

Green Bond



Investor report

1 October 2020 – 31 December 2021

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Background

NCC is one of the leading construction companies in the Nordics. Based on its expertise in managing complex construction processes, NCC contributes to a positive impact of construction for its customers and society. Operations include commercial property development, building and infrastructure project contracting, and asphalt and stone materials production. In 2021 NCC had a turnover of SEK 53 bn and approximately 13,000 employees.

To fund climate investments and relevant environmental initiatives that support our sustainability work NCC published a Green Bond Framework¹ and issued its first Green Bond in the fall of 2019. The sustainability work conducted in NCC originates from our sustainability framework which is integrated in our business and operations.

About the Investor Report

The Investor Report comprises brief information about NCC's sustainability work, the Green Bond Framework, and the green bonds, as well as the sustainability work performed for property development and the industrial production at asphalt plants and quarries. It also contains results and outcomes linked to the green bonds.

NCC has a portfolio of commercial properties that comply with the framework. These projects are designed and constructed to meet BREEAM Excellent or DGNB Gold. In this report, we present three representative projects, all of which fulfil the criteria of NCC's Green Bond Framework, and describe their climate impact, environmental impact, and smart technical solutions.

Significant investments have been made in fuel conversion, energy efficiency measures and recycling at our asphalt plants. Investments comprise all historic conversions, including the past year, investments in these types of measures in all the Nordic countries. Energy efficiency measures and recycling started in 2009. Conversion to renewable fuels started in the asphalt business in Sweden in 2012 but has only recently started in the other Nordic countries. The initiatives taken at the plants include investments to increase energy efficiency and raise the amount of reclaimed asphalt pavement (RAP) reused in our asphalt products. Since RAP goes into our ordinary asphalt production it reduces the cradle-to-gate climate impact of the asphalt product.

Reported investments regarding NCC's quarries consist of two parts: 1) electrification of sites owned by NCC and 2) mobile diesel-electric stone crushers owned by NCC for use in any electrified site. Both investments are required to make the transition from diesel-driven to electric crushing. The switch from diesel-driven to electric crushing is also associated with a significant reduction in energy consumption. Data on electrification and investment in diesel-electric crushers and the associated energy efficiency in the crushers includes all historic and present investments in Sweden. Conversion started in 2019 and is currently ongoing.

This report covers the period October 1, 2020 to December 31, 2021.

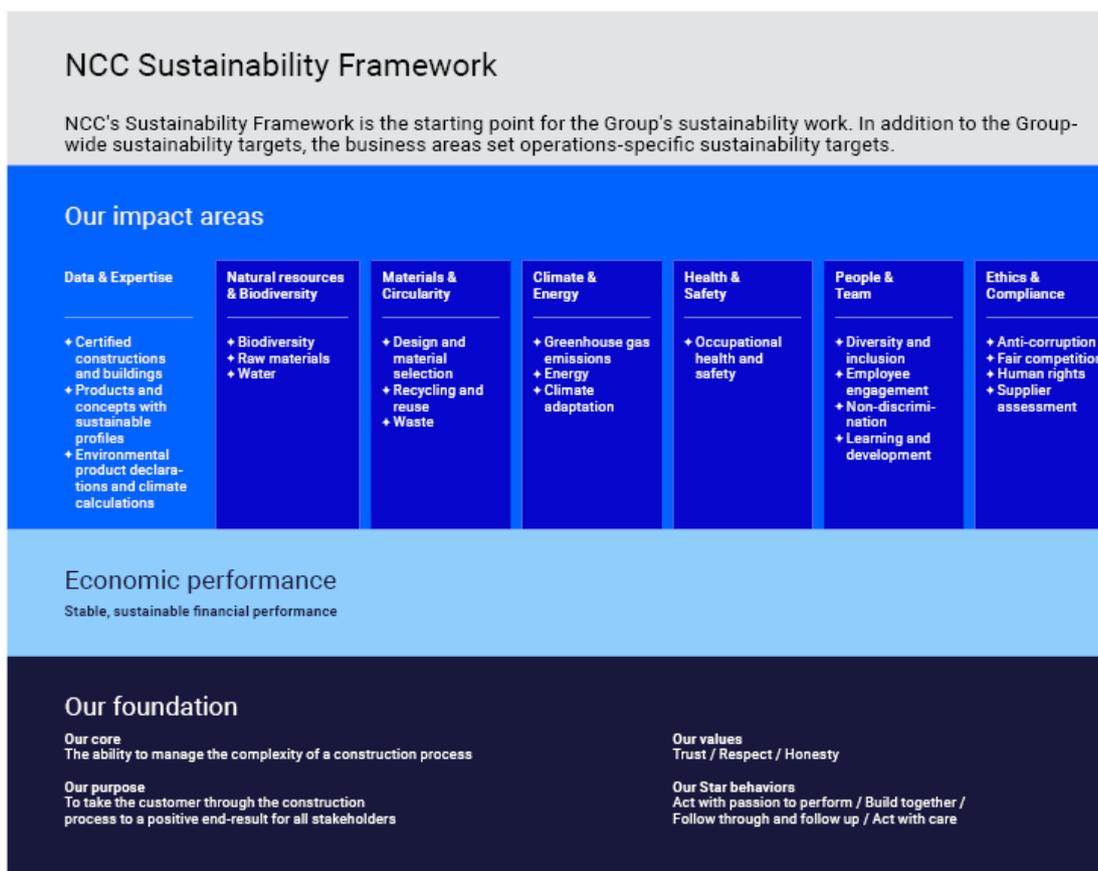
¹ https://www.ncc.com/globalassets/ncc--green-bonds-framework--11-september-2019_rev_mars2021.pdf

NCC's sustainability work

NCC's sustainability framework provides the foundation for the Group's sustainability work. In 2021, NCC updated its sustainability framework to better illustrate which areas and topics are most important for NCC to focus on, as well as the topics that have the greatest impact. The framework is divided into eight impact areas: Data and expertise, Natural resources and biodiversity, Materials and circularity, Climate and energy, Health and safety, People and team, Ethics and compliance and Economic performance.

