



Report

DNB Green Buildings Portfolio – Impact Assessment

CLIENT

DNB Bank ASA

SUBJECT

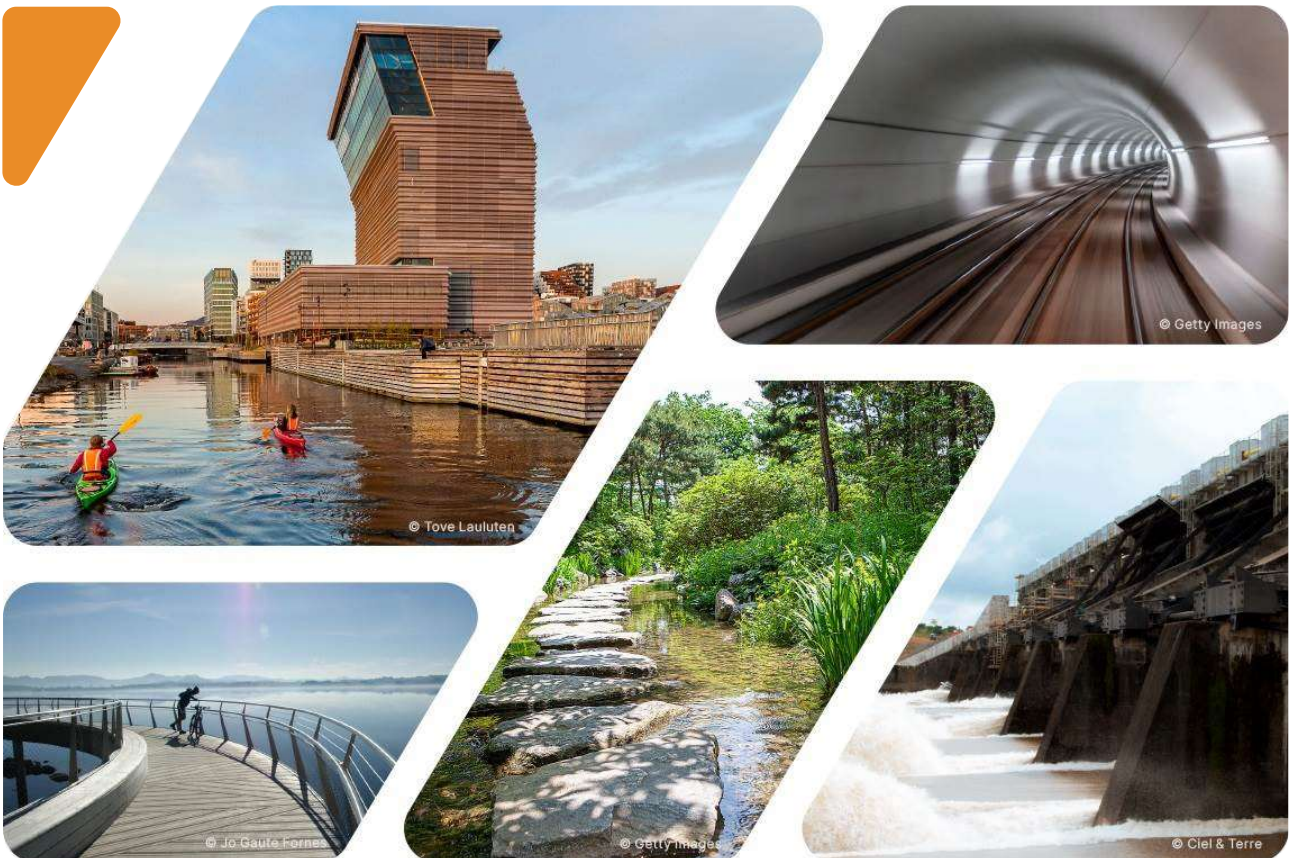
Portfolio of Norwegian Green Residential Buildings

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Report

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CLIENT	DNB Bank ASA	PROJECT MANAGER	Ibrahim Temel
CONTACT	Magnus Midtgård	PREPARED BY	Kjersti Rustad Kvisberg, Ibrahim Temel, Are Grongstad
		RESPONSIBLE UNIT	10105080 Renewable Energy Advisory Services

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1 Introduction

On assignment from DNB, Multiconsult has assessed the impact of the part of DNB's residential building loan portfolio eligible for green bonds according to DNB's Green Finance Framework^[1]. In this document we briefly describe DNB's green bond qualification criteria, the evidence for the criteria and the result of an analysis of the loan portfolio of DNB.

2 Green Residential Buildings Eligibility Criteria

According to DNB's Green Finance Framework, buildings in the DNB portfolio must meet one or more of the following eligibility criteria:

Green Residential buildings in Norway:

1. Buildings built in 2021 or later: Buildings complying with the relevant NZEB-10 percent threshold
2. Buildings built before 2021: Buildings within the top 15 percent energy efficient buildings in Norway: Buildings complying with TEK10 & TEK17 building codes (built in 2012 or later).

The following sections explain Multiconsult's approach for identifying building emissions according to the criteria. The methodology to calculate the energy savings and corresponding avoided emissions for these buildings, compared to the average energy usage of residential buildings in Norway, is also described.

2.1 New Residential Buildings NZEB-10 Percent - Criteria for Buildings Finished Since December 31st, 2020

The EU Taxonomy for sustainable activities distinguishes between new and existing buildings, with criteria dependent on whether the buildings are completed before or after 31 December 2020. The technical screening criteria for new buildings requires the buildings to have an energy performance, described in terms of primary energy demand, at least 10 percent lower than the threshold set in the national definition of a nearly zero-energy building (NZEB). The energy performance is to be documented by an Energy Performance Certificate (EPC). [1]

Multiconsult has assessed the performance of new buildings and how the most energy efficient buildings may be identified in the bank's loan portfolio based the Norwegian NZEB definition. As the building code and the national EPCs are key factors for understanding the NZEB definition and thus efficiently identifying buildings complying to a new build criterion for green buildings, some background information on these and how the Norwegian residential building stock performs today is included below.

