Report

DNB Green Buildings Portfolio Impact Assessment 2H 2026

CLIENT

DNB Bank ASA

SUBJECT

Impact Assessment – Green Residential Buildings

DATE / REVISION: 02 November 2026 / 02

DOCUMENT CODE: 10277494-01-TVF-RAP-001



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Report

PROJECT	DNB Green Buildings Portfolio Impact Assessment 2H 2026	DOCUMENT CODE	10277494-01-TVF-RAP-001
SUBJECT	Impact Assessment – Green Residential Buildings	ACCESSIBILITY	Open
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REV.	DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY
01	02.11.2026	Revised report	Multiple authors	KJRK	AREG
01	30.10.2026	Revised report	Multiple authors	KJRK	AREG
00	15.10.2026	Draft report	Multiple authors	KJRK	AREG

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1 Introduction

On assignment from DNB Bank ASA (the "Bank"), Multiconsult has assessed the impact of the green residential buildings part of the Bank's green loan portfolio eligible for green bond financing.

In this report, we briefly describe the Bank's green bond qualification criteria and the analysis results of the loan portfolio. More detailed documentation on methodologies and eligibility criteria is made available on the Bank's website [1].

This report updates the report produced on 2 June 2026 (document code 10272583-01-TVF-RAP-003). The Bank is currently updating its Green Bond Framework and has engaged a third-party provider to assess its portfolio. The Bank has provided Multiconsult with information on the portion of the portfolio identified as eligible. The updated eligibility criteria and the green portfolio impact assessment results are described in section 3.

2 Emission factors for impact assessment

The CO_2 emissions resulting from energy demand in buildings depend to a large degree on building age. This is due to two factors: differences in energy efficiency requirements in the building code, and development in the predominant solutions and energy sources for heating in new buildings.

Multiconsult considers these two factors when calculating the greenhouse gas (GHG) emission factors to be used in the green portfolio impact assessments. This section first presents some general statistics on energy usage in Norwegian buildings and the Norwegian electricity production, before presenting the grid factors used in the subsequent sections.

2.1 Electricity demand and production

The eligible assets use electricity from the power system. The energy consumption of Norwegian buildings is predominantly electricity, with some district heating and bioenergy. The share of fossil fuels is very low and declining.

Renewables accounted for approximately 99 percent of the total (162 TWh) Norwegian electricity production in 2025, with the final percentage being thermal power production from natural gas, biomass, and waste heat [2] [3]. The fuel mix in Norwegian district heating production (7.5 TWh) included only three percent from fossil fuels (oil and gas) in 2025 [4].

Figure 2-1, which is based on numbers from the Association of Issuing Bodies (AIB), shows that the Norwegian production mix in 2025 resulted in emissions of 6 gCO_2/kWh [5]. In the figure, the production mix for other selected European states is included for comparison.

