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Second Party Opinion

Giga Verkor Immo's Green Financing Framework

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Location: France **Sector:** Capital Goods

Alignment With Principles

Aligned = ✔ Conceptually aligned = O Not aligned = ✘

- ✔ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)
- ✔ Green Loan Principles, LMA/LSTA/APLMA, 2023

See Alignment Assessment for more detail.

Dark green

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

Our Shades of Green Analytical Approach >

Strengths

Verkor has declared that its financed gigafactory will not produce batteries for hybrid vehicles or equipment serving fossil fuel extraction. Batteries facilitate the transition to electrified transportation and scaling of renewables through energy storage systems (ESS).

Future battery recycling is integral to the project. A commitment to recycling 95% of battery scraps by 2027 and using recovered materials in manufacturing means the project should require fewer raw materials and help reduce emissions. This is despite recycling typically being energy intensive and involving materials with high embodied emissions such as chemicals.

Verkor has demonstrated good awareness of physical climate risks. The company has commissioned an external consultant to assess exposure and vulnerability in relation to identified risks and has prepared mitigation measures for the Dunkirk site,

Weaknesses

No weakness to report.

Areas to watch

The mining of raw materials carries substantial environmental and social challenges. This is especially in a context of growing demand. Verkor's policies and a target of 100% supply chain traceability can help mitigate these risks.

Synthetic graphite, a key material in Verkor's supply chain, is fossil fuel dependent. The manufacturing process of such material is energy-intensive, with limited commercially viable low-carbon alternatives. Verkor is working with its graphite suppliers to increase the use of low-carbon energy in production processes.

Some end-uses of Verkor's batteries may not align with a low-carbon, climate-resilient future. Most batteries produced at the factory will serve the automotive industry (75% purchased by Renault), while there is currently no spot market or known order for the remaining 25%. Verkor has stated other end-uses may include ESS used for industrial

based on various climate scenarios. The company has also acknowledged some physical risk exposure of its supply chain as an area for development.		applications, which could have some environmental impacts. According to the data shared by the company, electric vehicles (EVs) and ESS will represent up to 92% of global demand for batteries by 2030. Verkor's commitment to exclude fossil fuel extraction end-use can also help mitigate the risk.

Eligible Green Projects Assessment Summary

Eligible projects under Verkor's green financing framework are assessed based on their environmental benefits and risks, using Shades of Green methodology.

Clean transportation	**Dark green**
Construction, development, design, installation, financing, operation, and maintenance of a battery manufacturing plant in Dunkirk, France, to produce lithium-ion batteries for EVs and energy storage purposes, with a targeted annual production capacity of 16 gigawatt-hours (GWh) by 2025.	

See Analysis Of Eligible Projects for more detail.

Issuer Sustainability Context

This section provides an analysis of the issuer's sustainability management and the embeddedness of the financing framework within its overall strategy.

Company Description

Verkor S.A.S. (Verkor) is a supplier of lithium-ion battery cells for automakers and stationary storage markets. Incorporated in 2020 and headquartered in Grenoble, France, the company currently has over 300 employees. In September 2022, Verkor announced it had secured over €2 billion in financing for a battery manufacturing plant in Dunkirk, France. This includes a minimum of €850 million in equity funding, €600 million in debt support approved by the European Investment Bank, and around €659 million in French state subsidies.

The equity funding's shareholders include lead investor MGETS SC 7 S.à.r.l -Macquarie Asset Management, on behalf of its Energy Transitions Solutions fund - 10%; Renault S.A.S. - 16%; EQT Ventures II Investments S.a r.l - 5%; Sibanye Stillwater - 5%; Fonds Stratégique de Participations - 3%; KIC Innoenergy SE - 3%; alongside other financial and industrial investors.

Through a wholly owned special purpose vehicle, Giga Verkor Immo (the project company and borrower), the project involves developing a plant with an annual output of 16 GWh for a cost of €1.2 billion. For context, this could equip about 300,000 electric vehicles (EVs). The plant will produce pouch cells based on nickel-manganese-cobalt (NMC) nickel rich 80 cathode active materials to meet automobile market demand for batteries with higher energy densities and lower cobalt content. These cells will be arranged in modules before sending to buyers. Renault will purchase 75% of the output annually over a 10-year period (from August 2025 to July 2035) after the start of production in 2025, with an option for an additional 4 GWh after 2028. The project also includes investments in end-of-life battery recycling.