The Norwegian national definition of NZEB was published in January 2023 with a correction issued in January 2024. [2, 3] The NZEB definition has clear references to the building code TEK17, and in practical terms, the definition is no stricter than TEK17. The difference lies in:

- a. a shift of system boundary to primary energy demand based on calculated net delivered energy and the introduction of primary energy factors, and

^[1] <https://www.ir.dnb.no/funding-and-rating/green-bond-framework>



- b. an exclusion of energy demand related to lighting and technical equipment. The definition states that for calculations of primary energy demand in relation to the Energy Performance of Building Directive and the EU Taxonomy, a factor of 1.0 must be used for all energy carriers.

Table 2-1 shows the NZEB thresholds for residential buildings with specific primary energy demand as presented in the published guidance paper. It is to be noted that the threshold for small residential buildings is influenced by the heated utility area of the building by a factor ($1600/\text{heated utility area}$), and that the threshold for apartment buildings is for the building as a whole and not for individual apartments (as previously in the EPC System).

Table 2-1 Thresholds for NZEB specific primary energy demand. Source: [2, 3]

Building category	Specific primary energy demand for NZEB [kWh/m ²]
Small residential buildings	$(76 + 1,600/A)$
Apartment buildings	67

The thresholds in the table indicate the building's primary energy demand and are based on calculated net delivered energy according to the Norwegian Standard NS 3031:2014, multiplied with a primary energy factor of 1.0 for all energy carriers. [4] In practical terms, this means that calculated primary energy demand equals calculated net delivered energy.

For residential buildings, the specific primary energy demand thresholds are related to, but not directly comparable to, the EPC calculations since energy demand for lighting and technical equipment is excluded in the NZEB definition. However, this demand is a fixed value in the EPC calculations for residential buildings and can be added or subtracted in conversions between the two systems.

Since parts of the primary energy demand are excluded from the NZEB definition, a 10 percent improvement is smaller in absolute terms than it would be if all consumption were included in the definition. As energy demand related to lighting and technical equipment for residential buildings is fixed, the improvement can only come from efficiency measures related to the remaining energy demand.

2.1.1 Identifying the Buildings with Performance at NZEB-10 Percent or Better

Documentation by NZEB Definition Referenced Standard

One way to document an NZEB-10 percent energy performance, is to present results from calculation in accordance with NS 3031:2014. These calculations are required for all new buildings and are a central part of the required documentation to get a building permit and certification of completion. This documentation is not easily accessible in public registers, including for banks. Additionally, the necessary figures within the documentation may not be easily identifiable by non-experts unless the results relevant to the NZEB definition are clearly described. A more accessible and practical approach for identifying qualifying objects in a bank's portfolio is to use energy labels and EPC data.

Documentation by EPC Data

By retrieving sufficient data from the EPC database and combining it with data on the residences' heated utility area, NZEB-10 percent eligible objects in a bank's portfolio can be identified. Where reliable area data is not available to the bank, the national average in the building statistics may be used. This is also more in line with documentation requirements in the EU Taxonomy Annex 1.

The Norwegian EPC system is not yet using primary energy, but this might be included in an upcoming revision of the EPC system. Since the information accompanying the NZEB definition set national



primary energy factors to 1 (one) flat for all energy carriers, it is a fair assumption that specific net delivered energy in the EPC system is equal to specific primary energy demand in the NZEB definition.

The energy label (A to G) in the EPC system is based on calculated net delivered energy, including the efficiencies of the building's energy system (power, heat pump, district energy, solar energy etc.). Table 2-2 describes how the limit values are dependent on the area of the residence. The building codes are defined by calculated net energy demand, which excludes the building's energy system and requirements independent of dwelling area. Both systems take into account all standard consumption, including lighting and technical equipment.

Table 2-2 EPC's energy rating thresholds for residential building categories and dependency on building area.
Source: [5]

Building category	Calculated specific net delivered energy per m ² heated utility area [kWh/m ²]						
	A	B	C	D	E	F	G
	Lower than or equal to	Lower than or equal to	Lower than or equal to	Lower than or equal to	Lower than or equal to	Lower than or equal to	No limit
Small residential buildings	95	120	145	175	205	250	> F
Sq. m adjustment	+800/A	+1,600/A	+2,500/A	+4,100/A	+5,800/A	+8,000/A	
Apartments	85	95	110	135	160	200	> F
Sq. m adjustment	+600/A	+1,000/A	+1,500/A	+2,200/A	+3,000/A	+4,000/A	

Until recently, the Norwegian EPC regulations stated that apartments must have individual EPCs. This meant that apartments in an apartment building would receive different EPC energy ratings depending on their location in the building in relation to surface exposure to the outdoors, etc. The EPC regulation allowed establishing EPCs for apartments based on calculations for the apartment building as one unit only when all apartments were smaller than 50 m². Regardless, the thresholds for apartments in Table 2-2 were still applicable.

However, the EPC regulation was changed on March 1, 2024. It is now possible to create an EPC valid for an entire apartment building, provided it is prepared by a company that meets the competence requirements. This aligns with the method used to evaluate energy requirements in the building code (TEK17) and will therefore be the preferred way to establish EPCs for new apartment buildings from now on. When apartment owners want to sell their apartment and need an EPC, they can choose whether to use the EPC established for the entire apartment building or to prepare an individual apartment EPC. For now, the threshold for apartments in Table 2-2 are also valid for an apartment building, but there may be changes in the future.

The EPC database administrator, Enova, has recently opened for sharing more detailed information from the database with banks, including calculated specific net delivered energy. This enables translation between the specific energy demand in the NZEB definition and the specific net delivered energy available in the EPC, adding the fixed values for lighting and technical equipment.

In Figure 2-1 the columns describe the thresholds in the EPC system for labels A, B and C where area correction is applied for a small residential building with heated area of 166 m², a single apartment of 65 m² and an apartment building of 2,000 m². The lines indicate the calculated NZEB and NZEB-10 percent thresholds calculated by adding the fixed values for lighting and technical equipment. Table 2-3 gives a more granular picture including more dwelling and building sizes.

