Environmental disclosures

Environmental sustainability

NCC regards environmental considerations as a key aspect of operations. NCC generally works in an environment where meticulous demands for environmental considerations and reporting are placed by regulating authorities and by customers. The impact areas in NCC's sustainability framework that can be related to environmental sustainability are:

- Climate and energy
- Natural resources and biodiversity
- Materials and circularity

Environmental sustainability work will be described through these impact areas. Initially, areas are described that are shared or cover several of these areas.

Governance

To support effective governance, all NCC business areas are certified or work in accordance with ISO 14001 and ISO 9001, and base their actions on NCC's Sustainability and Environmental Policy and its sustainability framework.

Four areas are highlighted below that affect several environmental sustainability areas.

- Climate calculations
- Environmental product declarations
- Sustainability certifications
- Responsible Site

Climate calculations

Conducing climate calculations in construction projects is crucial to enable the right decisions to be made and to reduce the climate footprint for NCC and for customers. As support in this task, NCC has several digitalized tools as well as internal centers of excellence with climate calculation experts and specialists in all business areas. The purpose of climate calculations is to gain an overview of and control the total climate impact of a project. This includes data and related carbon emissions associated with the use of materials, energy consumption and waste. Climate declarations for buildings are required by law in Sweden, Norway and Denmark, and will be required by law in Finland from 2025.

Environmental product declarations

Customers are increasingly requesting and demanding that products should have environmental product declarations (EPDs) and these are being formulated for an ever-increasing share of products produced by NCC.

EPDs are third-party verified and include transparent and comparable environmental impact information throughout a product's lifecycle, from the extraction of stone and other raw materials to delivery to customers and, ultimately, recycling.

As a result, customers obtain a transparent and comparable lifecycle assessment of the product. Customers gain access to objective and reliable data, and can thus assess the products' environmental performance. This makes it easier for the customers to make environmentally conscious choices and reduce their climate footprint.

NCC's EPDs are location and product-specific, which also enables NCC to use the EPDs internally to make fact-based climate and environmental improvements in its production processes. During the year, the number of EPDs in NCC's stone materials business and asphalt increased. Refer to the table Environmental product declarations.

Sustainability certifications

NCC offers its customers all the types of environmental certifications that are available for buildings and civil-engineering structures, both nationally and internationally.

Nordic Swan Ecolabel, Miljöbyggnad, BREEAM Infrastructure (CEEQUAL), BREEAM, LEED, DGNB, WELL, RTS, Citylab and Nollco$_2$ are used for housing and infrastructure projects, as well as whole city districts. BREEAM, DGNB, Citylab and Nollco$_2$ are used for the projects that NCC develops itself. Having verified data for the projects makes it easier to get buildings and structures certified.

During 2023, two of NCC's projects were recognized in the Sweden Green Building Awards. The Sustainable Infrastructure award was given to E02 Centralen in Gothenburg and the LEED Building of the Year was awarded to NCC's Magasin X project in Uppsala.

Responsible Site

NCC has its own work method, known as Responsible Site. This offers all NCC workplaces a shared foundation upon which to base efforts to create a workplace that meets stringent requirements in environmental and social sustainability.

It is mandatory to apply Responsible Site for projects in the following business areas: NCC Building Sweden (all projects exceeding SEK 20 M), NCC Infrastructure (all projects exceeding SEK 100 M), NCC Building Norway (all projects exceeding NOK 40 M) and NCC Building Denmark (all projects exceeding DKK 50 M). It is also used to some extent in NCC Building Finland and in the NCC Industry business area, where 44 quarries use this work method. The application of Responsible Site is monitored during environmental rounds and internal audits.

Environmental product declarations (EPDs)

Number EPDs	Total	2023	2022	2021	Country
Asphalt	61	18	25	16	DK, NO, SE
Stone materials	35	6	11	11	DK, FI, NO, SE

NCC Industry formulates plant and quarry-specific EPDs for asphalt and stone materials. We have now published 61 EPDs for asphalt plants as well as individual asphalt mixtures. Norway and Denmark were included for 2023. In addition, we published EPDs for stone materials from a total of 35 of our rock pits and gravel quarries. 22 in Sweden, six in Denmark, five in Norway and two in Finland. We plan to continue producing EPDs for more plants and quarries.

