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ALTECH - CERENERGY® BATTERY ACCREDITED AS HIGHEST POSSIBLE “DARK GREEN” PROJECT

Highlights

- Highest possible green rating category of “Dark Green”
- S&P Global Ratings agency, Oslo, Norway
- CERENERGY® battery emissions (kgCO₂/kWh) expected to be one-third of lithium-ion batteries
- Assessment on environmental benefits and risks - Shades of Green methodology
- Eligible projects can access Green Bond debt market
- One of the debt financing options for CERENERGY® project

Altech Batteries Limited (ASX: ATC, FRA: A3Y) is pleased to advise that its CERENERGY® battery project has been formally assessed as the highest possible green rating category, “**Dark Green**”, by the independent Centre of International Climate and Environmental Research (former CICERO), now owned by Standard and Poor’s Global Ratings based in Oslo, Norway. Altech acknowledges this tremendous result and believes the accreditation is testament to Altech’s CERENERGY® battery being one of, if not the greenest battery technology available today, with the lowest carbon footprint, lowest supply chain requirements and environmentally friendliest in relation to raw materials. This represents an outstanding achievement of the dedicated battery team at Altech and Fraunhofer IKTS and confirms the long-term, sustainable battery technology and business strategy of CERENERGY® being rated as “Corresponding to the long-term vision of a Low-Carbon Climate Resilient future” by S&P Global Ratings.

S&P Global
Ratings

**Dark
green**

Activities that correspond to the long-term vision of a low-carbon climate resilient future.

Overall Shades of Green Assessment

Based on the project category shades of green detailed below, and consideration of environmental ambitions reflected in Altech Batteries GmbH’s Green Bond Framework, S&P assessed the framework as Dark Green. Eligible projects under the issuer’s green bond framework are assessed based on their environmental benefits and risks, using Shades of Green methodology.

S&P assessed the project category as Dark Green, primarily reflecting the importance of battery storage in the transition of the power and industrial sectors, the contribution to the development of alternatives to lithium-ion and cobalt-free batteries, and the CERENERGY® battery’s comparatively low expected emissions and fossil-free direct production process.

The CERENERGY® battery is a solid state, sodium chloride battery. While lithium-based batteries are expected to continue as the dominant battery technology going forward, sodium-based batteries are anticipated to play an increasing role, particularly in the stationary storage market. In the IEA's STEPS scenario, for example, sodium-based batteries account for around 10% of annual capacity additions by 2030. Shifts to sodium-based batteries are expected because they require no critical mineral/metal inputs such as lithium, graphite, copper or cobalt. The primary materials in the CERENERGY® battery are sodium, alumina, and (recycled) nickel derivatives. Nonetheless, solid state, sodium-based batteries remain an emerging technology, with less extensive academic literature into their environmental performance compared with lithium-based equivalents.

According to the framework, the CERENERGY® battery has expected emissions of around 14 kgCO₂/kWh capacity (scope 1, 2, and 3). According to the framework, scope 1 and 2 emissions are 4.07 kgCO₂/kWh capacity. According to the issuer, the capacity figure for scope 3 emissions of about 10 kgCO₂/kWh derives from data provided by, and discussions with, large suppliers, transportation emissions, and conservative estimates for more minor suppliers. By way of comparison, a 2019 paper from by the IVL Swedish Environmental Research Institute found an estimated range of 61-106 kg CO₂/kWh cradle-to-gate emissions for lithium-ion batteries (NMC chemistry) for vehicles, depending mainly on the electricity mix.

The entire CERENERGY® direct production process will be powered by renewable energy. Altech Batteries GmbH has entered a power purchase agreement for the direct provision of solar energy, complemented by on-site solar installations. The CERENERGY® battery uses raw materials that entail less environmental risks. The CERENERGY® battery is fully recoverable/recyclable. Recycling of the CERENERGY® battery will take place at the plant and is carried out via mechanical, rather than chemical, recycling methods, which typically entail lower emissions and energy use.

Altech Batteries GmbH foresees large demand from industry for the CERENERGY® battery. This could relate to the use of batteries in industrial micro grids, or to support systems in data centres, logistics centres, and hospitals. It also considers heavy industry, such as steel and chemicals as potential end users. The use of batteries in industry contributes to the transition if they support or facilitate decarbonisation and electrification efforts, rather than, for example, power-cost optimisation. The issuer furthermore foresees grid storage as a large use of the CERENERGY® battery, whether co-located with renewable assets or directly integrated into transmission networks. Such use of batteries is crucial for the integration of variable renewable energy sources (including for backup or peak load) and demand management, as well as for supporting grid reliability and stability, though can also be used for other purposes, for example purely for price arbitrage.

The issuer screened the CERENERGY® battery plant and supporting infrastructure (e.g. roads and power supply) for physical climate risks. Consideration of physical risk also extends to its supply chain, for example in its supplier risk assessments and consideration of potential disruption to supply chain logistics.

