



Climate Report 2023

Realkredit Danmark
February 2024

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Message from our CEO

Dear reader,

Realkredit Danmark A/S has both the potential as well as the responsibility to play an important and constructive role in relation to society's ambitions for a net-zero future. In January 2023, the Danske Bank Group's Climate Action Plan was launched, which provides a comprehensive mapping of the Group's measured greenhouse gas emissions and serves as a plan that sets intermediate targets for how we want to reduce our financed carbon emissions to achieve net zero by 2050 or sooner.

We see our role in the green transition as supporting our customers in directing their efforts towards more energy-efficient and sustainable operating models. By providing focused advice and targeted financing, Realkredit Danmark plays a key role when it comes to helping households and businesses invest in energy efficiency and transition towards clean energy sources. As well as supporting the development of a more sustainable energy supply by working with renewable energy utilities and solar cell parks, Realkredit Danmark also collaborates on developing the necessary requirements for covered bond funding to support government plans for large-scale offshore wind turbines.

This is the fourth report to map and disclose the CO₂e emissions of Realkredit Danmark's loan portfolio. In this report, emissions have been recalculated retrospectively to enable comparability of figures across reporting years. Following this recalculation, we see a reduction in emission intensities of 11.9% for personal mortgages and 18.2% for commercial real estate since 2020.

By supporting customers and by collaborating with relevant stakeholders, Realkredit Danmark continuously strives to make a positive impact.



Kamilla Hammerich Skytte

Introduction

This report maps and discloses greenhouse gas emissions (expressed as CO₂e) for properties mortgaged by Realkredit Danmark. The report adheres to the CO₂ model established by Finance Denmark, which was developed to create a common approach to comparable and transparent communication of CO₂e emissions in the financial sector. The Danish principles are in alignment with the Partnership for Carbon Accounting Financials (PCAF), but adjustments and deviations¹ from the PCAF standard have been permitted in a few selected areas to accommodate circumstances and specificities unique to Denmark.

The report is a voluntary disclosure prepared to increase transparency and provide a better understanding of Realkredit Danmark's financed emissions.

The preparation of this report has been carried out based on a joint agreement with

Finance Denmark and financing-industry peers in Denmark. This is the fourth report to map and disclose the CO₂e emissions of Realkredit Danmark, and the calculation model used is under continuous review, for example to reflect industry developments and accommodate regulatory changes.

Because the reporting standard is still developing and the quality of input data is continuously improving, the information provided should be interpreted with some caution. The size and composition of lending portfolios differs between financial institutions, and although a common calculation method has now been developed, this method has yet to be fully aligned among peers.

The Climate Report is prepared on an annual basis and is based on year-end data from 2020 to 2022. This 2023 report is based on end-November 2023 data.

¹For further details of the Danish model, please refer to the model published by Finance Denmark, 3 December 2023, [co₂-model_2023.pdf \(finansdanmark.dk\)](#)

Development throughout 2023

Development within society

Throughout 2023, there was a continued evolution of sustainability regulations, such as the Corporate Sustainability Reporting Directive (CSRD)², and accompanying technical reporting standards (ESRS)³, all of which will help increase future data availability and quality. We also observed ongoing developments within the area of climate guidance from organisations such as the Science Based Targets initiative (SBTi), the Partnership for Carbon Accounting Financials (PCAF) and the Net-Zero Banking Alliance.

The incoming Energy Performance of Buildings Directive (EPBD)⁴ sets out requirements for energy renovation of the building stock and will affect all property owners across the EU over the coming years. Realkredit Danmark will follow the Danish implementation of the directive closely to help customers affected by the new energy-efficiency requirements in the best way possible.

In our business operations, particularly in the commercial real estate segment, we are experiencing increased customer interest in the products and services we provide. We are also seeing an increased demand for information and cooperation in relation to supporting our customers' own transition journeys.

Sustainability development is an area we continue to emphasise when we provide our advisory services and in the dialogues we have with our agriculture customers. In

2024, we anticipate that the Danish government will introduce climate-related developments, and we expect sector-specific guidance on target-setting within agriculture to be published by the Net-Zero Banking Alliance. The Danish government has already initiated a committee, called Svarer-udvalget, to provide solutions for a future sustainable agricultural sector, and the final report from the committee is expected in the first quarter of 2024.

We expect the momentum of the green transition to continue regardless of short-term changes in policy or government approaches, and this will support the direction taken by corporates and financial institutions in setting ambitious climate targets and redirecting investment flows towards the needed transition.

Development within Realkredit Danmark

Tangible results were also achieved within Realkredit Danmark in 2023, not least due to the strengthening of our leadership and an organisational focus on sustainability efforts. The current Danske Bank Group strategic statement, our Purpose, anchors and promotes sustainable transition, and in our Forward '28 strategy, launched in June 2023, sustainability is now fully integrated into our commercial strategy as one of four key strategic pillars. We aspire to be a leading mortgage bank when it comes to supporting the sustainable transition of customers, businesses and the society we are part of.

Our purpose

Release the potential in people and businesses by using the power of finance to create sustainable progress today and for generations to come.

Within the sustainability pillar of our Forward '28 commercial strategy, the climate agenda is an area in which Realkredit Danmark as a mortgage bank has an extraordinary role to play – both in terms of fulfilling our societal obligation and in relation to emerging business opportunities. We are heavily engaged in the dialogue on covered bond funding of offshore wind turbines and the expansion of the electricity grid, and we are also engaged in the dialogue regarding the legislative process on sustainability-related regulation via Finance Denmark.

In January 2023, the Danske Bank Group committed to set science-based targets and since then has been in ongoing constructive dialogue with the SBTi.

² Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting. CSRD applies from 1 January 2024 for financial years starting on or after 1 January 2024. CSRD has not been implemented into national legislation yet. Based on the CSRD, Realkredit Danmark will be under the obligation to report on an entity level starting from the financial year 2025. Realkredit Danmark will be part of Danske Bank A/S's consolidated reporting.

