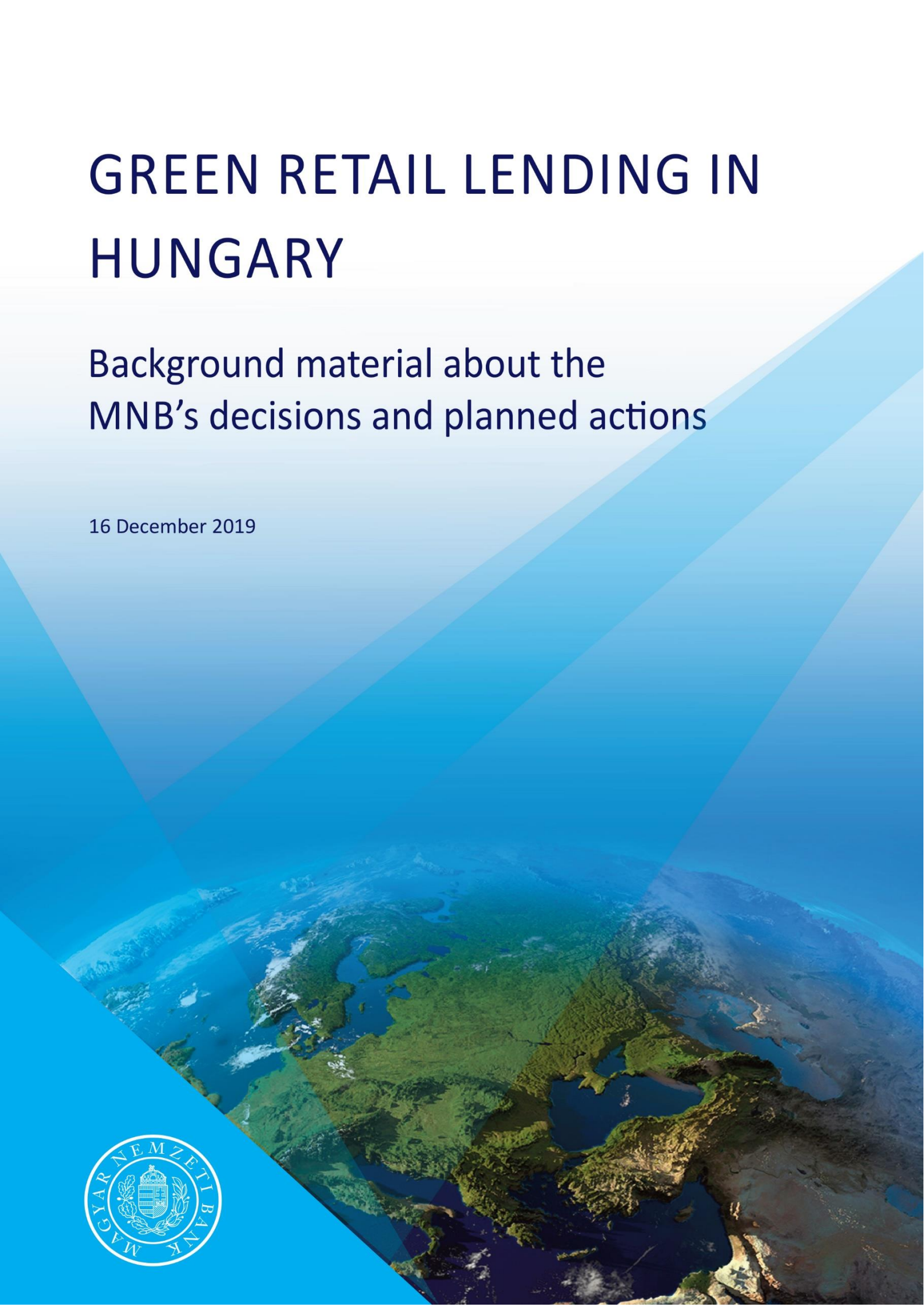


GREEN RETAIL LENDING IN HUNGARY

Background material about the
MNB's decisions and planned actions

16 December 2019





EXECUTIVE SUMMARY

Since the decision on launching the Green Program¹ was adopted on 29 January 2019, the MNB has taken a number of initial steps to enable the Hungarian financial intermediary system to contribute to the assessment, prevention and handling of the risks – on macro or individual level – arising from environmental anomalies, especially the climate change, substantially more powerfully than at present. The Central Bank has conducted consultations with financial market participants and the relevant government entities, civil organisations, advisors and experts; it has launched green finance programs in partnership with domestic universities, and it has also established and expanded cooperation at the international level.

In view of catalysing green finance in Hungary and setting up the relevant framework and a supportive environment, in July 2019 the MNB published a comprehensive consultation document entitled 'Green Finance in Hungary', in which it launched a public debate on the potential actions that could enable domestic banking, capital market, insurance and fund services and products to contribute more substantially to environmental sustainability.² During the consultation, numerous proposals and observations were submitted to the MNB, and from those a significant part has been built into the actions to be introduced in the future.

Launching the domestic green financial segment requires a long-term and complex development program involving multiple steps. The first part of this program is explained in this document describing the actions and ideas aimed at the development of green retail lending.

In Hungary, buildings are responsible for about 40% of energy consumption, while these buildings are outdated in respect of technology and thermal requirements. There is a significant demand from households for modernisation investments, which translate into significant financing needs from the banking system. Despite this, currently there is no substantial volume of market-based energy efficient (green) retail loan products offered by domestic commercial banks. It is in the interest of the national economy to encourage the uptake of renovations aimed at improving energy efficiency and energy efficient properties, which the MNB can promote, in particular, by introducing a green preferential capital requirement programme.

The methodological basis for the application of the preferential capital requirement is formed by the 'green hypothesis', which claims that there is a lower credit risk on loans taken out for energy efficient homes. According to this hypothesis, due to lower overhead costs, those living in green properties have a higher disposable income available for repayment, which reduces loans' probability of default (lower PD). On the other hand, as a result of the stricter regulatory environment and changes in consumer attitudes, green properties are expected to have a stable value in the long term, so they can be used more favourably as collaterals (lower LGD). Due to lack of data, the green hypothesis has not been confirmed yet on a sample containing an adequate number of observations or an appropriate time frame, as banks do not record the energy efficiency characteristics of properties.

The introduction of green preferential capital requirement for housing loans may lead to increased green risk awareness and the development of the green financial market, while at the same time it may also contribute to confirming the lower credit risk hypothesis on a sample containing a large number of observations. The objectives are supported by a transitional 4-year scheme, at the end of which the MNB will assess the experience gained and make a risk-based decision on the continuation of the programme.

Banks would be eligible for the preferential requirement based on the volume of performing mortgage loans and personal loans registered at the end of the calendar year, distributed between 1 January 2020 and 31 December 2023 to private persons for the energy-related renovation of residential buildings or for the

¹ <https://www.mnb.hu/letoltes/az-mnb-zold-programja-1.pdf>

² Link: <https://www.mnb.hu/letoltes/zold-penzugyek-konzultacios-dokumentum-2.pdf>



purchase or construction of homes with at least 'BB' energy performance rating, and to condominiums or housing associations for energy-related renovation. The baseline for the discount is the Pillar 2 capital requirement. The rate of the capital requirement discount is 5% of the gross exposure value in the case of renovation, or in the case of building or purchasing a property with 'BB' energy performance rating, and 7% in the case of building or purchasing a property with 'AA' rating, which will be deducted from the TSCR ratio subsequently, during the ICAAP Review conducted in the following year, for the second year following the year in question.

For prudential considerations, the MNB has found it appropriate to limit the amount of the discount to 1% of the total risk exposure amount (TREA), and to the value of the Pillar 2 capital requirement determined, per segment (residential mortgage loans, home equity loans, personal loans). Eligibility is subject to the banks granting an interest rebate of at least 0.3 percentage points on the transactions involved and providing complementary 'voluntary' data reporting to the MNB.

There may be other forms of promoting and encouraging green mortgage loans too. On the liability side, green covered bonds represent a long-term dedicated financing instrument, which can contribute to the development of the segment. These instruments – based on best international practice – fully meet the quality requirements for covered bonds, but in their case, the credit institution has to hold green mortgages in its funds pool of at least the same volume as covered bonds, providing internal processes, reporting and transparency complying with international standards.

Some domestic participants are open to issuing green covered bonds, but it seems appropriate for the MNB to take positive action to promote the national uptake of green covered bond issuance. This would fit into the MNB's Green Program, while it would also be in line with the MNB's development plans concerning the market of covered bonds, and with the efforts aimed at strengthening the domestic capital market. Therefore, the MNB launches consultations to examine regulatory and other incentives through the mortgage coverage compliance indicator, for which theoretical considerations are published in this document.

In addition to the above, the MNB also takes further structural measures to increase household demand, mainly in the field of financial education.



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1. INTRODUCTION

As explained in a previous study by the MNB (*Green Finance in Hungary*³), in the past decade a green finance segment has emerged on developed financial markets and continues to expand, where different products and services serve environmental sustainability in some way, either directly or indirectly. Although the significant participants of the segments are state or supranational actors, the MNB's Green Program (and, accordingly, this document too) basically focuses on market-based green financial services. However, in most countries the regulatory framework, the standards and, in some cases, targeted incentives and benefits substantially contributed to the development of the market of 'green' products offered by commercial banks and other financial organisations.

The study mentioned above also presented that in Hungary the number and volume of dedicated green financial products is much lower when compared to similar indicators of the developed markets, but even compared to some of the regional markets too. There is still a long way to go especially in the field of instruments with a green label and a standardised impact assessment report issued by an independent party, as currently these form a non-existent subset of green finance in Hungary. It is important to understand, however, that domestic banks do finance green credit objectives even today (renewable energy, energy-related modernisation, etc.), and in the savings segment there are investment funds and unit-linked asset funds focusing on sustainability.

