

# Sustainability Report 2022

10 Layers PCB

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## ABOUT THIS REPORT

Since 2014, we have annually published a sustainability report. Our last report was published in April 2022. This is our report for 2022 and covers NCAB's global business. It has been prepared in accordance with the GRI Standards: Universal Standards 2021 and meets the requirements for sustainability reporting in the Swedish Annual Accounts Act. More information about this report on [page 30](#).

## WE INVITE YOU TO GIVE FEEDBACK

We warmly welcome any feedback you may have on the sustainability report to help us to develop our report and sustainability work even further. Please contact NCAB Group's Sustainability Director, Anna Lothsson: [anna.lothsson@ncabgroup.com](mailto:anna.lothsson@ncabgroup.com).

## Artificial heart pump (LVAD)

The PCB is part of a mechanical heart pump, which helps the left ventricle pump blood around the body. The pump is used for patients awaiting a heart transplant.

During the waiting time it can help improve quality of life since the person doesn't have to be kept in hospital.

TEXT: **NCAB GROUP** AND **TROSSA** DESIGN: **TILLS.SE** PHOTO: **GETTY IMAGES** COVER, THE PERSON IN THE PICTURE IS A MODEL, **JESPER FERMGÅRD** PAGE 3, 4, 6, 8, 9, 19, 20, 22-24, 26, **NCAB GROUP** PAGE 22, **ZHANG JIE** PAGE 3, 14-18, **JESSICA WELANDER** PAGE 3, 22

# Sustainability highlights 2022



**99.6%**  
Quality Performance



**Technical Council established**

– for technology leadership and a more sustainable PCB

**26**  
webinars and seminars with  
**1500**  
participants  
– Design for Manufacturing,  
Sustainability, Quality assurance



**Climate impact mapping and actions**

**112**  
New colleagues welcomed



**Next Level and Collaboration**

– Together we are stronger  
NCAB Global Conferences live and online

**100%**

sustainability audited main factories  
– for improved work and safety conditions and environmental performance



# PCBs for demanding customers

NCAB Group is a leading global producer of printed circuit boards, PCBs. Our mission is to produce PCBs for demanding customers, on time, with zero defects, produced sustainably at the lowest total cost.

## PCBS - SMALL BUT CRITICAL

All electronic products contain a printed circuit board (PCB). The car you drive, the train you travel on or the ECG system that monitors your heart. We believe that the best PCB solutions can only be developed through dialogue with our customers and their customers. It all starts with the design, the right specifications and in choosing the right manufacturing partner. Our solution also includes efficient logistics, on-time deliveries and that the entire manufacturing process is conducted in a manner that fulfils our customers' and, not least, NCAB's sustainability requirements.

## TECHNOLOGY TRENDS

Several technology trends are today driving the applications in which PCBs are used. Internet of Things (IoT) and artificial intelligence (AI), in combination with the development of 5G systems, open up connectivity and communication between devices and things on a whole new level. With the component industry following similar trends, PCBs have to be adapted to changing requirements. The complexity of PCBs will continue to grow while devices get smaller. Technology looked upon as cutting edge today, will become standard tomorrow. In this transition, NCAB is keeping a close eye on the customers' demands and the factories' development plans.

## INTEGRATED PCB PRODUCTION

We call our production method integrated PCB production, which in practice means that we work closely with both our customers and our factories. We do not own our factories, but we "own" what is most important: the relationship and process with both customer and factory. We create optimum and flexible production conditions through our strong purchasing power and expertise in PCB production.

## GLOBAL AND GROWING COMPANY

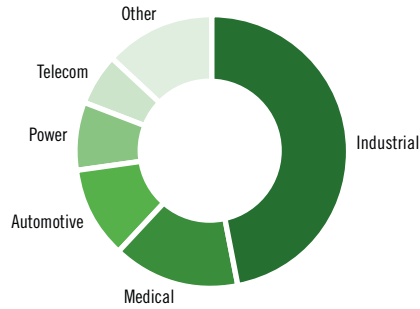
The NCAB Group is a truly global organization, with offices around the world. Our headquarters are in Sundbyberg, Stockholm, Sweden. Growth is a priority for us; sustainable growth, together with our customers as we enter new markets. Growing sustainably with profit is an integral part of securing and developing our long-term business. In 2022, we acquired META Leiterplatten (Germany) and Kestrel International Circuits (UK) and in November we signed an agreement to acquire Bare Board Consultants in Italy (transaction was completed 10 January, 2023). These acquisitions will strengthen our market position in Europe even further.

## OUR VALUES

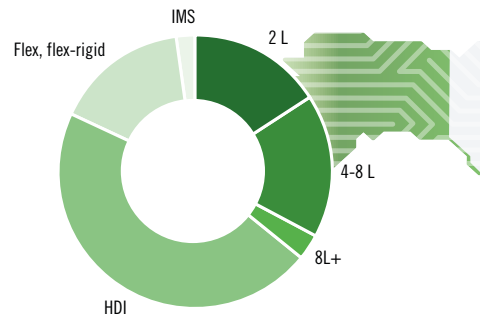
We work in accordance with our company values:

- > Quality First
- > Strong Relationships
- > Full Responsibility

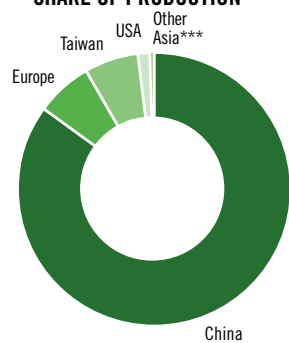
### SALES SHARE PER INDUSTRY SECTOR



### SALES SHARE PER PCB TECHNOLOGY



### SHARE OF PRODUCTION



**587**

TOTAL NUMBER OF EMPLOYEES

**367**

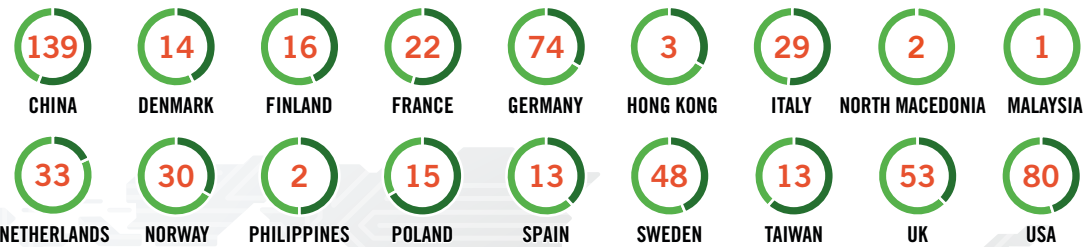
MILLION PCBs DELIVERED

**31**

FACTORIES

### EMPLOYEES / COUNTRY

Women Men NCAB Group office



### NET SALES

**4,458**

MSEK

### KEY PERFORMANCE INDICATORS

**94.6%**

DELIVERY PRECISION \*  
(Measured per order line)

**99.6%**

QUALITY PERFORMANCE \*  
(Measured per order line)

**100%**

SUSTAINABILITY AUDITED  
MAIN FACTORIES \*\*

All data per December 31, 2022.

\* Comparable data (Y2021): DP: 92.7%, QP: 99.6%

\*\* Audits: 100% (Y2021), Main factories in China.

\*\*\* Singapore, South Korea



# Sustainability – a central part of NCAB's way of thinking and acting

In 2022, further actions were taken to quantify and act on the climate impact linked to our business throughout the value chain. At the same time, we continued to take social responsibility in our supply chain. By doing this, we contribute to steer the sector in a sustainable direction.

## How would you describe 2022 from a sustainability perspective? What are you most proud of?

"I feel proud of the efforts made during the year when it comes to further mapping our climate impact throughout the value chain, including production in our partner factories. This gives us a clear picture of our climate impact and helps us focus our efforts on

activities that make a real difference. It also gives us the opportunity to offer our customers more detailed information and enable them to be involved in creating the improvements.

Another positive event was when, for the first time in three years, we were able to gather our employees again for a conference in Berlin. Our conferences are an important part of uniting

us as a company and spreading inspiration and motivation. It was great to be able to meet for real again after a few years of interruption.

An unfortunate but significant event involved our decision to close down our operations in Russia. Just four days after Russia's invasion of Ukraine, we stopped all deliveries to customers in Russia. After considering future opportunities and risks, we decided to sell the company on April 8 to the local company management for 1 Rouble. I am proud that we were able to act quickly based on a clear ethical position while protecting our employees."

## In what ways does NCAB's work for sustainable development create value?

"For us at NCAB, it is important to take responsibility and to ensure that there are good social conditions in the factories with which we cooperate. We do this by continuously performing audits and by setting high standards when choosing new factories. In this way, we contribute to raising the standards in several important social aspects in the factories, and throughout the industry. It also means that we help our customers in their work to ensure responsible behaviour in their value chain.

Through close dialogues with both factories and customers, from the design phase to the final product, we can find smart production and transport solutions with lower climate footprint. Our ambition is to continue to contribute to steering the industry in a greener direction.

We are constantly working to create new opportunities that contribute to positive changes and that reduce the negative impact of our business. From an economic perspective, our sustainability work contributes to more efficient use of resources which reduces costs, but also contributes to a positive differentiation and thereby to increased growth and profitability."

## What opportunities and challenges do you see for 2023 and beyond?

"In recent years, we have worked actively to calculate the greenhouse emissions linked to our business and to obtain better data. Going forward, we can now use this data in our dialogue with our customers, and offer them a better basis for their decisions when it comes to the choice of transport, factory, etc. We have already received positive feedback from our customers since we started building our dialogue on customer specific data. This, in turn, also creates incentives for factories to steer in a green direction.

One challenge going forward is to continue to broaden our supplier base outside China. This is important to reduce political risk

# Sustainability – an important part of the way we do business

exposure, but also to be able to offer our customers a wider range of production alternatives.

It is becoming clear that the knowledge of sustainable development is increasing among many of our stakeholders, with growing expectations as regards information and transparency. We see a clear value in contributing our knowledge through means of e.g. webinars, fairs, and direct dialogue.

For NCAB, sustainability is nothing new. We have worked actively with sustainability issues for almost 10 years and they have become a central part of our way of thinking and acting. This also nicely complements our values of always putting quality first, building strong relationships with the people you work and interact with, and always taking full responsibility for your commitments. The measures we took regarding the situation around Russia is one such example, as well as the fact that we choose to be transparent with findings from our audits. In all, our sustainability work gives us good opportunities going forward and I am convinced that NCAB will continue to deliver long-term sustainable values."

2022 has been a turbulent year for the world. In such times, it becomes increasingly important to have clear principles, including sustainability, that guide the business when difficult decisions have to be made.

Examples of important decisions for us this year were linked to Russia's invasion of Ukraine in February. We were one of the first companies to decide to stop trading in Russia, and then subsequently withdraw entirely from the Russian market considering the business's future opportunities and risks.

Sustainability is not a separate area for us - it's an important part of the way we do business. It makes commercial sense, since it is important for stakeholders in our business. However, we need to continue to work hard with those actions that lead to the largest improvements in those areas where we have the most significant impact. We need to avoid the trap of "ticking boxes" to look good. We need to avoid spending resources on measures of lesser relevance. Setting ambitious targets and being able



**Christian Salamon**, Chairman of the board since 2007

to measure and follow up on impact will become more crucial for businesses as stakeholders' expectations on actions as well as reliable information increase. In recent years NCAB has gained deeper knowledge of our business's climate footprint. This knowledge creates good opportunities in the work of setting relevant targets and action plans going forward. I remain convinced that focusing on sustainability and being able to communicate trustworthy information on improvements will help us build stronger relationships with customers, increase our profitability, attract new talent, and satisfy investors' demands.

**Peter Kruk**



# Sustainable business – a value chain approach

Our focus is on creating value for our stakeholders and taking responsibility throughout our value chain. This approach helps us to identify opportunities to drive positive change and minimize negative impact.

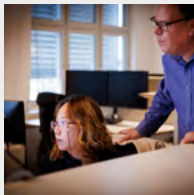
Influence and control are substantial

Outside our direct control and influence



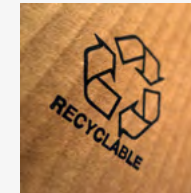
## SALES AND DESIGN SUPPORT

In the design phase we support our customers in optimizing the design of the PCBs for product reliability and for manufacturing. Optimized design means less scrap, material, water, chemicals and energy used, as well as improved product quality. We can also support reduction of greenhouse gas emissions by offering our customers different freight alternatives. Providing a high service level and building strong relationships with our customers are key factors for our long-term business. [\(Read more on p. 23-25\)](#)



## TRANSPORT AND DISTRIBUTION

Demands for short lead times in the industry pose a challenge. Air freight from Asia to Europe and USA has a high climate impact. To reduce emissions, we need to up our efforts to find more efficient logistics solutions and offering our customer different freight alternatives. [\(Read more on p. 25\)](#)



## WASTE/RECYCLING

Waste handling and recycling of the end product is normally beyond our sphere of influence. Any printed circuit boards returned to us and if found faulty, are disposed of according to local regulations on waste handling.



## PRODUCTION

In collaboration with our production partners, we focus on quality, social accountability and environmental responsibility in the supply chain. Important topics are human rights, health, safety and working conditions, resource efficiency, production and product quality, materials used (chemical content and conflict minerals), chemical handling, waste and recycling management, and renewable energy. [\(Read more on p. 14-18\)](#)



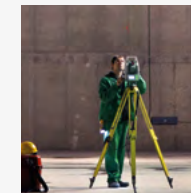
## OUR OFFICES AND EMPLOYEES

As a knowledge-based company, our employees form the mainstay for the success of our operations. To create a stimulating culture, we focus on ethics, competence-development, diversity, equal treatment, a happy and healthy work environment, and high engagement. To lower the environmental impact in our own operation we focus on renewable energy and energy efficiency, and emissions from company cars and business travel. [\(Read more on p. 19-22\)](#)



## PRODUCT USE

PCBs are used in many kinds of technical devices and it is crucial that they never stop functioning. Product quality is key and of the utmost importance for end product reliability and product life.





