

OP Corporate Bank plc Green Bond Report

February 2020

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Examples of the businesses and projects financed (customer references)
Independent Limited Assurance Report by KPMG Oy Ab

1 Introduction

OP Financial Group published its Green Bond Framework in 2018. By issuing green bonds, OP supports one of its core values – Responsibility. Conducting business in a responsible manner and understanding customers' ESG risks better were the key drivers for OP in entering the green bond market.

Responsibility is incorporated into OP's mission to create sustainable prosperity, security and wellbeing for its owner-customers and in its operating region – and is therefore an integral part of business and strategy. OP aims to be a forerunner in solving today's challenges and lead the way in corporate responsibility in the financial sector in Finland. This requires continuous improvement of operations and further integration of corporate responsibility into core business. Besides developing own operations, OP aims to have a positive impact on its business environment and provide its customers with services that enable sustainable choices.

OP's Corporate Responsibility (CR) programme was renewed in December 2019. When updating the CR programme, OP investigated its stakeholders' views on priorities for OP's corporate responsibility. At the general level, OP is committed to being carbon positive by 2025. Additionally, the CR programme is framed around four key themes and commitments, which guide its actions toward the programme goals. One of these four themes is "We foster a sustainable economy", which means that OP supports sustainable development, and mitigating climate change and adapting to it.

In order to meet the CR programme's aim to promote sustainable economy, OP has taken e.g. the following measures in 2019:

- In February, OP issued its first green bond in accordance with OP Financial Group's Green Bond Framework. The green bond of EUR 500 million was targeted at international responsible institutional investors. Proceeds raised with the green bond were allocated to sustainable corporate lending.
- In March, OP engaged in a partnership agreement with Climate Bonds Initiative, the leading international non-profit-organisation, which works to promote the development of green bond standards and leverage the global bond market to deliver the transition to a low carbon economy.

- In March, OP improved its ESG rating issued by MSCI from BB to A. In the most recent Imug sustainability rating, OP's covered bond issuing entity's (OP Mortgage Bank), rating improved from the previous rating CC (neutral) to rating B (positive).
- In May, OP granted its first bilateral sustainability-linked loan. The loan granted to Nokian Tyres Plc amounted to EUR 100 million. The loan margin increases or decreases based on how well Nokian Tyres achieves its sustainability targets.
- In June, OP and Finnfund announced their plans to establish Finland's first global impact fund investing in emerging markets. OP Finnfund Global Impact Fund I will promote the achievement of the UN Sustainable Development Goals.
- In September, OP Financial Group became a Founding Signatory of the Principles for Responsible Banking under the United Nations Environment Programme Finance Initiative (UNEP FI). The Principles set out the banking industry's responsibility in shaping a sustainable future and aligning the sector with the objectives of the UN Sustainable Development Goals and the Paris Agreement. The 130 signatory banks are committed to promoting sustainable development. Together with 31 banks, OP Financial Group also signed the Collective Commitment to Climate Action in which OP undertakes to align its lending to reflect the principles of the Paris Agreement on a sustainable, low-carbon economy.

OP is an active member in various sustainable finance and green bond working groups and aims to be involved in developing best market practices and standards related to sustainable finance. For example, OP is a member of International Capital Markets Association's (ICMA) Green and Social Bond Principles and Finnish Standards Association's (SFS) Standardization Group on Sustainable Finance, which both aim to develop guidelines and unified classification for green activities, increase transparency and develop reporting methods. Additionally, the SFS working group mirrors the ISO standardization work on sustainable finance. Through the participation in the European Association of Co-operative Banks (EACB), OP is able to provide feedback on the usability of the EU Action plan for sustainable activities and the EU Taxonomy.

