°CICERO Shades of Green

Kempower Corporation
Shades of Green assessment

19 August 2022

Sector: Manufacturing *(EV infrastructure)*

Region: Europe

Executive Summary

Kempower Corporation ("Kempower" or the "Company") is a Finnish company specialising in developing charging infrastructure for electric vehicles. It manufactures and delivers modular, moveable, and satellite-based solutions catering to various fast charging applications. Kempower has two production sites in Lahti, Finland, employing 260 employees across 9 countries[1]. As of 2021, Kempower's solutions have been installed in over 30 countries globally.

Shading of Kempower's 2021 revenue, operating expenses, and capital expenditures

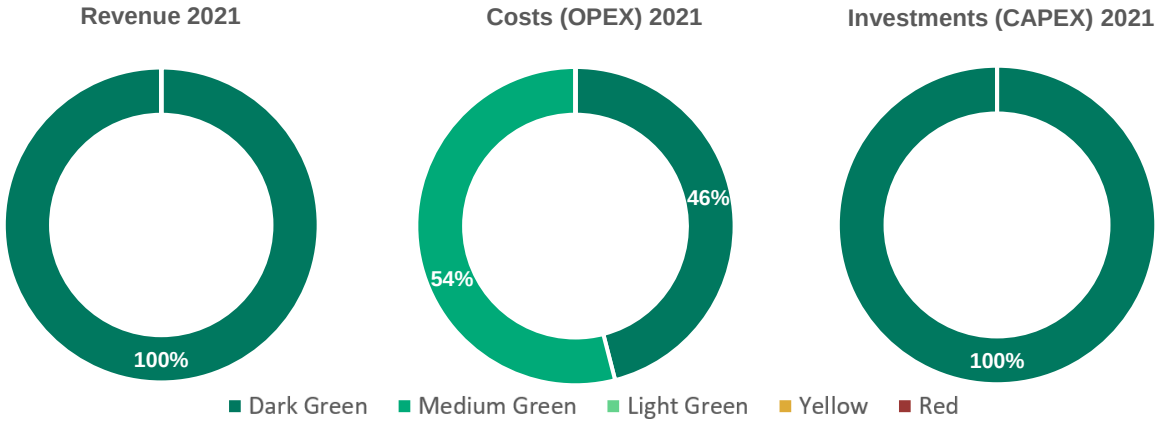

Figure 1: Shading of revenue, operating costs, and capital expenditures for Kempower

In 2021, 100% of Kempower's revenue and 100% of investments (CAPEX) are shaded Dark Green. CICERO Green considers Kempower's charging products and accessories to contribute toward climate change mitigation and acts as an important enabler of the 2050 solution. Kempower's charger cater various vehicles, including cars, buses, heavy-duty transport, boats, and electric mining and construction equipment. EV infrastructure is currently insufficient and is a persistent concern among potential electric vehicle buyers, be it private individuals considering passenger cars, public transport operators considering electric buses, or logistic companies considering electric trucks. Therefore, the needed shift to the electrification of transportation depends on effective roll-out and operations of charging infrastructure for both private and public transportation. Hence, all revenues generated from the sale of charging stations and services and associated investments have been shaded Dark Green, which is allocated to projects and solutions that correspond to the long-term vision of a low carbon and climate-resilient future. It should be noted that Kempower charging infrastructure could be used to charge heavy-duty vehicles, including specialised vehicles for mining applications, which could be associated with the mining of coal, rare minerals, and metals.

The 54% of OPEX related to the cost of goods sold (COGS), such as raw materials and components, has been shaded Medium Green. Kempower sources various pre-assembled components and critical materials that are energy and emission-intensive to produce, such as aluminium, ferrous metals, and plastics. The limited visibility and information on Kempower's various supply chain actors and activities make it challenging to fully

[1] As of June 2022.

assess its climate and other sustainability risks stemming from its extended value chain. Hence, the Medium Green shading reflects the limited information on Kempower's sub-suppliers and associated climate risks. The remaining OPEX are related to general internal business expenditures, including personnel, product development, IT, office and vehicle leasing, and other similar types of operational expenses and have been shaded Dark Green.

Certain plug-in-hybrid electric vehicles (PHEV) can also use Kempower's charging products. Such vehicles do not fully support or enable the 2050 solution due to fossil-fuel emissions and contributing factors to potential lock-in effects of fossil-fuel technologies. Overall, this is a minor consideration given Kempower's market focus which is aimed at the fast charging market catering to fully electric vehicles, machinery, and transport systems.

Governance Assessment

Kempower demonstrates awareness of environmental concerns and has a focus on sustainability. The Company is currently developing its reporting mechanisms for scope 1-3 emissions and intends to include such reporting in its upcoming annual report for 2022. Governance roles and responsibilities have been formalised, and essential policies and relevant processes have been established and operationalised. Kempower's overarching goal is to achieve carbon neutrality by 2035, which includes sourcing fossil-free electricity and would likely involve purchasing renewable energy certificates (REC). CICERO Green views Kempower's 2035 targets and associated KPIs positively and encourages the Company to transparently report against its progress towards such goals in its reporting. Kempower has integrated climate risk considerations into its risk management process, and the Chief Operating Officer (COO) reports sustainability matters and climate risks to the Chief Executive Officer (CEO).

Altogether, CICERO Green considers Kempower's efforts to be positive, where key climate, environmental, and social concerns have been considered. Going forward, the Company should demonstrate that reporting mechanisms and associated targets have been fully established and integrated into its reporting. CICERO Green encourages the Company to consider emissions from its value chain in its scope 3 accounting. The Company could also further improve by fully assessing climate risk exposure to its assets, operations, and supply chain, as well as reporting on such identified climate risks according to the recommendations by the TCFD, including scenario analysis.

Figure 2: CICERO Green assesses Kempower's governance structure and practices to be Good.

