

AQUAMETALS



Aqua Metals

A Pioneer in Sustainable Lithium Battery Recycling

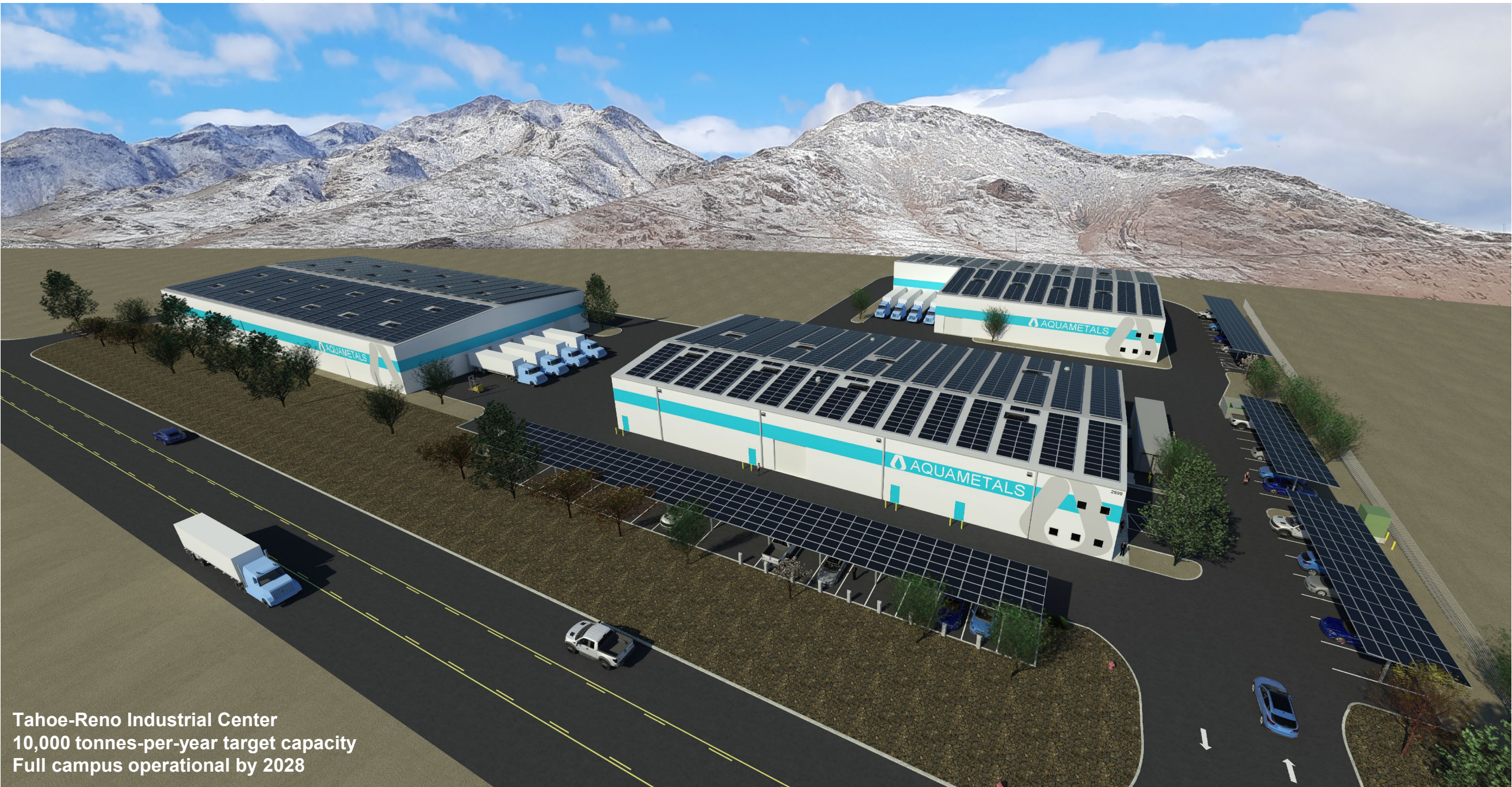
- Recycling is essential to clean energy and electrification - millions of tonnes of scrap and increasing EOL batteries full of valuable minerals that can't be landfilled
- Current recycling methods (standard pyro- and hydro-) are far too polluting and wasteful to be circular or sustainable
- Beyond ambitious climate objectives, unsustainable recycling is more costly



