

Green Bond Investor Report 2019



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Nykredit Green Bond Investor Report

Nykredit is Denmark's largest lender. Predominantly owned by an association of customers, Nykredit is committed to longterm sustainable development. In line with our commitment, Nykredit has issued Green Bonds backed by "green mortgages" to promote and support the transition towards low-carbon economies.

1. About this report

Nykredit's Green Bond Investor Report 2019 provides an overview of the allocated proceeds and the environmental impact achieved through projects financed with Nykredit's Green Bonds ("Green Bonds"). The report summarises Nykredit's <u>Green</u> <u>Bond Framework</u> and comprises examples of projects that are financed by Nykredit's Green Bonds. The methodology applied in this Green Bond Investor Report is described in the appendix.

As long as Nykredit has Green Bonds outstanding, Nykredit will provide annual updates to investors on proceeds allocated and the non-financial impact of the assets backing the Green Bonds. This Green Bond Investor Report is prepared solely for informational purposes and does not constitute an offer to sell.

In H1/2019 Nykredit launched its first green covered bonds. A 4Y Cibor-linked SDO bond (DK0009523037), a 4Y Cibor-linked RO bond (DK0009524514) and a 3Y Stibor-linked SDO bond (DK0009523110). Nykredit offers green covered bonds to finance or refinance energy-efficient buildings in both Denmark and Sweden. As of 31 December 2019, Nykredit had disbursed DKK 5.85bn in green mortgages funded with green covered bonds.

Nykredit's Green Bond Framework, which was established in compliance with ICMA's Green Bond Principles (2018) describes the principles of green mortgages and determines which buildings are eligible for financing with green covered bonds. Sustainalytics considers Nykredit's Green Bond Framework to be credible and impactful, and in alignment with the four core components of ICMA's Green Bond Principles (2018).

Nykredit has also engaged with Sustainalytics for verification of the allocation of proceeds and reporting metrics covered in this Green Bond Investor Report to ensure compliance with the criteria set out in the Nykredit Green Bond Framework. The '<u>Annual review</u>' is available on the Nykredit website.



February 2020

2. Nykredit's approach to sustainability

Sustainability is an important part of our work in Nykredit, and we intend to increase the amount of green assets in our loan portfolios year by year. As noted in our Corporate Responsibility Report 2019, sustainable housing, agriculture, corporates and properties are focus areas for the company's responsibility efforts in 2020.

2.1. FOUNDATION

Nykredit's approach to corporate responsibility is rooted in our history, ownership and sheer size as a systemically important financial institution (SIFI) in Denmark.

We were created by our customers, for our customers and still to this day we are predominantly owned by an association of customers. In essence, this means that our overarching objective is to run a financial business for the benefit of our customers and society as whole.

For more than 165 years, we have helped Danish families buy their homes and Danish businesses grow. At present, we are Denmark's largest lender to homeowners and one of the largest lenders to small and medium-sized enterprises, the agricultural sector and the rental housing sector. Hence, we feel a responsibility for doing business in ways that create common value for our customers and the communities we serve and contribute to a long-term, stable and sustainable development.

2.2. COMMITMENTS AND ALIGNMENT WITH INTERNATIONAL STANDARDS

Our sustainable commitments include:

- 1) Incorporating economic, social and environmental considerations and respect for human rights in our business activities;
- 2) Providing loans to homeowners and businesses all over Denmark across economic cycles;
- 3) Continuing staff development to ensure that our staff possess the requisite skills to remain current on developments, match customer needs and hold a strong position in a changeable labour market. We want to be known for our trusting culture guided by customer focus, team spirit and empowerment;
- 4) Investing responsibly and sustainably and supporting our customers and investors in making a positive impact;
- 5) Reducing our direct and indirect climate and environmental footprint;
- 6) Offering our customers responsible advice and contributing to combating money laundering, terrorist financing, tax evasion and other financial crimes.

