REPORT

Sparebanken Sør Green Covered Bond

CLIENT

Sparebanken Sør Boligkreditt AS

SUBJECT

Norwegian Energy Efficient Buildings- Green residential buildings

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Multiconsult

REPORT

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1 Introduction

Assignment

On assignment from Sparebanken Sør (Sparebanken Sør Boligkreditt AS), Multiconsult has applied developed criteria and a methodology to identify the most energy efficient residential buildings in Norway, to be used with respect to a green covered bond issuance. In this document we describe Sparebanken Sør's identification criteria, the evidence for the criteria and the result of an analysis of a part of the loan portfolio of Sparebanken Sør. The criteria to select the buildings is based on credible standards in Norway such as the Norwegian building regulation and Energy Performance Certificates.

Energy

Apart from these criteria, we also want to stress that residential buildings in Norway are heated mostly with renewable energy. The energy consumption of Norwegian residential buildings is predominantly electricity, with some district heating and bioenergy. The share of fossil fuel is very low and declining.

Statistics Norway made in 2013 a statistic on energy use in Norwegian households. The demand was covered by electricity (79 %), fossil oil and gas (4 %) and bioenergy etc. (16 %). Already in 2007, the building code was in clear disfavour of fossil energy, and the use of fossil energy in residential buildings has declined since. From 2020, all use of fossil oil is banned from use in buildings. The fuel mix in Norwegian district heating production in 2018 included only 5.2 % from fossil fuels (oil and gas) (Fjernkontrollen[1]). In 2018, the Norwegian power production was 98 % renewable (NVE[2]).

As shown in figure 1, the Norwegian production mix in 2018 gives resulting emissions of 11 gCO_2/kWh. Using a life-cycle analysis, the Norwegian Standard NS 3720:2018 "Method for greenhouse gas calculations for buildings" take into account international electricity trade and that the consumption is not necessarily equal to domestic production. The mentioned standard calculates the average CO_2- factor for the lifetime of a building to 136 g CO_2/kWh for EU28+ Norway and 18 g CO_2/kWh for Norwegian production mix only. Applying the factor based on EU28 + Norway energy production mix, the resulting CO_2- factor for Norwegian residential buildings[3] is on average 126 g CO_2/kWh.

[1] http://fjernkontrollen.no/
[2] https://www.nve.no/energy-market-and-regulation/retail-market/electricity-disclosure-2018/
[3] Multiconsult. Based on building code assignments for DiBK

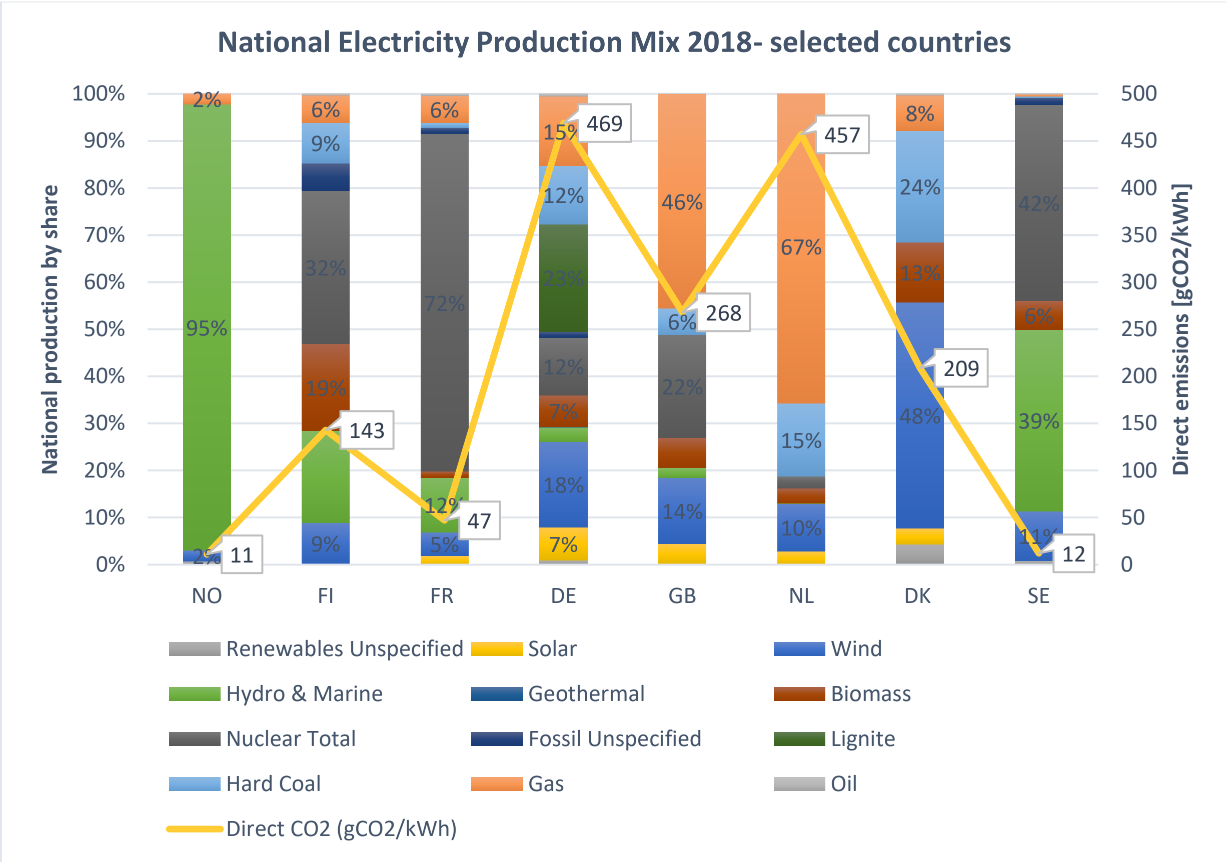


Figure 1 National electricity production mix in some relevant countries (European Residual Mixes 2018, Association of Issuing Bodies[4])

2 Loan Portfolio Analysis Sparebanken Sør

The Green loan portfolio of Sparebanken Sør will consist of residential buildings that meet the criteria as formulated below.

2.1 Eligible buildings

Multiconsult has investigated a sample of Sparebanken Sør's portfolio and can confirm that the reviewed residential buildings have been identified as eligible for green bonds according to Sparebanken Sør's eligibility criteria.

2.2 Availability of data to identify other eligible buildings

Energy performance data for residential buildings are not yet easily available for lenders or investors. The Energy Performance Certificate (EPC), a relevant source of data, is at the present not publically available. It is however made available as a test and utilised by Sparebanken Sør.

Enova, entity owned by the Norwegian Ministry of Climate and Environment, responsible for the EPC system, aims to make the register publically available and accessible e.g. for banks using the data for the purpose of green bonds. The date for such a release of the database is uncertain and dependent

[4] https://www.aib-net.org/documents/103816/176792/AIB_2017_Residual_Mix_Results_v11.pdf/8eb82c2b-0fe9-5786-6b21-03e8b6830a94

on the IT solutions and necessary cleaning of the database to improve the data quality. The released data will be limited to some key items as energy label and heating grade. Specific energy demand or certificate history for individual residents will not be made available, at least not first time around.

The banks will be able to link the individual residences to the register, and retrieve the energy certificate results for individual dwellings, based on some key information:

- Address- street and number, postal code
- Apartment number (if applicable)
- Building identifiers GNR (Gårdsnummer) and BNR– (Bruksnummer)

3 Eligibility criteria

Multiconsult has studied the Norwegian residential building stock and identified three solid eligibility criteria for Green Bonds on energy efficient buildings. The criteria have been aligned with the Climate Bonds Initiative (CBI) and will be published as a CBI baseline for Norwegian residential buildings. The criteria that derive the baseline are similar to the CBI methodology already used in similar markets. Criterion 1 identifies the top 10 % most energy efficient residential buildings countrywide. The CBI baseline methodology also includes criteria using data from Energy Performance Certificates when available and according to CBI taxonomy, residential buildings may also qualify after being refurbished to a standard resulting in at least a 30 % reduction in energy demand[5].

Eligible Residential Green Buildings for Sparebanken Sør must meet the following eligibility criteria:

1. New or existing Norwegian residential buildings that comply with the Norwegian building code of 2007 (TEK07) and later codes for small residential buildings [6]and code of 2010 (TEK10) and later codes for apartments are eligible for green bonds as all these buildings have significant better energy standards and account for less than 15 % of the residential building stock. A two year lag between implementation of a new building code and the buildings built under that code must be taken into account.

2. Existing Norwegian residential buildings with EPC-labels A, B or C. These buildings may be identified in data from the Energy Performance Certificate (EPC) database.