S&P Global Ratings' Shades of Green

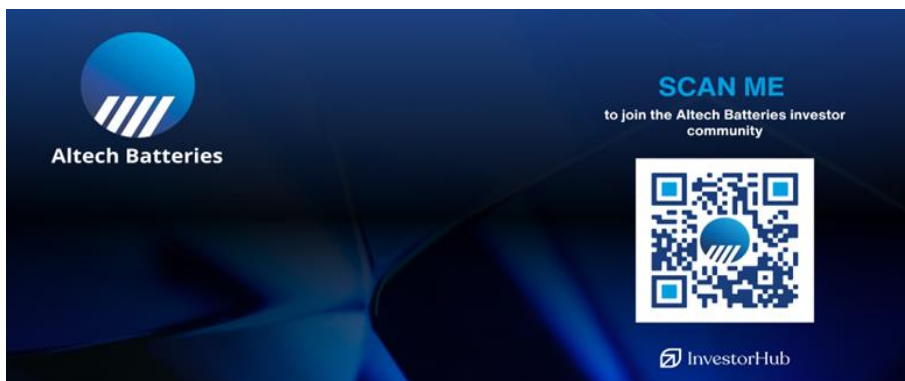
Assessments					
Dark green	Medium green	Light green	Yellow	Orange	Red
Description					
Activities that correspond to the long-term vision of an LCCR future.	Activities that represent significant steps toward an LCCR future but will require further improvements to be long-term LCCR solutions.	Activities representing transition steps in the near-term that avoid emissions lock-in but do not represent long-term LCCR solutions.	Activities that do not have a material impact on the transition to an LCCR future, or, Activities that have some potential inconsistency with the transition to an LCCR future, albeit tempered by existing transition measures.	Activities that are not currently consistent with the transition to an LCCR future. These include activities with moderate potential for emissions lock-in and risk of stranded assets.	Activities that are inconsistent with, and likely to impede, the transition required to achieve the long-term LCCR future. These activities have the highest emissions intensity, with the most potential for emissions lock-in and risk of stranded assets.

Managing Director Iggy Tan said that the positive project assessment, formally termed a “Second Party Opinion” (SPO), confirms that Altech’s CERENERGY® project aligns to ICMA Green Bond Criteria and is of a type suitable for finance via green bonds. *“The project can now be accessed by investors that participate in the green bond market, the size of which is approaching US\$250 billion annually and a large portion of which is present in Europe. The CERENERGY® project’s green shading score does not affect bond pricing, rather it provides a transparent mechanism by which green bond investors are able to categorise their investment in terms of climate risks and impacts. We are very proud of achieving this significant milestone” he said.*

Authorised by: Iggy Tan (Managing Director)

Altech Batteries Interactive Investor Hub

Altech’s interactive Investor Hub is a dedicated channel where management interacts regularly with shareholders and investors who wish to stay up-to-date and to connect with the Altech Batteries leadership team. Sign on at our Investor Hub <https://investorhub.altechgroup.com> or alternatively, scan the QR code below.



About Altech Batteries Ltd (ASX:ATC) (FRA:A3Y)

CERENERGY® Batteries Project

Altech Batteries Ltd is a specialty battery technology company that has a joint venture agreement with world leading German government battery institute Fraunhofer IKTS (“Fraunhofer”) to commercialise the revolutionary CERENERGY® Sodium Chloride Solid State (SCSS) Battery. CERENERGY® batteries are the game-changing alternative to lithium-ion batteries. CERENERGY® batteries are fire and explosion-proof; have a life span of more than 15 years and operate in extreme cold and desert climates. The battery technology uses table salt and is lithium-free; cobalt-free; graphite-free; and copper-free, eliminating exposure to critical metal price rises and supply chain concerns.

The joint venture is commercialising its CERENERGY® battery, with plans to construct a 120 MWh production facility on Altech’s land in Saxony, Germany. The facility intends to produce CERENERGY® battery modules to provide grid storage solutions to the market.



Silumina Anodes™ Battery Materials Project

Altech Batteries has licenced its proprietary Silumina Anodes™ coating technology to 75% owned subsidiary Altech Industries Germany GmbH (AIG), which has finalised a Definitive Feasibility Study to commercialise an 8,000tpa silicon alumina coating plant in the state of Saxony, Germany to supply its Silumina Anodes™ product to the burgeoning European electric vehicle market.

This Company’s game changing technology incorporates high-capacity silicon into lithium-ion batteries. Through in house R&D, the Company has cracked the “silicon code” and successfully achieved a 30% higher energy battery with improved cyclability or battery life. Higher density batteries result in smaller, lighter batteries and substantially less greenhouse gases, and is the future for the EV market. The Company’s proprietary silicon product is registered as Silumina Anodes™.

The Company is in the race to get its patented technology to market, and recently announced the results of a Definitive Feasibility Study for the construction of a 8,000tpa Silumina Anodes™ material plant at AIG’s 14-hectare industrial site within the Schwarze Pumpe Industrial Park in Saxony, Germany. The European silicon feedstock supply partner for this plant will be Ferroglobe. The project has also received green accreditation from the independent Norwegian Centre of International Climate and Environmental Research (CICERO). To support the development, AIG has commenced construction of a pilot plant adjacent to the proposed project site to allow the qualification process for its Silumina Anodes™ product. AIG has executed NDAs with German and North American automakers and battery material supply chain companies.



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