



# GREEN BOND IMPACT REPORT **2019**



KOMMUNE  
KREDIT

STEADY  
& STABLE

# CEO LETTER

I am proud to present KommuneKredit's second Green Bond Impact Report. This report highlights KommuneKredit's dedication to support the ambitions of Danish municipalities and regions in creating green, social and sustainable welfare for local communities throughout Denmark.

By the end of 2018 we had disbursed nearly DKK 13bn in green loans. And while not all KommuneKredit's lending is classified as green loans as defined in our Green Bond Framework, the vast majority of the rest of our lending has either a green or a social purpose.

Overall, the expected annual CO<sub>2</sub> reduction/avoidance resulting from projects financed with our green bonds is approximately 360,000 tonnes. KommuneKredit's green lending contributes to highlight the positive environmental and climate impact achieved through investing in Danish local communities. It is our ambition to continue to serve as a link between local green lending and global green funding and in this way contribute to a better and more sustainable future for all.

**Jens Lundager**  
CEO



# ABOUT THIS REPORT

KommuneKredit's Green Bond Impact Report 2019 summarizes KommuneKredit's green bond approach and provides an account of the green impact achieved through projects financed with KommuneKredit's green bonds. The report contains examples of projects that are financed by KommuneKredit's green bonds, as well as an account of KommuneKredit's green bond development. The report concludes with a note on the methodology applied in this green bond impact report.

KommuneKredit launched its 1st green bond in June 2017. In June 2018, the 2nd green bond was issued. As of 31 December 2018, KommuneKredit's Green Bond Committee had approved 329 eligible green loans as a basis for our green bonds.

As of 31 December 2018 KommuneKredit had disbursed DKK 12.85bn in green loans. The loans vary in size ranging from DKK 175,000 to DKK 1,502,000,000 and are dispersed across local communities throughout Denmark. A full list of KommuneKredit's green loans is available [here](#).

KommuneKredit's  
Green Bond Committee

KommuneKredit is committed to continuing its work with green bonds. As noted in our Responsibility Report 2018, responsible funding is a focus area for the company's responsibility efforts in 2019.

The overall aim of this report is to give a concise impact statement that provides investors and other interested readers with easily accessible and manageable information about KommuneKredit's green finance.

## ABOUT KOMMUNEKREDIT

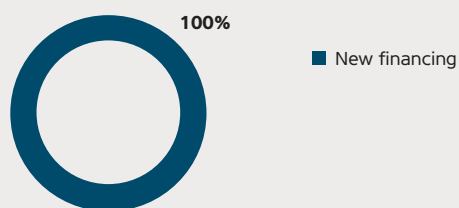
KommuneKredit provides funding to local public entities, associations of local authorities or entities with a municipal guarantee. Moreover, funding is solely provided for public purpose infrastructure in Denmark. Most of the investments have a green or a social profile.

Read more about KommuneKredit on [www.kommunekredit.com](http://www.kommunekredit.com)



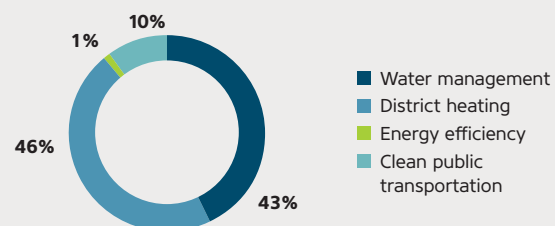
# KEY FACTS

## SHARE OF NEW FINANCING VS. REFINANCING



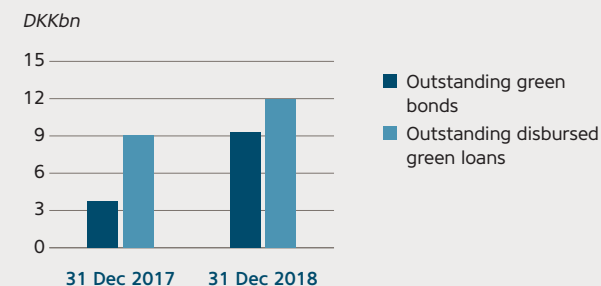
Based on amount of loans disbursed (net of pre- and repayments)