Verkor operates a laboratory and a pilot line in the Verkor Innovation Centre (VIC) to test and manufacture prototype battery cells, as well as to train employees. The project could be expanded to 50 GWh by 2030 with the possibility of building a second gigafactory.

Material Sustainability Factors

Climate transition risk

Due to the profound changes needed to limit global warming to well below 2°C, transition risk affects all sectors. A widescale and quick shift to decarbonized solutions is necessary. This will entail sizeable demand for batteries, representing a transition opportunity for battery manufacturers (see the European Green Deal requiring zero emissions from new cars and vans by 2035). At the same time, battery producers face risks if this shift is slower than anticipated, for example if carmakers miss EV targets, while raw material supply chains may be strained by rapid increases in demand. The production of batteries typically entails high emissions, for example from heating and drying and the use of chemicals, while raw materials extraction and production can also be very energy intensive. The production of anode materials, for example synthetic graphite and silicon, can be reliant upon fossil fuels including needle coke, pet coke, coke, and coal. Regulations on input materials from critical suppliers could alter products or increase costs, much of which would likely be passed through to manufacturers and their customers.

Physical climate risk

Changing and more volatile weather can impact production sites, for example rising sea levels, flood risk, and heatwaves in northern France. The battery supply chain is exposed to physical climate risk. In addition to issues related to more extreme weather, raw materials requiring large amounts of water in extraction, are sourced in areas vulnerable to water shortages, such as Chile and Argentina). Climate change can also disrupt the logistics and transportation of raw materials and end products. In

the case of battery production, materials are typical transported across wide ranging locations. While varying by location, these events are generally becoming more frequent and severe. This can directly affect communities, notably by impeding the ability to work, and customers when causing delays to deliveries. The manufacturing sector usually locates assets with the most favorable blend of access to inputs, demand, and increasingly sustainability. Building resilience of assets to more frequent acute physical risks could affect investments and operating costs.

Waste and Recycling

Local environmental problems associated with the production of batteries include waste, wastewater, potential biodiversity risks, as well as air pollution from the construction of facilities. There are increasing environmental risks in the supply chain, where the extraction and refining of battery raw materials, including cobalt, nickel, and lithium, comes with substantial risks. These include intensive water use and contamination, impact on habitats, deforestation, biodiversity, air pollution, and land pollution. To manage potential scarcity of raw materials, circular product lifecycle management could become more strictly regulated (see EU Regulation on batteries and waste batteries on new requirements. For instance, lithium recovery from waste batteries of 50% by 2027 and 80% by 2031; holding a recycled content documentation on cobalt, lead, lithium, and nickel; recycling efficiency targets for waste batteries such as EV cells at 50% by 2025).

Working Conditions

Battery manufacturers' supply chains are heavily reliant on the sourcing of scarce resources and cost-competitive components. The procurement of such resources exposes these companies and their suppliers to human and labor rights issues in various countries. The costs and practices associated with maintaining adequate working conditions vary by jurisdiction, but even small manufacturers or makers of lower-margin products can source fabricated inputs from multiple providers around the world.

Workforce health and safety

Manufacturing activities present occupational health and safety risks for employees and contractors, especially those operating large equipment. Workers can be exposed to high heat, noise and dust. Workplace incidents are infrequent, but can be severe, resulting in injuries and fatalities. Safety incidents can also create friction with communities or trigger regulatory penalties, with significant operational disruptions, lengthy remediation.

Issuer And Context Analysis

The Dunkirk gigafactory project aims to address climate transition risk, which is a material sustainability factor (MSF) for the project's customer Renault and related industries, as well as for Verkor's main investors. The company has set targets on its batteries' greenhouse gas emissions, primarily through sourcing low carbon energy and optimized industrial processes. Strategies to reduce scope 3 emissions include responsible and local sourcing to lower procurement-related emissions, and recycling efforts. Compared with the baseline in 2027, Verkor has committed to reducing its batteries' scope 1 & 2 and scope 3 emissions intensity by 2032. At 30 kgCO2e/kWh, the company claims the lifecycle emissions of its cells will be 70% lower than the current global industry average (107 kgCO2e/kWh), contributing to Europe's shift to a low-carbon economy and electrification of the automotive sector. Beyond this, Verkor has not disclosed any public targets that align with a longer-term climate objective.

Lithium-ion battery cells manufactured from the project will contribute to supporting Renault's own sustainability objectives. In 2022, Renault announced a target of 90% battery electric vehicles sales by 2030 in Europe, as well as an intention of reaching the region's carbon neutrality target by 2040. Renault has published a climate report that communicates risks and opportunities with reference to the Task Force on Climate-Related Financial Disclosures (TCFD), which also discussed management of social and governance topics such as ethics and corporate and social responsibility issues.