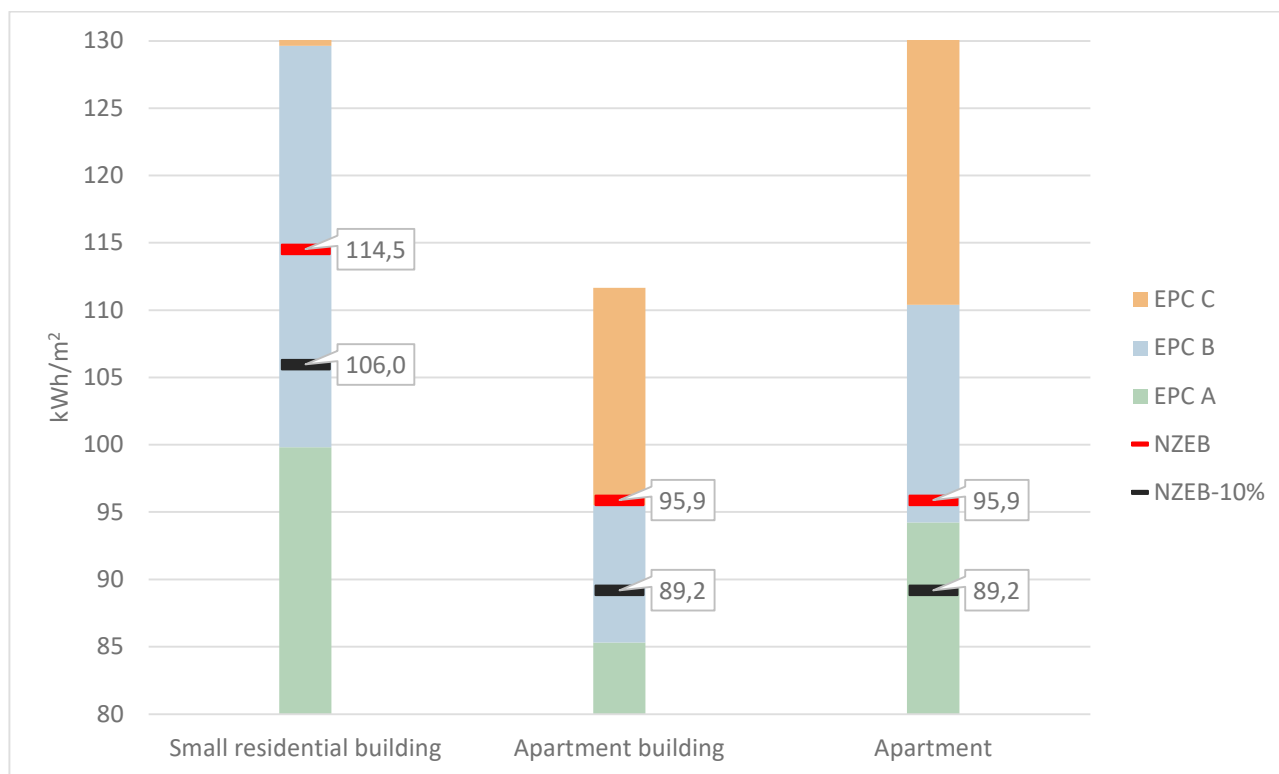


Figure 2-1 Energy performance with reference to the national definition of NZEB and NZEB-10 percent compared to limit values in the EPC system (values dependent on the heated utility area of building/residence). Source: [6, 4, 2]

The thresholds in Figure 2-1 are calculated based on standard values for lighting and technical equipment in NS 3031:2014 and average building areas found in building statistics for 2021. [6, 4] Due to the area correction factor, the threshold can be calculated individually for all objects in the portfolio based on actual area. For apartments, the NZEB lines in the figure are constant, while the EPC thresholds depend on apartment size. For small residential buildings, both NZEB and EPC thresholds are dependent on the size of the residence. Table 2-3 provides a more granular picture, including a wider range of residence and building sizes.



Table 2-3 Qualifying EPC's dependent on the heated utility area of building/residence.

Limit values specific energy demand [kWh/m ²]			
Small residential buildings			
Area unit [m ²]	NZEB-10 percent made comparable to EPC	EPC A	EPC B
50	126	111	152
100	112	103	136
150	107	100	131
200	105	99	128
250	103	98	126
300	102	98	125
Apartments (EPC available, but no NZEB definition established at apartment level)			
Area unit [m ²]	NZEB-10 percent made comparable to EPC	EPC A	EPC B
50	89	97	115
75	89	93	108
100	89	91	105
125	89	90	103
150	89	89	102
175	89	88	101
Apartment buildings (NZEB definition in place, but no (very few) EPCs at building level)			
Area unit [m ²]	NZEB-10 percent made comparable to EPC	EPC A	EPC B
500	89	86	97
2,000	89	85	96
5,000	89	85	95

For small residential buildings, the dwelling size specific NZEB threshold is found by inserting the buildings heated utility floor space area in the area correction factor. Adding the fixed values for lighting and technical equipment, the value is comparable to the specific net delivered energy given in the EPC-system.

A complicating factor for apartments in a bank's portfolio when using the EPC data to identify qualifying objects, is the fact that the NZEB definition, as is the case for the building code calculations, considers the whole building as one unit and not the sum of individual apartments.

As previously described, the EPC regulation has recently changed, allowing an EPC to be valid for an entire apartment building. However, all existing EPCs in the portfolio prior to March 2024 were made according to the previous regulations, where apartments had to have individual EPCs. These EPCs will be around for many years, as the period of validity is 10 years. The EPC limit values reflect individual apartments sharing walls with other heated areas, resulting in lower values compared to whole buildings

There is an area correction factor in the EPC calculations, but not in the NZEB calculations for apartment buildings. Using the individual apartment area correction factor in the EPC system results in an NZEB threshold, converted to EPC terms, much stricter than for other building categories. The "apartment column" in Figure 2-1 and Table 2-3 illustrates EPC thresholds using an average apartment size of 65 m², derived from 2021 building data from Statistics Norway, showing that even EPC A is not always sufficient for qualifying as NZEB-10 percent.

In the future, new apartment buildings will have an EPC established for the whole building, simplifying the conversion between the EPC system and the NZEB definition. This will also make the identification of NZEB-10 percent apartment buildings more accurate, likely resulting in more qualifying objects, as shown in Table 2-3.

2.1.2 Eligibility Small Residential Buildings

Small residential buildings completed since 31 December 2020 with energy label A, or energy label B with specific delivered energy demand below the defined threshold, qualify on the newbuild criterion NZEB-10 percent.

The EPC energy rating A limit values, as described in specific energy demand in Figure 2-1 and Table 2-3, are below NZEB-10 percent for all small residential buildings, regardless of building size. Hence, an EPC A is sufficient to identify green buildings of this category. As illustrated by the above analysis, qualifying only small residential buildings with an EPC A is a conservative approach, as some buildings with an EPC B would also qualify. The more granular calculated specific net delivered energy available from the EPC system can supplement the straightforward qualifying of EPC A buildings in the green pool with some buildings having an EPC B.

