



altilium
clean technology

Future Propulsion Conference 2025

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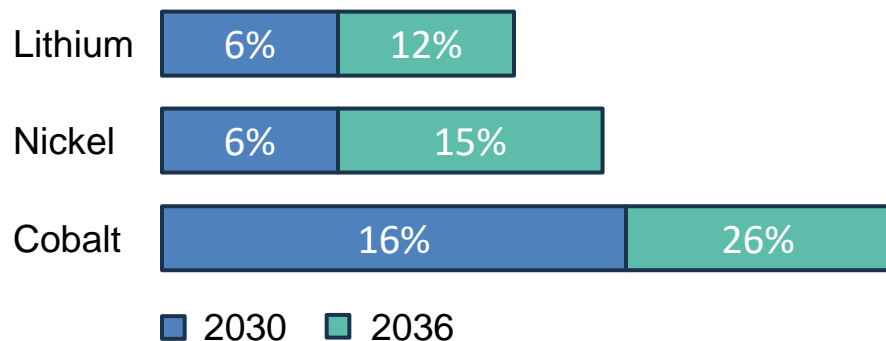


UK Full Circularity Battery Recycling - Problem

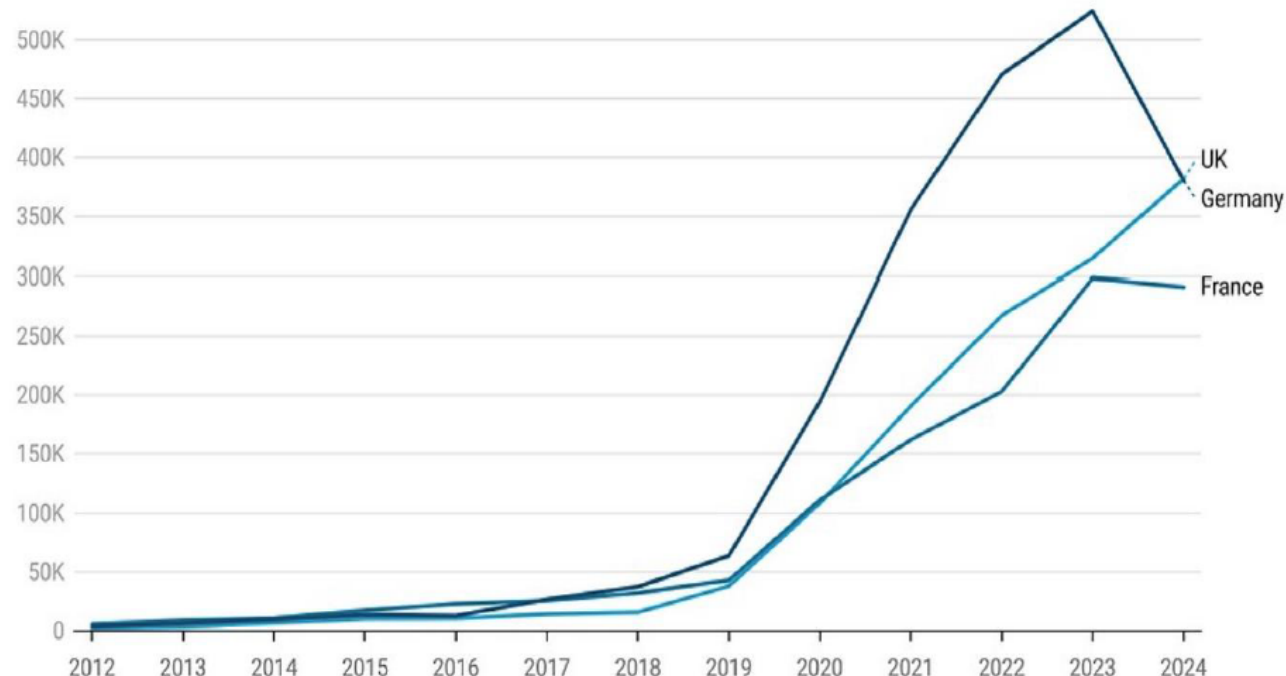
Climate change is accelerating the need to transition to emission-free transportation

- Fast growing EV market in the UK.
- Vast amount of battery materials waste expected to be generated with stringent EPR obligations.
- Regulatory tailwinds for recycling minerals included in batteries from 2030 onwards.
- Automotive components must meet a 55% local content threshold to avoid a 10% tariff, driving demand for UK-sourced materials.

