°CICERO Shades of Green

AB SKF
Green Finance Second Opinion

October 24, 2019

AB SKF is a Swedish manufacturing company and leading global supplier of bearings, seals, lubrication systems and services for industrial and automotive customers. Headquarted in Gothenburg, Sweden, SKF has 94 manufacturing sites in 24 countries and 17,000 distributors in 130 countries. 80% of its processes are powered electrically and around half of the power used is from renewable sources.

SKF's green financing framework aligns with the Green Bond Principles and targets investments that are expected to substantially reduce the environmental impact and climate risk of its global operations. SKF will use proceeds to finance and refinance, in whole or in part, projects and R&D that target increased energy and material efficiency, use of renewable energy, and environmental impact reduction. SKF expects approximately 50% of proceeds to be used for energy and resource efficiency projects. SKF excludes investments in products which are specifically designed for the fossil fuel industry.

SKF's sustainability policies and targets are forward-thinking and set a high bar for its peer group. The company is a signatory to the UN Global Compact, has grouped initiatives according to Sustainable Development Goals, is ISO 140001 and 50001 certified and will begin reporting its climate risk exposure to CDP starting in 2020. SKF's sustainability framework uses life cycle analysis to integrate sustainability and emissions reductions targets along each step of its supply chain. SKF's climate targets for 2025 include 40% reduced emissions intensity for manufactured and transported goods. With this approach, it is possible that absolute emissions increase substantially and not be transparently noted. SKFs annual reports are according to GRI G4 standard.

Investors should know that SKF products and are used in a broad range of industries, including heavy industries such as conventional energy (including coal) and automotive, mining, and cement. The company manages upstream scope 3 emissions by requiring ISO 50001 from suppliers. Investors should know that proceeds may be used to invest in efficiency of gas-powered facilities, e.g. gas-powered heat treatment facilities.

SKF's green bond framework includes all shades of green. SKF is encouraged to in particular scrutinize gas-powered energy efficiency projects and other fossil fuel efficiency (diesel trains and plug in hybrids) investments for lock-in effects and to shed light on these investments in the annual green bond reports. Based on the assessment of the project categories under this framework and its associated governance and transparency considerations, SKF receives an overall **CICERO Light Green** shading and a governance score of **Excellent**.

SHADES OF GREEN

Based on our review, we rate the SKF's green finance framework **CICERO Light Green.**

Included in the overall shading is an assessment of the governance structure of the green finance framework. CICERO Shades of Green finds the governance procedures in SKF's framework to be **Excellent**.

GREEN BOND PRINCIPLES

Based on this review, this Framework is found in alignment with the principles.

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Contents

1 Terms and methodology

This note provides CICERO Shades of Green's (CICERO Green) second opinion of the client's framework dated September 2019**.** 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.

Expressing concerns with 'shades of green'

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:

CICERO Shades of Green	Examples
Dark green is allocated to projects and solutions that correspond to the long-term vision of a low carbon and climate resilient future. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Ideally, exposure to transitional and physical climate risk is considered or mitigated.	Wind energy projects with a strong governance structure that integrates environmental concerns
Medium green is allocated to projects and solutions that represent steps towards the long-term vision, but are not quite there yet. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Physical and transition climate risks might be considered.	Bridging technologies such as plug-in hybrid buses
Light green is allocated to projects and solutions that are climate friendly but do not represent or contribute to the long-term vision. These represent necessary and potentially significant short-term GHG emission reductions, but need to be managed to avoid extension of equipment lifetime that can lock-in fossil fuel elements. Projects may be exposed to the physical and transitional climate risk without appropriate strategies in place to protect them.	Efficiency investments for fossil fuel technologies where clean alternatives are not available
Brown is allocated to projects and solutions that are in opposition to the long-term vision of a low carbon and climate resilient future.	New infrastructure for coal

Sound governance and transparency processes facilitate delivery of the client's climate and environmental ambitions laid out in the framework. Hence, the governance aspects are carefully considered and reflected in the overall shading of the green financing framework. CICERO Green considers four factors in its review of the client's governance processes: 1) the policies and goals of relevance to the green financing 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.