The MNB finds it necessary to build on all these existing green finance activities and espouse best practices in order to ensure the development of this segment, which would be desirable both in respect of quality (for example in following international standards) and quantity (regarding product range and volumes).

The latter development could be realised in the framework of a long-term and complex development program involving multiple steps, for which, in addition to the MNB's commitment, the efficient cooperation of the other key participants (ministries and other government entities, market participants and their interest representatives, consulting and audit firms, civil and research organisations) is also required. This document describes the first element in the series of actions, the MNB's steps aimed at improving green retail lending.

2. THE HOUSING MARKET IN HUNGARY

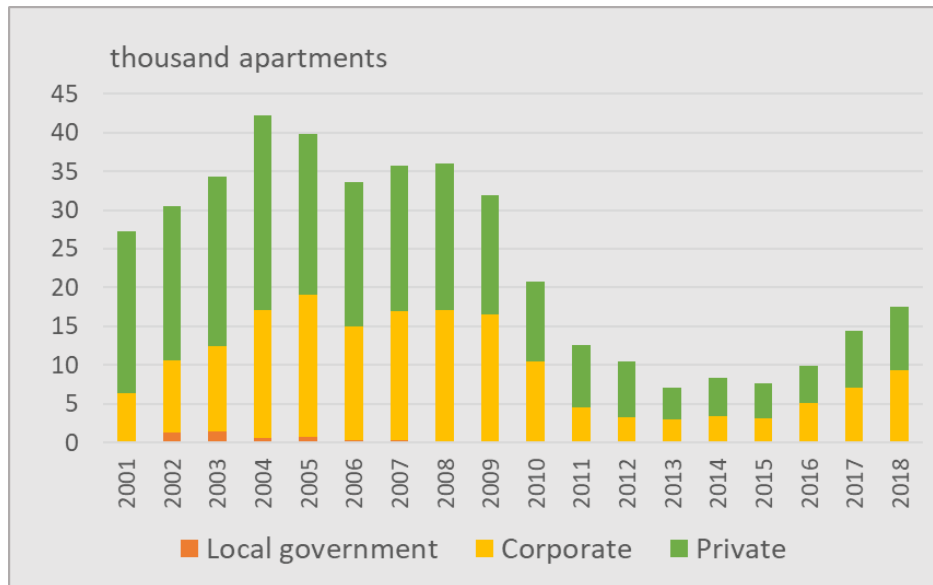
2.1. Housing market recovery

In Hungary it took until 2013 for the favourable turn of events after the 2008-2009 global economic crisis and to recover from its severe effects on the property market. Since then, however, recovery has been visible in both the increased activity in the field of housing market transactions and the number of new construction projects. Although the volume of new home constructions is significantly below the level before the crisis, prominent growth can be observed (Chart 1).

³ Link: <https://www.mnb.hu/letoltes/zold-penzugyek-konzultacios-dokumentum-2.pdf>



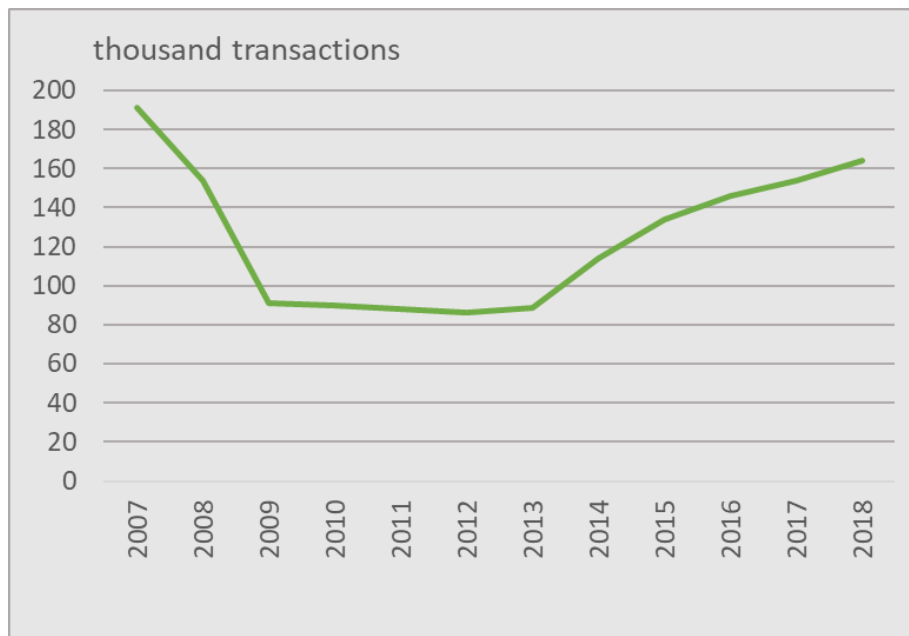
Chart 1: Number of homes built (except for holiday units)



Source: HCSO

Besides new constructions, the number of sales transactions on the housing market also increased significantly in recent years. In this case the volume is closer to pre-crisis levels than the number of new constructions (Chart 2).

Chart 2: Number of housing market transactions



Source: HCSO

The increased property market activity can also be observed in the development of borrowing. Besides loans explicitly intended for housing, attention should also be drawn to personal loans, as on the basis of the consultations with domestic credit institutions, consumers take out one-third of home equity loans for property renovation purposes. Besides housing loans, a dynamic increase could also be observed in personal loans in recent years (Chart 3).



Chart 3: New housing and personal loans

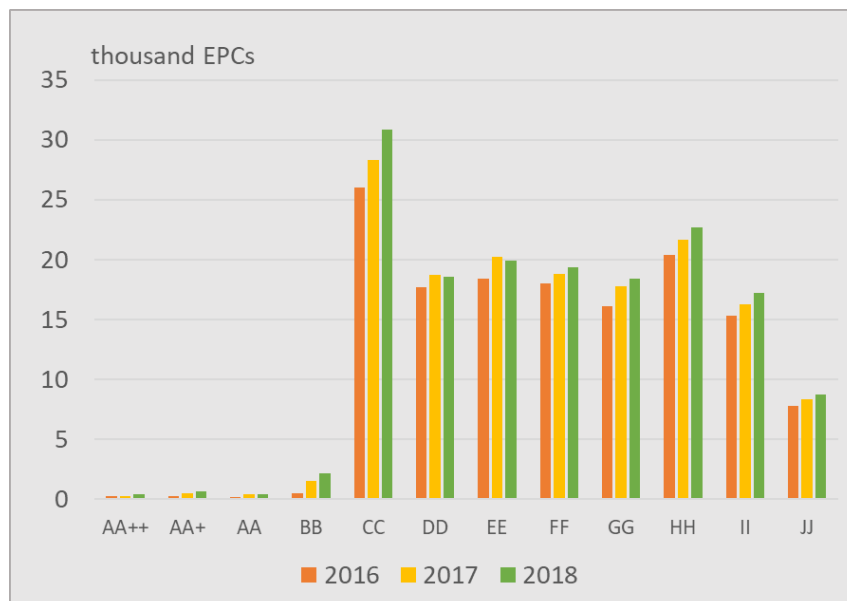


Source: MNB

2.2. The role of energy efficiency in the building stock

Buildings have a high share within energy consumption, which is demonstrated by the fact that in Hungary buildings are responsible for nearly 40 percent of the national primary energy consumption. A significant proportion of the buildings in Hungary are outdated in respect of technology and thermal requirements, as a result of which there is a high energy saving potential in reducing the energy consumption of buildings. The generally outdated state of the Hungarian building stock is also reflected in the composition of energy performance certificates issued in recent years (Chart 4).

Chart 4: Energy performance certificates grouped by the year of certification



Source: https://entan.e-epites.hu/?stat_megoszlas



As it can be seen on the chart, the proportion of homes with 'BB' rating, considered energy efficient on the basis of the European Commission's Taxonomy (presented in the following section) – i.e. nearly zero-energy buildings – or homes with even higher energy efficiency increased significantly in 2018 among the certificates issued, but it is still low. The composition of lower energy efficiency classes did not change substantially. Consequently, the modernisation of the existing building stock remains highly important.

In the context of increasing the energy efficiency of the building stock, the necessity of the modernisation of the heating systems should be highlighted. Heating accounts for 74% of the energy consumption of Hungarian households. The EU average for the same indicator is 64%, which means that Hungary is noticeably lagging behind in this field (Chart 5).

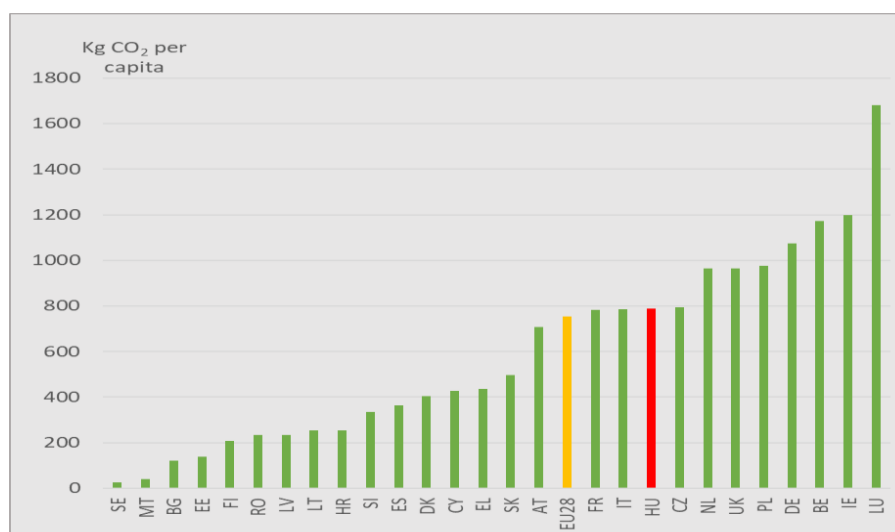
Chart 5: Distribution of Hungarian households' energy consumption



Source: Eurostat, MNB

In this context, the statistical data shown in the following chart (Chart 6) bears even greater significance, as high energy consumption is paired with a proportionately high unfavourable climate impact⁴. In respect of CO₂ emissions generated by the per capita heating and cooling of households, Hungary is positioned in the upper-mid-range, which could be efficiently improved mostly by modernising the heating systems and reducing heat loss from homes. (Energy used for air-conditioning accounts only for 0.1% of the energy consumption of Hungarian households.)

