°CICERO Shades of Green

Charge Amps AB
Shades of Green assessment

Sector: Manufacturing: *(EV infrastructure)*

Region: Europe

December 14, 2021

EXECUTIVE SUMMARY

Charge Amps AB (Charge Amps) is a Swedish pure play company specialising in developing charging infrastructure for electric cars. Charge Amps was founded in 2012 and initially focused on charging cables for the Nordic markets. In 2015, it began selling its first charging station and has since launched various other charging solutions, including software services used to manage its chargers. Charge Amps focuses on three market segments: home charging, office charging, and destination charging. The company's vision is to make electric vehicle (EV) ownership user-friendly and effortless by delivering high quality, smart, and uncomplicated charging equipment for its market segments. Today the company sells to more than 15 markets globally.

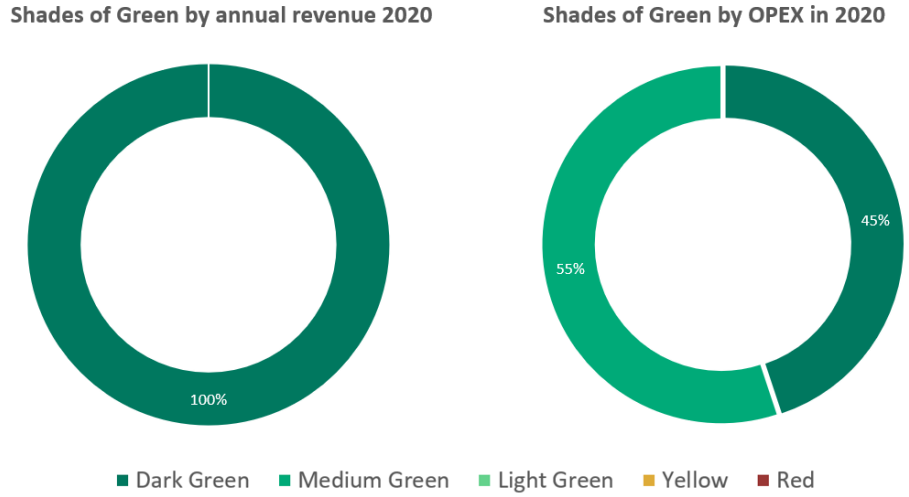

Figure 1: Charge Amps 2020 revenue and investments by Shade of Green

In 2020, 100% of Charge Amps' revenues and 100% of investments are shaded Dark Green. CICERO Green considers Charge Amps' products to contribute to climate change mitigation and acts as an important enabler to the 2050 solution. Electric vehicle infrastructure is currently insufficient in Europe and is one of the persistent concerns raised among potential EV buyers. Therefore, the needed shift to the electrification of vehicles depends on effective roll-out and operations of charging infrastructure. Hence, all of the revenues generated from the sale of charging stations and accessories have been shaded dark green. CAPEX investments are relatively minor and relate to inventory equipment for office and technical purposes. These CAPEX investments support the Dark Green revenue generation and have also been shaded Dark Green.

OPEX related to the cost of goods sold (COGS) has been shaded Medium Green. COGS make up 55% of total OPEX, and are related to logistics of materials, components, and the manufacturing of products, which are energy and emission-intensive activities. However, seen as these OPEX elements are directly tied to the production of charging products, it's considered Medium Green. The remaining 45% of OPEX related to personnel costs, rent premises, lease of equipment, repairs and maintenance, IT systems, insurance, and marketing costs have been shaded Dark Green.

Plug-in-hybrid vehicles (PHEV) can also use Charge Amps' 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 the broad policy goals and government subsidies towards full electrification of passenger vehicles.

CICERO Green notes that it is challenging to comprehensively analyse climate risks within complex manufacturing value chains. Charge Amps has outsourced production, fulfilment, distribution, and installation/repairs of its products. Limited visibility and information on Charge Amps' various supply chain actors and activities make it challenging to fully assess its climate risks stemming from its extended value chain. Charge Amps has stated their awareness of this issue and intends to move more of the manufacturing activities to Sweden for better visibility and risk management in cooperation with its primary supplier, NOTE.

CICERO Green assesses Charge Amps' activities to enable climate change mitigation according to criteria outlined in the EU taxonomy. Charge Amps' activities in developing and selling charging infrastructure likely align with the EU Taxonomy's technical criteria for 7.4 - Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings). This includes likely alignment with 1 out of the 2 do no significant harm (DNSH) criteria set out for the relevant areas. CICERO Green deems Charge Amps appears to fulfil the minimum social safeguards of the EU Taxonomy.