Verkor is yet to publicly disclose its annual sustainability performance, potentially owing to its short history. According to the company, it will engage a qualified auditor to implement environmental and social reporting in compliance with the Corporate Sustainability Reporting

Directive (CSRD) requirements starting from 2024. It will include a double materiality analysis, identification of KPIs, and public disclosures of sustainability goals. The submission of the Carbon Disclosure Project (CDP) questionnaire is also part of Verkor's roadmap. Still, the scope and level of granularity of its annual sustainability reporting remains to be seen. Renault, the project's anchor shareholder and the main customer, on the other hand, has reported energy, air emissions, waste, and wastewater from its manufacturing plants, and GHG intensity per unit of vehicle sold since 2005. The company is yet to incorporate CSRD requirements into its sustainability disclosures in its latest report.

Physical risks are important considerations for the manufacturing facility. Verkor has commissioned a third-party study to identify potential climate physical and transition risks and their mitigation and adaptation measures, based on three 2050 climate scenarios (RCP 2.6, RCP 4.5, and RCP 8.5). In particular, the area in which the gigafactory is located is exposed to flooding, sea level rise, and temperature variability. In addition, raw material supply chains are exposed to physical climate risk, with for example a need for large amounts of water in mining and processing. Verkor mainly manages these exposures through diversifying its supply chain and screening suppliers. Renault's climate report has discussed different levels of physical and transition risks under three climate scenarios (1.5°C, 3°C, 4°C) and has a goal of limiting global warming to well below 2°C by 2050. It then formed a 2050 risk management strategy, with some near-term goals in 2030.

Verkor has committed to recycling 95% of battery scraps by 2027 and setting recycled content targets that go beyond the EU Battery regulation requirements. Under the new regulation on batteries and waste batteries, targets for recycling efficiency, material recovery, and recycled content will be introduced gradually from 2025 onwards. Verkor's recycling target appears more ambitious than the anticipated EU battery regulation requirement, which will entail less raw material input and contribute to its emissions reduction goal. Similarly, Renault has announced a plan to reintegrate 80% of recycled materials (cobalt, nickel, and lithium) for its batteries in 2030, as well as to increase the proportion of recycled materials in new vehicles manufactured to 33%. However, we note that battery recycling itself is energy intensive and can use materials with high embodied emissions such as chemicals.

Verkor is indirectly exposed to working conditions along its supply chain, especially for metals suppliers. Its code of conduct covers ethics and human rights, such that all forms of child and forced labor are prohibited. Verkor has also conducted a human rights impact assessment according to the IFC Performance Standards, identifying risks in each country of supply and mitigation measures. Annual audit on tier one and high-risk suppliers will include information on labor conditions. Its target to ensure full supply chain traceability on critical raw materials by 2032 also partially mitigates these risks.

Alignment Assessment

This section provides an analysis of the framework's alignment to Green Bond/Loan principles.

Alignment With Principles

Aligned = ✔ Conceptually aligned = ○ Not aligned = ✘

- ✔ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)
- ✔ Green Loan Principles, LMA/LSTA/APLMA, 2023

✔ Use of proceeds

Verkor has committed to allocating an amount equivalent to the net proceeds exclusively to the construction, development, design, installation, financing, operation, and maintenance of the gigafactory, with the intention of facilitating the supply of lithium-ion batteries primarily serving the automobile sector. Verkor has articulated climate change mitigation as the environmental objective of the project. It claims the batteries will not be used in hybrid vehicles and equipment serving fossil fuel extraction.

✔ Process for project evaluation and selection

The company was incorporated to develop and manufacture batteries primarily intended for electric vehicles, meeting the EU Taxonomy's climate change mitigation objectives. During the project conception stage, Verkor formulated local engagement procedures in compliance with the Commission Nationale du Débat Public (CNDP) requirements, including stakeholder identification, consultations, and public hearings. It set up grievance procedures to collect opinions and feedback from external stakeholders. Verkor has conducted an external audit as part of the project's environmental and social due diligence, which included a site visit in 2023. It referenced various standards and guidelines, such as the Equator Principles, the IFC's Performance Standards, and the EU Taxonomy's Do No Significant Harm criteria to identify and manage environmental and social issues such as noise and air quality management, working and safety conditions, ethics and corruptions, and human rights.