2 ESG integration in OP's corporate lending

OP Corporate Bank has developed an ESG analysis that seeks to further understand its corporate clients' ESG-related risks and opportunities. The ESG analysis employs a comprehensive and systematic ESG materiality framework that helps focus on the most important issues in each sector. ESG analysis is used to support the bank's credit risk analysis. It helps to identify green and sustainable

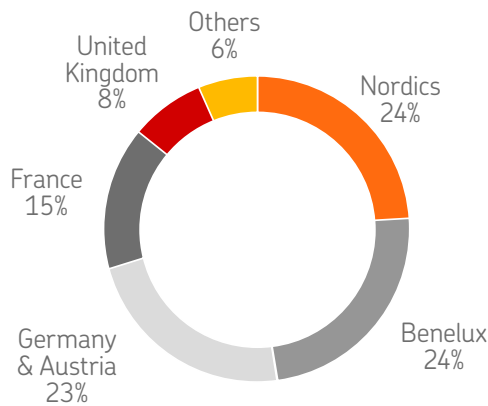
businesses and their associated risks. For carrying out ESG-related assessments within corporate lending, OP has increased resources within credit analysis department during 2019. OP Corporate Bank currently aims to carry out a systematic ESG analysis on corporate exposure worth €22 bn (around 70% of its total corporate exposure at YE2019).

3 OP Corporate Bank plc's inaugural Green Bond

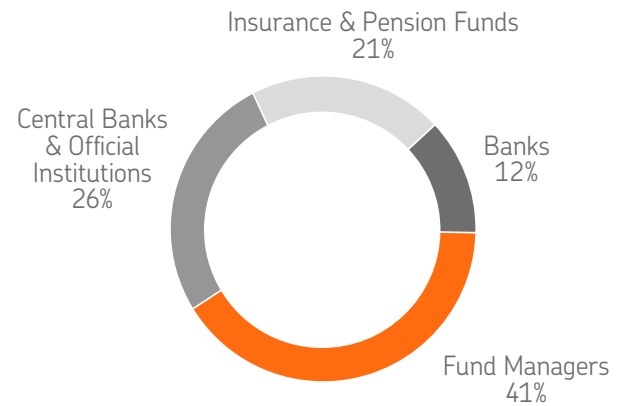
OP Corporate Bank plc issued its first green bond in February 2019.

Green Bond in brief	
Issuer	OP Corporate Bank plc
Issuer ratings	Aa3 (Stable) by Moody's / AA- (Stable) by S&P
ISIN	XS1956022716
EMTN series number	230
Nominal amount	EUR 500 million
Issue type	Senior unsecured fixed rate notes (Senior Preferred, Green Bond)
Use of Proceeds	Green eligible projects and businesses under the OP Financial Group Green Bond Framework Renewable energy, green buildings, sustainable land use
Pricing date	19 Feb 2019
Issue date	26 Feb 2019 (T+5)
Maturity date	26 Feb 2024
Coupon (annual)	0.375%
Listing	Euronext Dublin
Second Party Opinion	Sustainalytics

Geographical distribution of the Green Bond investors



Investor type distribution of the Green Bond investors



4 Use of Green Bond Proceeds

OP's Green Bond Framework, published in accordance with the ICMA Green Bond Principles, includes the following eligible sectors:

1. Renewable energy
2. Energy efficiency
3. Green buildings
4. Pollution prevention and control (including sustainable water management)
5. Sustainable land use, and
6. Clean transportation

The Green Bond Framework, including eg. further description of eligible use of proceeds, process for project evaluation and selection and management of proceeds, is available on [OP's debt investor relations website](#).

4.1 Green bond register and assets allocated to green bond

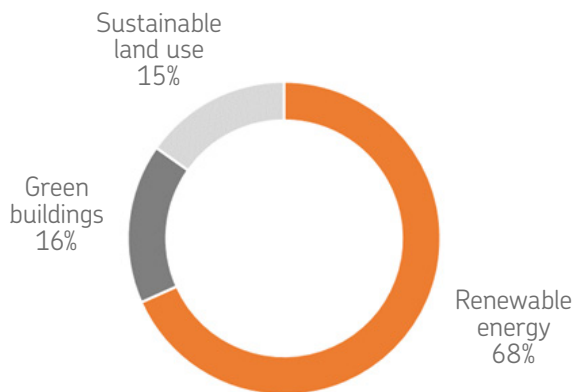
As at December 2019, the Green bond register included eligible assets within renewable energy, green buildings and sustainable land use. There were 20 corporate loans included in the Green bond register, while the number of companies was 15.