Chart 6: CO₂ emissions generated by the per capita heating and cooling of households



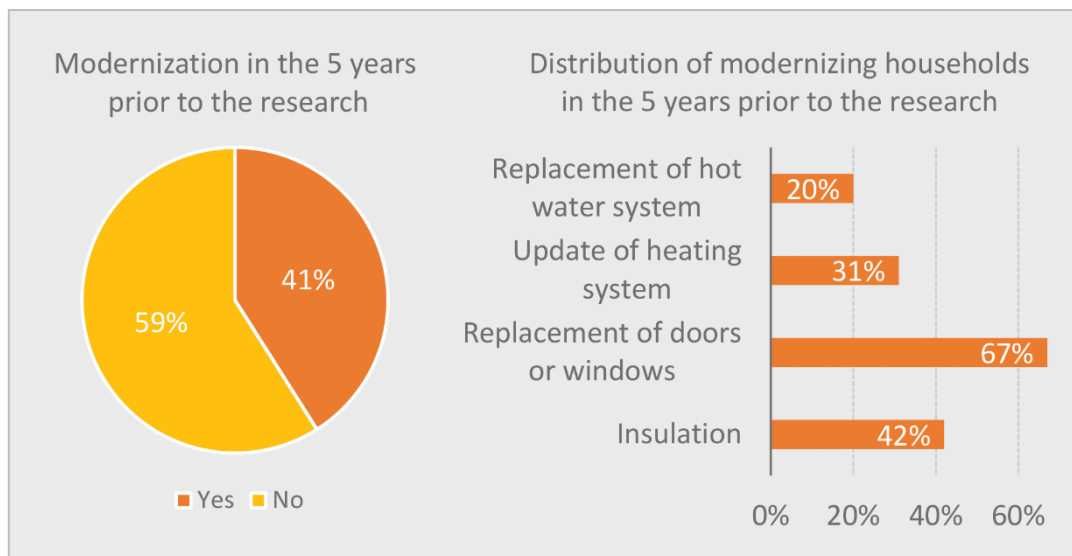
Source: Eurostat

⁴ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_consumption_in_households



In autumn 2016 the Hungarian Energy Efficiency Institute (MEHI) conducted a survey⁵ among the residents based on telephone interviews to identify future trends. On the basis of the responses submitted then, they provided a five-year prognosis for the development of the market of products improving the energy performance of buildings. According to estimates by MEHI, between 2016 and 2021 the volume of this market segment would be 1,200 billion (HUF). The study showed that households' willingness to invest was around 24%, which meant that energy-related modernisation was planned by 920 thousand households (Chart 7).

Chart 7: Modernisation investments in Hungary based on the survey conducted by MEHI in 2016



Source: MEHI

In its publication MEHI stresses that those living in family houses in the provinces are the most in need of energy-related modernisation, and that the resurging popularity of particularly polluting co-fired boilers also gives cause for concern. It is therefore apparent that there is relevant market demand from households for energy efficiency investments, so future trends could be put on a favourable track through programs aimed at increasing the willingness to invest, extending the scope and improving the quality of renovations.

3. GREEN CAPITAL REQUIREMENT REDUCTION FOR HOUSING LOANS

3.1. Schematic overview of the existing market practice

In the field of existing energy-related loan products, currently the most important one is a non-market-based loan-like product, the Residential Energy Efficient Loan Program, which actually exists in the form of a refundable EU-grant, and is placed by the Hungarian Development Bank (MFB) through its commercial bank partners. In this program with a total budget of HUF 115 billion, individuals, condominiums and housing associations can take advantage of a preferential 0% fixed rate loan for purposes such as, for example, upgrade of heating, insulation, replacing doors and windows, and the installation of solar panels. The duration of the loan can be up to 20 years, with a maximum amount of HUF 10 million for individuals and an own funds requirement of at least 10%.⁶

⁵ <https://mehi.hu/hir/900-ezer-haztartas-tervezi-lakasat-energiatakonnyia-tenni-a-kozeljovoben>

⁶ www.mfb.hu/maganszemelyek/lakossagi-energiatakonysagi-hitelprogram-t32-p32/



In the case of the MFB's product, in the Central Hungary region the resource need of the loans received – following previous increases of the budget – exceeded the available HUF 12.5 billion budget by October 2019 already, so currently no further applications are accepted. In the rest of the regions (at the time of preparing this study) resources are still available.⁷ As far as the MNB knows, at first low interest was shown in the MFB product, but over time, as the awareness of the population increased, consumer demand rapidly expanded.

Naturally, commercial banks – some of which are also intermediaries of MFB products – offer further retail loans that can be used, for example, to purchase and install solar panels. In addition, there were previously and there are also currently credit institutions (with relatively low lending volumes) whose mortgages or personal loans support the improvement of energy efficiency by granting a lower interest to customers on account of the energy efficiency of the financed property. No data is available on these, but during consultation with the MNB, the relevant banks reported only low lending volumes.

It is important to understand that the energy efficient loans for renovation offered by the MFB and by commercial banks complement rather than substitute or compete each other. While they have similar credit objectives, on the one side a subsidised interest scheme is paired with significant documentation requirements and a long credit assessment and disbursement process, as opposed to the 'agile' and more client-oriented products offered by commercial banks at market rate, potentially with significantly larger volumes. Depending on the client's financial situation, place of residence and specific intention to invest, it varies whether the MFB subsidy or the commercial bank product complies better with the given needs.

3.2. Encouraging green retail lending

Both the MFB example referred to and the MEHI survey mentioned above confirmed that there is a significant demand from households for energy efficiency investments, consequently their financing needs represent a business opportunity for the banking sector. However, at present only a few domestic banks offer dedicated green housing loan products, with very low volumes – except for that of the MFB scheme –, while their propagation is poorly supported with marketing tools. In some cases complex terms and conditions could scare away consumers.

The importance of green loan stimulus is not restricted to questions regarding climate, energetic and housing policies, but it would be favourable considering prudential aspects. It is a widespread hypothesis that energy efficient, i.e. green housing loans bear lower credit risk compared to other type of loans. The argumentation underlying this hypothesis comprises two main elements. On the one hand, those living in energy efficient properties (provided that all other factors remain unchanged) have a higher income available for repayment after paying overhead costs, which reduces the probability of default (lower PD). On the other hand, green properties – due to increasing demand and stricter regulations – can be expected to have a more stable value in the long term, and it can be assumed that in the case of default the collateral of the mortgage loan can be used on more favourable terms (lower LGD). Several studies have examined this hypothesis, and although there has been some success on smaller databases (see the European example in the box), the relationship between energy efficiency and credit risk has not been confirmed on a sample containing a large number of observations in a statistically significant manner due to lack of data. Several years of data collection is needed for confirming the hypothesis and for appropriate modelling, and the terms of the scheme described below contribute to this.

⁷ <https://www.mfb.hu/kozlemenyek/ujabb-konnyitesek-az-mfb-lakossagi-energiatakonysagi-hitelprogramjanal-n1082>



The relationship between energy efficiency and credit risk

In the framework of the Energy Efficient Mortgages initiative, models based on bank data have been developed in several countries to demonstrate the lower probability of default (PD) in the case of energy efficient loans. In a publication⁸ released in the framework of this initiative, the data of an Italian, a Belgian, a Dutch and a British bank is examined with the help of a logistic regression model. The negative correlation between the energy efficiency of the loans (EE) and the probability of default (PD) could be confirmed with a statistically significant model in two cases in the given sample with a relatively low number of observations.

The Belgian case:

- The data is provided by a bank that participates in the EeMAP pilot scheme.
- 42,055 observations were made between 2009 and 2011. A governmental incentive program promoting investments aimed at improving energy efficiency (Green Loan Initiative) was also in place in this period.
- All loans taken into account were disbursed for home renovation in the same period, so they have similar characteristics.

The output of the model presents the energy efficiency of loans with a dummy variable, and, ceteris paribus, it indicates a lower PD, when the value is 1, so in this sample energy efficiency reduces the credit risk (Chart 8).

Chart 8: The result of logistic regression (Belgian bank)

EE	0,3547*** [0,1261]
Current LTV	0,51 [0,5243]
DSCR	30,1220*** [29,9714]
Loan term	1,0113*** [0,0032]
Observations	40263
Pseudo R-squared	0,405

Source: EeMAP

The coefficient of the EE dummy is 0.3547, which means that if the loan is not labelled energy efficient (EE), then the probability of default is 2.82 times higher (1/0,3547) (cet. par.).

The Dutch case:

- Dutch mortgage data and energy efficiency ratings from the European DataWarehouse. The sample examined extends over the period between January 2014 and May 2018.
- The sample covers 127,309 buildings and contains 273,024 mortgage components (the mortgage on a given property has several components because of the Dutch tax system relating to mortgages).

