



Investor Report

Green Bond

November 2020

To fund climate investments and relevant environmental initiatives that supports our sustainability work NCC published a Green Bond Framework¹ and issued its first Green Bond in the fall of 2019.

NCC is one of the leading construction and property development companies in the Nordic region. NCC is engaged throughout the value chain in our efforts to create environments for work, living and communication. NCC develops commercial properties and constructs housing, offices, industrial facilities and public buildings, roads, civil engineering structures and other types of infrastructure. NCC also offers input materials used in construction and accounts for paving, operation and maintenance of roads. The sustainability work in NCC originates from our sustainability framework which is integrated in our business and operations.

Sustainability at NCC

In 2015 NCC established a Sustainability Framework which has enabled NCC to focus on areas of true impact on societal, environmental and economical sustainability during the past five years. The framework outlines six principal sustainability areas where NCC can make substantial impact in line with the UN Sustainable Development Goals and Agenda 2030. For each area within the framework, NCC has long-term statements to serve as directions within sustainability². These relate to long-term changes in market conditions, they outline the path ahead and they provide a sustainable direction going forward and has a clear focus on climate impact reduction.



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

² <https://www.ncc.se/hallbarhet/hallbarhetsmal/nccs-bidrag-till-fns-globala-mal/>

Second opinion

NCC Green Bond Framework has been reviewed by CICERO, an independent climate and environmental research institute, and has been given the highest grade EXCELLENT regarding governance procedures and MEDIUM GREEN as overall grading³.

Green Bond Committee

NCC has established a Green Bond Committee to ensure that NCC has applied the net proceeds from the issuance of Green Bonds to finance a portfolio of eligible projects, in accordance with NCCs green bond framework. The committee has ensured that the portfolio covers allocated funds and is compliant with NCCs Green Bond framework. The committee has approved one deviation from our Green Bond Framework. That is that we are not able to present each project in detail due to competition considerations and to the large number of underlying projects⁴. We have the intention to update the framework in that respect the coming year. In this report, NCC gives examples of projects that well represent the larger portfolio and for asphalt plants, the total climate and environmental impact made during the investments.

Current issuance of Green Bonds falls into the following categories:

- Green Buildings
- Waste Management
- Conversion to renewable energy sources

The projects have invested in aspects with a long-term effect towards lowering climate impact and improve environmental values in our products and offers. More categories are listed in our framework and can be actualized. For details please visit our Green Bond Framework.

Impact report

NCC has a portfolio of commercial properties under development that comply with the framework. These projects are designed and constructed to meet the desired levels of BREEAM or DGNB. In this report, we have decided to present three representative projects, which all fulfill NCCs Green Bond Framework, to describe their climate impact, environmental impact and smart technical solutions.

Conversion to renewable fuels includes all historic and present conversions and energy saving initiatives in asphalt plants in Sweden. Conversion to renewable fuels started in the asphalt business in Sweden in 2012 and is still ongoing. Only a few asphalt plants have not yet started conversion. For reclaimed asphalt pavement (RAP) – reused in asphalt products – we include investments to handle RAP and to reintroduce the asphalt in an energy efficient manner. Since RAP goes into our ordinary asphalt production the reduced climate impact is a part of the asphalt product.

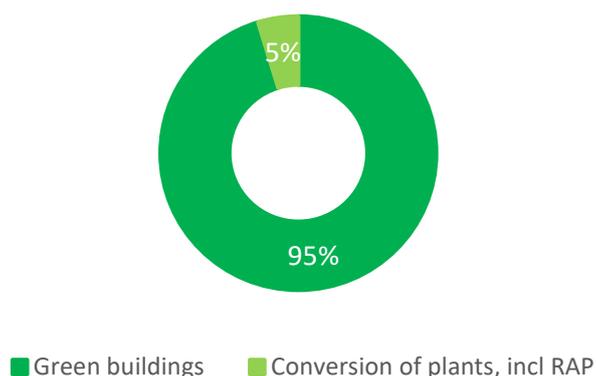
Issuance of Green Bonds

NCC reports in Swedish kronor and the reporting period ended on December 31, 2019. During the year NCC issued Green Bonds amounting to SEK 1,600 M whereof SEK 850 M matures September 30, 2022 and SEK 750 M matures September 30, 2024. NCC has also issued SEK 100 M in a private placement that matures 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 1,697 M at September 30, 2020.