OP Corporate Bank's green bond amounted to €500 million, which was fully-allocated to green assets (67% Renewable energy, 32% Green buildings and 1% Sustainable land use) in accordance with the Green bond framework. There was a reserve of unallocated green assets worth €461 million in the Green bond register, as at December 2019.

4.1.1 Assets included in the Green bond register by eligible sector as at December 2019

Eligible sector	Assets included in the Green bond register, EUR million
Renewable energy	656.3
Green buildings	158.5
Sustainable land use	146.0
Total	960.8

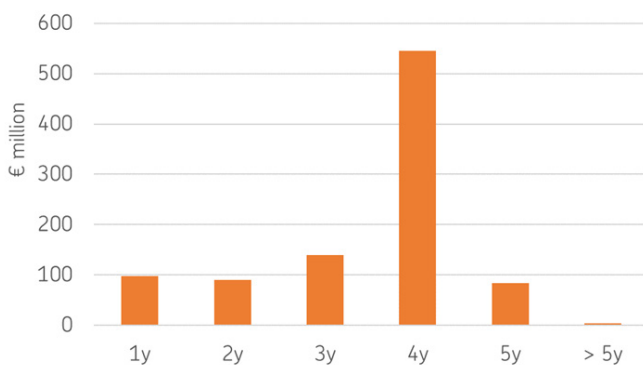
Assets included in the Green bond register by eligible sector



In December 2019, the register totaled to €961 million. Compared to November 2018, the total green assets included in the register decreased by €6 million mainly due to loans having matured. However, at the same time, new eligible assets were included in the Green bond register during 2019. The eligibility of the existing green assets in the portfolio is quarterly re-evaluated by the credit department and approved by the Green Bond Committee.

During 2019, OP has developed internal processes to systematically identify green loans that are eligible for green bonds. The process includes clear responsibilities within the OP Business Units. Each new potentially green loan is evaluated by the OP Corporate Analysts' dedicated ESG team against OP's internal sustainable finance policies and the Green Bond Framework.

4.1.2 Assets included in the Green bond register by maturity, as at December 2019



In order to communicate the origination timeframe of the loans included in the Green bond register, OP has chosen to report average look-back period of the portfolio. Average look-back period indicates the time passed between the first withdrawal date of the loan and the reporting date. At year-end 2019, the average look-back period of the loans included in OP's Green bond register was 3 years.

4.2 Changes made to the Green bond register during 2019

The Green bond register is approved by the Green Bond Committee once every quarter.

In November 2018, by the time of publishing the Green Bond Framework, the register totaled €967 million. Number of loans included in the register was 19 and number of companies 14.



4.3 Examples of businesses and projects financed

OP Corporate Bank has engaged with companies to be referenced as examples of businesses financed and included in the Green bond register.

Within renewable energy, OP has received a customer reference from a wind power company Suomen Hyötytuuli Oy and from S-Voima Oy regarding their solar power project.

Within green buildings, OP has received a customer reference from S Group Logistics Center regarding their "BREEAM Excellent" certified logistics center located in Sipoo, Finland.

Within sustainable land use, in the form of sustainable forestry, OP has received a customer reference from a forest company Finsilva Oyj which has PEFC/FSC certified forests in Finland.

For further information on customer references, please see appendix.

Case study: Forest certifications in Finland

Finland is a densely forested country and most of Finnish forests are privately owned. Some 60% of the forests are owned by individual forest owners while some 9% are owned by companies¹.