Nykredit operates in alignment with international standards. We are a long-term adherent to the Ten Principles of the UN Global Compact¹ on responsible business practices, which include a commitment to promoting human rights, labour standards, the environment and anti-corruption.

We are a signatory of the UN Principles for Responsible Investment (PRI)² and have incorporated environmental, social and governance (ESG) factors into our investment practice - both when we invest our clients' funds and when we invest our own money.

We are a founding signatory of the UN Principles for Responsible Banking (PRB) and we continuously work on aligning our business strategy with society's goals and on setting targets for improving our positive impact in line with the principles.

Wherever relevant, we support and apply OECD's Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, and we endorse the UN's Sustainable Development Goals (SDG), focusing on the areas in which Nykredit can truly make a difference.

Read more in our Corporate Responsibility Report 2019.



https://www.unglobalcompact.org/what-is-gc/mission/principles https://www.unpri.org/

3. Allocation of proceeds

In H1/2019 Nykredit launched its first green covered bonds. Nykredit has issued green covered bonds to finance or refinance 'Eligible Green Mortgages' as defined in Nykredit's Green Bond Framework. This includes financing of private rental housing and commercial real estate in Denmark and Sweden. As of 31 December 2019, Nykredit had in total disbursed DKK 5.85bn to finance green mortgages funded with green covered bonds.

Danish legislation stipulates that loans in specialised mortgage banks such as Nykredit can only be funded by covered bonds. Therefore, there is a direct linkage between the issued green covered bonds in a particular ISIN and the green mortgages.

In the figure below the outstanding volume of the issued green covered bonds are shown. Due to the match-funding principle of Nykredit's mortgage lending model, the cash flow of the green bonds matches the cash flow of the green mortgages funded by these bonds. This means that green covered bonds issued in a specific currency will only finance green mortgages in that same specific currency.

Nykredit has chosen to report on a portfolio basis for Green Bonds issued in DKK and SEK respectively.



Note: Proceeds allocated to Eligible Green Mortgages from the issuance of ISIN DK0009524514 and DK0009523037

Note: Proceeds allocated to Eligible Green Mortgages from the issuance of ISIN DK0009523110

4. Non-financial impact reporting

On the following pages, results and methodology of our assessment of energy savings and avoided greenhouse gas ("GHG") emissions owing to Nykredit's Green Bonds are available.

This report follows existing market practice for impact reporting and draws upon relevant information necessary for reasonable impact reporting. Key reporting principles and detailed methodology descriptions are available in the appendix.

Nykredit reports on a portfolio basis for Green Bonds issued in DKK and SEK respectively. Details are provided on an aggregated basis for the following indicators:

- Estimated ex-ante annual energy savings in MWh
- Estimated ex-ante annual GHG emissions reduced/avoided in tonnes of CO₂ equivalent

In order to measure annual energy savings, the expected operational energy demand of the green buildings backing the green mortgages is benchmarked against relevant baselines. To provide reasonable non-financial indicators, which may be used by investors for comparison with other green bonds investments, more than one indicator are provided. The indicators are benchmarked against three baselines (as specified in appendix³):

- 1. Requirements set out by national building codes
- 2. National reference buildings
- 3. European reference buildings

To convert energy savings to avoidance of GHG emissions, Nykredit has applied conversion factors for the electricity and 'non-electrical' heating components respectively. The electricity component is based on a European Combined Margin presented in the Nordic Position Paper (2019)⁴, whereas the heating components are based on national measures⁵. The expected yearly energy consumption⁶ for the green buildings is distributed between specific energy used for electricity and 'non-electrical' heating according to data assessments.

Nykredit is aware that the market for non-financial impact reporting related to issuance of Green Bonds is currently in a not yet standardised market and we expect this to develop in the years to come.

Therefore, Nykredit will regularly analyse market developments and update the methodology and assumptions accordingly.