Natural resources and biodiversity

GRI 303

Water and effluents

GRI 304

Biodiversity

Material topics

- Biodiversity
- Raw materials
- Water

Targets

- Actively take measures to protect biodiversity
- Increase natural resource efficiency
- Optimize water management

NCC strives for resource stewardship of natural resources, to help secure well-managed ecosystems and responsible use of natural resources. Proactive efforts are also under way to reduce adverse effects on biodiversity and to increase the positive effects.

Natural resources

Since NCC's business is resource-intensive, it is important that these are used as effectively as possible, and that the greatest possible share is included in a circular flow without having a detrimental effect on the quality of the resources. To achieve this, product and process development is constantly ongoing to facilitate higher efficiency and circular material flows. NCC always strives for the efficient use of virgin materials if used.

In stone materials operations where NCC extracts stone materials from quarries across the Nordic region, this includes:

- Mass balance: Utilize all stone materials that are extracted from a quarry. By aiming to achieve mass balance, NCC gains a market for its fine-grained material, as a substitute for natural gravel and sand. What was previously considered a residual product is washed, processed into a more customized form and used particularly in concrete products.
- Development of substitute products from crushed rock material in order to reduce the use of natural gravel, for example, in the production of concrete.
- NCC machine sand. NCC's machine-made sand is based on rock material that is crushed, screened and processed to satisfy customer requirements for various applications. Machine sand replaces natural sand and gravel in the production of concrete and asphalt, and in building and infrastructure projects. It can also be used in, for example, the sanding of winter roads.

Water

NCC works with several types of projects that aim to improve water management and has considerable expertise in water treatment and therefore has a substantial positive impact on water quality in the areas concerned.

While meticulous water management is key in all projects, it is particularly relevant for infrastructure projects. Ahead of every project start, NCC performs thorough analyses and risk assessments concerning the impact on water; how groundwater and natural receptacles are affected and how runoff occurs. NCC develops project management measures to treat and manage sump and stormwater to minimize the impact on recipient water bodies by removing particles and substances in the water discharged from our projects. Solutions are designed on the basis of project-specific requirements.

In 2023, NCC reviewed its reporting on the issue of water in accordance with CSRD.

Biodiversity

Biodiversity is one of NCC's impact areas and is an aspect where its operations have both a positive and negative impact. NCC has expertise in the area of biodiversity, and this is something that is integrated into its construction projects. Through primarily four types of initiatives, NCC works to reduce the negative – and increase the positive – impact on biodiversity.

- NCC Kielo, which is its own method for promoting biodiversity in quarries. The method is not suitable for all quarries. In 2023, 11 quarries deployed this method, four are in Denmark, three in Finland, two in Norway and two in Sweden.
- Property development measures within NCC Property Development when biodiversity is always taken into consideration. One such measure is green roofs (sedum roofs or biotope roofs).
- Measures in construction projects. In Denmark and Norway, the target is to conduct at least one measure for biodiversity in all construction projects. Biodiversity is one area that requires certification under BREEAM.
- On behalf of customers, NCC Infrastructure conducts projects such as wildlife passages under and over roads, which supports biodiversity. This could, for example, involve everything from enabling moose, frogs and dormice to move around, or taking an inventory of trees prior to development work.
- Training and education. In-house training for project managers that includes species protection and invasive species.

Kielo-approved quarries	Number
Sweden	2
Denmark	4
Norway	2
Finland	3

Materials and circularity

GRI 301
Material

GRI 306
Waste

Material topics

- Design and material selection
- Recycling and reuse
- Waste

Targets

- Climate-neutral concrete construction
- Use as large proportion of recycled asphalt as regulations and authorities allow
- Increase the use of circular materials
- Reduce construction waste and increase recycling in production

Targets

Circular materials shall be a feature of all projects. NCC strives to close the loop and prioritizes the use of circular material and product selection, minimizing and responsibly managing the waste that is created in the construction process, and building to enable recycling and reuse.

Governance

NCC works to maximize recycling and reuse, and facilitates this through active collection and analysis of data. For waste, NCC compiles statistics via waste-management suppliers and summarizes this information per unit (division or business area). This is subsequently aggregated and summarized at Group level.