# Sustainability strategy and goals

NCAB's sustainability strategy defines our focus areas and long-term goals to meet stakeholder expectations. With clear priorities it guides our sustainability work in the right direction.

We are committed to driving positive changes throughout the value chain together with our customers and production partners. Having a value chain approach to sustainability, our strategy helps us to understand what we must do to reduce negative impact and accelerate positive change.

## MATERIAL SUSTAINABILITY TOPICS

To ensure that our sustainability strategy addresses the material topics that are most relevant to our business and stakeholders, we identify and assess our impacts through a materiality assessment process. The latest one was carried out in autumn 2021. Listening to our stakeholders is crucial when identifying our focus areas and we continuously hold main stakeholder dialogues through our regular channels. Topics that stakeholders considered being most material

are presented on [page 30](#). NCAB's most material sustainability topics are presented as focus areas in NCAB's sustainability strategy (see [page 10](#)). For each focus area, long-term objectives and measurable goals are set. The sustainability strategy was reviewed and approved by NCAB's management team and the Board in February 2022.

In this report, targets and descriptions can be found for most focus areas.

## CLIMATE ACTIONS IN FOCUS

Climate change is an urgent global challenge and NCAB has a responsibility to manage topics related to climate impact. In close collaboration with our customers and suppliers, we aim to reduce greenhouse gas emissions in line with the 1.5 degree target of the Paris Agreement. Our value chain approach helps us to identify emissions in NCAB's

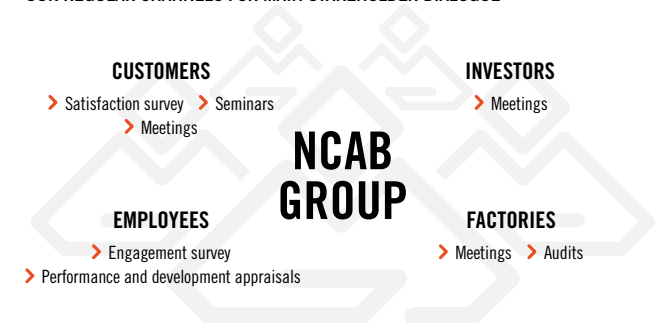
own operations as well as in our supply chain. Key areas of importance to reduce climate impact are energy usage in our main factories and NCAB's facilities, transportation, and business travel.

In 2021, for the first time, we mapped emissions throughout our value chain to enable us to prioritize actions and track yearly progress. We calculated emissions in both NCAB's own operations (scope 1 and 2) and in our value chain (scope 3) in accordance with the Greenhouse Gas (GHG) Protocol, Corporate Standard. In 2022 we extended our calculations to include emission data from waste (from own operations and PCB manufacturing), other purchased goods and services (internal consumables, outsourced IT server services), end-of-life treatment of sold PCBs, and energy consumption in external warehouses (included in transportation emissions). Scope 1 target specifies that all new company cars should be fossil-free by 2025, and the Scope 2 target is that at least 50 % of our offices and NCAB owned warehouses should use 100 % renewable energy by 2025 and 100 % by 2030. Our biggest impact is in Scope 3, which comprises 99.2% of our emissions in the reporting year. An overall Scope 3 target is to reduce emissions by half by 2030. Detailed targets and plans are still to be set, the focus will be on reducing emissions from PCB production and transportation, which are our largest emitters. You'll find information about our emissions (scope 1, 2, 3) on [page 13, 21, 27](#).

## ENVIRONMENTAL AND SOCIAL GOALS

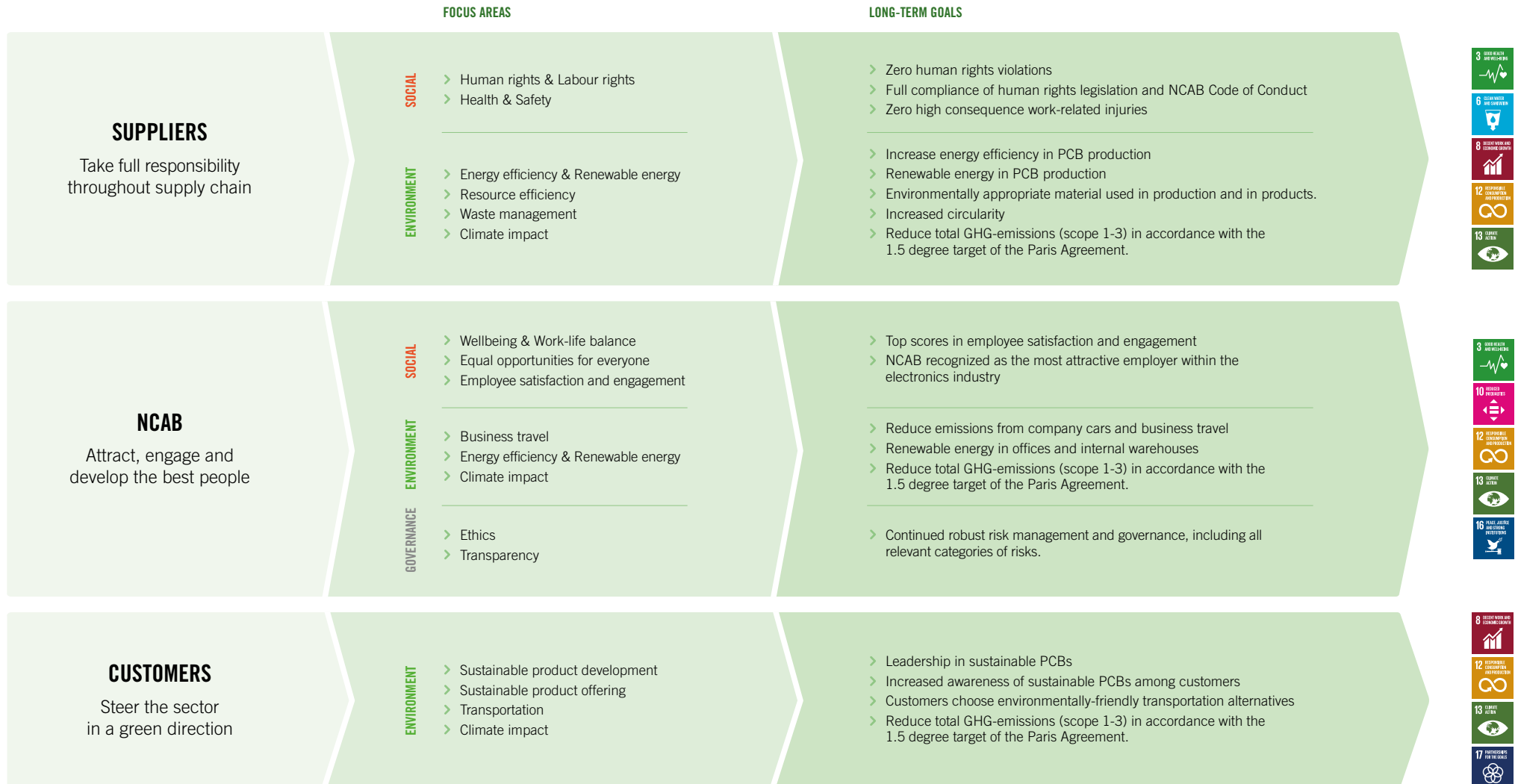
Because production of PCBs is outsourced, having a responsible supply chain is highly important to us. By requiring sustainable practices along our supply chain, we promote responsible management, safe working environment for factory workers and adherence to human rights & labor rights. But to deliver on our vision, we are also focusing more on our own as well as suppliers' environmental performance in the coming years. Read more about sustainability in our supply chain on [page 14-18](#).

## OUR REGULAR CHANNELS FOR MAIN STAKEHOLDER DIALOGUE



## NCAB GROUP SUSTAINABILITY STRATEGY 2022-2026

Together with our suppliers and customers we want to create a more sustainable industry with growth and profitability for all.  
We believe that strong relationships and transparency are key to achieving this.



## SUSTAINABLE DEVELOPMENT GOALS

NCAB's sustainability strategy is linked to the Sustainable Development Goals (SDGs), with the main contribution being to 8 out of the 17 goals (see page 12). In the strategy we illustrate how our prioritized sustainability areas from our materiality analysis is connected to the SDGs. The Global Goals, and its targets, serves as an important guide to develop our business in line with the direction the world needs to go to build a better future for everyone. For a full picture of the SDGs, please visit <https://sdgs.un.org/>.

## SUSTAINABILITY GOVERNANCE

The sustainability strategy is governed by the NCAB Group management team, with a clear division of responsibility for the different focus areas. The Group Sustainability Director is responsible for driving the overall sustainability work, such as sustainability strategy, policies (Environmental policy, Sustainability policy, Code of Conduct), and goals. Governing documents and policies are approved annually by the Board and the process owners are responsible for the implementation of policies.

Working in a responsible and sustainable way is a responsibility that all our employees take on. Sustainability is integrated into our business model and processes, with each process owner responsible for activities and for reporting on the progress made towards achieving their set goals.

Sustainability performance is monitored monthly and discussed at management team meetings. NCAB's COO is responsible for the quality management system, while NCAB Group, as well as contracted factories, are ISO 9001 and ISO 14001 certified to ensure all our processes are unified and of the highest quality. NCAB's sustainability work is also based on ISO 26000, an international standard that provides guidance on how businesses may operate in a sustainable way. Read more at: [www.iso.org](http://www.iso.org). NCAB has issued a social responsibility self-declaration, (SIS SP 2:2015), including external verification audits every third year, the next one is planned for 2023.

At Board level, the Chairman is responsible for ensuring that sustainability is on the agenda. Since sustainability is an integral part of NCAB's business, sustainability matters are discussed continuously at Board meetings. The Group Sustainability Director participates in Board meetings annually to follow-up on strategy and targets, but also to inform the Board about upcoming legislation, work done related to material topics (focus areas) and trends related to sustainability. In 2022, topics like climate impact and emissions throughout the value chain were discussed in Board meetings.

## SUSTAINABILITY RISKS

			Probability (P) Impact (I)	
Types of risk	Description	Management	P	I
Environment	NCAB's main environmental risks arise from the PCB manufacturers' resource use, chemicals and waste management, emissions to water and air, and contamination of soil. Another main area is transportation; most of NCAB's carbon emissions are caused by transportation from manufacturer to customer. NCAB largely uses air transportation as customers place high demands on quick deliveries.	NCAB has clear policies governing environmental work and assessing the risks and impact. NCAB imposes demands on, and monitors, that PCB manufacturers have identified and comply with local environmental demands and the RoHS and REACH directives. NCAB maintains close dialogue with customers and manufacturers about how the supply chain can reduce its environmental impact in the design and production phases. NCAB offers various transport alternatives (air, sea, rail, road), all with a different impact on the environment. The share of sea freight has increased through cooperation with customers.	● ●	● ●
Human rights	In its business, NCAB can be exposed to challenges involving human rights. NCAB operates in a global environment where certain markets limit insights into human rights.	The company applies a Code of Conduct that encompass suppliers and employees, that include support and respect for human rights. Amongst other things NCAB has a whistleblower function. NCAB has zero tolerance towards discrimination and harassment. NCAB employs working methods that provide systematic prevention and follow up, both internally and externally.	● ●	● ●
Social conditions	Shortcoming in efforts by NCAB and PCB manufacturers in work environment, health and safety, labour and work conditions may have adverse implications at an individual and company level.	NCAB imposes demands on, and monitors, that PCB manufacturers, and their own operations, have identified and comply with local requirements. The company applies Codes of Conduct that encompass suppliers and employees. NCAB employs working methods that provide systematic prevention and follow up, both internally and externally. A whistleblower function is available on NCAB's website, where any misconduct can be reported.	● ●	● ●
Corruption	Corruption is present in all countries and industries to varying degrees. NCAB and NCAB's suppliers are exposed to various ethical risks in their operations, including corruption, business ethics and bribery.	NCAB has procedures and processes in place to avoid and counteract bribery and corruption. In addition, NCAB employees and suppliers are trained using the Code of Conduct and through courses.	● ●	● ●