Because buildings standards and buildings regulations varies across countries, Nykredit has provided transparent information for the choice of baseline. https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Resource-Centre/NPSIPositionpaper2019final-120219.pdf See appendix

[•] Definitions of expected operational energy consumption varies across countries. In Denmark requirements set by the national building code (i.e. in BR08) for the primary energy use covers energy used for heating, cooling, domestic hot water and ventilation. For office buildings energy used for lightning is also included. In Sweden requirements set by the national building code. (i.e. in BBR24) for specific energy use covers energy used for heating, cooling, domestic hot water and "fastighetsel" (property electricity). Additional energy use (i.e. electricity used by tenants) is not included in this report.

4.1. IMPACT REPORTING

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The Cibor-linked Green Bonds are backed by a portfolio of green mortgages financing newly constructed highly energyefficient buildings. On average the relative energy savings are close to 55% when benchmarked against the national buildings code. The relative energy savings increases to 70% and to 80%, when benchmarked against a national or European reference building respectively. This is a clear testament of savings, which supports and underlines the transition towards low-carbon economies.

Baseline/benchmark	National building code	National reference building	European reference building			
Absolute energy savings (MWh)	3,572	7,093	10,091			
Absolute GHG avoidance (tonnes of CO ₂ equivalents)	807	1,527	2,165			

The Stibor-linked Green Bonds are backed by a portfolio of green mortgages financing both newly constructed buildings and renovated buildings.

A great amount of the renovated buildings have been awarded with a BREEAM certificate (minimum score of "Very good") and a LEED certificate (minimum score of "Gold"), which contain comprehensive assessments of a large range of sustainability criteria. To get a better measure of energy savings of renovated buildings, it may be reasonable for renovated buildings to be benchmarked against either national or European reference buildings.

On average the relative energy savings are close to 22% when benchmarked against the national buildings code. The relative energy savings increases above 38% and close to 56%, when benchmarked against a national or European reference building respectively.

Stibor-linked Green Covered Bonds: Non-financial impact (annual numbers)⁸

Baseline/benchmark	National building code	National reference building	European reference building			
Absolute energy savings (MWh)	3,961	9,813	21,676			
Absolute GHG avoidance (tonnes of CO ₂ equivalents)	1,258	2,667	5,671			
Note: As of 31 December 2019), detailed information is available	in the appendix				

⁷ Reported numbers are not scaled to Nykredit's financing of building, meaning that for a Loan-To-Value of i.e. 70% the full energy saving for the property is reported. ⁸ Same as ⁷

5. Sample projects

GREEN BUILDING: COPENHAGEN, DENMARK

Nykredit has provided a green mortgage to the property owner. The mortgage finances the newly built residential housing project "Scherfigs Have" located at Østerbro in Copenhagen. The housing project covers over 10,000 sqm including 114 units and parking areas.

The construction of "Scherfigs Have" is based on the Danish EPC "A2015". "Scherfigs Have" is expected to have an energy consumption of 28.4 kWh/sqm/year, which fulfils the Danish energy class A2015.



Picture provided by owner of the building

🙆 GREEN BUILDING: MALMÖ, SWEDEN

Nykredit has provided a green mortgage to finance the property "Malmö Gimle 1". "Malmö Gimle 1" is a newly built (spring 2019) office building located right next to the train station in Hyllie in the southern part of Malmö.

With an expected energy consumption of 47 kWh/sqm/year the building has achieved the highest obtainable certification "Miljö Byggnad Guld" on the basis of Sweden Green Building Councils (SGBC) framework.

In September 2019 the owner of the building was awarded the Urban Design Prize in recognition of the building. In the motivation for the award it was highlighted that "the property offers an exceptional work environment, and that the project easily meets its SGBC Gold certification through its broad focus on sustainability, from energy optimisation and environmentally aware material selection."

GREEN BUILDING: STOCKHOLM, SWEDEN

Nykredit has provided a green mortgage to finance the property "Ormträsket 10", also known as the Wenner-Gren Center. The property is an office building situated in the area of Vasastaden in Stockholm.