Third-party international forest management certifications such as FSC (Forest Stewardship Council) and PEFC (Programme for the Endorsement of Forest Certification) aim to offer proof of sustainable forestry as well as to ensure legality of wood procurement and increase traceability of the material. Some 85% of Finnish commercial forests are PEFC certified and 6% FSC certified. Only 10% of global forests are certified².





5 Estimated Environmental Impacts

5.1 Selected impact metrics and estimated total impacts per eligible sector

In accordance with ICMA Harmonized Framework for Impact Reporting, published in June 2019, OP selected the

key impact metrics to be used in reporting of estimated impacts of the Green bond register and the green bond. The table below shows bond-level total impacts (during 2019) of the assets included in OP Corporate Bank's Green bond register as at December 2019 (€961 million) by eligible sector.

The impact metrics and estimated total impacts per eligible sector are as follows:



Eligible sector	Impact metric	Estimated OP adjusted (see section 5.2) total impacts	Most relevant SDGs
Renewable energy (from mixed energy sources as outlined in the Green Bond Framework)	MWh of energy produced; installed capacities of assets (actual production); avoided CO ₂ emissions	<p>328.6 ktCO₂e (thousand metric tons) avoided³, of which:</p> <ul style="list-style-type: none"> Actual figures: 324.0 ktCO₂e Estimated figures: 4.6 ktCO₂e <p>864.7 GWh of renewable energy generated⁴, of which:</p> <ul style="list-style-type: none"> Actual figures: 852.7 GWh Estimated figures: 12.0 GWh <p>271.5 MW of renewable energy capacity installed</p>	 

¹ [Finnish Forest Industries; Private forest owners own over 60% of forest land](#)

² [Finnish Forest Industries; Forest certification promotes responsible forestry](#)

³ Actual figures were calculated using confirmed energy-generation data from the Finnish Energy Authority and the NPSI guidelines. Estimated figures were obtained from the companies. (See section 5.2)

⁴ Actual figures were calculated using confirmed energy-generation data from the Finnish Energy Authority. Estimated figures were obtained from the companies. (See section 5.2)

Eligible sector	Impact metric	Estimated OP adjusted (see section 5.2) total impacts	Most relevant SDGs
Green buildings	Square meters of area under green building certification e.g. BREEAM ¹ and LEED ² and Finnish EPC's ³ ; GHG emissions avoided due to reduced energy consumption (estimated data)	32 000 m ² of green certified building area (meeting the certification level requirements outlined in the Green Bond Framework). 1.2 ktCO _{2e} avoided due to reduced energy consumption from electricity and district heating	
Sustainable land use	Hectares under forestry certification e.g. FSC ⁴ and PEFC ⁵	69 160 hectares	

5.2 Calculation methods and assumptions used for estimating the impacts

The below table seeks to transparently illustrate OP's Green Bond's total share of financing of the assets. The first column identifies the average share OP has had in financing the underlying assets in respective categories. The second column assigns a weight for the Green Bond

as a proportion of the Green bond register (please see the footnotes for further clarification). The third column is a multiplication of the two weights, which indicates the total share of impact for the Green Bond of the total impacts as illustrated in the previous table (section 5.1).

Eligible sector	OP's average share of lending to the assets ⁶	Green Bond's share of the Green bond register ⁷	Total share of impact for OP's Green Bond ⁸
Renewable energy	53%	52%	28%
Green buildings	26%	52%	14%
Sustainable land use	100%	52%	52%

1 BREEAM (Building Research Establishment's Environmental Assessment Method) is the world's leading sustainability assessment method for masterplanning projects, infrastructure and buildings (Source: [BREEAM; What is BREEAM?](#)).

2 LEED, or Leadership in Energy and Environmental Design, is the most widely used green building rating system in the world (Source: [U.S. Green Building Council; LEED rating system](#)).