EU Taxonomy

The relevant EU Taxonomy activity for Kempower is infrastructure enabling low-carbon road transport and public transport. CICERO Green assesses that Kempower's revenue, OPEX and CAPEX are 100% likely aligned with the technical mitigation criteria and the do no significant harm criteria[2]. CICERO Green deems Kempower to likely fulfil the minimum social safeguards of the EU Taxonomy.

Table 1: Sector specific metrics

	Charging units delivered[3]	Scope 1–2 emissions	Scope 3 emissions[4]	Emissions avoided
2021	<1000	235.18 (tCO_2eq)	2.3 (tCO_2eq)	To be calculated
2020	<200	Not available	Not available	To be calculated
2019	<50	Not available	Not available	To be calculated

[2] See Appendix 2 for all details.
[3] Manufactured units of charger types, including T Series (50kW) and S+C systems (a' 150kW)
[4] Kempower informs that for its current scope 3 inventory, only waste management is included. Going forward, the Company informs that it intends to assess its value chain further and include additional emission sources in its scope 3 accounting to reflect better emissions stemming from its broader value chain. It should be noted that scope 3 emissions from Kempower's value chain are potentially very large due to the types of raw materials sourced for its products.

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Company description

Kempower Corporation ("**Kempower**" or the "**Company**"**)** is a publicly listed company founded in 2017 and headquartered in Lahti, Finland. Kempower Corporation is the parent company of the Kempower Group. The company is also a subsidiary of the Kemppi Group, which owns the majority of the shares[5]. Kempower designs, manufactures, and commercialises direct current (DC) fast charging infrastructure and services for the electric vehicle (EV) market. Kempower offers charging solutions and services for electric passenger cars, heavy-duty transport, public transport, electric boats, and electric mining and construction equipment. Modular, moveable, and satellite-based solutions are part of the company's product portfolio and cater to a range of charging applications. Kempower has two production sites in Lahti and employs 260 employees across 9 countries[6]. As of 2021, Kempower's solutions have been installed in over 30 countries globally. The company has recently announced its intentions to expand its operations to the United States by the end of 2023[7].

Kempower plans to open new production lines at a new facility in Lahti[8], which are scheduled to be fully operationalised in September 2022. The new facility will be larger than 10,000 m^2 and will in addition to production lines include a laboratory for research & development, charging area, and office space. The Company informs that all its production lines run on electricity only, and that the new production line at Lahti will run on improved infrastructure with improved energy consumption.

According to the company, Kempower delivers more than 80 MWh of daily charging capacity, and its customers have charged more than 30,988 MWh using its charging solutions since 2019. The company informs that its key product differentiation is its dynamic power sharing solution, which can intelligently optimise and share power between multiple vehicles automatically, allowing for optimal and efficient throughput of power. In addition, the company informs that its modular design allows for scalability and improves the overall carbon footprint of the solution.

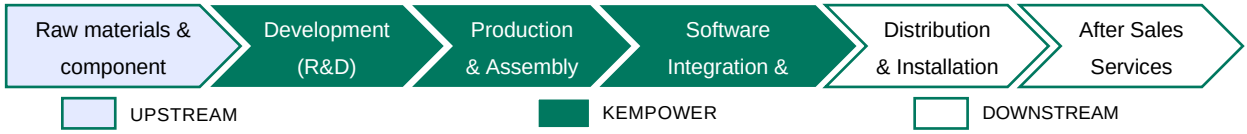


Figure 3: Core elements of Kempower's value chain of operations

As illustrated in figure 3 above, Kempower designs and develops charger solutions in-house. Kempower sources most of its components locally in Finland and has secured the flow of all its materials from two different sources to ensure supply chain security. Assembly of the products take place in its Lahti facility. Kempower works with a partner network for warehousing, distribution, and installation and maintenance of its products. Digital services, such as "Kempower ChargEye", a software management system for remote management and analysis of charging and connectivity, are offered to the charging station operators and end users. Using Kempower ChargEye as a management system, operators can monitor and troubleshoot charging stations remotely, which saves the operator from having to travel and conduct physical maintenance if technical problems occur. Further, over-the-air software updates can be completed in real-time through the ChargEye management system, extending the product lifecycle.

[5] This company assessment assesses Kempower Oyj, and does not consider its parent company, Kemppi group.
[6] As of June 2022
[7] Kempower information centre - Kempower updates its growth strategy: target to establish operations in the United States by the end of 2023
[8] Kempower information centre - new 10,300 square meter factory will be opened on schedule

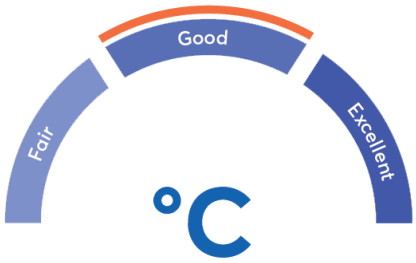
Governance Assessment

When assessing the governance of Kempower, CICERO Green looks at the overarching structures and procedures for decision making connected to climate risk analysis, climate-related strategy, and policy formulation. Furthermore, the implementation of the policies, including sub-contractors and life cycle assessment (LCA) use, handling of climate resilience issues, and quality of reporting, is assessed. Please note that this is not a substitute for a complete evaluation of the governance of Kempower and does not cover, e.g., corruption.

Kempower demonstrates awareness of environmental and sustainability concerns. Essential policies and supporting processes have been established, including a Code of Conduct (CoC) for employees and suppliers, procurement policy, and HR policies.

The Company is currently developing an overarching sustainability strategy that aims to anchor all of Kempower's sustainability initiatives and establish targets for emissions following the GHG protocol for scopes 1-3. It should be noted that the Company currently only considers waste management in its current scope 3 accounting, but that going forward, it aims to include additional emission sources from its value chain. The Company informs that it intends to finalise and publish the strategy by end of 2022. Kempower has however already published a sustainability statement, which puts forward the commitment to be carbon neutral by 2035. The commitment includes specific relevant targets and KPIs that will support Kempower in achieving the carbon neutrality objective but has not specified an interim emissions reduction target.