The distribution of the examined buildings according to energy performance certificates and the PD ratios belonging to the individual categories are shown in the following table (Chart 9):

⁸ https://eemap.energyefficientmortgages.eu/wp-content/uploads/EeMAP_D5.3_UNIVE_Final.pdf



Chart 9: Distribution of the examined buildings based on energy performance

Rating category	All	Defaulted
A	13,95	0,37
B	17,67	0,45
C	27,9	0,56
D	9,52	0,78
E	4,08	1,21
F	11,36	0,87
G	15,52	0,94
Total	100	0,66

Source: EeMAP

When setting up the model, only properties with a certificate of 'A' or 'B' were regarded as energy efficient. In this case also, logistic regression indicates a significant negative correlation between the dummy variable presenting energy efficiency (EE) and the probability of default (PD) (Chart 10).

Chart 10: The result of logistic regression (Dutch data)

	1	2	3	4
EE (A/B rating)	0,4892*** [0,0473]	0,2582* [0,2084]	0,1857* [0,1612]	0,1857** [0,1412]
Current LTV		15,3931*** [6,0488]	21,9993*** [9,9734]	21,9993*** [9,6332]
DSCR		0,9487 [0,0567]	0,9676 [0,0623]	0,9676 [0,0533]
Mortgage term		0,7435 [0,2262]	0,591 [0,1994]	0,5910* [0,1640]
Borrower controls	No	Yes	Yes	Yes
Dwelling controls	No	Yes	Yes	Yes
Market controls	No	No	Yes	Yes
Mortgage controls	No	Yes	Yes	Yes
Region FE	No	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes
SE	Rob.	Rob.	Rob.	Region Cl.
Observations	126036	125560	125560	125560
Pseudo R-squared	0,00729	0,271	0,414	0,414

Source: EeMAP

In columns (3) and (4), even after adding market control variables and clustering the standard errors at the regional level, a significant and robust result is obtained. The coefficient of the EE dummy is 0.1857, which means that if the energy efficiency rating of the property serving as collateral of the loan is 'C' or lower, the probability of default is 5.39 times higher (1/0,1857) (cet. par.).



The lack of data is due to the fact that for the time being only a few financial institutions have energy efficiency data of appropriate quality and quantity about the financed properties, which is an obstacle to preparing analyses on a larger scale. Typically, properties' energy efficiency data is not recorded in data warehouses even by banks that require energy certificates as part of the credit assessment process. The failure to include energy efficiency characteristics in risk assessment models and the low uptake of green housing loans suggests a market failure, which justifies central bank actions.

In the scope of its supervisory activity, the MNB can encourage the uptake of green housing loans most effectively by granting capital requirement reduction. This reduction – besides carefully determining the criteria of eligibility – may encourage banks to record energy efficiency data, which, in the long term, may make it possible to examine the relationship between energy efficiency and credit risk on a sample containing a large number of items.

3.3. Green investments in EU regulatory plans

By announcing the energy efficient capital requirement reduction, the MNB is seen as a pioneer among supervisory authorities. To the MNB's knowledge, at present no other financial supervisory authority has announced green preferential capital treatment, while the issue, i.e. the so-called *Green Supporting Factor* will be one of the most important international regulatory 'dossiers' in the years to come within and even beyond the European Union. Strengthening green finance is one of the most important monetary and also climate policy ambitions in the EU, the strategic directions of which were set by the European Commission in the *Action Plan: Financing Sustainable Growth*⁹ published in 2018.

Some elements of the action plan (for example capital market legislation) have already been approved by the European Parliament and the Council. Several proposals have been put forward concerning the introduction of the Green Supporting Factor. One of these proposals would reduce risk weights on green investments by 25% for investments below EUR 1.5 million and by 15% for the portion exceeding EUR 1.5 million.¹⁰ In order to encourage green investments, the Brown Penalty (BP) aimed at penalising 'brown' investments could provide an alternative, which would require higher capital requirements in the case of investments with a high (negative) environmental impact.

Pursuant to the Capital Requirements Regulation (CRR), the European Banking Authority is expected to prepare a report by 2025 on whether it is justified to differentiate capital requirements on the basis of sustainability considerations. While the MNB is actively involved in the work performed at EU level, within national competence it intends to play a pioneering role and progress faster than the international processes in the regulatory promotion of green and sustainable finance.

3.4. Establishing the green definition

In order to be able to support energy efficient (green) housing loans, first of all it is necessary to lay down the definition of eligible green credit purposes. All this means that a green taxonomy needs to be adopted, which can provide guidance for banks when creating green loan products, and serve as a set of criteria when determining the benefits granted by the MNB.

The European Commission recognising the importance of setting up a uniform green taxonomy, and it has established the EU Technical Expert Group on Sustainable Finance, which is responsible for elaborating a first taxonomy relating to climate change mitigation, also covering climate adaptation and other environmental protection activities. The work done by this expert group is aimed at laying down the foundations for embedding the future EU sustainability taxonomy in EU law and for using the classification

⁹ <https://eur-lex.europa.eu/legal-content/HU/TXT/PDF/?uri=CELEX:52018DC0097&from=EN>

¹⁰ https://2degrees-investing.org/wp-content/uploads/2018/04/2dii_The-Green-Supporting-Factor.pdf



system in various areas (in particular, as a first priority, supporting environmentally-friendly solutions in prudential requirements).

In June 2019 the expert group submitted its *(Taxonomy Technical Report¹¹)*. The EU Taxonomy set out in the technical report *presents a list of economic activities which can make a substantial contribution to climate change mitigation and criteria to do no significant harm to the EU's 4 other environmental objectives¹²*. Besides being an important component of the Commission's work aimed at gradually setting up the EU's sustainability taxonomy, the technical report is also intended to provide a starting reference point for investments relating to the climate change and focusing on environmental protection activities.

The chapter of the Taxonomy on construction and real estate activities defines energy efficiency criteria in the case of 4 different activities:

1. Construction of new buildings
2. Major renovation of existing buildings
3. Individual renovation measures, installation of renewables on-site, and professional, scientific and technical activities
4. Acquisition of buildings

1. Construction of new buildings: the new building complies with the national criteria relating to nearly zero-energy buildings (NZEB), and has an energy performance certificate with at least 'B' rating¹³.

2. Major renovation of existing buildings¹⁴: the renovation complies with the requirements laid down in the Energy Performance of Buildings Directive (EPBD) (in Hungary it corresponds to the 'BB' requirement regarding the post-renovation state), or the renovation results in energy savings of at least 30%.

3. Individual renovation measures, installation of renewables, and professional, scientific and technical activities:

- Installation of solar cells or solar collectors
- Installation of geothermal heat pumps
- Installation of wind turbines
- Installation of thermal or electric energy storage units
- Thermal insulation for building delimiting structures
- Replacement of doors and windows with energy efficient ones
- Installation of shading technology
- Installation, replacement or renovation of heating, cooling or ventilation systems, including connection to the district heating system
- Installation of energy efficient lighting
- Installation of low-flow kitchen and sanitary water fittings
- Installation of third-generation smart metering systems to monitor electricity consumption
- Installation of zoned thermostat systems, smart thermostats and sensors (e.g. motion and daylight sensor lighting systems)
- Installation of Building Management Systems (BMS)
- Accredited professional, scientific or technical activity, which supports emission reduction realised in the framework of building renovations (e.g. energy audit activity enabling renovation).

¹¹https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-taxonomy_en.pdf

¹² (1) sustainable use and protection of water and marine resources; (2) transition to a circular economy; (3) waste prevention and recycling; (4) pollution prevention control and protection of healthy ecosystems

¹³ In Hungary, pursuant to Decree 7/2006. (V.24.) TNM on the energy performance characteristics of buildings, only nearly zero-energy buildings (NZEB) comply with 'B' rating ('BB' rating in Hungary), therefore buildings with 'B' rating are nearly zero-energy buildings at the same time.

¹⁴ In domestic legislation major renovation means renovation affecting at least 25% of the total surface area of the delimiting structures.



4. Acquisition of buildings: the building has an energy certificate with at least 'B' rating ('BB' rating in Hungary), or within 3 years following acquisition it is renovated to an extent as a result of which:

- 30% energy savings can be achieved on the building,
- the building reaches at least 'B' energy performance rating ('BB' rating in Hungary), or
- the renovation complies with the criteria laid down in the Energy Performance of Buildings Directive (EPBD) for major renovations.

The MNB's definition of green housing loans applied in the context of preferential capital requirement treatment basically stems from the EU Taxonomy, adapting it to domestic mortgages and personal loans as described in the subchapters below. In respect of debtors, the preferential capital requirement treatment is restricted to loans disbursed to private persons for exchange and construction, and to loans disbursed to private persons, condominiums and housing associations for renovation.

3.5. Credit purposes underlying the preferential capital requirement treatment

3.5.1. Renovation of homes and residential buildings

In the case of the renovation of homes and residential buildings, the EU Taxonomy makes a distinction between major renovation (3.4.(1.)) and individual renovation measures (3.4.(4.)). In domestic legislation¹⁵ major renovation means renovation affecting at least 25% of the total surface area of the delimiting structures. In this case, compliance with the energy efficiency criteria can be certified by issuing an energy performance certificate. The cost of such a certificate is HUF 15–30 thousand in simpler cases, while in more complex instances it can be as much as HUF 100 thousand, which may be discouraging when making a decision on taking out a loan. Given that basically even major renovations can be realised only through separately determined individual renovation measures, in the MNB's scheme it does not seem necessary to determine separate regulations for major renovations and treating them differently from independent renovation measures.

The last point of individual renovation measures¹⁶ should be taken into account as a complementary feature rather than as an independent credit objective, as the cost of accredited professional, scientific or technical activities, and as the cost of ancillary technical and other equipment needed for the implementation of the renovation measures.