For each area within the framework, NCC has long-term commitments that serve as guidance within the area of sustainability.

The foundation for NCC's sustainability work consists of the Group's shared values and behaviors, Star behaviors. NCC works to make a positive contribution to and reduce the negative impact on achieving the UN Sustainable Development Goals. This is also clarified through the Group's sustainability framework.



Green Bond Framework

The NCC Group will exclusively apply the net proceeds from the issuance of Green Bonds to finance a portfolio of “Eligible Projects”, promoting the transition to a low-carbon and climate resilient society.

For more information about NCC’s Green Bond Framework, please see:

<https://www.ncc.se/investor-relations/finansiell-information/laneprogram-mtn/>

Second opinion

NCC Green Bond Framework has been reviewed by CICERO, an independent climate and environmental research institute, and has been awarded the highest grade EXCELLENT regarding governance procedures and MEDIUM GREEN as the overall rating 2.

Green Bond Committee

NCC has established a Green Bond Committee to ensure that NCC has utilized the net proceeds from the issuance of Green Bonds to finance a portfolio of eligible projects, in accordance with NCCs Green Bond Framework, see above. In this report, NCC gives examples of projects that accurately represent the larger portfolio and for asphalt plants, the total climate and environmental impact made during the investments.

The projects have invested in aspects with a long-term effect in terms of lowering climate impact and improving environmental values in our products and offerings. More categories are listed in our framework and can be actualized. For more details, please refer to our Green Bond Framework.

SHADES OF GREEN

CICERO Green finds the NCC green bond framework to be in line with the Green Bond Principles. Based on our review, we rate the NCC’s green bond framework CICERO **Medium Green**.

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



² https://www.ncc.se/globalassets/ncc_second-opinion-cicero-green_12-september-2019.pdf

NCC's property development

To take a holistic approach to sustainable property development, NCC aims to certify all office projects at least at the BREEAM level excellent or the DGNB level Gold. This ensures that the focus is kept on the relevant sustainability issues and that improvements are made continuously in multiple areas. Certification includes an independent third-party review, which ensures that measures are implemented, and that a robust follow-up is carried out.

257 ton expected annual CO₂e reduction and 1,595 MWh expected annual energy saving from the three example projects

Real estate accounts for nearly 40 percent of energy use in Sweden³. It is therefore important to minimize energy use in properties being developed. All buildings are required to use at least 20 percent less energy compared with local codes. We are also working to provide buildings with renewable energy to a large extent and to focus on using energy with a low climate impact, this is for example solar energy and district heating from biofuels.

Reducing climate impact from used materials and the construction process is a major focus area. We focus on resource-efficient construction and materials with low climate impact. Large amounts of waste are generated in construction projects and a large part of that waste is currently sent to incineration or landfill. The EU waste hierarchy controls our way of working and the goal is to minimize waste and sort the waste generated into reusable clean fractions.

³ www.naturvardsverket.se

NCC's asphalt plants and quarries

Asphalt plants

Production of asphalt mixtures consumes large amounts of basic material and energy. NCC produces aggregates in various sizes, from blasted rock to finely crushed materials below a nominal size of a millimetre. The products are mainly used in construction and civil engineering projects, including as aggregates in asphalt mixtures.

16,675 ton
CO2e reduction
2015 -2021 in NCC's
asphalt plants

The sustainability work conducted in this area essentially concerns NCC's production of asphalt (rather than paving) which comprises the following, essentially interlinked aspects:

- Energy conversions: Replacing fossil fuel oils and gases at the plants with wood pellets or bio-oil
- Increasing recycling of input materials: aggregates, reclaimed asphalt pavement (RAP)
- Energy efficiency: reducing production temperature by covering, insulating & ventilating to reduce moisture in components and production units etc.

Although not immediately affecting energy type or consumption, increasing aggregate and asphalt recycling contributes to achieving a circular economy and indirectly affects the carbon footprint within Scope 3.

The main components in asphalt mixtures, besides mineral rock aggregates, are bitumen and smaller amounts of adhesives and cellulose fibres. In addition, reclaimed asphalt pavement (RAP) is usually added to asphalt mixtures, thereby replacing virgin aggregate and virgin bitumen. Content declarations of individual products provide content ranges depending on recipe and type. Asphalt production requires energy as the material is heated to a temperature of approximately 120-180 °C (hot-mix asphalt). The fuel used for asphalt production has historically constituted fossil energy, typically fuel oil or gas, while during the last decade NCC has emphasized increased use of renewable energy such as wood pellets (cf. Figure 1), which are milled to powder, or the bio-oil tall-oil pitch, TOP. The direct energy usage in asphalt production derives from heating the asphalt mixture and removing moisture from aggregates and RAP. Therefore, investments to reduce production temperature and to protect stored raw materials from precipitation are also covered by the green investments and associated bonds⁴.

Timing of a given investment at each asphalt plant depends on current plant status, need of maintenance/ replacement and site-specific conditions such as local fuel availability, transport distances and plant configuration. For example, efficient use of biofuels often needs additional preparations and adjustments, such as milling of pellets or preheating of bio-oils, which normally limits annual consumption below 100 percent. Consequently, the present target for individual converted plants is typically to reach 90 percent non-fossil fuels, a figure that has been increased over the years by successive accumulation of experience.

⁴ For a more detailed presentation of the production processes and materials used before transportation to the construction site, the reader is referred to any of NCC Industry's environmental product declarations (www.environdec.com).