3. Refurbished Norwegian residential buildings with EPC-labels which corresponds to at least a 30 % improvement in energy efficiency compared to the calculated specific delivered energy [kWh/m^2] based on building code in the year of construction. These buildings may be identified using the EPC database and prepared tables in this report that identify which EPC-label corresponds to at least 30% energy reduction for the given construction year. In addition, a second requirement is introduced; only buildings with EPC-label D or better qualify.

[5] https://www.climatebonds.net/standard/buildings/upgrade
[6] Include residential buildings from single family houses, detached, undetached and semi-detached dwellings, and buildings with up to four apartments.

3.1 New or existing Norwegian residential buildings that comply with the Norwegian building code of 2007 (TEK07) or later codes for small residential buildings, and code of 2010 (TEK10) and later codes for apartments: 10 %

Changes in the Norwegian building code have consistently over several decades resulted in more energy efficient buildings. As of 2019, 10 % of Norwegian residential buildings are eligible according to the Sparebanken Sør criterion.

The methodology is based on Climate Bonds Initiative (CBI) taxonomy, where the top 15 % most energy efficient buildings are considered eligible. The CBI baseline methodology for energy efficient residential buildings for Norwegian conditions published in spring 2018 are in line with Sparebanken Sør's criterion.

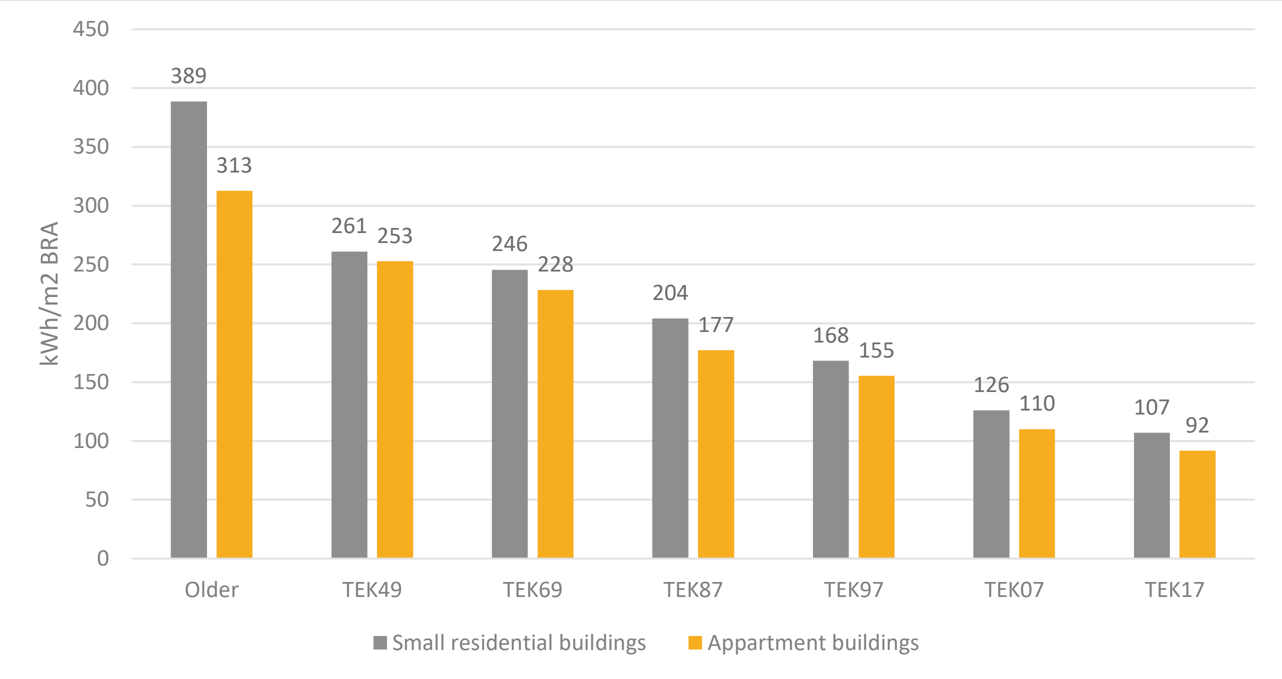


Figure 2 Development in calculated specific net energy demand based on building code and building tradition, (Multiconsult, simulated in SIMIEN)

Net energy demand is calculated for model buildings used for defining the building code (TEK07/TEK10/TEK17). The result presented in figure 2 illustrates how the calculated energy demand declines with decreasing age of the buildings. From TEK07 to TEK17 the reduction is about 15 % and the former shift from TEK97 to TEK07 was no less than 25 %. Note that, for small residential buildings, there was no change between TEK07 and TEK10 with respect to energy efficiency requirements.

The figure gives theoretical values for representative models of an apartment and a small residential building, calculated in the computer programme SIMIEN and in accordance to Norwegian Standard NS 3031:2014 *Calculation of energy performance of buildings. Method and data*, and not based on measured energy use. In addition to the guiding assumption in Norwegian Standard NS3031:2014, experience with building tradition is included. For older buildings the calculated values tend to be higher than the actual measured use, mostly because the ventilation air flow volume is assumed as high as in newer buildings, but no heat recovery. Indoor air quality is assumed not to be dependent on building year. This is the same methodology as used in the EPC-system.

Building code	Specific energy demand apartment buildings (model homes)	Specific energy demand small residential buildings (model homes)
TEK 07/ TEK 10	110 kWh/m^2	126 kWh/m^2
TEK 17	92 kWh/m^2	107 kWh/m^2

Table 1 Specific energy demand calculated for model buildings

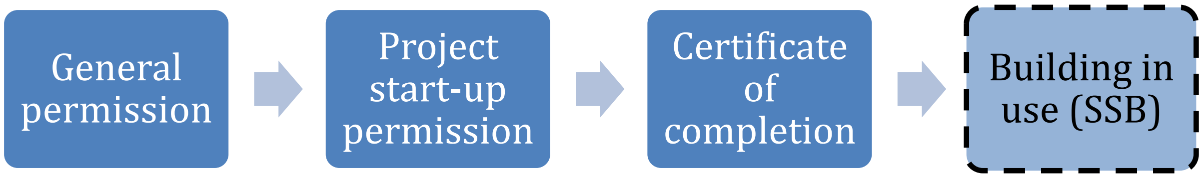
Table 1 includes the specific energy demand calculated by using the standard model buildings for the building codes relevant for identifying the top 8 % most energy efficient residential buildings in Norway.

The building codes are having a significant effect on energy efficiency. An investigation of the energy performance of buildings registered in the EPC database younger than 1997 show a clear improvement in the calculated energy level for buildings finished after 2008/2009 when the building code of 2007 came into force. The same observation on improvement can be done from 1997 to 1998 when the building code of 1997 came into force.

In the period between 1998 and 2009, a period when there was no change in the building code, it is difficult to see any clear changes, however a small reduction of energy use might have taken place in the latest years. This might be due to an increased us of heat pumps in new buildings, and to a certain degree, better windows.

3.1.1 Time lag between building permit and building period

After the implementation of new a building code there is some time lag before we see new buildings completed according to this new code. The lag between the date of general permission received (no; rammetillatelse), which decides which code is to be used, and the date at which the building is completed and taken into use, varies a lot depending on such things as the complexity of the site and project, financing and the housing market.



The time from granted general permission to granted project start-up permission is often spent on design, sales and contracting. Based on Multiconsult's experience, six months to a year is a reasonable timespan for residential buildings in this phase. The figure below, based on statistics from Statistics Norway (SSB), indicates that approximately six months to a year construction period is standard for residential buildings.