Construction and acquisition of new buildings

Although according to the EU Taxonomy the construction of new buildings (3.4.(1.)) and the acquisition of buildings (3.4.(4.)) have separate criterion, the MNB considered it to be more fitting to treat them under the same conditions since:

- The two separate definitions and criteria have clearly many traits in common
- It is not justifiable to use separate definitions for the construction and acquisition of new buildings
- The criteria concerning used dwellings should be interpreted jointly with the criteria on new buildings

While defining the discount eligible constructions and acquisitions, the MNB looked at several options according to the ideal energy performance threshold (whether 'AA' or 'BB') and should the loans disbursed for acquiring used dwellings be also satisfactory for the green preferential capital treatment. After considering the potential benefits and drawbacks, the MNB opted for the uniform performance rating criterion of 'BB'. Nevertheless, the MNB would like to promote buildings with energy performance ratings

¹⁵ Decree 7/2006. (V.24.) TNM on the energy performance characteristics of buildings

¹⁶ Accredited professional, scientific or technical activity, which supports emission reduction realised in the framework of building renovations (e.g. energy audit activity enabling renovation).



more favourable than the minimal criterion, so these transactions should get a higher rate of discount. According to the decision made, the program includes the transactions concerning used dwellings.

The benefit of the chosen option is, that it is in line with the EU Taxonomy completely. Regarding new buildings, there was a counter argument, that from 2021 applicable legislations bind the new issuance of occupancy permits to the minimal energy performance rating of 'BB', so the criteria of the program provides incentives solely for the lowest level of adequacy. This drawback can be dissolved with the preferential treatment of buildings with a performance rating better than 'BB', since it has a higher capital requirement discount ratio. It should be clear, that this option is the most capable in raising the average performance rating (currently 'FF') of the domestic housing stock with the highest volume. Concerning the case of used buildings, the applied option stimulates the demand for more modern dwellings, which trend holds many benefits, even though it does not result in the improvement of the building stocks average performance rating.

3.6. Parameters of the green preferential capital requirement treatment for housing loans

3.6.1. Duration of the discount

Although the lower credit risk of green housing loans is a very strong hypothesis, it has not been confirmed yet in a statistically significant manner on a sample containing a large number of observations, due to lack of data. Therefore, a transitional program would be the best suited to the objectives of introducing a preferential capital requirement treatment, towards the end of which it would be possible to assess the experience gained and make a risk-based decision on the basis of the data received about the finalisation of such measures. Through a period of 4 years a sufficient amount of data could be collected to assess whether green housing loans bear lower credit risk. If this hypothesis is confirmed, consideration should be given subsequently to the merely risk-based general practice of granting capital requirement reduction during Internal Capital Adequacy Assessment Processes (ICAAP). This period of time would also be long enough to make green lending a widespread banking practice in Hungary.

3.6.2. The base of the discount

Constructions and acquisitions usually realised from mortgages, while home renovations can be financed through both mortgages and personal loans, and – based on consultations with banks – about one-third of personal loans already serve home renovation purposes. In order to reach a higher potential impact, the MNB – based on angles as described in sections 3.4 and 3.5 – defined the green eligibility criterion concerning the preferential capital requirement treatment that includes all mortgages and personal loans that comply with the definition.

The base for the discount is the gross exposure of green mortgages and personal loans disbursed over the duration of the discount program, at the end of the year in question.

3.6.3. Level of the discount

When determining the level of the capital requirement discount, it is reasonable to take the capital requirement value of the relevant transactions (residential mortgage loans, home equity loans, personal loans) as the baseline.

When calibrating the capital requirement discount, the MNB had to consider that the level of discount should be sufficient to encourage banks to increase their energy efficient investments by prioritising energy performance exceeding the minimum requirement, while at the same time it should not result in excessive risk-taking from a prudential aspect. These aspects considered, the MNB decided, that the rate of the capital requirement discount is 5% of the discount base in the case of renovation and in the case of building or purchasing a property with 'BB' rating, and 7% in the case of building or purchasing a



property with at least 'AA' rating. This level provides sufficient incentive for banks to participate in the scheme, while it does not result in an excessive easing of regulatory burdens.

In order to maintain prudent operation, the MNB saw limiting the level of the capital requirement discount fit to 1% of the total risk exposure amount (TREA) of an individual bank. In other words, banks can reach a maximum reduction of 1 percentage point of the SREP capital requirement. The MNB had to make sure, that by granting the discount overly low capital requirements will not be made possible in the individual segments (residential mortgages, home equity loans, personal loans), and for this reason the MNB determined the criteria in such a manner that the maximum rate of reduction per segment projected to the discount base can be the value of the Pillar 2 capital requirement determined during the Internal Capital Adequacy Assessment Process (ICAAP) Review.

3.6.4. Application of the discount

The simplest way to benefit from the capital requirement reduction is to assert it in the framework of the Internal Capital Adequacy Assessment Process. At the end of the process the Financial Stability Council of the MNB adopts an individual decision on each credit institution's supervisory capital requirement usually valid from the following year. Due to the specificities of the process (e.g. the need for a so-called EU Joint Decision in the case of banking groups subject to consolidated supervision), the most frequent supervisions of the level of discount granted could be realised on an annual basis in a general manner.

Determining the supervisory capital requirement is characterised by the fact that end-of-year data can be taken into account during the ICAAP Review conducted in the following year, on the basis of which the new capital requirement can be typically asserted from the year following the year of supervision. Consequently, on the basis of the lending data of the reference period, the credit requirement usually for the second year after this period can be determined.

3.7. Banking criteria for eligibility for the preferential capital requirement treatment

3.7.1. Minimum interest rebate required

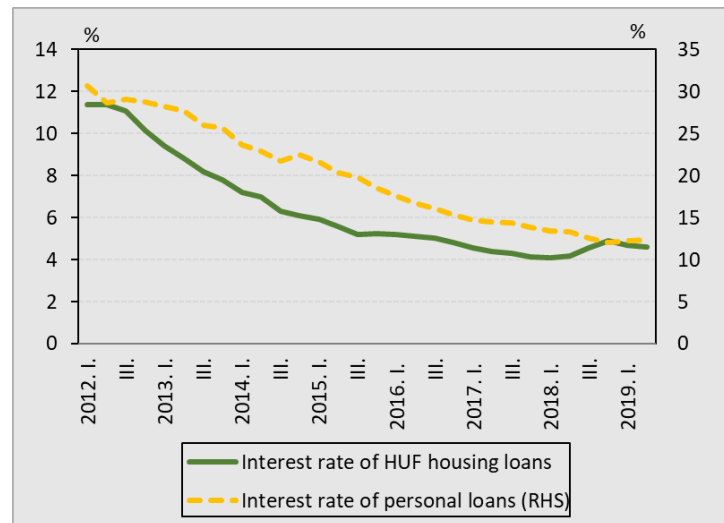
One of the fundamental ways of increasing demand for green loans is when banks encourage borrowing through their pricing policy, offering interest rebates to their clients. In addition to stimulating demand, there are 3 other factors justifying that the MNB should require banks benefitting from the green preferential capital requirement treatment to grant interest rebates:

- (1) As a result of the capital requirement discount, the level of banks' capital to be allocated for green loans is reduced, and so the financing costs of lending become lower.
- (2) Assuming that the hypothesis is correct – according to which green housing loans bear lower credit risk because the PD is lower due to lower overhead costs, and lower LGD is expected in the long term because of the green value –, banks are faced with lower risk costs on their green loans.
- (3) As the role of sustainability in public opinion is strengthening, taking environmental aspects into consideration in lending policies is expected to become an increasingly more significant requirement with regard to banks, and it will represent an increasingly higher marketing value.

The preferential capital requirement treatment can be granted on the condition that an interest rebate of at least 0.3 percentage points is provided. This level cannot be regarded so high – even when compared to the average interest rates of 4–5% and 12–13% typically granted in the past quarters on housing loans and personal loans (Chart 11), respectively – as to discourage banks from participating in the scheme, while clients can benefit from it considerably.



Chart 11: Development of interest rates on new HUF housing loans and personal loans



Source: MNB

3.7.2. Meeting complementary green reporting requirements

It is a priority objective of granting the green preferential capital requirement treatment that the MNB obtains data (1) on the energy performance of the underlying properties, and, in the case of renovations, (2) on the type of the renovation measures. In order to assess the impacts, it can also be expected that the bank benefitting from the reduction should inform the MNB (3) about the level of the interest rebate granted by it.

(1) Energy performance characteristics are stated in the energy performance certificate or in the building engineering technical specifications (in the case of construction); typically such data is not yet recorded even by credit institutions that request such data during the credit assessment process. In order to support the comparative analysis of the risks borne by green and non-green loans, besides green loans, the reporting requirement concerning energy performance should also be extended to other loans not benefitting from capital requirement reduction. Banks can access the most important data of the energy certificates even subsequently, without the client's involvement, free of charge, through the database of the Lechner Tudásközpont (Lechner Knowledge Centre) found at the www.e-epites.hu website. In the case of renovation, the energy performance characteristics do not need to be reported.

(2) Based on consultations with the banks, about one-third of personal loans are requested by clients for home renovation purposes. However, a significant proportion of the renovations conducted do not result in energy efficiency improvement (e.g. bathroom renovations, aesthetic improvements, etc.). In order to enable subsequent inspections and the analysis of energy efficient disbursements, it is necessary to label personal loans and mortgages for renovation to reflect whether they meet the renovation objectives of the taxonomy used by the MNB.

(3) To support the verifiability of the minimum interest rebate requirement determined by the MNB, the credit institutions participating in the scheme need to report on the level of the green interest rebate applied during transactions.

Only credit institutions that undertake to comply with the complementary green reporting requirement – covering data determined in the three subparagraphs above – are eligible for green capital requirement reduction. The hypothesis on the lower credit risk of green loans can only be assessed with statistical methods on a sample containing an adequate number of observations, if this reporting requirement extends to details at the level of transactions.