Quarries

Production of aggregates in quarries consumes large amounts of basic material and energy. NCC produces aggregates in various sizes, from blasted rock to finely crushed stones below a nominal size of one millimetre. The products are mainly used in construction and civil engineering projects, including bulk material in asphalt mixtures.

1,878 ton CO₂e
reduction 2019 -
2021 in NCC's
mobile crushers

The mobile aggregate crushing production units in Sweden are working with:

- Energy efficiency: Replacing fossil diesel with electricity
- Energy conversion: Replacing fossil diesel with electricity
- Energy for the mobile crushing production process has historically constituted fossil energy, typically 100 percent fossil diesel. During recent years, NCC has advocated increased use of renewable energy in the form of electricity from renewable sources (hydropower)

The timing of a given investment depends on current crusher status, need of maintenance/replacement and site-specific conditions, such as local electricity and effect (power output) availability, and crusher configuration.

There are two categories of investments for electrification:

- Electrification of sites (transformers and cables)
- Mobile crushers that are diesel-electric instead of diesel-hydraulic

Issuance of Green Bonds

NCC reports in Swedish kronor (SEK) and the reporting period ended on December 31, 2021. NCC has outstanding Green Bonds amounting to SEK 1,600 M of which SEK 850 M matures on September 30, 2022 and SEK 750 M matures on September 30, 2024. NCC has also SEK 100 M in a private placement that matures on October 24, 2023. The proceeds from the bonds have all been used to re-finance investments that are in alignment with the NCC Green Bond Framework. Activated eligible green assets amounted to SEK 1,682⁵ M on December 31, 2021.

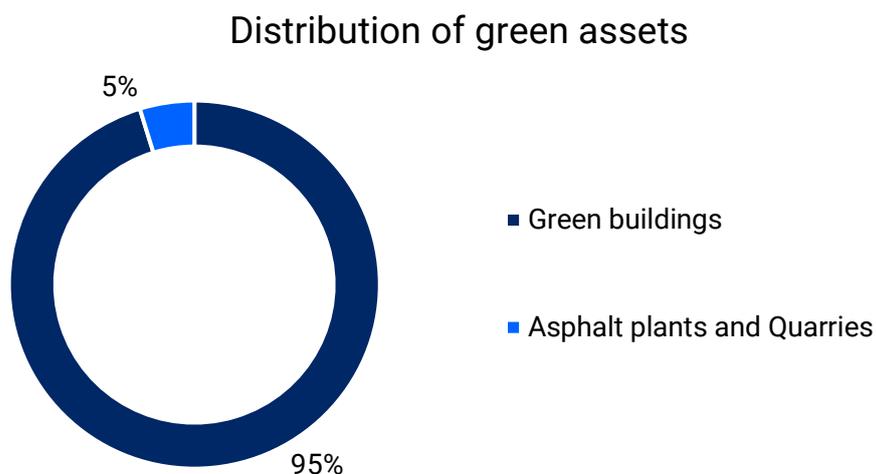


Figure 1 Distribution of green assets

⁵ NCC Treasury had as per 21-12-31 Green Bonds outstanding amounting to 1,7 billion SEK (including 100 million SEK in private placement). The internal Green lending were at the same time amounting to 1,682 billion SEK. The reason behind the discrepancy was fluctuation in currencies leading to different amounts in the bookkeeping.

Summary of key results

Information regarding the calculation approach can be found in appendix 1

Dispersed and allocated bonds

SEK M	Dispersed green bonds	Allocated volume	Carrying amount ⁶	Available volume
Green buildings	1,602	1,602	5,700 ⁷	4,098
			Total investments	Estimated available volumes ⁸
Asphalt plants	80	80	299.4	135.1
Quarries			97.4	80.5
Total	1,682	1,682		

Table 1 Dispersed and allocated bonds

Environmental impact

Green buildings ⁹	Expected reduction of emissions (ton CO ₂ e)	Expected annual energy savings (MWh)	Recycled waste (%)
Annual savings	257	1595	61-90
Asphalt plants	Fossil Scope 1 emissions saving in 2021 compared with 2015 (kg fossil CO₂e/ton asphalt and %)	Fossil energy saving in 2021 compared with 2015 (fossil MWh/ton asphalt and %)	Increase in renewable share of energy mix from 2015 to 2021 (%)
Saving 2015-2021	3.7 (27%)	13 (22%)	From 18% to 37%
Mobile crushers in quarries	Fossil Scope 1 & 2 emission saving 2021 compared to 2019 (kg fossil CO₂e/ton aggregates and %)	Fossil energy saving in 2021 compared with 2019 (fossil MWh/ton aggregates and %)	Increase in renewable share of energy mix from 2019 to 2021 (%)
Saving 2019-2021	0.16 (20%)	0.62 (20%)	From 1 to 20%

Table 2 Environmental impact

During Q4 2020 and 2021 NCC continued to show an improvement in carbon reduction and introduced further biofuels into the fuel-mix. Biofuels in the fuel mix have increased by 84 percent and our carbon intensity has been reduced by 41 % since 2015. For more information on NCC's climate work, see Annual report¹⁰.

⁶ Portfolio December 2021.

⁷ Differences against the NCC Group's book value on ongoing property projects may occur. These differences mainly consist of eliminations of internal profits and Joint venture projects.

⁸ Estimated residual value Dec 2021 with Sep 2021 as base

⁹ Calculated reduction as described in text and impact summarization of the three project examples. These are annual savings during building lifetime. Savings are for the three projects only, not entire project portfolio.