Charge Amps demonstrates awareness of environmental concerns and has a focus on sustainability. Charge Amps is currently developing a sustainability strategy and is working to deliver the first draft for the board's approval by the first quarter of 2022. The strategy will include Charge Amps alignment with the Sustainable Development Goal's (SDGs) concerning its business activities, and will include GHG emissions reporting from its operations. The company also aims to publish its annual sustainability report alongside its financial reporting starting from 2022. Governance roles and responsibilities have been formalised, and essential policies have been established and operationalised. Absolute targets for net zero emission have not yet been determined.

Charge Amps has indicated that it intends to evaluate various reporting frameworks such as the key recommendations from the TCFD[1] when the company has completed its reporting mechanisms and data collection systems needed to further implement additional reporting frameworks.

Altogether, Cicero Green considers Charge Amps efforts to be positive, where key climate, environmental, and social concerns have been considered.

Going forward, the company should be able to demonstrate that the reporting mechanisms and associated targets have been fully established and integrated into its operations. To further improve governance, the company should finalise and implement its sustainability strategy and the various policies that are in development, implement targets and report on GHG emissions, carry out a climate risk assessment to identify key climate risks to its assets, operations as well as supply chain. Finally, Charge Amps should report and disclose its climate risks according to TCFD recommendations.

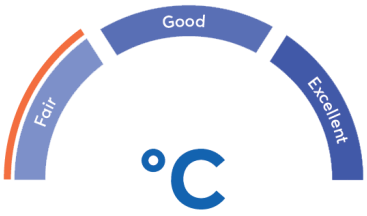

Figure 2: CICERO Green assesses Charge Amps governance structure and practices to be Fair.

EU Taxonomy classification: Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)[2]					
	Charging units produced	**Scope 1**	**Scope 2**	**Scope 3**	**Emissions avoided**
2020	**15068 (Aura/Halo charging stations only)**	N/A	N/A	N/A	N/A

Table 1: Sector spesific metrics

[1] Task Force on Climate-related Financial Disclosures - Key recommendations

[2] Suggested key performance indicators and metrics for the sector are shown in table 1. Charge Amps is currently working on establishing metrics so that emissions from scope 1-3 and avoided emissions can be reported on in the future. Investors can use such suggested metrics as a way of tracking the company's progress.

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1 Charge Amps sustainability management

Company description

Charge Amps was founded in Stockholm, Sweden in 2012. The company develops charging infrastructure to the electric vehicle market. Initially, the company focused on charging cables for the Nordic market. In 2015, it began selling its first EV charging station, the Charge Amps Halo charging station (Halo). Since 2015, it has launched various other charging products and currently offers three product categories: charging stations, software services, and charging accessories. Charge Amps focuses on three market segments including, home charging, office charging, and destination charging. The company's vision is to make EV ownership user-friendly and effortless by delivering high quality, smart, and uncomplicated charging equipment for its market segments. Today the company sells to more than 15 markets globally.

Charge Amps has outsourced production, fulfilment, distribution, and installation/repairs of its products. Hence, Charge Amps relies on a handful of strategic partners. Charge Amps primarily focuses on product research and development and aims to continuously develop and launch new products to cater to the fast-growing EV market. According to the company, all suppliers that are part of Charge Amps value chain are ISO 9000 certified (quality management certification standard) and/or ISO 14000 certified (environmental management certification standard).

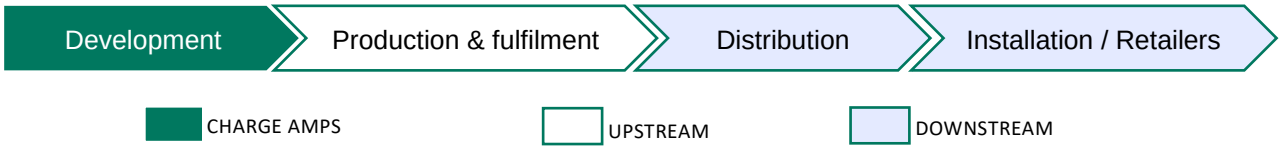

Figure 3: Core elements of Charge Amps' value chain of operations

The largest partner in Charge Amps value chain is the manufacturing company NOTE Norrtelje AB, a subsidiary of NOTE AB (NOTE). According to Charge Amps, it was important to keep production in Sweden, and to have close proximity to its main production partner. This was partly in an effort to ensure that products are produced sustainably, and that working conditions are kept at a high standard. NOTE met all of Charge Amps' criteria, which was a deciding factor according to the company.