## DISBURSED GREEN LOANS BY CATEGORY



Based on amounts of loans disbursed as of 31 December 2018

## GREEN BONDS AND GREEN LOANS



Based on loans disbursed (net of pre- and repayments)

## GREEN BOND IMPACT AS OF 31 DECEMBER 2018

Project category	Amounts approved by committee, DKK	Disbursed amounts, DKK	KommuneKredit's share of impact of disbursed amounts		
			Annual expected reduction/avoided CO <sub>2</sub> , (tonnes)	Energy saving, (GJ)	Displacement of fossil fuels, (GJ)
District heating	10,265,849,178	5,888,969,178	355,031	344,522	4,853,271
Water management	5,484,986,580	5,484,986,580	83		
Energy efficiency	119,261,132	119,261,132	1,889	8,783,280	
Clean public transportation	1,359,974,885	1,359,974,885	1,643		
<b>Total</b>	<b>17,230,071,775</b>	<b>12,853,191,775</b>	<b>358,646</b>	<b>9,127,802</b>	<b>4,853,271</b>

### Impact attributable to Green Bond investors:

78% (EUR 1.25bn/EUR 1.6bn)\*

Whereof impact attributable to Green Bond

EUR 500m 18 May 2027: 31.2%

Whereof impact attributable to Green Bond

EUR 750m 5 July 2028: 46.8%

\* total outstanding green bonds divided by total outstanding disbursed green loans



› CASE: MUNICIPALITY OF ÆRØ

## SUSTAINABLE WATERBORNE TRANSPORTATION

KommuneKredit has co-financed an electric ferry to manage the waterborne transportation between the two Danish islands Ærø and Als.

The ferry utilizes the world's first type-approved battery for maritime use. The ferry company intends to enter an agreement with a power company in order to ensure access to certified green electricity.

The ferry was developed as part of a 4-year innovation project, E-ferry, aimed at designing, building and testing a 100% electric, medium-sized ferry for passengers, cars, trucks and other cargo. The E-ferry project was financed through the European Commission's Horizon 2020-programme in collaboration with

the Municipality of Ærø. DKK 113m has been granted from the European Commission through Horizon 2020, while the Municipality of Ærø financed the project with DKK 89m of which DKK 55.8m has been borrowed from KommuneKredit. Furthermore, DKK 6m was granted by Leclanché SA.

The goal of the E-ferry project was to promote energy efficient, CO<sub>2</sub>-neutral and pollution-free waterborne transportation for routes between islands and inshore European waters and beyond.

### FACTS:

**TOTAL PROJECT INVESTMENT:**  
DKK 208,000,000

**DISBURSED LOAN:** DKK 55,808,000

**EXPECTED ANNUAL REDUCTION OF EMISSIONS:**  
2,000 tonnes CO<sub>2</sub> (KommuneKredit share 536 tonnes CO<sub>2</sub>) and 41,500 kg NO<sub>x</sub> (KommuneKredit share 11,135 kg NO<sub>x</sub>) compared to conventional ferries on similar routes.

The ferry is expected to be in operation by summer 2019.



› CASE: SINDAL HEAT SUPPLY

## CO<sub>2</sub>-NEUTRAL COMBINED HEAT AND POWER (CHP) PLANT IN SINDAL

Sindal Heat Supply has built a biomass CHP plant, which utilizes a newly developed gasification technology.

The plant is the first of its kind and experiences gained may influence the future development of energy supply. The plant opened in September 2018. The opening was attended by the Danish Minister of Energy, Utilities and Climate, Lars Chr. Lilleholt. According to the Minister it is plants like this that “... we will see in relation to future green energy – not only in Denmark, but in large parts of the world.”

Cogeneration of electricity and heat (combined heat and power or CHP) is one of the most energy-efficient and environmentally friendly ways to produce electricity and heat according to the [Danish Energy Agency](#).