Verkor's two committees are responsible for the overall governance throughout the gigafactory's operation stage. The audit and risk committee will validate the financial feasibility and applicability of funds, as well as oversee regular reporting to investors and lenders. The workplace health safety and environment committee will ensure the overall compliance monitoring and reporting, which include updates related to the company's sustainability strategy, technology, and market developments. They will meet at least quarterly to evaluate and validate the project. Safety management plan and ISO 45001 occupational health and safety management systems are in place to guide safety policies and processes during different phases of the project. Verkor has set out clear measures related to workforce health and safety, such as safety training, occupational risk assessment, and battery safety test, covering its staff, contractors, and subcontractors.

✔ Management of proceeds

Proceeds raised by the project company are ring-fenced for the construction, development, design, installation, financing, operation, and maintenance of the project, ensuring effective management of proceeds. To ensure traceability of the proceeds during the construction phase, the project company will follow the agreed drawdown schedule and information requirements to the lenders. Verkor will also maintain a record of expenditure dedicated to the project and a separate account to track the net proceeds. A technical advisor will verify the allocation of funds. Fund providers will receive a quarterly construction and an operation report, which will contain information such as project expenditures. Unallocated proceeds of the green debt will be temporarily placed in the liquidity reserve, managed by Verkor.

✔ Reporting

Verkor has committed to annually disclosing to lenders and investors the allocation of proceeds and the quantitative and qualitative environmental impact of the project financed under the framework, until full allocation of the proceeds and maturity of the financing. Verkor will disclose the methodologies and assumptions in the quantification of impact indicators, in compliance with the CSRD requirements. The annual allocation report will also be subject to an external verification, which adds to transparency.

Analysis Of Eligible Projects

This section provides details of our analysis of eligible projects, based on their environmental benefits and risks, using the "Analytical Approach: Shades Of Green Assessments".

Verkor will allocate the proceeds entirely to finance the development, construction, and operation of a gigafactory to produce lithium-ion batteries for EVs (at least 75%) and energy storage purposes.

Given the early stage of the project, most of the proceeds are expected to be allocated to new financing. However, refinancing activities may also be possible.

Dark green

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

Our Shades of Green Analytical Approach >

Overall Shades of Green assessment

Based on the project category shades of green detailed below, and consideration of environmental ambitions reflected in Verkor's green finance framework, we assess the framework as dark green.

Green project categories

Development of a battery manufacturing plant

Assessment	Description
Dark green	Proceeds will finance the construction, development, design, installation, financing, operation, and maintenance of a 16 GWh lithium-ion battery manufacturing gigafactory, located near Dunkirk, France. The gigafactory project also includes research and development, as well as production scrap and end-of-life batteries recycling. The batteries will primarily power passenger and commercial EVs, with some that may serve energy storage purposes. The framework excludes allocating proceeds to finance hybrid vehicles and equipment serving fossil fuel extraction.

Analytical considerations

- The dark green shading reflects the contribution of Verkor's lithium-ion batteries to the electrification of transportation and scaling of renewable energy capacity, a key component in a low-carbon, climate-resilient future. We consider Verkor's efforts to reduce emissions from not only the project operation's energy usage, but product circularity in battery recycling, as well as considerations to mitigate fossil fuel linkages in its mining supply chain. The project considers biodiversity impact, mainly through environmental due diligence referencing IFC performance standards, which also include other topics such as pollution prevention, land use, and resource efficiency.
- A majority of the batteries (75%) will be supplied to Renault Group through a 10-year offtake agreement. The project will produce only one type of cells based on a NMC Nickel rich 80 cathode active material, which according to Verkor's third-party market analysis, aligns with market demand for batteries with higher energy densities and lower cobalt content. The gigafactories' batteries can also be used in energy storage systems, which are critical for scaling renewable electricity capacity. While Verkor has stated that equipment can serve industrial applications, which in our view, could potentially serve some emissions-intensive sectors, it has excluded fossil fuel extraction in the scope of the financing eligibility.
- Verkor foresees the lifecycle emissions of its cells will be approximately 70% lower (30 kgCO2e/kWh) than the current global industry average by 2032, as estimated by the company. Verkor has detailed efforts that will contribute to minimizing emissions. For instance, optimized production efficiency and access to low carbon energy (e.g. steam sourced from a heat recovery network, as well as electricity powered by nuclear, power purchase agreements, and onsite solar panels) will contribute to significant reduction of the cell carbon footprint. Verkor has acknowledged the fossil fuel linkages and mining impacts associated with its value chain and is aiming to minimize these impacts through local sourcing, and investments in battery scrap recycling.