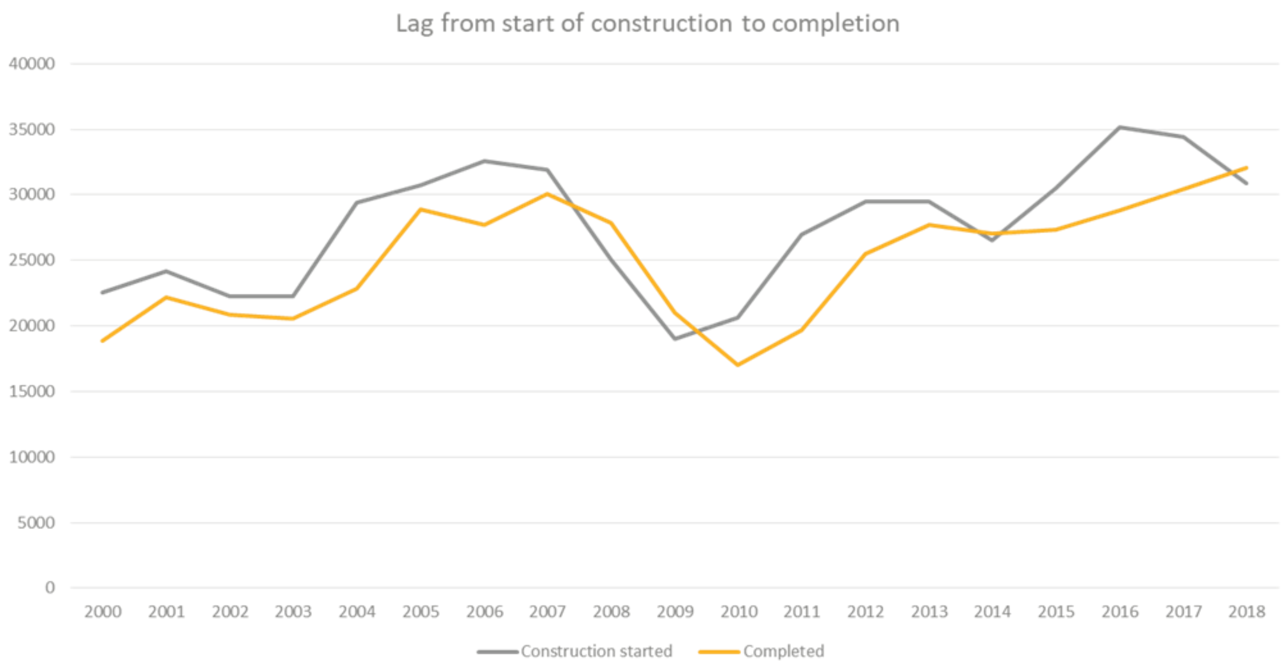


Figure 3 Project start-up and completion (Statistics Norway, bygningsarealstatistikken)

The 2007 building code was implemented in February 2007 and the 2010 building code was implemented July 1st 2010. Based on the discussions on time for design and construction, we regard a time-lag of two years, in most cases, between code implementation and buildings based on this code to be a robust and conservative assumption. The data available on completed construction is only available to the issuer on a yearly basis. Since the energy requirements were unchanged from TEK07 to TEK10 it is a very robust assumption that all buildings finished in 2012 have used energy requirements according to TEK10. There are likely buildings finished in 2011 built under the 2010 code as well, but equally, the year 2012 may also contain projects built based on TEK07. All buildings finished in 2009- 2011 are assumed to have used TEK07. There are likely buildings finished in 2008 built under that code as well, but equally, the year 2009 may also contain some delayed projects built later based on TEK97.

3.1.2 Building age statistics

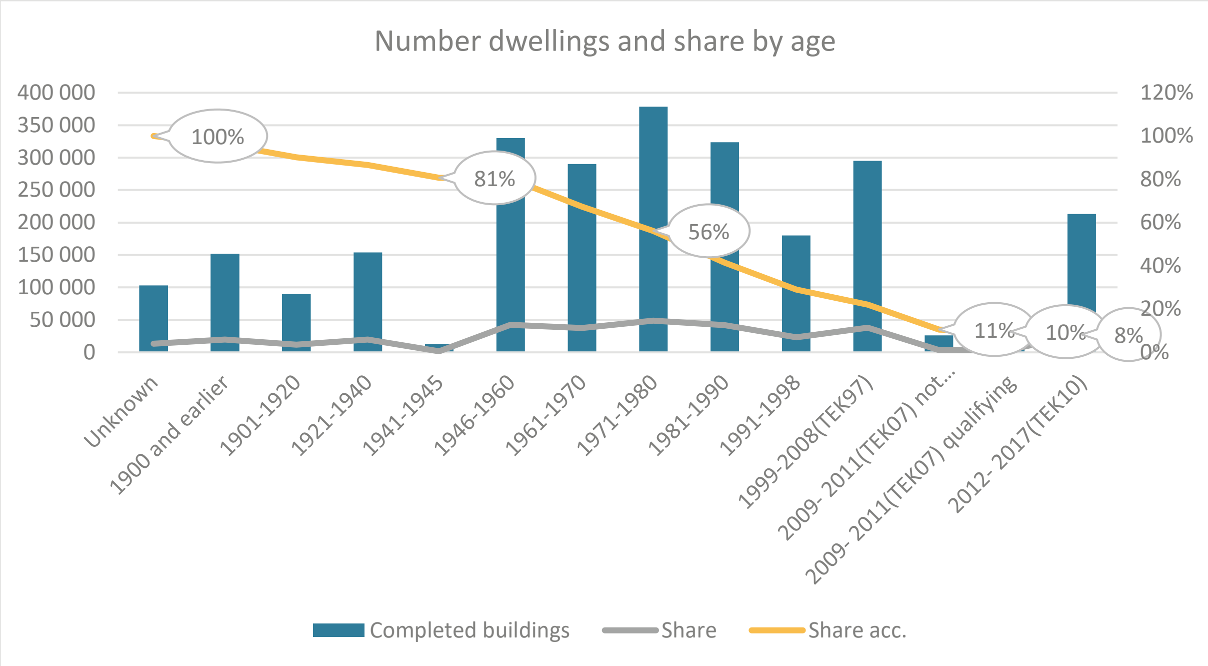


Figure 4 Age and building code distribution of dwellings (Statistics Norway[7] and Multiconsult)

Figure 4 above shows how the Norwegian residential building stock is distributed by age. The same statistics are adjusted by new intervals available by using statistics on building area (Bygningsarealstatistikken). The figure shows how buildings finished in 2012 and later (and built according to TEK10) amount to 8 % of the total stock. Adding the small residential buildings built under the TEK07 code, the total qualifying dwellings accounts for 10 % of the total stock. Based on theoretical energy demand in the same building stock, the same 10 % of the stock makes up for only 4 % of the energy demand in residential buildings and 3 % of the related CO_2- emissions. The difference between energy demand and CO_2-emissions are due to the slightly less CO_2-intensive heating solutions in newer buildings.

[7] Boligstatistikken, Tabell: 06266: Boliger, etter bygningstype og byggeår (K). Adjusted to match the development of building code.

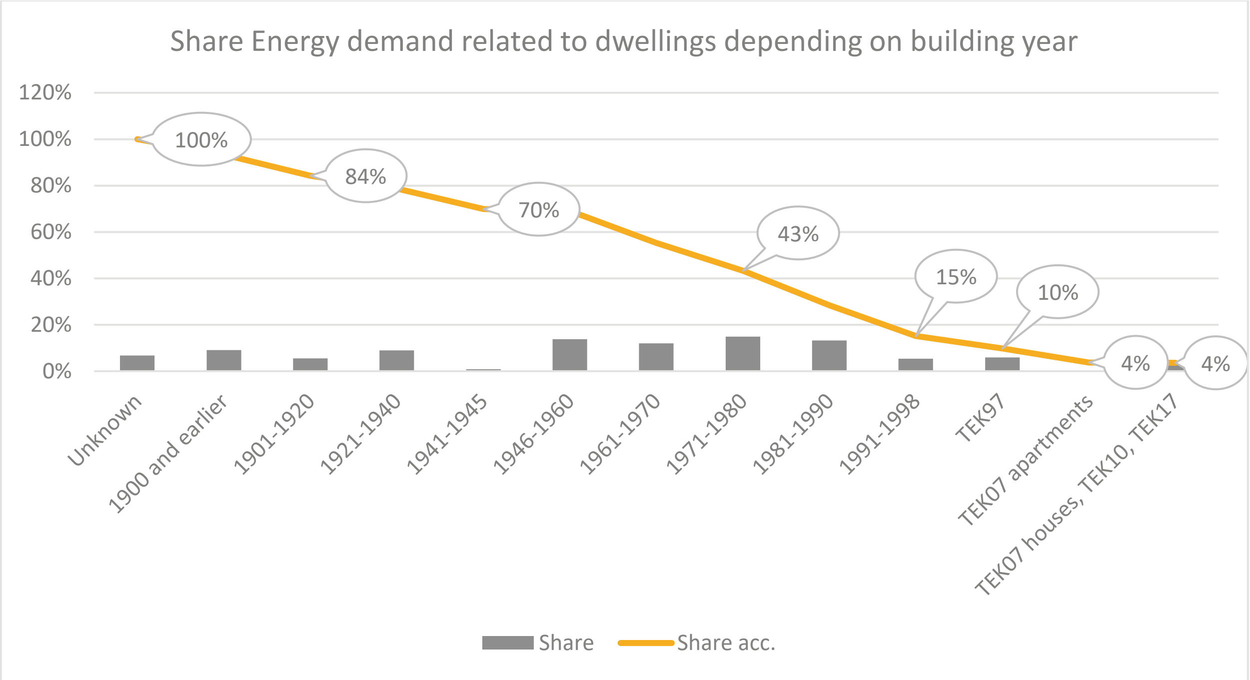


Figure 5 The building stock's relative share of energy demand dependent on building year and code (Statistics Norway and Multiconsult)