In view of the above, on 3 December 2019 the MNB announced its Green Capital Requirement Reduction Scheme. The detailed criteria for the scheme are published on the MNB's website.¹⁷

It should be noted that in retail lending other credit objectives can also be regarded green, i.e. supporting environmental sustainability, such as low (or zero) emission cars. Regarding these loans, in the current situation the MNB does not find it necessary to take specific regulatory action.

4. PROMOTING GREEN COVERED BOND ISSUANCE

4.1. The current market of green covered bonds

As described in the MNB study mentioned above, titled *Green Finance in Hungary*, in the current international green financial segment green bonds – i.e. in the case of bonds which funds are invested in green 'projects' – are one of the fastest growing financing instruments. The financial sector is playing an increasingly prominent role in the market of green bond issuance, both in the case of uncovered and covered bonds (hereinafter: 'green covered bond'¹⁸).

For the time being, green covered bonds represent a low volume, which, however, is growing dynamically. At the end of the first half of 2019, the holdings of sustainable covered bonds – aimed at green or social sustainability – issued in euros amounted to EUR 10 billion only, representing 5 percent of the sustainable bond market of the entire euro area, and 1 percent of the existing benchmark covered bond holdings issued in euros¹⁹. Up to now a total number of eleven issuers from five countries (Germany, Norway, Sweden, Denmark and Poland) have issued green covered bonds, and they have launched or announced further schemes. The total volume of issues in euros, together with USD-based covered bonds and asset backed securities amounts to EUR 14 billion (Table 4.):

Table 1: Green covered bond issuance in Europe (2014–)

Coverage	Year of issuance	Issuer	Country	Currency	Maturity date	Original maturity	Quantity issued	Green / ESG
Mortgage	2014	MUENCHENER HYPOTHEKENBANK	DE	EUR	24/09/2019	5	300	ESG
Mortgage	2015	KUTXA BANK SA	ES	EUR	22/09/2025	10	1000	Social
Mortgage	2015	BERLIN HYP AG	DE	EUR	05/05/2022	7	500	Green
Mortgage	2016	CAJA RURAL DE NAVARRA	ES	EUR	01/12/2023	7	500	ESG
Mortgage	2017	DEUTSCHE HYPOTHEKENBANK	DE	EUR	23/11/2023	6	500	Green
Mortgage	2017	BERLIN HYP AG	DE	EUR	23/10/2023	6	500	Green
Mortgage	2018	MUENCHENER HYPOTHEKENBANK	DE	EUR	13/12/2023	5	500	Green
Mortgage	2018	KOREA HOUSIN FINANCE CO	KR	EUR	30/10/2023	5	500	ESG
Mortgage	2018	BERLIN HYP AG	DE	EUR	22/10/2025	7	500	Green
"public"	2018	DEUTSCHE KREDITBANK AG	DE	EUR	02/10/2028	10	500	ESG
Mortgage	2018	DEUTSCHE HYPOTHEKENBANK	DE	EUR	10/12/2024	6	500	Green
Mortgage	2018	LB BADEN-WUERTEMBERG	DE	EUR	27/06/2023	5	500	Green
Mortgage	2018	DNB BOLIGKREDITT AS	NO	EUR	19/06/2025	7	1500	Green
Mortgage	2018	CAJA RURAL DE NAVARRA	ES	EUR	08/05/2025	7	500	ESG
Mortgage	2018	SPAREBANK 1 BOLIGKREDITT	NO	EUR	30/01/2025	7	1000	Green
Mortgage	2019	SPAREBANKEN SOR BOLIGKREDITT	NO	EUR	26/10/2026	7	500	Green
Mortgage	2019	SR-BOLIGKREDITT AS	NO	EUR	08/10/2026	7	500	Green
Mortgage	2019	BERLIN HYP AG	DE	EUR	19/07/2027	8	500	Green
Mortgage	2019	SOCIETE GENERALE SFH	FR	EUR	18/07/2029	10	1000	Green
"public"	2019	CAISSE FRANCA ISEDEFIN	FR	EUR	19/02/2027	8	1000	Social
Mortgage	2019	LB BADEN-WUERTEMBERG	DE	USD	31/05/2022	3	750	Green

Source: Calyon

¹⁷ This study is for information purposes only, and the detailed criteria for the preferential capital requirement treatment are described in the relevant official document.

¹⁸ Green covered bonds form a subset of green asset backed securities. Given that in Hungary the role of other asset backed securities is negligible as compared to covered bonds, this document deals only with covered bonds.

¹⁹ ECBC: EUROPEAN COVERED BOND FACT BOOK 2019, page 105



It is important to emphasise that the large majority of European issues are bonds covered by commercial properties (especially in Germany), because in this way it is easier to guarantee compliance with the standards and to measure, report and verify impacts. Precisely because of the challenges posed by compliance with the standards, the vast majority of mortgage loans linked to green covered bonds and secured by residential properties finance newly built properties, in the case of which it is easier to provide energy certificates.

It is important to see, due to stricter energy efficiency regulations in some countries, all residential properties built in recent years can be regarded green under certain standards (for example in Norway and in other EU countries).

In the case of second-hand homes European issuers also face difficulties, as in many cases there are no authentic databases on which green lending could be founded. As explained in Chapter 3, here also one must say that green investments ultimately start and end with the availability of an enormous amount of good quality data, for which – just like any other investment - substantial resources are required, but it has a good outlook for return in the long run. Consequently, the biggest cost item of green covered bond issuance is represented by investments needed for establishing internal processes (first of all ensuring that the funds raised are used only for green purposes), and the cost of external rating agencies (EUR 20–30 thousand) cannot be regarded significant.

In respect of pricing no significant difference can be detected as compared to traditional covered bonds (approximately 1bp greenium can be observed in certain cases), the circle of investors is becoming perceivably more diversified due to the emergence of green investors. According to some market experts, the latter impact may make a significant difference when the market sentiment is negative, as many green investors follow a 'buy and hold' strategy, which makes this segment more stable and less volatile.

The Polish example

In our region (in Poland) the first green covered bond has been issued recently (PKO BANK HIPOTECZNY, with a duration of 5 years, in an amount of PLN 250 million – offers amounting to PLN 340 million have been submitted), and linked to this the bank undertook to disburse energy efficient mortgage loans. The credit rating of the covered floating rate bond is 'Aa3' (Moody's), and the issue spread was 60bp besides 3 months' reference yield. The bond complies with the requirements of the Green Bond Principle and the Climate Bond Initiative (see below), and it also has a so-called second party opinion provided by the globally known Sustainalytics. It is important that the Polish government debt management agency conducted three green bond issuances in recent years amounting to a total value of nearly EUR 4 billion, so the Polish capital market is not obscure terrain for green investors. (The bond issued with the longest duration was a 30-year euro bond, amounting to EUR 500 million.)

20% of the issued volume of the PKO covered bond was acquired by EBRD with a view to supporting the Polish capital market and green transition. To some extent the transaction also attracted interest from foreign green investors, which, however, may account for only a few percentage share within the total issued volume. It is important to point out that PKO BANK HIPOTECZNY is also active on the market of euro covered bonds, while Hungarian banks are not represented on this market.

Consequently, despite their dynamic growth, green bonds currently represent only a small share of this market, so there can be a significant area for further development. According to S&P, with some regulatory support and by raising green awareness among investors and issuers, the size of this submarket may multiply in the following period²⁰. In addition to this, changes in EU and global legislation may provide a new perspective on the development of the forms of financing and also green finance. The development of

²⁰ S&P Global Ratings, What's Behind The Rise In Green Covered Bond Issuance? June 26, 2018



energy efficient mortgages and green covered bonds and covered bonds is an important element of the EU's Capital Market Union (CMU)²¹. Furthermore, the change of perspective taking place in connection with the single rulebook may generate opportunities for and grant preferences to green covered bonds.

4.2. Potential positive impacts of green bonds, covered bonds²²

Naturally, the most substantial benefits of the issuance of green bonds – and green covered bonds forming a subset of green bonds – are the financed green projects. However, obviously, green projects can also be financed from 'non-green' sources (such as simple deposits or borrowing in the case of companies), i.e. green bonds themselves are not required for environmental sustainability benefits to exist. At the same time, green bonds and green covered bonds may have special advantages compared to other fundraising channels.

From a financial point of view, as compared to non-deposit type forms of fundraising, green bonds could enable the achievement of potentially lower funding cost, which is caused by the current demand-heavy situation on the one hand, while on the other hand the transparency required for green bond issuance could also help to improve the pricing of credit risk. (It is important to note that the potential price advantage is a function of many factors (e.g. the amount of the issue) and is not high anyhow - currently the so-called 'greenium' hovers between 0-3bp, depending on the bond sector.) Another possible financial advantage is that with green bonds potentially ESG investors can also be accessed who would not otherwise buy Hungarian bonds, or even longer maturities are accessible. The importance of long-term funds is also underlined by aspects of financial stability and by the typically long investment cycles. The involvement of green funds makes it possible for banks to reach a new, wider investor base, and by this increasing the stability of their funds.

However, green bond issuance could also have non-financial and 'macro-level' benefits going beyond that scope. The most important of these advantages is the message of green bond issuance: based on foreign experience, green bonds are actually catalysts for launching the entire green financial segment by putting the country on the map for international markets and investors applying ESG criteria, while the issuer itself apparently acquires a significant reputation advantage compared to its competitors. In the context of market development it is important to stress that currently almost all green investment funds managed by Hungarian participants hold foreign green instruments (as there are no Hungarian green bonds or shares). Thus, starting domestic green bond issuance would also make it possible for domestic fund managers and trust companies to have a range of Hungarian instruments – although a limited range at the beginning – to choose from.