"Ormträsket 10" has in recent years been significantly renovated and has been awarded a BREEAM certificate with a score of "Very Good".

Over the last 10 years, the annual energy consumption for heating, cooling and electricity used to operate the building has been reduced by more than 30%. Among other things, new heat pumps have been installed, and control equipment for daily operations has been optimised. Reduced energy consumption through renovation of existing buildings is essential to combat climate change.



Picture provided by owner of the building. Photo: Alexander Olivera



Picture provided by owner of the building



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6. Appendix: Methodology

A – METHODOLOGY

This section covers general assumptions for measuring energy savings and avoidance of GHG emissions as reported in section 4. The methodology is based on four core components as listed below:

- A. Energy demand: Assessment of each building's expected total energy demand per year⁹
- B. Benchmark/baseline: Energy demand per year for a reference building
- C. Ratio of electricity and heat: The balance between electricity and 'non-electrical' heating when assessing total expected energy demand
- D. Emission conversion factors: For conversion of energy produced by electricity and heat to CO₂e emissions

In the table below an illustrative example of both energy savings and avoided CO_2 e emissions are provided. Red numbers indicate numbers being reported.

Example of impact calculations													
	Expected total energy demand (kWh)		Ratio: Heating/ Electricity		Expected energy demand (kWh)		Energy savings factor*		Energy savings (kWh)		Conversion (gCO₂/kWh)		CO₂ avoided (tonnes)
Heating	-	Х	90%	=	90,000	Х	1.12	=	100,800	Х	187	=	18.8
Electricity	-	х	10%	=	10,000	Х	1.12	=	11,200	Х	380	=	4.3
Total	100,000				100,000				112,000				23.2

*Energy savings factor describes the ratio between the energy saving (relative to a baseline) and the expected energy demand in the building. Thus, energy saving = (Baseline - total energy demand in building), and energy savings factor = (energy saving / total energy demand in building). The savings factor takes into account different use of primary and specific energy in the national building standards. In Denmark, for example, requirements for the maximum energy use set by the national building code of BR08 is expressed in terms of use of primary energy, whereas in Sweden, the requirements in the national building codes of BBR12 and BBR24 are based on use of specific energy.

B.1 – ENERGY EFFICIENCY BASELINES FOR GREEN BUILDINGS IN DENMARK

Three sets of comparable values were selected as energy efficiency baselines in order to provide relevant and comparable annual estimates of energy savings.

Baseline 1: In the report by the engineering consultancy MOE, which is made available at the Nykredit Investor Relations website, energy legislation and the related building regulations in Denmark are assessed to be one of the leading standards in international context. The applicable Danish building code (BR18) requires new buildings to be constructed with an expected energy consumption lower than EPC label A2015¹⁰, which is a much stricter requirement than in other European country. Therefore, measuring energy savings against the requirements set by BR18 will not reasonably reflect the environmental impact from a green bond issuance to investors. Instead, green buildings situated in Denmark will be benchmarked against the requirements for expected energy consumption set out in BR08 to be in line with the requirements set out in the Swedish building code BBR 24.

Baseline 2: The Danish Energy Agency (Energistyrelsen) provides statistics on the distributions of national energy labels (EPCs) on the energy labelled Danish building stock¹¹. Based on the available data distribution on both multi-dwellings and office buildings, the average energy requirement for the building stock in Denmark corresponds to between a C and a D label. Therefore, the maximum energy use as defined for the C-label, is used as an indicator for Danish reference buildings.

Definitions of expected yearly energy consumption varies across countries. In Denmark requirements set by the national building code for the energy use covers energy used for heating, cooling, domestic hot water and ventilation. For office buildings energy used for lightning is also included. In Sweden requirements set by the national building code for energy use covers energy used for heating, cooling, domestic hot water and ventilation. For office buildings energy used for lightning is also included. In Sweden requirements set by the national building code for energy use covers energy used for heating, cooling, domestic hot water and "fastighetsel" (property electricity). Additional energy use (i.e. electricity used by tenants) is not included in this report 10A2015: 30 kWh/m2 + 1000kWh/A or 41 kWh/m2 + 1000kWh/m2 depending on property type.

