



**Cultura Bank
GHG emissions in the bank portfolio
PCAF
2021**

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Method

Source: Partnership for Carbon Accounting Financials (PCAF)

Date of data: 31.12.2021

Overview

In line with the bank's lending exclusion list, Cultura bank is not exposed to carbon-intensive industries and has therefore a relative low carbon-intensive loan portfolio. This is the first year the bank publishes the emission report aligned with the PCAF framework since the signing of the Climate Change Commitment in September 2019. Cultura Bank reports on three asset hotspots, namely mortgage lending, SME lending, and investments in covered bonds (mortgages) which accounts for about 70 % of total assets as of 31.12.2021.

	Percentage of total assets	Total emissions (t CO2-e)	Tons CO2-e / MNOK asset	PCAF Data quality score
NOT COVERED	26 %	-	-	-
MORTGAGES	41 %	136	0,24	5
SME	22 %	1 264	4,20	5
COVERED BONDS	5 %	26	0,38	5
CASH POSITIONS	6 %	-	-	-
	100 %	1 942		

Business loans

The business loan outstanding amounted to 341 million NOK in 2021. 301 million NOK are included in the PCAF report due to lack of information on the remaining industries. The business loans account for 1,264 tons of CO2-e in 2021 which amounts to a total of 4,2 tons CO2-e/ million NOK in assets.

Mortgages

Mortgages, including investments in covered bonds, account for 136 tons of CO2-e in 2021. This amount to a total of 0,24 tons CO2-e/million NOK.

Mortgage lending

Assumptions

All outstanding residential mortgages are within scope of the calculation. Our loan portfolio consists of 493 million NOK ordinary mortgages and 76 million NOK green mortgages. Financed emissions are based on the following formula:

$$\text{Financed emissions} = \sum \frac{\text{Outstanding amount}}{\text{Property value at origination}} * \text{Energy consumption} * \text{Emission factor}$$

The report covers scope 1 and 2 emissions related to the energy use of the property. Estimated building energy consumption is based on building type and the number of houses. For estimating financed emissions in the loan portfolio of mortgages, general energy consumption is reported which is an average of 21 736 kWh.

In total, 94 per cent of Norwegian electricity consumption was covered by renewable electricity. The average direct greenhouse gas emissions associated with using electricity in Norway in 2021 were therefore only 22 grams of CO2 equivalents per kilowatt hour. In comparison, in recent years the EU has had a similar CO2 factor for the power supply of around 300 g CO2e / kWh.

Financed emissions are based on the number of buildings financed. As of 31.12.2021 Cultura Bank financed 285 homes. Using an average energy consumption per home of 21 736 kWh and 0,022 g CO₂ per kWh this results in 136 286 kg of CO₂.

Methodology

Attribution

Due to data limitations attribution is set to 1, thus assuming that the outstanding amount of the loan is equal to the property value of origination. Cultura Bank will never issue a loan which exceeds 85 % of the property value and statistics show that average loan to value on new mortgages in 2021 was 65 %.

Once data collection on property value at origination is established, we will need to recalculate financed emissions, as this is expected to result in a significant reduction.

Energy consumption

Average energy consumption per home is based on data gathered from official statistics published in Norway by the SSB (Statistisk Sentralbyrå). General energy consumption is reported to be 21 736 kWh on average.

The first steps in the improvement of the data quality will be obtaining floor area. Thereafter the energy label. Eventually actual energy consumption obtained from the customer.

Cultura Bank will aim to establish a routine for necessary data collection when the loan is being granted. This will include the property value at origination and the request of a report with details about the energy label of the house.

The energy label consists of:

- A letter grade that says how energy efficient the home is
- A color that says how environmentally friendly the heating is.

We shall encourage new and current customers to obtain a detailed energy label. The basic registration for an energy label is based on default values and offers few options. The detailed report is more comprehensive and requires the owner to register extensions, changes, implemented measures and the like. This will result in a more accurate estimate of energy consumption.

Emission factor

An average emission factor has been used as of 31.12.2021 of 0,022 g CO₂ per kWh. There is data available that is narrowed down to the emission factor based on the location of the home. The next step in improving the data is to differentiate the emission factor based on the location of the home that is financed. Furthermore, the data can be improved by gathering data on the energy source of the home. The expectation is that green mortgages will have a lower emission factor, because homes that are eligible for a green mortgages are selected based on criteria such as the energy source, ventilation, and square meters.