2 Brief description of SKF's green financing framework and related policies

AB SKF is a Swedish manufacturing company and leading global supplier of bearings, seals, lubrication systems and services, which include technical support, maintenance and reliability services, engineering consulting and training. Headquartered in Gothenburg, Sweden, SKF has 94 manufacturing sites in 24 countries, 17,000 distributors in 130 countries servicing 40 different industries, and 44,000 employees worldwide. Industrial customers include industrial distributors (37%), industrial drives (13%), heavy industries such as metals, mining and cement, pulp and paper (10%), manufacturers in automation, medical and health care (8%), aerospace (8%), energy – renewable and conventional, including coal (8%), railway (6%), agriculture, food and beverage (5%), and marine (3%). Automotive customers include light vehicles (53%), vehicle aftermarket (27%), and trucks (20%).

Environmental Strategies and Policies

SKF's sustainability framework is intended to integrate sustainability considerations into the company's business model to benefit the business, employees, communities and the environment. SKF's environmental targets include reducing impact along four key emissions sources along its value chain:

1. Procurement of raw materials (scope 3),
2. Manufacturing (scope 1 and 2),
3. Transportation (scope 1 and 2), and
4. Customer use and end-of-life recycling (scope 3).

SKF uses the Greenhouse Gas Protocol Corporate Guidance for reporting emissions. According to its Annual Report, written in compliance with the GRI G4 standard, SKF's scope 2 emissions are almost 10 times its scope 1 emissions and the company is reducing emissions from a 2017 high mark. SKF aims to reduce its scope 1 and 2 emissions by 40% from 2015 levels by 2025 in manufacturing and transport. The target applies to emissions from manufacturing per tonne of bearings sold and emissions per tonne of goods shipped to the end customer. To date, SKF has reduced emissions from manufacturing by 24% (mainly from purchase of certificates of origin for renewable energy) and from goods transportation by 8%. SKF has reduced GHGs and other environmental impacts in the following ways:

- Improving energy efficiency of factories,
- Securing an increasing share of green energy (i.e. certificates of origin) for factories,
- Improving material efficiency, re-using, remanufacturing, recycling,
- Reducing distances traveled along supply chains,
- Pushing energy intensive suppliers to improve energy efficiency and requiring ISO 50001 certification.

To date, 76% of energy intensive direct material suppliers in scope are now certified and the remainder are in progress. SKF manages compliance with responsible sourcing policies through its internal Supplier Quality Audit system. SKF reduces downstream emissions by promoting products and technologies that reduce energy use and emissions (e.g. renewable energy) for customers.

The details of the company's sustainability objectives, targets, strategies, and calculation methodologies are outlined in SKF's integrated (financial and sustainability) Annual Report, which is audited by a third party and publicly available on the company's website. SKF has applied GRI reporting standards to its annual reporting since 2000.

SKF has been a signatory to the UN Global Compact since 2006, has ISO 140001, OHSAS 18001 and 50001 certification and has endorsed the ICC Charter for Sustainable Development since 1992. SKF will report to CDP on climate risk starting in 2020, which will address most of the TCFD recommendations.

SKF considers climate risks such as extreme weather in the context of emergency response planning for factory operations. SKF is also using water stress maps to inform requirements for water efficiency measures in water stressed regions. Risk management of SKF buildings (new and existing) are part of SKF's re-insurance program. For suppliers, the Responsible Sourcing program covers risks related to climate change.

Use of proceeds

SKF will use proceeds to finance and refinance, in whole or in part, projects that target climate mitigation, such as increased energy and material efficiency, use of renewable energy, and environmental impact reduction such as reduced waste and emissions. Seven project categories include SKF World Class Manufacturing, Investments and acquisitions in production capacity, green buildings, renewable energy, improving process/facility energy or resource efficiency, cleantech industries R&D, and product and process related R&D. SKF expects at least 50% of proceeds to be used for energy and resource efficiency projects as part of the World Class Manufacturing project category.