NCC follows up and governs the waste activities conducted at the construction sites through regular checks of waste statistics, at production meetings and during environmental rounds. NCC has established partnerships in all countries for handling the waste that arises at construction sites.

In addition, NCC has developed specific control tools for increasing the proportion of recycling and reuse in its projects. In construction projects, for example, specific materials choices are made based on the projects or the customer's requirements, needs and wishes. Certain certification systems can also set requirements for material choices.

Various code systems are used to increase traceability. In Sweden, NCC works with, for example, GTINs, which includes registration in logbooks. In Denmark and Norway, NCC uses supplier systems that are based on European waste codes. These are included in the report basis for designs.

Design and material selection

Work on issues involving materials, circularity and waste is performed on the basis of each business area's specific conditions and operations, and is designed to reduce the use of materials with a negative impact on the climate, environment, and human health.

Efficient resource utilization, purchases of materials with the lowest possible environmental impact and increased recycling are essential in this work.

The materials that have the greatest climate impact are concrete, steel and asphalt, although circular material flows are also of great importance in the use of other materials, such as rock and soil material.

NCC applies the precautionary principle to the selection of materials and several development projects are under way.

Development

Some of NCC's focus areas:

- Concrete. Read more in the Climate and energy section on p. 102. NCC has a roadmap to pursue the objective of climate-neutral concrete-based construction. In Sweden, there is an internal requirement to use eco-friendly concrete in all residential construction projects
- Steel. Purchase of low-carbon steel reinforcement and the recycling and reuse of heavy building components, in order to reduce climate impact, includes steel elements, such as sheet piling.
- Asphalt. As large a proportion of reclaimed asphalt pavement (RAP) as is permissible by rules and regulations and authorities. In 2023, RAP accounted for 29 percent (26) of the total production of asphalt. The inclusion of RAP means that greenhouse gas emissions are approximately 16,800 tons of CO_2e lower per year, compared with if the asphalt had been produced using conventional technology without the inclusion of RAP in the mix.
- Rock and soil material The NCC Industry business area is working to promote the reuse and recycling of stone materials, soil masses, gravel, concrete, asphalt and garden waste, and both purchases and receives materials from NCC's other business areas, and from external customers.

The business area aims to increase the volume of materials received for reuse and recycling and to increase the volume of sold recycled materials.

Recycling and reuse

The construction waste generated at construction sites represents great potential because it can be used in other projects.

NCC engages in internal cooperation between various functions and business areas, and also with suppliers, to develop new ways of reducing construction waste and reintroducing it into production, and reusing and recycling materials.

Cooperation concerning circularity also occurs between property development and contracting operations, on the basis of the projects' specific conditions.

Traceability

NCC aims to only use materials and products that are sound from an environmental and health perspective. Ultimately, the aim is to be able to recycle all input materials in buildings when the service life of the building expires.

A crucial link in the transition to the use of more recyclable products and materials is to impose requirements on suppliers and to work with traceability throughout the value chain.

NCC's digitization work supports the Group's sustainability ambitions. Digital models and tools are a prerequisite for this work, for example, to minimize production waste, make the right selection of materials while considering their lifecycle impact, manage chemical contents and increase recycling of building materials in connection with renovation and demolition.

Circular handling of excavation mass

In connection with infrastructure projects, NCC aims to only excavate the necessary volume of rock and soil material, and the company strives to increase the reuse of

excavation masses that were previously sent to landfill.

This reuse shall occur either within the specific project or in a closely located project that needs filler materials, and where the excavation mass has the technical and environmental qualities that are required. Measures include a systematic sampling and chemical analysis of the rock to identify suitable projects for receiving the material.

Waste

NCC collaborates with various players in the value chain in order to adapt to a circular construction process, and to minimize the negative impact on people and the environment, such as the waste that construction gives rise to.

All of the business areas are conducting active work in the area of waste. This includes using more recovered materials, ensuring the use of non-hazardous materials, standardized construction with made-to-measure and prefabricated products to reduce waste, and designing the buildings so that it is possible to reuse and recycle.

At the construction sites, NCC works to reduce the use of materials and prevent the occurrence of waste.