³ https://www.ncc.se/globalassets/ncc_second-opinion-cicero-green_12-september-2019.pdf

⁴ In Green Bond Principle (GBP) this is described as legitimate reason for portfolio reporting.

Distribution of green assets



Calculation approach

NCC is compliant to the Greenhouse Gas Protocol. The emissions factors used are supplied by DEFRA and are, when relevant, country specific emissions. For project specific emissions NCC uses local supplier's emission factor (district heating and cooling) and Nordic residual mix for electricity⁵.

Both reduced and avoided CO_{2e} is generated from the investments. Avoided CO_{2e} occurs when the energy usage in our products is lowered, and reduced CO_{2e} when the energy is switched to renewable origin.

For asphalt plants we show total carbon reduced by 2019 since it's our last full year to report on. Using data for Q3 would give an untrue picture of our total reduction and estimating Q4 is not trustworthy. Although, carbon intensity, fuel mix etc. is relative numbers and valid for 2020 Q3 and presented in this report.

Summary of key results

Dispersed and allocated bonds

SEK M	Dispersed green bonds	Allocated volume	Market value ⁶	Available volume
Green Buildings	1,617	1,617	4,700	3,083
			Total investments	Estimated available volumes ⁷
Conversion to renewable fuels in asphalt plants	80	80	208.1	120
Total	1,697	1,697		

Climate impact

Green buildings ⁸	Expected reduction of emissions (ton CO _{2e})	Expected annual energy savings (MWh)	Recycled waste (%)
Annual savings	328	2,059	63-89
Conversion to renewable fuels ⁹ since 2012	Reduction of CO _{2e} (ton CO _{2e})	Reduced CO _{2e} (ton CO _{2e} /MWh)	Biofuels in fuel-mix (%) by MWh
Savings 2019	25,000	0.16	65

During the first three quarters of 2020 NCC keeps showing an improvement in carbon reduction and have introduced further biofuels in the fuel-mix. Our carbon intensity is reduced by 0.2 ton CO_{2e}/MWh since 2012 and biofuels in the fuel-mix is at 79 %.

⁵ According to calculation in BREEAM manual

⁶ Portfolio Sep. 2020

⁷ Incl depreciation

⁸ Calculated reduction as described in text and summarization of the three examples impact.

⁹ Calculated based on klimatklivets calculation of CO_{2e}

Portfolio content

NCC Property Development

Risk profile – Environmental certification						
Project	City	Segment	Lettable area, sqm	Construction start	Profit recognition	Environmental certification
Frederiks Plads 2	Aarhus	Office	17,400	Q2 2019		DGNB-Gold
Omega CH	Aarhus	Office	8,900	Q4 2019		DGNB-Gold
Hatsina Office 1	Espoo	Office	18,400	Q3 2019	Q3 2021	BREEAM-Excellent
Next	Espoo	Office	10,000	Q1 2020	Q4 2021	BREEAM-Excellent
Fredriksberg D	Helsinki	Office	8,500	Q2 2020		BREEAM-Excellent
Valle View	Oslo	Office	23,600	Q1 2019	Q1 2021	BREEAM-Excellent
K11	Solna	Office	12,900	Q2 2017		BREEAM-Excellent
Kineum Gårda	Gothenburg	Office	21,300	Q4 2018		BREEAM-Excellent
Bromma Blocks	Bromma	Office	51,500	Q4 2018		BREEAM-Excellent
Masthuggskajen Våghuset	Gothenburg	Office	11,000	Q4 2019		BREEAM-Excellent
Masthuggskajen Brick Studios	Gothenburg	Office	16,200	Q4 2019		BREEAM-Excellent

Total Book value of Green bond projects SEK M	4,700
Total Completion ratio, %	51%