SKF excludes investments in fossil fuel-based generation of electricity and technologies that involve fossil fuel, with reservations for cleantech industries where bearing components produced may be applied to hybrid vehicles and trains powered by diesel locomotives. SKF notes that, within investments in rail and electrified vehicles, investment in hybrid vehicles and diesel-powered locomotives is likely to be relatively small.

Selection:

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 governance process.

All potential investments are evaluated for climate, environment, health and safety considerations by Environment, Health and Safety organization (EHS) experts. The EHS experts are responsible for tagging projects that pass the evaluation criteria for consideration under the green financing framework.

SKF has established a Green Finance Committee (GFC) that reviews the projects tagged by EHS experts before final approval. The GFC consists of representatives with competence inter alia in treasury, sustainability, and EHS. Decision-making is made on a unanimous basis and all decisions are documented. The GFC also monitors all expenses and investments that have been financed under the GFF (the Green Portfolio) and is responsible for impact reporting. If for any reason the GFC finds that an asset no longer qualifies for green financing, such asset will be removed from the Green Portfolio and from the Green Pool, and noted in the Annual Report.

Any future updates of the Green Finance Framework will be approved by the Green Finance Committee.

Management of proceeds

An amount equal to the amount raised by SKF under the GFF is earmarked as green on the settlement day. SKF Treasury keeps a ledger of all disbursements – individual and portfolio – of funds made under the GFF (the Green Pool). Proceeds yet to be allocated will be placed in the liquidity reserves and will be managed as such. SKF has confirmed that proceeds yet to be allocated will not be used to invest in fossil fuels.

Reporting

Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programs. Procedures for reporting and disclosure of green finance investments are also vital to build confidence that green finance is contributing towards a sustainable and climate-friendly future, both among investors and in society.

The GFC is responsible for reporting on the use of proceeds under this framework. SKF will report annually on its green portfolio with a publicly available report. The report will not be audited by a third party however, any refercnes to the Green Bond made in the SKF Annual report will be audited by a third party. The report will include the following information:

Allocation reporting

- Type of financing instruments and respective outstanding amounts
- The balance of unallocated amounts
- Distribution of the Green Portfolio per category
- Geographical distribution of the Green Portfolio

Impact reporting

- A selection of examples of the Green Portfolio
- Environmental objective(s) pursued by the Green Portfolio
- Distribution of the Green Portfolio (investments vs expenses)
- Information on the split between new financing and re-financing
- Estimated impact of the Green Portfolio

The issuer has clarified that larger investments will be reported individually; smaller investments (such as incremental factory energy efficiency measures) will be grouped together and an estimate of total impact will be provided for practical purposes. The methodology for deriving the impact indicators, including GHG accounting methodology and grid factor used, will be described in the report.

3 Assessment of SKF's green financing framework and policies

The framework and procedures for SKF's green financing investments are assessed and their strengths and weaknesses are discussed in this section. 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 in this section to note areas where SKFs should be aware of potential macro-level impacts of investment projects.

Overall shading

Based on the project category shadings detailed below, and consideration of environmental ambitions and governance structure reflected in SKF's green financing framework, we rate the framework **CICERO Light Green.**

Eligible projects under the SKF's green financing framework

At the basic level, the selection of eligible project categories is the primary mechanism to ensure that projects deliver environmental benefits. Through selection of project categories with clear environmental benefits, green financing aims to provide investors with certainty that their investments deliver environmental returns as well as financial returns. The Green Bonds Principles (GBP) state that the "overall environmental profile" of a project should be assessed and that the selection process should be "well defined".