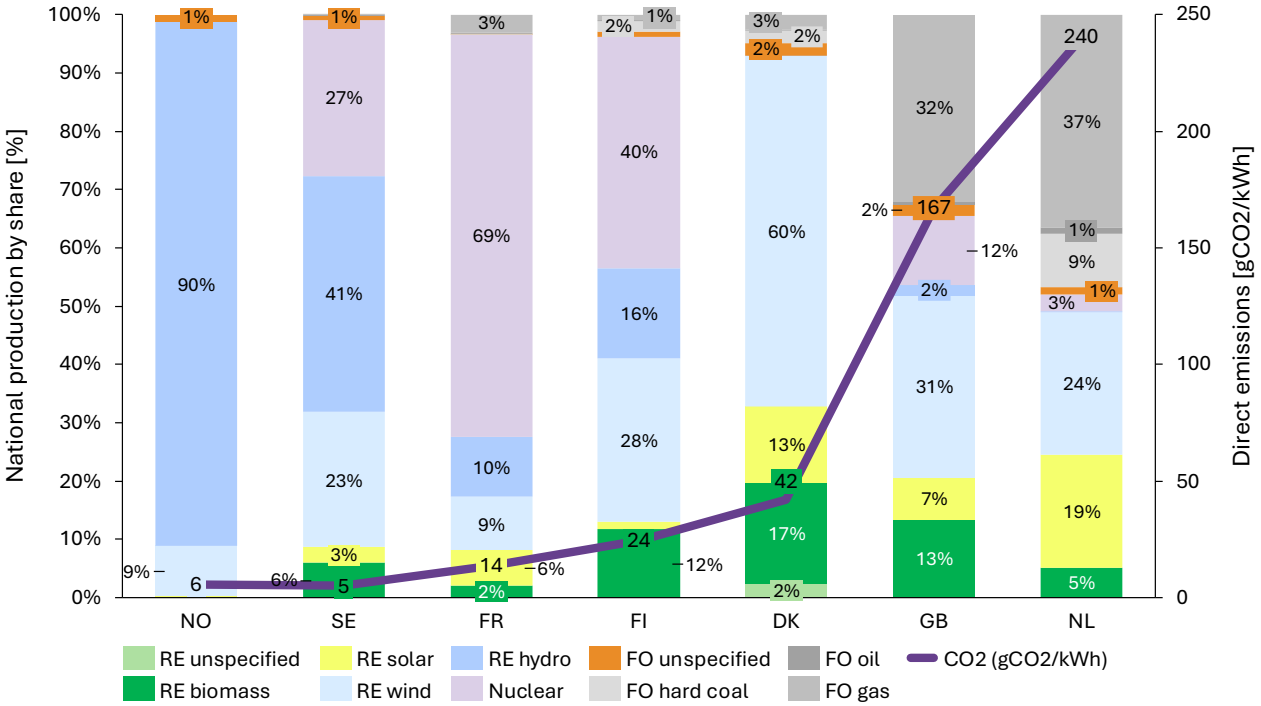

Figure 2-1 National electricity production mix in selected European countries. Source: [5]

As Figure 2-1 shows, emissions from power production vary between countries. Due to the interconnection of the power grid, the placement of the system boundary for power production heavily influences the GHG emission factor associated with said production. To demonstrate how the choice of system boundary – whether limited to Norway or expanded to Europe as a whole – and the selection of emission factors influence the results, the impact assessments in this report are presented using several different emission factors, cf subsection 2.2.

2.2 Emission factors for impact assessment of buildings

This subsection outlines the emission factors used in the assessment of the green bond eligible part of the Bank's building portfolio.

Since the Norwegian buildings are predominantly heated by electricity, the placement of the system boundary for power production heavily influences the emission factor. As the financed qualifying 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 CO_2 emissions in their lifetime. The main grid factor used in this green portfolio impact assessment reflects an average in the building's lifetime, assuming decarbonisation in the European energy system.

Finans Norge released a guidance document for the calculation of financed GHG emissions in 2023, including recommendations for grid factors to be used [6]. To demonstrate how emissions vary depending on grid factor, two recommended grid factors from the Norwegian Water Resources and Energy Directorate (NVE) are included. These are the most recent Norwegian physically delivered electricity for 2025 [7] and the Norwegian residual mix for 2025 [5]. The Norwegian residual mix is calculated by the AIB, which is the organization responsible for developing and promoting the European Energy Certificate System (EECS) [5].

The grid factors are summarized in Table 2-1 below and described in more detail in the following subsections.

Table 2-1 Electricity production GHG factors (CO2-eq) with and without influx of other heating sources for buildings in three scenarios. (Source: NS 3720:2018, Table A. 1, NVE [7]*, AIB* [5]*)*

Scenario	Description	Emission factor electricity [gCO_2/kWh]	Emission factor incl. other heating sources [gCO_2/kWh] [8]
European (EU27+ UK+ Norway) NS 3720:2018 electricity mix over lifetime	Location-based electricity mix with wide system boundary including EU countries, UK and Norway, average emissions over building's 60-year lifetime	136	114.7
Norwegian NVE physically delivered electricity 2025	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	9	10.8
Norwegian NVE residual mix 2025	Market-based residual mix for Norway with a European marketplace	431	356.6

To calculate the impact on GHG emissions, the grid factors are applied to all electricity consumption in the buildings in the portfolio eligible for green bonds. Electricity is, as mentioned, the dominant energy carrier to Norwegian buildings, but the energy mix also includes other energy carriers such as bioenergy and district heating. The influx of different energy sources for heating purposes is applied to all electricity emission factors [8], resulting in the "Emission factor considering other heating sources", found in the rightmost column in Table 2-1.