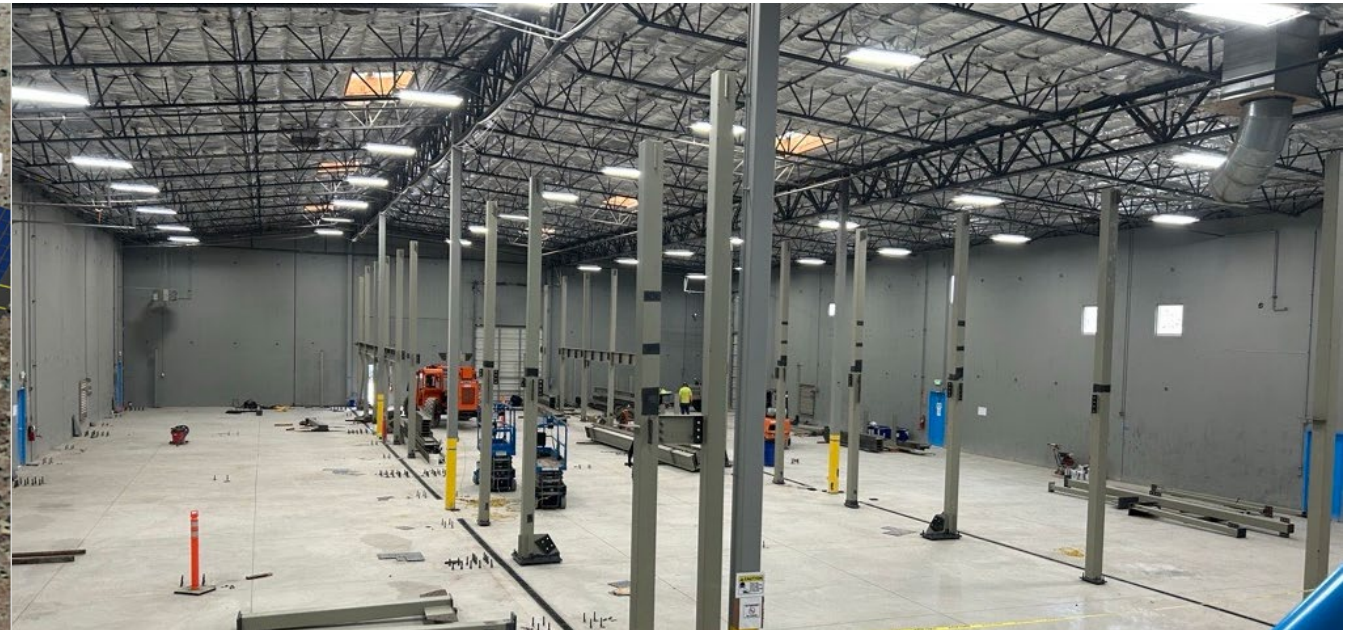
AQUA METALS' AQUAREFINING PILOT

Reno, NV: 75-100 tonnes per year





Tahoe-Reno Industrial Center
10,000 tonnes-per-year target capacity
Full campus operational by 2028



