



NKT

Green Finance Second Opinion

22 August 2022

Executive Summary

NKT produces and installs power cables and power cable accessories. The cables are used to connect renewable and nuclear energy generation to the grid, as well as connecting the grid and/or renewable energy sources directly to oil and gas platforms. Cables are also used as interconnections to connect electricity systems between countries.

Eligible projects relate to the production of cables to connect renewable energy production sites (e.g. wind parks) to the grid or ‘interconnectors’ where the relevant project is deemed to predominantly ensure a higher proportion of renewable energy in the relevant grids. Initially, the issuer expects to refinance capex and opex for the Karlskrona facility, where high voltage power cables are produced. According to the issuer, the framework will mostly finance opex. Opex associated with the manufacture and installation of cables to electrify oil and gas platforms is not eligible for financing. However, the issuer has been transparent about the fact that it is not able to subtract capex that could support its power to shore business, which constitutes a minor share of its business. The issuer states that the exact split between financing and refinancing will be decided at a later stage.

We rate the framework **CICERO Medium Green** and give it a governance score of **Excellent**. The issuer works systematically with the decarbonisation of its supply chain, material recovery and efficiency measures. The allocated shade reflects that high voltage power cables are essential in a low carbon future, while accounting for possible end uses does not contribute to the 2050 solution. Connecting renewable energy to the grid and installing interconnectors are important to enable the low carbon transition. Nevertheless, the financed capex may still be associated with the electrification of oil and gas platforms, although this represents a very small share of NKT’s activities. We encourage NKT to be transparent on activities related to its power to shore business in its reporting.

Key Strengths

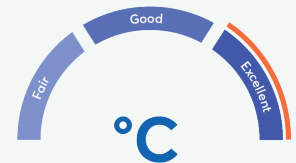
NKT demonstrates through its business strategy and policies that it has solid procedures to assess its climate impact, and it has identified areas where it needs to improve. According to NKT, most emissions are associated with its supply chain, therefore it has started a supplier decarbonisation programme. The programme is now in its first phase, which is to engage with suppliers and get better data on emissions. The next phase is to identify which measures should be implemented to reduce emissions. NKT also engages with its clients to highlight sustainable production and address the importance of environmental considerations.

SHADES OF GREEN



°CICERO
Medium Green

GOVERNANCE ASSESSMENT



GREEN BOND AND LOAN PRINCIPLES

Based on this review, this framework is found to be aligned with the principles.



We are encouraged by NKT's initiatives, such as its focus on circularity. For example, by how NKT has started to recycle cable scrap by finding new ways to reuse the remaining mixed fraction of materials from its production. Also, NKT is investigating how to replace materials with recycled plastic to drive down the carbon footprint of its production. It is also positive that NKT's framework includes the financing of Research & Development (R&D) as improving the supporting infrastructure for renewable energy is key to achieve a low carbon society.

Weaknesses

NKT does not exclude selling its products and services to high-emitting customers. Operating expenses such as cables connecting renewable energy to oil and gas installations are not eligible under the framework. However, the machinery used to produce the cables is the same regardless of where the cables are installed. While its power from shore industry constitutes a minor share of the issuer's business, where the expected related opex is below 5% for the coming years, capex eligible under the framework will enable activities not aligned with a low carbon future. The issuer does not expect the power from shore activity to increase in the future but expects it to vary from 0% to 5%.

Key Pitfalls

Material and plastic production is energy- and emission-intensive. Copper, aluminium and plastics are central to the production of power cables, as well as being essential for all electricity-related technologies, and therefore vital to upscale renewable energy. However, in general, metal and plastic production is energy and emission intensive. For the needed metals, no 2050 solutions are currently available. NKT are mitigating these risks by initiating its supplier decarbonisation programme. Currently, NKT has not chosen suppliers based on emission intensity. The issuer has informed us that the costs for material procurement are not included in the opex nor capex eligible under this framework.

While the installation of subsea cables is vital in the upscaling of renewable energy and strengthens the connection of grids, it is a pitfall that the installation and maintenance of subsea cables are emission-intensive activities, even when using the best available technology. Although NKT informed us that its cable-laying vessel NKT Victoria is one of the most energy-efficient vessels in the power cable industry, laying and maintaining subsea power cables is an emissions-intensive activity. Specialised vessels that transport and install cables are typically powered by conventional fossil fuels such as diesel. The issuer has informed us that the activities of NKT's subsea cable laying vessel fall outside of the scope of this framework.