The partnership with NOTE includes sourcing components and materials from NOTE's sub-suppliers, which are primarily located in Asia. Such key components and materials include copper, aluminium, cardboards, thermoplastic polyurethane (TPU), polycarbonates (PC), printed circuit boards (PCB), steel, other plastics, and other general electronic components. According to Charge Amps, the long-term objective is to also process materials in Sweden. This would include die casting of the aluminium casings and the moulding of plastics for its charging stations and accessories. Charge Amps is currently aiming to achieve this within a two-year time horizon. By then, the sub-suppliers located in Asia will primarily be used as a second backup source for such components.

Governance Assessment

When assessing the governance of Charge Amps, 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 LCA use, handling resilience issues, and quality of reporting, is assessed. Please note that this is not a substitute for a complete evaluation of the governance of Charge Amps and does not cover, e.g., corruption.

Charge Amps demonstrates awareness of environmental concerns and has a focus on sustainability. Charge Amps is currently developing key reporting mechanisms related to climate and environmental matters, such as Greenhouse gas (GHG) emissions reporting on scope 1-3. Charge Amps is developing a sustainability strategy and is currently working to deliver the first draft for the board's approval by the first quarter of 2022. The strategy will include Charge Amps alignment with the Sustainable Development Goal's (SDGs) with respect to its business activities and operations. The company also aims to publish its annual sustainability report alongside its financial reporting starting from 2022.

Governance roles and responsibilities have been formalised. The Chief Executive Officer (CEO) is responsible for the overall governance structure of Charge Amps, whilst Chief Operating Officer (COO) is responsible for Charge Amps' sustainability activities, further development of the sustainability strategy, and execution of strategy. Going forward, a new position, Head of Sustainability, will report directly to COO, supporting the implementation of sustainable practices throughout the business processes of Charge Amps.

Essential policies have been established and include a Code of Conduct (CoC) for business partners, CoC for employees, procurement policy, sustainability policy, and HR policies related to recruitment, diversity and equality. Absolute targets for when the company will reach net zero emissions have not been established. Such targets will be established after the sustainability strategy has been adopted.

Charge Amps has indicated that it intends to evaluate various reporting frameworks such as the key recommendations from the TCFD[3] when the company has completed its reporting mechanisms and data collection systems needed to further implement additional reporting frameworks

Altogether, Cicero Green considers Charge Amps efforts to be positive, where key climate, environmental, and social concerns have been considered.

Going forward, the company should be able to demonstrate that the reporting mechanisms and associated targets have been fully established and integrated into its operations. To further improve governance, the company should finalise and implement its sustainability strategy and the various policies that are in development, implement targets and report on GHG emissions, carry out a climate risk assessment to identify key climate risks to its assets, operations as well as supply chain. Finally, Charge Amps should report and disclose its climate risks according to TCFD recommendations.

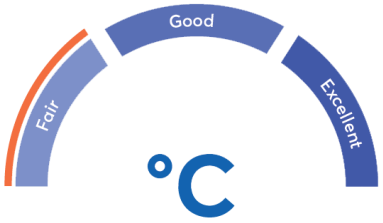

Figure 4: CICERO Green assesses Charge Amps governance structure and practices to be Fair.

The overall assessment of Charge Amps' governance structure and process gives it a rating of **Fair.**

[3] Task Force on Climate-related Financial Disclosures - Key recommendations

Sector risk exposure

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

Physical climate risks. Expected increase in extreme weather may lead to more floods and flash floods, droughts, and heat stress periods, as well as storm surges and cyclones. This impacts key supply chains by increasing the risk of complexity and general disruption to raw materials delivery and the technologies necessary to manufacture EV infrastructure, e.g., copper 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 increased commodity prices.

Transition risks. Increasing demand for EV batteries and other types of EV infrastructure systems could pressure an already tightly pressed supply chain of raw materials. In the context where the supply chain is further pressured by demand from other industries (also transitioning), the raw materials and components needed in EV infrastructure might be needed for other products, reducing available supply and increasing prices. A 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 most renewable-based technologies will demand a simultaneous increase in mining. The market size and demand for critical minerals and rare earth metals will grow almost sevenfold between 2020 and 2030[4]. The need to open new mines will lead to local environmental concerns and could potentially lead to roadblocks.

Social risks. Health, safety, and working conditions is a growing concern 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 EVs and associated infrastructure products pose a significant social risk stemming from child labour and exploitation of workers in general. Metals such as cobalt, copper, and other critical scarce metals are under increased scrutiny and risks should be addressed[5].