¹⁰ <https://www.ncc.com/contentassets/341791baae7846ae81d3379eb74a9d81/ncc-annual-report-2021.pdf>

Information on NCC's Green Bond investments

NCC's property development

Portfolio content

Project	City	Segment	Lettable area, sqm	Construction start	Sold, expected time for profit recognition	Environmental certification
Kontorværket 1	Copenhagen	Office	15,900	Q4 2020		DGNB - Gold
Fredriksberg D	Helsinki	Office	8,400	Q3 2020	Q3 2022	BREEAM - Excellent
Kulma21	Helsinki	Office	7,700	Q2 2021		BREEAM - Excellent
We Land	Helsinki	Office	21,300	Q3 2020		BREEAM - Outstanding
Bromma Blocks	Stockholm	Office	51,900	Q4 2018		BREEAM – Excellent/Outstanding
Kineum Gårda	Gothenburg	Office	21,300	Q4 2018	Q4 2022	BREEAM - Excellent
Brick Studios	Gothenburg	Office	16,200	Q4 2019		BREEAM - Excellent
Våghuset	Gothenburg	Office	11,100	Q4 2019		BREEAM - Excellent
MIMO	Gothenburg	Office	31,800	Q2 2021	Q4 2024	BREEAM - Excellent
Nova	Stockholm	Office	9,800	Q3 2021		BREEAM - Excellent

Table 3 Ongoing green property development projects per Dec 31, 2021

Environmental impact property development

Three projects have been selected to represent the portfolio and they are described in detail below. These are the Våghuset/Brick Studios projects in Sweden, Kontorvaerket in Denmark and We Land project in Finland.

Actual or expected environmental impact is described in the tables below.

Project	Energy performance ^A (kWh/m ² , year)	Energy-savings (%)	CO ₂ e-savings (CO ₂ e/m ² , year)		Renewable energy (%)	Waste ^B (%)
			Reduced	Avoided		
Våghuset + Brick Studios	54 kwh/m ² year	36 %	5	3	74 %	90 %
Kontorvaerket	39 kwh/m ² year	6 %	2	0.1	80 %	61 %
We Land	77 kwh/m ² year	23 %	22	6	52 %	70 %

^A According to local building code
^B As described in NCC's annual report

Table 4 Actual or expected environmental impact

Våghuset/Brick Studios

Project facts
City: Gothenburg
Type: Office building

Certificate
Scheme: BREEAM-SE 2017 New Construction
Level: Excellent
Status: Design Stage ongoing

Sustainability highlights

Energy

- Energy-smart installations with presence controlled low air flow and high heat recovery in ventilation. Presence and daylight control of lighting. Water saving faucets

Additional certification

- Citylab certification for sustainable development of the area

Other

- Green roofs and large terrace for building users
- Bicycle rooms and changing rooms
- Proximity to public transport and services
- Evaluated building materials



Kontorvaerket**Project facts**

City: Copenhagen
Type: Office building

**Certificate**

Scheme: DGNB
Level: Gold
Status: Design Stage ongoing

Sustainability highlights

- Technical
- PVC-free construction: We have phased out PVC from the project – it means power cables, drains, windows, plumbing materials, insulation covers and flooring materials
 - The project has obtained DGNB Hjerte
- Other
- Solar panel system 3,3 kWh/sqm/year cf

We Land

Project facts

City: Helsinki

Type: Office building



Certificate

Scheme:

BREEAM-International New Construction

Level:

Outstanding

Status:

Design stage ongoing

Sustainability highlights

Energy

- Use of renewable energy sources, 26 kWp solar panel system onsite
- Presence and daylight control of lighting
- District heating and cooling, highest energy efficiency level A2018
- During construction period, consumption of electricity and CO2 emissions from transportation and fuels are monitored. The building site uses renewable energy

Modifiable

- Adaptability to climate change
- Each floor layout is modifiable from single to multi-tenant use and floor levels can be connected with open staircases, underfloor system for installations

Other

- Reservation of electric car charging points available for 100 percent of parking places
- 450 indoor bicycle parking places, electric bicycle charging points available for 30 percent of spaces
- During office hours, 15 percent of parking facilities will be used for public parking and after office hours, 100 percent for public parking
- Easy access to public transport, 30 meters to bus stop, 80 meters to tram stop, 400 meters to metro station
- Western Helsinki's main bicycle route passes by the building and its cycling related facilities are of high quality, including a bicycle washing facility
- Green roofs with bird houses, accessible terrace
- Facade copper material is made of 100 percent recycled copper and can be fully recycled after use
- Procurement process takes account reused material and building products

NCC's asphalt plants

Between 2012 and 2021, all 29 of the Swedish asphalt plants and 1 of 18 plants in Norway were converted to biofuels, see Table 6. Two plants in Norway have been prepared for conversion to biofuel in 2021. Instead of traditional fossil light fuel oil (LFO), renewable wood pellets/powder or bio-oil (tall oil pitch, TOP) is now used.

Other measures to reduce CO₂e emissions include increasing the share of recycled input materials; aggregates and reclaimed asphalt pavement (RAP), and increasing energy efficiency; reducing production temperature by covering, insulating & ventilating to reduce moisture in components and production units etc.

The distribution of investments and residual values as of December 2021 and the total share to reduced CO₂e emissions since 2012 are shown in Table 5 and the total investment by asphalt plant location, year and investment category is shown in Table 6.