The overall assessment of Kempower's governance structure and processes gives it a rating of Good. To improve, Kempower should report on its full scope of emissions, including emissions stemming from its value chain (scope 3). The Company could also further improve by fully assessing climate risk exposure to its assets, operations, and supply chain, as well as reporting on such identified climate risks according to the recommendations by the TCFD, including scenario analysis. CICERO Green notes that the Company intends to report emissions, including emissions from its value chain. However, it is unclear when such emissions will be included in Kempower's carbon accounting and reporting.



Key strategies, policies, and targets

Kempower has the following commitments and specific targets[9]

- 100% carbon neutrality[10] by 2035 by:
  - Reducing the relative carbon footprint annually
  - Using 100% fossil-free electricity by 2025 in its production and operations
  - Reducing the amount of landfill waste to zero by 2025
  - Compensating for the carbon footprint caused by business travel

- Sustainable products that enable a society function with 100% electric transportation by:
  - Reducing plastic packaging by 50 % by 2025 from a 2021 baseline
  - Transitioning to bio plastics and biodegradable plastics when economically viable
  - 99 % recyclability grade at end of lifetime for its chargers

[9] Kempower – Annual Report 2021
[10] Kempower informs that its avoided emissions calculations will not be counted towards the carbon neutrality target.

Kempower has assessed the recyclability grade of its moveable charging station, the T-Series, where it achieved a recyclability grade of 99.6%[11]. Kempower expects all its charger models to qualify for a similar level of recyclability and informs that it has taken this into account from the design stage of a product.

The sustainability policy states that Kempower will manage its operations in accordance with the UN Sustainability Goals (SDGs). According to the company, SDGs 7 and 13 (affordable and green energy, and climate action) have been specifically identified to align with its commitment to 100% carbon neutrality. Furthermore, SDGs 11 and 12 have been identified to align with Kempower's goals of offering responsible products and enabling a society powered by 100% electric transportation.

Kempower's published code of conduct (CoC)[12] outlines a set of principles that its employees must adhere to. Kempower also expects its business partners to comply with the CoC. The CoC reaffirms the commitment to carbon neutrality by 2035, and the specific target of using fossil-free electricity by 2025. Kempower has established a procurement policy and process that sets forth criteria for supplier screening and monitoring.

Governance structure

A corporate governance structure statement has been published, outlining the duties and responsibilities of its governing bodies[13]. The CEO is responsible for the overall governance structure of Kempower. The statement does not mention board oversight of sustainability issues and climate risk. However, Kempower informs that it has integrated climate risk considerations into its risk management process, where the COO supervises and reports sustainability matters and climate risks to the CEO, who ultimately reports to the board as part of the Company's standard risk management process.

The Company informs that it has not anchored its sustainability targets with financial remuneration schemes and structures for its management and bonus-eligible employees.

Supply chain

Kempower informs that one of its key criteria when selecting its suppliers is short transportation distances to its facilities, as well as responsible and sustainable operations. The company informs that up to 80% of all supplies are coming from sub-suppliers that are in close proximity to its main operations in Lahti. Furthermore, Kempower has secured two sources for key input factors to safeguard its supply chain against materials and component shortages.

Kempower requires all its suppliers to meet its sustainability requirements, which are outlined in a mandatory self-assessment survey that all new suppliers must satisfy. Kempower informs that it urges its suppliers and business partners to sign and follow its CoC, but that it is not mandatory to do so. In addition, Kempower relies on site visits for supplier evaluations, and has established processes for screening and monitoring its key suppliers.

[11] The recycling rate assessment carried out by Kuusakoski, follows its methodology for recycling materials such as metals, precious metals, cars, batteries, tyres, electric equipment, plastics, etc. For plastics (accounting for 12% of materials), the stated process is waste-to-energy, which is not the same as recycling and is lower in the waste management hierarchy.
[12] Kempower – Code of Conduct
[13] Kempower – Corporate Governance Statement

Environmental risk management

The Company informs that its enterprise risk management system considers sustainability-related risks and issues. The Company further informs that it does not utilise internal carbon pricing for its operations and investments at the time of writing.

Kempower has been awarded various ISO certifications, including the ISO 14001 standard for environmental management systems.

Social risk awareness

According to Kempower's sustainability statement, Kempower aims to become an attractive workplace for future professionals. This objective includes several long-term targets with associated KPIs, including:

- Reducing the accident rate to zero
  - KPI: Safety score per 1 million works hours, monthly
- Secure high work satisfaction
  - KPI: Work satisfaction score, measured 3 times annually
- 100% of employees trained with first aid skills to reduce serious harm in the case of accident and other medical emergency.
  - KPI: Competence level (%) of employees, annually

In addition to these long-term goals, Kempower tracks and monitors health & safety metrics and actively works to improve its figures related to work accidents and hazards by focusing on training and awareness. Kempower informs that it has not identified any labour rights risks in its supply chain.

An independent whistleblowing mechanism has been established, where suspicions of misconduct can be reported anonymously. Kempower encourages its employees to report any suspected violation of the code of conduct, or other policies and guidelines, and offers the whistleblowing service as an early warning system in order to reduce risk.

Reporting

Kempower reports annually through its integrated annual reporting, highlighting sustainability efforts, targets, and overall strategic direction. The Company informs that it intends to include reporting on its scope 1-3 emissions and progress against its targets by the end of 2022 and integrate its sustainability strategy and reporting in its annual reporting following the GRI standard. Further, the Company informs that it intends to comply with the proposed EU directive, Corporate Sustainability Reporting Directive (CSRD)[14] and report according to the directive by the end of 2023.

[14] EU Commission - Proposal for a Corporate Sustainability Reporting Directive (CSRD)

Sector risk exposure

The below text box highlights some key risks for the EV infrastructure sector.