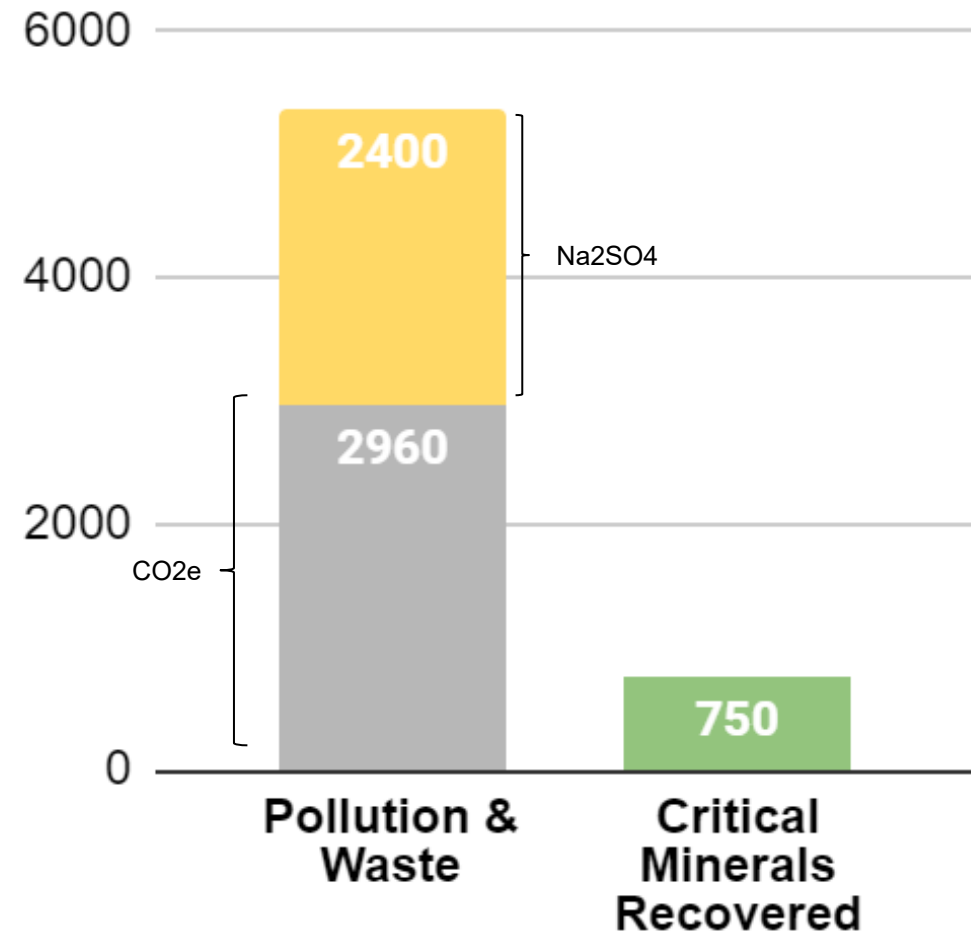
ECONOMICS OF SALT: SODIUM SULFATE

SODIUM SULFATE WASTE IS INEFFICIENCY AND ADDITIONAL EXPENSE

- Cost of Waste Disposal: Disposal cost can be \$30 to \$150 per tonne (\$300+ per tonne recycled)
- Purchasing an Na_2SO_4 Crystallizer: Capital for a medium-scale crystallizer can range from \$5 million to \$10 million
- Operating Cost: Energy, maintenance, labor - as high as 5%-10% of capital cost annually
- Environmental and Regulatory: Must navigate enviro regs and potential fines for improper disposal

Impact on Bottom Line: The combined costs of sodium sulfate waste directly impact the profitability of LiB recycling – adding 10-15% to the cost of recycling each tonne of black mass, and >10% to capital costs.

Hydromet Pollution vs. Recovery (kg per tonne*)



PROBLEM SCALES: Na_2SO_4 WASTE AT 1TWh SCALE

Cathode produced with virgin feedstock



30kg sodium sulfate effluent to 1 kg of NMC cathode produced with a conventional process

Source: 6K Energy

30M metric tons of Sodium Sulfate waste

CAM production is even worse for Na_2SO_4 .

Currently, sulfate is disposed of into landfills or pumped directly in the sea.