2.2.1 European (EU27+ UK+ Norway) electricity mix over lifetime

Using a life-cycle analysis, the Norwegian Standard NS 3720:2018 *Method for greenhouse gas calculations for buildings* [9] considers international trade in electricity and the fact that consumption and grid factors do not necessarily mirror domestic production. The resulting grid factors, as averaged over the lifetime of an asset, are based on a linear trajectory from the current grid factor to a close to zero emission factor in 2050 and steady until the end of the lifetime of the buildings.

The mentioned standard calculates, on a life-cycle basis, the average emission factors for the next 60 years according to a European (EU27+ UK+ Norway) system boundary, as described in Table 2-1.

Norway is part of a larger, integrated European power grid, and import and export of electricity throughout the year means not all electricity consumed in Norway is produced here. The standard also calculates the equivalent Norwegian mix emission factor. However, in this analysis, we apply only the European mix factor, as it represents a more conservative approach.

The European electricity factor is 136 gCO_2-eq/kWh, which constitutes the GHG emission intensity baseline for energy use in buildings with a life span of 60 years and assuming that the CO_2 emission factor of the European power production mix is close to zero by 2050. This value is comparable to the equivalent determined in Nordic Public Sector Issuers: Position Paper on Green Bonds Impact Reporting (January 2020).

2.2.2 Norwegian physically delivered electricity

NVE calculates a climate declaration for physically delivered electricity for the previous year [7]. 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 2025, this grid factor is 9 gCO_2-eq/kWh. This is also a location-based grid factor.

2.2.3 Norwegian residual mix

Certificates of origin, direct power purchase agreements or other documentation of which power has been purchased for the buildings in the 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 [7] and AIB [5]. This is the electricity residual mix of the country, which shows the sources of the electricity supply that are 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 431 gCO_2-eq/kWh for 2025 [5].

3 Residential buildings

3.1 Eligibility criteria

According to the Bank's Green Bond Framework, residential buildings in Norway are eligible for green bonds if they meet one of the following criteria:

i. ***Buildings built in 2021 or later:***

- Buildings complying with the relevant NZEB-10 percent threshold.

ii. ***Buildings built before 2021:***

- Buildings with EPC A label or within the top 15 percent low carbon buildings in Norway.

In addition to the above-mentioned criteria, DNB has chosen to exclude assets with significant physical climate risk from the green portfolio.

3.1.1 Criterion i: Buildings built in 2021 or later

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 require 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 zero-energy buildings (NZEB). The energy performance is to be documented by an Energy Performance Certificate (EPC). The Norwegian national definition of NZEB was published in January 2023 [10] with a correction issued in January 2024 [11]. Table 3-1 shows the thresholds for residential buildings according to the Norwegian national NZEB definition.

Table 3-1 Thresholds for NZEB-specific primary energy demand. Source: [11, 10]

Building category	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 [12]. In practical terms, this means that calculated primary energy demand equals calculated net delivered energy.

On January 1, 2026, Norway introduced a revised EPC scheme, based on amendments to the EPC Regulations and the updated calculation methodology defined in NS 3031:2025. The Norwegian Ministry of Energy (ED) is currently developing revised energy performance requirements for the Norwegian Building Regulations (TEK), which are expected to be based on NS 3031:2025 and aligned with the revised approach to weighting different energy sources under the new EPC scheme. The revised TEK requirements are expected to form the basis for a new national definition of NZEB, replacing the current NZEB definition.

3.1.2 Criterion ii: Buildings built before 2021

On April 28, 2026, ED published official thresholds for the top 15 percent and 30 percent most energy-efficient buildings in the Norwegian building stock across various building categories. The thresholds are based on the revised calculation methodology defined in NS 3031:2025 and incorporate the new weighting factors for different energy sources introduced under the revised Norwegian EPC scheme. As

a result, the thresholds are directly aligned with the revised methodology for assessing building energy performance and provide an updated benchmark for identifying energy-efficient buildings. The publication supports the implementation of the EU Taxonomy technical screening criteria in Norway by providing a transparent and nationally consistent basis for assessing the energy performance of existing buildings.

A building is considered eligible if it either achieves an EPC rating A or meets the official thresholds for the top 15 percent most energy-efficient buildings in the Norwegian building stock; cf Table 3-2.