Category	Eligible project types	Green Shading and some concerns
SKF World Class Manufacturing *GBP energy efficiency*	Transformation of SKFs global manufacturing capability with focus on technology step up including automation and digitalisation of manufacturing operations and buildings leading to more than 25 percent overall energy improvement and / or material use per unit of output.	**Medium to Ligth Green** ✓ SKF has confirmed that approximately 50% of proceeds will be invested in this category which targets the issuers scope 1 and 2 emissions. ✓ 80% of total energy used for manufacturing is electrically powered, around half of that is sourced from renewable energy. ✓ For light industry, the IEA recommends 40% improvement between now and 2040. ✓ SKF has set emissions intensity reduction targets, which leave room for potential increases in absolute emissions. ✓ SKF's parts are used in heavy industries, automotive industries and convential energy industries downstream. The investments will

		not relate to products which are specifically designed for the fossil fuel industry.
Investments and acquisitions in production capacity, technology, testing and tooling *GBP Renewable Energy, Clean Transportation, Circular Economy Adapted Products, Production Technologies and Processes, Energy efficiency.*	Greentech industries such as wind power, electrified vehicles and railway, or SKF's Remanufacturing Concept, a circular economy business model where SKF extends the product service life by refurbishing and servicing the bearing for the customer instead of buying a new one. To qualify, at least 75 percent of a planned investment is required to target cleantech industries or SKF's remanufacturing concept. In cases where the planned investment is below 75 percent, such investment may also be considered as eligible, however only the proportion of such investment applied towards cleantech and the remanufacturing concept will be included. For acquisitions to qualify as eligible at least 90% of the business is required to be dedicated towards cleantech.	**Light Green** ✓ SKF has clarified that "clean tech" refers to clean energy, rail transportation, remanufacturing, circular economy and energy or resource efficiency. Hybrid vehicles (mainly plug-in and range extender) and diesel-powered railway are included, but are expected to be a relatively small portion of overall investments in electrified vehicles and railway. ✓ SKF notes that proceeds used towards the Remanufacturing Concept will be used for equipment and facilities needed to refurbish products. ✓ According to the IEA, the key measure for emissions reduction in iron and steel manufacturing is increased metals recycling. The Remanufacturing Concept is in line with this, reduces lifecycle emissions for the company and extends the life of SKF's products. ✓ Diesel-powered locomotives can reduce use of personal vehicles and associated emissions, but is not considered a long-term low carbon solution. Be conscious of locked in emissions in this category. ✓ Consider grid factors in life cycle emissions for electrified vehicles. ✓ According to the issuer, SKF does not specify what the remaining 10% of a business relates to, but it is unlikely that any eligible companies would have direct involvement in fossil fuel-based energy systems. SKF will scrutinse business for any such risks before applying green bond funds.
Green buildings *GBP Green Buildings, Energy Efficiency.*	New or refurbished buildings certified, or to be certified, to LEED minimum Gold or any equivalent system as determined by SKF New factories certified, or to be certified to LEED minimum Gold; and to SKF	**Light Green** ✓ SKF has noted that district heating and cooling systems may be fossil fueled, depending on location. Where possible, SKF will endeavor to use low carbon or renewable energy sources.

	internal certificate Sustainable Factory Rating (SFR)	✓ SKF is considering flood risk in its reinsurance program and manages water use in water stressed regions. ✓ Although voluntary environmental certifications such as LEED and BREEAM can estimate the environmental footprint of buildings, they do not guarantee a reduction in GHG emissions nor climate resiliency. ✓ For projects that require construction, consider emissions intensity of materials and equipment used. ✓ Heat stress has implications for energy use (e.g. increased air conditioning). Consider potential implications of heat stress on energy performance of buildings and SKF's environmental targets.
Renewable energy *GBP Renewable Energy*	Investments on site or off site in renewable energy generation (wind, photovoltaic, solar thermal) associated with SKF facilities	**Dark green** ✓ SKF has confirmed that renewable energy generated onsite may be fed into the grid depending on the set up. ✓ Wind and solar technologies are an important part of a long-term carbon reduction strategy and considered low-carbon 2050 solutions. They still may, however, have implications for biodiversity that should be considered. ✓ The issuer is encouraged to consider the full life cycle of solar panels, i.e. responsible sourced materials, production and disposal.
Improving process / facility energy or resource efficiency *GBP Energy Efficiency, Eco-Efficient Production Technologies and Processes.*	Investments which result in more than 25 percent improvement in energy and/or resource use per unit of output versus the previous solution within the scope of the machine / system to be replaced	**Light green** ✓ SKF notes that this category, in contrast to the first, is intended for smaller efficiency improvement investments on existing factories or facilities, e.g. upgrading to efficient air compressors. With over 100 factories around the world, SKF expects ample opportunities of this kind of investment with significant aggregated impact. ✓ 80% of SKF's energy use is electricly powered, the remaining 20% is gas-powered or district heat. Although most projects will relate to electrical energy efficiency, some may target efficiency from e.g. gas-powered heat treatment facilities. SKF is encouraged to in particular scrutinize investment related gas-