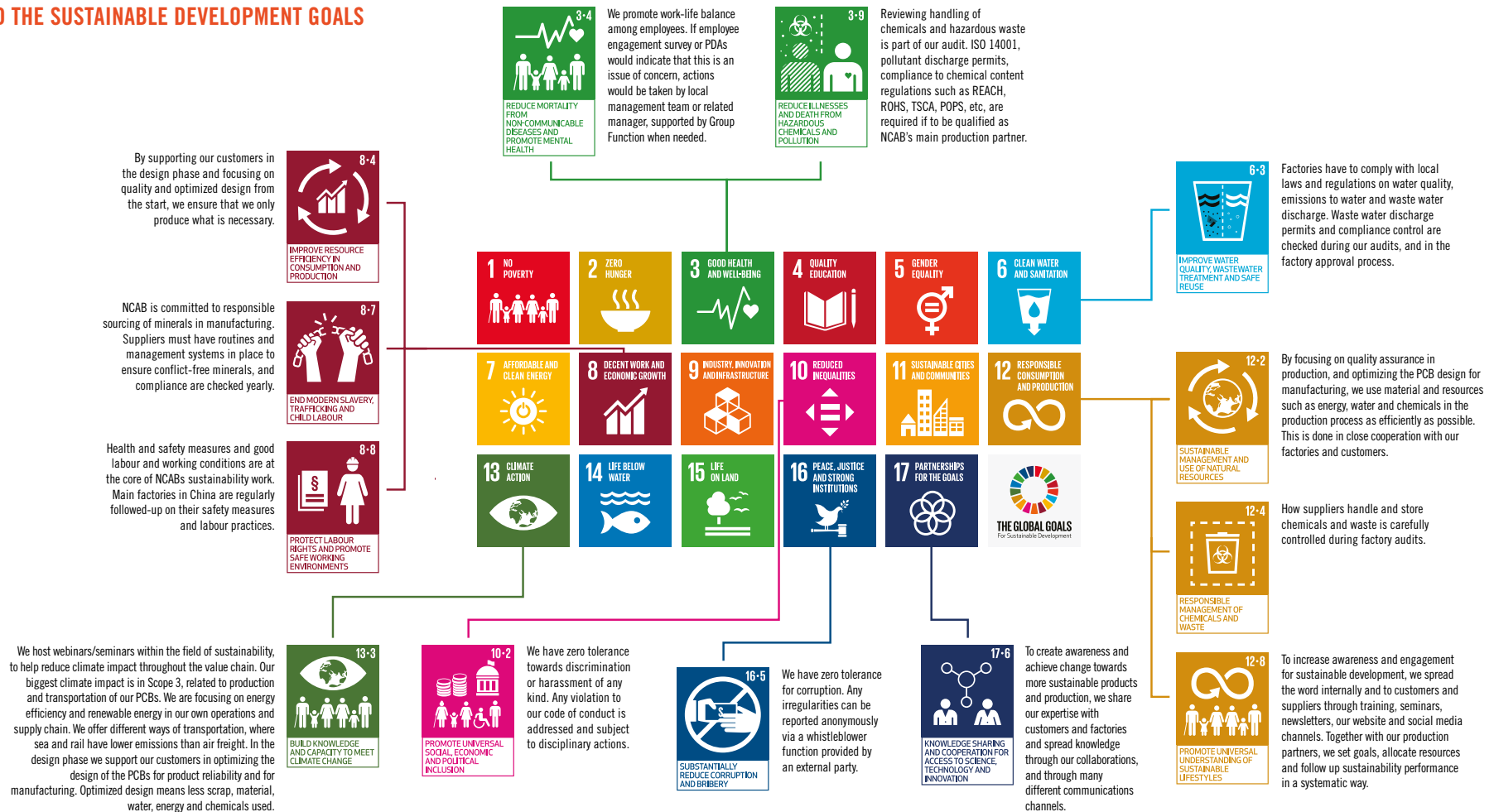
## WHISTLEBLOWING FUNCTION

Our focus is to create value for our stakeholders and to take responsibility throughout our value chain. We try to find opportunities to drive positive changes and reduce the negative impact in the various processes. If employees of NCAB Group or other stakeholders discover serious irregularities or misconducts that violate our Code of Conduct, they should feel confident that they can report this in a safe manner. Therefore, we have established a whistleblowing function, i.e. an external party that has the company's mandate to receive, anonymize and provide the case to NCAB Group's investigative function. The Whistleblower Service is powered by Interactive Security and NCAB Group encourages employees, customers, suppliers, business partners and others to report suspicious events to the Whistleblower Service at Interactive Security. Incidents reported to the whistleblowing function are, in turn, reported quarterly to the management team and to the Board. No incidents were reported in 2022.

## RISK IDENTIFICATION AND ASSESSMENT

Our approach to risk management has provided NCAB with a system that allows us to identify and understand emerging and existing risks, and to prioritize based on existing actions and the impact of the risk. This approach enables us to focus on the highest risks. The risk management process also forms part of our preparations for the annual business plan. This includes an analysis of trends, business opportunities, and risks at local company and Group level (SWOT). The aim is to enable us to anticipate and rapidly respond to any changes in societal, environmental and legislative demands. Each process owner is responsible for the ongoing evaluation, development and implementation of risk control methods and processes. The highest risks identified within each of NCAB's focus areas are presented in the table above.

## NCAB AND THE SUSTAINABLE DEVELOPMENT GOALS



## IDENTIFIED SDG TARGETS

**3.4** By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

**3.9** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

**6.3** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release

of hazardous chemicals and materials, increasing recycling and safe reuse globally.

**8.4** Improve progressively, through 2030, global resource efficiency in consumption and production.

**8.7** Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, by 2025 end child labour in all its forms.

**8.8** Protect labour rights and promote safe and secure working environments for all workers.

**10.2** By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

**12.2** By 2030, achieve the sustainable management and efficient use of natural resources.

**12.4** By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

**12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

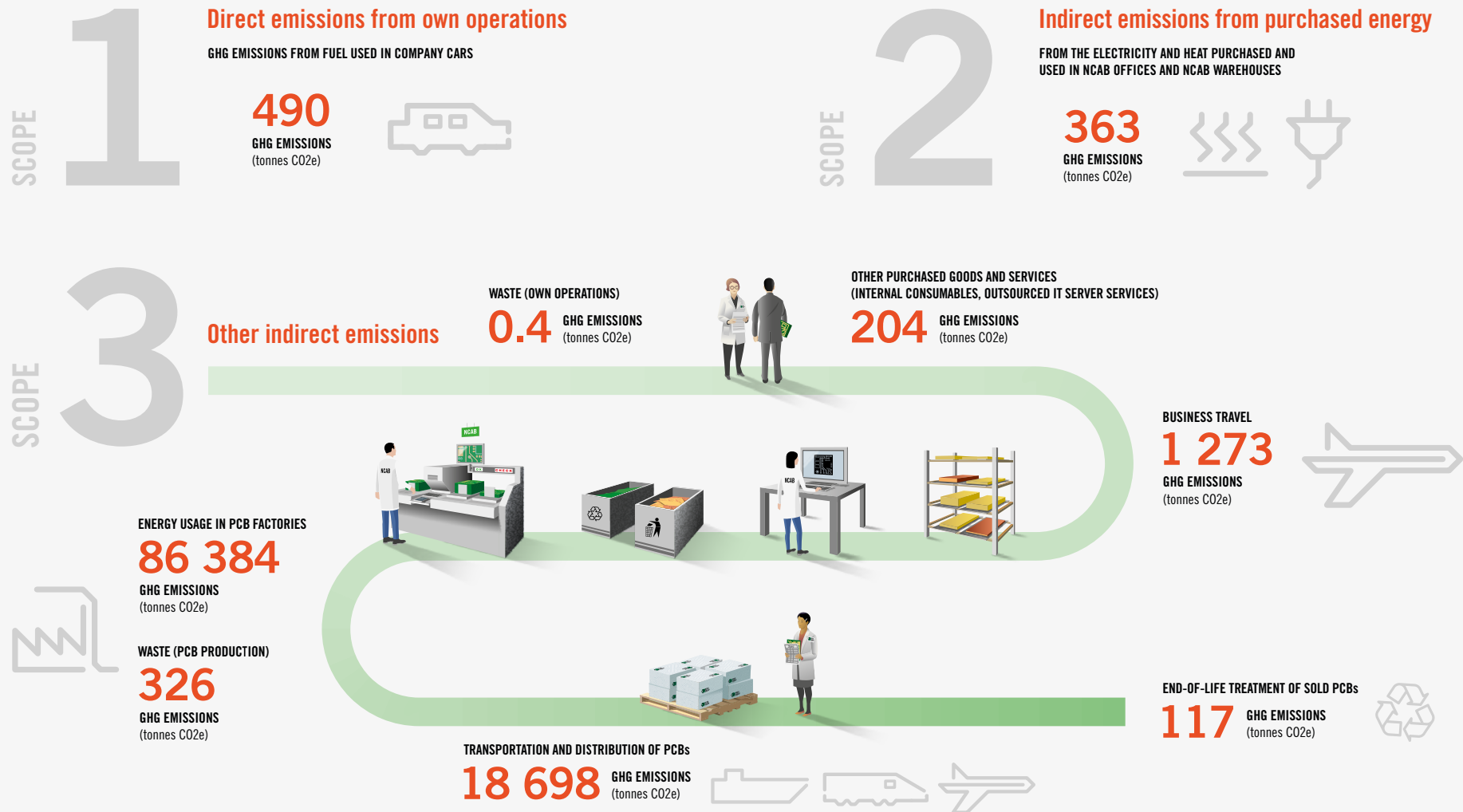
**13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

**16.5** Substantially reduce corruption and bribery in all their forms.

**17.6** Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation

and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism.

## NCAB GHG EMISSIONS 2022



**TOTAL SCOPE 1-3 107 855** GHG EMISSIONS (tonnes CO<sub>2</sub>e) **24.19** INTENSITY (tonnes CO<sub>2</sub>e/MSEK)

(2021 TOTAL: 92 404 tonnes CO<sub>2</sub>e 28.71 tonnes CO<sub>2</sub>e/MSEK)

More information on [page 27](#).



# Together towards sustainable production

We work closely with our long-term production partners to improve health, safety and working conditions and environmental responsibility in the factories.

## COMMITMENT

- Take full responsibility throughout the supply chain.

## MEASURABLE GOALS

- 100 % sustainability-audited and approved main factories in high risk areas.
- Continuously improved sustainability performance throughout the supply chain.
- Increased energy efficiency and use of renewable energy in PCB production.
- Environmentally appropriate material used in production and in products.

### OUR STRENGTHS

- Clear demands, strong relationships, close dialogue and cooperation, detailed sustainability audits.

### GREATEST RISKS

- Resource use, chemicals and waste management, emissions to water and air, and contamination of soil.

### GOING FORWARD

- Continue our sustainability audit programme, focus on energy efficiency and renewable energy, water consumption and waste management, and health and safety working conditions.
- Continue our quality audit programme, focus on efficient production processes and high quality products, for efficient resource use and reduction of waste.

Status December 2022 ● = not started/far from achieved ● = on track ● = completed/achieved

Waste water management is one of the checkpoints in our sustainability audits. Yvonne Qiu, Sustainability Manager - NCAB Factory Management China - together with colleagues Otis Xiao and Pandy Pan.



Solar panels on the roof of Jove factory, Jiangmen, China, from where they get ca 5% of their energy needs. In 2021, we started to collect data on our main factories' energy consumption and energy mix.

### NCAB'S SUPPLY CHAIN IN BRIEF

The factories we cooperate with are listed in our Preferred Supplier List (PSL). We divide them into Main, Spot and Special Project factories. 69%\* of our total spend is on the Main factories. These are located in China (17), in Europe (4), and in the USA (1). Since the highest sustainability risks, but also our strongest impact is in the main factories in China, these are the ones we focus on in our sustainability work. The 17 main factories in China include 30 NCAB approved manufacturing sites.

### OUR RESPONSIBILITY AS A GLOBAL COMPANY

NCAB Group is a global producer of printed circuit boards. Our vision is to be "The number 1 PCB producer wherever we are". This means that we must apply a responsible approach in everything we do; socially, environmentally and ethically, and we expect that from our suppliers as well.

We support the Principles of the UN Global Compact as well as the UN Guiding Principles on Business and Human Rights (UNGPR). Our commitment to respect human rights and to prevent and mitigate negative environmental impacts is defined in our Sustainability policy and Code of Conduct for Suppliers.

The most significant risks in our main factories in China are primarily related to occupational health & safety (especially handling of chemicals), human rights and labour rights and environmental impact. These risks have been identified during our audits and in dialogue with factory workers and factory management. Since growth is a priority for NCAB it is important to secure a fair screening process of new factories and ensure the implementation of environmental systems and guidelines related to human rights and labour rights when acquiring new companies and entering new markets.

Our approach to sourcing minerals and metals is in line with

the Responsible Minerals Initiative (RMI), including the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. Tin, tantalum, tungsten, gold and cobalt are on the list of minerals for which NCAB requests information from suppliers.

NCAB Group's suppliers shall support a preventive approach to environmental challenges and undertake initiatives to environmental responsibility. NCAB also encourages its suppliers to develop and apply environmentally friendly technologies. At a minimum, suppliers shall comply with all applicable environmental laws and regulations. In 2022 more focus was placed on working together with first tier suppliers on collecting data on generated waste and use of energy and water to enable to set climate related targets including improvement actions and plans for energy and water efficiency and reduction of waste.

\* Our share of total spend in the Main factories fell to 69% in 2022 compared to the previous year (73%). Part of our total spend goes to new factories used by our newly acquired companies. New factories linked to our acquisitions are categorised as Special Project factories, and are subject to evaluation for either approval and included in the Preferred Supplier List (PSL), or phasing out.



Yvonne Qui, Sustainability Manager and Otis Xiao, Sustainability Engineer at NCAB Factory Management China, are controlling the function of an emergency eyewash and safety shower station during the sustainability audit.

### HIGH DEMANDS IN THE QUALIFICATION PROCESS

We work with our production partners in long-term partnerships and put high demands on them.

As part of NCAB Group's qualification process, potential factories in China are audited on site for quality and sustainability performance. Once the cooperation agreement (including Code of Conduct) is signed, NCAB's sustainability team onboard the factory by providing training in sustainability matters to the specific factory's management.

Since 2020, the set of requirements and audits include requirements from the Responsible Business Alliance (RBA) Code of Conduct. The RBA Code of Conduct is widely used in the electronics industry and many quality managers and workers in the factories are trained on the requirements of RBA.

To be qualified as a Main factory, listed on NCAB's Preferred Supplier List (PSL), factories must:

- Sign and comply with our Code of Conduct for Suppliers, which is aligned with the Responsible Business Alliance (RBA) requirements.
- Pass our quality and sustainability audits
- Be ISO 9001 certified (quality management system)
- Be ISO 14001 certified (environmental management system)
- Report on conflict minerals and cobalt according to the frameworks provided by the Responsible Minerals Initiative (RMI) and follow the Responsible Minerals Assurance Process (RMAP)

- Comply with legislation covering raw material content (RoHS, REACH, TSCA, California Proposition 65, POPs (Persistent Organic Pollutants))
- Comply with local regulations covering social compliance and environmental impact

In 2022, 1 new factory and 4 manufacturing sites (within already approved factories) passed NCAB's sustainability audit as part of the approval process. After approval they were added as Main factories to the Preferred Supplier List (PSL).

### REGULAR AUDITS IN MAIN FACTORIES

To continuously improve sustainability performance, NCAB conducts audits in the Chinese main factories on a regular basis on site. The actual and potential impact of our production partners are assessed within the parameters of human rights, working conditions, health and safety, environment, and business ethics. All factories must have management systems in place designed to avoid any adverse impact on areas falling within these parameters and to ensure continuous improvements.