- According to the company, upstream emissions from raw materials inputs account for a material portion (>90%) of its batteries' lifecycle emissions. Verkor has several strategies to reduce these emissions, for example transiting to a European-based supply chain by 2027, increasing recovered material content in batteries by 2032, and engaging with suppliers to reduce their carbon footprint. Nevertheless, synthetic graphite, a key material in Verkor's supply chain, depends on fossil fuel-based inputs; sourcing this provides indirect support for fossil fuel sectors. According to Verkor, the current market share of synthetic graphite and natural graphite represents an 80/20 ratio. While noting that NMC chemistries will continue to largely rely on synthetic graphite, the company is testing on material that could allow for lower synthetic graphite content. It is engaging with its graphite suppliers to increase the use of renewable energy in their refining processes, as well as to working towards localizing productions in compliance with the EU's Rules of Origin.
- The mining of lithium, cobalt, and other raw materials necessary to produce batteries can have substantial adverse environmental and social impacts. While Verkor maintains a code of conduct setting out its requirements for suppliers' due diligence in accordance with various requirements (e.g. IFC Performance Standards, EU Battery Regulation, and OECD's Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas), such risks are typically difficult to manage and could grow as the demand for such materials continues to increase. In addition, raw material supply chains are exposed to physical climate risk, with for example a need for large volumes of water in mining and processing. The company's supplier risk assessment, including the impact on water resources, should partially temper these risks.
- Increasing the use of recycled materials will help to address supply chain risks. On the other hand, battery recycling is typically energy intensive and can use materials with high embodied emissions such as chemicals. Verkor aims to recycle 95% of its battery scraps by 2027 through mechanical pre-treatment and hydrometallurgical treatment. According to the company, the procedures shred, sort, and separate plastics. Copper and aluminum will be sent back to the smelters, while lithium, cobalt, nickel, and carbon powders (forming the black mass) will be recovered separately. By going through these two processes, the battery material and battery cells can be recycled achieving high yields (> 90%) for critical materials such as cobalt, lithium, or nickel. Verkor is currently working with different partners to optimize and simplify battery recycling topics.
- As per the company's environment impact assessment and biodiversity management plan, the project site in a dedicated industrial zone administrated by Grand Port Maritime de Dunkerque, is not a critical habitat or legally protected area. Therefore, the risk that would have been significant for land acquisition or clearing appears to be low.

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.
Example projects	Solar power plants	Energy efficient buildings	Hybrid road vehicles	Health care services	Conventional steel production	New oil exploration

Note: For us to consider use of proceeds aligned with ICMA Principles for a green project, we require project categories directly funded by the financing to be assigned one of the three green Shades.

LCCR--Low-carbon climate resilient. An LCCR future is a future aligned with the Paris Agreement; where the global average temperature increase is held below 2 degrees Celsius (2 C), with efforts to limit it to 1.5 C, above pre-industrial levels, while building resilience to the adverse impact of climate change and achieving sustainable outcomes across both climate and non-climate environmental objectives. Long term and near term--For the purpose of this analysis, we consider the long term to be beyond the middle of the 21st century and the near term to be within the next decade. Emissions lock-in--Where an activity delays or prevents the transition to low-carbon alternatives by perpetuating assets or processes (often fossil fuel use and its corresponding greenhouse gas emissions) that are not aligned with, or cannot adapt to, an LCCR future. Stranded assets--Assets that have suffered from unanticipated or premature write-downs, devaluations, or conversion to liabilities (as defined by the University of Oxford).

Mapping To The U.N.'s Sustainable Development Goals

Where the Financing documentation references the Sustainable Development Goals (SDGs), we consider which SDGs it contributes to. We compare the activities funded by the Financing to the International Capital Markets Association (ICMA) SDG mapping and outline the intended linkages within our SPO analysis. Our assessment of SDG mapping does not impact our alignment opinion.

This framework intends to contribute to the following SDGs:

Use of proceeds	SDGs		
Development of the battery manufacturing gigafactory in Dunkirk			
	***9. Industry, innovation and infrastructure**	**12. Responsible consumption and production**	**13. Climate action**

*The eligible project categories link to these SDGs in the ICMA mapping.

Related Research

- Asian Battery Makers Are Shifting Strategies To Hold Onto Global Lead, Oct. 5, 2023
- ESG Materiality Map Capital Goods, Oct. 6, 2022

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