	Energy conversion	Energy efficiency	Recycling	Summarized value
Distribution of investments ¹¹	57.5%	25.9%	16.7%	SEK 299.4 M
Distribution of residual value ¹²	51.7%	30.9%	17.4%	SEK 135.1 M

Table 5 Distribution of investments and residual value as of December 2021



Figure 2 Location of asphalt plants

¹¹ Investment for the decade

¹² Estimated as of Dec. 2021 with Sep. 2021 as base

Location	Country	Year	Investment category		
			Energy efficiency	Energy conversion	Recycling
Gävle	Sweden	2009-2019	X	X	X
Säter	Sweden	2009-2021	X		X
Hudiksvall	Sweden	2010-2020	X	X	
Gothenburg	Sweden	2010-2020	X	X	X
Ålesund	Norway	2011-2015	X		
Roust	Denmark	2011-2018	X		
Bollnäs	Sweden	2011-2020	X	X	X
Rugsland	Norway	2011-2021	X	X	X
Trige	Denmark	2012-2018	X		X
Brejning	Denmark	2012-2020	X		
Maribo	Denmark	2012-2021	X		X
Rekefjord	Norway	2013-2016	X		
Eskilstuna	Sweden	2013-2019	X	X	X
Tau	Norway	2013-2019	X		
Eikefjord	Norway	2014	X		
Gammelrand	Denmark	2014	X		
Grinda	Norway	2014	X		
Rådal	Norway	2014			X
Lierskogen	Norway	2014-2015	X		X
Uddevalla	Sweden	2014-2016	X	X	X
Västerås	Sweden	2014-2016	X	X	X
Etne	Norway	2014-2017	X		
Halmstad	Sweden	2014-2018	X	X	X
Jönköping	Sweden	2014-2018	X	X	X
Karlstad	Sweden	2014-2019	X	X	X
Norrköping	Sweden	2014-2019		X	
Borås	Sweden	2014-2020	X	X	X
Stockholm, north	Sweden	2014-2020	X	X	X
Umeå	Sweden	2014-2020	X	X	
Kolding	Denmark	2015	X		
Lahti	Finland	2015			X
Äskekärr	Sweden	2015	X		
Mobil 3	Norway	2015-2016	X		X
Piteå	Sweden	2015-2017	X	X	
Odense	Denmark	2015-2018	X		
Kiruna	Sweden	2015-2019	X	X	X

Lidalen	Norway	2015-2021	X		X
Breivik	Norway	2016	X		
Klodeborg	Norway	2016	X		
Mobil 4	Norway	2016-2018	X		X
Hjallerup	Denmark	2016-2018	X		X
Astec DB	Sweden	2016-2019		X	X
Bondkall	Norway	2016-2019	X		X
Lund	Sweden	2016-2019	X	X	
Kalmar	Sweden	2016-2019	X	X	
Mobil 2	Norway	2016-2019	X		
Tampere	Finland	2016-2020	X		X
Mora	Sweden	2016-2020	X	X	X
Östersund	Sweden	2016-2021	X	X	X
Lia	Norway	2016-2021	X	X	X
Stockholm, south	Sweden	2017-2020	X	X	X
Ermont 1	Finland	2018			X
Ermont 2	Finland	2018			X
Espoo	Finland	2018			X
Klippan	Sweden	2018-2019	X	X	X
Örebro	Sweden	2018-2019	X	X	
Sundsvall	Sweden	2018-2019	X	X	
Skellefteå	Sweden	2018-2020	X	X	
Mobil 1	Norway	2019			X
Mobil 5	Norway	2019			X
Steinskogen	Norway	2019		X	X
Astec Six-pack	Sweden	2019			X
Turku	Finland	2019			X
Vantaa	Finland	2019			X
K1	Finland	2019-2020			X
Ejby	Denmark	2021	X		X
Astec XHR	Sweden	2021		X	X

Table 6 Investments by year and investment category.

Environmental impact asphalt plants

Emissions of greenhouse gases (as expressed by Global Warming Potential, GWP) for asphalt production mainly depend on the quantity and type of fuel used to heat the product and the quantities of such resources, as aggregates and virgin bitumen, used.

Figure 3 illustrates the combined effect of the fuel type used and the amount of recycling for a typical asphalt type¹³. As indicated, converting from fossil LFO to biofuel combined with increased amounts of recycling (RAP) yields a substantial decrease in GWP for the asphalt. The effect of each percent of increased recycling is approximately a reduction of 0.13 kg CO₂e/ton asphalt.

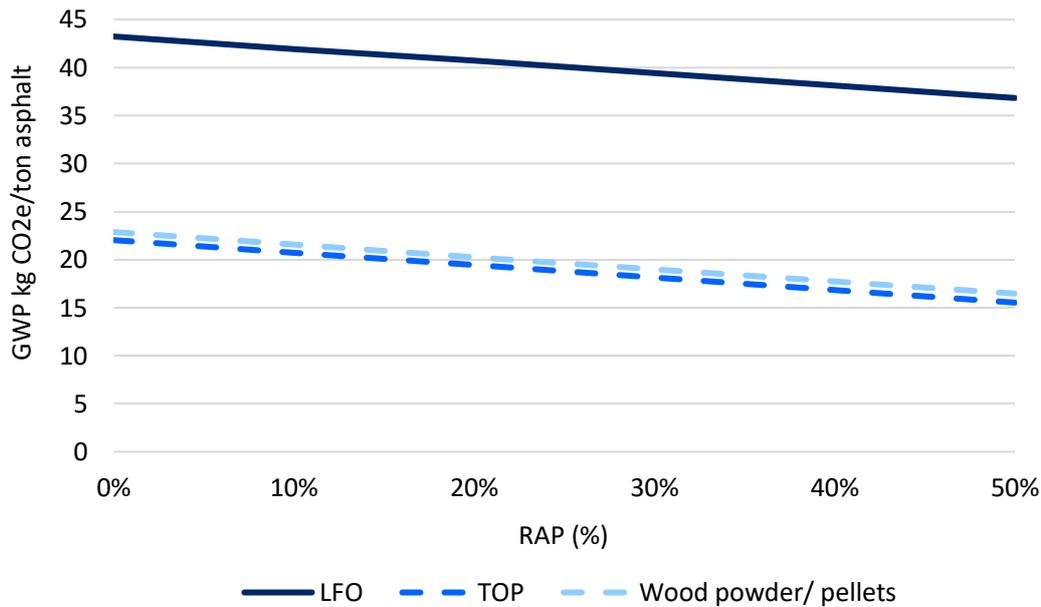


Figure 3 Effect of fuel type and amount of recycling on cradle-to-gate GWP for asphalt