The CHP plant produces 5 MW heat from wood chips, garden waste and other alternative forms of fuel.

### FACTS:

**TOTAL PROJECT INVESTMENT:**  
DKK 70,000,000

**DISBURSED LOAN:** DKK 50,000,000

**EXPECTED ANNUAL CO<sub>2</sub>-REDUCTION:**  
5,490 tonnes CO<sub>2</sub> (KommuneKredit share  
4,947 tonnes CO<sub>2</sub>)



› CASE: HILLERØD SEWAGE TREATMENT PLANT

## INNOVATIVE SEWAGE TREATMENT PLANT IN HILLERØD

The sewage treatment plant is a sustainable and recreational use of resources. Among other things the plant contains a large lake contributing to the recreational look of the area.

The roof of the plant is covered with grass. There are green 'walking streets' between the functional parts of the sewage treatment plant, which provides visitors with an opportunity to watch the treatment process through large expanses of glass.

The sewage treatment plant has been designed to account for expected climate changes. It provides an opportunity to extract phosphor from sewage water, as well as, to utilize heat energy in the sewage water.

### FACTS:

**TOTAL PROJECT INVESTMENT:**  
DKK 426,711,000

**DISBURSED LOAN:** DKK 306,486,000

**NUMBER OF PEOPLE WHOSE SEWAGE WATER IS TREATED AT THE PLANT:**  
50,000

**AREA:** 2,023 ha

**CAPACITY:** 100,000 PE or  
7-8 million m<sup>3</sup>/per annum

**EXPECTED ANNUAL PRODUCTION OF GREEN ENERGY:** 4,400 MWh

**EXPECTED ANNUAL CO<sub>2</sub>-REDUCTION:**  
114 tonnes CO<sub>2</sub> (KommuneKredit share)  
82 tonnes CO<sub>2</sub>



› CASE: THE MUNICIPALITY OF AARHUS

## SUSTAINABLE STREET LIGHTING IN AARHUS

In 2015, the City of Aarhus launched a comprehensive LED street lighting project with the aim of replacing mercury lamps with LED lamps.

In Aarhus, a total of 29,000 mercury lamps have been replaced with LED lamps. The project is subsidized by the EU through the subsidy and loan programme ELENA (European Local Energy Assistance).

LED lamps have a much lower environmental footprint than mercury lamps. The project will thus reduce the city's annual power consumption by 30%, which according to the municipality equals the annual power consumption of 1,500 households. The energy-saving impacts also materialize as lower operating

costs, with the replacement expected to be recovered over a period of 18 years.

The new LED lamps also contribute to higher road safety and increased security on the city's roads and paths because the new solution makes it easier to control the city's street lighting.

The City of Aarhus has defined a goal of being carbon-neutral in 2030. The street lighting project is a major step in the direction of achieving this goal

### FACTS:

**TOTAL PROJECT INVESTMENT:**  
DKK 128,668,000

**DISBURSED LOAN:** DKK 128,668,000

**EXPECTED ANNUAL CO<sub>2</sub>-REDUCTION:**  
2,500 tonnes

**EXPECTED ANNUAL ENERGY SAVINGS:**  
4,931,000 MWh

**PROJECT PERIOD:**  
2015-2018



# KOMMUNEKREDIT'S GREEN BOND DEVELOPMENT

By the end of 2018 KommuneKredit had two outstanding green bonds with a total amount of EUR 1.25bn. The goal is to issue at least one green bond in 2019 subject to the disbursement of sufficient eligible green loans.

As noted earlier, our 1st green bond – a 10-year EUR 500m bond - was issued on the 1st of June 2017. The bond was oversubscribed 2.8 times with over 50 international investors participating.

Our 2nd green bond was issued on the 5th of July 2018 as a 10-year EUR 750m bond. The bond was oversubscribed twice with almost 60 international investors participating.