NCC has stringent demands for the sorting of waste in its operations and has solutions for re-introducing construction waste and materials within the operations. Significant activities include ensuring that surplus purchased materials can be reused, protecting weather-sensitive materials, minimizing packaging through intelligent transport solutions and having a well-developed sorting system.

In respect of chemicals, a list of chemicals is prepared to ensure they are managed correctly from a waste perspective. NCC has a digital tool to handle this. Organizational aspects include having a designated person in charge of waste management for projects, having a waste management plan and holding regular meetings.

In addition, NCC employees receive regular training and information. NCC's requirements pertain to both its employees and all subcontractors who work at NCC's construction sites.

The principal categories of materials in building construction that give rise to large amounts of waste are gypsum, plastic, concrete, bricks, wood and metals. The most common types of residual products that are returned through circular flows are pallets, flooring waste, carpets, gypsum, brick and plastic. By expanding cooperation with suppliers, there is great potential to increase the circular use of the various residual products that arise, such as packaging material.

Business models and partnerships in the value chain

NCC collaborates with such players as suppliers, hauliers and waste contractors in order to increase circular flows and minimize waste, and to work for resource-efficient management of the waste that arises. This includes development work and initiating various pilot projects. NCC also participates in research projects in this area.

Targets and plans moving forward

Working for increased circularity, such as through material and design choices, is of great significance to the Group's success in achieving its target of climate neutrality.

In terms of building construction, a target has been set that circular material flows will be integrated in all projects by 2045.

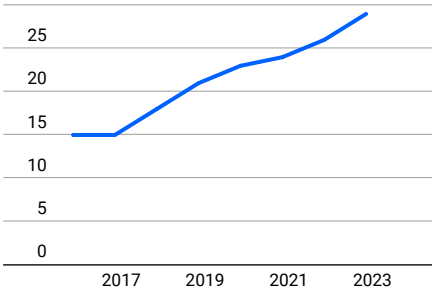
NCC reports its waste volumes from construction activities (NCC Building Sweden, NCC Building Nordics and NCC Infrastructure)

Amounts of waste by type and disposal method

	2023		2022		2021	
Residual product and waste category	**Total weight, tons**	**%**	**Total weight, tons**	**%**	**Total weight, tons**	**%**
Non-hazardous waste						
Sorting	6,438	12	6,204	12	5,961	11
Energy recycling	5,396	10	5,592	11	7,617	14
Reuse/materials recycling	40,687	74	38,690	73	37,036	69
Glass	60					
Plastic	1,671		1,325		1,069	
Wood	14,367		13,736		14,149	
Gypsum	4,176		3,453		3,825	
Metal	6,730		9,644		11,664	
Concrete, bricks, tiles	10,416		9,096		1,546	
Other reuse/recycling	3,267		1,435		4,783	
Landfill	1,777	3	1,896	4	2,445	5
Hazardous waste						
Special treatment	450	1	702	1	608	1
Total amount	**54,749**		**53,085**		**53,667**	

In 2023, the proportion of recycled/reused materials increased by 1 percentage point compared with 2022. Continuous efforts are made to increase this share even further. The figures include typical construction waste above ground. Soil, stone and fill materials that depend on the projects' geography are usually handled separately and are not included in the statistics. Concrete, bricks and tiles/clinkers are recycled to some extent and are reported for parts of the operations. This fraction fluctuates depending on the number of refurbishment/demolition projects. The increase in the amount of hazardous waste was due in part to several projects where old impregnated wood (creosote and heavy metals) had to be removed from construction sites.

Reclaimed asphalt pavement (RAP), %



As a result of the increased amount of RAP, the climate impact from NCC's total asphalt production in 2023 was approximately 8,900 tons CO_2e lower compared to 2015.

Climate and energy

GRI 302

Energy

GRI 305

Emissions

Material topics

- Greenhouse gas emissions
- Energy
- Climate adaptation

Targets

- NCC is to be climate neutral by 2045
- 60 percent decrease of CO_2e emissions (Scope 1 and 2) by 2030
- 50 percent decrease of CO_2e emissions (Scope 3) by 2030

Targets

NCC's target is to achieve climate neutrality by 2045. Work is in progress to draft a Group-wide aggregated climate action plan. To date, interim plans and interim targets have been created.