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

Sustainability Management

Charge Amps has informed us that they are integrating sustainability into their business models. Its overachieving corporate goal is to be the leading provider of innovative charging technology for EVs to support the transition from fossil-fuel-based vehicles to an electric and green future. Charge Amps has deliberately chosen to keep production of its products in Sweden in an effort to ensure that the products are produced sustainably and that working conditions are maintained at a high standard.

Charge Amps have taken several steps towards its goals of sustainable production by, for instance, conducting a life cycle assessment (LCA) and a material recyclability assessment to optimise production. The assessments were carried out by an external and independent Swedish-based research institute (IVL). The findings from the assessments show that the overall recyclability grade of the Halo was verified to be 85.4% (excluding packaging). Furthermore, the conducted LCA showed that the product's overall carbon footprint is around 78 kg CO_2-eq per unit for the Halo. Raw material production & component manufacturing had the most significant footprint of 56%, and the use phase (standby power) accounted for 40% of the footprint for the Halo, respectively.

Recycled aluminium from aluminium chips is used in the production process of the Halo and has a verified recyclability grade of 87% by an external consultant.

Governance structure

The CEO of Charge Amps is responsible for establishing and overseeing the governance structure, and sustainability policy, whilst The COO is responsible for Charge Amps sustainability activities and further development of the sustainability plan. Going forward, a new position, Head of Sustainability, will report directly to the COO, supporting the implementation of sustainable practices throughout the business processes of Charge Amps.

According to Charge Amps, gender balance and equality are a top priority, and its values are emphasised throughout the company. Gender balance is currently present at the company's board and management levels.

Essential policies have been set and include a CoC for business partners, CoC for employees, a procurement policy, a sustainability policy, and various internal HR policies for its operations. The supplier CoC for Charge Amps business partners sets forth key requirements regarding compliance with laws and regulations that any business partner of Charge Amps must adhere to. These requirements include standards established by the UN Global Compact, UN Declaration of Human Rights, and the International Labour Organisation. It should be noted that the supplier CoC is of strategic importance to Charge Amps, given its reliance on its business partners for up and downstream activities.

The sustainability policy states that Charge Amps will manage its operations in accordance with the UN Sustainability Goals (SDGs). According to the company, this will be done by prioritizing relevant goals for its operations and working systematically with challenging objectives. Charge Amps sustainability policy, including associated goals for all operations, will be updated and revised under the corporate governance policy. The Board must approve such updates and revisions. According to the company, the sustainability policy will require active involvement from the leadership team and their respective business units.

Risk assessment

In 2020, Charge Amps carried out a risk analysis to identify and highlight the most salient risks facing its operations. This included establishing an internal control framework to cover risks for all internal business processes and conducting a self-assessment supported by a professional services firm. Based on the key findings from the analysis and self-assessment, remediation plans have been established but not yet fully implemented. The key results are also reported to the audit committee and the board. Charge Amps has informed us that they intend to carry out such an assessment annually, to monitor and track progress on the identified risk dimensions. At present, Charge Amps assesses supply chain risks to be the most significant when it comes to climate-related risk factors. According to Charge Amps, the long-term objective is to move materials processing to Sweden to in part derisk its operations. Charge Amps is currently aiming to achieve this within a two-year time horizon.

Charge Amps intends to incorporate climate risks into its overall risk analysis, which informs the board and the audit committee of key findings. It also plans to conduct a materiality assessment to determine key ESG issues and related risks.

Reporting

Charge Amps is committed to open and transparent communication, and aims to provide information about the economic, environmental, and social impact of its products and activities in accordance with its sustainability policy. Further, Charge Amps is committed to actively seeking feedback from all stakeholders. Charge Amps has informed us that its currently looking into systems and tools to support data collection. When such systems and tools are properly established, reporting frameworks such as the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations for climate disclosures will be considered.

Key issues

GHG Emissions

Charge Amps is currently developing key reporting mechanisms related to climate and environmental matters, such as Greenhouse gas (GHG) emissions reporting on scope 1-3. Emissions reporting will be included in the release of the company's first sustainability report in 2022. Therefore, the company does not have a current overview of the Greenhouse Gas (GHG) emissions relating to its business. Absolute net zero emissions targets for scope 1-3 will also be developed over time as the company's reporting mechanisms develop.