The practical approach utilizing detailed data on the building can be illustrated as in Figure 2-2.

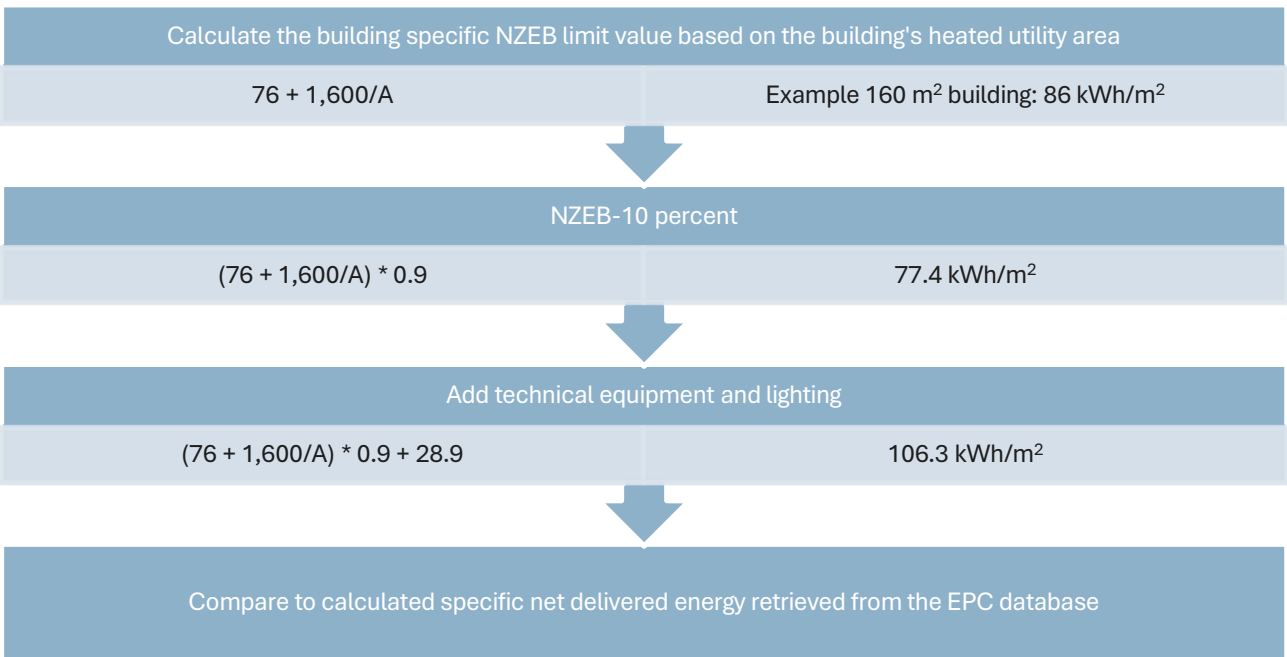


Figure 2-2 How to compare NZEB-10 percent to specific energy demand from the EPC system for small residential buildings.

2.1.3 Eligibility Apartment Buildings

Apartment buildings completed since December 31, 2020, with an EPC A, or an EPC B and calculated specific net delivered energy below the defined threshold, qualify for the new-build criterion NZEB-10 percent.

With an EPC for an apartment building as a whole (option available after March 2024), an EPC A is sufficient to identify and qualify apartment buildings (as illustrated in the last rows of Table 2-3). Some EPC B buildings would also qualify, using the calculated specific net delivered energy available from the EPC system.

The practical approach utilizing detailed data on the building can be illustrated as follows, in Figure 2-3.

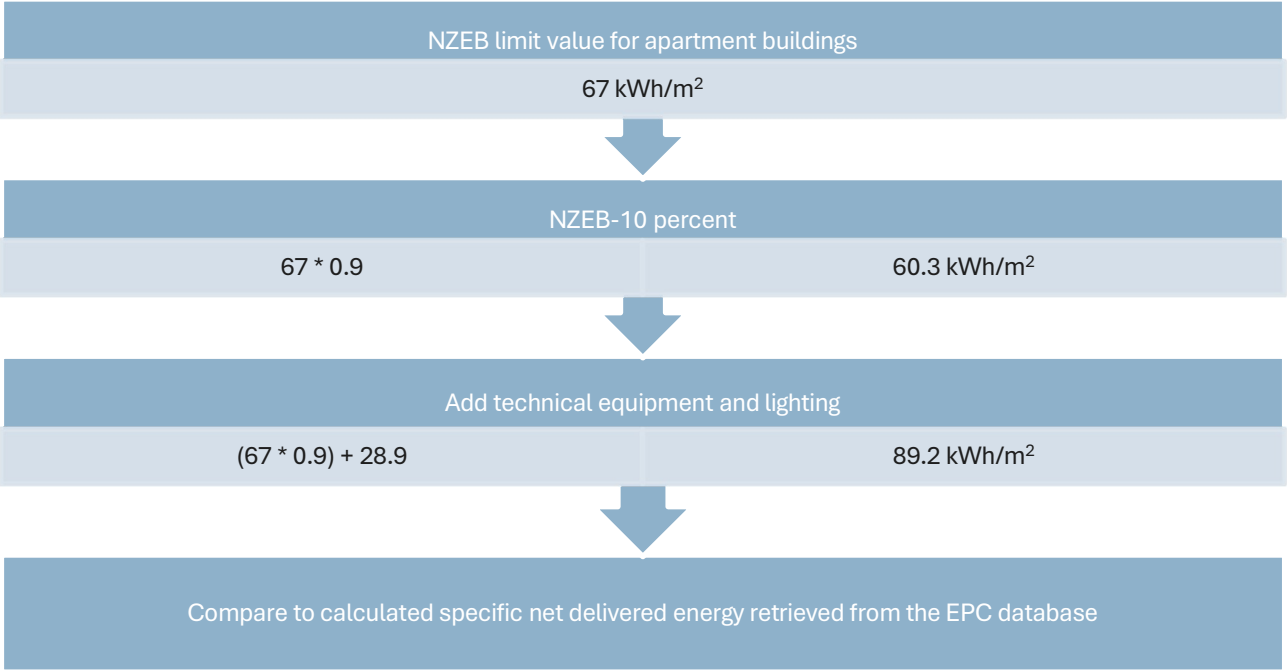


Figure 2-3 How to compare NZEB-10 percent to calculated specific net delivered energy from the EPC system for apartment buildings.