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Physical climate risks. Science shows that extreme weather events are becoming more frequent and intense, that incremental climatic changes are highly likely to happen, and that their impacts are expected to grow more severe over the coming years and decades. The impacts of physical risks are uncertain, in probability, magnitude and timing. Charging infrastructure could be impacted by flooding, storms, and other extreme weather conditions – and it's therefore critical to assess physical climate risks when selecting sites for the deployment of chargers. Furthermore, Kempower's supply chains may be directly impacted, increasing the risk of complexity and general disruption to raw materials delivery and the technologies necessary to manufacture EV infrastructure, e.g., metals and plastic-based materials. Correspondingly, insurance premiums will increase, as extreme weather events will increase the likelihood of resulting loss and damages to key facilities. Furthermore, the supply of key metals needed for battery production might be equally impacted and could potentially alter the demand and supply, resulting in a further increase in commodity prices.

Transition risks. Due to the profound changes needed to limit global warming to 2ºC, transition risk affects all sectors. The number, scope, and ambition of regulatory requirements regarding greenhouse gas emissions are expected to increase significantly in the future for the automotive sector, especially concerning vehicle fuel efficiency regulations and emissions standards, as well as regulations that apply to the automaker's production facilities of its suppliers. Furthermore, the market size and demand for critical minerals and rare earth metals are projected to grow almost sevenfold between 2020 and 2030[15]. In addition, an overall gradual decline in government subsidies for EVs is expected as the technology advances, which may dampen demand for EVs.

Environmental risks. The increasing need for scarce metals for battery electric vehicles will demand a simultaneous increase in mining. The need to open new mines will lead to local environmental concerns and potentially lead to roadblocks. Ongoing natural capital loss and degradation may lead to disruption of supply chains and distribution networks, as well as damage to physical assets, e.g., from landslides, while reducing resilience to physical climate impacts.

Social risks. Health, safety, and working conditions are growing concerns throughout the EV infrastructure value chain. Reporting requirements on sub-contractors and supplier relations are likely to increase. Extraction of raw materials needed to produce EV platforms, batteries, and associated infrastructure products poses a significant social risk stemming from child labour and workers' exploitation. Metals such as cobalt, copper, and other critical scarce metals are under increased scrutiny, and risks should be addressed[16]. Note that Kempower does not use cobalt in its manufacturing process or products.

[15] International Energy Agency (IEA). Net Zero by 2050 - A Roadmap for the Global Energy Sector.
[16] International Labour Organization (LBO): Child labour in mining and global supply chains.

Assessment of Kempower's activities

Key issues and metrics

GHG Emissions

Table 2: The table summarises Kempower's GHG-emissions and main emission reduction targets.

	Total (tons CO_2eq[17])	Scope 1 emissions	Scope 2 emissions	Scope 3 emissions
Main targets	Carbon neutrality by 2035.		100% % fossil-free electricity by 2025 in its production and operations	Reducing the amount of landfill waste to zero by 2025
2021	237.49	N/A	235.18	2.3
Main Sources			Electricity and heating	Waste management

Kempower's assembly process primarily involves piecing together the various pre-assembled components as well as performing quality control and testing of finished products. According to the Company, these processes are done manually and mostly by hand, without the use of heavy machinery. Hence, for scope 1 emissions, Kempower informs that their facilities do not currently emit process emissions from its production lines.

For scope 2 emissions, the Company informs that it intends to source renewable electricity for its production and operations by 2025. It notes that its production facilities and office buildings are leased, and that it intends to cooperate with its landlord[18] to source fossil-free electricity only going forward, which would likely involve purchasing RECs.

Kempower informs that for its current scope 3 inventory, only waste management is included. Going forward, the Company informs that it intends to assess its value chain further and include additional emission sources in its scope 3 accounting to reflect better emissions stemming from its broader value chain. It should be noted that the complete scope 3 emissions from Kempower's value chain are potentially very large relative to the current emissions from waste management, primarily due to the types of raw materials sourced for its products.

Materials

Kempower's charging solutions include a range of various input factors such as aluminium, copper, printed circuit boards (PCB), plastics, and other ferrous metals.

Findings from a recyclability assessment of the T-Series moveable charger concluded that the overall recyclability grade was ~99.6%. Based on weight, aluminium accounted for 17% of the charger's total weight, and copper cables accounted for 17%. Other ferrous metals accounted for 43% of the total weight of the T-Series charger. In addition, plastics, PCBs and transformers accounted for the rest. The recyclability assessment is based on the assessment providers approach to recycling the various materials. This includes a waste-to-energy (WTE) process for the all the plastics, which account for 12% (14 kg) of the total weight, and it should be noted that CICERO Green does not consider WTE to be part of a recycling process. Kempower informs that going forward, WTE will not be part of its recyclability assessments for its other charging products. Further, it informs that it expects its

[17] CO_2e, carbon dioxide equivalent is a measurement term for greenhouse gas accounting.
[18] Kempower currently leases its offices and two facilities from its parent company, Kemppi Group OY.

customer to recycle end-of-life chargers locally. It should be noted that the recyclability grade may differ significantly from the stated grade of 99.6% based on the location and method of recycling the chargers. Currently, the company has no strategy to ensure that chargers are recycled; ergo, there is a risk that chargers are not recycled.

The Company informs that it has carried out an initial LCA of the C-Series charger and that a detailed LCA is planned to be done by the first half of 2023.

Overall, CICERO Green finds it positive that Kempower has sought to understand the recyclability and life cycle emissions of the materials used.

Energy

Kempower's energy use is primarily for the manufacturing and assembly of Kempower's products, as well as for their distribution and installation. Kempower partners with various distributors and installers for its charging stations.