Charge Amps has however completed a LCA of its main product, the Halo. The LCA concluded that for one Halo 11 kW unit, the life cycle emissions expressed in carbon dioxide was calculated to ~78 kg CO2-eq. The assessment identified that raw materials production and components manufacturing had the most significant footprint of ~56%. Raw materials extraction and processing and component manufacturing are done globally and are the largest contribution to overall life cycle emissions. The materials and components are transported to Sweden for assembly, and finally transported to the end-customer, thus contributing to overall life cycle emissions. The use-phase, which is based on electricity consumption from standby during continuous operations for 15 years, was estimated to be the second-largest contributing factor to overall life cycle emissions – accounting for ~40% of emissions, respectively.

Charge Amps' company fleet is exclusively based on electric or plug-in electric hybrid vehicles. These are used mainly for support and services tasks and other business activities, such as site visits to customers and suppliers. The external distributors and retailers that are the main customers of Charge Amps, have their own installation partners. Hence, Charge Amps has a limited view of how its charging products are installed regarding emissions from transport, etc. However, Charge Amps has informed us that they are currently discussing this issue with potential partners to improve such practices.

Energy

According to Charge Amps, its products have the highest IP (Ingress Protection) rating on the market. This means that Charge Amps' products have robust casings that prevent dust, accidental contact, and the intrusion of water. Furthermore, the products are highly energy efficient in use, and will according to the company reduce impact on the grid while maximising energy and cost efficiency. Charge Amps has also deliberately selected highly durable and flexible materials for use in harsh weather conditions, often seen during wintertime in the Nordics.

Charge Amps offices and facilities are heated with district heating. Their sites are powered by a high degree of renewable energy delivered by the main grid. The office building has received a BREEAM Very Good certification during the latest assessment carried out in 2021. Roof-top solar has also been installed and are used as a dedicated renewable energy source.

Energy is used primarily used upstream for the manufacturing and assembly of Charge Amps' products, and downstream for distribution and installation. Charge Amps partners with various distributors and installers for its charging stations. For installers, Charge Amps offers an academy which, if completed, offers an official certification.

Materials

Charge Amps business partner, NOTE, sources components and materials from sub-suppliers, primarily located in Asia. According to Charge Amps, all sub-suppliers are certified to ISO 9000 for quality management, and some are also certified with ISO 14000 for environmental management. NOTE is responsible for ensuring that the selected sub-suppliers have received such certification and follow NOTE's CoC and corporate policies. Further, Charge Amps ensures that all strategic suppliers follow their supplier/business partner CoC. Charge Amps provides NOTE with an 18-month production forecast, and in this way, secures the availability of key components and materials. Such key components and materials include copper, aluminium, cardboards, Thermoplastic polyurethane (TPU), Polycarbonates (PC), Printed circuit boards (PCB), steel, other plastics, and other general electronic components. The aluminium used in Charge Amps' products comes from recycled aluminium chips and has been verified to have a recyclability grade of 87%. Recycled aluminium requires substantially lower energy usage than making new aluminium from raw ore. Aluminium quality does not degrade during the recycling process and could theoretically be recycled infinitely. It should be noted that recycling aluminium does produce toxic chemicals, as well as waste known as 'dross' that must be sealed in containers so that it does not leak into groundwater. It is difficult to verify how such toxic materials are currently handled in the recycling of aluminium used for Charge Amps' products.

Charge Amps has informed us that a second LCA for its Aura charging station product is underway. According to the company, the results from this assessment will inform further improvements to production, including the potential further use of recyclable materials. Preliminary tests show that it could potentially be possible to use bio-based feedstock for plastic materials used in upcoming products.

Findings from a recyclability assessment of the Halo concluded that the recyclability grade was ~85.4%. Metals such as copper, aluminium, steel, and silver received a high grade of ~96.2% on average. Plastic and rubber materials received a recyclability grade of ~86.4%. Other materials used, such as PCB and other electronic components, received an average recyclability grade of ~50.2%.

A ROHS and a REACH[6] compliance assessment is currently being conducted on Charge Amps components and products. These assessments are being carried out to ensure that all components and materials are free for any hazardous substances and chemicals, following directives set by the European Commission.

Climate Resilience

Charge Amps is in the early stages of assessing its exposure to physical climate risk. To date, the company has not implemented any specific measures to strengthen its operations and make it resilient to the impacts of a changing climate. However, Charge Amps has informed us that this was one of the considerations when selecting its strategic partners, including its partner NOTE. According to Charge Amps, having its key production partner nearby and based in Sweden was vital. Charge Amps believes this could help mitigate certain physical climate risk impacts typically seen within its sector.