3 Energy Performance Certificates (EPC) help compare buildings' energy efficiency. In Finland, EPC's are based on the building's E figure, which is composed of the building's calculated annual consumption of purchased energy, weighted with the factors of various forms of energy (Source: [Motiva; Energy performance certificate](#)).

4 The Forest Stewardship Council – FSC – promotes environmentally appropriate, socially beneficial, and economically viable forest management all over the world (Source: [FSC - Forest Stewardship Council](#)).

5 PEFC (Programme for the Endorsement of Forest Certification) is an international forest certification system promoting ecologically, socially and economically sustainable forestry throughout the world (Source: [PEFC](#)).

6 OP has not been a sole lender for all the assets, and this figure adjusts the impact for OP's share (average for each category). The figure incorporates OP's share of lending to the assets at the end of Dec 2018, as this was the most recent data available when drafting this report. For pure players, we have considered the total outstanding debt for the corporate, and for project financing, we have considered OP's share of lending to the individual project.

7 This percentage adjusts the Green Bond's share of financing as part of the portfolio-level impacts (€500 million / €961 million = 52%).

8 This figure multiplies the portfolio-level share of impact, as well as OP's original share of lending.

The original impact figures have been retrieved from the owners of the underlying assets, as well as Finland's public databases maintained by the Energy Authority.¹ OP has sought to provide transparent data for investors relating to the shares of impact from the Green Bond. The logic for calculating annual CO₂-avoidance from the assets follows the Nordic Public Sector Issuers (NPSI): Position Paper on Green Bonds Impact Reporting guidelines.²

For calculating CO₂ emissions avoided, we have chosen the 380 gCO₂/kWh (to be updated in 2020) baseline as recommended in the NPSI guidelines. This represents the EU Mainland grid factor including Norway as a default baseline for accounting and disclosure of electricity. We have opted to follow NPSI's suggestion for the baseline, as the Nordic electricity market is interconnected with the European market. For the sake of clarity, we have assumed that assets within renewable energy are carbon free.

As such, emissions avoided are calculated as follows (Y represents the amount of electricity generated or saved):

$Y \text{ kWh electricity generated} \times 380 \text{ gCO}_2/\text{kWh} = Y \times 380 \text{ gCO}_2\text{e avoided}$

For emissions avoided from green buildings, we examine both electricity use and heating. In order to do this, we have considered relevant local emissions baselines for district heating.

Finally, the avoided emissions are adjusted for the Total share of Impact as illustrated in the table in section 5.2.

6 External review and verification

OP engaged KPMG Oy Ab to issue an independent limited assurance on its Green Bond Report. The scope of this limited assurance was the use of proceeds of the green bond. Please see appendix for the limited assurance report.

7 Second Party Opinion Annual Review

OP engaged Sustainalytics to issue an Annual Review following its Second Party Opinion initially published in 2018, which includes assessment of OP's Green Bond Report, including impact reporting. The Second Party Opinions issued by Sustainalytics are available on [OP's debt investor relations website](#).

¹ [Finland's Energy Authority](#)

² [Nordic Public Sector Issuers; Position Paper on Green Bonds Impact Reporting, January 2019](#)



Customer reference: Renewable energy Suomen Hyötytuuli Oy

COMPANY IN BRIEF

- Suomen Hyötytuuli Oy is a Finnish wind power company, which owns 62 wind turbines with an estimated combined capacity of 186 MW.
- The assets under OP Green Bond are located in Raahe.
- The company was established in 1998 and it is co-owned by eight municipal energy utilities.

Eligible signed loans €39.3 million, maturing in 2024

- Suomen Hyötytuuli Oy is one of the pioneers of wind power production in Finland. The company was founded in 1998.
- The company's wind parks produce 600 000 MWh of clean wind power yearly, which cover e.g. the electricity needs of 37 000 detached houses.
- Wind power is considered as a clean energy production method: it does not produce CO₂ emissions to air, land or water. In addition, it does not consume water reserves. The building, transportation and demolition of a wind power park itself consumes energy, however the energy consumed in the process is "paid back" within 3 to 9 months from the starting point of the operation.