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1 NKT's environmental management and green finance framework

Company description

NKT, founded in 1891, produces and installs power cables and power cable accessories for interconnections, hydro-electric and nuclear power plants, as well as onshore and offshore wind farms, oil and gas platforms and solar energy. NKT is headquartered in Copenhagen, Denmark, and operates globally with a stronghold in Europe. It has locations in more than 16 countries and manufacturing facilities in Germany, Sweden, UK, Poland, Czech Republic, Norway and Denmark. The issuer's strategic focus is electricity infrastructure for offshore wind farms and the onshore power grid.

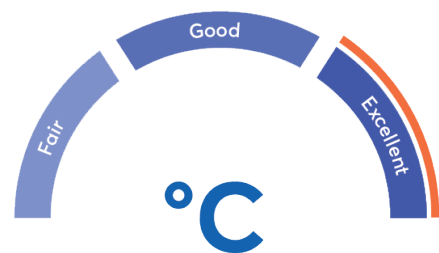
Governance assessment

NKT has quantified climate and environmental targets. The issuer works systematically with the decarbonisation of its supply chain, material recovery and efficiency measures. NKT has committed to a net-zero emission target by 2050, including scope 1, 2 and 3, and is expecting to finalise the corporate roadmap to support this in 2022. The issuer has extensive emissions reporting and is looking to gather more data to further strengthen its emission accounting.

The selection process is well documented, and includes a process to remove any projects that no longer meet the eligibility criteria. Decisions are made by consensus, and environmental competence is well represented. The issuer is targeting investments that support the upscaling of renewable energy. However, the issuer also sells its products to power to shore projects, which support the electrification of oil platforms. While its power to shore industry constitutes a small portion of the issuer's investments, it still enables a lock-in of emissions from oil and gas.

The reporting structure and metrics are yet to be defined. NKT publishes a sustainability report yearly that is prepared in accordance with the GRI Standard. Various metrics are included, such as energy consumption, resource consumption and GHG emissions. The reporting is published on its website.

The overall assessment of NKT's governance structure and processes gives it a rating of Excellent.





Sector risk exposure

Physical climate risks. Extreme weather events such as flooding and storms are becoming more frequent and intense due to climate change, and their impacts on infrastructure are expected to grow more severe over the coming years and decades. NKT's operations and value chain may be directly affected.

Transition risks. Due to the profound changes needed to limit global warming to well-below 2°C, transition risk affects all sectors. NKT is exposed to transition risks from stricter policies on improved energy efficiency, emission intensity of its products and consumption requirements. Insurance premiums may also rise as extreme weather events increase the likelihood of loss and damage to facilities.

Environmental risks. Operating and installing subsea cables may cause negative environmental impacts such as chemical pollution, underwater noise, thermal radiation, and other consequences impacting ocean life.

Environmental strategies and policies

NKT has signed up for the Science based Target initiative and aims to be net-zero, including scope 1, 2 and 3 emissions, no later than 2050. Its strategy to reduce emissions is focused on energy efficiency, decarbonisation of the value chain and removing carbon energy sources. Its strategy to remove carbon energy sources is by for example purchasing 100% green electricity, replacing diesel with biofuel, increase electrification of internal logistics vehicles and leased cars, and replacing natural gas with PV panels, heat pumps, biomethane etc.

In 2020, all power cable factories switched to using electricity covered by EU Guarantees of origin for renewable energy. This led to a 34% reduction in 2021 in Scope 1 and 2 emissions compared to 2020. NKT has identified that fuel for stationary and non-stationary equipment accounted for 58% of corporate CO₂e emissions in 2021, therefore achieving decreased fuel consumption is central to NKT's ambition to become net-zero.

In 2021, the issuer's cable-laying vessel was upgraded with an additional thruster improving its capability to keep a steady position during cable laying in rough waters and to further increase the onboard energy efficiency. During 2021, NKT also initiated a gradual change to electric cars and aims to complete the process by 2025. To support this initiative, electric chargers have been installed at several company sites. In 2021, converting processes and machinery to renewable energy started, with a focus on upgrading internal logistics to run on electricity and alternative fuels such as biofuels. In Karlskrona, the transition to alternative fuels, such as replacing diesel with biofuel and increasing green electricity use, reduced the associated CO₂ emissions by 80% compared to 2020.

NKT recognises that a key to net-zero emissions is to decarbonise the value chain. NKT has launched a supplier engagement programme aimed at driving emissions data transparency and developing strong collaboration and decarbonization processes. According to its sustainability report, the programme addresses reductions in two-thirds of the corporate scope 3 emissions. For 2022, NKT targets to acquire further data transparency via its decarbonisation programme to reduce corporate emissions by 5% compared to 2021 and to maintain a full low-carbon electricity supply at all factories.