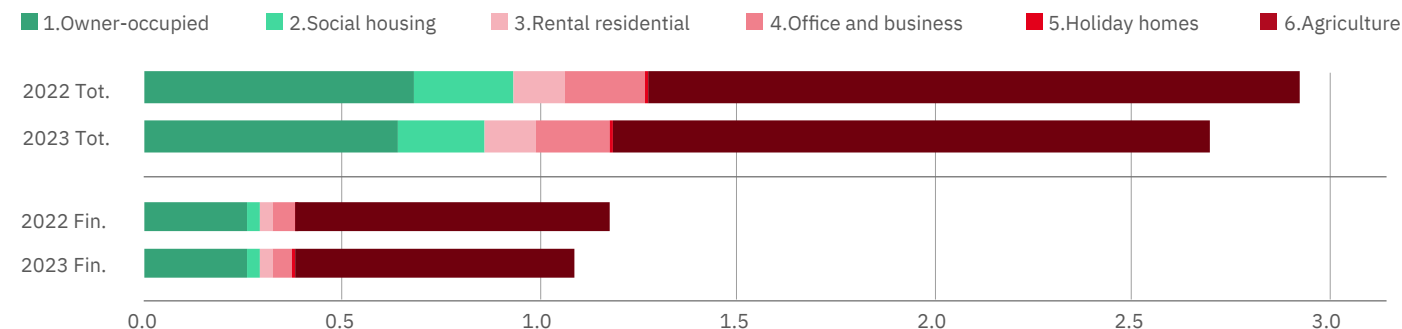
³ Commission Delegated Regulation (EU) 2023/2772 of 31 July 2023 supplementing Directive 2013/34/EU of the European Parliament and of the Council as regards sustainability reporting standards.

⁴ Commission Proposal for a Directive of the European Parliament and of the Council on the energy performance of buildings (recast) (COM(2021)802 final).

Emissions of the Realkredit Danmark portfolio

Total emissions for Realkredit Danmark’s total portfolio decreased from 2.9 million tonnes CO₂e (tCO₂e) in 2022 to 2.7 million tCO₂e in 2023. Financed emissions⁵ decreased from 1.2 million tCO₂e to 1.1 million tCO₂e over the same period.

Total and Financed emissions
mill. tCO₂e/year



Compared to 2022, the emissions per segment changed as shown below:

Change from 2022 to 2023	Total emissions	Financed emissions
1. Owner-occupied	-7%	-1%
2. Social housing	-9%	4%
3. Residential rental	-3%	6%
4. Office and business	-9%	-5%
5. Holiday homes	-1%	3%
6. Agriculture	-8%	-10%
Total	-8%	-7%

With regard to total emissions, all segments saw a reduction in emissions from 2022 to 2023. For financed emissions, emissions increased in three of the segments: social housing, residential rental and holiday homes. The increases in these segments were caused by changes in loan-to-value (LTV) values and/or changes in the underlying loan stock. Despite increases in these three segments, which account for a relatively small proportion of emissions of the total portfolio, total financed emissions of the total portfolio decreased by 7%.

During 2022, a number of customers switched to a greener source of heating their homes, and this contributed to decreased emissions in 2022. The heating source conversions were driven primarily by the energy crisis caused by the war in Ukraine. As well as being supported

by various government incentives, the transition to greener heating sources was supported by Realkredit Danmark and Danske Bank by offering customers discounted energy-improvement loans. However, we saw a decline in the number of energy renovations in 2023 as gas prices fell, thereby lowering household costs for heating. Combined with a hike in interest rates and lack of transparency in public subsidies for changing heating source, homeowners were more reluctant to undertake energy renovations.

In 2023, there was a small indication that homeowners had updated their BBR registrations regarding the size of their properties. This is considered to be a consequence of the new property valuations introduced by the Danish tax authorities with effect from January 2024. These changes do not necessarily lead to reduced emissions, but they will increase future data quality.

It is important to note that our measured financed emissions within our lending activities are not direct emissions from Realkredit Danmark but can be seen as a mirror of the emissions of the customers we lend money to. As long as our customers keep up with their loan payments, we are not able to force the customers to ‘go green’. For us to achieve our expected climate reductions within lending, we are therefore highly dependent on collaboration with our customers and their willingness to transition.

For a calculation of total emissions by capital centre, please refer to appendix 1.

⁵ Financed emissions are equal to LTV-weighted total emissions. Please refer to the model published by Finance Denmark, 3 December 2023, co2-model_2023.pdf (finansdanmark.dk), for further details.

Expected emission reductions at Realkredit Danmark

In January 2023, the Danske Bank Group published its Climate Action Plan⁶, which covers the entire Danske Bank Group, including Realkredit Danmark. The Climate Action Plan communicates the Group's commitment to becoming a net-zero bank by 2050 or sooner, and it sets specific 2030 targets for carbon emission reductions. It should be noted that these targets may change as a consequence of the SBTi validation process.

Motivation behind our expectations

For the lending portfolio, the Danske Bank Group has set 2030 targets for the largest property segments.⁷ The targets are intensity-based, which enables us to focus on achieving real efficiencies of economy. They will drive the advisory services we provide to our customers and drive development of products and services to support our customers in the transition. However, setting intensity-based targets (i.e. emissions per m²) is no guarantee for a decrease in absolute financed emissions if our total exposure grows.

Expected emission reductions

The Danske Bank Group has set a target for all Nordic real estate activities of a 55% reduction in emission intensity by

2030 against a 2020 baseline. The target covers personal mortgages and commercial real estate, with an expectation for the Danish portfolio of around a 75% reduction, in line with the Danish government's plan for emission reductions in the utilities and infrastructure sectors. The targets have been submitted for validation by the SBTi and may change as a result of the SBTi validation process.