Energy Production



<http://www.tuulivoimayhdistys.fi/tietoa-tuulivoimasta/10-syyta-valita-tuulivoima>

Customer reference: Renewable energy S-Voima Oy – Project Solaris I

COMPANY IN BRIEF

- S-Voima was established in 2010 to fulfill a function as the electricity purchasing organization of the S Group.
- S-Voima finished one solar power project called Solaris I in 2018 and started the second project Solaris II in 2019.
- Solaris I has a total capacity of 9,1 MW in 35 locations. All solar power has been installed on S Group's rooftops.

Eligible signed loans €7 million, maturing in 2024

- Solar power is considered to be a clean energy production method: it does not produce direct CO₂ or other emissions to air, land or water. The most common ways of utilising solar power in Finland are the photovoltaic (PV) panels, which convert solar radiation into electricity.
- Total annual solar irradiation per square meter is about 1 000 kWh in Southern Finland, 900 kWh in Central Finland and some 800 kWh in Northern Finland. For comparison, the same figure is approx. 1 200 kWh in Central Europe and over 2 000 kWh in Southern Europe.
- In Finland, solar power is exceptionally well suited for cold storage, stores and shopping centers, as the peak electricity demand for cooling occurs roughly the same time of day as the sun shines.

Energy Production





Customer reference: Green buildings S Group Logistics Centers

COMPANY IN BRIEF

- The company is owned by SOK and S Group's 19 regional cooperatives.
- Company's business is to manage and rent S Group's strategically important logistics centers. The premises are leased to companies in the S Group.
- The company has received a BREEAM Excellent certification for the Sipoo Logistics Center, which is included in the Green Bond Portfolio. In October 2019 the Center had a recycling rate of 100%.

Eligible signed loans €112 million, maturing in 2023

- The new Logistics Center in Sipoo is built to meet the increased demand of goods transported to stores. This highly automated center will reduce the yearly transportation and logistics costs of the S Group.
- The company has invested in energy efficiency at the Sipoo Logistics Center. The 190 000 square meter logistics center utilizes geothermal energy and heat recovery in order to provide heat to its premises.
- The Sipoo Logistics Center is one of the largest geothermal energy users in Finland.
- After having received the BREEAM Excellent certification, the Sipoo Logistics Center is the first industrial property in the Nordic countries with such certification.



Customer reference: Sustainable land use Finsilva Oyj

COMPANY IN BRIEF

- The most important part of Finsilva Oyj business is forestry. Finsilva Oyj also offers a variety of different lots, for example beach lots, cottage plots and farmlands.
- Finsilva Oyj places a special emphasis on the preservation of habitats of vital importance for biodiversity. The company's forests are PEFC or FSC certified.

Eligible signed loans €146 million, maturing in 2024

- Finsilva Oyj owns around 133 000 hectares of forests in Finland.
- Forests in Europe currently sequester approximately 7% of the European greenhouse gas emissions.* Forests are vitally important carbon sinks.
- Maintaining forests is crucial in Finland, given that 72% of the country is under forest cover. Strengthening forest carbon sinks pave the way towards a carbon neutral economy, as biological carbon sequestration is known to be one of the most cost efficient ways to generate negative carbon emissions.*

Hectares of Forest per Country



■ Finland 133,000



* <https://www.luke.fi/en/blog/european-forests-as-carbon-sinks-2/>
 ** Parameters: Rough estimate is that there are 120 square meters of forest in one hectare in Finland. One square meter of wood stores 0,9 tons of carbon dioxide



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Independent Limited Assurance Report

The Board of Directors of OP Corporate Bank plc engaged us to provide limited assurance on the Selected Information described below and set out in OP Corporate Bank plc's "Green Bond Report" dated February 2020 for OP Corporate Bank plc's Green Bond (ISIN XS 1956022716).