A further advantage of green bond issuance that is difficult to quantify is the accreditation process itself, which can enhance corporate culture. That is, the issuing entity must think through its processes, measure and report on the effects of the financed projects, and apparently, improve its corporate governance and investor transparency. In many cases, this requires a completely new approach, which can be assisted by so-called second opinions given by external consultants, or by external green rating.

Naturally, in addition to the benefits, costs should also be anticipated. For the sake of a realistic image, it is important to recognise that while the actual achievement of the theoretically lower cost of funds feasible with a green bond is uncertain, there are certainly extra costs compared to regular bond issuance, which costs are typically fixed, i.e. relatively significant when the issued amount is low. Although at this point it is difficult to estimate such costs of potential Hungarian issuance, based on foreign experience the price of external green rating can be measured in a few tens of thousands of euros, so the development of internal corporate governance systems would present a much more significant cost item.

²¹ ECBC GLOBAL ISSUES WORKING GROUP Brochure EMF-ECBC, March 2019, page 4

²² This chapter is intended to supplement the relating parts of the MNB study titled Green Finance in Hungary



Table 2: Advantages and disadvantages of domestic green bond or covered bond issuance

Potential benefits, opportunities	Potential disadvantages, risks
Market development impact	Fix cost of setting up audit and internal processes
Reputational benefits on the issuer's side	Uncertain volume of domestic and foreign demand for Hungarian green bonds
Development in corporate governance and process management	The possibility to achieve lower yields is questionable
Broadening the investor base by attracting ESG investors that also persist in crisis	
Green premium	
Extending the average duration of source mix	

Source: MNB

4.3. Theoretical considerations concerning the application of the MFAR requirement

The MNB may be able to encourage domestic green covered bond issuance basically as an investor and as a regulatory authority. In its role ensuring financial stability the MNB is able to have a direct influence on banks' covered bond issuance activity through the requirement relating to the Mortgage Funding Adequacy Ratio (MFAR). This instrument is especially robust, because numerous credit institutions – unlike in the case of many other regulatory requirements – keep their indicator only a little above the required level, i.e. it can be regarded stretched. In other words, banks may be sensitive to potential modifications to the MFAR requirement, whether they involve preferences or restrictions.

The MFAR is calculated as the ratio of retail mortgage backed HUF funds (e.g. covered bonds, other mortgage backed securities issued, mortgage bank's refinancing loans) divided by the portfolio of net retail mortgage HUF loans with an outstanding maturity of over 1 year. The current regulations do not make a distinction between green and non-green covered bonds, but the MNB suggests that consideration be given to applying some form of discrimination in favour of green covered bonds. The conceptual and theoretical considerations relating to this are described below.

Such application of the MFAR should be in support of the original regulatory objective, i.e. the involvement of long-term funds of appropriate quality, and thus the reduction of the maturity mismatch of the forint, in such a manner that it is not accompanied by the mitigation of valid regulatory requirements. In this way, discrimination in favour of green funds cannot result in a smaller required portfolio of covered bonds or in the slowdown of further market growth. In the MFAR this should be practically compensated for by a proportionate level increase and by special expectations relating to the duration of green funds. The involvement of green funds may also reduce risks related to the extent and proportion of cross-financing with the banking sector, by making it possible to access a new and broader investor base.

However, obstacles also emerge during the preferential handling of green covered bonds in the context of the MFAR requirement. From the aspect of market liquidity and attracting international investors, greater series are preferred, but the appearance of green covered bonds may result in the



fragmentation of series, as the volume of green mortgages may restrict the issuable amount of green covered bonds. Another problem might be the refinancing structure, in which a mortgage bank issues covered bonds backed by the mortgages of several banks refinanced by it. The preferential consideration of green funds also requires the introduction of green refinancing loans, which may present an extra administrative burden during the refinancing process. In addition to this, in order to issue green covered bonds, the mortgage bank must rely on the commitment made by the refinanced bank in connection with the volume of green mortgages, and it must also rate the green loans disbursed by the refinanced banks, and monitor the continuing existence of the conditions in the case of these loans too, which may present a challenge.

4.4. Possible framework of the benefits granted in the MFAR

If the MNB decides to encourage green covered bond issuance by granting benefits in the MFAR, three main elements will have to be defined:

- (i) what is regarded as a green covered bond
- (ii) how green finance objectives can be taken into consideration without covered bond issuance, by taking out refinancing loans in the case of the relevant institutions, and
- (iii) through what mechanism and to what extent benefits should be granted.

The definition of green covered bonds

Today no statutory definition of green covered bonds exists either at national or EU level. The European Commission is currently examining the possibility of establishing an EU Green Bond Standard, which would be basically identical to the presently used international market standards (see below), while in certain aspects it would contain stricter requirements. The present concept of the EU standards being prepared does not include specific prescriptions relating to green covered bonds. Therefore, the MNB enjoys legal freedom in respect of the definition of green covered bonds used by it. At the same time, it is appropriate to comply with international best practices and investors' expectations. For this reason, the *EU Green Bond Standard* concept and the Taxonomy presented in the chapters above, together with the *Green Bond Principles* (hereinafter: *GBP*) and the *Climate Bond Standards* (hereinafter: *CBS*) are regarded as benchmarks.

A brief description of the Green Bond Principles and the Climate Bond Standards

Soon after the issuance of green bonds started at end of the 2000s, there was a call for determining minimum quality criteria in respect of these instruments, first of all to avoid so-called greenwashing, i.e. the labelling of products not involving real environmental benefits as green. In the lack of authority regulations, leading market players basically created self-regulations in the interest of preserving market integrity.

The Green Bond Principles laid down by the International Capital Market Association in 2014 (and regularly revised ever since) are the most generally accepted green bond standards of this nature, which contain the framework for the use of proceeds collected via the bonds, for the assessment and selection of green projects, for cash-flow management and reporting. In the case of 'green buildings' the GBP stipulates only that standards and certifications recognised at regional, national or international level need to be taken as a basis for the green definition, which, in the case of the EU, is the EPC system mentioned several times already in this document.²³ In the case of the GBP it is encouraged, but not required, to have an external company give its opinion on or even audit compliance with the GBP requirements; in practice, the latter is definitely expected by investors.

²³ for more detail see: <https://www.icmagroup.org/index.php/assets/documents/Regulatory/Green-Bonds/Green-Bond-Guidelines-for-the-Real-Estate-Sector-010615.pdf>



The Climate Bonds Standards can also be regarded as self-regulations, but they are stricter than and basically form a subset of the GBP. The fundamental principle underlying these standards is that green bonds complying with the CBS should be in accordance with the economic path determined in the Paris Agreement (it allows no more than 2 °C increase in global average temperature). The latter must be certified by the mandatory external certification company. In the case of the CBS, concerning green residential properties, the best 15 percent²⁴ of the stock of residential buildings represent the energy efficiency threshold for a given city or region. Compliance with this requirement can be demonstrated by the external certification company mentioned above, but it is also possible to adopt a set of general criteria for the national level. According to the opinion of MNB, the latter option would be the most facilitative step in the case of Hungary.

On the loaning side there are or there may be – not significant – differences between the energy efficiency requirements for the properties covering mortgages. As explained above, both the GBP and the CBS require that properties labelled as green should have better energy efficiency characteristics than the average of the housing market. In the case of the Taxonomy and the CBS (in most EU countries) it means at least ‘B’ energy efficiency rating according to national regulations. Although the GBP allows slightly more flexibility, in Hungary only residential properties with at least ‘BB’ rating can obtain an occupancy permit as from 1 January 2021, so the MNB is faced with a simplified formula: in the context of green covered bonds probably all mortgages relating to new constructions could be regarded green. Obviously, loans that were in the portfolio already before 2021 and have ‘BB’ or better rating can also be labelled green.²⁵ This is important for achieving an adequate volume.

The definition of green mortgages underlying green covered bonds do not necessarily need to be the same as the one implemented in case of capital requirements for energy efficient loans. While the goal of capital requirements is to make supervisory intervention targeted and risk-based as much as possible, the most important angle in the case of covered bonds – while not deviating from market-based best practices – is to have criterions that can be fulfilled with the least amount of surplus costs possible and to make sure that a significant volume is available so investor-attracting covered bonds can be issued.

Although practically, it is more transparent and simple, if the definitions concerning covered bonds and capital requirements are more analogous.

According to the notion of the MNB, backed by the considerations above, the main differences between green and normal covered bonds could be the following:

²⁴ for more detail see: <https://www.climatebonds.net/standard/buildings/residential>

²⁵ Due to the fact that the domestic building stock is outdated to a great extent, in theory it would be possible to involve even homes with ‘CC’ rating in the criterion relating to the ‘best 15 percent’, but this would significantly undermine the external credibility of national standards.



Table 3: Comparing covered bonds

	Conventional covered bond	Green covered bond (according to current plans)
Coverage	Availability of normal and additional collateral (without the separation of green and not green collaterals) according to Jht.* on an institutional level.	
Type of the mortgage	Purchase or construction of newly built houses Purchase of used houses Mortgage equity withdrawal	Purchase or construction of newly built houses Purchase of used houses with energy performance rating of at least "BB" In the case of mortgage equity withdrawal, the renovation achieves energy savings of at least 30% in comparison to the baseline performance before renovation Purchase of used houses with energy performance rating of at least "BB"
Corporate governance, internal processes, disclosures	In accordance with the expectations of Jht.* and normal investors	In accordance with the expectations of Jht.* and normal investors + Guarantee of processes according to GBP or CBS Impact assessment and reporting Certification or revision by external audit

Source: MNB

It is important to point out that the green building definitions above reflect only the MNB's interpretation, and they should be confirmed by an external independent party to ensure market credibility. Therefore, the MNB will apply to the relevant body of the CBS for the adoption of green building criteria relating to Hungary, in compliance with the CBS.