Commercial real estate

Commercial real estate covers both residential and non-residential properties. Emissions for properties in Denmark are calculated using energy performance certificates (EPCs), which express the property's expected energy usage for heating and emission factors for the corresponding primary heating source.

To achieve our expected emission reductions, we collaborate with our customers and actively provide financial advice and solutions. At Realkredit Danmark, we can influence our customers' investment decisions by providing them with sound financial advice, by managing access to capital, and through the cost of capital.

⁶ Danske Bank's Climate Action Plan: Our Roadmap to Net Zero, January 2023, <https://danskebank.com/-/media/danske-bank-com/file-cloud/2023/1/danske-banks-climate-action-plan.pdf?rev=5522b9f5474c42f9b2e6eb93fd728627>

⁷ In the Climate Action Plan, the segments subject to targets covering the exposures in Realkredit Danmark are as follows: 1) Commercial real estate (residential), i.e. Residential rental in the segmentation in appendix 1, 2) Commercial real estate (non-residential), i.e. Office and business in the segmentation in appendix 1 and 3) Personal mortgages, i.e. Owner-occupied in the segmentation in appendix 1. Agriculture, social housing and holiday homes do not fall under the scope of the reduction targets of the Climate Action Plan. Furthermore, financial institutions, public institutions, and private housing co-ops & non-profit associations do not fall under the scope of the reduction targets of the Climate Action Plan.

Personal mortgages

Emissions directly related to our Danish personal mortgages are calculated using EPCs.

Reaching the ambitious emission intensity reduction for personal mortgages will be highly dependent on achieving reduced use of fossil fuels for property heating and electricity generation.

Dependency on developments in policy, and transition in the utilities sector

The reduction targets for personal mortgages and commercial real estate are subject to, and to a large extent driven by, developments in policy and transition in the utilities sector. The transition to a low-carbon economy requires significant new investments in low-carbon production facilities, infrastructure and transportation grid – alongside energy-efficiency improvements. At the same time, this transition requires limiting investments in tech-

nologies that lock our society into high-carbon economies. We align with the Danish government's planned reductions in fossil fuels in power and heat production and the continued conversion of fossil fuel heating sources into electricity-powered heating or district heating. This will result in emission reductions in properties transitioning away from fossil fuel-based heating.

At Realkredit Danmark, we want to support our customers in their own transitions to becoming net-zero businesses by offering advice and strong partnerships, by facilitating access to capital intended for activities that support the net-zero transition and by limiting access to capital for activities that contribute to a high-carbon economy. To enable us to achieve this, we are developing a range of advisory services and products, for example green loans and green bonds, to help our customers finance their own net-zero transitions.



The path towards 2030

As mentioned, Realkredit Danmark expects emissions to decrease for personal mortgages and commercial real estate by around 75%, given that the government’s planned reduction in fossil fuel use for electricity

generation and district heating will be implemented on time. To further support our customers’ green transitions in the best way possible, we have launched the following initiatives.

Emissions are calculated in accordance with PCAF methodology and with guidance from Finance Denmark’s Framework for Financed Emissions Accounting. The calculation is based on on-balance year-end exposures.⁸ Due to better data quality and improved methodologies since the publication of the Climate Action Plan, the baseline has been recalibrated as shown below:

Initiatives	
Green covered bonds	<p>Introduced for large real estate customers in 2019 and for medium-sized corporate customers from 2021. As at year-end 2023, DKK 23.8 billion in RD Cibor6® Green has been issued.</p> <p>In 2020, green covered bonds were introduced to the Swedish market. Today, SEK 5.0 billion in RD Stibor3® Green has been issued.</p>
Partnerships	<p>OBH building advisers visit customers in their homes to suggest relevant energy-efficiency improvements. If suggestions are implemented and financed via Realkredit Danmark or Danske Bank, the price of the OBH report will be reimbursed.</p> <p>A partnership with a digital energy hub, Energihjem.dk, to help our customers opt for energy-efficient heating alternatives with special guidance on process and the rollout of district heating plans.</p> <p>In 2023, we participated in the national <i>Fyr dit fyr</i> campaign in Denmark to stimulate more homeowners to make the heating of their homes more energy efficient.</p>
Discounted loans	Direct support to customers in the form of loans for energy-efficiency improvements with adjusted pricing to make financing of energy-efficiency upgrades more affordable.
Sustainability training	All employees within our Business Customers and Personal Customers units undergo sustainability training. Specialised training is provided to Realkredit Danmark specialists, including leaders and valuation specialists.
EESG reporting framework (commercial real estate customers)	We are engaged in the real-estate-industry-driven project, funded by Realdania, Real ESG – The Real Estate Reporting Framework, to support a sector-specific ESG-reporting framework and enable comparability of ESG and sustainability figures by establishing agreed accounting and calculation methods. The standard was launched in January 2024.