Key social issues

Charge Amps has established several policies that include dimensions of key social issues, such as preventing forced labour and child labour. Charge Amps supplier CoC requires suppliers and business partners to abide by the United Nations Convention on Rights of the Child (UNCRC), UN Global Compact's ten principles, the UN Declaration of Human Rights, as well as the standards set forth by the International Labour Organization (ILO). Charge Amps has also developed a supplier manual used when the company assesses potential new suppliers to avoid high-risk suppliers. Additionally, Charge Amps has recently also bolstered such processes by engaging with a professional services firm to perform further desk-based review of suppliers.

Moreover, the supplier CoC states that the supplier must adhere to fair employment conditions, ensure equality, safe working conditions, and fair compensation for overtime work; that must be voluntary. For its internal operations, Charge Amps has established a dedicated CoC for employees and plans to carry out separate training sessions to further strengthen its HR practices and to highlight key issues. It has implemented a dedicated HR policy that covers recruitment, diversity and equality. A health & safety policy is under development, and the company aims to have the policy approved by the board and implemented by the end of this year.

Charge Amps has informed us that they have a balanced gender distribution amongst its board and management teams which is especially important in high-tech and engineering-focused firms, where gender imbalances are often observed. The importance of gender equality is emphasised throughout the business and operations of the company overall.

[6] EU Commission - ROHS - Restriction of Hazardous Substances Directive
EU Commission - REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals

Table 1: CICERO Green assessment of Charge Amps' management of key environmental issues

Key issue	CICERO Green comments
GHG emissions	✓ Charge Amps aims at reporting emissions according to the GHG methodology in their annual public reports. ✓ Charge Amps is assessing its products through LCA and recyclability tests to improve its sustainable production practices and to lower its carbon footprint. ✓ Charge Amps has a limited view of how their solutions are installed, and therefore limited understanding of emissions stemming from installation activities. CICERO Green encourages Charge Amps to assess the various practices for installing its products regarding vehicle and other type of emissions from such practices.
Energy	✓ Charge Amps products and solutions are highly energy efficient. Materials and components have been deliberately selected to ensure that the solution delivers high performance and is grid-friendly. ✓ Charge Amps operates from an office with a green building certificate, which has roof-top solar installed to further lower its carbon footprint.
Materials	✓ Charge Amps works strategically with its main supplier to source sustainable materials and components. ✓ The company is exploring new opportunities for increased use of recycled materials in new products and designs, and is for example, considering bio-based plastics. ✓ CICERO Green finds it positive that Charge Amps has sought to understand the recyclability of the materials used, opting to use recycled aluminium for its charger station casings, as well as assessing new opportunities for other recycled materials when designing new products.
Climate Resilience	✓ To date, Charge Amps has not yet assessed its exposure to physical climate risks to assets and its operations. ✓ CICERO Green is of the view that Charge Amps 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 issues	✓ Charge Amps has established fundamental policies to prevent key social issues for its operations and its extended supply and value chain. CICERO Green notes that monitoring and tracking progress with sub-suppliers is key for Charge Amps to ensure that social risks are well managed within its value chain.

2 Assessment of Charge Amps revenues and investments

Shading of Charge Amps revenue, operating expenses, and investments[7]

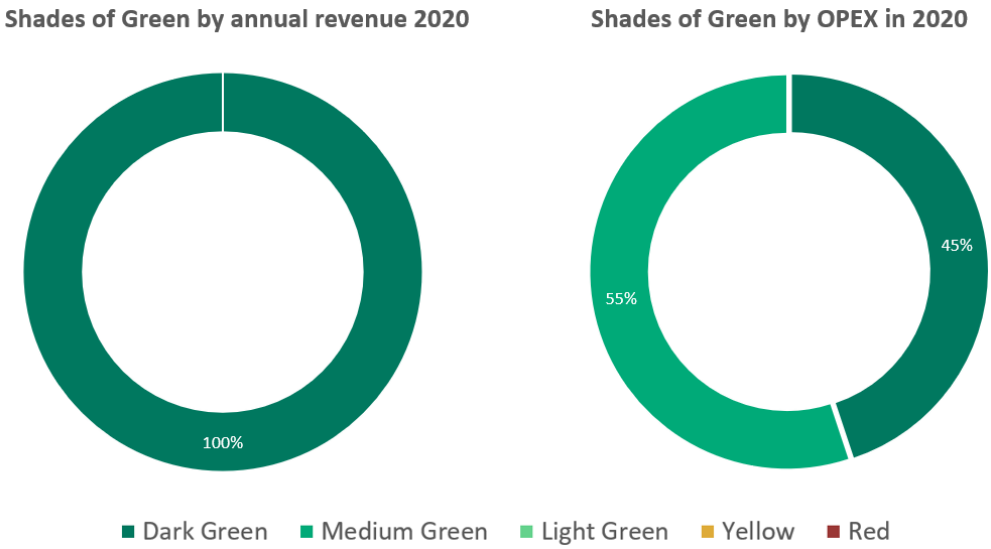

Figure 5: Charge Amps' 2020 revenue and investments by Shade of Green. The figures are aligned with Charge Amps' financial reporting.