EOL battery recycling

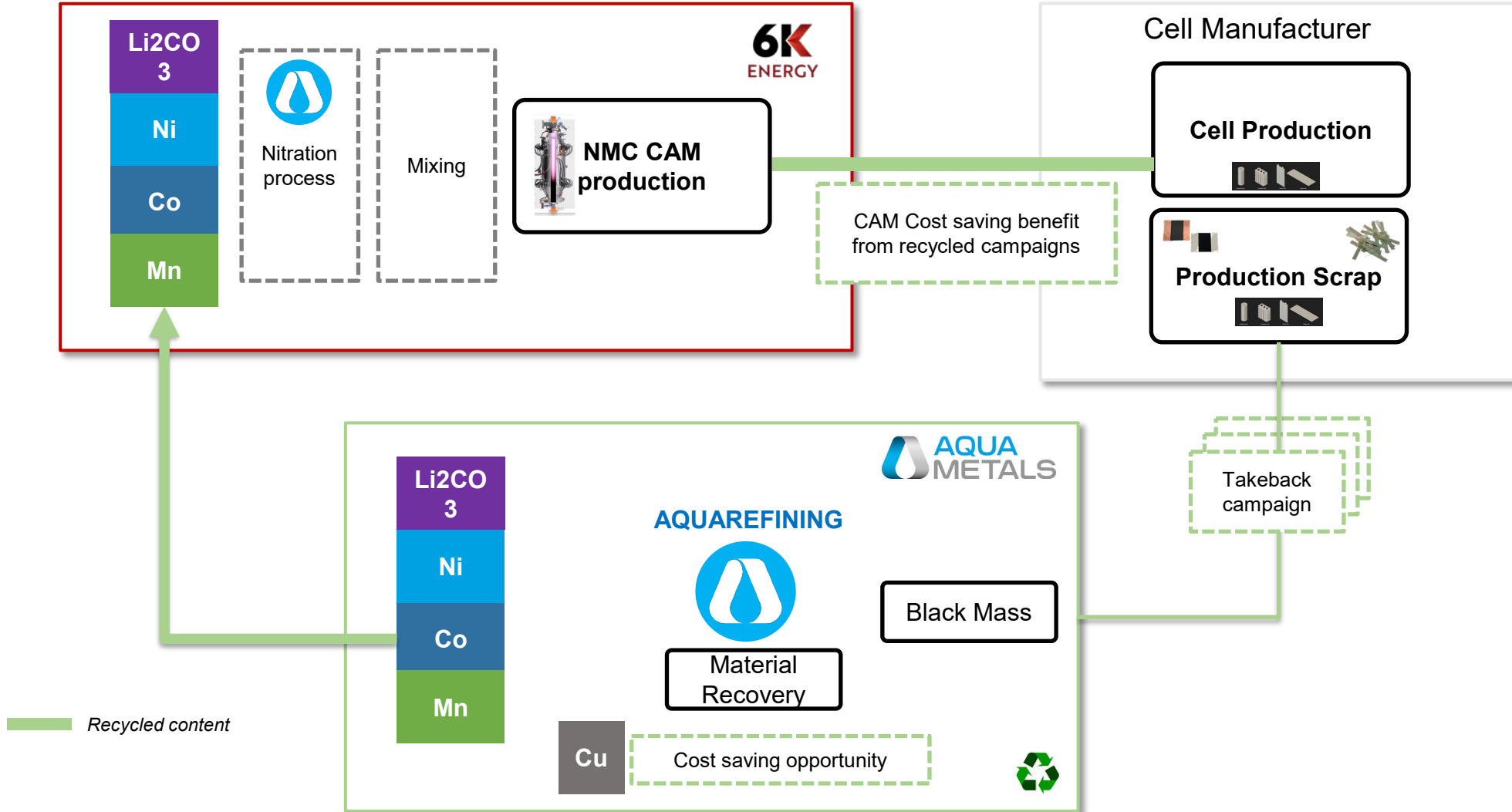


~2kg of sodium sulfate waste to 1 kg of battery on hydromet process

Source: SGS Mineral Services

This is not circular. We must do things differently.