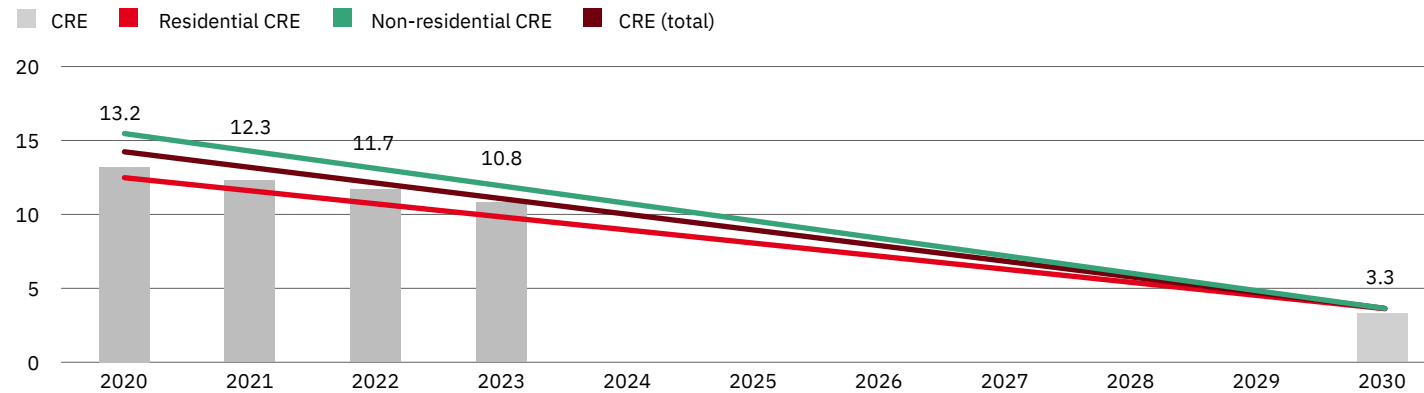
	New baseline (kgCO ₂ /m ²)	Original baseline (kgCO ₂ /m ²)
Commercial real estate	13.2	14.2
- Residential	10.8	12.3
- Non-residential	15.0	15.6
Personal mortgages	20.2	19.0

⁸ For 2023, the emissions are based on data from end-November 2023.

Commercial real estate

The development in emission intensity is illustrated below.

Commercial real estate kgCO₂/m²



The 2020 to 2023 figures are the emission figures for the commercial real estate segment in Realkredit Danmark.⁹ The 2020 figure represents the recalibrated baseline for Denmark used in the Climate Action Plan, with an expected 75% emission reduction by 2030.

Progress

- Overall, we see that the emission reductions of the total commercial real estate segment are very close to the linear trajectory towards 2030. We are experiencing increased awareness in the segment, and momentum is being driven by investments in new builds and in renovation of existing buildings. Fluctuations might occur until we get closer to 2030, depending on factors such as the restructuring of the utilities sector.

- In 2023, our average emissions intensity in the commercial real estate portfolio decreased to 10.8 kgCO₂/m², from 13.2 kgCO₂/m² in our baseline year 2020, which corresponds to a 18.2% decrease.
- The decrease in emission intensity from 2022 to 2023 is 7.7% for the total commercial real estate segment.
- The non-residential part of the commercial real estate segment is the segment with highest reduction potential, given its baseline of 15 kgCO₂/m².
- The emission intensity reduction progress is driven mainly by a general improvement of EPCs in the commercial real estate portfolio and by more conversions of fossil-fuel heating sources into electricity-powered heating or district heating sources.

- We are almost on track with the linear trajectory towards our expected reduction, and we expect that an update to the Danish emission factors used by energy consultants to generate EPCs will improve our reported performance further.

Outlook

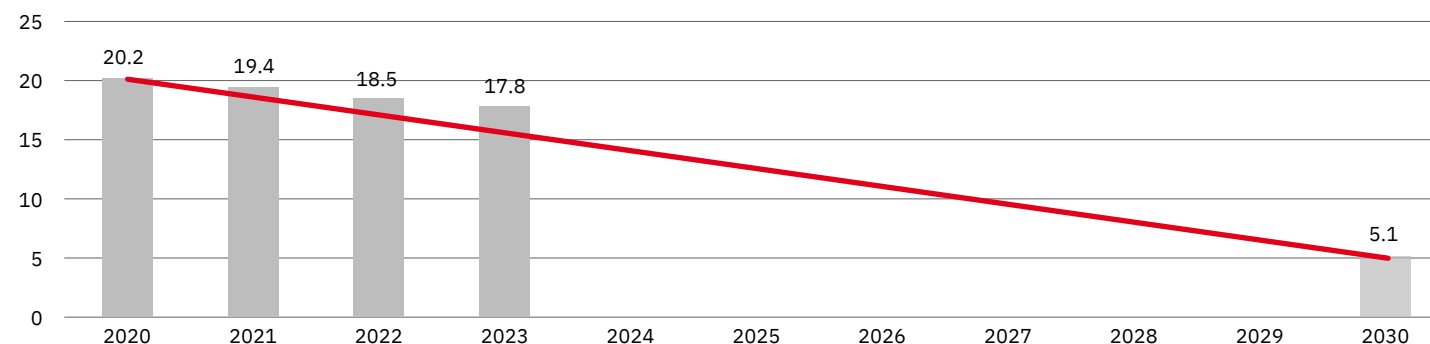
- Over the coming years, we expect to see growing momentum among real estate investors, driven by regulation, changing market dynamics in the industry value chain of the segment, and emerging implications of access to financing.
- Changes to upcoming regulation and policies affect our ability to reach the expected 75% emission reduction, and the Energy Performance of Buildings Directive (EPBD) will become particularly important towards 2030 in relation to how our customers manage their risks.
- We will continue to improve our advisory services and educate our relationship managers in guiding our commercial real estate customers on the potential implications of the EPBD.
- We are exploring options to implement sustainability-related elements as a part of our terms and conditions, including future pricing of loans, to incentivise the real estate market to carry out energy-optimisation of the existing building stock.
- Over the coming years, we will also engage the capabilities of partners to make it easy for our customers to identify energy-improvement potentials and execute renovation/retrofitting of their buildings.

⁹ The CO₂e figures have been recalculated due to changes in data and methodology. As a result, the figures might differ slightly from the figures in our latest report.

Personal mortgages

The development in emission intensity is illustrated below.

Personal mortgages kgCO₂/m²



The 2020 to 2023 figures are the emission figures for the personal mortgages segment in Realkredit Danmark.¹⁰ The 2020 figure represents the recalibrated baseline for Denmark used in the Climate Action Plan, with an expected 75% emission reduction by 2030.