Through initiatives and partnerships, NKT engages with suppliers, customers and regulators about how to decarbonise its value chain. NKT is one of the founding members of the Powering Net Zero Pact together with SSE, which is a commitment to a fair and just transition to net zero carbon emissions.

NKT is focusing on improving its recycling process and has reduced its landfill disposal where currently the use of landfills constitutes only 4% of the total waste treatment processes of NKT. The remaining waste is sent to material recycling or is incinerated. Efficient material utilisation is also a priority and NKT track its material utilisation rate at the factories. In 2021, the total material utilisation rate was 95,6%.

Through a review and analysis of risks and opportunities associated with climate change, NKT has identified that climate change will impact the operations of both NKT and its value chain. The analysis was based on the International Energy Agency's SDS and 450 scenarios. The issuer has an overview of the TCFD-related data that it has included in its ESG scorecard for its sustainability report.

Green finance framework

Based on this review, this framework is found to be aligned with the Green Bond Principles. For details on the issuer's framework, please refer to the green finance framework dated August 2022.

Use of proceeds

For a description of the framework's use of proceeds criteria, and an assessment of the categories' environmental benefits, please refer to section 2.

Selection

The selection process is managed by a dedicated Green Finance Committee (GFC). NKT's group treasury, sustainability, financial planning & analysis and investor relations department constitute NKT's GFC. NKT commits to making sure that sustainability expertise always resides within the GFC. The framework states that all decisions will be made by consensus and that the GFC will meet at least once a year. The selection of an eligible asset must have the acceptance vote from all members of the GFC. It will keep track of all decisions made, and a list of eligible green assets and expenditures is kept by the finance department.

When deciding on a project, the procedure is as follows: i) The financial planning & analysis department identifies a list of potential eligible assets and/or expenditures to be financed, ii) The list will be evaluated to ensure alignment with the eligibility criteria, in cooperation with the sustainability department, iii) the GFC verifies the eligibility of the asset or expenditure and decides on the final allocation of proceeds, and iv) assets and expenditures are booked into its register.

Management of proceeds

Green bond proceeds are tracked by the issuer. The register will contain the list of assets and expenditures. The GFC is responsible for regularly monitoring the list in terms of the green debt instruments to ensure that proceeds are sufficiently allocated. The information available in the register will serve as the basis for impact and allocation reporting.

Temporary holdings will be held in accordance with NKT's normal liquidity management policy. Furthermore, any unallocated proceeds temporary held by NKT will be placed in the liquidity reserve and managed accordingly by the issuer.



Reporting

NKT will provide an annual investor report that will be made public on its website. The first report will be made public 12 months after issuing the first bond. It will include allocation and impact reporting.

Allocation reporting will include:

- Total amount of green financing outstanding
- Share of proceeds used for financing and re-financing
- Share of unallocated proceeds (if any)
- Types of temporary unallocated funds placements (if any)
- Examples and case studies of the relevant eligible green assets and expenditures

Impact reporting:

The impact report includes the environmental impact of the green eligible assets and expenditures financed under this framework. The impact report may, to some extent, be aggregated due to the large number of eligible green assets, and will depend on data availability; calculations will be made on a best effort basis. The impact report will include metrics and will always include the methodologies used.

The issuer has informed us that there will be a primary and secondary impact indicator. The impact report will always include the primary indicator while the secondary indicator will be reported on when possible. The issuer's ambition is to split the indicators into sublevels for windfarm and interconnector projects.

- Primary indicator: Estimated total capacity connected in MW
- Secondary indicator: Total greenhouse gas emissions avoided




2 Assessment of NKT’s green finance framework

The eligible projects under NKT’s green finance framework are shaded based on their environmental benefits and risks, based on the “Shades of Green” methodology.

Shading of eligible projects under the NKT’s green finance framework

- The framework supports the financing and refinancing of tangible assets (with no specific age restriction) and operational expenditures (with a lookback period of up to two preceding financial years). Initially, the issuer expects to re-finance mainly capex and opex for the Karlskrona facility (HV Solutions), where high voltage power cables are produced. Other identical projects may also be funded. Based on the information provided by the issuer, a higher share of opex than capex will be financed. The issuer states that the exact split between financing and refinancing will be decided at a later stage. To the extent feasible the issuer will seek to accommodate investor preferences.
- To ensure that allocated proceeds do not support the on-shore electrification of oil platforms, the issuer has been transparent about what can be financed. Only opex related to interconnections and connecting renewable energy (mainly offshore wind power) to the grid, will be financed. For capex (such as machinery, buildings, IT, R&D and technology), the issuer has informed us that it is not able to separate out what is linked to its power to shore business.