The Shade of Green assigned to an activity reflects its overall climate risk and environmental impact. In assigning a shade of green to Charge Amps' revenue streams and costs, we have considered Charge Amps' Governance Score of fair and the company's management of key environmental concerns.

CICERO Green considers Charge Amps' charging products and accessories to contribute towards climate change mitigation and acts as an important enabler of the 2050 solution. Electric vehicle infrastructure is currently insufficient in Europe and is one of the persistent concerns raised among potential EV buyers. Therefore, the needed shift to the electrification of vehicles depends on effective roll-out and operations of charging infrastructure. Hence, all of the revenues generated from the sale of charging stations and accessories have been shaded dark green, which is a shade of green 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 plug-in-hybrid vehicles (PHEV) can also use Charge Amps' 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.

OPEX related to COGS, such as manufacturing, freight, customs, forwarding costs, packing and quality control costs, has been shaded Medium Green. Such activities are considered energy and emission-intensive, However, seen as these OPEX elements are directly tied to the production of charging products, it's considered Medium Green COGS make up 55% of total OPEX. The remaining 45% of OPEX related to personnel costs, rent premises,

[7] For the purpose of this assessment, revenue and turnover are used interchangeably, as are operating costs and OPEX, investments and CAPEX

lease of equipment, repairs and maintenance, IT systems, insurance, and marketing costs have been shaded Dark Green.

CAPEX investments are relatively minor and relate to inventory equipment for office and technical purposes. These CAPEX investments support the Dark Green revenue generation and do not include any fossil fuel elements, and have therefore been shaded Dark Green.

CICERO Green analyses revenue, operating costs, and investments. However, there is typically not an explicit link between sustainability and financial data. 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. 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 complex and somewhat uncertain.

EU Taxonomy

The relevant criteria for Charge Amps are those that guide the Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)[8]. Economic activity/NACE code: **27 - Manufacture of electrical equipment**[9], is therefore deemed relevant to Charge Amps. This economic activity group includes the development and manufacture of battery chargers for electric vehicles.

Comments on alignment are given below, and detailed thresholds, NACE-codes and likely alignment with do no significant harm (DNSH) criteria are given in Appendix 2. Input on our methodology is provided in section 3.

The mitigation criteria in the EU taxonomy includes specific thresholds and DNSH criteria for activities relevant for the company. The relevant activity and threshold for this Company Assessment is the following:

- Substantial contribution to climate change mitigation
- Climate change adaptation

CICERO Green assesses Charge Amps' activities to enable climate change mitigation according to the technical mitigation criteria outlined for Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings).

Charge Amps is in the early stages of assessing its exposure to physical climate risk. To date, the company has not implemented any specific measures to strengthen and adapt its operations to the impacts of a changing climate. For climate change adaptation, the critical criteria for DNSH are to ensure that material physical climate risks to the economic activity have been fully identified for both chronic and acute climate risks. Hence, for Charge Amps, this would involve carrying out a full climate and natural hazard screening of their assets related to climate change adaptation. By way of example, risks associated with hurricanes, typhoons, and storms in general, or for instance, sea-level rise, floods, amongst others, should be robustly included in climate risk and vulnerability assessment. Such an assessment is particularly important to assets with an expected lifespan of 10 years or more. For these reasons CICERO Green notes that Charge Amps needs to conduct a climate and natural hazard screening to fill the identified gap in the DNSH criteria for climate change adaptation to ensure alignment. Therefore, CICERO Green finds that Charge Amps is likely not aligned to the climate change adaptation DNSH criteria.

On the basis of information provided by the company, CICERO Green deems Charge Amps appears to fulfil the minimum social safeguards of the EU Taxonomy.

[8] Taxonomy regulation delegated act 2021-2800 annex-1_en. https://ec.europa.eu/finance/docs/level-2-measures/taxonomy-regulation-delegated-act-2021-2800-annex-1_en.pdf

[9] 27.90 - Manufacture of other electrical equipment. https://nacev2.com/en/activity/manufacture-of-other-electrical-equipment

3 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.