Target for 2030: 60-percent decrease in CO_2e emissions (Scope 1 and 2, base year 2015), measured in tons of CO_2e per SEK M of sales

Target for 2030: 50-percent decrease in CO_2e emissions (Scope 3, base year 2015) from concrete, asphalt, steel and transportation, measured in tons of CO_2e per purchased volume.

Governance

All business areas have individual targets based on the Group's targets for climate and energy. To achieve these, each business area has established measures and action plans. The targets are regularly monitored, both within each business area and at Group level.

Reduced climate footprint

NCC works in a focused and determined manner to eliminate carbon emissions from the entire value chain, which is essential to achieve climate neutrality. NCC's climate impact is primarily derived from the materials used in the construction process and from fuel used in the various stages of the construction process. NCC is focused on reducing its climate footprint. Analysis, cooperation and dialogue with customers, suppliers and other stakeholders for the implementation of measures and changed work methods is of the utmost importance.

In 2023, Scope 1 and 2 emission intensity amounted to 2.3 tons CO_2e/SEK M, corresponding to a reduction of 56 percent compared with 2015.

For Scope 3, NCC identified climate emissions in the areas that are considered to have the greatest climate impact. Within the purchased goods and services category, it is estimated that concrete, asphalt, steel and machinery services account for the largest impact. Several new categories were added to Scope 3 in 2023, and this is specified in the reporting principles.

Concrete

In order to achieve the target of halving emissions from concrete and becoming climate neutral by 2045, NCC has formulated a Group-wide roadmap for concrete-based construction. Read more on p. 11.

Asphalt

The asphalt division's total carbon emissions from both asphalt production and paving accounts for 53 percent (47) of the Group's total emissions (Scope 1 and 2).

Key measures to reduce climate impact include:

- Continued conversion of asphalt plants to the use of biofuels. To date, all asphalt plants in Sweden and two asphalt plants in Norway have been converted to biofuel.
- Replace fossil bitumen with bio-resins in asphalt.
- Develop asphalt products with a lower climate impact and increase the portion of reclaimed asphalt pavement (RAP) in production. NCC has established a method of producing asphalt that results in lower carbon emissions than conventionally produced asphalt. The method involves mixing in RAP, maintaining a lower production temperature and the use of biofuel.
- NCC is also working to cut back on the number of starts and stops of asphalt plants in order to reduce energy consumption.
- Reduce moisture in the stone materials mixed into the asphalt and keep them dry, in order to reduce energy consumption in asphalt production.

Steel

Only steel reinforcement is currently measured but work is under way to capture more data. In order to halve the climate impact of steel reinforcement, well-informed purchasing from producers who provide products with a lower carbon footprint is crucial. Environmental product declaration (EPDs) for materials are used in the supplier assessment to ascertain whether the suppliers fulfill the requirements of NCC and its customers.

By using recycled steel, energy consumption can be reduced by up to 75 percent compared with production of ore-based steel. To achieve fossil-free steel reinforcement, new technologies are needed for the production of steel.

Transportation

During the year, work has been ongoing to obtain high-quality data from suppliers of transportation and machinery services. Focus was on Sweden and transportation purchased by NCC itself. Work will continue to include more countries, business areas and transportation of materials that NCC does not directly purchase itself but that is part of upstream transportation.

Key measures to reduce climate impact from transportation include:

- Optimized logistics chains and efficient transportation to reduce the total number of transport journeys
- Ecodriving and avoidance of idling
- Electrification of vehicles and machinery

Electrification

Efforts are continuing across the Group to electrify machinery and tools as well as entire production worksites in order to reduce the climate footprint.

Key measures to increase electrification include:

- Electrification of mobile rock crushers, which would offer significant energy savings and thereby reduce climate emissions. Stationary crushers in Sweden and Norway already run on electricity.
- Projects that use zero-emission machinery and electrified transport in all countries. There are a number of fossil fuel-free construction sites, for example, the Stovner Bad and Brenneriveien projects in Norway.
- The subsidiary Hercules has two battery-powered pile drivers.
- Continued testing and implementation of electric machinery for paving works.

Energy

NCC has set a target of only purchasing fossil-free and mainly renewable electricity. In 2023, the portion of renewable electricity was 95 percent (95) of the total consumption of electricity.

Carbon emissions related to purchased fuels, and electricity, district heating and district cooling, have been reduced continuously since 2015.