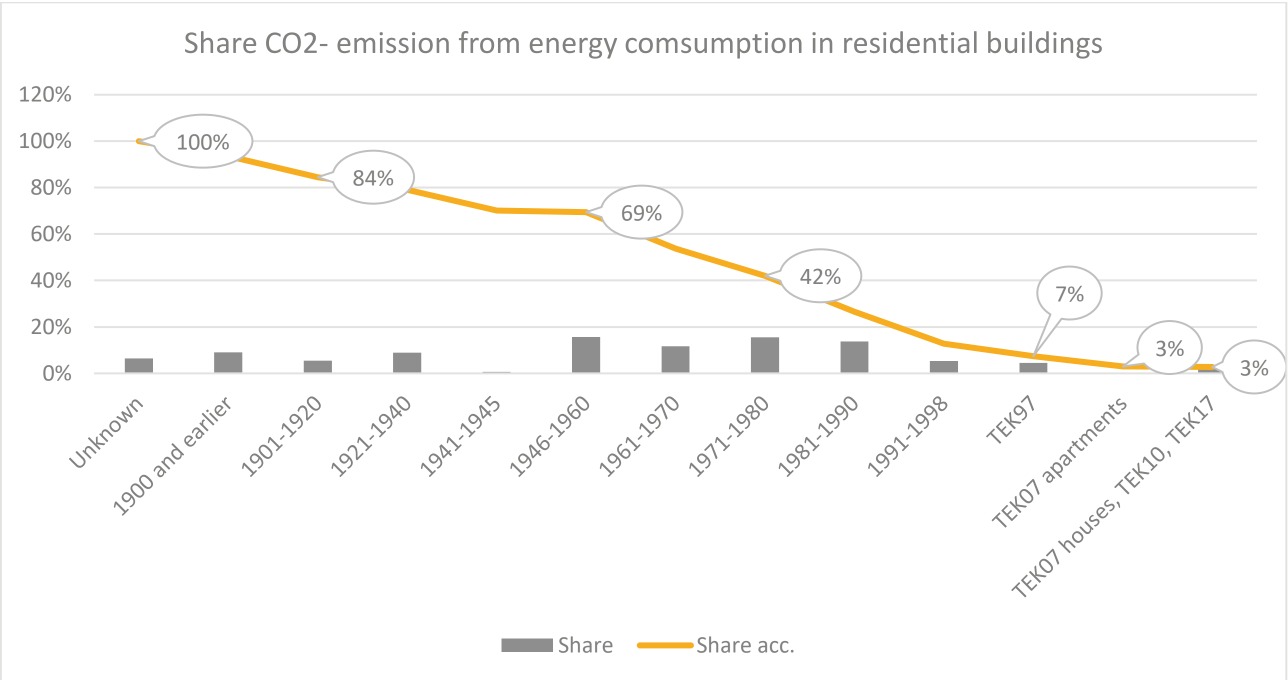


Figure 6 The building stock's relative share of CO_2 –emissions related to energy demand dependent on building year and code (Statistics Norway and Multiconsult)

3.1.3 Eligibility under criterion 1

Over the last several decades, the changes in the building code have pushed for more energy efficient buildings. The building stock data indicates that 10 % of the current residential buildings in Norway were constructed using the code of 2007 (TEK07) and later codes for small residential buildings and code of 2010 (TEK10) and later codes for apartments.

Combining the information on the calculated energy demand related to building code in Figure 2 and information on the residential building stock in

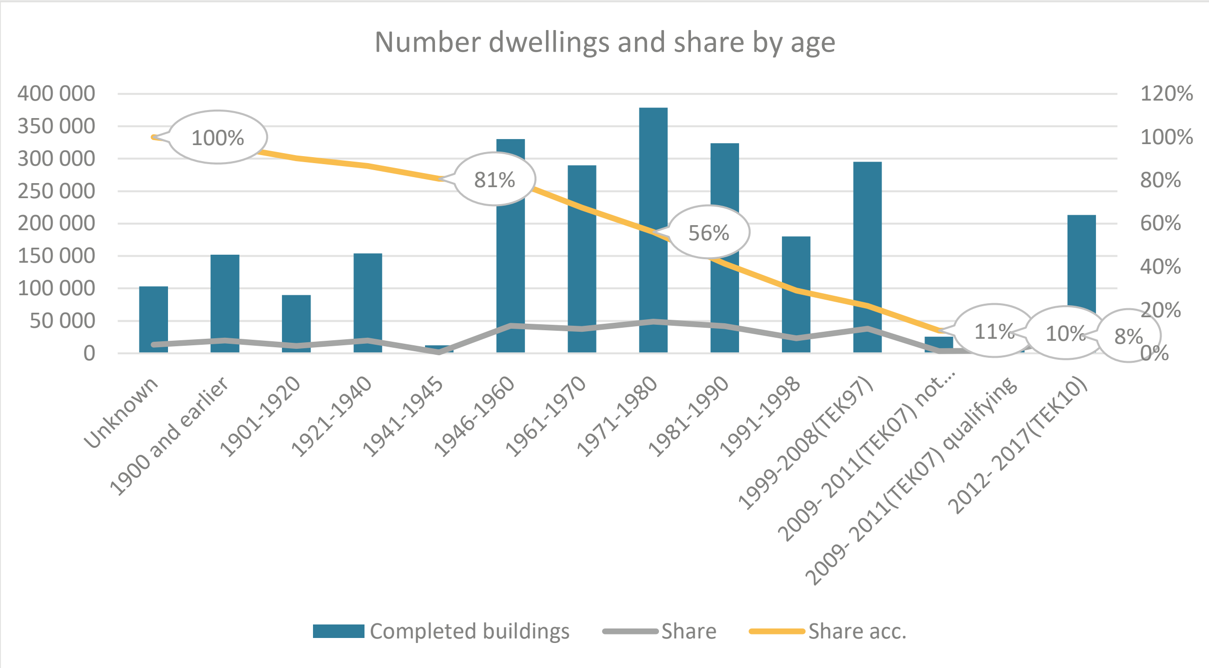


Figure 4, the calculated average specific energy demand on the Norwegian residential building stock is 256 kWh/m^2. Building code TEK07 (small residential buildings), TEK10 and TEK17 gives an average specific energy demand for existing houses and apartments, weighted for actual stock, of 122 kWh/m^2.

Hence, compared to the average residential building stock;

- the building code TEK07(small residential buildings), TEK10 and TEK17 gives a calculated specific energy demand reduction of 52 %

3.2 Norwegian residential buildings with EPC-labels A, B or C

3.2.1 EPC labels to identify energy efficient residential buildings

The Energy Performance Certificate (EPC) system would be a trustworthy and good source for definition of green mortgages. All buildings with an energy grade of A and B is eligible as green residential buildings according to this criteria.

The Energy Certificate Performance System became operative in 2010. It was made obligatory for all new residences finished after the 1st of July 2010 and all old residences that are sold or rented out, to have an Energy Performance Certificate.

The figure below shows how the complete stack of residences in Norway is distributed by building code, and their certificate label. Because of the earlier mentioned lag between code implementation and constructed buildings, there are no building recorded in the TEK17 column.

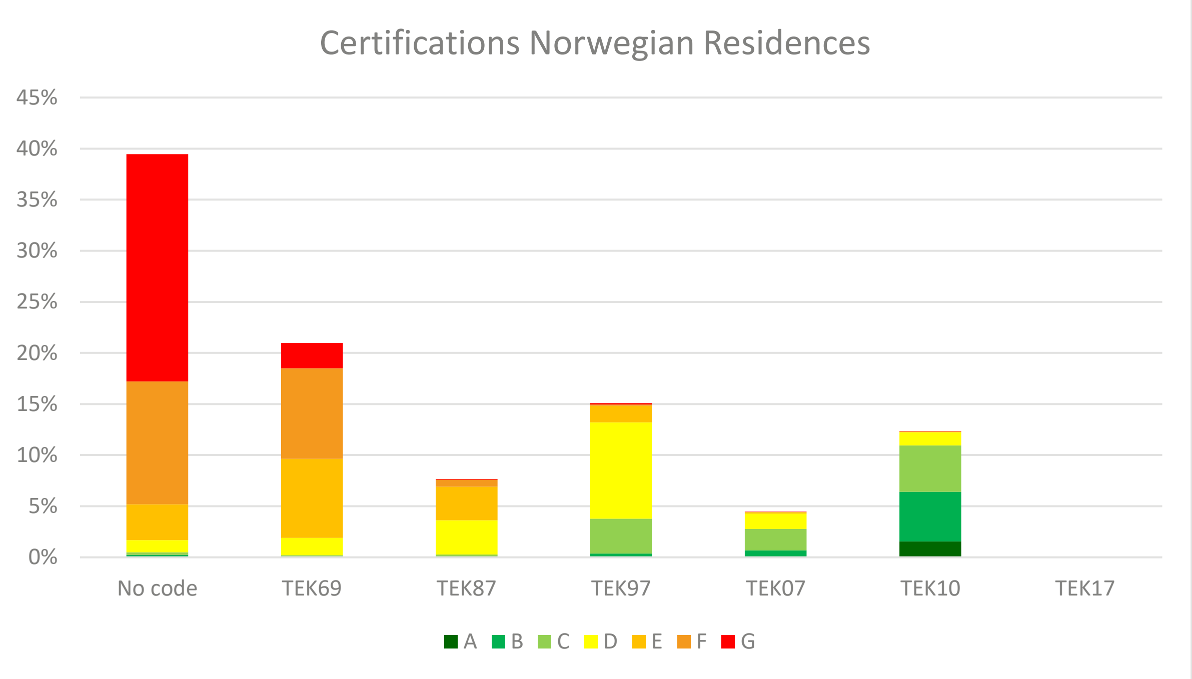


Figure 7 Total volume of residences in Norway, including individual houses and apartments, distributed per building code and Energy Performance Certificate. The numbers are based on statistics from Statistics Norway for number of Residences and statistics from the current EPC database (representative for 50 % of the total building stock).