Portfolio Summary	Total	Office	Retail	Hotel	Residential	Land for sale	Other
BREEM-outstanding	0	0	0	0	0	0	0
BREEM-Excellent	9	9	0	0	0	0	0
DGNB-Platinum	0	0	0	0	0	0	0
DGNB-Gold	2	2	0	0	0	0	0
Total	11	11	0	0	0	0	0



NCC's Asphalt plants

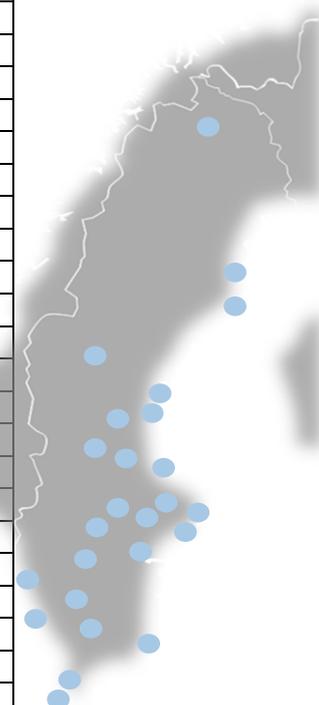
Between 2012 and 2019, 28 out of the total 29 stationary and mobile Swedish asphalt plants have been converted to biofuels. Instead of traditional fossil light fuel oil (LFO), renewable wood pellets/powder or bio-oil (tall oil pitch, TOP) is used.

Distribution of investments and rest value as of September 2020 are shown below and total impact of reduced CO₂e emissions since 2012 and below is shown the total investments by asphalt plant, year and investment category.

**25,000 ton
CO₂e reduction 2012
-2019 in NCC's
asphalt plants**

	Energy conversion	Energy efficiency	Recycling	Summarized value
Distribution of investments ¹⁰	76.3%	15.3%	8.4%	SEK 208.1 M
Distribution of rest values ¹¹	70.9%	18.5%	10.6%	SEK 120 M

Location	Years	Category		
		Energy efficiency	Energy conversion	Recycling
Halmstad	2014-2018	X	X	X
Borås	2014-2020	X	X	X
Klippan	2018-2019	X	X	X
Göteborg	2010-2020	X	X	X
Gotland				
Lund	2016-2019	X	X	
Kalmar	2016-2019	X	X	
Uddevalla	2014-2016	X	X	X
Karlstad	2014-2019	X	X	
Stockholm, north	2014-2020	X	X	
Eskilstuna	2013-2019	X	X	
Stockholm, south	2017-2020	X	X	X
Umeå	2014-2020	X	X	
Örebro	2018-2019	X	X	
Mora	2016-2020	X	X	X
Säter	2009	X		
Gävle	2009-2019	X	X	X
Hudiksvall	2010	X		
Kiruna	2019		X	
Norrköping	2014-2019		X	
Piteå	2017		X	
Sundsvall	2019		X	
Skellefteå	2018-2020	X	X	
Jönköping	2014-2018	X	X	X
Västerås	2014-2016	X	X	
Bollnäs	2011-2020	X	X	X
Östersund	2016-2019	X	X	X
Mobile 1	2019		X	
Mobile 2	2016-2019	X	X	



¹⁰ Investment for the decade

¹¹ As of Sep. 2020

Additional information on NCC's Green Bond investments

NCC's sustainable property development

In order to take a holistic approach to sustainable property development, NCC Property Development has the ambition to certify all office projects in BREEAM at least in level excellent or DGNB level Gold. This ensures that focus is 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 taken, and a robust follow-up is carried out.

Real estate accounts for nearly 40 percent of energy use in Sweden¹². It is therefore important to minimize energy use in properties that are being developed. All buildings are required to use at least 20 percent less energy compared to local code. We are also working to provide buildings with renewable energy with a low climate impact.



Large amounts of waste are generated in construction projects and a large part of that waste is currently left for incineration or landfill. The EU waste hierarchy controls our way of working and the goal is to minimize waste and sort the waste generated to reusable clean fractions.