¹⁰ A2015: 30 kwn/m2 + 1000kwn/A or 41 kwn 11 https://sparenergi.dk/

Baseline 3: Energy demand for heating, cooling and domestic hot water for buildings representative of existing building stock have been modelled in the European project ENTRANZE¹². Single dwellings, multi-dwellings, offices and schools are covered.

From this report, 175 kWh/sqm per year is derived as a baseline for energy efficiency for European existing offices and 140 kWh/sqm per year is derived as a baseline for energy efficiency for existing European multi-dwellings.

B.2 – ENERGY EFFICIENCY BASELINES FOR GREEN BUILDINGS IN SWEDEN

Three sets of comparable values were selected as energy efficiency baselines in order to provide relevant and comparable annual estimates of energy savings

Baseline 1: For newly constructed buildings, the baseline is set according to the requirements set out by the national buildings code of BBR 24 (2016). For buildings constructed before 2016, the baseline is set according to the requirements set out by the national buildings code of BBR 12 (2006). Both building codes takes into account the main source of heating as well as geographical location of the assessed building.

Baseline 2: The average energy demand for heating and domestic hot water for the existing building stock in Sweden have been modelled by the Swedish Energy Agency (Energimyndigheten)¹³. Data is available for both multidwellings and office buildings. As a result, an average energy demand for heating of 122 kWh/sqm per year is derived as a baseline of energy efficiency for Swedish existing office buildings and 134 kWh/sgm per year is derived for multi-dwellings.

Baseline 3: Same as stated in 'Energy efficiency baselines for green buildings in Denmark'.

C – ELECTRICITY AND HEAT RATIO

The specific energy use for electricity and 'non-electrical' heating, respectively, is not available in all certificates. Therefore, Nykredit has chosen to adopt an approach based on a national average for similar buildings. Based on a data assessment of Danish reference buildings, MOE has estimated an electricity-heat ratio for specific energy use of 11:89 for multi-dwellings and 29:71 for office buildings. These proportions have also been used for the majority of the Swedish buildings¹⁴, as not enough reliable data have been available. MOE considers this an appropriate step, as both Danish and Swedish construction legislation derives from the same general guidelines issued by the EU.

D - EMISSION CONVERSION FACTORS

Nykredit has applied conversion factors for the electricity and the 'non-electrical' heating component respectively. The electricity component is based on a European Combined Margin presented in the Nordic Position Paper (2019)¹⁵ of 380 gCO₃e / kWh. In Denmark, a conversion factors of 187 gCO₂e/kWh is applied for district heating supplied for Danish buildings. This conversion factor is available in a report from COWI (2016)¹⁶. A conversion factor of 142 gCO₂/kWh is applied for natural gas and is available in a report from HOFOR (2018)¹⁷. For Swedish buildings, a conversion factor of 81 gCO₃e/kWh for supply of district heating is applied. This is available from the report from Energiföretagen (2017)¹⁸.

¹² https://www.entranze.eu/files/downloads/D2_3/Heating_and_cooling_energy_demand_and_loads_for_building_types_in_different_countries_of_the_EU.pdf

https://www.energimyndigheten.se/
 Three of the buildings are solely heated by electricity, thus for these buildings electricity-heat ratios of 100:0 are applied.

 ¹¹ https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Resource-Centre/NPSiPositionpaper2019final-120219.pdf
 ¹⁶ Publication: "Nye emissionsfaktorer for el og fjernvarme" from 2016 made by COWI for Danish Transport-, Housing-, and Construction Authority

https://www.hofor.dk/baeredygtige-byer/beregn-co_/miljoedeklarationer/
 https://www.energiforetagen.se/globalassets/energiforetagen/statistik/energiaret/energiaret2016_miljo_27-september.pdf



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