Minimum Recycled Content

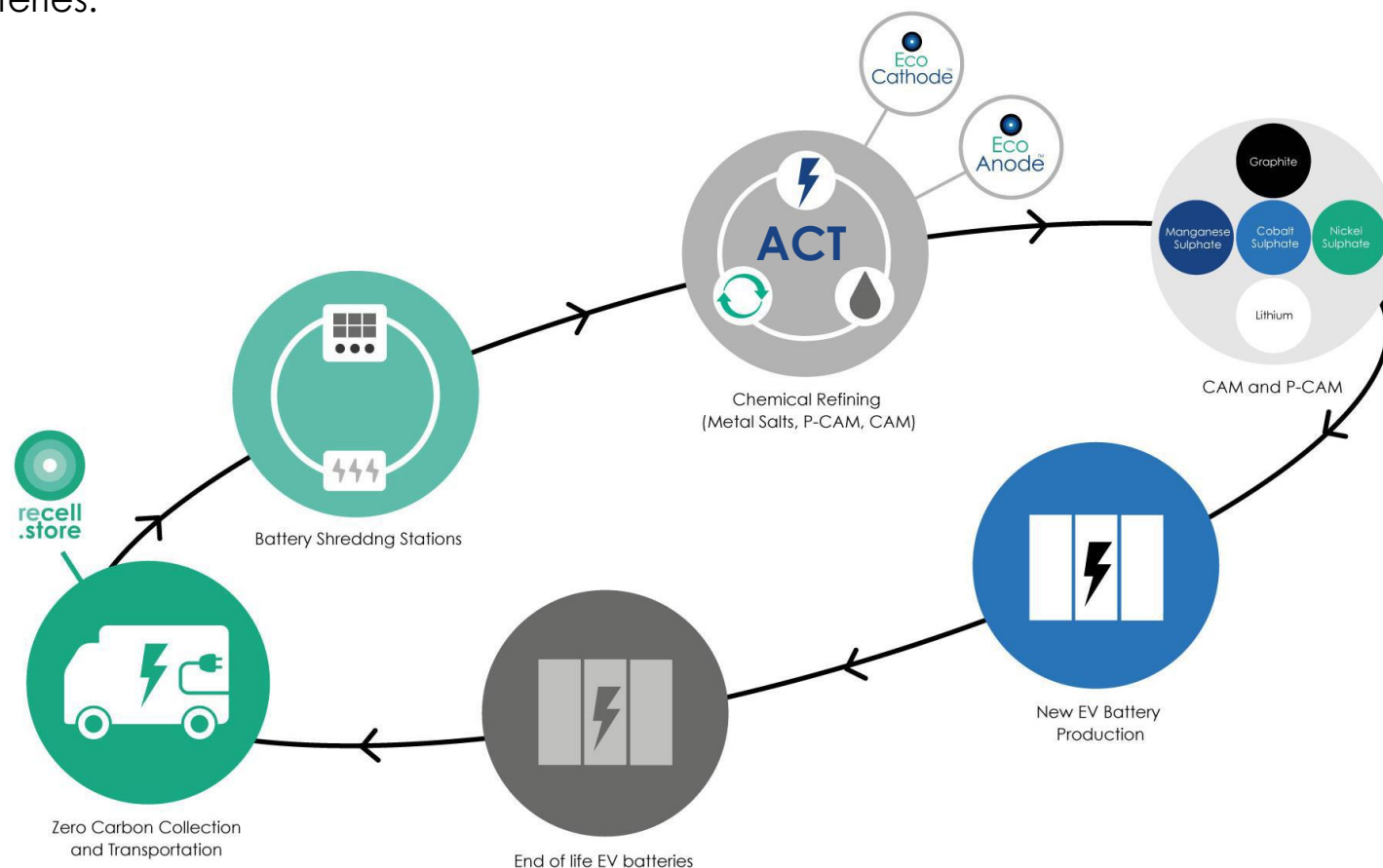
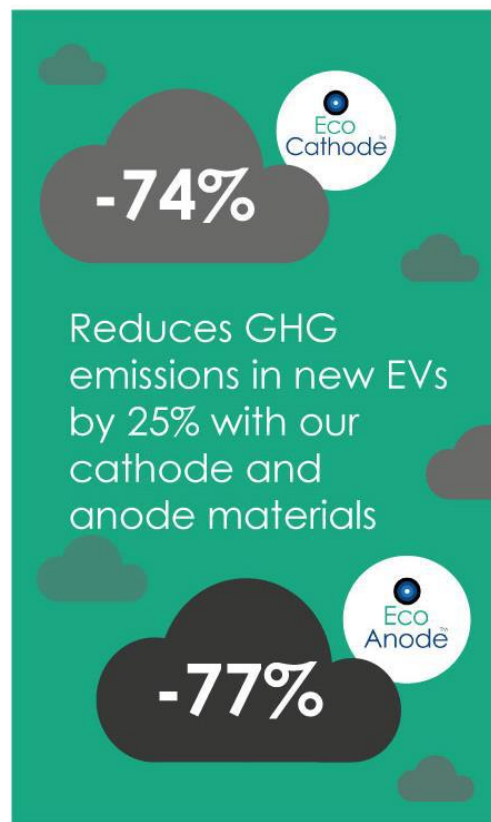


In 2024, nearly 382,000 new BEVs registered in the UK



UK Full Circularity Battery Recycling – Value Proposition

Unique UK customer offering EV battery collection, black mass recycling and chemical refining to cathode active material (CAM) for direct reuse in new batteries.