EXPECTED OR ACTUAL ENVIRONMENTAL IMPACTS FROM ELIGIBLE PROJECTS

NCC follows the GHG protocol and will report in accordance with Scope 1 and 2. Three projects were selected to represent the portfolio and they are described in detail below. They are the Herrjärva K11/K12 and Masthuggset/Våghuset projects in Sweden and the Keilaniemi Next project in Finland.

PROJECT SPECIFIC RESULTS

Project	Energy Performance ^A (kWh/m ² , year)	Energy-savings (%)	CO ₂ e-Savings (CO ₂ e/m ² , year)		Renewable energy ^B (%)	Waste ^C (%)
			Reduced	Avoided		
Herrjärva K11/K12	38	51	6.1	6.5	47	63
Keilaniemi Next	83	17	21	4	26	86
Masthuggskajen	54	36	5.3	3	78	69

^A According to local building code

^B Local production related to purchased

^C As described in NCC's annual report

¹² www.naturvardsverket.se

HERRJÄRVA K11/K12

Project facts

City: Solna
Type: Office buildings including the NCC Head office
K12 Completed
K11 Interior design ongoing



Certificate

Scheme: BREEAM-SE 2013 New Construction
Level: Excellent
Status: Design Stage Certified, post construction ongoing

Sustainability Highlights

Energy

- Energy-smart installations, presence controlled low air speed, Presence and day-light steering of lighting
- 36 kW Solar panels in façade

Indoor Environmental quality

- Evaluated building materials and low emitting materials
- Centrally located wood stairs
- Green roofs with beehive, bird/insect houses, accessible terraces
- Cycle rooms for 350 bicycles including station for washing and service with changing facilities

Other

- Flexible building with installations floor, local warmwater production, HVAC units on each floor etc.
- Proximity to public transport and services
- Reused materials and building products during construction

KEILANIEMI NEXT OFFICE BUILDING

Project facts

City: Espoo
Type: Office Building
Construction ongoing



Certificate

Scheme: BREEAM International 2016
Level: Excellent
Status: Design stage ongoing

Sustainability Highlights

Technical

- Use of renewable energy sources, 26kWp Solar panel system onsite
- Energy-smart installations, Low air speed, LCA analyses for important installation components

Other

- Adaptability to climate change
- Each floor layout is modifiable from single- to multi-tenant use
- Electric car charging points available
- Location; public park next to the building, seashore nearby
- Easy transportation; 50 meters to metro station and light rail stop
- Espoo's main bicycle route passes by the building and cycling related facilities are of high quality for the cycling commuters

VÅGHUSET

Project facts

City: Gothenburg
Type: Office building
Construction ongoing



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 day-light steering of lighting. Water saving faucets

Additional certification

-Citylab certification for sustainable development of the area

Other

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

NCC's sustainable work at quarries and asphalt plants

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

The sustainability work within NCC Industry essentially concerns its aggregate and asphalt production units which is:

- Energy efficiency: Reducing production temperature, cover, insulation & ventilation to reduce moisture in components and production units etc.
- Energy conversions: Replacing fossil fuel oil at the plants with wood pellets or bio-oil
- Increase recycling of input materials: Aggregates, Recycled Asphalt Pavement (RAP)

The main components in asphalt mixtures, besides mineral rock aggregates, are bitumen and smaller amounts of adhesives and cellulose fibers. In addition, Recycled 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. Energy for each production process has historically constituted fossil energy, typically light fuel oil, LFO, while NCC during the last decade has emphasized increased use of renewable energy: wood pellets (cf. Figure 1) which is milled to powder, or tall-oil pitch, TOP. The direct energy usage in asphalt production is heating the mixture and removal of moisture from aggregates and RAP. Therefore, investments to lower production temperature and to protect stored raw materials from precipitation are also covered by the Green investments and associated bonds¹³.