Kempower's offices and facilities are heated with local district heating. Their facilities are powered by electricity from the grid, where the grid factor is 0.156 CO2eq tons/MWh. The grid in Finland is based on renewable (52%), nuclear (34%), and fossil fuels (14%)[19]. The Company informs that it intends to replace heating based on natural gas with geothermal by mid-2023, which should further decrease its scope 2 emissions.

On the product side, Kempower informs that its dynamic power charging technology can efficiently share the optimal amount of power between multiple vehicles based on the vehicles charging capacity, etc. Such technologies could reduce the impact on the grid, while maximising energy and cost efficiency. The products are also certified to withstand extreme conditions and temperatures, without sacrificing energy efficiency and charging capacities.

Table 3: The table summarises energy mix by energy source

Energy source	Percent of total	Comments
Heating: natural gas	50%	Ramp-down by 6/2023[20] and replaced by Geothermal
Heating: district heating	50%	

Climate Resilience

Kempower has conducted a sustainability materiality analysis supported by a professional services firm specialising in sustainability analysis. The materiality analysis identified environmental and emissions regulations as the most important to Kempower's business from a sustainability impact perspective. Kempower informs that it has identified the associated climate risks as low and within acceptable limits. Further, it informs that it does not intend to report climate risks as recommended by the Task Force on Climate-Related Financial Disclosures (TCFD).

For its expansion into the US market, Kempower informs that it is currently working with local consultants to screen for various ESG criteria that will be taken into consideration when selecting its site location for its new assembly factory. However, it is unclear to what extent physical climate risks have been considered as part of this specific screening process.

[19] IEA – Atlas of Energy: Finland

[20] Kempower informs that it is still working to completely replace natural gas with geothermal energy. Progress has been made, but several steps still need to be taken to fully replace its use of natural gas for heating purposes.

Key Social Issues

Kempower tracks and monitors health & safety metrics and actively works to improve its figures related to work accidents and hazards by focusing on training and awareness. Kempower informs that it has not identified any labour right risks in its supply chain.

An independent whistleblowing mechanism has been established, where suspicions of misconduct can be reported anonymously. Kempower encourages its employees to report any suspected violation of the code of conduct, or other policies and guidelines, and offers the whistleblowing service as an early warning system in order to reduce risk.

Table 4: CICERO Green assessment of Kempower's management of key environmental issues

Key issue	CICERO Green comments
GHG emissions	✓ Kempower intends to report emissions according to the GHG protocol by end of 2022. ✓ Kempower is assessing its products through LCA and recyclability assessments to improve its product's carbon footprint. ✓ The Company has a limited view of its emissions stemming from its value chain. Given Kempower's business model and position in its value chain, CICERO Green encourages the Company to fully assess its scope 3 emissions, including activities from its value chain, and actively engage with suppliers on their emissions and sustainable sourcing practices.
Materials	✓ Kempower relies on several domestic sub-suppliers for raw materials and components. Kempower's limited visibility on climate risk within its supply chain indicates sourcing risk exposure—for instance, environmental impacts stemming from the aluminium and ferrous metals supply chains. ✓ The company has conducted recyclability assessments of one of its key products and is working to reduce the number of plastics in its packaging. However, the Company does not have a takeback programme, or other strategies in place for handling end-of-life chargers, hence, there is no guarantee that the chargers will be recycled. ✓ Whilst encouraged by the recyclability assessment for the T-Series charger, CICERO Green notes that WTE is not considered recycling and should not be included as part of the overall recyclability factor of such assessments. Kempower informs that going forward, WTE will therefore not be part of the recyclability assessments for its remaining charging products.
Energy	✓ Kempower's products and solutions are highly energy efficient according to Kempower. Materials and components have been deliberately selected to ensure that the solution delivers high performance, including in extreme conditions and temperatures.
Climate Resilience	✓ To date, Kempower has not yet fully assessed its exposure to physical climate risks to assets and its operations. ✓ CICERO Green is of the view that Kempower should seek to carry out a climate risk assessment to identify key climate risks to its assets, operations as well as supply chain to ensure that its operations adapt to climate change and are made resilient.
Key Social Risks	✓ Kempower monitors and tracks the health and safety of its employees and has determined KPIs to improve on crucial health and safety metrics. ✓ A whistleblowing mechanism has been established to enable its employees to report suspected acts of misconduct. ✓ CICERO Green notes that monitoring and tracking progress with sub-suppliers is key for Kempower to ensure that social risks are well managed within its value chain.

Shading of Kempower's revenue, operating expenses and capital expenditures

The Shade of Green assigned to an activity reflects its overall climate risk and environmental impact. In assigning a shade of green to Kempower's revenue streams and costs, we have considered Kempower's Governance Score of Good, the company's management of key environmental concerns, and its alignment with the technical criteria set forth by the EU taxonomy.

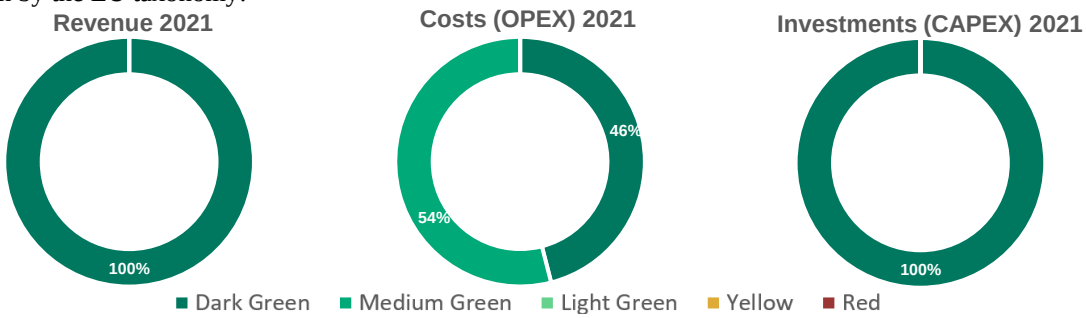

Figure 4: Shading of revenue, operating costs, and capital expenditures for Kempower [21].