In 2022, we extended our set of requirements and audits, to adding requirements linked to environmental impact. For example suppliers now must report annually on the amount of non-hazardous waste and hazardous waste generated in the factories. Additionally, the suppliers are required to answer questions about whether they have set targets on climate reduction.

Sustainability audits of all main factories in China are conducted every other year. In between those periods, follow-up audits on specific improvement areas are carried out. Conducting regular audits enables us to get a clear picture of factories sustainability performance and clarifies what we need to focus on in each factory. In 2022 we conducted 17 full scope audits, (whereof 1 in a new potential factory and 4 in new manufacturing sites within already approved factories), and 10 follow-up audits.

China was still affected by the pandemic during 2022 with consequences such as restricted travel and temporary lock downs. Despite tightened audit schedules NCAB was able to fulfil the audit plan for 2022 and performed more audits compared to 2021.

## RISK ASSESSMENT AND KEY FINDINGS

### Occupational Health & Safety

Everyone has the right to a safe workplace. In our sustainability audits, we thoroughly review how chemicals are stored in factories and used in production. Common areas that we address include personal protection equipment (PPE), training on how emergency leakages can be prevented and handled, installation of illuminated evacuation signs, fire alarms and equipment, as well as fire drills and first aid preparedness.

Training and monitoring related to a safe workplace are performed regularly in the factories and severe accidents that occur are reported to local authorities in accordance with Chinese law. In 2022 the injury rate\* was reduced to 0.25% (52) from 0.38% (80), in our Main factories in China. Despite the many improvements that have been made within Health and Safety, this is an area where key findings are still being identified related to, for example, occupational health checks, incorrect use of personal protective equipment (PPE), missing emergency exits, evacuation signs and lack of fire-fighting equipment.

### Human rights & Labour rights

The most relevant human rights risks assessed in our audit processes are related to wages and benefits, working hours, discrimination, youth and child labour, freedom of association and forced labour.

We aim to align our risk-processes with the UN Guiding Principles for Business and Human Rights (UNGPR).

Within human rights & labour rights, many factories still lack solutions to handle overtime work. Even among those factories that have secured minimum wages, provide overtime payments, annual vacation and insurance payments, there is still room for improvements in factory processes and management systems.

### Conflict-free minerals

NCAB is committed to only use conflict-free minerals in the supply chain. The 3TG minerals (tin, tantalum, tungsten and gold) as well as cobalt must not be linked to violence and human rights abuses. Tin and gold are metals frequently used in the production of PCBs and cobalt is sometimes used when plated gold is specified. We require our factories to work exclusively with smelters that are compliant with the Responsible Minerals Initiative (RMI). We train our factories in how to apply the RMI audit scheme to control their supply chain. The supply chain is reviewed at least once a year, and when NCAB check routines and documentation on site in the audits.

\*Number of injuries divided by number of employees.

### Environmental responsibility

NCAB sets environmental requirements for production partners that cover handling of waste water and emissions to air, checking compliance to local law and that valid discharge permits are in place, handling of chemicals, and waste management. We measure and compare the factories' monthly yields against their targets in the production process. Deviations are followed-up through factory meetings, where among other things, measures for improvements are discussed. Our quality audits onsite is another important tool to find improvement areas for increased quality performance and efficiency in the production process. We also engage with our customers at an early stage to optimize the PCB design to reduce the amount of scrap, materials, chemicals and energy used in the manufacturing process.

Waste prevention and waste handling are core topics during factory audits. In 2022, we increased the focus on waste management and energy efficiency and the use of renewable energy. Data and improvement plans were collected to understand the situation of today, and will serve as basis for improvements to reduce environmental and climate impact.

Going forward we will also update the guidelines on energy and waste in our environmental policy in accordance with our sustainability strategy and set relevant targets.

### SUMMARY OF AUDIT FINDINGS

The main areas regarding non-compliance for the period of 2020-2022 are:

- Occupational Health & Safety: missing personal protective equipment (PPE) control.
- Human rights & Labour rights: exceeding working hours and below par social insurance for employees.
- Environmental responsibility: insufficient chemical management.
- Management systems: absence of policies and insufficient internal follow-up

No critical findings were recorded in any audit in 2022. We have not found any evidence of child labour in our audits, nor have we faced any cases of forced labour. Most of the non-compliance issues registered are related to the absence of policies and insufficient management systems to control risks. For detailed information on key findings and improvements see [pages 28-29](#).

### FOLLOWING UP PROGRESS

We regularly follow up progress made in factories on specific



The sustainability audit covers several areas, including "Occupational Health & Safety", where for example personal protection equipment (PPE), training on how emergency leakages can be prevented and handled, as well as fire drills and first aid preparedness are included.


issues that we've found in audits. Critical findings are followed up as soon as possible and major findings within six months. When non-conformances are found, a corrective action plan is agreed upon with the factory within two weeks after audit. NCAB conducted 10 follow-up audits in 2022.

### ENGAGEMENT BEYOND AUDITS

We want to work together with our production partners and share knowledge to reduce cases of non-conformance and improve their sustainability performance. We always aim to have long-term and trustful relationships with our factories and focus on supporting development of skills and competencies of factory employees responsible for social compliance, health and safety. We also ensure these topics are part of the workers' annual internal training plan.

# Our way of conducting audits

We make a point of having the audits conducted by our local employees. It helps us to get the true picture, put relevant demands on sustainability performance and collaborate effectively with our production partners.

 [Learn more on our website](#)

## HERE IS OUR AUDIT PROCESS, IN BRIEF:

Normally it takes two-three days to conduct the full sustainability audit, and one day to do the follow-up audit. Every audit is done on factory site and follows a detailed template consisting of six parts:

- > Management System
- > Human Rights
- > Labour and Working Conditions
- > Health and Safety
- > Environment
- > Business Ethics

In 2022, in total 17 full sustainability audits were conducted and 10 follow-ups. You can read more about key findings and improvements on [page 28-29](#).



### 1 OPENING MEETING

to explain the aim of the audit, why it is important, processes and how reporting is done. The meeting is attended by factory's management and sustainability representatives.



### 2 REVIEWING DOCUMENTS

and records covering policies, management systems, training plans and attendee lists, time sheets, payrolls, insurances, accidents/incidents reports, list of regulations etc.



### 3 FACTORY TOUR

where we check fire protection systems and equipment, emergency exits, personal protection equipment, hazardous chemical handling, hazardous waste handling, wastewater/air handling, the canteen, dormitory etc.



### 4 EMPLOYEE INTERVIEWS

focusing on obtaining a more in-depth picture of working conditions at the factory.



### 5 CLOSING MEETING

summing up the findings to give factory's management a clear picture of what they are expected to improve and why, and the steps they need to take after the audit.



### 6 AUDIT REPORT

includes results and findings for each of the six areas. Factory's management is given time to review the report and respond with corrective actions plan.



### 7 FOLLOW-UP AUDITS

on-site to review implementation and the result of the corrective measures within six months.



Roberta D. Reis, Account Manager at NCAB Group USA, one of our dedicated employees. Listen to her speaking about NCAB Group as a work place: <https://youtu.be/9uDR57xIK8o>

# Our employees our success

As a knowledge-based company, it is our employees who make us successful. The high engagement level indicates that our people like what we offer – a unique culture and a stimulating global environment, as well as possibilities for continuous learning.

## COMMITMENT

- Attract, engage and develop the best people.

## MEASURABLE GOALS

- Employee engagement, leadership, and team efficiency.
- Scope 1 – All new company cars to be zero emission from 2025.
- Scope 2 - 50% of all offices and internal warehouses to use renewable energy by 2025, and 100% by 2030.

### OUR STRENGTHS

- Our culture
- High level of engagement among our employees
- Global working environment

### GREATEST RISKS

- Failure to attract and recruit the right people and with technical competence in a competitive market.
- Maintaining corporate culture during growth.

### GOING FORWARD

- Empowering every individual to make decisions in line with our values.
- Maintaining a continuous learning culture.
- Reduce emissions from company cars and business travels.
- Increase energy efficiency and use of renewable energy in offices and internal warehouses.

Status December 2022 ● = not started/far from achieved ● = on track ● = completed/achieved



It is our people who make us unique. Maintaining a strong corporate culture while the company is growing is vital for us to continue attracting and retaining talents. Here, Bengt Boström, PCB Engineer, NCAB Sweden, is in conversation with some of his dedicated colleagues.

### MAINTAINING CORPORATE CULTURE WHILE GROWING

The NCAB Group is a global organization and grows both organically through recruitment, as well as through acquisitions. In 2022, we acquired Meta Leiterplatten (Germany) and Kestrel International Circuits (UK), and in November we signed an agreement to acquire Bare Board Consultants in Italy (transaction completed 10 January, 2023). In April NCAB's operations in Russia were divested to the Russian local management for 1 Rouble, making it possible for the employees in Russia to continue their work, but independent of NCAB Group. In total NCAB welcomed 112 new employees into the group in 2022, but also had to say goodbye to 46 colleagues in Russia. At year end we were 587 employees. In addition, there were 7 consultants working with us at the end of the year.

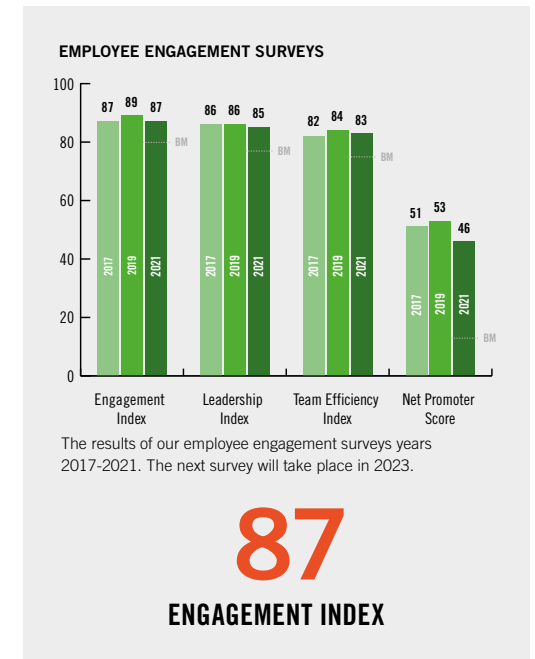
Maintaining a strong corporate culture while the company is growing rapidly is vital for us to continue attracting and retaining talents. Onboarding programmes, training sessions, global employee meetings and leadership programmes are all important parts in upholding strong corporate values and a collaborative culture across the markets. Even though restrictions were slowly lifted in Europe and in USA during 2022, most part of the meetings and programmes were still carried out remotely, enabling employees to participate regardless of geographic location.

### HIGH LEVEL OF ENGAGEMENT

Enabling a strong corporate culture and a high level of engagement among our employees are keys strengths within NCAB. Our employee engagement survey is conducted every second year and managers are responsible for communicating the results in their organisations and together with their teams take measures based on the survey result. The last engagement survey (2021) resulted in high scores despite a small drop in the indexes for engagement 87 (89), leadership 85 (86) and team efficiency 83 (84), with all three indexes standing out well above the benchmark (see table). The response rate was 97%. Questions about NCAB's culture and values, such as knowing overall goals and values, willingness to make an extra effort to succeed, and being free from discrimination achieved the highest scores (96-97). Topics receiving the lowest scores in the engagement index were related to stress and development opportunities. The next survey will be conducted in 2023.

### LEARNING AND DEVELOPMENT

NCAB is operating in a fast-developing industry. Therefore, learning and development is a constantly evolving process in the company. Through the NCAB Academy – a digital learning and development platform – all em-



ployees can access a range of digital courses online and complete them at their own pace. This facilitates the way for employees to continuously develop competencies. In 2022, two new NCAB Academy courses were launched: Level Up and Exploring Leadership.

In parallel with the NCAB Academy, other training is offered through online courses, clinics, and workshops. Training programmes are provided on a global level, by and with NCAB's own skilled people, tailored to the company's wants and needs. This year, employees participated in development programmes and courses, such as Sales Development Programme (inside and outside sales), Global Introductions, and Level up workshops. In 2023, we will start a Sales Tech Development Programme for our technicians and FAEs (Field Application Engineers), and an updated Leadership Development Programme will be launched. We are also looking to implement an updated Code of Conduct and ethics training.

NCAB has high ambitions to make a positive impact throughout the value chain and sustainability is deeply embedded in our corporate culture and a cornerstone of how we run the company. To spread further knowledge and raise awareness on sustainability topics throughout the organization sustainability is on the agenda at the global employee meetings, onboarding sessions and at the leadership forum. During 2022, sustainability coordinators were introduced, dedicated employees at the local NCAB companies, driving sustainability work locally. Going forward, the plan is to create an internal networking group to gather the local sustainability coordinators to share experiences and inspiration for further measures at local as well as group level.

### PERSONAL DEVELOPMENT APPRAISALS

The Personal Development Appraisals (PDA) contain an Individual Development Plan, which is a critical strategic tool that contributes to increased commitment and motivated employees. Managers hold PDA meetings and follow-ups yearly with employees to discuss goals, motivation, work-life balance, leadership, cooperation, development, as well as awareness and understanding of our Code of Conduct. 84 percent of the employees had PDA meetings in 2022.

### DIVERSITY AND INCLUSIVENESS

Diversity is important to NCAB Group - not only because it is appropriate, but also because, according to research, diverse teams comprising employees with different experiences and perspectives is sustainable in the long run and stimulates creativity and innovation.

We have zero tolerance towards harassment or discrimination of any kind, whether we are talking about unequal opportunities, sexual harassment or bullying on the basis of ethnicity, religion, gender, sexual orientation, political opinion, age, disability, or anything else.

To create awareness of our zero-tolerance policy towards discrimination and harassment, the topic is highlighted and discussed in global introductions and onboarding programs. Incidents can be reported to VP People & Culture via internal channels and anonymously via NCAB's whistleblowing function. No incidents were reported in 2022.