Table 3-2 Thresholds for the top 15 percent most energy efficient residential buildings in the Norwegian building stock. Source: [13]

Building category	Calculated specific weighted net delivered energy per m^2 heated utility area [kWh/m^2]
Apartments	95
Small residential buildings	150

3.2 Green portfolio analysis and impact assessment

The Bank's green loan portfolio consists of residential buildings that meet the criteria as formulated in section 3.1. The Bank has assessed its portfolio against the aforementioned eligibility criteria through a third-party provider and has provided Multiconsult with the eligible portion of the portfolio. The portfolio dataset provided by the Bank contains building type, area, loan balance, building value, energy demand, evaluation of physical risk, and the relevant eligibility criteria for each object. Where missing, the area per residence is based on averages derived from national statistics [14]. Missing values for energy demand are filled using proxies based on the thresholds for the corresponding building category and eligibility criterion from the portfolio.

3.2.1 Baseline

Changes in the Norwegian building code have, over several decades, consistently resulted in more energy efficient buildings. Figure 3-1 illustrates how the calculated net energy demand declines with decreasing building age.

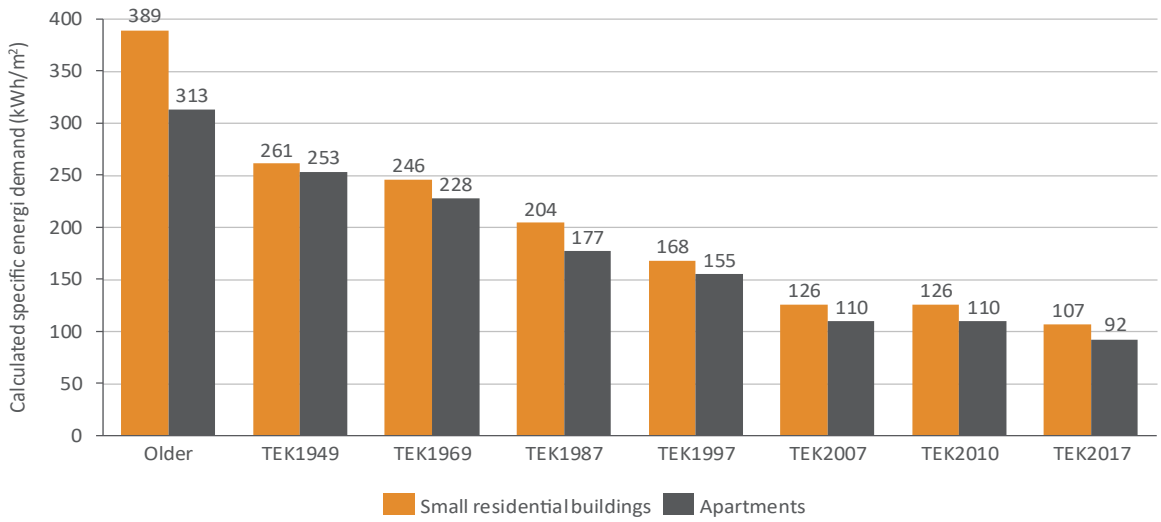

Figure 3-1 Development in calculated specific net energy demand based on building code and building tradition. Source: Multiconsult, SIMIEN simulations

Figure 3-2 shows the age distribution of the total Norwegian residential building stock.