Mortgage investments (covered bonds)

Assumptions

Covered bonds are treated as being mortgage investments. Through reporting from the issuer we have access to an attribution factor. However, the property value is equal to the market value and not the property value at origination. The report covers scope 1 and 2 emissions related to the energy use of the property. Estimated building energy consumption is based on the number of houses.

Methodology

Total financed emissions is based on the following formula:

$$\text{Financed emissions} = \sum \text{LTV} * \text{Energy consumption} * \text{Emission factor}$$

Average LTV is 52%, and the average energy consumption for the houses indirectly financed by cultura.

$$52 \% * 21\,736 \text{ kWh} * 103 \text{ houses} * 0,022 \text{g CO}_2/\text{kWh} = 25,7 \text{ Ton CO}_2$$

Attribution factor

As the loan to value of the entire asset pool is the only variable we have available for estimating the attribution factor on the covered bonds we assume that:

$$\text{Attribution factor} = \text{Loan to value of asset pool (LTV)}$$

Energy consumption

Average energy consumption per home is based on data gathered from official statistics published in Norway by the SSB (Statistisk Sentralbyrå). General energy consumption is reported to be 21 736 kWh on average.

Emission factor

The emission factor used is the same value we find for mortgages. We also have access to the geographical division of the asset pool and can therefore work towards an improvement by differentiating the emission factors based on the location of the homes.

Business loans

Assumptions

Emissions related to the business loans are accounted for using statistical data on sectoral emission based on economic activity which includes scope 1 and 2 emissions. Statistics Norway provide data on emissions in each sector and total assets for each industry at a sector level according to NACE codes. The entities included are 88 % (301 million NOK) of all loans for general corporate purposes, nonprofits, and other structures of organization.

Methodology

Attribution factor

The attribution factor in the calculation is the outstanding amount of the loan. As of 2021, the economic activity-based option 3B is utilized, which gives the data quality provided a score of 5. To improve data quality the first step is to report total debt and equity for all business loans.

Emission factor

Based on national statistics, the emissions are calculated using GHG emissions per sector and total assets in each sector. The data we available from SSB does not separate between Scope 1 and 2 emissions, and we hope to achieve this by our next reporting period. In the future we hope to improve the data quality by obtaining revenue for each borrowing company and thereby produce data with a score of 4. The financed emission calculation used for this report is as follows:

$$\text{Financed emissions} = \sum \text{Outstanding amount} * \frac{\text{GHG emissions}}{\text{Assets}}$$