Key initiatives in the energy area include:

- Continued energy-efficiency improvements in the operations
- Energy efficiency in property development operations. The requirement is for at least 25 percent better energy performance compared with regulations and local energy production in all projects
- Increased mix of renewable fuel for machinery, in addition to electrification, see above

Climate adaptation

Part of NCC's offering is to implement projects with the direct aim to achieve better climate adaptation. This could involve building projects to manage stormwater and heavy rainfall in urban areas, protecting shorelines and ports, and constructing residential areas so they can handle large amounts of rain. NCC also offers customers expertise on how projects can be designed to adapt to a changing climate.

Reporting principles – climate

For calculating emissions, conversion from consumption to emissions has been conducted in accordance with the Greenhouse Gas Protocol.

The market-based calculation method is used to measure greenhouse gas emissions from electricity and heating. The location-based calculation method is also reported, but this does not form the foundation for measurements concerning the climate targets. NCC does not use climate compensation.

Information on purchases of fuels, electricity, heating energy, ready-mix concrete, steel reinforcement and asphalt is collected from NCC's suppliers. An internally developed digital tool has been used to compile the statistics that form the basis for the reported climate data. In those cases where NCC does not use supplier-specific emission factors, emission factors from DEFRA (2023) or the Swedish Environmental Protection Agency (2023) are used, depending on applicability.

During 2023, work to collect specific data from suppliers in the Nordic region continued to be intensified in order to obtain a comprehensive impression of NCC's climate footprint but also to gain greater coverage of the scope by adding more categories and more data. The potential for what is possible to request in terms of historical figures varies among countries and suppliers.

Categories added

In 2023, several categories were added to Scope 3 to gain greater coverage. The categories added were:

- Purchased machinery services were added to the category purchased goods and services
- Fuel and energy-related activities, which include well-to-tank emissions in connection with fuel production and transmission losses from electricity and district heating. This is based on the collected energy data in Scope 1 and 2
- Upstream transportation and distribution; includes purchased transportation within Sweden
- Waste: Includes all of the waste reported in the waste table under Materials and circularity on p. 101
- Business traveling; includes only air travel
- Use of sold products: includes all buildings that had a final inspection in 2023 from NCC Building Sweden and NCC Building Nordics Finland

Reporting principles, concrete

Figures concerning concrete include data on ready-mix concrete. Underlying data on volumes, including connected EPD-based emission factors for specific products, was obtained from the various suppliers for the Swedish market. In other markets, volumes derive from suppliers; however, in those cases where product-specific emission factors are lacking, industry-specific, or official generic, emission factors for the various compressive strength grades have been used.

Emission levels are directly related to technical requirements for various types of building structures, and the project portfolio varies over time.

2015 has been chosen as a base year to correspond to the base year for energy, asphalt and steel. Work is in progress to set a base level that reflects our product mix and variations among countries, as well as to comply with a forthcoming industry base level.

Using materials more efficiently and reducing the use of materials through, for example, design optimization and reduced waste is a key feature of the work to reduce the climate impact of the construction sector. Accordingly, the base level for concrete will be supplemented with a performance indicator, so that the impact of reduced volumes is included.

Reporting principles, asphalt

For asphalt, the climate impact is calculated according to the standard for environmental product declarations (EPDs). For 2023, data is reported for internally purchased asphalt, which accounted for the majority of the total volume of purchased asphalt. However, this results in double counting of part of the asphalt division's Scope 1 and 2 emissions. Work is in progress to avoid this and be able to report quality-assured data about the total volume of purchased asphalt.

Reporting principles, steel

For steel, NCC's base level for reinforcement is based on a summary of the figures obtained from clients, industry organizations and steel reinforcement producers in Europe and their EPDs.

The levels of CO_2e for steel vary considerably depending on the amount of waste metal used in production, and the energy efficiency of the producer. The base level for steel reinforcement has been set at 1,000 kg of CO_2e/ton and the base year is 2015. The climate impact is shown as of 2017, because no previous data is available.

Data from Finland has been excluded from the report, because no amount or mass figures could be aquired for Finland.

Data with figures recalculated from purchasing volumes is not included, due to inadequate reliability. NCC also purchases other types of steel, such as structural steel used in frameworks. Work is in progress to be able to also report the climate impact of these types of steel.