		powered infrastructe for lock-in effects and highlight these investments in the annual reports. ✓ Efficiency improvements may lead to rebound effects. When the cost of an activity is reduced there will be incentives to do more of the same activity.
R&D cleantech industries *GBP renewable energy, clean transportation, circular economy adapted products, production technologies and processes, energy efficiency*	R&D related to clean tech industries	**Dark to Medim green** ✓ R&D focus may include parts such as axle boxes and axle box bearings used in hybrid and diesel-powered locomotives, as well as renewable energy technologies.
Product and process related R&D *GBP renewable energy, clean transportation, circular economy adapted products, production technologies and processes, energy efficiency*	R&D related to efficiency technologies which can significantly improve climate, environmental or circular economy performance of SKF's customers. • Expenses aimed at eliminating or mitigating harmful substances and materials in products or manufacturing, beyond legislative requirements • R&D related to the SKF World Class manufacturing	**Dark to Medium green** ✓ According to the issuer, R&D in this category will focus on EVs, hybrids and industrial wind technologies, as technologies that solve or help improve environmental problems for the rest of the industry.

Table 1. Eligible project categories

Background

SKF is a global company with 80% of its processes powered by electricity, around half of which is purchased renewable energy certificates. SKF's emissions profile is highly dependent on the grids in the 24 countries where

it has its 94 manufacturing sites as well as the local building codes in those countries. Per the IEA, energy efficiency is the first fuel of a sustainable global energy system. Industry is responsible for around 38% of global total final energy use. Energy efficiency in iron and steel manufacturing should improve by 25% between now and 2040 to reach global targets, and by 40% for light manufacturing.

The energy performance of buildings is also expected to improve, with passive house technology becoming mainstream and the energy performance of existing buildings greatly improved through refurbishments. The building sector accounts for over 40% of primary energy consumption in most countries. Efficiency of building envelopes needs to improve by 30% by 2025 to keep pace with increased building size and energy demand.[1] SKF's investment in energy efficiency of its buildings is therefore in line with global targets.

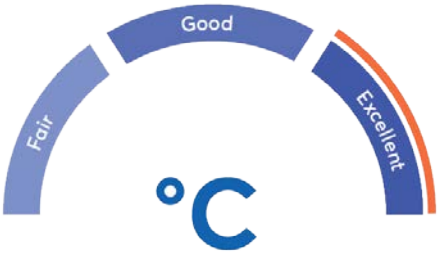
In 2018, 42% of all energy-related CO_2 emissions came from the power sector, causing it to remain the largest source of energy-related CO_2 emissions.[2] Investments in the rapid transition to renewable energy powered economies are increasingly critical.

As a global company placed early in the supply chain, SKF has an extensive transportation network for its products that includes 17,000 distributors in 130 countries servicing 40 different industries. Emissions from transport are therefore a significant part of its emissions profile. Globally, transportation is responsible for 24% of direct CO_2 emissions from fuel combustion. Road vehicles – cars, trucks, buses and two- and three-wheelers – account for nearly three-quarters of transport CO_2 emissions.[3] To meet the IEA's Sustainable Development Scenario, direct transport emissions must peak in the early 2020s and then fall by 13.9% until 2030.