Classification	Sector	NACE code	Industry	Loans outstanding (MNOK)	% of total assets	Emission factor scope 1 and 2 (tCO ₂ e/MNOK assets)	Total emissions (tCO ₂ e)
A	Agriculture, forestry and fishing	01110	Growing of cereals, leguminous crops and oil seeds	7,29	0,5 %	14,4	105,03
		01130	Growing of vegetables and melons, roots and tubers	3,86	0,3 %	14,4	55,55
		01190	Growing of other non-perennial crops	6,04	0,4 %	14,4	86,95
		01410	Raising of dairy cattle	22,19	1,6 %	14,4	319,53
		01430	Raising of horse and other equines	1,28	0,1 %	14,4	18,49
		01451	Raising of sheep	2,05	0,1 %	14,4	29,54
		01460	Raising of swine/pigs	3,72	0,3 %	14,4	53,64
		01479	Raising of other poultry	4,26	0,3 %	14,4	61,34
		01490	Raising of other animals	0,79	0,1 %	14,4	11,41
		01500	Mixed farming	24,95	1,8 %	14,4	359,35
		02100	Silviculture and other forestry activities	0,41	0,0 %	-	
		03111	Marine fishing	1,95	0,1 %	2,5	4,88
C	Manufacturing	10710	Manufacture of bread: manufacture of fresh pastry goods and cakes	8,57	0,6 %	0,4	3,43
		31090	Manufacture of other furniture	1,12	0,1 %	1,5	1,67
G	Wholesale and retail trade	46180	Agents specialized in the sale of other particular products	0,17	0,0 %	4,4	0,75
		46210	Wholesale of grain, unmanufactured tobacco, seeds and animal feeds	1,61	0,1 %	4,4	7,10
		47241	Retail sale of bread, cakes and flour confectionery in specialised stores	1,77	0,1 %	4,4	7,80
		47789	Other retail sale of goods in specialised stores	0,03	0,0 %	4,4	0,14
		47810	Retail sale via stalls and markets of food, beverages and tobacco products	0,74	0,1 %	4,4	3,25
		47919	Other sale of specialised assortment of goods via mail order houses or via internet	0,03	0,0 %	4,4	0,11
H	Transportation and storage	52299	Other forwarding services	0,29	0,0 %	0,3	0,09
J	Information and communication	59200	Sound recording and music publishing activities	0,07	0,0 %	0,01	0,00
L	Real estate activities	68100	Buying and selling of own real estate	8,62	0,6 %	0,03	0,26
		68201	House cooperative	5,13	0,4 %	0,03	0,15
		68209	Other letting of real estate	55,96	4,0 %	0,03	1,68
		68320	Management of real estate on a fee or contract basis	0,88	0,1 %	0,03	0,03
M	Professional, scientific and technical activities	70220	Business and other management consultancy activities	0,09	0,0 %	0,9	0,08
		71112	Architectural design services for buildings	2,37	0,2 %	0,9	2,13
		71113	Landscape architectural services	2,37	0,2 %	0,9	2,13
		74103	Interior decorator,- interior design,- and other interior advising services	1,29	0,1 %	0,9	1,17
		74200	Photograph activities	2,20	0,2 %	0,9	1,98
		74909	Other professional, scientific and technical activities	0,40	0,0 %	0,9	0,36

N	Administrative and support service activities	78300	Other human resources provision	1,22	0,1 %	0,7	0,86
		81300	Landscape service activities	0,57	0,0 %	0,7	0,40
		82990	Other business service activities	3,77	0,3 %	0,7	2,67
P	Education	85201	General primary education	46,03	3,3 %	1,3	59,84
		85202	Special education for handicapped	4,76	0,3 %	1,3	6,19
		85510	Sports and recreation education	1,49	0,1 %	1,3	1,94
		85593	Activities of adult education associations	7,36	0,5 %	1,3	9,57
		85599	Other education	5,12	0,4 %	1,3	6,66
Q	Human health and social work activities	86909	Other health services	0,23	0,0 %	0,7	0,16
		87302	Dwellings with day and night accommodation for the elderly and disabled	11,95	0,9 %	0,7	8,37
		87304	Dwellings for short term stay for disabled	2,96	0,2 %	0,7	2,08
		88911	Nursery schools	17,73	1,3 %	0,7	12,41
		88999	Other social work activities without accommodation	17,59	1,3 %	0,7	12,31
R	Arts, entertainment and recreation	90031	Independent artistic activity within visual art	1,78	0,1 %	0,05	0,05
		90040	Operations of art facilities	4,48	0,3 %	0,05	0,05
		93292	Leisure establishments	1,91	0,1 %	0,05	0,05
S	Other service activities	94910	Activities of religious organisations	16,88	1,2 %	-	
		94991	Activities of other membership organisations	3,49	0,3 %	-	
		94992	Charities which distribute means themselves	5,24	0,4 %	-	
		96090	Other personal service activities	13,91	1,0 %	-	
		Sum		341,00	21,6 %		1 264

Sources

	Asset class	Source	Link
1	Mortgages	SSB table 06513: Dwellings, by type of building and utility floor space	https://www.ssb.no/en/statbank/table/06513/
2	Mortgages	Emission factor	Energifaktanorge.no / energiogklima.no
3	Mortgages	SSB table: 10581: Energy usage in households, by dwelling area	https://www.ssb.no/en/statbank/table/10581
4	Business loans	SSB table 08121: Balance sheet for non-financial limited companies	https://www.ssb.no/en/statbank/table/08121/
5	Business loans	SSB table 09288: Greenhouse gas from Norwegian economic activity, by industry and pollutant	https://www.ssb.no/en/statbank/table/09288/