## KOMMUNEKREDIT'S TWO OUTSTANDING BONDS

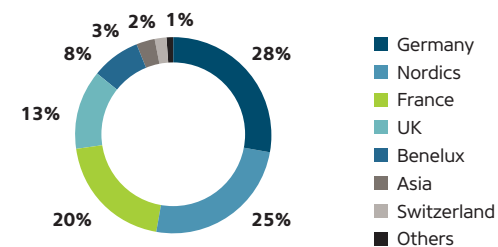
### 1st green bond issue

ISIN	XS1622415674
Size	EUR 500m
Issue date	1 June 2017
Maturity date	18 May 2027
Coupon	0.75%

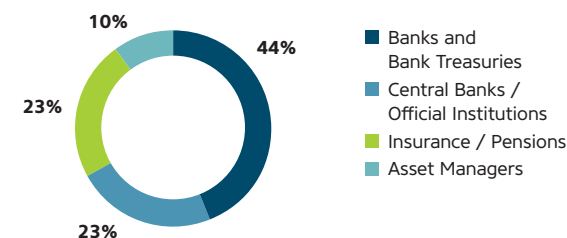
### 2nd green bond issue

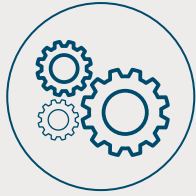
ISIN	XS1851226891
Size	EUR 750m
Issue date	5 July 2018
Maturity date	5 July 2028
Coupon	0.75%

## INVESTOR DISTRIBUTION BY GEOGRAPHY, 2ND ISSUE



## INVESTOR DISTRIBUTION BY TYPE, 2ND ISSUE





# METHODOLOGY

This section describes the methodology applied in this report. Overall, the approach can be divided into two main parts – a general and a specific approach.

## General approach

A portfolio approach is applied in this impact report. A dynamic portfolio path is applied where a breakdown of impact attributable to each bond using a simple pro-rata allocation is provided.<sup>1</sup>

KommuneKredit reports CO<sub>2</sub>-reduction and other impacts per invested monetary unit solely for investments made in projects or project categories where such impact is quantifiable and relevant.

The reported impacts are based on ex ante impact assessments provided by KommuneKredit's clients.

Our Eligible Project Criteria (as defined in our Green Bond Framework) allow projects that contribute to either a CO<sub>2</sub>-reduction compared to an existing situation or a zero-CO<sub>2</sub> pro-

ject (maintaining an existing climate-friendly project profile/solution).

For a number of projects, particularly within the water management category, it is not possible to collect impact data. This is due to the fact that some of the projects are long lasting but the clients borrow on an ongoing basis (annually) for their capital expenditures. Furthermore, a given loan can cover several projects. Although these projects are by definition environmentally friendly, it is proving difficult to quantify the impact at this stage.

## Specific approach

While KommuneKredit allows for both new financing and refinancing from its two outstanding green bond proceeds, KommuneKredit's ambition is to use the majority of the proceeds for new projects (financed within 15 months before the time of the green bond issuance) as defined in our Green Bond Framework. Since KommuneKredit now has two outstanding green bonds, the distribution between new financing and refinancing has to be based on the two issue dates. When

calculating the split between new finance and refinance KommuneKredit follows a waterfall-principle. Firstly, we count 15 months backwards from the issue date of the 1st green bond. If the accumulated notional of green loans disbursed within these 15 months is greater than the notional of the 1st green bond, then "new financing" is 100%. The same approach is repeated for the 2nd green bond.

The outstanding notional of the Green Loan Portfolio may vary over time and on any given historical date. Indeed, the Green loans are added to the Green Loan Portfolio at the date of approval by the Green Bond Committee. The Green Loan Portfolio amount is also adjusted for loan pre- and repayments.

Overall, KommuneKredit strives to align its reporting standard with the Nordic Public Sector Issuers: [Position Paper on Green Bonds Impact Reporting 2019](#).

<sup>1</sup> In our previous impact report a project-by-project method was applied. The previous impact report followed a non-dynamic portfolio path.

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