2.1.4 Eligibility Apartments

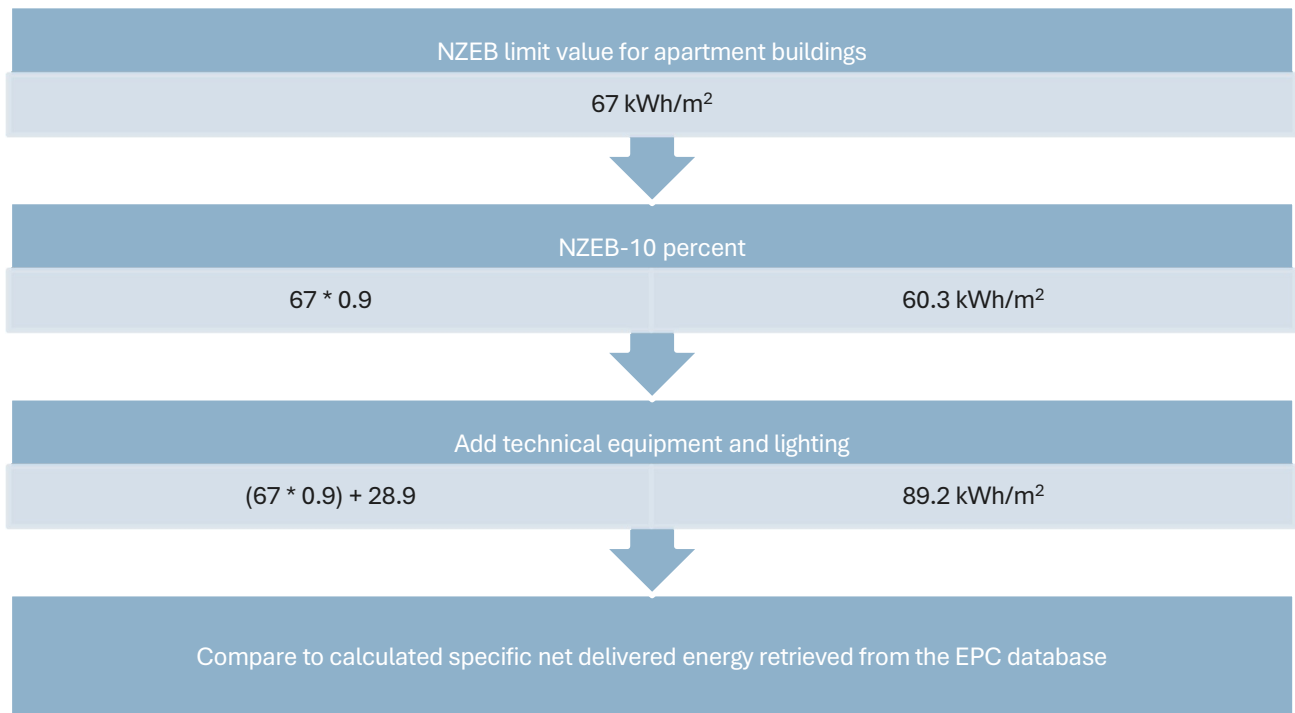
Apartments completed since December 31, 2020, with calculated specific net delivered energy below the defined threshold, qualify under the newbuild criterion NZEB-10 percent.

As illustrated in Figure 2-4, there are two potential approaches to understanding and comparing the NZEB definition and the EPC data for individual apartments. One approach is to ignore the difference in the NZEB definition, which relates to the whole building, while the EPC relates to individual apartments (“apartment” column in Figure 2-1). The practical approach utilizing detailed EPC data on the individual apartment, can then be described by Step 1 in Figure 2-4. (Step 1 is the same as for eligible apartment buildings in Figure 2-3). Step 1 is independent of apartment and apartment building size and translates the NZEB-10 percent threshold to a limit value comparable to the calculated specific net delivered energy in the EPC system.

As an alternative, considering that calculated specific net delivered energy for an average apartment is equal to or higher than that for an apartment building as a whole, Step 2 in Figure 2-4 can be applied in addition to Step 1. This requires information on the EPC energy rating, apartment area, and apartment building area. Here in Step 2, it is illustrated by an apartment of 65 m² just qualifying for an EPC A, placed in a 2,000 m² building. The implications of an area correction factor diminish for large buildings, as illustrated in Table 2-3, hence opening the possibility of using average values from national statistics instead of precise area data. Apartment area is available in the EPC database.