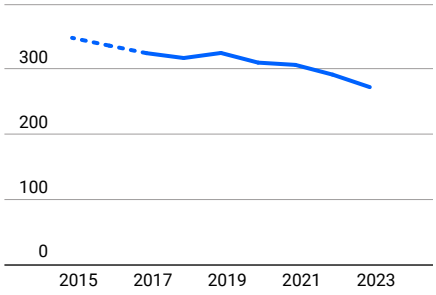
Reporting principles, transportation

Data was collected from 24 percent of relevant transportation and machinery services in Sweden. The suppliers contacted were only those where the transportation or machinery service was purchased by NCC itself.

Data from the suppliers was based on estimates conducted in a climate calculation tool developed by the Swedish Association of Road Transport Companies (SÅ Klimatkalk). In this tool, suppliers fill in the fuel and type of vehicle used and the tool applies the correct emission factor based on this information.

A key figure was calculated based on the collected data in order to obtain a summary of all transportation and machinery services purchased by NCC in Sweden. This was then applied to the remaining suppliers in this category. Data from Finland, Denmark and Norway was not obtained and is therefore excluding from these figures. Work is in progress to also include these countries and other transportation carried out between suppliers and our sites that NCC does not purchase itself and machinery used by subcontractors on our sites.

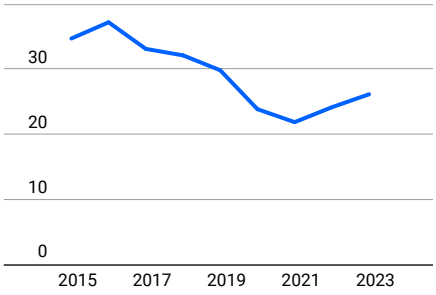
Ready-mix concrete (kg CO_2e/m^3)



Outcome 2023: –22 percent from 2015

The above graph shows the mean value for emissions from ready-mix concrete in CO_2e/m^3. Work on collecting data is under way. The report is based on data from Sweden for 2017–2023, Denmark and Finland for 2020–2022 and Norway for 2017, 2021–2023. The base level for concrete is derived from a compilation of values from customers, trade associations, manufacturers and various research initiatives.

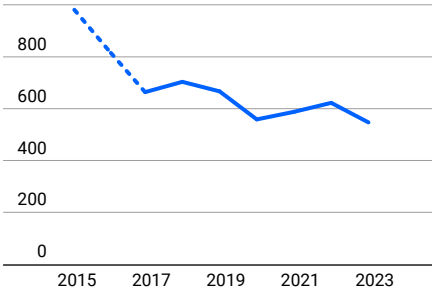
Asphalt (kg CO_2e/ton)



Outcome 2023: –25 percent from 2015

The above graph shows the volume of internally purchased asphalt, which corresponds to the majority of the total volume. The internally purchased asphalt has a lower climate impact per ton than the industry average.

Steel reinforcement (kg CO_2e/ton)



Outcome 2023: –45 percent from 2015

The above graph shows data on steel reinforcement in 2017–2019 for Sweden and Norway. Data on Denmark is also included for 2020–2023. The base level for steel reinforcement derives from a summary of the figures obtained from clients, industry organizations and steel reinforcement producers in Europe and their EPDs; for more information, refer to Reporting principles above.