CICERO Green considers Kempower's charging products and accessories to contribute toward climate change mitigation and acts as an important enabler of the 2050 solution. EV infrastructure is currently insufficient and is a persistent concern among potential EV buyers, be it private individuals considering passenger cars, public transport operators considering electric buses, or logistic companies considering electric trucks. Therefore, the needed shift to the electrification of transportation depends on effective roll-out and operations of charging infrastructure. Hence, all revenues generated from the sale of charging stations and services have been shaded Dark Green, which is allocated to projects and solutions that correspond to the long-term vision of a low carbon and climate-resilient future. It should be noted that certain plug-in hybrid electric vehicles can also use Kempower's charging products. Such vehicles do not fully support or enable the 2050 solution due to fossil-fuel emissions and contributing factors to further potential lock-in effects of fossil-fuel technologies. Further, Kempower's charging infrastructure can be used to charge heavy-duty vehicles, including vehicles for mining applications, which could be associated with the mining of coal, rare earths, and metals. Overall, these are minor considerations given Kempower's market focus which is aimed at the fast charging market primarily catering to electric passenger cars, and electric buses.

The 54% of OPEX related to the COGS, such as raw materials and components, has been shaded Medium Green, which is allocated to projects and solutions that represent significant steps towards the long-term vision but are not quite there yet. Kempower sources various pre-assembled components and critical materials that are energy and emission-intensive to produce, such as aluminium, ferrous metals, and plastics. The limited visibility and information on Kempower's various supply chain actors and activities make it challenging to fully assess its climate and other sustainability risks stemming from its extended value chain. Hence, the Medium Green shading reflects the limited information on Kempower's sub-suppliers and associated climate risks. The remaining OPEX are related to general internal business expenditures, including personnel, product development, IT, office and vehicle leasing, and other similar types of operational expenses and have been shaded Dark Green.

CAPEX investments have been shaded Dark Green and include minor investments in equipment and machinery used for its laboratory and testing of products, and expansion of its new production facility in Lahti. These CAPEX investments support the Dark Green revenue generation and do not include fossil fuel elements.

[21] The figures are aligned with Kempower's financial reporting. Investors should note that our assessment is based on data reported or estimated by the company and has not always been verified by a third party. We analyse revenue, operating costs and capital expenditures, however there is typically not an explicit link between sustainability and financial data. Our shading often requires allocating line items in financial statements to projects or products, for this we rely on the company's internal allocation methods. In addition, there are numerous ways to estimate, measure, verify and report e.g., data on emissions, which may make direct comparisons between companies or regulatory criteria difficult and somewhat uncertain.

EU Taxonomy

The mitigation and adaptation criteria in the EU taxonomy include specific thresholds and do no significant harm (DNSH) criteria for Infrastructure enabling low-carbon road transport and public transport[22]. Comments on alignment are given in the table below, and detailed thresholds, NACE-codes and likely alignment with DNSH criteria are given in Appendix 2.

Table 5: Overall EU Taxonomy alignment

Overall EU Taxonomy alignment (Substantial contribution + DNSH + minimum safeguards)	Revenue	OPEX	CAPEX
Total share eligible (activities covered by criteria)	100%	100%	100%
Total share likely aligned to all criteria	100%	100%	100%
Total share likely aligned to substantial contribution criteria	100%	100%	100%

Alignment with minimum social safeguards

To qualify as a sustainable activity under the EU regulation, certain minimum social safeguards must be complied with. CICERO Green has assessed the company's social safeguards with a focus on human and labour rights. Based on the information provided by the company, we take the sectoral, regional and judicial context into account and focus on the risks likely to be the most material, social risks. The most relevant risks for Kempower are labour rights violations through its subcontractors and supply chain. Kempower has established screening mechanisms for all its sub-suppliers, including on-site evaluations of its key suppliers. CICERO Green concludes that Kempower likely fulfils the minimum social safeguards.

Table 6: Summary of alignment to Infrastructure enabling low-carbon road transport and public transport

Eligibility	**2021 share**
Activities covered	✓100% of activities are eligible including Revenue, OPEX, CAPEX
Substantial contribution	**Summary of assessment**
Mitigation Criteria	✓ 100% of activities are likely aligned, including Revenue, OPEX, CAPEX. ✓Kempower develops and sells charging infrastructure for electric vehicles, including moveable charging stations, modular charging stations, stationary chargers, and associated software solutions.
DNSH-criteria	**Summary of assessment**
Climate Change Adaptation	✓Likely aligned
Sustainable use and protection of water and marine resources	✓Likely aligned
Transition to a circular economy (circular economy)	✓Likely aligned
Pollution prevention and control	✓Likely aligned
Protection and restoration of biodiversity and ecosystems	✓ Likely aligned

[22] European Commission - ANNEX to the Commission Delegated Regulation

Terms and methodology

The aim of this analysis is to be a practical tool for investors, lenders and public authorities for understanding climate risk. CICERO Green encourages the client to make this assessment publicly available. If any part of the assessment is quoted, the full report must be made available. Our assessment, including on governance, is relevant for the reporting year covered by the analysis. This assessment is based on a review of documentation of the client's policies and processes, as well as information provided to us by the client during meetings, teleconferences and email correspondence. In our review we have relied on the correctness and completeness of the information made available to us by the company.

Shading corporate revenue and investments

Our view is that the green transformation must be financially sustainable to be lasting at the corporate level. We have therefore shaded the company's current revenue generating activities, as well as investments and operating expenses.

The approach is an adaptation of the CICERO Shades of Green methodology for the green bond market. The Shade of Green allocated to a green bond framework reflects how aligned the likely implementation of the framework is to a low carbon and climate resilient future, and we have rated investments and revenue streams in this assessment similarly. We allocate a shade of green to the revenue stream and investments according to how these streams reflect alignment of the underlying activities to a low carbon and climate resilient future and taking into account governance issues.