STEP 1



STEP 2

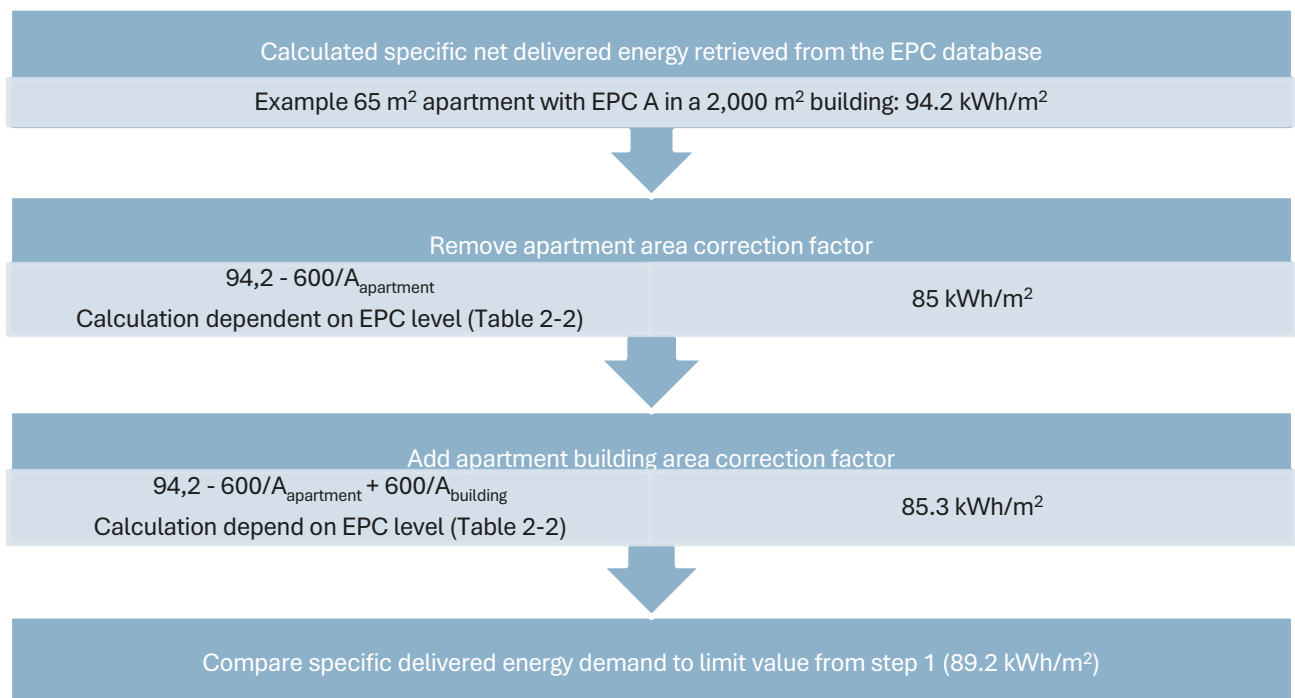


Figure 2-4 How to compare NZEB-10 percent to specific energy demand from the EPC system for individual apartments.

The calculation in Step 2 shows that the correction factor $600/A_{\text{building}}$ must be higher than 4.2 for an apartment with EPC A to not qualify as a green building. This value (4.2) represents the difference between the NZEB-10 percent threshold and the EPC A threshold ($89.2 - 85$). For the correction factor



to exceed 4.2, the apartment building's area must be less than 142.86 m², which is not a realistic size for an apartment building in Norway.

Based on this assessment, we can conclude that the EPC A rating is sufficient to identify green buildings in the apartment category.

2.2 Existing Residential Buildings that Comply with the Norwegian Building Code of 2010 (TEK10) and Later Codes

Existing Norwegian residential buildings that comply with the Norwegian building code of 2010 (TEK10) and later codes are eligible for green bonds as all these buildings have significantly better energy standards and account for less than 15 percent of the residential building stock. A two-year lag between implementation of a new building code and the buildings built under that code has been accounted for².

The methodology to select the qualifying assets is based on the Climate Bonds Initiative (CBI) taxonomy, where no more than the top 15 percent most energy efficient buildings are considered eligible. DNB's baseline and the top 15 percent criterion are in line with the CBI baseline methodology for energy efficient residential buildings for Norwegian conditions published in spring 2018³.

The DNB criterion is also well within the top 15 percent EU Taxonomy criteria for Climate Change Mitigation under the EU economic activity "Acquisition and Ownership of Buildings" [1].

As of 2024, 13 percent of all Norwegian residential buildings are eligible according to the DNB criterion, including buildings completed after December 31, 2020.

Changes in the Norwegian building code have over several decades consistently resulted in more energy efficient buildings. Figure 2-5 illustrates how the calculated net energy demand declines with decreasing building age. Note that, for residential buildings, there were no revisions to energy efficiency requirements made between TEK07 and TEK10.

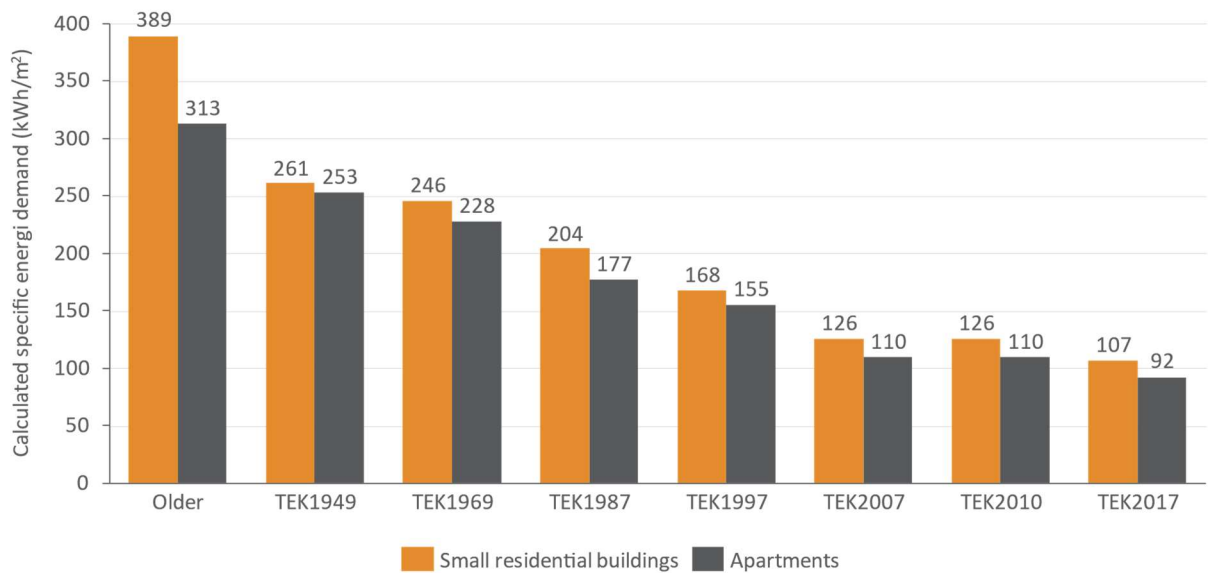


Figure 2-5 Development in calculated specific net energy demand based on building code and building tradition.
Source: Multiconsult, SIMIEN simulations

² TEK10 was implemented in July 2010, however since the energy requirements were unchanged from TEK07 to TEK10 it is a very robust assumption that all buildings finished in 2012 or later have used energy requirements according to TEK10.

³ The CBI criteria allow for including small residential buildings built under TEK07. These buildings are however not included in the DNB Green Finance Framework.



Figure 2-6 shows how the Norwegian residential building stock is distributed by age. The figure shows how buildings finished in 2012 and later (and built according to TEK10 and TEK17) amount to 13 percent of the total stock.