### ANTI-CORRUPTION AND WHISTLE-BLOWING

Being a global company, we are aware of the risk of corruption within our value chain. Corruption aggravates poverty in the world, undermines democracy and protection of human rights, damages trade and reduces trust in societal institutions and the market economy. Consequently, it is vital to counteract any form of corruption. NCAB Group's Code of Conduct includes zero tolerance for corruption. Business ethics and anti-corruption are important topics that are always discussed with new em-

DIVERSITY					
		AGE <30		30-50	>50
TOTAL	326 (304)	261 (258)		68 (53)	172 (137)
MD	17 (18)	0 (1)		7 (12)	10 (7)
MGMT TEAM	8 (8)	4 (4)		5 (6)	7 (6)
BOARD	6 (6)	2 (2)		0 (0)	8 (6)

EMPLOYMENT					
PERMANENT		FULL TIME (100%)		TURNOVER	
98.8% (98.6%)		93.5% (95.7%)		12.7% (6.2%)	
M 321 F 259		M 315 F 234			

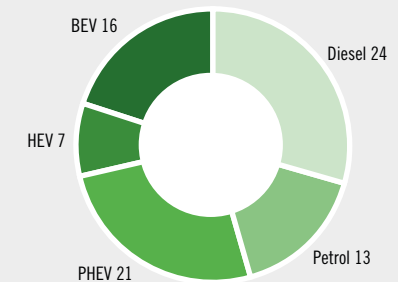
All data per December 31, 2022, and 2021 data in parantheses, in headcounts.

ployees at the Global Introduction, led by our CEO. Our Code of Conduct is also part of the agenda at the Personal Development Appraisal (PDA) meetings. NCAB's whistleblowing function is available for customers and other stakeholders to use to report any irregularities that may violate our Code of Conduct or laws. The service is provided by an external party, which means that reports can be sent in anonymously. Concerns are handled by the VP People & Culture and reported to the Group Management Team and to the Board. During 2022, no incidents were reported.

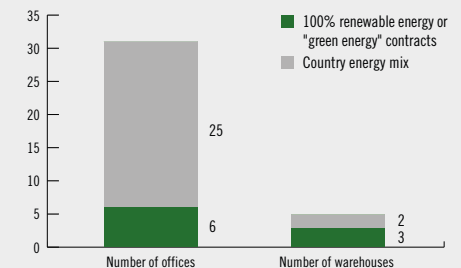
### ENVIRONMENTAL RESPONSIBILITY IN OWN OPERATIONS

To reduce climate impact in our own operations we focus on increasing energy efficiency and using renewable energy in offices and internal warehouses. During 2022 new targets were set to reduce climate impact from own operations. The targets state that all new company cars shall be fossil-free by 2025 (scope 1), and renewable energy will power no less than half of our premises (offices and internal warehouses) by 2025, and by 2030 all premises will operate on renewable energy (scope 2). In 2022, 16 of 81 company cars were electrical (BEV), see graph. With regard to energy, 25% of NCAB premises run on 100% renewable energy or have "green energy" contracts, this covers 41% of our total electricity consumption, see graph. Going forward, we will look into how to reduce emissions from our business travel, and update the guidelines on energy use and waste in our environmental policy, in accordance with our sustainability strategy, and establish appropriate targets. Read more about GHG emissions in scope 1-3 on [page 27](#).

#### COMPANY CARS (SCOPE 1)



#### ELECTRICITY SOURCES (SCOPE 2)



## Scope 1

All new company cars to be zero emission from 2025

## Scope 2

50% of all offices and internal warehouses to use renewable energy by 2025, and 100% by 2030

## Next Level and Collaboration

We know that when we meet and share – thoughts, opinions, ideas, feedback, challenges and successes – real magic happens. In 2022, we finally could meet again – all employees were invited to our global conference NCAB United under the theme of “Next Level”. Employees participated – live or online – and focus was set on building strong relationships and level up. During the conference we hosted four workshops Successful customers, Combat climate impact, New technologies, and Exploring, and other team-building activities.

Like previous years all colleagues were also invited to the NCAB Group Live event – online – broadcast live from Stockholm, Sweden. This time the theme was “Collaboration – Together we are stronger”. A mix of interviews with new members of the NCAB Group around the world, colleagues sharing greetings, success stories, videos and photos, to inspire each other to collaborate across borders and functions.

Our Global Conferences provides a massive motivational boost, and unites us as a global company.



*USA - Team Southeast (Florida)  
cleared local beaches from garbage.*

**“It is very satisfying to know that our few hours of volunteer work has helped to produce over 3000 meals.”**



*USA - Colleagues from New Hampshire  
helped out at a food bank sorting  
and packing food donations.*



*Netherlands - Team Benelux  
helped with renovating outdoors and organizing  
food storage at an animal shelter.*



*Finland - Teamu supported and cheered  
the kids on School Run Day - a charity run  
raising money for critically ill children.*

## Give Back Day

Since 2018, all employees are given one working day per year to spend on any non-profit activity of their choice – a Give Back Day. We know that giving makes people happier, and we are convinced that this day is not only an opportunity for joy and wellbeing, but also inspires us and others to give back to society. In 2022, colleagues around the world gave back in many different ways; cleaning beaches from garbage,

clearing areas for a future disabled veterans' home, contributing to an animal shelter by renovating outdoor and organizing food storage, helping out at a food bank sorting and packing food donations including reestablishing garden beds and planting seeds, supporting and cheering the kids on School Run Day – a charity run raising money for critically ill children, donating blood, first-aid training for employees.



Jan Pedersen, Director of Technology at NCAB Group, during a seminar in NCAB Group's booth at Electronica 2022.

# Sustainable products through close cooperation

Working together with both customers and factories, we make high quality PCBs, focusing on sustainability, by selecting the right factory for each project. For a more sustainable design we look to engage with our customers in the product development phase.

## COMMITMENT

- Steer the sector in a green direction.

## MEASURABLE GOALS

- Top scores in customer satisfaction including sustainability.
- Continuously reduce our environmental footprint.

### OUR STRENGTHS

- Systematic work with sustainability and quality issues, close relationships and dialogue with customers and factories, PCB technology and manufacturing knowledge and experience.

### GREATEST RISKS

- Environmental impact through transportation.

### GOING FORWARD

- Continued quality work in the factories, and cooperation with customers for optimized design of the PCB to reduce environmental impact through reduced waste and resource use in production.
- Actively promote sustainability as part of our offer, supporting customers in their sustainable development.
- Examine and assess transport flows and more actively offer different transportation alternatives for reduced environmental impact.

Status December 2022 ● = not started/far from achieved ● = on track ● = completed/achieved



NCAB has a close dialogue with key customers to continuously gain more knowledge on how we as a global PCB producer can support them in their sustainability journey. Chris Nuttall, Chief Operations Officer at NCAB Group (middle), in conversation with visitors to NCAB's booth at the Electronica exhibition 2022.

### SUSTAINABLE PCB OFFERING

Sustainable development is not something we can achieve alone – we need to work together with our customers and suppliers to reduce the environmental impact of the PCB. Together with our customers we can develop PCBs that provide environmental and economic benefits over the whole life cycle while protecting people's health and rights.

NCAB maintains a close dialogue with key customers to continuously gain more knowledge on how we as a global PCB producer can support them in their sustainability journey, on issues such as sustainable supply chain, reducing greenhouse gas emissions and using more environmentally friendly material.

### HIGH SCORES IN CUSTOMER SATISFACTION SURVEY

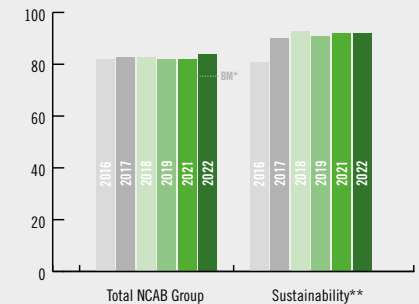
We manage and follow-up customer satisfaction in close dialogue with our customers. Our customer survey for 2022, with over 900 responses, a response rate of 22%, resulted in a high customer satisfaction index of 84

(82 in 2021) and showed that our greatest strength lies in our high level of technical expertise and quality of PCBs, our high service level (easy to do business with NCAB) and our ability to deal with quality issues in a good way. Areas that received lower scores relate to visiting frequency and prototype offer. Our next customer satisfaction survey is scheduled for 2023.

### SUSTAINABILITY STARTS IN THE DESIGN PHASE

Sustainable product development starts already in the design phase and we support our customers in their design of the PCBs. It is important to ensure that the design is as robust as possible, without compromising any level of functionality or building-in any unnecessary complexity, to avoid pitfalls later in the production process. Focus on quality means optimized manufacturing as well as reliable circuit boards which last in the field. But doing it right the first time round not only relates to quality, it is a mind-set that also reduces environmental impact. We know that optimized design means less scrap, less waste, less energy and water,

#### CUSTOMER SATISFACTION INDEX

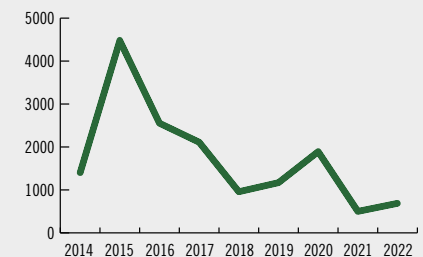


\* Benchmark - average result among other companies using the survey.

\*\* No benchmark for Sustainability, as this is a specific NCAB question in the survey.

Next survey is scheduled for 2023.

#### QUALITY STATISTICS - DEFECTIVE PARTS PER MILLION (PPM) PRODUCED



and smaller volumes of chemicals used in production.

In 2022, we established an internal Technical Council (TC), headed by our Director of Technology. The TC includes different focus groups, involving about 60 colleagues globally. These focus groups serve as experts on technology and industry requirements and development, to ensure that our tools, practices and knowledge are sufficient to support and add value to our customers. This also includes developing more sustainable PCBs, that use for example more environmentally friendly materials and take into account the circularity aspect.

### HIGH QUALITY PERFORMANCE

Quality management has been important for the NCAB Group for many years. We always work directly with the factories which produce our PCBs and we see them as long-term partners. Being present on site where we monitor and consult our factories is vital for quality in production. We share our knowledge with factory workers and continuously work to improve processes and enhance on-site factory management. A well-defined process for identifying and evaluating potential factories helps us to select the best factories suited to the technical and commercial requirements of each specific customer product. Read more about how our factories are [evaluated](#).

In 2022, the total ratio of defective parts per million produced PCBs increased from a final figure of 500 in 2021 to 688 in 2022 (target 2022: 1000 ppm). Quality performance (measured per order line) result in 99.6%, same as in 2021, which is better than our target (99.3%). Because of disruptions in the production and supply chain due to the pandemic, we were unable to meet our delivery precision target of 97%, still delivery precision rising from 92.7% in 2021 to 94.6 % in 2022.

### SHARING KNOWLEDGE TO INFLUENCE THE SECTOR

NCAB Group runs a variety of different seminars and webinars with the aim of improving quality, reliability, costs and resource use by optimizing the design to suit the production processes. We also share experiences and knowledge about risks and opportunities in the PCB world and in supply chains. We also aim to not only influence our customers but steer the sector in a green direction. In 2022, we hosted 26 webinars and seminars with around 1500 people attending from many different markets. The webinars covered a range of PCB topics, from design for manufacturing, technology trends in the global PCB industry to design tips, new technologies, sustainability, to technical advice. The webinars and seminars make it clear for us that customers want us to share our knowledge of for example new technology, legislation, and sustainability. Our tools and design guidelines for different types of PCBs can be [downloaded](#) from our website. We also communicate and share our knowledge through our social media channels, [newsletters](#), and [website blog](#).

### GETTING READY FOR THE FUTURE

Internet of Things (IoT) and artificial intelligence (AI) in combination with increased data transfer rates available through 5G, will open a whole new level of connectivity and communication between devices and things. As more and more products are developed in pace with these technical trends, the need for more complex PCBs will increase too. This means that technology looked upon as cutting edge today, will become standard technology tomorrow.

That is why our more technologically advanced production partners are gearing up to ensure that they will be positioned to support higher complexity, greater structures, such as any layer builds, finer pitch and occasionally different materials. This will lead to demands for new equipment, new raw materials and production lines taken to the next level. NCAB keeps a close eye on the factories' development plans and approve new technology when we know the processes are stable and proven in terms of producing end-product that meets our customer demands.

Looking ahead, we have decided to add Ultra HDI PCBs to our portfolio. Factories that can produce this new type of PCB have been identified. Going forward, Ultra HDIs will generate less waste, scrap and materials when produced.

### WE OFFER LOW CARBON TRANSPORTATION ALTERNATIVES

A major part of our greenhouse gas emissions arises when shipping products by air from Hong Kong to Europe and the USA. Sea and rail transportation modes are both cheaper and result in lower emissions, but due to demands for short lead times, customers still mainly choose the air alternative. We have chosen transportation partners with ambitious targets to reduce their greenhouse gas emissions.

In 2022, 57.3 % (54.2% in 2021) of shipments were by air, 42.7% (43.2% in 2021) by sea, 0.0% (2.4% in 2021) by rail, and 0% (0.2% in 2021) by

Emission	2020			2021			2022		
	t* CO <sub>2</sub> e	t* GOODS	kg CO <sub>2</sub> e/kg GOODS	t* CO <sub>2</sub> e	t* GOODS	kg CO <sub>2</sub> e/kg GOODS	t* CO <sub>2</sub> e	t* GOODS	kg CO <sub>2</sub> e/kg GOODS
Air	10 363	1 851	5.60	16 722	2 726	6.14	18 056	3 159	5.71
Sea	126	1 175	0.11	309	2 172	0.14	306	2 353	0.13
Rail	50	198	0.25	44	120	0.37	0.08	0.27	0.29
Truck	N/A	N/A	N/A	9	13	0.70	N/A	N/A	N/A
<b>Total</b>	<b>10 539</b>	<b>3 224</b>	<b>3.27</b>	<b>17 085</b>	<b>5 031</b>	<b>3.40</b>	<b>18 362</b>	<b>5 513</b>	<b>3.33</b>

Emissions from our transportation activities, main part from Hong Kong to our warehouses in Europe and the USA, including shipments from factories in Taiwan, Europe and USA. \*t - tonne. Year 2020 data TtW (Tank-to-Wheel), from year 2021 changed to WtW (Well-to-Wheel).

truck. Most of the goods are shipped from Hong Kong. The figures also include PCBs shipped from factories in Taiwan, Europe and USA. The total tonnage shipped increased by 9.6 % compared to 2021. Rail transportation was limited by the war in Ukraine, and cargo capacity and lead-times were also still being affected by the pandemic. The truck option was only used in 2021 by NCAB Russia, shipping from China to Russia.