Progress

- Overall, we saw a decline in the number of energy renovations as gas prices fell, thereby reducing household costs for heating. Combined with a hike in interest rates and lack of transparency in public subsidies for chang-

ing heating source, homeowners were more reluctant to undertake energy renovations and to connect to district heating.

- In 2023, our average emission intensity in personal mortgages decreased by 11.8%, from 20.2 kgCO₂/m² in 2020 to 17.8 kgCO₂/m² in 2023.
- The emission intensity in the personal mortgages segment decreased by 3.8% from 2022 to 2023.
- From the 2020 base year, the share of district heating in the Danish mortgage portfolio has increased moderately. Furthermore, the share of electric heating has

increased during the same period. District heating is a cornerstone in Denmark’s green and efficient energy system, and an effective roll-out is necessary to provide more households with a cleaner energy mix. Data from our personal mortgage portfolio on heating sources indicates that the transition from heating oil and natural gas to district heating and electric heating is progressing, see appendix 2.

- In 2023, we are tracking above a linear trajectory towards our expected emission reduction.

Outlook

- We will continue to contribute to break down barriers and promote energy-efficiency improvements; however, our expected personal mortgages emission reduction is to a large extent dependent on, and driven by, development in policy and transition in the utilities sector. Emission factors in the utilities sector have not been updated since 2019. When emission factors are revised, we expect an improved trajectory towards 2030.
- The upcoming EPBD is also expected to support the future energy-efficiency standards for residential properties. We will work to identify which customers will be most affected by the new directive to help them mitigate the economic consequences and help them navigate the energy renovation process.
- We will continue to expand our sustainability training activities across the organisation in 2024.

¹⁰ The actual CO₂e figures have been recalculated using the aligned calculation model. Hence, the figures might differ slightly from the figures in our latest report.

Governance of the Climate Action Plan

To ensure that we take the necessary actions to realise the targets and ambitions set out in our Climate Action Plan, we have put in place policies supplemented by position statements to support and guide our efforts. We have established a sustainability governance forum to ensure a strong commitment to our sustainability goals and to simultaneously ensure that efforts are coordinated and integrated throughout the organisation.

All Realkredit Danmark green loans are approved by Realkredit Danmark's Green Bond Committee, which has the authority to approve that the loans are eligible for green bond financing in accordance with the Green Finance Framework.

In the process of improving our data and models for calculating financed emissions, we also improve our monitoring of the emission development – both at the portfolio level and at an individual customer level for commercial real estate customers. At all levels of our organisation, we aim to create transparency on how we are progressing together with our customers.