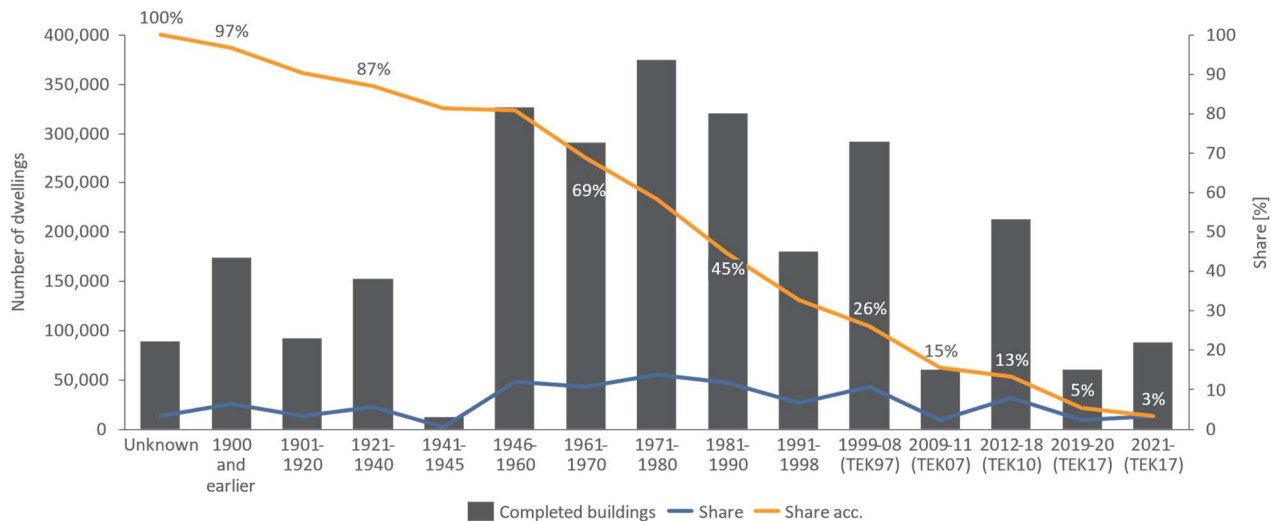


Figure 2-6 Age and building code distribution of dwellings. Source: [6], Multiconsult

Combining the information on the calculated energy demand related to building code in Figure 2-5 and information on the residential building stock in Figure 2-6, the calculated average specific energy demand of the residential Norwegian buildings, weighted for actual stock, is 202 kWh/m² for apartments and 257 kWh/m² for small residential buildings. The corresponding energy demand for eligible buildings (TEK10 and TEK17) is 102 kWh/m² for apartments and 119 kWh/m² for small residential buildings.

Hence, compared to the average residential building stock, building codes TEK10 and TEK17 give a calculated specific energy demand reduction of 50 percent and 54 percent for apartments and small residential buildings, respectively. This difference is later used in calculations of avoided energy usage and emissions.



3 Grid Factors for Impact Assessment

This section outlines the emission factors used in the assessment of the green bond eligible part of DNB's residential portfolio.

The CO₂-emissions resulting from in-use energy demand in residential buildings depends to a large degree on the age of the building. This is due to two factors: the differences in energy efficiency requirements in the building code, and development in the predominant solutions and energy sources for heating in new buildings. Examples of the latter are direct electric heating, several types of heat pumps, bioenergy, and district heating. The share of fossil fuel is very low and declining.

Since the Norwegian buildings are predominantly heated by electricity, the placement of the system boundary for power production heavily influences the emission factor. Since the financed eligible objects in the portfolio are rather new, and expected to have a 60-year life, the impact is considered best illustrated by the yearly average CO₂-emissions over their lifetime. The main grid factors used in this green portfolio impact assessment reflect a projected lifetime average, assuming a decarbonisation of the European energy system.

Finans Norge released a guidance document for calculation of financed greenhouse gas emissions in 2023, including recommendations for grid factors to be used. [7] To demonstrate how emissions vary depending on grid factor, and for clarity if comparing avoided emissions from the green portfolio with total portfolio calculations, two additional grid factors are included. These are the Norwegian physically delivered electricity for 2023 from the Norwegian Water Resources and Energy Directorate (NVE) [8] and the Norwegian residual mix for 2023, as calculated by the Association of Issuing Bodies [9]. These factors vary from year to year.

The three grid factors are summarized in Table 3-1 and described more in detail in the following sub-sections.

Table 3-1 Electricity production emission factors (CO₂-eq) without and with influx of other heating sources for buildings in three scenarios. Sources: [10], [8], [9]

Scenario	Description	Emission factor electricity [gCO ₂ -eq/kWh]	Emission factor considering other heating sources ⁴ [gCO ₂ -eq/kWh]
European (EU27+ UK+ Norway) NS 3720:2018 electricity mix	Location-based electricity mix with wide system boundary including EU countries, UK and Norway, average emissions over building's 60-year lifetime	136	115
Norwegian physically delivered electricity 2023	Location-based production mix with narrow system boundary of Norway only but including net export/ import only to neighbouring countries and average annual emission factors	15	16
Norwegian residual mix 2023	Market-based residual mix for Norway with a European marketplace	599	495

To calculate the impact on climate gas emissions, the grid factors are applied to all electricity consumption in all residential buildings. Electricity is, as mentioned, the dominant energy carrier to Norwegian residential buildings, but the energy mix also includes other energy carriers such as bio energy and district heating. The influx of other energy sources for heating purposes is applied to all

⁴ Calculated by Multiconsult, based on building code assignments for the Norwegian Building Authority (DiBK).



electricity emission factors resulting in the “Emission factor considering other heating sources”, found in the rightmost column in Table 3-1.

3.1 European (EU27+ UK+ Norway) and Norwegian Electricity Mix over Building’s Lifetime

Using a life-cycle analysis (LCA), the Norwegian Standard NS 3720:2018 considers international trade of electricity and the fact that consumption and grid factor do not necessarily mirror domestic production. The grid factor, as an average in the lifetime of an asset, is based on a linear declining trajectory from the current grid factor to a close to zero emission factor in 2050 and steady onwards. This factor is location-based. The mentioned standard calculates, on a life-cycle basis, the average CO₂- factor for the next 60 years, according to European (EU27+ UK+ Norway) system boundary, as described in Table 3-1. [10]

The standard also calculates the equivalent Norway specific emission factor. Norway is part of a larger, integrated European power grid, and import/export of electricity throughout the year means not all electricity consumed in Norway is produced here. Using the European mix instead of the Norway specific mix, is then a more conservative approach.