Category	Eligible project types	Green Shading and considerations
Renewable Energy 	<p>Expenditures are intended to support the production and development of renewable energy, thereby contributing to climate change mitigation. This is achieved through the production and laying of High-Voltage Cables that will facilitate the connection of renewable energy to the electric grid. Specifically, eligible projects relate to the production of cables to connect renewable energy production sites (e.g. wind parks) to the grid or ‘interconnectors’ where the relevant project is deemed to predominantly ensure higher proportion of renewable energy in the relevant grids.</p> <p>Specifically, expenditures eligible as Green assets include, but may not be limited to:</p> <ul style="list-style-type: none"> • Capital expenditures such as production machinery and equipment, capacity expansion, technology and IT, buildings and R&D • Operational expenditures such as staff cost, repairs and maintenance, energy and utilities, transportation, and administration. 	<p>Medium Green</p> <ul style="list-style-type: none"> ✓ High voltage power cables are essential to connect renewable wind power energy to the grid. ✓ From a 2050 perspective, it is also important to generally strengthen both the grids themselves as well as the connection between grids, therefore interconnectors play an important part in a low carbon future. ✓ The issuer informed us it is expecting three types of projects in its upcoming pipeline. Offshore wind parks, interconnectors and onshore electrification of oil platforms. The electrification of oil platforms, also called power from shore, is excluded from opex,



but inherently capex will still allow for such productions since the manufacturing process to produce the cables is the same. Power from shore orders only make up 2% of the current order backlog in the Karlskrona facility and are expected to be in the 0-5% range in the years ahead.

- ✓ Copper, aluminium and plastics are central to the production of power cables. In general, metal and plastic production is energy and emissions-intensive. NKT has initiated its supplier decarbonisation programme, but does currently not consider materials' carbon footprint when selecting materials.
 - ✓ It is positive that the issuer is aware of biodiversity and environmental risks when assessing potential sub-sea cable projects. The issuer has in-house expertise to help assist in choosing what type of installation is optimal and how to mitigate biodiversity risks. While NKT operates in strictly regulated geographics, this does not necessarily ensure that environmental and biodiversity risks are fully mitigated, therefore we look at it as a strength that NKT has procedures and is involved with clients in the planning phase to optimise the installation from start.
 - ✓ Although NKT has informed us that its cable-laying vessel NKT Victoria is one of the most energy-efficient vessels in the power cable industry, laying and maintaining subsea power cables is an emissions-intensive activity. Specialised vessels that transport and install cables are typically powered by conventional fossil fuels such as diesel. Although NKT informs us that the vessel has been upgraded and that it is continuously looking to further improve its performance, this still constitutes exposure to fossil fuels for eligible projects under the framework.
 - ✓ The issuer has informed us that the overarching ambition of R&D investments is to develop more efficient power cable systems.
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- ✓ In 2022 the plan is to strengthen the DC cable systems technology and competitiveness and enable offshore wind farms further away from shore.

- ✓ In a four-year perspective the ambition is to enable deepsea HV power cable solutions to enable offshore wind and interconnectors in new offshore areas and to industrialise higher voltage levels (535kV). This is to enable power transmission with lower losses and make renewable energy transmission across larger distances possible. NKT is also looking to substitute lead sheats with alternative materials.

- ✓ For long term investments, NKT is targeting to further develop high voltage solutions (800kV) to make renewable energy transmission across larger distances possible.

Table 1. Eligible project categories









3 Terms and methodology

This note provides CICERO Shades of Green’s (CICERO Green) second opinion of the client’s framework dated August 2022. This second opinion remains relevant to all green bonds and/or loans issued under this framework for the duration of three years from publication of this second opinion, as long as the framework remains unchanged. Any amendments or updates to the framework require a revised second opinion. CICERO Green encourages the client to make this second opinion publicly available. If any part of the second opinion is quoted, the full report must be made available.

The second opinion is based on a review of the framework and documentation of the client’s policies and processes, as well as information gathered during meetings, teleconferences and email correspondence.