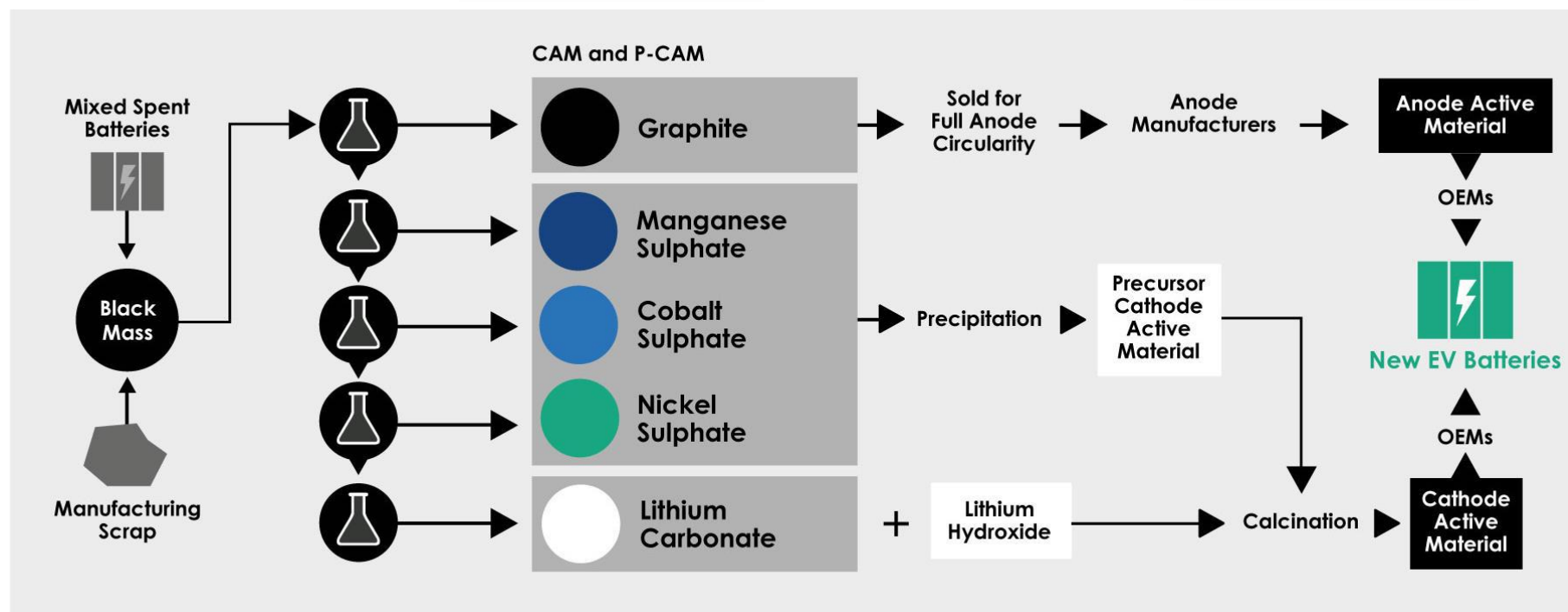
Proprietary Technology – 6 Patents Pending

+95% recovery
ethical metals

Demonstrated
EcoCathode™
performance

>99%
graphite recovery

Demonstrated
Graphite into
Anode material

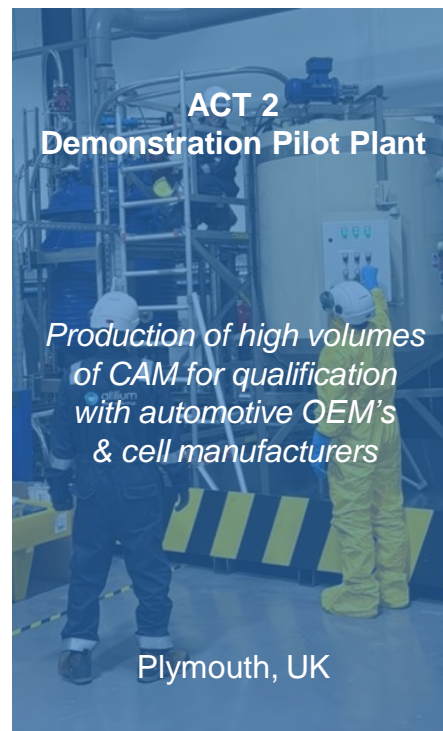


From Technology Centres to Commercial **Scale-up**

Scale-up from successful pilot to the UK's largest planned fully integrated recycling facility, processing material from over 150,000 EVs per year.



Kg Scale CAM



MT Scale CAM



24,000 EV



150,000 EV

Key **Challenges** & Impact on Scale-Up

Regulatory Challenges

- High-efficiency recoveries to align with EU targets.
- Export of black mass restricted under new waste regulations.

Funding & Investment

- High CAPEX for large-scale recycling
- Government support needed.

People & Expertise

- Need for specialised knowledge in battery material recovery and production.

Technology

- CAM is a specialised chemical product requiring extensive qualification with OEMs.
- Shift to lower value LFP batteries presents challenges.

Supply Chain

- Large volumes of EOL batteries not expected until post 2030.
- Partnerships aim to secure feedstock from OEMs, cell manufacturers, scrap yards and insurance companies.

Thank you

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