Flooding risk, in combination with extreme weather and sea level rise, has been observed in almost all regions in the world.[2] Flood risk for buildings, facilities and supply chains is of particular concerns in vulnerable geographic regions, including Europe.

Governance Assessment

Four aspects are studied when assessing SKF's governance procedures: 1) the policies and goals of relevance to the green financing framework; 2) the selection process used to identify eligible projects under the framework; 3) the management of proceeds; and 4) the reporting on the projects to investors. Based on these aspects, an overall grading is given on governance strength falling into one of three classes: Fair, Good or Excellent.



SKF's sustainability policies and targets are forward-thinking and set a high bar for its peer group. The company is a signatory to the UN Global Compact, has grouped initiatives according to Sustainable Development Goals, is ISO 140001 and 50001 certified and will begin reporting its climate risk exposure to CDP starting in 2020. SKF's sustainability framework uses life cycle analysis to integrate sustainability and emissions reductions targets along each step of its supply chain. SKF's climate targets for 2025 include 40% reduced emissions intensity for manufactured and transported goods. With this approach, it is possible that absolute emissions increase substantially and not be transparently noted. SKFs annual reports are according to GRI G4 standard. The overall assessment of SKF's governance structure and processes gives it a rating of **Excellent**.

[1] http://www.iea.org/tcep
[2] https://www.iea.org/tcep/power/
[3] https://www.iea.org/tcep/transport/

Strengths

SKF's sustainability policies and targets are structured by its engagement with key industry standards and frameworks: the company is a signatory to the UN Global Compact, has identified material Sustainable Development Goals, is ISO 140001 and 50001 certified and will begin reporting its climate risk exposure to CDP starting in 2020. SKF's sustainability framework effectively integrates sustainability considerations into its business model along the entire supply chain. This green financing framework is intended to scale up the SKF's commitment to its sustainability targets by financing updates and transitions to modern, energy efficient, low carbon operations.

SKF's climate targets for 2025 include 40% reduced emissions intensity per manufactured bearings and 40% reduced emissions intensity for good transported. These targets could be in line the IEA's recommendation for iron and steel manufacturing, depending on what the absolute emissions reduction is. SKF has already reduced emissions intensity per manufactured bearing by 25% by investing in energy efficiency, procurement of green energy (around half of electricity SKF uses is generated from renewables), and material efficiency (scrap reduction process optimization). Improvements in goods transportation are at 8%, achieved through transport network optimization and routing, minimizing mileage between suppliers, factories and customers, alternative fuels (biogas – feedstock varies but its sustainability is checked locally) and improved fuel efficiency. 70-80% of SKF's transportation network is managed directly by the company.

SKF's commitment to increasing the share of its power from renewable energy certificates is commendable but could be increased in ambition.

SKF intends to reduce scope 3 emissions both upstream and downstream. Upstream, SKF requires its suppliers to get ISO 50001 energy management certification (76% of suppliers now have it and the remainder is in the process). Downstream, SKF reduces customer emissions by manufacturing products that use less energy and by promoting its remanufacturing concept (refurbishment and recycling of existing parts).

On selection criteria, SKF has excluded direct investments in fossil fuel-based generation of electricty from its green portfolio. It also broadly excludes investment in technologies that use fossil fuel, with reservations made for hybrid vehicles and diesel trains. Hybrid vehicles are considered a bridge technology in some markets and can therefore be considered a light to medium green investment; diesel trains may reduce use of personal vehicles in some markets but are not considered a climate friendly, long term solution.

SKF's Annual Report is integrated (financial and sustainability data combined), uses the GRI G4 standard and includes data on energy use and emissions back to 2006 to document its performance and progress towards stated goals. The report recognizes and discusses transition climate risk. SKF already considers physical climate risks such as extreme weather and water stress in its emergency response and investment planning, and considers flood risk as part of its re-insurance program.