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.	Solar energy projects
Medium green is allocated to projects and solutions that represent steps towards the long-term vision but are not quite there yet.	Green buildings with a high level of certification and energy efficiency
Light green is allocated to transition activities. These projects and solutions could have lower emissions, but do not by themselves represent or contribute to the long-term vision.	Substantially more efficient manufacturing of fossil fuel intensive materials
Yellow is allocated to projects and activities that do not contribute to transition. These activities could have some emissions and be exposed to climate risks. This category also includes activities with too little information to assess.	Efficiency in fossil fuel infrastructure
Red is allocated to projects and activities that have no role to play in a low-carbon and climate resilient future. These are heaviest emitting assets, with the most potential for lock-in of investments and risk of stranded assets.	New infrastructure for coal

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[10]. 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. The mitigation criteria in the EU taxonomy includes specific thresholds for real estate sector activities relevant for the company[11].

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 labor rights risks[12]. 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.

[10] Taxonomy: Final report of the Technical Expert Group on Sustainable Finance, March 2020. TEG final report on the EU taxonomy (europa.eu)
[11] taxonomy-regulation-delegated-act-2021-2800-annex-1_en.pdf (europa.eu)
[12] 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	Charge Amps Annual Report 2020	Summarising financial results for 2020, dated June 2021
2	Charge Amps company presentation, 2021	Company presentation to investors, dated 2021
3	Data collection sheet submitted by Charge Amps, November 2021	CICERO Shades of Green data collection sheet for the manufacturing sector sent to Charge Amps. Filled out and submitted by Charge Amps in November 2021.
4	Code of Conduct for Charge Amps business partners, 2020	Coc for business partners, submitted by Charge Amps in November 2021.
5	Code of Conduct for Charge Amps employees, 2020	CoC for employees, submitted by Charge Amps in November 2021.
6	Procurement policy for Charge Amps, 2020	Procurement policy, submitted by Charge Amps in November 2021.
7	Sustainability policy for Charge Amps, 2020	Sustainability policy, submitted by Charge amps submitted in November 2021.
8	Halo Charging Station LCA report, 22.03.2021	Life cycle assessment report of Halo Charging Station, conducted by ILV.
9	Halo Charging Station recyclability report, 10.09.2021	Recyclability assessment report of Halo Charging Station, conducted by ILV.
10	Aluminium recyclability report, June, 2019	Aluminium recyclability report by aluminium supplier, submitted by Charge Amps
11	Risk Assessment report, 2020	Risk assessment report developed in collaboration with professional services, submitted by Charge Amps.
12	Office building report, green certification. November, 2021	Official report from building owner to its tenant, Charge Amps, confirming details on Environmental standards and certifications.
13	NOTE AB sub-supplier audit report, March 2021	Sub-supplier quality audit carried out by Charge Amps main manufacturing contractor, NOTE AB.
14	Sub-supplier certification issue report, quality management certification (ISO 9001).	Sub-supplier certification for ISO 9001, dated March, 2021
15	Guidelines for company car use, 2021	Guidelines and standards for use of the company's fleet.

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)

Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)

Taxonomy activity	**7.4 - Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings) (NACE Code F42, F43, M71, C16, C17, C22, C23, C25, C27 or C28)**		
	EU Technical mitigation criteria	**Comments on alignment**	**Alignment**
Substantial contribution to climate change mitigation[13]	• Installation, maintenance or repair of charging stations for electric vehicles	Charge Amps develops charging infrastructure for electric vehicles, including charging cables, stationary chargers, and associated software solutions. Therefore, it is likely aligned as it meets the established technical screening criteria.	**Likely aligned**
	EU Taxonomy DNSH-criteria	**Comments on alignment**	**Alignment**
Climate change adaptation[14]	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. 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.	Charge Amps is in the early stages of assessing its exposure to physical climate risk. To date, the company has not implemented any specific measures to strengthen its operations and make it resilient to the impacts of a changing climate.	**Likely not aligned**

[13] https://ec.europa.eu/finance/docs/level-2-measures/taxonomy-regulation-delegated-act-2021-2800-annex-1_en.pdf#page=175

[14] https://ec.europa.eu/finance/docs/level-2-measures/taxonomy-regulation-delegated-act-2021-2800-annex-1_en.pdf#page=190

°CICERO Shades of Green

Appendix 3: About CICERO Shades of Green

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, sustainability and sustainability-linked bond investments. CICERO Green also provides Company Assessments, providing an assessment and shading of a company's revenues and investments as well as assessing the governance structure to indicate the greenness of a company. 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).