The registered properties in the EPC database are considered to be representative for the buildings built under the same building code, however not representative for the total stock as younger buildings are highly overrepresented in the database. There is currently a coverage ratio of EPC labels relative to the total building stock equal to 50 %. In total 12 % of the Norwegian Residences are expected to get a C or better. Extracting only buildings built before 2009, 4.2 % of the total stack is expected to get a B or better. These are buildings that have initially been built, or through refurbishment, attained higher energy efficiency standards than the original building year (and respective building code) would imply.

3.2.2 EPC grading statistics

Short facts about the Norwegian EPC

The energy label in the EPC system is based on calculated delivered energy, including the efficiencies of the building's energy system (power, heat pump, district energy, solar energy etc.). The building codes are defined by net calculated energy, not including the building's energy system.

The EPC does as of today consist of an energy label (A-G) and a heating label (defined as colour). It is not attach great importance to the heating label, and it is most likely to disappear in the next revision of the EPC system. The heating label is not considered relevant in the context of the criteria.

Registration is performed in two ways. Professionals must certify new buildings and non-residence buildings. Non-professional building-owners that are selling their house or apartment can however do the certification themselves in a simplified registration system. This latter system is based on simplified assumptions and conservative values, and its results are therefore less precise and might give a lower energy label than when professionals do the registration.

The energy grade is a result of calculated energy delivered to the residential building in “normal” use. The calculation method is described in the Norwegian Standard NS 3031. The table below shows the relationship between calculated energy delivered per square meters and energy grades for houses and apartments. This is the current grade scale:

Delivered energy per m^2 heated space (kWh/m^2)							
	A	**B**	**C**	**D**	**E**	**F**	**G**
Houses	95	120	145	175	205	250	above F
Sq. m adjustment	+800/A	+1600/A	+2500/A	+4100/A	+5800/A	+8000/A	
Flats/Apartments	85	95	110	135	160	200	above F
Sq. m adjustment	+600/A	+1000/A	+1500/A	+2200/A	+3000/A	+4000/A	

Table 2 Delivered energy EPC energy labels
A = heated floor area of the dwelling
Example: a 150 sq. m *small residential building* would have a C qualification limit of 145+2500/150 = 161.67 kWh/m^2

The grading system and C-label

The C grade is defined for residences so that a building built after the building codes of TEK2007 in most cases should get a C.

The limit value for reaching a C is calculated based on a representative model of a small residential building and an apartment, built according to the building code of 2007, with an assumed moderate system efficiency for the building’s energy system.

Residences built after the building code of 2007, as are included in criteria 1, will hence mostly get a C or better, but might also get a D.

As can be seen in figure 7, some buildings built after TEK 07 have indeed received a D. However, these are often ‘strong’ D’s and will by a margin still be among the top 15 % of most energy efficient residences, and are included in criteria 1.

Particularly for apartments, the defined limit value between C / D in the grading system is set for an average apartment. An apartment in the top or bottom floor or at the corner will have a higher heat loss, and will most likely get a D, and in some rare cases even an E, even though the building code of 2007 is used. But these apartments are still more energy efficient than apartments with similar locations in older apartment buildings, and are included in criterion 1.

Since a large part of the certifications are done in the simplified registration mode, and not by professionals, a larger share of existing TEK07-buildings do get a D, and in some rare cases even an E. Another reason why some existing houses and apartments built after the code of 2007 get a D, is that the grade scale has been revised and tightened three times between 2011 and 2015. E.g. a small residential building that had a C when it was new in 2012, could have a D in its EPC if given a new EPC in 2015.

Therefore, most of the poorer grades D (and E) for TEK07-buildings are due to either one or a combination of these things; the conservative method of calculation in the simplified registration system, unfavourable location of an apartment in apartment buildings, a geometrically unconventional building form with higher energy losses than the representative model, and/or the revised and tightened grading scale. So the building itself is not necessarily less energy efficient.

Figure 8 shows the energy grades in the already granted certificates to Norwegian residential buildings.

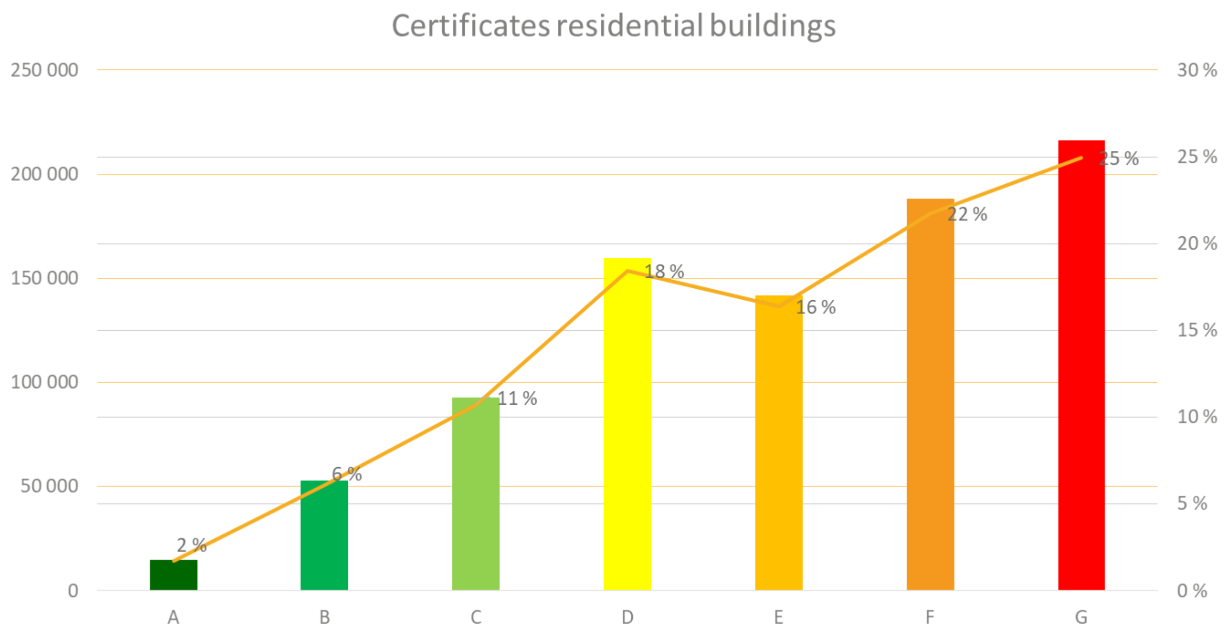


Figure 8 Energy Performance Certificates by grade- residential buildings only, representative only of buildings with EPCs (Source: energimerking.no, December 2018)

The EPC coverage is, however not equally distributed over the building stock. Figure 9 shows the age of the buildings with EPCs and in the building stock, respectively, and how much of the building stock is represented in the EPC database. This illustrates how younger buildings are overrepresented in the EPC database.