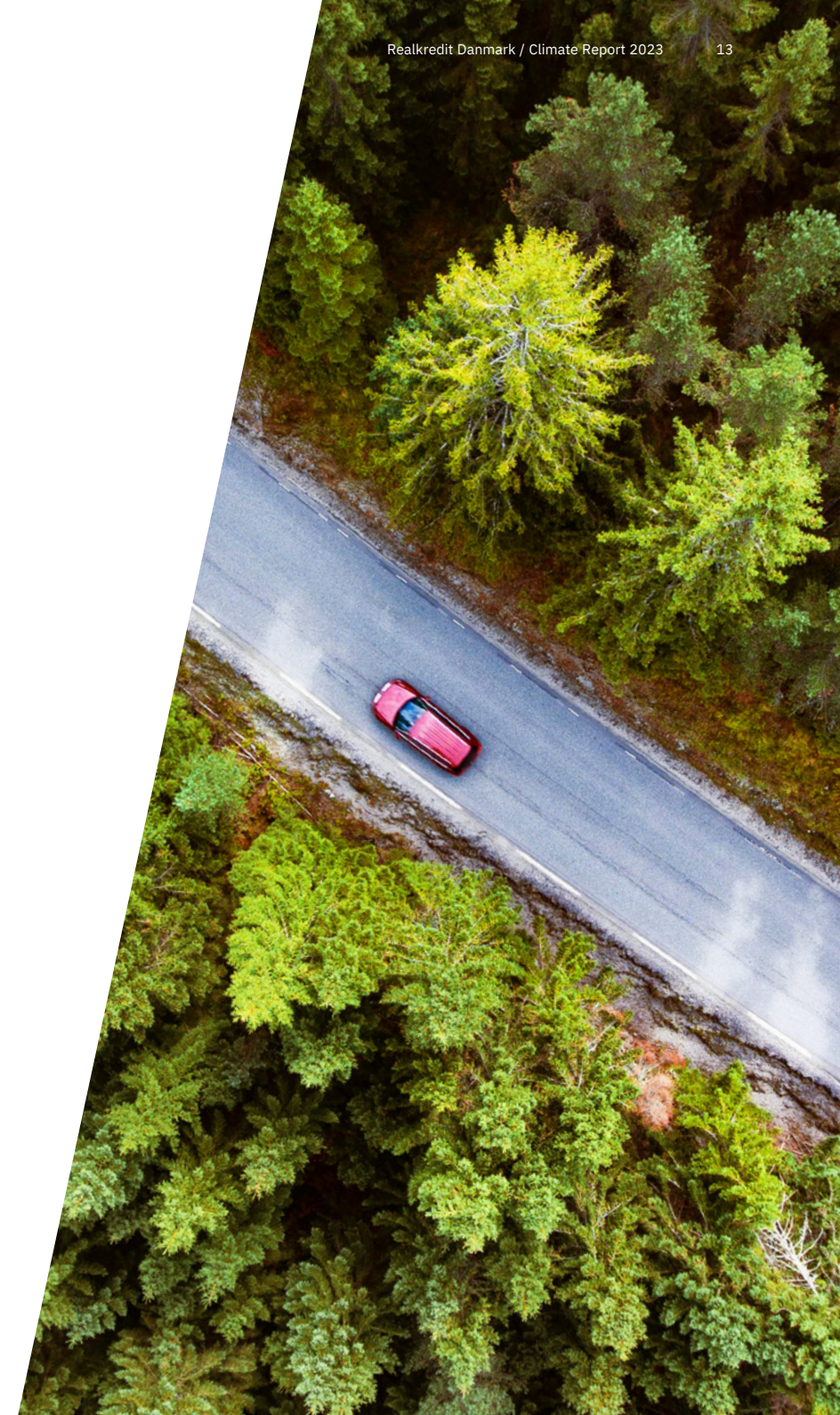
The journey ahead

Realkredit Danmark will follow the Danske Bank Group's ambition to achieve net-zero financed emissions by 2050 by supporting the transition of the real estate sector in Denmark. We will continue to support our customers in their transition journeys, and we will also continue to cooperate with relevant stakeholders, such as government bodies, Finance Denmark and E-nettet, to enable covered bond funding and improve data accuracy and data availability. An area of special interest for Realkredit Danmark is to secure our ability to offer green covered bond funding to utilities and power grids to support the transition of this sector in the best way possible.

Although this report primarily addresses climate through CO₂e emissions and expected emission reductions, we fully recognise the importance of other sustainability issues such as nature and biodiversity. We are aware that these issues need to be considered as an integral part of the sustainability agenda, but standards, key indicators and methodologies for reporting on nature and biodiversity have yet to mature sufficiently to enable us to report on these.

Furthermore, Realkredit Danmark recognises the interconnected nature of sustainability challenges and takes potential trade-offs into consideration. For example, efforts are being made to understand and apply the do no significant harm (DNSH) criteria in our offering so as to avoid doing any significant harm to some sustainability objectives while pursuing others.

The journey ahead is undeniably vast, and the time available is limited. This demands a collective response from politicians, financial institutions, businesses and individuals across our society. Together, we can transform our economies and societies and create sustainable progress now and for generations to come.



Appendix 1: CO₂e emissions by capital centre

The emissions calculated below cover the emissions of a full year and are calculated for the portfolio as at end-November 2023. Please note that the figures cannot readily be compared with the figures stated in the Climate Action Plan because customer segmentation and geographic scope differ.¹¹

The emissions are calculated per capital centre and are divided into six subgroups:

- 1) Owner-occupied¹²
- 2) Social housing¹²
- 3) Rental residential¹²
- 4) Offices and business
- 5) Holiday homes
- 6) Agriculture

At this stage, Realkredit Danmark has not been able to calculate emissions from manufacturing exposures.

Year-end 2023	Total CO ₂ e (t)	Financed CO ₂ e (t)	Total CO ₂ e footprint (t/bn)	Financed CO ₂ e footprint (t/bn)	Portfolio coverage (%)	Total CO ₂ e 100% coverage (t)	KgCO ₂ /m ²
Capital centre S	750,653	251,395	2,904	973	96.6	768,563	15.2
1. Owner-occupied	285,383	112,086	1,788	702	94.1	302,362	18.1
2. Social housing	103,328	7,176	4,692	326	99.8	103,556	13.9
3. Residential rental	66,469	13,067	1,564	307	99.0	67,112	10.9
4. Office and business	54,867	12,757	2,747	639	100.0	54,867	15.1
5. Holiday homes**	3,239	1,050	411	133	98.1	3,300	3.8
6. Agriculture	237,366	105,259	36,710	16,279	100.0	237,366	-
Capital centre T	1,789,403	800,012	4,465	1,996	96.1	1,805,378	13.6
1. Owner-occupied	318,449	135,844	1,414	603	95.2	333,854	16.8
2. Social housing	18,619	961	9,260	478	99.8	18,649	8.1
3. Residential rental	57,187	19,673	830	286	99.2	57,656	8.6
4. Office and business	128,966	36,567	2,134	605	100.0	128,966	13.2
5. Holiday homes**	3,931	1,381	327	115	98.2	4,001	3.5
6. Agriculture	1,262,252	605,585	39,204	18,809	100.0	1,262,252	-
Capital centre A	51,248	15,774	1,012	311	99.4	51,549	10.2
2. Social housing	51,248	15,774	1,012	311	99.4	51,549	10.2
Other reserves	101,444	22,608	4,832	1,077	98.3	105,143	7.2
1. Owner-occupied	31,300	8,744	8,226	2,298	90.9	34,140	21.8
2. Social housing	50,773	9,700	3,586	685	99.4	51,101	5.1
3. Residential rental	6,302	1,050	3,974	662	97.2	6,480	7.1
4. Office and business	3,781	757	3,487	698	90.7	4,132	8.3
5. Holiday homes**	214	42	959	187	98.6	217	3.6
6. Agriculture	9,075	2,315	65,794	16,787	100.0	9,075	-
Total	2,692,749	1,089,789	3,684	1,491	96.9	2,730,633	13.1

¹¹ The Climate Action Plan has no emission reduction targets for agriculture and is therefore not part of the progress reported earlier in this report. However, emissions from this segment are reported in the table above because they form part of the emissions from our loan portfolio.

¹² In earlier reports, we reported on the private segment as a whole. In this report, the private segment has been divided into the following three subgroups: owner-occupied, social housing and residential rental.

¹³ CO₂-model for den Finansielle sektor, co₂-model_2023.pdf (finansdanmark.dk), pp. 41-42

*) Excluding agriculture because this segment is not calculated based on m².

**) Holiday homes are calculated as described in the FIDA model.¹³ Consequently, the portfolio coverage is 100% for this segment. Likewise, agriculture is calculated using a theoretical model, resulting in a portfolio coverage of 100%. Other subgroups are calculated based on data for the specific property. If this data is not available, it is not possible to calculate the GHG emission, and therefore the portfolio coverage will be below 100%. Portfolio coverage is calculated based on the number of loans (not the size of the loan).