AQUA METALS & 6K SUSTAINABLE DOMESTIC SUPPLY CHAIN

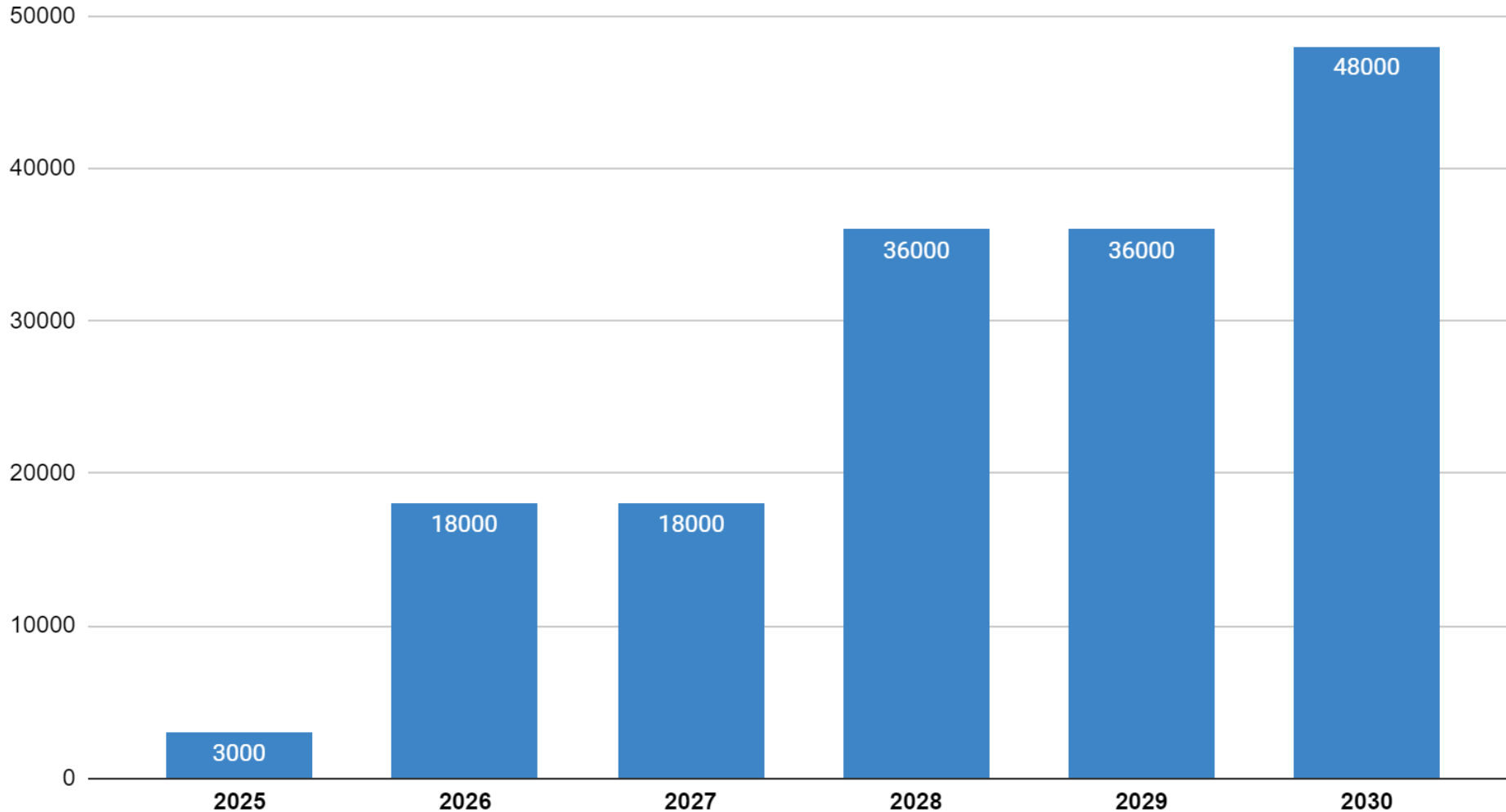


AQUA METALS GLOBAL GROWTH



AQUA METALS IS DEVELOPING AND PARTNERING ON SUSTAINABLE RECYCLING GLOBALLY

AquaRefining: Planned Annual Global Capacity Growth (Announced)