The European factor is 136 gCO₂-eq/kWh. [10] This constitutes the GHG emission intensity baseline for energy use in buildings with a life span of 50-60 years and assuming that the CO₂-factor of the European power production mix is close to zero in 2050.

3.2 Norwegian Physically Delivered Electricity 2023

NVE calculates a climate declaration for physically delivered electricity for the previous year. This factor represents electricity consumed in Norway, accounting for emissions from net import and export of electricity from neighbouring countries and these countries’ average annual emission factors. For 2023, this grid factor is 15 gCO₂-eq/kWh. [8] This is also a location-based grid factor.

3.3 Norwegian Residual Mix 2023

Certificates of origin, direct power purchase agreements, or other documentation of power utilization for the building portfolio, are not available to the bank. There is also no basis for making assumptions on the share of the energy consumed by the buildings in the portfolio that has been purchased with Guarantees of Origin. An alternative market-based grid factor for Norway is then the electricity disclosure published by NVE and the Association of Issuing Bodies. [9] This is the electricity residual mix of the country, which shows the sources of the electricity supply that is not covered with Guarantees of Origin, considering a European marketplace for electricity. Guarantees of Origin are not very widespread in the Norwegian electricity end-user market, resulting in a high emission factor of 599 gCO₂-eq/kWh for 2023. [9]



4 Green Portfolio Analysis and Impact Assessment

The residential building green loan portfolio of DNB consists of residential buildings that meet the criteria as outlined in section 2.

4.1 Eligible Buildings

The nearly 40,000 eligible buildings in DNB Bank and DNB Boligkreditt portfolio as of 31 of December 2024 are estimated to amount to 4.3 million square meters. The available data do not include reliable area per object. Area per residence is calculated based on average area derived from national statistics. [6]

Table 4-1 Eligible objects and calculated building areas.

	Building code	No. of objects [#]	Area of qualifying objects in portfolio [m ²]
Apartments	TEK17 and EPC Label A (built 01.01.21 to 31.12.24)	1,505	108,360
	TEK17 (built before 01.01.21)	5,139	370,008
	TEK10 (built before 01.01.21)	15,411	1,109,592
Small residential buildings	TEK17 and EPC Label A (built 01.01.21 to 31.12.24)	532	71,950
	TEK17 (built before 01.01.21)	3,225	492,627
	TEK10 (built before 01.01.21)	13,758	2,134,079
Sum		39,570	4,286,616

4.2 Avoided Emissions

The impact for each eligible object is calculated by determining the reduction in energy demand and related emissions compared to the baseline of an average building from the entire building stock. The reduction in energy demand is then multiplied with the area of the eligible asset and the emission factors from Table 3-1, and summed up for all the assets. A proportional relationship is expected between energy consumption and emissions in impact calculations.

The baseline is the calculated average specific energy demand of the residential Norwegian building stock, which, separated on apartments and small residential buildings, is 202 kWh/m² and 257 kWh/m², respectively. As mentioned in section 2.2, the energy demand for eligible TEK10 and TEK17 buildings is 102 kWh/m² for apartments and 119 kWh/m² for small residential buildings. The difference between the two numbers is considered the avoided energy usage.

Note that specific delivered energy demand from the EPC database is not available for the portfolio. Energy demand for buildings built in 2021 or later has therefore not been checked against the NZEB-10 percent thresholds outlined in section 2.1. The number of objects and areas are presented separately in Table 4-1 for information. Because specific delivered energy data is unavailable, the impact of these assets is calculated using the TEK17 baseline and the avoided energy usage method described above.

Table 4-2 indicates how much more energy efficient the eligible part of the portfolio is compared to the baseline. The area and avoided energy usage of the eligible buildings are also scaled by the bank's share of financing by the loan-to-value ratio.



Table 4-2 Area of eligible buildings in the portfolio and corresponding savings in energy usage compared to the average residential building stock in Norway – in total and scaled by bank's share of financing.

	Area [mill. m ²]	Avoided energy usage compared to baseline [GWh/year]
Eligible buildings in portfolio	4.287	530
Eligible buildings in portfolio – scaled by the bank's share of financing	2.049	260

Table 4-3 presents how much the calculated reductions in energy demand from Table 4-2 constitute in CO₂-emissions using the three emission factors described in section 3: European NS 3720:2018 electricity mix, and Norway specific grid factors, representing physically delivered electricity and the residual mix for 2023.

Table 4-3 Avoided emissions (CO₂-eq) of eligible objects in the portfolio compared to baseline. Using grid factors European mix over the buildings' lifetime, Norwegian physically delivered electricity mix and Norwegian residual mix.

	Emission factor ⁵ [gCO ₂ /kWh]	Avoided CO ₂ -emissions [tonnes CO ₂ /year]	Avoided CO ₂ -emissions – scaled [tonnes CO ₂ /year]
Eligible buildings – European lifetime mix	115	61,270	29,500
Eligible buildings – Norwegian physically delivered el. 2023	16	8,260	3,980
Eligible buildings – Norwegian residual mix 2023	495	263,930	127,070

⁵ Taking into consideration other heating sources than electricity, see section 3.

4.3 Impact Reporting Sheet December 2024

DNB Bank & Boligkreditt Green Covered Bond and Senior Bond Impact Reporting

Portfolio date: 31st of December 2024

Eligible Project Category	Signed Amount	Share of Total Financing	Eligibility for Green Bonds	Annual Site Energy Savings	Annual CO2 Emission Avoidance
a/	b/	c/	d/	e/	e/
Residential Green Buildings	NOK	%	%	GWh	tCO2
New residential buildings in Norway - Norwegian physically delivered electricity mix	114 772 566 934	100	100	530	8 260
New residential buildings in Norway - European lifetime mix	114 772 566 934	100	100	530	61 270

Portfolio based green bond report according to the Harmonized Framework for Impact Reporting

- a/ Eligible category
- b/ Signed amount represents the amount legally committed by the issuer for the portfolio or portfolio components eligible for Green Bond financing
- c/ This is the share of the total portfolio cost that is financed by the issuer
- d/ This is the share of the total portfolio costs that is Green Bond eligible
- e/ Impact indicators
 - Site energy savings calculated using the difference between the top 13% of buildings and the national building stock bechmarks
 - Annual CO2 emission avoidance



5 References

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