion battery technology, developed through groundbreaking research, moves us toward a world powered by safe, clean and affordable energy for all."

Eirik Winter (Enerpoly investor and CEO of BNP Paribas's Nordic Region) adds: "The energy crisis affects everyone. Enerpoly is an interesting company because they are working on solving the very important problems of affordability and supply chain reliability in energy storage. Energy storage development is essential in these times when energy security, access and sustainability are becoming critical."

About Enerpoly

Enerpoly is a Stockholm-based deep tech company using patented technology to develop and produce zinc-ion battery cells and packs. Enerpoly's safe, sustainable, and affordable batteries enable the global transition to renewable energy. Co-founded in 2018 by Eloisa de Castro (CEO), Mylad Chamoun (CTO) and Dr. Samer Nameer (CSO), Enerpoly has raised EUR 15.1M ($16.6M) to date.

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