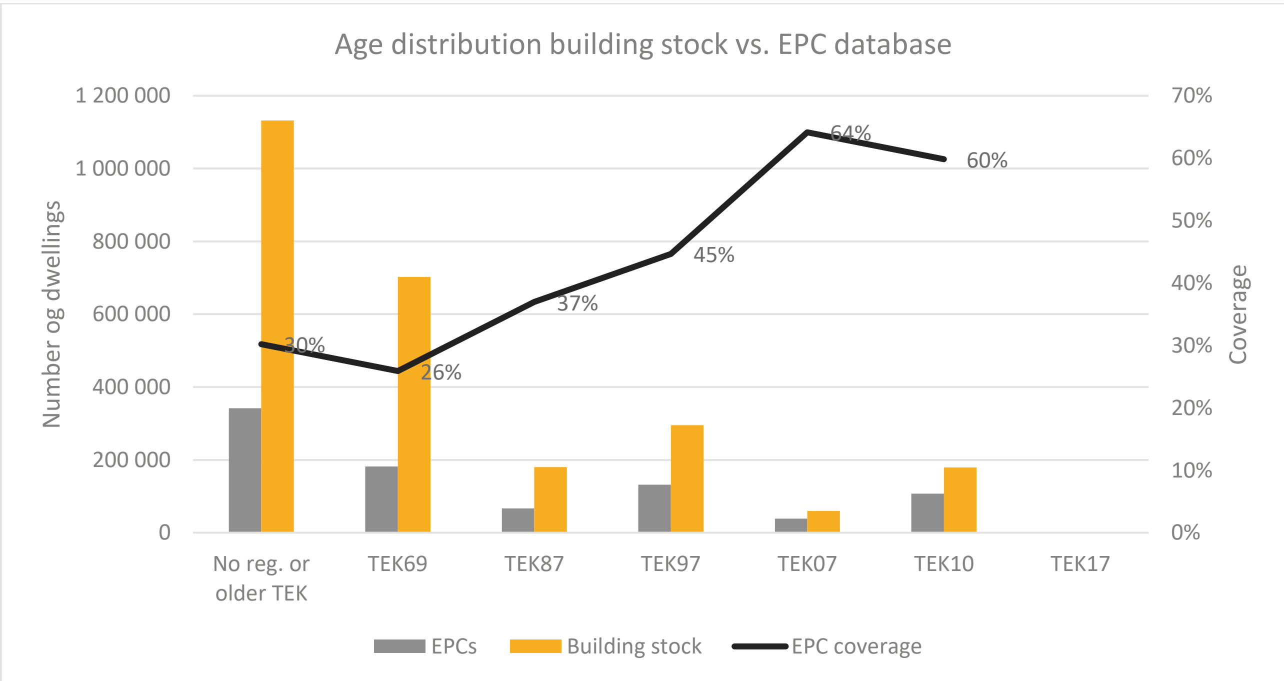


Figure 9 Age distribution in Energy Performance Certificates vs. actual residential building stock and EPC coverage by building year (Source: energimerking.no and Statistics Norway)

Assuming registered EPCs for each time period are representative for the building stock, we are able to indicate what the label distribution would be if all residents were given a certificate. Figure 10 illustrates how EPCs would be distributed based on this assumption. 12 % of the residents would have a C or better.

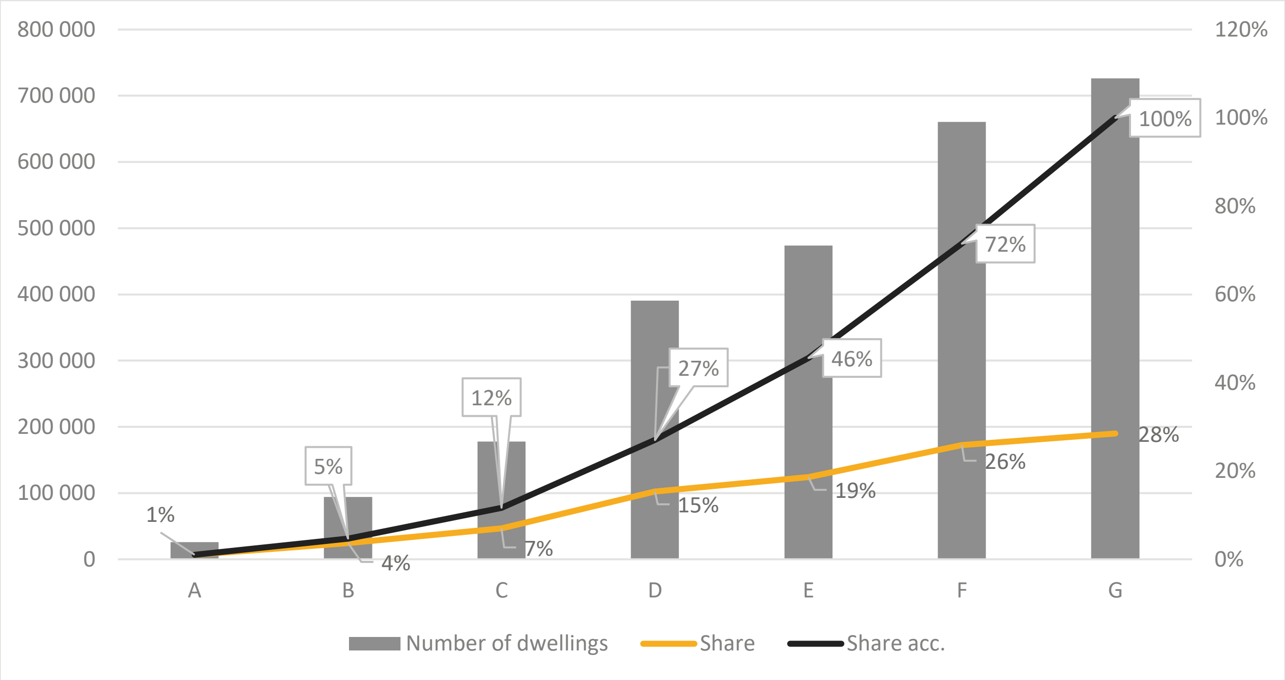


Figure 10 EPCs extrapolated to include the whole residential building stock (Source: energimerking.no and Statistics Norway, Multiconsult)

3.2.3 *Eligibility under criterion 2*

An Energy Performance Certificate is mandatory for new buildings and existing residential buildings that are sold or rented. The EPC data indicates that 12 % of the current residential buildings in Norway will have a C or better.

3.3 Refurbished Norwegian residential buildings with an improved energy efficiency of ≥30 %

Refurbished buildings with an improved energy efficiency of 30 % or more are eligible for Green Bonds. CBI has a similar Property Upgrade Climate Bonds Certification methodology where the carbon reduction targets can be derived using a linear equation between a 30-year bond and a 5-year bond. In this case, we are looking to identify buildings that already have improved energy performance in this scale. To identify relevant residential buildings, the EPC-labels are compared to calculated energy demand for different TEK periods (shown in figure 2). Energy supply is then assumed to be electricity as the baseline, heating included. This is a conservative assumption as it gives the building a lower specific energy demand as a starting point than a moderate system efficiency which is the basis for the energy labeling scale. In the figures below calculated energy delivered are shown for respectively a small residential building 160 m^2 and apartment 65 m^2

(models which make up the basis for the energy grade scale) for different building periods (building codes) shown in the grade scale (coloured background).