Realkredit Danmark's emissions are based on the same data and calculation model used by the Danske Bank Group. However, methodologies applied by Realkredit Danmark vary slightly to accommodate data available in Realkredit Danmark, types of financial products offered as well as slight differences in definition of customer segments.

The calculation of emissions from agriculture in this report differs from the calculations made by the Danske Bank Group. The Danske Bank Group report is based on external data from Conterra, whereas Realkredit Danmark calculates emissions based on own data regarding stock, size, etc. and emission factors provided by Aarhus University (please refer to appendix 3 for further details of the method used).

The emissions published in our previous reports cannot be directly compared against the emissions in the table above due to the fact that the methodology and data quality has improved and have been gradually implemented during the period. Realkredit Danmark expects to publish recalibrated historical emissions at the end of the first quarter of 2024, which will enable us to focus on the actual change in emissions by eliminating the effect of model and data changes.

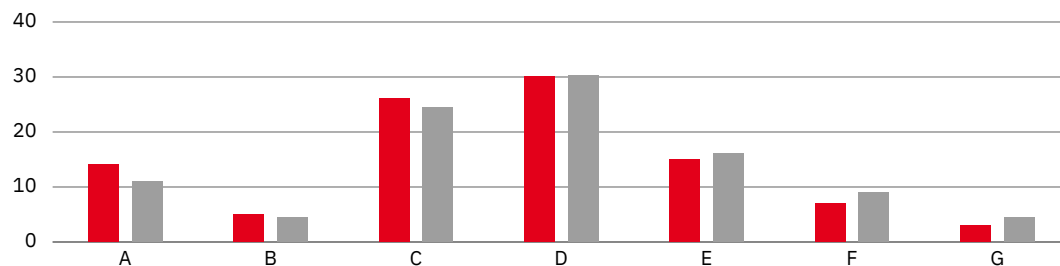


Appendix 2: Underlying data

Development in EPC distribution

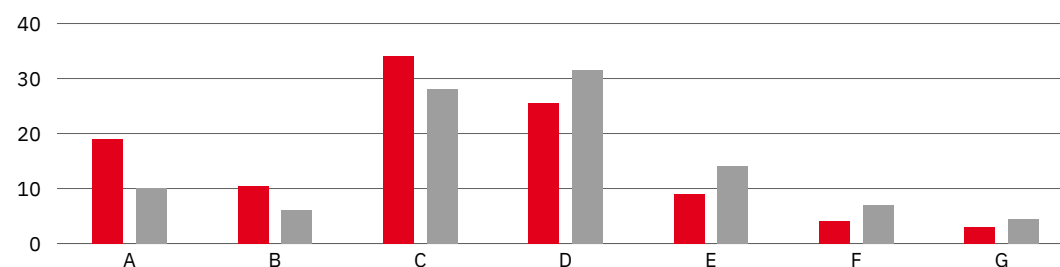
The change of distribution of energy performance certificates (EPCs) for the Realkredit Danmark portfolio are mapped in the chart below. In Realkredit Danmark’s portfolio of single-family homes, 18% of properties with a valid EPC are rated A or B – and 75% have an EPC rating of D or better. In the 2020 Realkredit Danmark Greenhouse Gas Footprint report, the corresponding figures were 16% and 71%, respectively. At the lower end of the scale, 10% of the portfolio now has an EPC rating of F or G. In 2020, the corresponding number was 13%. These figures testify that the transition towards a more energy-efficient society is already well under way, although improved data quality has also contributed to the improvement in the EPC distribution.

Distribution of EPC scores (%) – single-family homes 2023 (full) vs. 2020 (gray pillars)



The same distribution on the total portfolio has changed as shown below:

Distribution of EPC scores (%) – total portfolio 2023 (full) vs. 2020 (gray pillars)



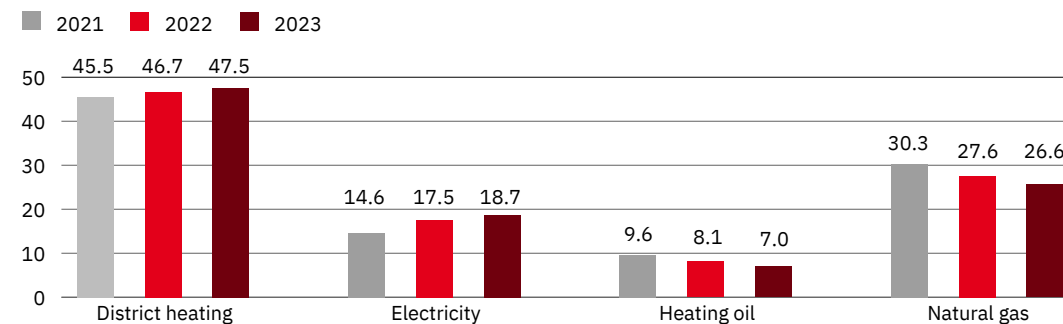
For the total portfolio, the movement to A and B has increased from 17% in 2020 to 28% in 2023. A to D has increased from 76% to 87%, and F and G has decreased from 10% to 5% during the same period.

Heating source

Taking a closer look at the types of heating in single-family homes in our portfolio, it is clear that the type of heating used plays a significant role in respect of the CO₂e emissions of the property. During 2022, the energy crisis caused many homeowners to change their home’s heating source to a more sustainable heating source, such as a heat pump. The figure below illustrates that this effect has continued through 2023.

The figure below shows an increase in the use of electricity as heating source and shows that the use of oil and gas decreased. Furthermore, there has been a small increase in the use of district heating. It should be noted, however, that the development depicted above may be even larger because of a delay in data caused by the fact that homeowners need to change their BBR registrations for us to have correct data about heating sources.