Figure 4 presents the effect of the investments made in energy conversion and energy efficiency measures during 2015-2021 in all of NCC Industry's asphalt plants. There was initially a slight increase from 2015 until 2017, because the use of fish oil as a biofuel in Norway stopped after 2015. The Scope 1 fossil CO₂e emission per ton of produced asphalt in all plants of NCC Industry was reduced by 27 percent, from 14.0 to 10.3 kg CO₂e/ton, from 2015 until 2021. This is equivalent to a reduction of ~22,500 tons of CO₂e for the total asphalt production in 2021.

¹³ LCA for ABT11 mixture using GaBi.

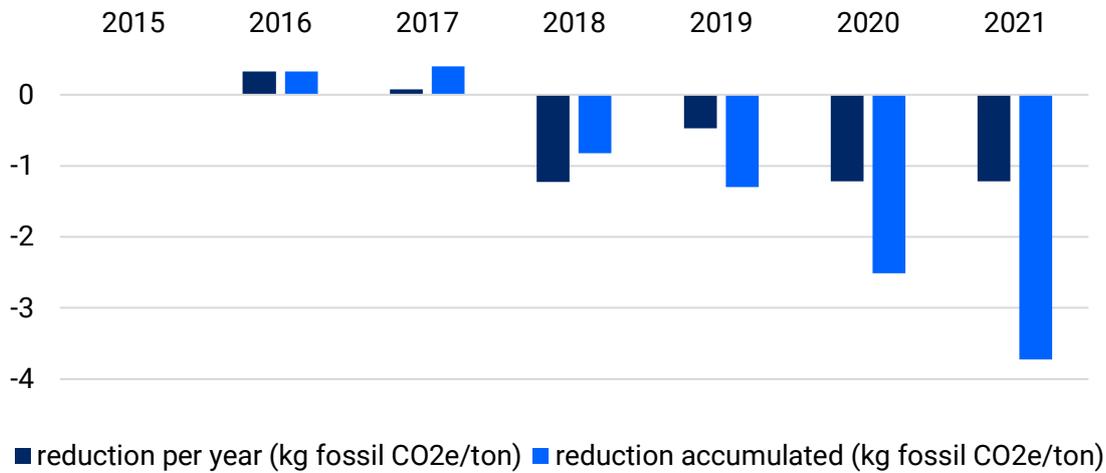


Figure 4 Reduction of Scope 1 fossil CO2e emissions per ton produced asphalt at all of NCC Industry's asphalt plants during 2015-2021, kg CO2e/ton

When converting to biofuels, fossil CO2e emissions per energy unit consumed in production will drop. Figure 5 shows that the Scope 1 fossil CO2e emissions per MWh was reduced by ~28 percent in all NCC Industry's asphalt plants, from 198 to 142 kg CO2e/MWh, from 2015 until 2021.

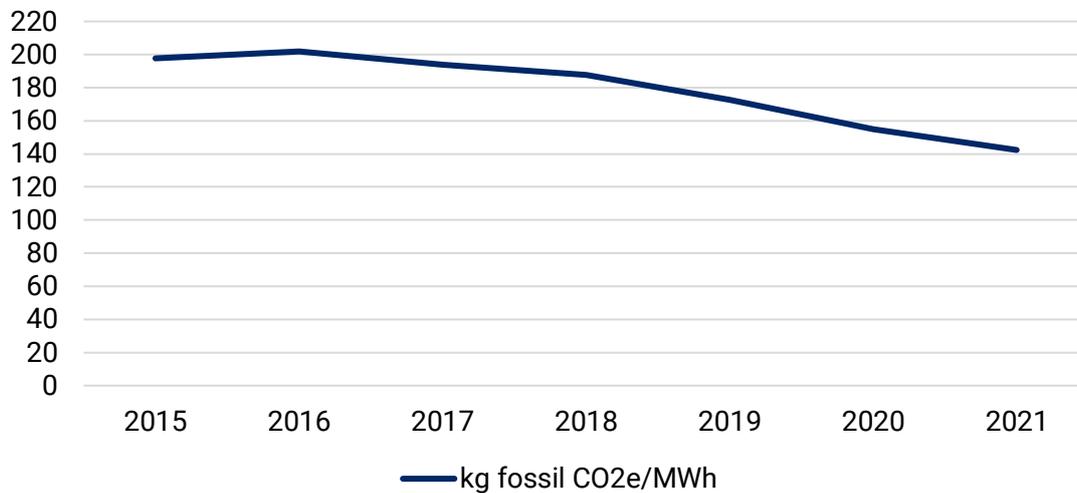


Figure 5 Scope 1 fossil CO2e emission per MWh consumed in all NCC Industry's asphalt plants during 2015-2021, kg CO2e/MWh

Using reclaimed asphalt pavement also gives a pronounced effect on the cradle-to-gate emissions of asphalt. Over the years NCC Industry has successively increased the amount of recycling and in 2021 the amount of RAP in asphalt mixtures averaged 26 percent in all the asphalt plants, see Figure 6.