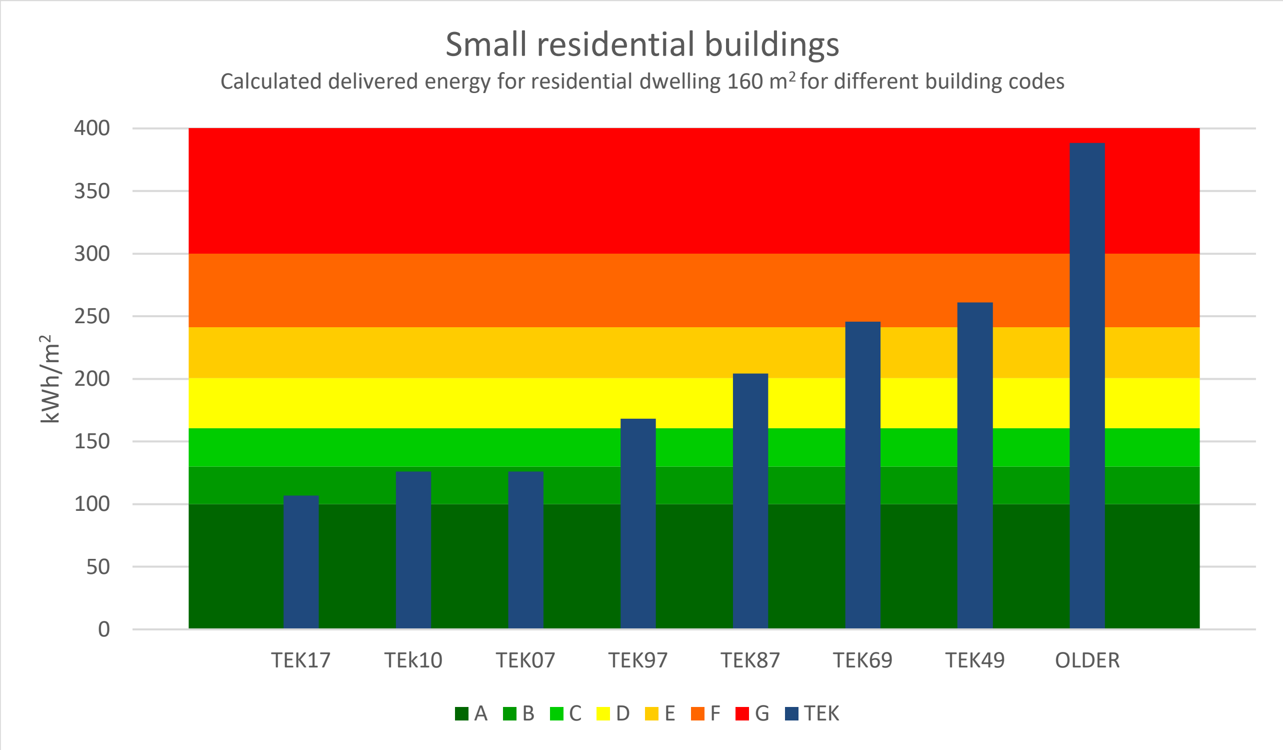


Figure 11 EPC label limit values and TEK - small residential buildings

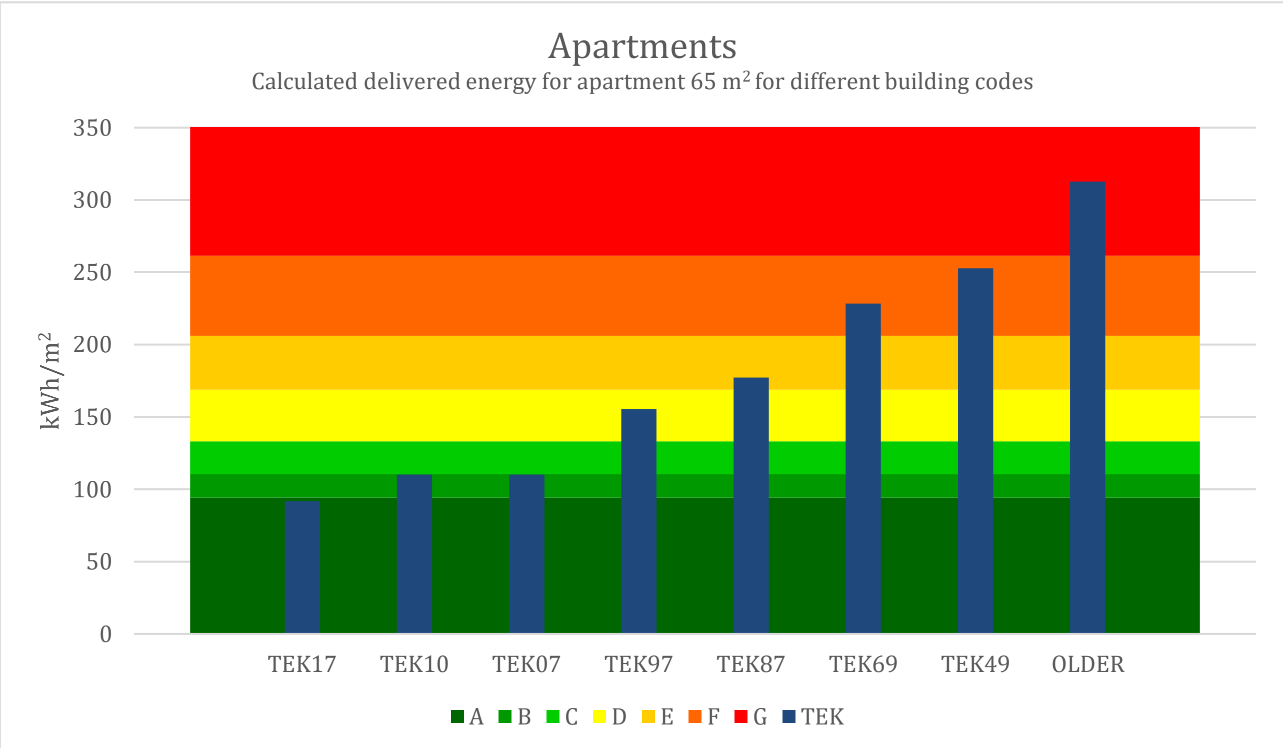


Figure 12 EPC label limit values and TEK – apartments/apartments buildings

A building that has undergone adequate measures on the building envelope (insulation, changing windows, etc.) and/or heat recovery in ventilation and/ or installed highly efficient energy supply (heat pump, solar energy) can thus qualify. A percentage improvement is calculated to the mean value for each grade-interval, and it requires at least 30% improvement to qualify. This is shown in the figures below.

Figure 13 illustrates the calculated delivered energy for a small residential building 160 m^2 for different building codes, and with minimum 30 % improvement, shown in the corresponding EPC grade scale in the background.

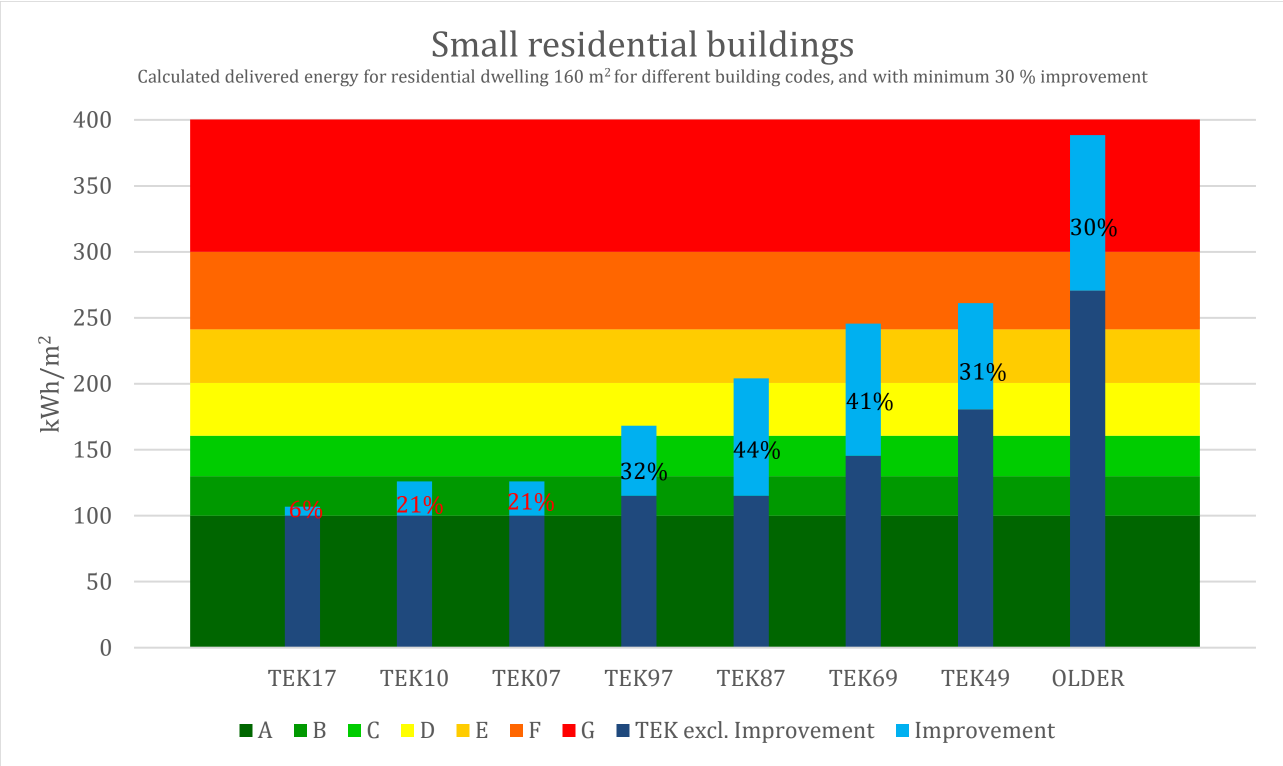


Figure 13 EPC label limit values and improvements from TEK to qualify– small residential buildings

Figure 14 illustrates the calculated delivered energy for apartment 65 m^2 for different building codes, and with minimum 30 % improvement, shown in the corresponding EPC grade scale in the background.