To lower greenhouse gas emissions in the short-term, NCAB engages with both customers and supply chain to educate them about the impact on the environment from different transportation modes and encourages them to choose the low-carbon shipment alternatives. Going forward we will also continue to consolidate our shipping routes; evaluate how we pack containers more efficiently and set measurable targets as benchmark.

#### CARGO WEIGHT (%) SHIPPED BY:

**57.3%**  
(+3.1% Units)  
**BY AIR**

**42.7%**  
(-0.5% Units)  
**BY SEA**

**0.0%**  
(-2.4% Units)  
**BY RAIL**

# Appendix

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# Climate report

NCAB's ambition is to reduce the climate impact of our own operations as well as emissions in the supply chain.

This is the second year that NCAB measures emissions covering all three scopes (1-3) according to the GHG protocol standard. Data collected and included in the calculations are described below and the results are presented in the table. Since 2022, NCAB disclose data to CDP.

NCAB's reported emissions are quantified based on the methodology of the Greenhouse Gas (GHG) Protocol Corporate Standard. In 2022, calculations of NCAB's emissions in its own operation (scope 1 and 2) corresponded to 853 tonnes CO<sub>2</sub>e and in the supply chain (scope 3) 107 002 tonnes CO<sub>2</sub>e. Scope 3 emission categories included in the calculations are described in text and in the table below. The calculations of climate emissions are based on data collection from internal sources. 19 different functions within NCAB Group local companies and Factory Management team were participating in the gathering of data. External data was collected from sources such as our production partners, who provided data on energy consumption and waste in the PCB manufacturing, and logistic partners who provided information about transportation and warehousing. Whenever possible, primary data sources have been used. When specific data was not available, screening calculations of emissions was performed, using standard estimates and generic data.

**SCOPE 1** includes direct emissions from own operations. For NCAB, this means GHG emissions from fuel used in company cars. Data was collected on Diesel, Petrol and HVO company cars. Calculation emissions for company cars in scope 1 are based on estimated fuel consumption and emission factors for petrol- and diesel driven cars.

**SCOPE 2** includes emissions from indirect energy from electricity and heat purchased and used in NCAB offices and NCAB owned warehouses. Local NCAB companies were asked to account for the purchased electricity, district heating or other heating sources used in NCAB offices and owned warehouses. The emissions were calculated based on emission factors for each country where NCAB offices and NCAB owned warehouses are located. The type of electricity purchased was also taken into account, which involved

including contracts for renewable energy in the calculations. Heating for three of our offices comes from the combustion of natural gas, as part of the heating solution of the building housing our offices.

## Location based emissions:

The climate impact of purchased electricity was calculated by multiplying the kWh of purchased electricity with the emission factor for the energy mix in each country (sources: AIB\* (for all except the following); UNFCCC\* (North Macedonia, China, Malaysia, Taiwan), EPA\*(USA)).

## Market based calculations:

**Non-renewable electricity:** The climate impact of purchased non-renewable electricity was calculated by multiplying the kWh of purchased electricity with the emission factor for the residual mix in each country (source: AIB\* for all except the following, where residual mix data were not available, instead used the UNFCCC\* for North Macedonia, China, Malaysia, Taiwan, USA).

**100% Renewable:** The climate impact of purchased 100 % renewable electricity was calculated by multiplying the kWh of purchased electricity with the emission factor from the EPD (Environmental Product Declaration) standard of Swedish hydropower from Vattenfall. This EPD was used to represent 100 % renewable energy.

**SCOPE 3** includes data representing the manufacture of PCBs, transportation and business travel (like last year), additional data for this year relates to waste in own operations and from PCB manufacturing, other purchased good and services (internal consumables, and outsourced IT server services), and end-of-life treatment of sold PCBs. The energy consumed in the manufacture of the PCBs represents the largest part (81%) of the greenhouse gas emissions in scope 3. The energy consumed in manufacturing was collected directly from the main factories in China, covering 77% of NCAB's total spend in China. The data was extrapolated to cover 100% of manufacturing in China, which stands for 85% of NCAB's total spend. Included in 2022 is the energy consumed in the main factories in Europe, USA and Taiwan. Data received from these factories account for 15% of total spend. GHG emission calculations were based on average country electricity grid emission factors (source: UNFCCC\*). Transportation of the PCBs accounts for the second largest emissions. The scope of the calculations

covers transportation of PCBs sourced by NCAB, outsourced warehousing and "last mile". The majority of the reported emissions from transportation are based on data reported by logistic service providers, with a smaller part being extrapolated. Outsourced warehousing is based on energy consumption data from the service provider. Waste data (own operation) is collected from the NCAB local companies, waste data (PCB production) is collected from Main factories in China, both including hazardous and non-hazardous waste. In 2022 we didn't include the following in the scope 3 calculations: emissions from mining and production of raw materials that are sourced and used in the PCB manufacturing, and emissions from the use of sold PCBs.

GHG Emissions (tonnes CO <sub>2</sub> e)	2022	2021
<b>Direct GHG Emissions (scope 1)</b>	<b>490</b>	<b>175</b>
Company cars	490	175
<b>Indirect GHG Emissions (Scope 2)*</b>	<b>363</b>	<b>390</b>
Facilities energy usage (Market based)	363	390
<b>Other indirect GHG Emissions (scope 3)</b>	<b>107 002</b>	<b>91 839</b>
Business travel	1 273	150
Transportation and distribution of PCBs	18 698	17 085
Energy usage in PCB factories	86 384	74 604
Waste (own operations)	0.4	No data.
Waste (PCB production)	326	No data.
Other purchased goods and services (internal consumables, outsourced IT server services)	204	No data.
End-of-life treatment of sold PCBs	117	No data.
<b>Total (scope 1-3)</b>	<b>107 855</b>	<b>92 404</b>

\*Facilities energy usage (Location based) 383 CO<sub>2</sub>e tonnes. Not reported in 2021.

GHG emissions intensity (tonne CO <sub>2</sub> e/MSEK)	2022	2021
Scope 1	0.11	0.05
Scope 2 (Market based)	0.08	0.12
Scope 3	24.00	28.53
<b>Total (scope 1-3)</b>	<b>24.19</b>	<b>28.71</b>

Greenhouse Gas (GHG) Emissions are calculated as carbon dioxide equivalents (CO<sub>2</sub>e). CO<sub>2</sub>e is defined as the amount of a particular GHG, expressed as the amount of carbon dioxide that gives the same greenhouse effect. CO<sub>2</sub>e figures includes the following GHG gases: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs and PFCs. NCAB reports GHG emissions according to the GHG protocol.

# Key findings and improvements 2022

Since 2017, NCAB has conducted sustainability audits in a systematic way, and auditing is a well-established work method for both NCAB and the factories. Below are some examples of what improvements our audits have contributed to during that period, and what challenges remain.

## MANAGEMENT SYSTEMS

### Areas of assessment:

Management systems and implementation (ISO45001, ISO14001, QC080000, SA8000, RBA standards), policies, goals, governance, implementation, action plans. Roles and responsibilities. Training. Communication and awareness. Audit and non-conformity handling. Compliance with legal and customer requirements. Supplier and sub-supplier assessment.

### Improvements 2017-2022:

- Policies for sustainability including social accountability, health and safety, and the environment have been set up.
- Goals and targets for sustainability established, as well as actions to achieve these goals.
- Improved risk-management systems.
- Training programmes introduced for all employees.
- Improved law compliance process.
- Greater awareness among factories of SA8000 and RBA (Responsible Business Alliance) standards through external training.
- Factories have at least one person trained in SA8000 or RBA.
- Potential factories are evaluated starting from the sourcing project.
- Dedicated team in the factories being developed.
- Management system review and internal audits regarding EHS.

### Key findings to be resolved:

- Management system review and internal audits regarding Social Accountability (4/27)\*.
- Systems/routines for overall sustainability work need to be fully developed to avoid risks of non-compliance to local regulations and NCAB's requirements. (3/27)
- Employees not fully trained with further training required. (4/27)

- Comprehensive management including procedure and audit checklist, CAP follow up for sub-suppliers (6/27).

## HUMAN RIGHTS

### Areas of assessment:

Human rights impact/risk assessment. Human rights policies. Humane treatment. Discrimination. Responsible sourcing of minerals.

### Improvements 2017-2022:

- Lessened risk of discrimination and abuse.
- Improved process and knowledge for better follow-up of conflict-free minerals in supply chain.
- Cobalt is included in conflict mineral investigations.
- Improved procedures for complaints from employees without fear of retaliation.
- Factories no longer levy fines (affecting salary) on their workers if they fail to comply with the factories' work rules (eg, arrive late for work).

### Key findings to be resolved:

- Some factories still levy fines (affecting salary) on their workers if they fail to comply with the factories' work rules (eg, arrive late for work), a few factories still need to update their procedure documentation (3/27).

## LABOUR AND WORKING CONDITIONS

### Areas of assessment:

Labour & Working Conditions impact/risk assessment. Forced labour and freedom of movement. Child labour/Young employees. Working Hours. Wages and benefits. Freedom of association.

### Improvements 2017-2022:

- Procedures in place to make sure no child labour or forced labour occur in the supply chain.

- Factories now implement comprehensive procedures for young employees including regulated work time, no night shifts, no work with harmful processes to prevent negative effects on the health of young personnel and improve safety.
- Procedures in place to calculate correct times and salary for overtime work.
- Procedures now clearly stipulate that employment contracts must be signed within one month from the first day of employment and salaries accordingly paid to comply with the local law.
- Amended employment contracts to secure that overtime work, medical insurance and pensions are correctly calculated and paid as required by law and from the start date of employment.
- One of our sourcing approval projects was put on hold due to unpaid factory worker insurances. No contract was signed until the factory paid the insurances.
- Procedure in place to make sure permanent employment contract are signed by employees as stipulated by law, with personal file statistics kept for all employees in line with applicable regulations.
- Temporary workers' benefits and salaries are applied in accordance with applicable regulations.
- Employees can resign their job as stipulated by law: with 3 days notice during their probationary period, and 1 month after their probationary period.
- Improved procedure for employees leave without prior notification to the factory.
- One of the sourcing approval projects was on hold until the employees' overtime compensation was correctly worked out.
- Salaries are arranged at least monthly.
- Five insurances have been bought for employees in accordance with law.
- Sufficient management of young workers' working hours, night shift restrictions, dangerous working positions, occupational sickness checks.

### Key findings to be resolved:

- Insufficient management of young workers' working hours, night shift restrictions, dangerous working positions, occupational sickness checks.

\* Number of manufacturing sites still need improve out of total audited sites.

- Overtime hours exceed the local regulations (common issue in all industries in China).
- More overtime during peak seasons and before/after Chinese New Year due to shortage of workers. (8/27)

## HEALTH AND SAFETY

### Areas of assessment:

Health and safety impact/risk assessment. Occupational safety training and competence. Accidents, incidents and injury. Medical treatment and first aid. Machine safety aids. Personal protective equipment. Chemical exposure. Physically demanding work. Workplace noise, temperature and light. Emergency preparedness and control. Fire alarms, emergency exits, firefighting equipment. Inspections by fire authorities. Workplace hygiene and cleanliness. Dormitories and canteen. Rainstorm/sewage monitoring. Occupational health checks.

### Improvements 2017-2022:

- Improved risk assessments and related actions included in the audit process in order to minimize risks in the storage and production process.
- Procedures in place and better management regarding handling hazardous chemical and hazardous waste.
- Ability to manage all necessary calibrations for special equipment with qualified training implemented to avoid health and safety accidents/incidents.
- Correct classification for hazardous waste, collecting and storage, based on applicable regulations.
- Improved accident/incident handling processes and follow up actions to avoid similar injuries happening again.
- Improved routines covering Personal Protective Equipment (PPE) including PPE configuration, distribution, control of expiry dates.
- Improved chemical management, including storage in warehouse and production areas.
- Increased training in the high-performance factories.
- More dialogue with factory top management, drawing attention to the importance of sustainability issues.
- Broadened knowledge about health and safety risks and labour rights among factory workers.
- Improved root cause analyses and follow-ups of incidents.
- Improved routines for canteen monitoring with canteens

needing authorization to handle, cook and serve food, and food samples required to be retained 48 hours after being served, training for canteen employee to prevent transmission of communicable disease also included.

- Improved first aid procedure, at least one first aider on site available both on day and night shifts, direct access to ample quantities of first aid equipment, on the production line or nearby, same conditions apply to the dormitory and canteen.
- Improved firefighting system, fire extinguishers not to be placed directly on the floor, emergency exit door to be free of any obstructions, fire hose, fire hydrant, fire protection snap connections, fire nozzles, fire hose reel etc. equipment regularly checked and kept in good condition.
- Improved emergency exit/lighting, or evacuation signs placement on site, with regular checks and records being kept in aisles and stairways.
- Fire drills to be conducted both day and night times, with particular consideration taken to persons with special needs.
- Factory geography to be included as another key factor when planning emergency preparedness, this includes preparedness for confined spaces.
- Occupational health checks are undertaken on certain designated workers prior to and during a posting, as well as when a transfer is effected.
- Safe drinking-water testing procedures and test reports in place.
- Improved warning signs on site, for example; electric shock warning, confined space warning, machine safety warning.
- Materials/carton stored correctly and secure on site (stability, height, width) in production area and warehouse.
- Improvement of factories' dedicated team for on-site monitoring beyond NCAB governance.