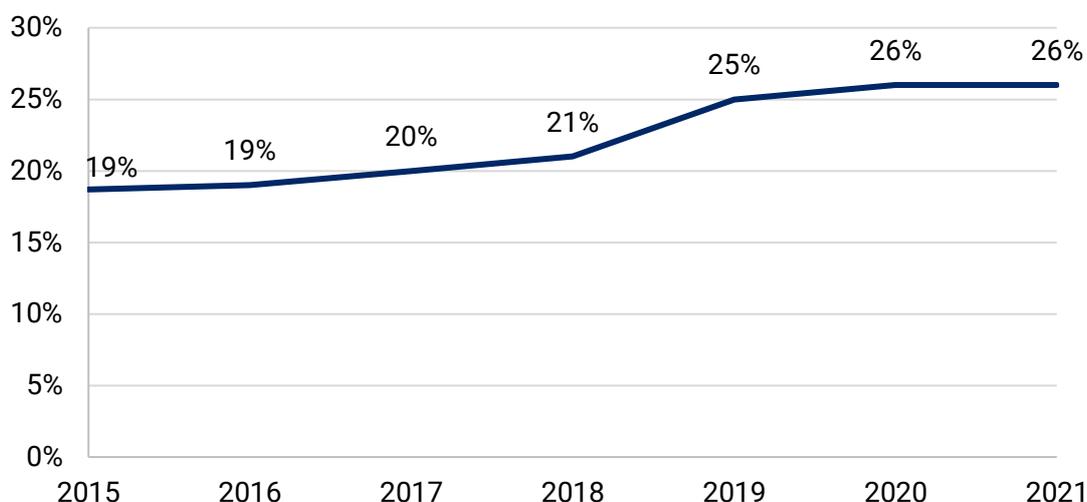


Figure 6 Proportion of RAP in asphalt mixtures 2015-2021 (average value)

By combining a higher share of biofuels, energy efficiency measures (lower humidity in the raw material and lower temperature in production) and a larger proportion of RAP, the climate impact of asphalt mixtures from NCC will successively be reduced.

NCC's quarries

Between 2019 and 2021, five sites were electrified to enable electrically powered mobile crushing (in total, seven out of nine mobile crushers used today in these sites can now be electrically powered). Investments were also made in one primary mobile crusher, five secondary mobile crushers, one tertiary mobile crusher as well as one mobile screen, which can be used in any electrified site.

Investments and residual values as of December 2021 are shown in Table 7 and the total investments by site/crusher (incl. geographical location), year and investment category are shown in Table 8.

	Total
Investments ¹⁴	SEK 97.4 M
Residual value	SEK 80.5 M

Table 7 Investments and residual values for electrification of mobile crushing as of December 2021

¹⁴ Investment for the decade

Location (county)	Year	Category	
		Energy efficiency	Energy conversion
<i>Sites:</i>			
Electrification, Rotebro (ABC)	2019	x	x
Electrification, Arlanda (ABC)	2019	x	x
Electrification, Vetlanda (F)	2020	x	x
Electrification, Rydbo (ABC)	2021	x	x
Electrification, Skärlunda (E)	2021	x	x
<i>Crushers:</i>			
Secondary crusher W 4800 FS (EF)	2019	x	x
Secondary crusher J550 (E)	2020	x	x
Secondary crusher J6800 (DTU)	2020	x	x
Secondary crusher W 4800 FS (O)	2020	x	x
Secondary crusher W 4800 FSS (DTU)	2020	x	x
Secondary crusher W 330 FSS (ABC)	2020	x	x
Secondary crusher J550 (ABC)	2021	x	x
Primary crusher LT120E -20 (ABC)	2021	x	x
Secondary crusher JS550 (O)	2021	x	x
Screen J3054 (ABC)	2021	x	x

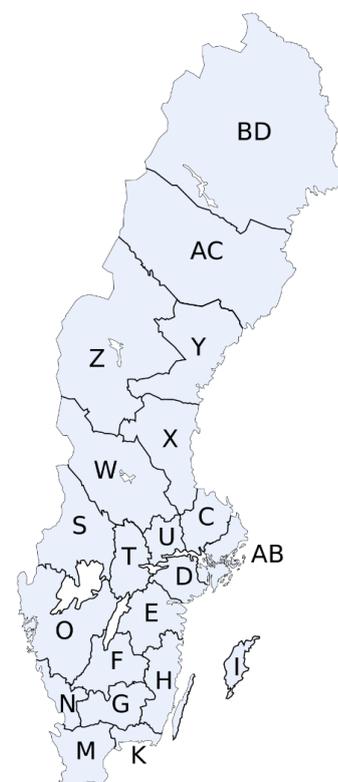


Table 8 Geographical location (county) and year when site was electrified or invested in diesel-electric mobile crusher

Environmental impact quarries

Emissions of greenhouse gases from aggregate production largely depend on the energy type consumed during production. As can be seen in Figure 7, converting from 100 percent fossil diesel to green electricity results in a substantial reduction in fossil CO₂e emissions (the average cradle-to-gate emissions from mobile crushed material using 100 percent fossil diesel is 3-4 kg fossil CO₂e/ton aggregates).