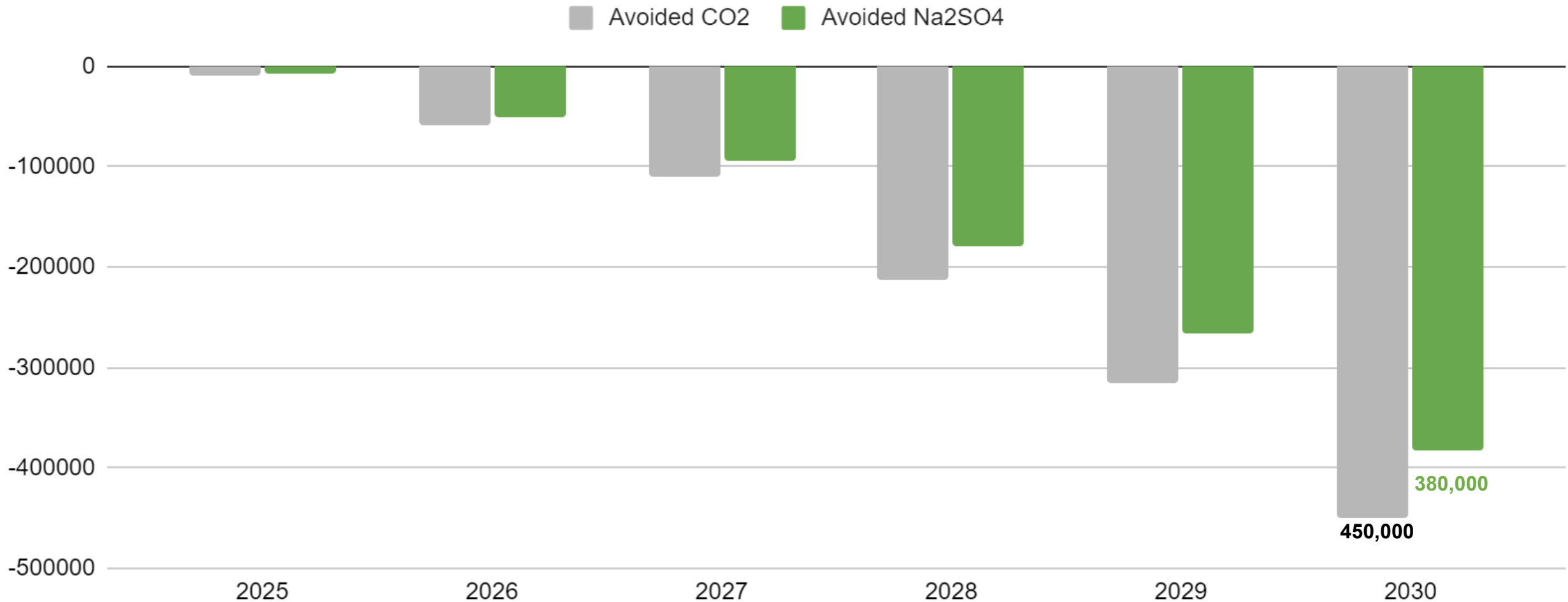
- Combined capacity across all announced projects to date
- Wholly-owned, JV, and license models all being developed
- Includes Sierra ARC and co-location with 6K Energy in U.S., and licensed facilities in Asia with Yulho Materials

AS RECYCLING SCALES – MUST BE SUSTAINABLE



KEY FOCUS ON REDUCING EMISSIONS AND LANDFILL WASTE TO CREATE CIRCULAR LIB RECYCLING

Cumulative Waste & Carbon Reductions (AquaRefining vs. Hydromet, tonnes)



*CO₂ Based on Argonne National Labs' battery life-cycle model (EverBatt) & Na₂SO₄ estimates from SGS Mineral Services



NASDAQ: AQMS

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