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
Yellow is allocated to projects and solutions that do not explicitly contribute to the transition to a low carbon and climate resilient future. This category also includes activities with too little information to assess.	Healthcare services
Red is allocated to projects and solutions that have no role to play in a low-carbon and climate resilient future. These are the heaviest emitting assets, with the most potential for lock in of emissions and highest risk of stranded assets.	New oil exploration

In addition to shading from dark green to red, CICERO Shades of Green also includes a governance score to show the robustness of the environmental governance structure. When assessing the governance of the company, CICERO Green looks at five elements: 1) strategy, policies and governance structure; 2) lifecycle considerations including supply chain policies and environmental considerations towards customers; 3) the integration of climate

considerations into their business and the handling of resilience issues; 4) the awareness of social risks and the management of these; and 5) reporting. Based on these aspects, an overall grading is given on governance strength falling into one of three classes: 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.

In March 2020, a technical expert group (TEG) proposed an EU taxonomy for sustainable finance that included a number of principles including "do-no-significant-harm (DNSH)-criteria" and safety thresholds for various types of activities[23]. In April 2021, EU published its delegated act to outline proposed criteria for climate mitigation and adaptation, which it was tasked to develop after the EU Taxonomy Regulation entered into law in July 2020. CICERO Green has assessed the mitigation criteria in the EU taxonomy that includes specific thresholds for activities relevant for the company[24].

Do-No-Significant-Harm criteria include measures such as ensuring resistance and resilience to extreme weather events, preventing excessive water consumption from inefficient water appliances, ensuring recycling and reuse of construction and demolition waste and limiting pollution and chemical contamination of the local environment, as well as restriction on the type of land used for construction (no arable or forested land).

CICERO Green has assessed potential alignment against the mitigation thresholds and the DNSH criteria in the delegated acts published in April 2021.

In order to qualify as a sustainable activity under the EU regulation 2020/852 certain minimum safeguards must be complied with. The safeguards entail alignment with the OECD Guidelines for Multinational Enterprises and UN Guiding Principles on Business and Human Rights, including the International Labour Organisation's ('ILO') declaration on Fundamental Rights and Principles at Work, the eight ILO core conventions and the International Bill of Human Rights. CICERO Green has completed a light touch assessment of the above social safeguards with a focus on human rights and labour rights risks[25]. We take the sectoral, regional and judicial context into account and focus on the risks likely to be the most material social risk.

Our assessment of alignment against the EU Taxonomy is based on a desk review of the listed source documents against the Taxonomy Delegate Act and following our own shading methodology.

[23] Taxonomy: Final report of the Technical Expert Group on Sustainable Finance, March 2020. TEG final report on the EU taxonomy (europa.eu)
[24] taxonomy-regulation-delegated-act-2021-2800-annex-1_en.pdf (europa.eu)
[25] CICERO Green is in the process of further developing its assessment method to ensure that it encompasses the object and purpose of the minimum safeguards.

Appendix 1: Referenced documents list

Document Number	Document Name	Description
1	Kempower Annual Report, 2021	Kempower Annual Report for fiscal year 2021.
2	Kempower Company Presentation, dated Q4 2021.	Company presentation and results, dated Q4 2021
3	Kempower Corporate Governance Statement, 2021	Kempower Corporate Governance Statement, Dated 31.12. 2021. Based on the recommendations of the Finnish Corporate Governance Code 2020.
4	Kempower Sustainability Statement, 2021	Kempower sustainability statement, including targets and KPIs. Dated 2021.
5	Kempower Remuneration Policy	Policy describing the remuneration policy of the company and responsible parties.
6	Kempower Remuneration Report, 2021	Report on remuneration as of 2021. Based on the recommendations of the Finnish Corporate Governance Code 2020.
7	Recycling Rate Analysis, T-Series product, dated August 2021	Commissions recyclability study of Kempower's T-series charger.
8	Kempower supplier selection process documentation, dated 2022	Supplier screening and evaluation forms, dated May 2022
9	Kempower US location screening report, dated 2022	US location screening report provided by consultant for ongoing expansion plans, dated April 2022
10	Kempower chargers: total charged energy	Figures in KWh for energy charged from Kempower's charging infrastructure. Dated 01.01.2019 to 01.05.2022.

Appendix 2: EU Taxonomy criteria and alignment

Complete details of the EU taxonomy criteria are given in [taxonomy-regulation-delegated-act-2021-2800-annex-1_en.pdf (europa.eu)]

Infrastructure enabling low-carbon road transport and public transport

Taxonomy activity	**6.15. Infrastructure enabling low-carbon road transport and public transport** (NACE codes F42.11, F42.13, F71.1 and F71.20)		
	EU Technical mitigation criteria	**Comments on alignment**	**Alignment**
Substantial contribution to climate change mitigation[26]	The activity complies with one or more of the following criteria: ✓ the infrastructure is dedicated to the operation of vehicles with zero tailpipe CO2 emissions: electric charging points, electricity grid connection upgrades, hydrogen fuelling stations or electric road systems (ERS); ✓ the infrastructure and installations are dedicated to transhipping freight between the modes: terminal infrastructure and superstructures for loading, unloading and transhipment of goods; ✓ the infrastructure and installations are dedicated to urban and suburban public passenger transport, including associated signalling systems for metro, tram and rail systems. *The infrastructure is not dedicated to the transport or storage of fossil fuels.*	✓ Kempower develops charging infrastructure for electric vehicles, including moveable charging stations, modular charging stations, stationary chargers, and associated software solutions. Therefore, it is likely aligned as it meets the technical screening criteria for substantial contribution to climate change mitigation activities.	**Likely aligned**
	EU Taxonomy DNSH-criteria	**Comments on alignment**	**Alignment**
Climate change adaptation[27]	Physical climate risks material to the activity should be identified (chronic and acute, related to changing temperatures effecting freshwater, marine water, permafrost, etc.), wind (cyclone, hurricane, typhoon, storms, etc.), water-related (floods, ocean acidification, sea level rise, etc.) by performing a robust climate risk and vulnerability assessment.	✓ According to Kempower, The Company has an established risk assessment process which includes physical and transition climate risks and opportunities. This risk management process is carried out regularly and internally at Kempower. ✓ According to Kempower, the risk assessment process for physical and transitional climate risks and opportunities has been mapped following the TCFD recommendations in May 2022, during workshops with	**Likely aligned**