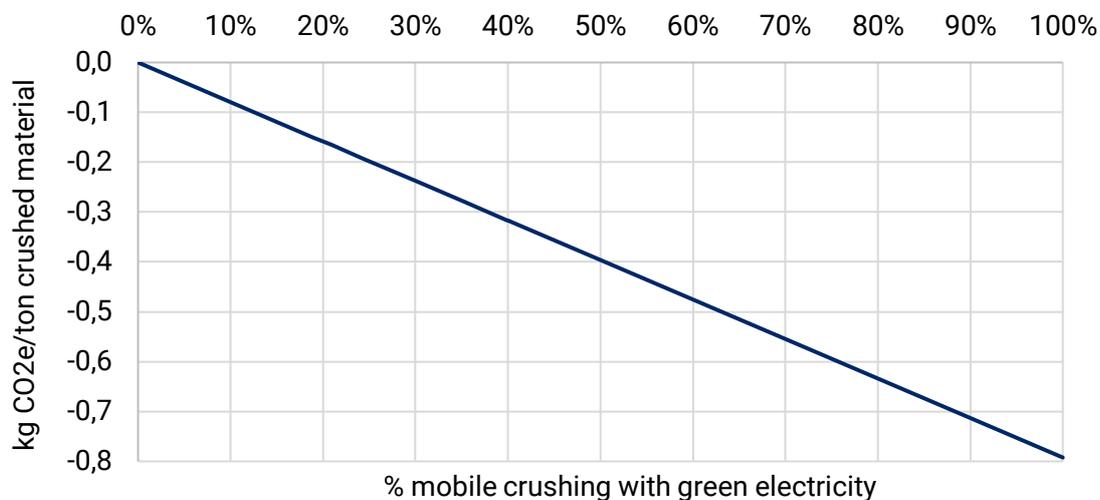


Figure 7 Average effect of green electricity share in mobile crushing on cradle-to-gate kg CO2e emissions per ton aggregates

Table 9 presents the effect of the investments made on electrification during 2019-2021. It shows the CO2 reduction and the reduction in energy consumption obtained from using green electricity with guarantees of origin instead of 100 percent fossil diesel.

CO2 emissions reduction (ton CO2e)	Energy consumption reduction (MWh)
-1,878	-4,066

Table 9 Total reduction in CO2e emissions and energy consumption in mobile crushing due to electrification since 2019.

The total CO2e emissions were reduced by 18 percent from 2019 until 2021, which is equivalent to 1,878 tons CO2e. The total energy consumption was reduced by 10 percent from 2019 to 2021, which is equivalent to 4,066 MWh.



Auditor's Limited Assurance Report of Investor Report Green Bonds

To NCC AB (publ), Corporate identification number 556034-5174

Introduction and Scope

We have been engaged by the Executive Team of NCC AB ("NCC") to perform limited assurance of NCC's Investor Report Green Bonds ("the Report") for 2021. The scope of our work is limited to assurance of pages 9-12 in the Report.

Responsibilities of the Executive Team

The Executive Team is responsible for preparing the Report in accordance with applicable criteria. The criteria is described in *NCC Green Bond Framework* ("the Framework") dated 11 September 2019 (page 4, section 2) that is available on NCC's website, that is applicable to the Report, as well as the accounting and calculation principles that the company has developed. This responsibility also includes the internal control which is deemed necessary to establish an impact report that does not contain material misstatement, whether due to fraud or error.

Responsibilities of the Auditor

Our responsibility is to express a limited assurance conclusion on the selected information specified above based on the procedures we have performed and the evidence we have obtained.

We have conducted our limited assurance engagement in accordance with ISAE 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information* issued by IAASB. A limited assurance engagement consists of making inquiries, primarily of persons responsible for the preparation of the selected information in the Report, and applying analytical and other limited assurance procedures. The procedures performed in a limited assurance engagement vary in nature from, and are less in extent than for, a reasonable assurance engagement conducted in accordance with IAASB's Standards on Auditing and other generally accepted auditing standards.

The procedures performed consequently do not enable us to obtain assurance that we would become aware of all significant matters that might be identified in a reasonable assurance engagement. Accordingly, we do not express a reasonable assurance conclusion.

The firm applies ISQC 1 (International Standard on Quality Control) and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We are independent towards NCC in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

Our procedures are based on the criteria defined by the Executive Team as described above. We consider these criteria suitable for the preparation of the Report.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion below.

Conclusion

Based on the limited assurance procedures we have performed, nothing has come to our attention that causes us to believe that the selected information disclosed in the Report has not been prepared, in all material respects, in accordance with the reporting criteria.

Stockholm, 14 March 2022

PricewaterhouseCoopers AB

Ann-Christine Hägglund
Authorized Public Accountant
Partner in charge

Karin Juslin
Sustainability Expert member of FAR

Appendix 1 - Calculation approach

NCC follows the Greenhouse Gas Protocol. The Scope 1 emission factors used for fuels are supplied by DEFRA and are, when relevant, country specific (cf. Swedish environmental protection agency). For project-specific emissions from property development projects NCC uses the local supplier's emission factor (district heating and cooling) and the Nordic residual mix for electricity¹⁵. Regarding emissions from electricity used at asphalt plants and mobile stone crushers (Scope 2), NCC adopts the market-based approach using the country-specific residual mix emission factor for electricity without certificates of Guarantee of Origin, and an emission factor of zero for electricity with certificates of Guarantee of Origin.

Both reduced and avoided CO₂e is generated from the investments. Avoided CO₂e occurs when the energy usage in our products is lowered, and reduced CO₂e when the energy is switched to renewable origin.

Scope 1 and 2 emissions generated from asphalt plants are calculated based on production volume, type and amounts of fuels invoiced. The reduction in Global Warming Potential (GWP) for asphalt production from the use of RAP (Reclaimed Asphalt Pavement) is established based on nominal resource use (aggregates, bitumen, and RAP) and corresponding emission factors from the Life Cycle Assessment (LCA) software GaBi Professional, for the production of a standard asphalt type¹⁶. Calculations are made according to the requirements specified in EN 15804¹⁷ and Product Category Rules 2018:04 Asphalt mixtures, version 1.03 of September 6, 2019.

Scope 1 and 2 emissions generated from mobile stone crushers are calculated based on production quantities and on measured energy consumption per produced ton at sites in the Stockholm area.

¹⁵ According to calculation in BREEAM manual

¹⁶ Dense graded mixture for wearing course layer (ABT11)

¹⁷ EN 15804:2012+A2:2019



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