CALCULATION METHODOLOGY

Measures involving *energy efficiency* and *energy conversions* directly result in lower emissions of greenhouse gases within scopes 1 and 2 according to the Greenhouse Gas Protocol (GHG Protocol). Increased aggregate and asphalt *recycling* contribute to achieving a circular economy and indirectly affect the carbon footprint within Scope 3. Direct emissions are calculated based on production volume, type and amounts of fuels invoiced (cf. Swedish environmental protection agency). Scope 3 emissions are established based on nominal resource use (aggregates, bitumen and RAP) from a standard asphalt type¹⁴ and corresponding emission factors. Calculations according to requirements in EN 15804 and Product Category Rules 2018:04 Asphalt mixtures, version 1.03 of 2019-09-06 are used.

Figure 1. Wood pellets replace fossil fuels in NCC's asphalt production, which results in a strong carbon dioxide-reduced manufacturing process.



INVESTMENTS MADE

Timing of a given investment at each asphalt plant depends on current plant status, need of maintenance/replacement as well as 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. For additional information on investments visit *Impact report* chapter.

¹³ For a more detailed presentation of the production processes and materials used before it is transported to the construction site, the reader is referred to any of NCC Industry's environmental product declarations (www.environdec.com).

¹⁴ Dense graded mixture for wearing course layer (ABT11)

RESULTS

Emissions of green-house gases (Global warming potential, GWP) for asphalt production largely depends on fuel type, and amount of resources, such as virgin bitumen, consumed during production. Figure 2 illustrates the combined effect of fuel type used and amount of recycling for a typical asphalt type¹⁵. As can be seen, converting from fossil LFO to biofuel combined with increased amounts of recycling show substantial decrease in emissions. The effect of each percent increased recycling is approximately 0.13 kg CO₂e/ton asphalt. Note that the annual reduction for 2020 is not complete since it is lacking the last quarter, i.e. reducing the relative annual lowering of CO₂e for 2020.