[26] European Commission - ANNEX to the Commission Delegated Regulation - 6.15 Infrastructure enabling low-carbon road transport and public transport
[27] European Commission - ANNEX to the Commission Delegated Regulation - APPENDIX A: GENERIC CRITERIA FOR DNSH TO CLIMATE CHANGE ADAPTATION

	The assessment should be proportionate to the scale of the activity and its expected lifespan, such that: ✓ for investments into activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using downscaling of climate projections; ✓ for all other activities, the assessment is performed using high resolution, state-of-the-art climate projections across a range of future scenarios consistent with the expected lifetime of the activity, including, at least, 10 to 30 years climate projections scenarios for major investments. The economic operator has developed a plan to implement adaptation solutions to reduce material physical climate risks to the activity. The adaptation solutions identified need to be implemented within five years from the start of the activity. These adaptation solutions do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of assets and of other economic activities and are consistent with local, sectoral, regional or national adaptation efforts.	sustainability services consultants. The assessment includes countries and locations where Kempower business activities and assets are currently situated, as well as looking forward to the future based on the ongoing expansion plans. ✓ According to Kempower, it takes climate projections into account when planning and assessing risks related to major long-term (>5-10 years lifespan) investments. Location-specific knowledge and publicly available scenarios (IPCC) of global warming and subsequent material climate-related risks in the geographical area of operations and supply chain are the basis of such assessments. ✓ The Company informs that its risk assessment process has a built-in approach for controlling and mitigating the identified risks. Actions are implemented to limit the consequences on all activities, including but not limited to operations and supply chain. Follow-up of agreed corrective measures is part of the regular risk process. ✓ Overall, Kempower currently assesses physical climate risks to be low, and at an acceptable level without current needs to eliminate or reduce the risks.	
Sustainable use and protection of water and marine resources	• Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential[28] • Environmental Impact Assessment is carried out[29]	✓ The Company informs that none of its facilities are situated in water-stressed areas. ✓ The Company informs that all its activities are carried out in close cooperation with local authorities. Environmental impacts are always assessed when facilities are built, expanded, or renovated, and operations are planned for minimal impact on the natural environment and water resources.	**Likely aligned**
Transition to a circular economy	• At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material defined in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and	✓ Kempower informs that it has action plans to actively reduce waste in all steps of the supply chain, operations and product life cycle. Specifically for building and demolition waste, close cooperation with the authorities and local waste re-use operators has resulted in minimal waste and full compliance with the waste management protocol. The collection of construction waste and demolition materials is controlled according to national laws and organised by	**Likely aligned**

[28] As defined in Article 2, points (22) and (23), of Regulation (EU) 2020/852, in accordance with Directive 2000/60/EC of the European Parliament and of the Council and a water use and protection management plan, developed thereunder for the potentially affected water body or bodies, in consultation with relevant stakeholders.
[29] In accordance with Directive 2011/92/EU of the European Parliament and of the Council and includes an assessment of the impact on water in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed.

	the EU Construction and Demolition Waste Management Protocol278. • Operators limit waste generation in processes related construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.	regional operators in Finland by whom the material flows, and re-use are reviewed, measured and documented.	
Pollution and prevention control	• Where relevant, noise and vibrations from use of infrastructure are mitigated by introducing open trenches, wall barriers or other measures and comply with Directive 2002/49/EC. • Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works	✓ Kempower informs that noise and vibration are not among the most significant health and safety risks at Kempower operations, and therefore the company does not consider this a relevant issue. Further, Kempower informs that no pollutants or other emissions are emitted during its product assembly process, mainly involving the manual installation of cables and quality control testing of charging products. ✓ Kempower informs that with regards to the general criteria of pollution and prevention control, local regulations are strictly followed regarding the use and presence of chemicals, and the amount of chemicals in the process is not material.	**Likely aligned**
Protection and restoration of biodiversity and ecosystems	• An Environmental Impact Assessment (EIA) or screening should be completed in accordance with national provisions • Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented • For sites/operations located in or near biodiversity-sensitive areas additional requirements[30] apply: ➢ The new construction should not be built on one of the following: ○ a) arable land and crop land; ○ b) greenfield land of recognised high biodiversity value and land that serves as habitat of endangered species (flora and fauna) listed on the European Red List or the IUCN Red List	✓ Kempower informs that environmental impact screenings are carried out regularly to identify with the local authorities if a full EIA is needed. Kempower informs that limits have been set in Finland on amounts of chemicals stored or used, and that Kempower currently or in the near future, does not exceed or expect to exceed such limits that would require a full EIA. ✓ Kempower informs that its operations are not situated in or near biodiversity-sensitive areas such as Natura areas, conserved land, or habitat of endangered flora and fauna. ✓ Kempower informs that its office and production facilities properties are leased, where one is leased from its parent company, Kemppi Group OYJ, and the other facility from a third party.	**Likely aligned**

[30] For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented

°CICERO
Shades of
Green

Appendix 3: 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 Company Assessments indicate the greenness of a company by providing a shading of revenues, operating costs and capital expenditures, as well as an assessment the company's governance structure. CICERO Green also provides second opinions on institutions' frameworks and guidance for assessing and selecting eligible projects for green, sustainability and sustainability-linked 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 company being assessed, 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 assessments.

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.