Selected Information

The scope of our work was limited to assurance over the allocation of bond proceeds per eligible sector as of 2 December 2019 and as stated in the section *4.1 Green bond register and assets allocated to green bond* of the Green Bond Report.

The reporting criteria against which the allocation of proceeds was assessed is described in OP Corporate Bank plc's Green Bond Framework published in October 2018.

Management's Responsibility for the Green Bond Investor Letter and Impact Report

Management is responsible for the preparation and presentation of the Green Bond Report and Selected Information in accordance with the reporting criteria as set out in Green Bond Framework. This responsibility includes designing, implementing and maintaining internal tracking method relevant to the proper preparation and presentation of the Green Bond Report and Selected Information.

The Practitioner's Responsibility

Our responsibility is to express a conclusion on the Selected Information in the Green Bond Report based on our work performed. We conducted our work in accordance with the International Standard on Assurance Engagements (ISAE) 3000. This Standard requires that we comply with ethical requirements and plan and perform the assurance engagement to obtain limited assurance whether any matters come to our attention that causes us to believe that the Selected Information do not comply in all material respects with the criteria set out in the Green Bond Framework.

The firm applies International Standard on Quality Control 1 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.

The scope of our work was limited to assurance over the allocation of green bond proceeds to approved eligible loans per eligible sector as of 2 December 2019 and as stated in the section *4.1 Green bond register and assets allocated to green bond* in the Green Bond Report.

In a limited assurance engagement, the evidence-gathering procedures are more limited than for a reasonable assurance engagement, and therefore less assurance is obtained than in a reasonable assurance engagement. The procedures selected depend on the practitioner's judgment, including the assessment of risks of material incompliance of Selected Information in the Green Bond Report with the criteria.

Work Performed

We are required to plan and perform our work in order to consider the risk of material misstatement of the Selected Information. In doing so, we:

- Made enquiries to OP Corporate Bank plc's management, including those with responsibility for green bond governance, management and reporting.
- Evaluated and updated our understanding of the design of the internal tracking method for managing, recording and reporting the Selected Information.

- Obtained the listing of eligible loans allocated into the green bond, and confirmed consistency with the disclosure in section 4.1 *Green bond register and assets allocated to green bond* in the Green Bond Report.
- Inspected minutes of the Green Bond Committee to confirm that the allocated eligible loans had been considered and approved according to the process described in the Green Bond Framework.
- Performed limited substantive testing to verify existence and accurate allocation of green bond proceeds per eligible sector as set out in the section 4.1 *Green bond register and assets allocated to green bond* in the Green Bond Report. In our testing we obtained a detailed listing of loan amounts to assure the following:
 - correct allocation of proceeds to eligible loans
 - proceeds were transferred
- Considered the disclosure and presentation of the Selected Information.

Our assurance does not extend to any other information included in the Green Bond Report. We have not reviewed and do not provide any assurance over individual loan information reported nor estimates of environmental impacts.

Conclusion

Based on our limited assurance engagement, nothing has come to our attention that causes us to believe that the Selected Information as of 2 December 2019 in the Green Bond Report dated February 2020 does not comply in all material respects with the criteria as set out in the Green Bond Framework.

This conclusion has been formed on the basis of, and is subject to, the inherent limitations outlined elsewhere in this independent assurance report.

Restriction on Use and Distribution

This report, including our conclusion, has been prepared solely for the Board of Directors of OP Corporate Bank plc in accordance with the agreement between us, to assist the Directors in reporting OP Corporate Bank plc's green bond performance and activities. We permit this report to be disclosed in the Green Bond Report dated February 2020, to assist the Directors in responding to their governance responsibilities by obtaining an independent assurance report in connection with the Selected Information. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Board of Directors and OP Corporate Bank plc for our work or this report except where terms are expressly agreed between us in writing.

Helsinki, 20 January 2020

KPMG Oy Ab



Juha-Pekka Mylén
Authorised Public Accountant, KHT



Tomas Otterström
Partner, Advisory