Within its green building category, SKF has developed a bespoke green facilities rating system - SFR Rating – which builds on LEED but is adapted to facilities to cover the additional 2/3 energy used in manufacturing processes in factories. SKF applies this rating system to its facilities.

SKF is making solid progress towards its scope 1 and 2 emissions targets, having already secured half of its electricity generation from renewable sources and made considerable gains in energy efficient manufacturing processes. CICERO Green encourages SKF to continue its efforts to transition to modern, energy efficient and low carbon operations.

SKF's Remanufacturing Concept is a sound example of a company effectively integrating circular economy principles into its business model. Typically, a bearing taken out of a machine at the end of its life is melted down and recycled, even though there is usually nothing wrong with the bearing itself. The company accepts used bearings, cleans, inspects, and refurbishes them and returns them to the customer to extend their useful life. CICERO commends SKF on this initiative.

Weaknesses

No clear weaknesses perceived at this time.

Pitfalls

Investors should know that SKF manufactures products that are made from emissions intensive materials and are used in a broad range of industries, including emissions intensive industries such as conventional energy exploration and extraction, conventional automotive, mining, steel and cement. Because the company is considerably upstream, it is difficult to track and manage where and how parts are used. However, the company manages upstream scope 3 emissions with its responsible sourcing policies and is promoting cleantech industries with its investments in electrified vehicle, wind, and other clean tech technology research and development. Additionally, SKF notes that if a machine is built with SKF bearings, the environmental impact is reduced in two ways: 1) SKF designs and engineers the solution to use the minimum energy and resources during it's use, and 2) the embeded energy and CO2 to produce the bearing will be lower due to the above mentioned projects.

CICERO Green notes that, although 40% emissions reduction targets are ambitious, the targets are expressed as emissions intensity per unit manufactured or transported. With this approach, it is possible that absolute emissions increase substantially and not be transparently noted.

Finally, CICERO Green notes that 20% of manufacturing processes are powered by gas, mostly for heating, and approximately half of electricity sourced is from conventional sources. SKF mitigates risk of exposure to locked in emissions by excluding direct investments in fossil fueled technologies in this framework.

Appendix 1:
Referenced Documents List

Document Number	Document Name	Description
1	SKF Green Financing Framework – 20 September 2019	
2	EHS Presentation on Carbon Footprint Optimization	Presentation covering environmental, health and safety protocols, with a focus on sustainability
3	Climate targets Q&A	Narrative review of common employee questions about climate targets
4	EHS enhancements to IRE	Overview of file organization for IRE program and energy calculation documents
5	Environmental compliance checklist 2017-12-11	Internal spreadsheet guiding environmental compliance declarations for materials and components
6	World Class Manufacturing 4 programmes	Slide showing the 4 programs: production system, technology step up, input cost reduction, and manufacturing and logistics footbring.
7	Best Practices and Reference Guide – 121004 Sustainable Factory Rating	Detailed review of equipment and technologies available or used to improve efficiency and reduce emissions, with case studies where possible.
8	SFR version 1.1 – 1 Apr 2014	Sustainable Factory Rating from 2014 – green performance standard used to ensure sustainability principles are applied in design, selection, and commissioning of process specific equipment and systems within new facilities and major projects, and d in line with SKF EHS policy. Builds on LEED.
9	Remanufacturing – a key strategy in the circular economy	Process map illustrating how steel can be reused within SKF

10	SKF Rotating Equipment Performance and Sustainability_ white paper version	Overview of the benefits of efficiency within SKF and sustainability impacts
11	Quantification and communication of SKF's sustainability impacts version 1.0	SKF's sustainability framework. This provides guidance on quantification and communication.
12	Carbon dioxide emission data	Spreadsheet showing emissions calculation
13	Environmental performance data	Detailed regional data
14	SKF underlying material for SPO request	List of background documents and useful links.
15	SKF Annual Report 2018	Annual integrated financial and sustainability report – GRI Core compliant

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 and the International Institute for Sustainable Development (IISD).