Change of heating source distribution of single-family homes (%)



Appendix 3: Method used

The calculation of the CO₂e emissions of Realkredit Danmark A/S's lending book is based on the principles laid down by Finance Denmark (FIDA).¹⁴ The model has been developed with the participation of member institutions and in dialogue with several stakeholders and experts from Denmark and abroad, including Statistics Denmark, the Danish Energy Agency, the Danish Business Authority and the Partnership for Carbon Accounting Financials (PCAF).

The model will be revised on an annual basis to accommodate national and international developments. The model consists of a set of fundamental principles and specific methodology at a detailed level for ten asset classes – including mortgages, i.e. loans secured by mortgages on real property.

When financed emissions are calculated, total property emissions and financed emissions (i.e. the LTV-weighted¹⁵ property emissions) are calculated. Consequently, this report discloses:

- financed carbon emissions
- total carbon emissions
- relative carbon emissions (carbon footprint)
- portfolio coverage

Private housing, offices and shops

Realkredit Danmark uses the methodology from FIDA on mortgages for private housing, offices, and shops to estimate the CO₂e emissions.

The model is based upon the use of energy performance certificates (EPCs) for properties, and the calculations are therefore based on average expected energy consumption, reflected in the EPC. Given the average energy consumption, the emission is calculated¹⁶ using the energy factor and updated emission factors¹⁷ for the type of heating in the specific property.

Realkredit Danmark uses EPC data from the Danish Energy Agency distributed by E-nettet.

EPC ratings are valid for a period of ten years. Consequently, a large part of Realkredit Danmark's portfolio will not have a valid EPC. Furthermore, the emissions stated in the data may be up to ten years old and may not reflect the changes in emission factors since the EPC rating was issued. This is why there is a need for Realkredit Danmark to calculate CO₂e emissions.

If a property does not have a valid EPC, there are four parameters that are key to enabling Realkredit Danmark to calculate the CO₂e emission:

- property type
- geographic location
- year of construction
- heating source

Definitions of the four parameters can be found in the description of the CO₂ model from FIDA.¹⁸

If the four parameters are present in the data provided by E-nettet, Realkredit Danmark will calculate the CO₂e emission. In cases where one of the four parameters is missing, it will not be possible to calculate a CO₂e emission, and Realkredit Danmark will use either the average emission intensity (kg CO₂e/m²) or the average emission per building from properties of the same type (where an emission could be calculated) to estimate emissions. This approach is relevant for only a minor part of the Realkredit Danmark portfolio.

The CO₂e calculation of properties without a valid EPC is affected by the properties in Realkredit Danmark's portfolio with a valid EPC due to the fact that the latter form the basis of the estimation of CO₂e emissions for properties without a valid EPC. Consequently, changes in EPCs in Realkredit Danmark's portfolio will affect the calculated CO₂e.

¹⁴ CO₂-model for den finansielle sektor, Finance Denmark, 3 December 2023, co2-model_2023.pdf (finansdanmark.dk)

¹⁵ LTV based on property valuation at the time of calculation.

¹⁶ CO₂-model for den finansielle sektor, Finance Denmark, 3 December 2023, p. 39, co2-model_2023.pdf (finansdanmark.dk)

¹⁷ Indhold i energimærkning, herunder skalaen | Håndbog for energikonsulenter (hbemo.dk)

¹⁸ CO₂-model_2023.pdf (finansdanmark.dk)

Realkredit Danmark has decided to treat residential properties¹⁹ without an EPC built after 2017 as properties with an EPC A2015 because energy efficiency standards commensurate with EPC rating A, as a minimum, are stipulated by current building regulations.

Furthermore, according to the FIDA model, EPCs that expired less than five years ago are still included in the calculations with their EPC.

For each subgroup of the above-mentioned parameters, a distribution (based on the total EPCs issued in Denmark) is calculated, and the CO₂e emission of the property is then calculated.

For holiday homes, the FIDA model is used even if the holiday home has an EPC.

As described in the example by FIDA (p. 40), CO₂e emissions for properties without an EPC rating are calculated based on a distribution of EPC ratings depending on the four parameters listed above. For example,

- a) a detached house with a heated floor area of 100 m² and an unknown EPC rating
- b) situated in an urban municipality
- c) constructed in 1955
- d) with natural gas as heating source

has a calculated CO₂e emission of 3,931.1 kg/year. The four parameters are important in terms of CO₂e emissions because the CO₂e emission calculation will change if we change one of the four parameters.

Agriculture

In the FIDA model, financed emissions for agricultural properties with less than 10 hectares of land are estimated using the same methodology as for private housing, offices, and shops. However, in this report, Realkredit Danmark estimates financed emissions for all agricultural properties using the approach described below.

Total scope 1 CO₂e emissions from Realkredit Danmark's agriculture portfolio are calculated with a method developed with input from Aarhus University and based on number and type of animals along with farm size and land use.

The livestock herd is transformed into 'animal units' using standard conversion rates: for example, 1 dairy cow = 1.33 animal unit, whereas 1 pig for slaughter = 0.025 animal unit. Furthermore, the use of land is translated into CO₂e emissions per hectare using standards based on use of land and according to whether the land is used for organic or conventional farming. Because only methane and nitric oxide sources of CO₂e emissions are included, estimated emissions in this report are lower than those reported in the Climate Action Plan, which includes all land-based

emissions, including CO₂e from mineralisation processes, but excluding Forestry.

Information about livestock herds, use of land and organic/conventional farming is collected from Realkredit Danmark's internal valuation reports. If it is not stated in Realkredit Danmark's internal valuation reports whether the land is cultivated as organic or conventional farming, the average split is applied.

This method for calculating CO₂e emissions for agriculture is used as a stopgap measure.

¹⁹ The residential properties are: Stuehus til Landbrugsejendom, Fritliggende enfamiliehus, Sammenbygget enfamiliehus, Fritliggende enfamiliehus i tæt bebyggelse, Rækkehuse, Dobbeltbuse, Etagebolig, Kollegium, Boligbygning til døgninstitution.

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