### Key findings to be resolved:

- Improve workers' awareness in use of the provided Personal Protective Equipment (PPE) (8/27).
- Insufficient chemical management on site; missing second container usage for chemicals in production line and in chemical lab (9/27).
- Correct occupational hazardous notification cards to be set up in clearly visible locations (10/27).

## ENVIRONMENT

### Areas of assessment:

Environmental impact/risk assessment. Environmental policy. Environmental permits and reporting. Resource use. Production content restrictions. Chemical handling. Waste handling. Emissions into water, air. Noise pollution. Ground contamination. Rainwater drainage.

### Improvements 2017-2022:

- Better control to ensure the factory has updated and valid pollutant discharge permit and compliance control in place.
- Factories have identified and are following environmental requirements, including ROHS, REACH, POPs, TSCA, PFAS, California Prop 65 and customer requests.
- Noise level within the factory perimeters are tested yearly and comply with regulations.
- Improved hazardous waste management, including collecting and storage.
- Procedure on rainwater/sewage discharge monitoring and statistic recording.
- Monitoring of the external parties who handle the hazardous wastes, eg., driver license/routines.
- Non-hazardous waste collecting, storage and handling.

### Key findings to be resolved:

- Valid Material Safety Data Sheets (MSDS) for all chemicals used in production line shall be easy to fetch and well classified (6/27).

## BUSINESS ETHICS

### Areas of assessment:

Business ethics impact/risk assessment. Business ethics policy. Anti-corruption. Whistle blower procedures. Disclosure of financial information. Intellectual property. Fair advertising and competition.

### Improvements 2017-2022:

- Procedures and training to avoid bribery and corruption.
- Systems for confidential reporting.

### Remaining challenges:

Despite our current policies, anti-corruption and whistle blowing processes and training programmes, the nature of bribery and corruption makes control an ongoing and difficult challenge.

# Reporting principles

## ABOUT THIS SUSTAINABILITY REPORT

Various stakeholders use this report as their source of information when assessing NCAB's sustainability performance. Important target groups for the report include customers, employees, and investors.

Since 2014, NCAB has annually reported on the company's environmental and social impact throughout the value chain in accordance with the Global Reporting Initiative (GRI) framework. The report is prepared in accordance with the GRI Standards. This includes applying principles for defining report content such as stakeholder inclusiveness, materiality and completeness. This report also meets the requirements for sustainability reporting in the Swedish Annual Accounts Act. By applying the GRI Standards, NCAB aims to report sustainability-related information that is relevant to its stakeholders in a transparent and balanced way. The GRI Content Index can be found on [pages 36-39](#). Topic-specific Disclosures are reported with respect to the material topics for NCAB. The previous report was published in April 2022. The Board of directors are responsible for the statutory sustainability report.

## BOUNDARIES

This report covers NCAB Groups (org.nr 556733-0161) operations data that has been collected throughout the 2022 calendar year. This reports covers the entities included in the Annual Report.

## CONTACT INFORMATION

For further information about the topics covered in this report, please contact Anna Lothsson, Group Sustainability Director, NCAB Group: [anna.lothsson@ncabgroup.com](mailto:anna.lothsson@ncabgroup.com).

## MATERIAL TOPICS

Based on a materiality assessment, the sustainability report reflects the sustainability areas most relevant to NCAB and the stakeholders, see [page 9-10](#). Significant topics from the latest materiality analysis (autumn 2021) are shown in the table to the right. Based on mega trends and upcoming legislation, competitor benchmark, best practice information and stakeholder dialogues, focus areas were identified in the assessment process.

Environment	Social	Governance
Energy	Human rights & Labour rights	Ethics
Resource efficiency	Health & Safety, factories	Transparency
Waste	Well-being/work life balance	
Climate	Equal opportunities	

## TOPICS IMPORTANT TO STAKEHOLDERS

We maintain an understanding of our material topics through dialogue with our key stakeholders. Stakeholder dialogues are an important part of our materiality analysis and we also engage with our stakeholders on a regular basis through various channels.

Key stakeholders	Channels for interaction	Key topics 2022
Customers	Customer survey In-depth interviews Seminars, webinars, meetings	Climate footprint, human rights, circularity, management and board commitment, quality.
Employees	Employee engagement survey, Performance and development appraisals (PDA)	Meeting and sharing, collaboration, development opportunities, work load (stress levels).
Investors	Investor meetings In-depth interviews	Climate footprint, circularity, human rights & labour rights, risk management processes & governance
Suppliers	Meetings, audits	Climate footprint, human rights, health and safety, quality.

## EU TAXONOMY

As NCAB operates within the area of distribution of electronics components (printed circuit boards), we assess that the economic activities we conduct are linked to the NACE codes G46.5 2 and M70.1.0. When reviewing the activities included in the taxonomy, these NACE codes are not listed and the various business descriptions are not applicable to NCAB's financial activities.

Eligible activities are leased or owned cars (BEV) (6.5 - Transport by motorbikes, passenger cars and light commercial vehicles) and EV chargers (7.4 - Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)) for the financial year 2022.

Key figures are reported in accordance with the regulations of the Taxonomy and are presented in separate tables for turnover,

capital expenditure (CapEx) and operating expenditures (OpEx), see [page 31-33](#). Turnover includes total external revenue (Net sales) according to IFRS 15. See Note 2.14 in Annual report 2022, for our accounting principles for Revenue recognition. CapEx includes investments in Property, plant and equipment during the financial year as is specified in the Annual report 2022 Note 18 Property, plants and equipment, as well as Note 19 Intangible assets (Goodwill is excluded). The figures represent: Purchases, From acquisitions, and Added. OpEx includes Short term leases (according to IFRS 16).

## LIEFERKETTENGESETZ (GERMANY)

The Lieferkettengesetz is German's supply chain due diligence act that goes into effect in 2023 and applies to companies with more than 3 000 employees. To comply with the law companies are for example required to set up a risk management system, carry out risk analyses related to human rights and environment, issue a statement of principles relating to the company's human rights strategy and take measures to prevent and remedy abuses. Companies shall also establish a procedure through which whistleblowers can file complaints.

NCAB is not subject to the reporting requirements but aims to provide stakeholders with information about NCAB's ongoing work within these areas. For information about identified significant risks and the management of these, please refer to [page 11 and 17](#) in this report. The risk identification, assessment and ownership are described on [page 11](#). The performance of regular audits in main factories and the qualification process of new factories are described on [page 16-17](#), and on [page 28-29](#) you will find information about key findings and improvements from conducted audits. NCAB's whistleblowing function is available for customers and other stakeholders to use to report any irregularities that may violate our Code of Conduct or laws. Read more on [page 11 and 21](#).

We support the UN Guiding Principles on Business and Human Rights (UNGP) and our commitment to respect human rights and to prevent and mitigate negative environmental impacts is defined in our Sustainability policy and Code of Conduct for Suppliers. We are in an ongoing process to increase transparency on managing human rights related issues by responding to the disclosure requirements of the United Nations Guiding Principles Reporting Framework (UNGP). We will continue to develop our reporting in the future.

# EU Taxonomy

Proportion of turnover from products or services associated with Taxonomy-aligned economic activities				Substantial contribution criteria						DNSH criteria (Do No Significant Harm)										
Economic activities	Code(s)	Absolute turnover [MSEK]	Proportion of turnover %	Climate change mitigation %	Climate change adaptation %	Water and marine resources %	Circular economy %	Pollution %	Biodiversity and ecosystems %	Climate change mitigation Y/N	Climate change adaptation Y/N	Water and marine resources Y/N	Circular economy Y/N	Pollution Y/N	Biodiversity and ecosystems Y/N	Minimum safeguards Y/N	Taxonomy-aligned proportion of turnover, year 2022 Percent	Taxonomy-aligned proportion of turnover, year 2021 Percent	Category (enabling activity) Y/N	Category (transitional activity) Y/N
A. TAXONOMY ELIGIBLE ACTIVITIES																				
A.1. Environmentally sustainable activities (Taxonomy-aligned)		0																		
Turnover of eligible Taxonomy-aligned activities (A.1)																				
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)		0																		
Turnover of Taxonomy-eligible not but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		0																		
Total (A.1 + A.2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																				
Turnover of non-eligible activities (B)*		4 458	100%																	
Total (A + B)		4 458	100%																	

\* Annual Report 2022 - page 36 Consolidated income statement - Net Sales

Proportion of CapEx from products or services associated with Taxonomy-aligned economic activities				Substantial contribution criteria						DNSH criteria (Do No Significant Harm)						Minimum safeguards	Taxonomy-aligned proportion of CapEx, year 2022	Taxonomy-aligned proportion of CapEx, year 2021	Category (enabling activity)	Category (transitional activity)
Economic activities	Code(s)	Absolute CapEx [MSEK]	Proportion of CapEx %	Climate change mitigation %	Climate change adaptation %	Water and marine resources %	Circular economy %	Pollution %	Biodiversity and ecosystems %	Climate change mitigation Y/N	Climate change adaptation Y/N	Water and marine resources Y/N	Circular economy Y/N	Pollution Y/N	Biodiversity and ecosystems Y/N					
A. TAXONOMY ELIGIBLE ACTIVITIES																	Percent	Percent	Y/N	Y/N
<b>A.1. Environmentally sustainable activities (Taxonomy-aligned)</b>																				
CapEx of eligible Taxonomy-aligned activities (A.1)																				
<b>A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)</b>																				
Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)	7.4	0.0	0.0%																	
Transport by motorbikes, passenger cars and light commercial vehicles	6.5	1.3	1.0%																	
CapEx of Taxonomy-eligible not but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		1.3	1.0%																	
<b>Total (A.1 + A.2)</b>	0	1.3	1.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																				
CapEx of non-eligible activities (B)*		131.7	99%																	
Total (A + B)		133.0	100%																	

\* Annual Report 2022 - Note 18 - Property, plant and equipment - row Purchases, row From acquisitions, row Additions, and Note 19 - Intangible assets - row Added

Proportion of OpEx from products or services associated with Taxonomy-aligned economic activities				Substantial contribution criteria						DNSH criteria (Do No Significant Harm)										
Economic activities	Code(s)	Absolute OpEx [MSEK]	Proportion of OpEx %	Climate change mitigation %	Climate change adaptation %	Water and marine resources %	Circular economy %	Pollution %	Biodiversity and ecosystems %	Climate change mitigation Y/N	Climate change adaptation Y/N	Water and marine resources Y/N	Circular economy Y/N	Pollution Y/N	Biodiversity and ecosystems Y/N	Minimum safeguards Y/N	Taxonomy-aligned proportion of OpEx, year 2022 Percent	Taxonomy-aligned proportion of OpEx, year 2021 Percent	Category (enabling activity) Y/N	Category (transitional activity) Y/N
A. TAXONOMY ELIGIBLE ACTIVITIES																				
A.1. Environmentally sustainable activities (Taxonomy-aligned)		0																		
OpEx of eligible Taxonomy-aligned activities (A.1)																				
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)		0																		
OpEx of Taxonomy-eligible not but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)																				
<b>Total (A.1 + A.2)</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																				
OpEx of non-eligible activities (B)*		1.7	100%																	
Total (A + B)		1.7	100%																	

\* Expenses related to short term lease - Annual Report 2022 - Note 34 Right-of-use assets

# Data summary

ENVIRONMENT	2022	2021	UNIT	COMMENT
GHG EMISSIONS				
Scope 1	490	175	tonnes CO <sub>2</sub> e	
Scope 2	363	390	tonnes CO <sub>2</sub> e	
Scope 3	107 002	91 839	tonnes CO <sub>2</sub> e	
Scope 1-3	107 855	92 404	tonnes CO <sub>2</sub> e	
GHG EMISSION INTENSITY				
Scope 1	0.11	0.05	tonnes CO <sub>2</sub> e/MSEK	
Scope 2	0.08	0.12	tonnes CO <sub>2</sub> e/MSEK	
Scope 3	24.00	28.53	tonnes CO <sub>2</sub> e/MSEK	
Scope 1-3	24.19	28.71	tonnes CO <sub>2</sub> e/MSEK	
ENERGY CONSUMPTION - WITHIN THE ORGANIZATION				
Electricity consumption - total	774 661	715 675	kWh	All NCAB offices and NCAB owned warehouses.
Electricity consumption from renewable sources*	317 758	144 264	kWh	*100% renewable energy source or "green energy" contracts (the rest is electricity based on country energy mix).
Share of electricity consumption from renewable sources*	41.0	20.2	%	
Heating consumption (district heating)	656 504	486 984	kWh	
Steam consumption (for heating)	602	3 504	m <sup>3</sup>	Heating in three of our offices comes from the combustion of natural gas, as part of the heating solution of the building housing our offices.
Fuel consumption - diesel (company cars)	50 194	60 396	litre	
Fuel consumption - petrol (company cars)	132 970	74 415	litre	
Self-generated electricity, which is not consumed	81 867	73 232	kWh	From solar panels (Netherlands).
ENERGY CONSUMPTION - OUTSIDE OF THE ORGANIZATION				
Electricity consumption - PCB manufacturing	97 144 375	87 141 246	kWh	Major part of electricity comes from the country energy mix based on factory location, where renewable parts vary between 2% - 83% depending on location. One factory covers a small part with self-generated electricity (solar).
Electricity consumption - external warehouses	46 708	No data reported.	kWh	In 2022, 2 of 5 warehouses (31% of total kWh) runs from 100% renewable energy source or "green energy" contracts, the rest is electricity based on country energy mix.
WASTE - WITHIN THE ORGANIZATION				
Waste - hazardous waste	20.5	No data reported.	tonnes	Scrapped PCBs - electronic waste. Handled according to local regulations on electronic waste handling.
Waste - non-hazardous waste	18.6	No data reported.	tonnes	Mix of plastics, cardboard, and office waste. Handled and recycled according to local regulations on waste handling.