‘Shades of Green’ methodology

CICERO Green second opinions are graded dark green, medium green or light green, reflecting a broad, qualitative review of the climate and environmental risks and ambitions. The shading methodology aims to provide transparency to investors that seek to understand and act upon potential exposure to climate risks and impacts. Investments in all shades of green projects are necessary in order to successfully implement the ambition of the Paris agreement. The shades are intended to communicate the following:

Shading	Examples
 Dark Green is allocated to projects and solutions that correspond to the long-term vision of a low-carbon and climate resilient future.	 Solar power plants
 Medium Green is allocated to projects and solutions that represent significant steps towards the long-term vision but are not quite there yet.	 Energy efficient buildings
 Light Green is allocated to transition activities that do not lock in emissions. These projects reduce emissions or have other environmental benefits in the near term rather than representing low carbon and climate resilient long-term solutions.	 Hybrid road vehicles

The “Shades of Green” methodology considers the strengths, weaknesses and pitfalls of the project categories and their criteria. The strengths of an investment framework with respect to environmental impact are areas where it clearly supports low-carbon projects; weaknesses are typically areas that are unclear or too general. Pitfalls are also raised, including potential macro-level impacts of investment projects.

Sound governance and transparency processes facilitate delivery of the client’s climate and environmental ambitions laid out in the framework. Hence, key governance aspects that can influence the implementation of the green bond are carefully considered and reflected in the overall shading. CICERO Green considers four factors in its review of the client’s governance processes: 1) the policies and goals of relevance to the green finance framework; 2) the selection process used to identify and approve eligible projects under the framework, 3) the management of proceeds and 4) the reporting on the projects to investors. Based on these factors, we assign an overall governance grade: Fair, Good or Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.



Assessment of alignment with Green Bond Principles

CICERO Green assesses alignment with the International Capital Markets' Association's (ICMA) Green Bond Principles. We review whether the framework is in line with the four core components of the GBP (use of proceeds, selection, management of proceeds and reporting). We assess whether project categories have clear environmental benefits with defined eligibility criteria. The Green Bonds Principles (GBP) state that the "overall environmental profile" of a project should be assessed. The selection process is a key governance factor to consider in CICERO Green's assessment. CICERO Green typically looks at how climate and environmental considerations are considered when evaluating whether projects can qualify for green finance funding. The broader the project categories, the more importance CICERO Green places on the selection process. CICERO Green assesses whether net proceeds or an equivalent amount are tracked by the issuer in an appropriate manner and provides transparency on the intended types of temporary placement for unallocated proceeds. Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programmes.



Appendix 1: Referenced Documents List

Document Number	Document Name	Description
1	NKT Green Finance Framework (Aug-22)	
2	OPEX and CAPEX split	Information of expectations for future Capex and Opex.
3	Detailed project overview of Karlskrona Solutions	
4	NKT Group Sustainability Report 2021	



Appendix 2: About CICERO Shades of Green

CICERO Green is a subsidiary of the climate research institute CICERO. CICERO is Norway's foremost institute for interdisciplinary climate research. We deliver new insight that helps solve the climate challenge and strengthen international cooperation. CICERO has garnered attention for its work on the effects of manmade emissions on the climate and has played an active role in the UN's IPCC since 1995. CICERO staff provide quality control and methodological development for CICERO Green.

CICERO Green provides second opinions on institutions' frameworks and guidance for assessing and selecting eligible projects for green bond investments. CICERO Green is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO Green is independent of the entity issuing the bond, its directors, senior management and advisers, and is remunerated in a way that prevents any conflicts of interests arising as a result of the fee structure. CICERO Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

We work with both international and domestic issuers, drawing on the global expertise of the Expert Network on Second Opinions (ENSO). Led by CICERO Green, ENSO contributes expertise to the second opinions, and is comprised of a network of trusted, independent research institutions and reputable experts on climate change and other environmental issues, including the Basque Center for Climate Change (BC3), the Stockholm Environment Institute, the Institute of Energy, Environment and Economy at Tsinghua University, the International Institute for Sustainable Development (IISD) and the School for Environment and Sustainability (SEAS) at the University of Michigan.



- ★ **2020 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2020 Largest External Review Provider In Number Of Deals**, Climate Bonds Initiative Awards
- ★ **2019 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2019 Largest Green Bond SPO Provider**, Climate Bonds Initiative Awards
- ★ **2018 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2018 Largest External Reviewer**, Climate Bonds Initiative Awards
- ★ **2017 Best External Assessment Provider**, Environmental Finance Green Bond Awards
- ★ **2016 Most Second Opinions**, Climate Bonds Initiative Awards