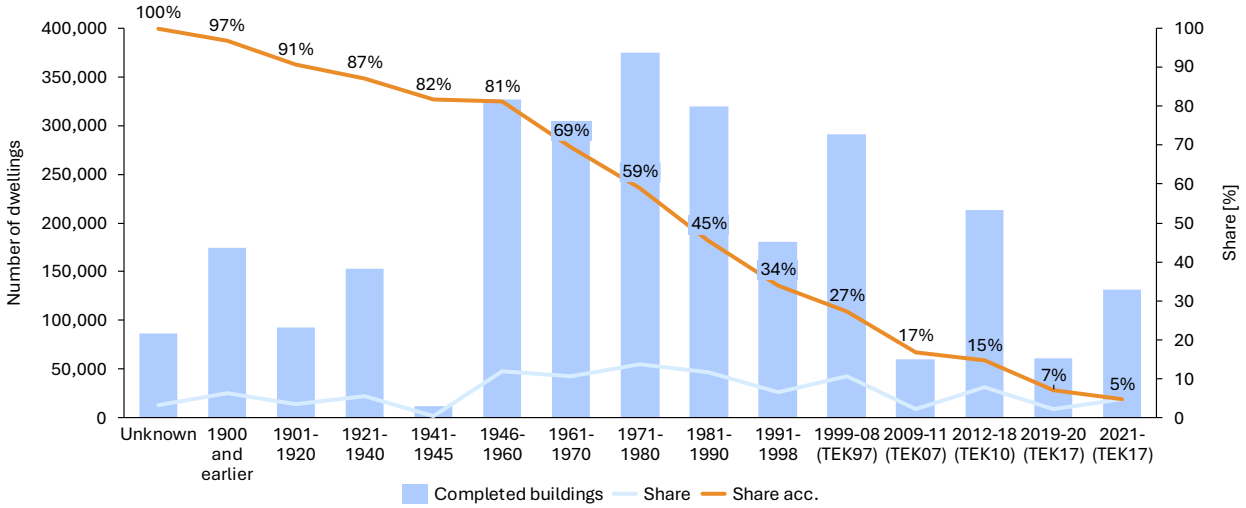

Figure 3-2 Age and building code distribution of dwellings. Source: [14], Multiconsult

By combining the calculated energy demand based on building code requirements in Figure 3-1 with the characteristics of the Norwegian residential building stock in Figure 3-2, the average specific energy demand of the residential building stock is calculated and presented in Table 3-3. This baseline is used in calculations of avoided energy usage and GHG emissions in subsection 3.2.3.

Table 3-3 Energy demand of the residential Norwegian building stock. Source: [15]

Building category	Average total stock (baseline) [kWh/m^2/year]
Apartments	199
Small residential buildings	256

3.2.2 Eligible buildings

As presented in Table 3-4, the 76,642 eligible residential buildings in the Bank's portfolio are estimated to amount to 12.6 million square meters. The majority of the objects are eligible through the top 15 percent criterion. In addition to the previously mentioned criteria in section 3.1, DNB has chosen to exclude assets with significant physical climate risk from the green portfolio. The bank has conducted the identification of these at-risk assets. The eligible buildings may be distributed across more than one bond issuance.

Table 3-4 Calculated number of objects and area of qualifying residential buildings.

	Criteria	No. of qualifying objects	Area of qualifying objects in portfolio [m^2]
Apartments	NZEB-10%	1,607	142,774
	EPC A	3,098	233,635
	TOP 15%	17,247	1,617,052
Small residential buildings	NZEB-10%	2,314	402,943
	EPC A	717	141,221
	TOP 15%	51,659	10,092,175
Sum		**76,642**	**12,629,800**

3.2.3 Avoided emissions and impact

The impact for each residential object is calculated as the reduction in energy demand and related emissions compared to a baseline representing an average object in the entire building stock .

Avoided energy demand for each eligible object is calculated in two steps. First, the difference between its specific delivered energy of the object and the baseline for its building category (see Table 3-3) is calculated. Where specific delivered energy is missing, the eligibility criteria threshold values for the corresponding building category and criteria are used[1]. Second, the calculated difference is multiplied by the heated floor area of the object to obtain its avoided energy demand. The results are summed for all eligible residential buildings, and the total avoided energy demand is reported in the first column of Table 3-5.[2]

Assuming a proportional relationship between energy consumption and emissions, the avoided energy demand is multiplied by the emission factors in Table 2-1 to obtain avoided emissions, reported in the final three columns of the table.

Table 3-5 indicates how much more energy efficient the eligible part of the portfolio is compared to the average residential Norwegian building stock, and the corresponding avoided GHG emissions.

Table 3-5 Avoided energy demand and emissions (CO_2-eq) of eligible residential buildings in the portfolio compared to average building stock using the emission factors from Table 2-1.