Potential requirements relating to green covered bonds

As described above, in line with the GBP and the CBS, in the case of green covered bonds it should be required that for the entire duration of the green covered bond the issuer should have a green mortgage loan portfolio of a volume equivalent to the collected funds in the funds pool (in perspective of covered bonds, the green and non-green funds are not separated). Consequently, green covered bond issuance and – if the MNB so desires – the assertion of benefits granted in the MFAR would take place according to the following steps, as currently envisaged by the central bank:

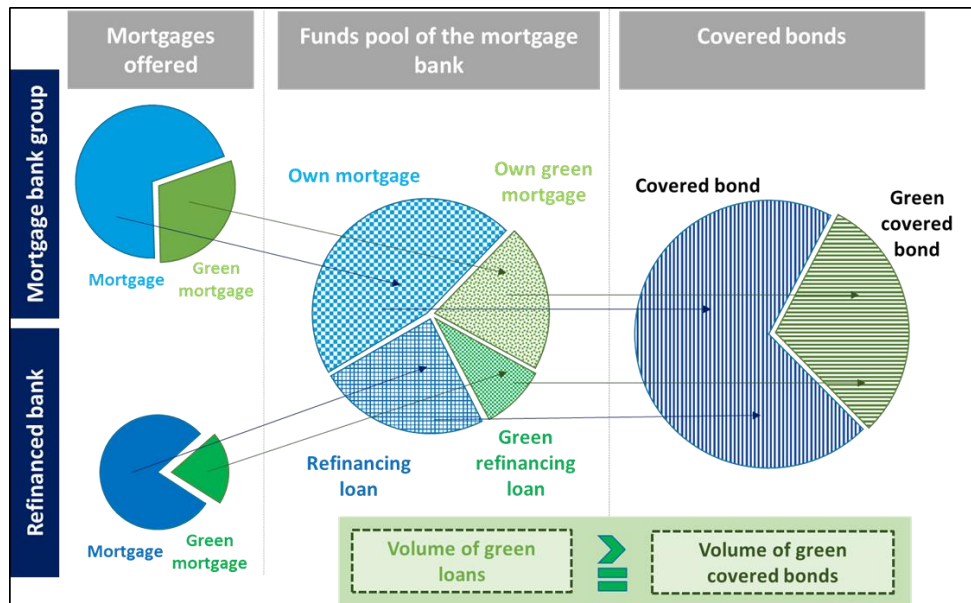
1. The issuer shall set up and publish on its website the framework for its green covered bond scheme (Green (Covered) Bond Framework), in which it shall describe how it complies with the requirements of the given international green standards (GBP or CPS), in particular, how it defines green loans, how these are selected and classified, how funds from green covered bond issuance are used²⁶, and what disclosure requirements it undertakes to meet.
2. In line with its commitments, the issuer shall guarantee that the volume of green loans available in the funds pool is at least equivalent to the volume of the green covered bonds to be issued.

²⁶ According to the international green standards, funds from the issuance of green covered bonds can also be used for refinancing previously disbursed loans, i.e. funds from green covered bonds do not need to be used for the disbursement of new green loans, if there is already an adequate volume of green mortgages available in the funds pool. The concept of the MNB is that the benefits granted in the MFAR could only be used in such cases, i.e. when green mortgages are already available in the funds pool before issuance.



3. It shall request an external rating agency to assess the compliance of the commitments and their feasibility, and then it shall publish the rating agency's opinion on its website.
4. It shall issue the green covered bond up to the volume of the green loans available in the pool, backed by the funds pool shared with other non-green covered bonds.
5. It shall publish with appropriate frequency the volume of green mortgages available in the funds pool (together with other data in compliance with the standards), and it shall also state the volume of funds labelled green in its reporting and assert the benefit by doing so.

Chart 12: Schematic figure of green covered bond issuance



Source: MNB

Definition of green refinancing loans

In addition to mortgage banks and covered bonds, however, definitional issues related to refinancing loans should also be reviewed and addressed. Should benefits in the MFAR be granted, they would only be competitively neutral, if such benefits were made accessible not only to bank groups with mortgage banks, i.e. having the possibility to issue covered bonds, but also to other banks that meet the MFAR with refinancing loans. For this reason, the concept of green refinancing loan²⁷ (including the repurchase price upon the sale of independent mortgage liens) should also be introduced, for which the benefits in the MFAR due for green covered bonds could also be granted. This would also increase the potentially issuable volume of green covered bonds, as green refinancing loans would also be included in the funds pool backing the refinancing mortgage bank's covered bonds. In order to take out a green refinancing loan, the bank would probably have to conclude a separate green refinancing agreement relating exclusively (in 100%) to green loans being collaterals, and the green benefits granted in the MFAR would be asserted on the amount of the refinancing loan taken out in accordance with this agreement.

Reporting and monitoring

Both the GBP and the CBS contain disclosure and reporting requirements, first of all concerning the use of funds raised with the bond and its positive environmental impact. These reports can be used from the MNB's perspective too, and sending reports to the MNB, which would be prepared anyway, does not put

²⁷ Note: the need for regulatory arrangements may also arise in respect of other concepts, such as the institutions rating green covered bonds.



an additional burden on issuers asserting the benefits granted in the MFAR. In addition to these, obviously the items affecting the indicator must also be included in the data reported in connection with the MFAR.

Green (mortgage) loans – similarly to the preferential capital requirement treatment – would be built in the supervisory audit programme specifically, so that the MNB can make sure that the loans labelled energy efficient by the banks comply with the definitions included in the international standards and the national regulations. First of all, in the case of mortgages for renovation, particular attention should be paid to that the banks should appropriately enforce the required improvement in energy efficiency.

As explained above, the MNB sees potential in green covered bonds both with a view to boosting green lending and the green capital market, and developing the domestic covered bond segment. In the following period the central bank will elaborate its supporting actions in consultation with the banks, and

- **it will examine the possibility of preferential treatment in respect of the Mortgage Funding Adequacy Ratio (MFAR), and**
- **it will foster that an appropriate criteria of green (residential) buildings relating to Hungary, in compliance with the Climate Bonds Standard be made available.**

5. FURTHER ACTIONS TO IMPROVE DEMAND FOR GREEN RETAIL FINANCIAL PRODUCTS

5.1. Improving retail demand

The expansion of the green financial segment cannot be accomplished without a sufficient customer base or without consumer demand, even if the green financing expansion has to be realised to a large extent in the business, corporate segment. Households, businesses and SMEs can all make a substantial contribution to the establishment of the green financial segment, both as savers and borrowers.

There is ample room for improvement in the awareness and attitude of the Hungarian population regarding climate change and environmental problems. The latter is the competence of governmental, educational and civil entities and organisations. At the same time, it is a statutory task of the MNB to strengthen and disseminate financial literacy and to develop financial awareness. For this very reason the MNB has decided to implement various actions, in order to contribute to enabling the domestic retail (and partly the SME) segment to seek consciously those financial solutions that help achieving environmentally beneficial aims.

Obviously, only a long-term development strategy with a time horizon of several years is feasible in this field, since neither the development of financial literacy nor the product range of financial organisations can 'become green' overnight.

Green finance market research

At the end of 2019 the MNB launched a market research project to assess – in cooperation with its partners – not only the current awareness and demand of households and businesses in relation to green financial products, but also the drivers of potential growth in the coming years. In order to develop the market, it is important to see which products (age group, income, education, etc.) and what product features (for example, environmental impact report presenting the benefits, pricing, participation, etc.) provide a chance for growth. The aim of the market research is to obtain an empirical baseline for MNB's measures, but the MNB also shares the results of market research in a non-competitive way among financial institutions, to promote product development.



Financial education

In addition to market research, financial education is the other option for advancement. The MNB is already working on several channels (school programs, publications, events, mobile apps, social media, free financial advice, etc.) together with its partners, disseminating financial knowledge and promoting financial literacy. In the existing channels, the MNB will present gradually the idea of green finance to the public, to make the population aware of the opportunity that our finances can also serve the environment.

5.2. Green Product Finder Tool

In recent years, the MNB has already contributed to the consumer-friendly nature of retail products, to comparability and, through these, to boosting competition. Due to the individual characteristics of green financial products it is especially important that they should be easily identifiable and accessible by consumers; potential special risks should be transparent and readily understandable; and products that are labelled green should have actual tangible and verifiable environmental benefits.

Although the MNB does not have general powers for the authorisation of products, indirectly it is able to keep watch over the integrity of the green financial segment. By setting up and operating a green product finder tool, the MNB could indirectly ensure that only the loan, savings, investment or insurance products that comply with professional standards are rated (indirectly) by the MNB. This would strengthen the trust of customers, who would be able to obtain more comprehensive information about the availability of green products, and more quickly. For the above reasons, in 2020 the MNB will start to prepare a simple and easy-to-understand Green Product Finder Tool based on best foreign practices.

6. FURTHER ACTIONS PLANNED

This document focuses on the MNB's development actions and proposals relating to green retail lending. Obviously, the green financial segment is much richer than this, and the banking, capital and insurance markets are closely linked. For example, green covered bonds are also capital market instruments, so starting up the market for these instruments is also linked to the 'greening' of the capital market. The impact of the MNB's Green Program can be maximised, if the MNB's actions gradually and possibly organically are extended to all sectors.

Accordingly, in 2020 the MNB, in cooperation and in consultation with its partners, is planning to draw up a package of proposals relating to green *corporate lending* and prepare a domestic green *capital market strategy* for the future.

In accordance with its micro- and macro-prudential mandate, the MNB is planning to take several actions to measure and mitigate risks resulting from the climate change and other environmental anomalies. On the one hand, the MNB is planning to draw up a green risk management supervisory recommendation and handbook, and to quantify and model financial risks arising from the climate change (first of all in terms of credit risk).

Current and future documents about green finance are available at the website: www.mnb.hu/greenfinance