Figure 2. Effect of fuel type and amount of recycling on fossile emissions

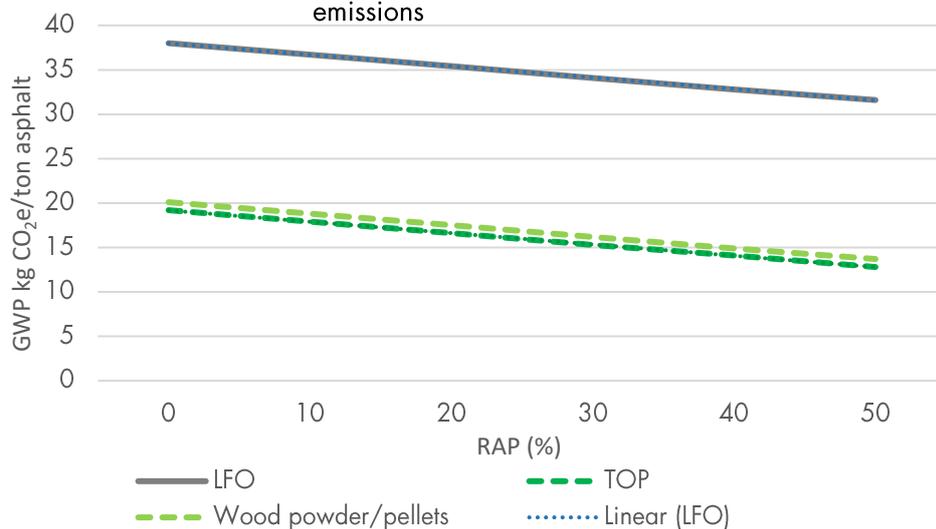


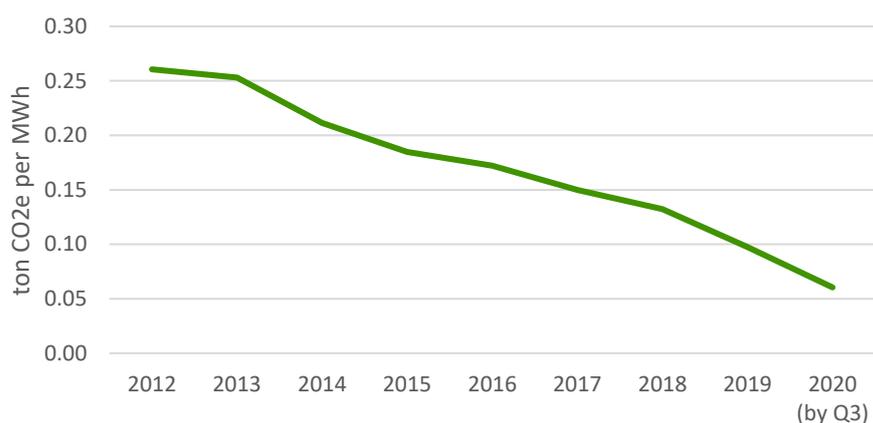
Figure 3 presents effects of the investments made in biofuels and measures of energy efficiency during 2012-2020. The total emissions of greenhouse gases have decreased with ~ 60 % since 2012 until 2020, which is equivalent to approximately 25,000 tons CO₂e. The specific emission per ton produced asphalt has, during the same period, decreased from 18 to 7 kg CO₂e/ton produced Swedish asphalt and is even lower in 2020 (4.5 kg CO₂e/ton asphalt by Q3 2020). When converting to fossil free fuels the carbon footprint per energy unit consumed in production will drop. Figure 4 shows this quite clearly where emitted tons of CO₂e per MWh used has decreased.

Figure 3. Reduction of CO₂e emissions from Swedish asphalt plants 2012-2020, %



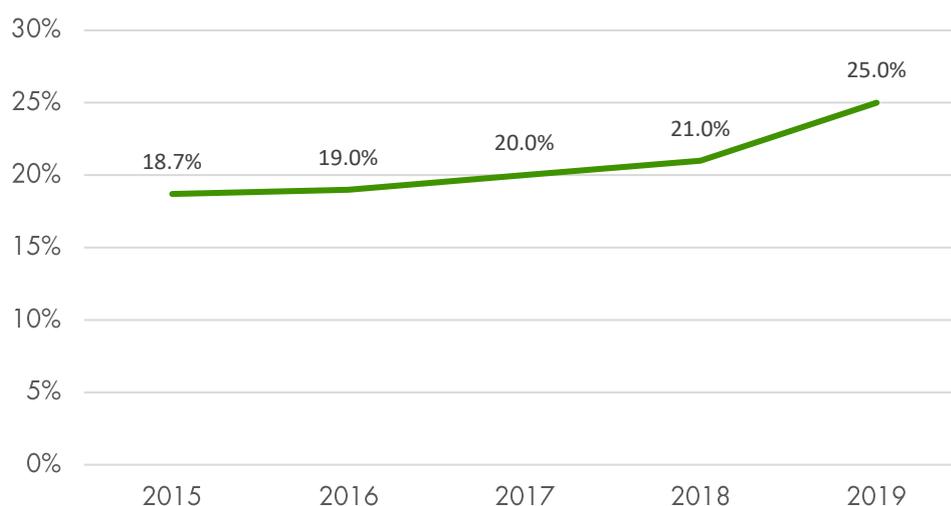
¹⁵ LCA analysis for ABT11 mixture using GaBi.

Figure 4. Ton CO₂e emitted per MWh consumed 2013-2019



Although not covered by the report, as mentioned in the Green bond framework, scope 3 effects of recycling also shows pronounced effect on emissions. Over the years NCC Industry has successively increased the amount of recycling and the amount of RAP in asphalt mixtures during 2019 was in average 25 percent in NCC asphalt plants that handles RAP.

Figure 5. Proportion of RAP in asphalt mixtures (average values)



By combining a higher degree of fossil-free fuels, energy optimizations such as lower humidity in the raw material and lower temperature in production with a higher degree of RAP asphalt mixtures from NCC will successively become ever more sustainably. During 2020 the reduction is expected to reach 70-75 percent compared to 2013 and, in some years, 85-90 percent.



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 2020. The scope of our work is limited to assurance of pages 2-5 in the Report, subject to the headline "Impact 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 are 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, 6 November 2020

PricewaterhouseCoopers AB

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