	Avoided energy demand compared to baseline [GWh/year]	Avoided CO_2 emissions compared to baseline [tonnes CO_2-eq/year]		
		European (EU27 + UK + Norway) NS 3720:2018 electricity mix	Norwegian NVE physically delivered electricity 2025	Norwegian NVE residual mix 2025
Eligible buildings in the portfolio	1,314.12	150,730	14,192	468,615

[1] For NZEB-10 percent: Thresholds in Table 3-1 converted to comparable specific net delivered energy. For EPC: EPC A lower limit from the energy grade scale. For top 15 percent: Thresholds in Table 3-2.

[2] Example: for an apartment of 100 m^2 with a specific delivered energy of 89 kWh/m^2, avoided energy demand is (199 −89) kWh/m^2 × 100 m^2 = 11,000 kWh per year. Avoided emissions are 11,000 kWh × 11 gCO2-eq/kWh / 10^6 = 0,121 tonnes CO2-eq per year."

3.2.4 Impact reporting sheet October 2026

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

Portfolio date: 30th of September 2026

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**
Green residential buildings in Norway - Norwegian physically delivered electricity mix 2025	231 264 727 442	100	100	1 314,12	14 192

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 specific energy demand of the eligible buildings and the national building stock benchmarks
-Annual CO2 emission avoidance
-The Bank has opted for using the Norwegian physically delivered electricity mix 2025 as emission factor for the avoided emission calculation

4 References

[1] DNB Bank ASA, “Green Bond Framework,” 10 2023. [Online]. Available: https://www.ir.dnb.no/funding-and-rating/green-bond-framework.

[2] Statistics Norway, “Elektrisitet - Statistikkbanken kildetabell 14091,” [Online]. Available: https://www.ssb.no/energi-og-industri/energi/statistikk/elektrisitet.

[3] Statistics Norway (SSB), “Table 08307: Production, imports, exports and consumption of electric energy (GWh), by contents and year,” [Online]. Available: https://www.ssb.no/en/statbank/table/08307.

[4] Norsk Fjernvarme, “Fjernvarme - Energikilder 2025,” [Online]. Available: https://www.fjernkontrollen.no/.

[5] Association of Issuing Bodies (AIB), “Residual Mixes and European Attribute Mix of 2025,” 2026. [Online]. Available: https://www.aib-net.org/facts/european-residual-mix.

[6] Finans Norge, “Veileder for beregning av finansierte klimagassutslipp,” 2024. [Online]. Available: https://www.finansnorge.no/dokumenter/maler-og-veiledere/veileder-for-beregning-av-finansierte-klimagassutslipp/.

[7] NVE, “Strømdeklarasjoner,” 2026. [Online]. Available: https://www.nve.no/energi/energisystem/energibruk/stroemdeklarasjoner/.

[8] Multiconsult, “Based on building code assignments for DiBK, 2015,” 2015.

[9] SN/K 356 Klimagassberegninger for bygg, “NS 3720:2018 Metode for klimagassberegninger for bygninger,” Standard Norge, Oslo, 2018.

[10] Kommunal- og distriktsdepartementet, “Rettleiing om utrekning av primærenergibehov i bygningar og energirammer for nesten nullenergibygningar,” 31 01 2023. [Online]. Available: https://www.regjeringen.no/no/aktuelt/rettleiing-om-utrekning-av-primarenergibehov-i-bygningar-og-energirammer-for-nesten-nullenergibygningar/id2961158.

[11] Kommunal- og distriktsdepartementet, “Veiledning om beregning av primærenergibehov i bygninger og energirammer for nesten nullenergibygninger,” 12 01 2024. [Online]. Available: https://www.regjeringen.no/no/aktuelt/taksonomien-maler-for-rapportering-og-retting-av-veiledning-om-primarenergifaktorer/id3021759/.

[12] SN/K 34 Bygningers energiytelse, “NS 3031:2014 Beregninger av bygningers energiytelse - Metode og data,” Standard Norge, Oslo, 2014.

[13] Norwegian Ministry of Energy, “Taksonomien: Terskelverdier for energieffektivitet i bygninger,” 28 April 2026. [Online]. Available: https://www.regjeringen.no/no/aktuelt/taksonomien-terskelverdier-for-energieffektivitet-i-bygninger/id3108066/.

[14] Statistics Norway (SSB), “Table 06513: Dwellings, by region, contents, year and utility floor space,” [Online]. Available: https://www.ssb.no/en/statbank/table/06513.

[15] SSB, Multiconsult.