Impact areas: Climate and energy

GHG emissions from NCC's operations

Market-based calculation method	2023	Change compared with base year 2015, %	2022	2021	2020	2019	2018	2017	2016	2015
GHG emissions,[1] CO_2e (thousand tons)	**515**	**90**	**135**	**151**	**161**	**189**	**202**	**217**	**232**	**271**
– of which, Scope 1[2]	126	–42	131	148	155	182	192	190	188	217
– of which, Scope 2[3]										
Market-based method	4	–92	4	4	6	7	10	26	44	54
Location-based method	11	–55	8	10	11	12	11	11	9	24
– of which, Scope 3[4] [5]	385	–	149	144	174	106	135	143	–	–
Purchased goods and services[6]	156	–	149	144	174	106	135	143	–	–
Fuel and energy-related activities	49	–	–	–	–	–	–	–	–	–
Upstream transportation and distribution[7]	34	–	–	–	–	–	–	–	–	–
Waste	1	–	–	–	–	–	–	–	–	–
Business traveling (air travel)	4	–	–	–	–	–	–	–	–	–
Use of sold products[8]	142	–	–	–	–	–	–	–	–	–
Net sales, SEK M[9]	**56,932**	**9**	**54,198**	**53,414**	**52,994**	**57,294**	**56,376**	**53,452**	**51,984**	**52,155**
Emission intensity: ton CO_2e/SEK M[10]	**2.3**	**–56**	**2.5**	**2.8**	**3.0**	**3.3**	**3.6**	**4.1**	**4.5**	**5.2**
Emission intensity: ton CO_2e/MWh[11]	**0.14**	**–35**	**0.15**	**0.15**	**0.16**	**0.17**	**0.18**	**0.20**	**0.21**	**0.22**
Combustion of biomass (biogenic Scope 1) (thousand tons)	**57**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**

1) Total greenhouse gas emissions for Scope 1–3. The market-based method is used for Scope 2. Greenhouse gases N_2O, CH4 and CO_2 are included in the calculations. Total greenhouse gas emissions are higher than previous years, as more categories are reported in Scope 3 compared with previous years. The greenhouse gases for 2015–2021 have been recalculated as a result of the divestment of the asphalt operations in Finland, according to the Greenhouse Gas Protocol Corporate Standard.
2) Refers to direct emissions from NCC's operations.
3) Refers to indirect emissions from electricity and heat.
4) Refers to emissions from NCC's value chain.
5) All greenhouse gases are included in the calculations.
6) Includes >80% of purchased volume of ready-mix concrete and steel reinforcement as well as internally purchased asphalt as of 2017. The baseline for KPIs was set on the basis of industry average figures for 2015. This also includes all purchased machinery services in Sweden.
7) Upstream transportation includes purchased transportation in Sweden.
8) Includes only the NCC Building Sweden business area and Finland for NCC Building Nordics, work is in progress to include more business areas.
9) The net sales for 2016–2021 have been recalculated as a result of the divestment of the asphalt operations in Finland, in accordance with the Greenhouse Gas Protocol Corporate Standard.
10) Only Scope 1 and Scope 2 (market-based method) are used in the key figure.
11) Only Scope 1 and Scope 2 (market-based method) are used in the key figure.

Impact areas: Climate and energy

Fuel use[1] in the organization

MWh	2023	Change compared with base year 2015, %	2022	2021	2020	2019	2018	2017
Renewable fuels	174,118	108	178,893	192,683	164,725	137,273	111,879	114,206
Fossil fuels	566,017	–37	557,266	751,719	746,055	845,982	889,365	951,544
Fuels, total	**740,135**	**–25**	**736,095**	**944,402**	**910,780**	**983,255**	**1,001,244**	**1,065,750**

1) The increase for fossil fuels from last year is largely due to supply and the price of biofuels, which varies over the year

District heating/district cooling use within the organization

MWh	2023	Change compared with base year 2015, %	2022	2021	2020	2019	2018	2017
District cooling	818	96	–	–	75	598	624	22
District heating	26,343	–48	24,162	23,931	29,560	42,508	29,156	29,207
District cooling/district heating, total	**27,161**	**–47**	**24,162**	**23,931**	**29,635**	**43,106**	**29,780**	**29,229**

Electricity use in the organization

MWh	2023	Change compared with base year 2015, %	2022	2021	2020	2019	2018	2017
Electricity from renewable sources[1]	162,052	58	147,347	156,888	159,561	157,204	152,259	118,754
Other electricity	8,030	–94	8,112	9,001	12,037	13,535	18,559	55,259
Electricity, total	**170,082**	**-27**	**155,262**	**165,889**	**171,598**	**170,739**	**170,818**	**174,013**

1) Hydroelectric and wind power.

Total energy consumption[1] in the organization

MWh	2023	Change compared with base year 2015, %	2022	2021	2020	2019	2018	2017
Energy consumption, total	**937,378**	**–26**	**915,583**	**1,000,689**	**1,006,781**	**1,095,793**	**1,092,121**	**1,084,768**

1) Total energy consumption is a sum of reported energy usage for electricity, district heating and cooling, and fuels.