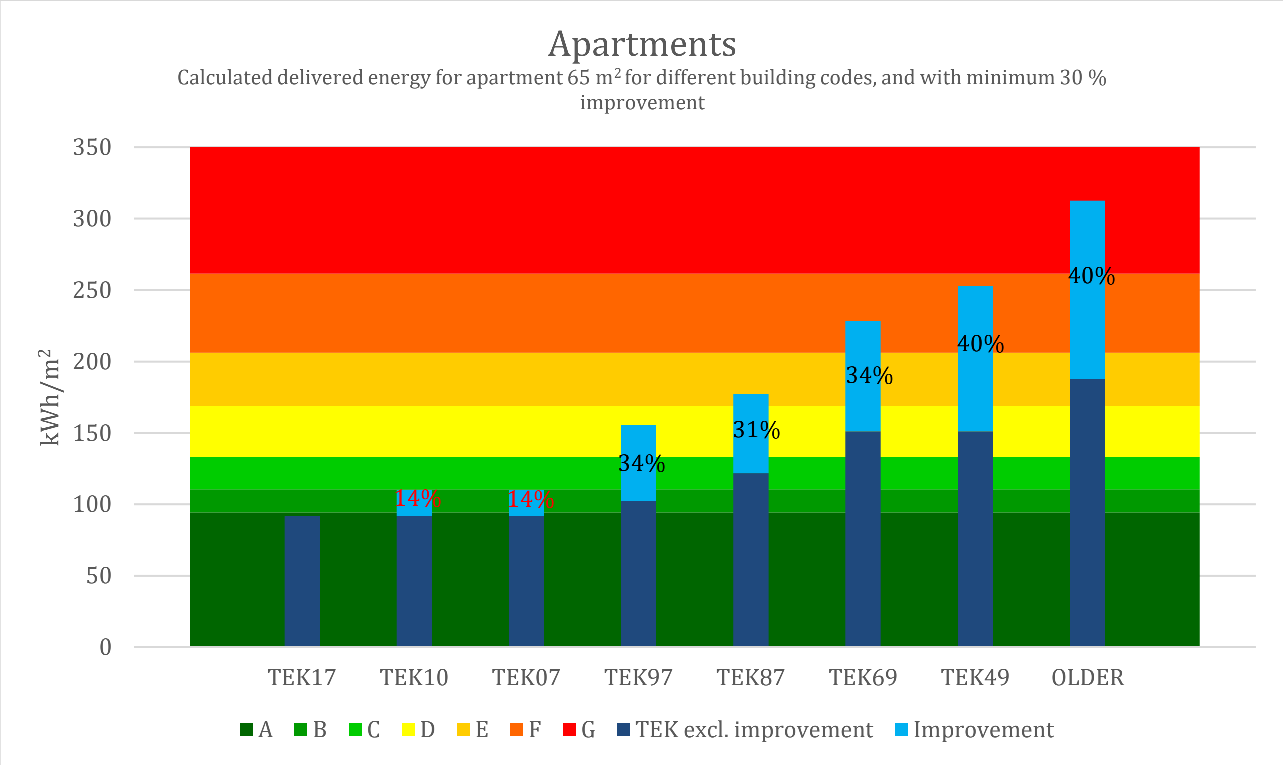


Figure 14 EPC label limit values and improvements from TEK to qualify– apartments/apartments buildings

The figures show that for a building built after the building code of TEK07 or later, the energy label A does not qualify according to this criterion, however qualifies under criterion 2. This is due to the fact that there is no good estimate on a mean value for specific energy demand for an A.

3.3.1 *Eligibility under criterion 3*

Refurbished residential buildings with EPC-labels which corresponds to at least a 30 % improvement in energy efficiency compared to the calculated specific delivered energy [kWh/m²] based on building code in the year of construction. A lower threshold is set at an achieved energy label D.

These buildings may be identified using the EPC database and prepared tables below that verify which EPC-label corresponds to at least 30% energy reduction for the given construction year.

Due to the introduced threshold of not qualifying energy labels below D, only **small residential buildings** built according a building code not more recent than TEK 49 and a D will qualify solely to this criterion.

Building year:	after 2018	2012-2018	2009-2018	1999-2008	1989-1998	1971-19887	1951-1970	before 1951
Building code:	TEK17	TEK10	TEK07	TEK97	TEK87	TEK69	TEK49	OLDER
Calculated delivered energy [kWh/m²,year]:	106,9	126	126	168,2	204,2	245,6	261	388,5
Improvement (average)								
A	6 %	21 %	21 %	41 %	51 %	59 %	62 %	74 %
B		9 %	9 %	32 %	44 %	53 %	56 %	70 %
C				14 %	29 %	41 %	44 %	63 %
D					12 %	26 %	31 %	54 %
E						10 %	15 %	43 %
F								30 %

Table 3 Eligible small residential building

Due to the introduced threshold of not qualifying energy labels below D, only **apartments** built according to a building code not more recent than TEK 69 and a D will qualify solely to this criterion.

Building year:	after 2018	2012-2018	2009-2018	1999-2008	1989-1998	1971-19887	1951-1970	before 1951
Building code:	TEK17	TEK10	TEK07	TEK97	TEK87	TEK69	TEK49	OLDER
Calculated delivered energy [kWh/m²,year]:	91,7	110,1	110,1	155,4	177,2	228,3	252,7	312,7
Improvement (average)								
A		14 %	14 %	39 %	47 %	59 %	63 %	70 %
B				34 %	42 %	55 %	60 %	67 %
C				22 %	31 %	47 %	52 %	61 %
D					15 %	34 %	40 %	52 %
E						18 %	26 %	40 %
F								25 %

Table 4 Eligible apartments

4 Impact assessment

Impact is calculated for the criteria in the earlier sections.

The grid factor on electricity consumption, as average in the buildings lifetime, is based on a trajectory from the current grid factor to a close to zero emission factor in 2050 and steady until the end of the lifetime. (The expected life of a building from 2010 is 60 years.) According to Norwegian Standard NS 3720:2018 "Method for greenhouse gas calculations for buildings" greenhouse gas are to be calculated on a life-cycle basis according to two scenarios:

Scenario	**CO_2- factor (g/kWh)**
European (EU28+ Norway) consumption mix	136
Norwegian consumption mix	18

Table 5 Electricity production greenhouse gas factors (CO_2- equivalents) for two scenarios (source: NS 3020:2018, Table A.1)

The following calculations apply the European mix in table 5. This is in line with Nordic Public Sector Issuers: Position Paper on Green Bonds Impact Reporting (January 2019)[8]. 136 gCO_2/kWh constitute the GHG emission intensity baseline for energy use in buildings with a life span of 50-60 years and assuming that the CO_2-factor of the European production mix is close to zero in 2050.

To calculate the impact on climate gas emissions the trajectory is applied to all electricity consumption in all residential buildings. Electricity is the dominant energy carrier to Norwegian residential buildings but the energy mix includes also bio energy and district heating, resulting in a total specific factor of 126 g CO_2eq/kWh. A proportional relationship is expected between energy consumption and emissions.

A reduction of energy demand from the average 256 kWh/m² of the total residential building stock to 126 kWh/m² (TEK07/TEK10) or 103 kWh/m² (TEK17) dependent on building code can then be multiplied to the emission factor and area of eligible assets to calculate impact.

[8] https://www.kommunalbanken.no/media/545579/npsi_position_paper_2019_final.pdf

4.1 Eligible objects in Sparebanken Sør's portfolio and related impact

The eligible 6,134 buildings/apartments in Sparebanken Sør's portfolio is estimated to amount to 879,000 square meters. Area per object is available for most objects. Where missing, the area is estimated as average of object in relevant building category in the rest of the portfolio.

The portfolio is first matched against criterion 1 (building code/year). The objects eligible under criterion 1 (in total 4,801) are supplemented with a number of objects qualifying due to energy performance certificate, criterion 2 (in total 1,026). Last some objects qualify solely due to major improvements of energy efficiency documented through EPC, criterion 3 (in total 307). There are no double-counting of objects that qualify pursuant to more than one criterion. The eligible objects are presented in somewhat more detail in table 6.

Criterion	Type of dwelling	Number of objects	Area total [m^2]
Criterion 1 (Building code)	Apartments	1,740	142,969
	Small residential buildings	3,061	572,694
Criterion 2 (EPC)	Apartments	533	41,889
	Small residential buildings	493	87,244
Criterion 3 (30 % impr.)	Apartments	198	14,163
	Small residential buildings	109	20,434
Sum		6,134	879,393

Table 6 Eligible objects and estimated building areas

Based on the calculated figures in table 6 the energy efficiency of this part of the portfolio is estimated.

The calculated average specific energy demand for the eligible assets is 123 kWh/m^2. This is 52 % lower than the calculated average of the total residential building stock.

All these residential buildings are not included in one single bond issuance. The table below indicates how much more energy efficient the eligible part of the portfolio is compared to the average residential Norwegian building stock, and how much less CO_2-emissions, directly and mostly indirectly, this reduced energy demand results in.

	Area	Reduced energy compared to baseline	Reduced CO_2-emissions compared to baseline
Eligible buildings in portfolio	879,000 m^2	**118 GWh/year**	**14,400 tons CO_2/year**

Table 7 Performance of eligible objects compared to average building stock