ENVIRONMENT	2022	2021	UNIT	COMMENT
WASTE - OUTSIDE OF THE ORGANIZATION				
Waste - hazardous waste (PCB production)	13 220	No data reported.	tonnes	Data from main factories in China. Handled and recycled according to local regulations on waste handling.
Waste - non-hazardous waste (PCB production)	2 091	No data reported.	tonnes	Data from main factories in China. Handled and recycled according to local regulations on waste handling.
WATER - WITHIN THE ORGANIZATION				
Water consumption	1 412	No data reported.	m <sup>3</sup>	13 of 31 offices reported water consumption
Water intensity	0.13	No data reported.	m <sup>3</sup> /m <sup>2</sup>	m <sup>2</sup> = office area (13 offices)

SOCIAL	2022	2021	UNIT	COMMENT
Number of employees M/F	326 / 261	304 / 258	Male/Female	
Group management team M/F	8 / 4	8 / 4	Male/Female	
Employee satisfaction	No survey in 2022.	87	Engagement Index	Next survey 2023.
Employee turnover	12.7	6.2	%	
Incidents of discrimination or harassment reported	0	0	Number of	
Injuries reported - within the organization	0	0	Number of	
Employees signed Code of Conduct	86.2	75.6	%	

GOVERNANCE
Information about the composition of the board, board meetings and attendance, board and management shareholdings, board remuneration etc, see Annual Report 2022.

## GRI content index

The following GRI content index will help you navigate through the report. You will find more information about GRI on [www.globalreporting.org](http://www.globalreporting.org).

STATEMENT OF USE	NCAB Group AB (publ), org.no: 556733-0161 has reported in accordance with the GRI Standards for the period 1 January 2022 to 31 December 2022.
GRI 1 USED	GRI 1: Foundation 2021
APPLICABLE GRI SECTOR STANDARD(S)	No sector standard is available yet.

GRI STANDARD	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
GENERAL DISCLOSURES					
GRI 2: GENERAL DISCLOSURES 2021	2-1 Organizational details	Front page. Registered company name NCAB Group AB (publ), ownership and legal form, see bottom of page *, p. 4-5			
	2-2 Entities included in the organization's sustainability reporting	NCAB Group AB (publ) and subsidiaries included both in financial statements and Sustainability report			
	2-3 Reporting period, frequency and contact point	Year 2022, p. 30			
	2-4 Restatements of information	No restatements			
	2-5 External assurance	Not externally assured			
	2-6 Activities, value chain and other business relationships	p. 4-5, 14-17			
	2-7 Employees	p. 5, 21			
	2-8 Workers who are not employees	p. 20			
	2-9 Governance structure and composition	Annual report 2022, p. 27-31			
	2-10 Nomination and selection of the highest governance body	Annual report 2022, p. 28			
	2-11 Chair of the highest governance body	Annual report 2022, p. 24			
	2-12 Role of the highest governance body in overseeing the management of impacts	p. 11 and in Annual report 2022 p. 28			
	2-13 Delegation of responsibility for managing impacts	p. 11			
	2-14 Role of the highest governance body in sustainability reporting	p. 11			

\* NCAB Group AB (publ), org.no: 556733-0161, was listed on Nasdaq Stockholm on 5 June 2018. The number of shareholders in NCAB as of December 31, 2022 was 7 151 according to Euroclear Sweden AB. NCAB's ten largest owners held shares corresponding to 64% of both votes and capital in the company. Foreign ownership amounted to approximately 23% as of December 31, 2022.

GRI STANDARD	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
GENERAL DISCLOSURES					
GRI 2: GENERAL DISCLOSURES 2021	2-15 Conflicts of interest	Annual report 2022 p. 24, 28, 30, 34.			
	2-16 Communication of critical concerns	p. 11, 21			
	2-17 Collective knowledge of the highest governance body	p. 11 and in Annual report 2022 p. 28			
	2-18 Evaluation of the performance of the highest governance body	Annual report 2022 p. 30			
	2-19 Remuneration policies	Annual report 2022, p. 27-28, 33-34			
	2-20 Process to determine remuneration	Annual report 2022 p. 27-28, 33-34			
	2-21 Annual total compensation ratio		2-21	Not applicable	Not relevant due to that NCAB's operations are conducted in many different countries where the wage levels differ.
	2-22 Statement on sustainable development strategy	p. 6-7			
	2-23 Policy commitments	p. 4, 14-17, 20			
	2-24 Embedding policy commitments	p. 14-17, 21			
	2-25 Processes to remediate negative impacts	p. 11, 21, 28-29			
	2-26 Mechanisms for seeking advice and raising concerns	p. 11, 18, 21			
	2-27 Compliance with laws and regulations	No significant instances of non-compliance with laws or regulations during 2022			
	2-28 Membership associations	IPC, local trade organizations			
	2-29 Approach to stakeholder engagement	p. 9, 30			
	2-30 Collective bargaining agreements	0 % among employees			
	MATERIAL TOPICS				
GRI 3: MATERIAL TOPICS 2021	3-1 Process to determine material topics	p. 30			
	3-2 List of material topics	p. 30			
ANTI-CORRUPTION					
GRI 3: MATERIAL TOPICS 2021	3-3 Management of material topics	p. 11, 21, 29			
GRI 205: ANTI-CORRUPTION 2016	205-2 Communication and training about anti-corruption policies and procedures	p. 11, 21, 29, 35			
	205-3 Confirmed incidents of corruption and actions taken	p. 21			
ENERGY					
GRI 3: MATERIAL TOPICS 2021	3-3 Management of material topics	p. 9-10, 14, 17, 19, 21, 24, 27			
GRI 302: ENERGY 2016	302-1 Energy consumption within the organization	p. 27, 34			
	302-2 Energy consumption outside of the organization	p. 27, 34			

GRI STANDARD	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
GENERAL DISCLOSURES					
EMISSIONS					
GRI 3: MATERIAL TOPICS 2021	3-3 Management of material topics	p. 9-10, 13, 15, 17, 24-25			
GRI 305: EMISSIONS 2016	305-1 Direct (Scope 1) GHG emissions	p. 27			
	305-2 Energy indirect (Scope 2) GHG emissions	p. 27			
	305-3 Other indirect (Scope 3) GHG emissions	p. 27			
	305-4 GHG emissions intensity	p. 27			
WASTE					
GRI 3: MATERIAL TOPICS 2021	3-3 Management of material topics	p. 8, 15-17, 29			
GRI 306: WASTE 2020	306-1 Waste generation and significant waste-related impacts	p. 8			
	306-2 Management of significant waste-related impacts	p. 15-17, 29			
	306-3 Waste generated	p. 27, 34-35			
SUPPLIER ENVIRONMENTAL ASSESSMENT					
GRI 3: MATERIAL TOPICS 2021	3-3 Management of material topics	p. 14-18, 29			
GRI 308: SUPPLIER ENVIRONMENTAL ASSESSMENT 2016	308-1 New suppliers that were screened using environmental criteria	p. 16			
	308-2 Negative environmental impacts in the supply chain and actions taken	p. 17, 29			
OCCUPATIONAL HEALTH AND SAFETY					
GRI 3: MATERIAL TOPICS 2021	3-3 Management of material topics	p. 10, 15, 17, 29			
GRI 403: OCCUPATIONAL HEALTH AND SAFETY 2018	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships <sup>1)</sup>	p. 10, 15, 17, 29			
	403-9 Work-related injuries	p. 17			
TRAINING AND EDUCATION					
GRI 3: MATERIAL TOPICS 2021	3-3 Management of material topics	p. 19-21			
GRI 404: TRAINING AND EDUCATION 2016	404-3 Percentage of employees receiving regular performance and career development reviews	p. 21			
DIVERSITY AND EQUAL OPPORTUNITY					
GRI 3: MATERIAL TOPICS 2021	3-3 Management of material topics	p. 21			
GRI 405: DIVERSITY AND EQUAL OPPORTUNITY 2016	405-1 Diversity of governance bodies and employees	p. 21 and in Annual report 2022 p. 24, 28			

1) NCAB has a responsibility to prevent and mitigate negative occupational health and safety impacts that are directly linked to the factories. Given that NCAB does not have full control over the factories or the working methods applied, only GRI 403-7 is reported in accordance with GRI.

GRI STANDARD	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
GENERAL DISCLOSURES					
SUPPLIER SOCIAL ASSESSMENT					
GRI 3: MATERIAL TOPICS 2021	3-3 Management of material topics	p. 14-18, 28-29			
GRI 414: SUPPLIER SOCIAL ASSESSMENT 2016	414-1 New suppliers that were screened using social criteria	p. 16			
	414-2 Negative social impacts in the supply chain and actions taken	p. 17, 28-29			
QUALITY					
GRI 3: MATERIAL TOPICS 2021	3-3 Management of material topics	p. 23-25			
NCAB GROUP DISCLOSURE	Sustainable product development and quality assurance	p. 23-25			
CONFLICT MINERALS					
GRI 3: MATERIAL TOPICS 2021	3-3 Management of material topics	p. 15-17			
NCAB GROUP DISCLOSURE	Work for conflict-free mineral supply chain	p. 15-17			

## Auditor's report on the statutory sustainability report

To the general meeting of the shareholders in NCAB Group AB (publ), corporate identity number 556733-0161.

### ENGAGEMENT AND RESPONSIBILITY

It is the board of directors who is responsible for the statutory sustainability report for the year 2022 and that it has been prepared in accordance with the Annual Accounts Act.

### THE SCOPE OF THE AUDIT

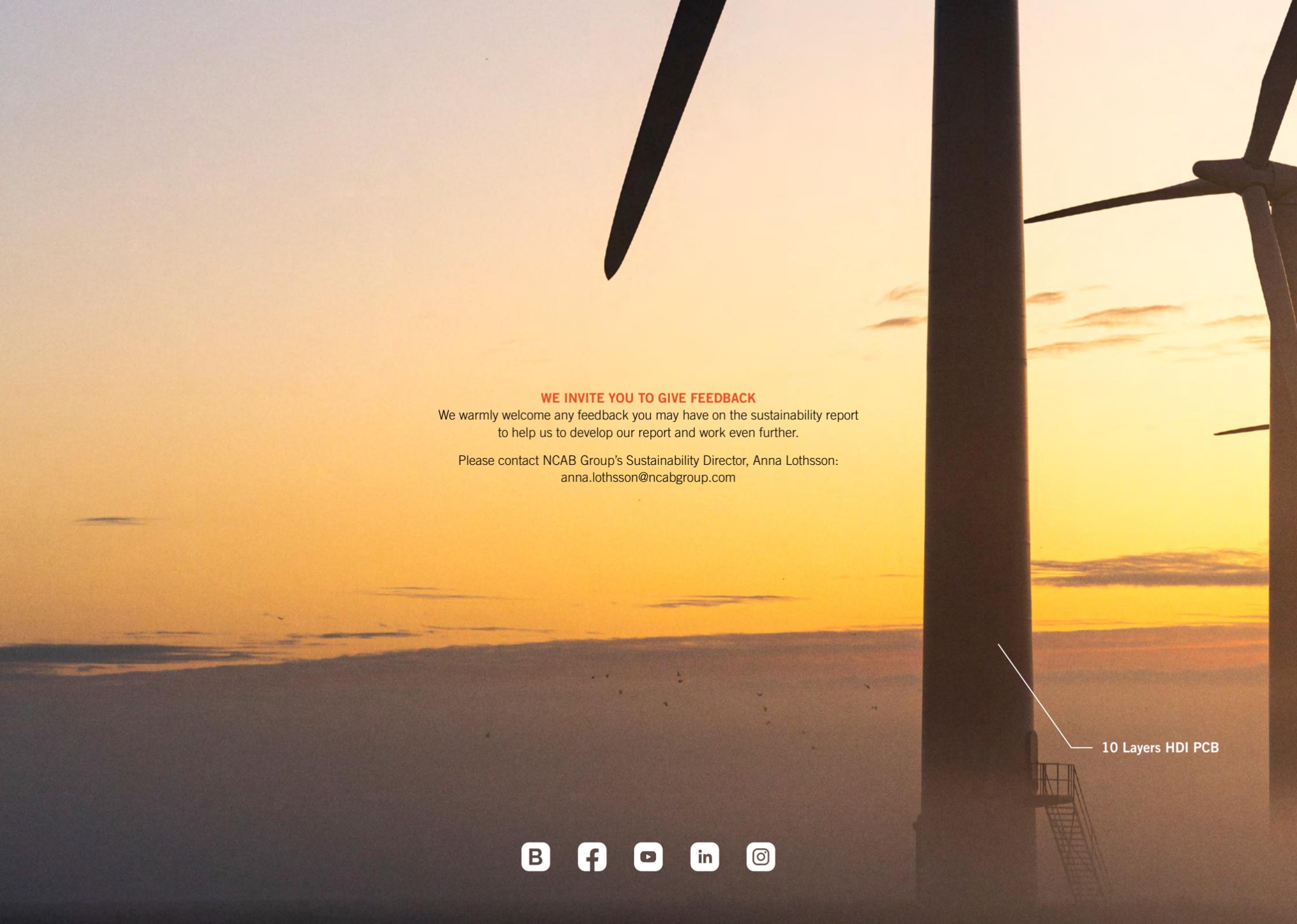
Our examination has been conducted in accordance with FAR's auditing standard RevR 12 The auditor's opinion regarding the statutory sustainability report. This means that our examination of the statutory sustainability report is substantially different and less in scope than an audit conducted in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden. We believe that the examination has provided us with sufficient basis for our opinion.

### OPINION

A statutory sustainability report has been prepared.

*Stockholm, 5 April 2023*

Öhrlings PricewaterhouseCoopers AB  
Johan Engstam  
Authorised Public Accountant



**WE INVITE YOU TO GIVE FEEDBACK**

We warmly welcome any feedback you may have on the sustainability report to help us to develop our report and work even further.

Please contact NCAB Group's Sustainability Director, Anna Lothsson:  
[anna.lothsson@ncabgroup.com](mailto:anna.lothsson@ncabgroup.com)

10 Layers HDI PCB

