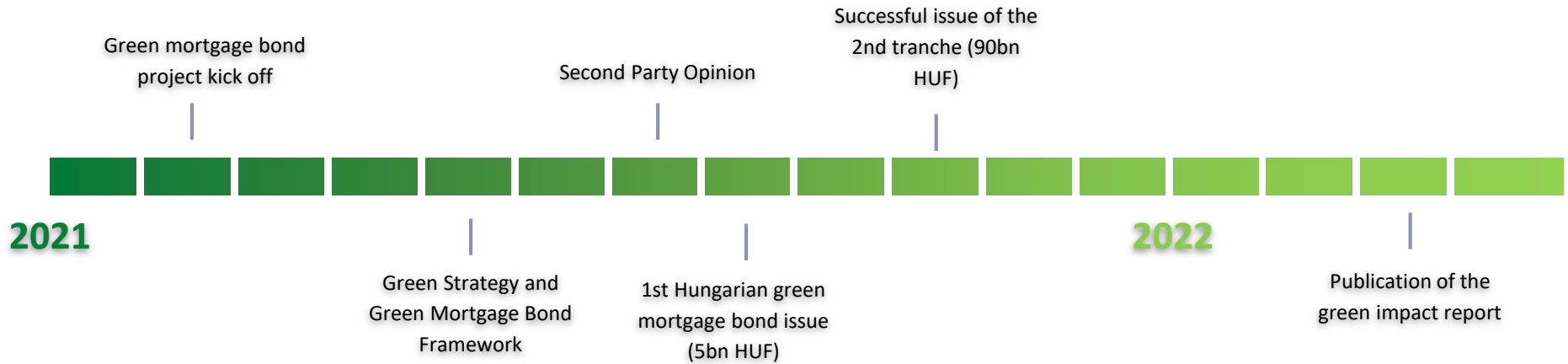


The first green mortgage bond issuance of the Hungarian market

Attila, Bógyi – OTP Mortgage Bank, head of legal department

Timeline and experiences of the first green mortgage bond issue in Hungary



Key takeaways of the project:

1. Great investor interest, significant oversubscription,
2. Data is the fuel of green financing - access to energy data is essential - without adequate data, green funding cannot be successful,
3. Standardization of green frameworks could improve market transparency,
4. In addition to new housing, emphasis should also be placed on the energy modernization of the housing stock

The key elements of our green mortgage bond framework

1

International framework: ICMA Green Bond Principles



2

Eligible loans: retail mortgage loans comprising the Company's own portfolio and refinancing mortgage loans granted to its commercial bank partners,

3

Geographical focus, time limitation: loans secured by mortgage claims on real estate collateral located in the territory of Hungary, whose energy performance certificate was issued after 31 December 2015

4

Loan purpose: residential mortgages for the purpose of the construction or purchase of used or newly refurbished residential homes, and general purpose mortgages for renovating and upgrading existing properties

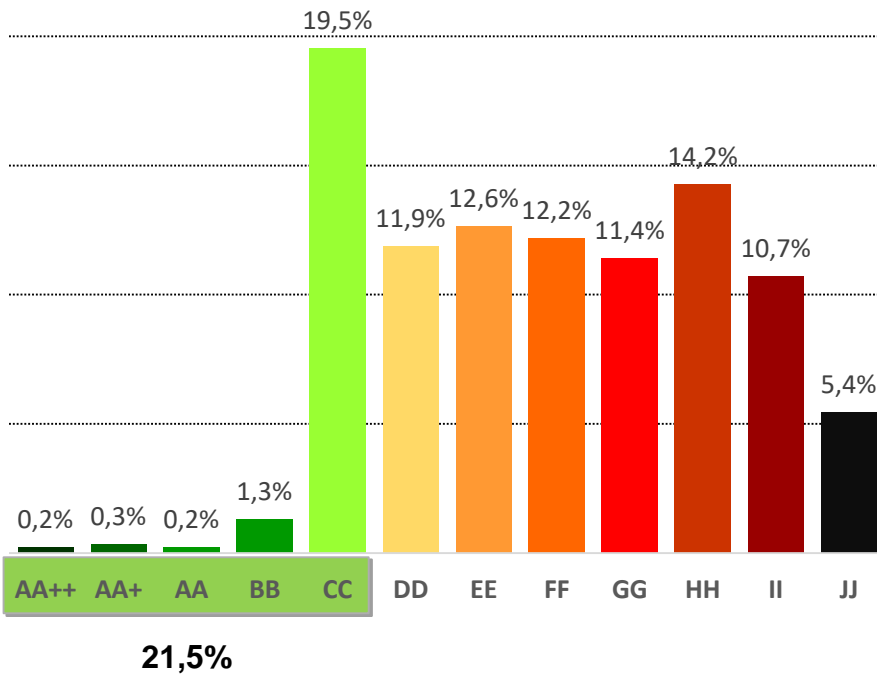
5

Energy characteristics: loans where the property(ies) serving as collateral for the loan meet at least one of the criteria of the following two categories are deemed green loans by OTP Mortgage Bank:

(1) **energy-efficient properties:** buildings falling within the best 15% of Hungary's total stock of buildings based on their energy efficiency rating.

(2) **buildings with significantly improving energy performance:** buildings undergoing refurbishment or upgrading from the loan provided by the Company in order to improve their energy performance.

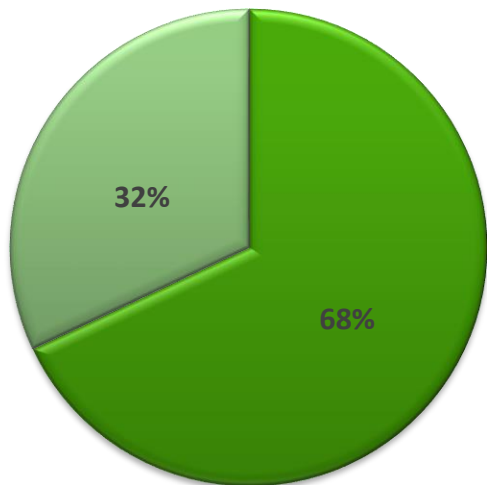
Nationwide distribution of residential building stock



- almost 80% of residential buildings were built before 1990
- an enormous part of the stock needs to be renovated
- only 2.1% of the certificates issued between 2016 and 2019 comprised items that complied with the nearly zero-energy requirement (BB-AA++)
- 19.5% received a 'CC' rating ('upgraded'), while the remaining 78.4% had worse ratings.

For geographical and historic reasons, the energy-efficiency indicators of Hungarian residential buildings are unfavourable.

Distribution of category CC*



- 118 kWh/m²/a or better
- Higher than 118 kWh/m²/a

68% of the CC category is in the top 15%

International examples for determining the best 15% of the housing stock

Green rating of the entire CC-rated stock



AIB in Scotland and Crédit Agricole in Italy include the entire CC-rated building stock in the top 15% of their green buildings, based on the age distribution and energy performance of the property portfolio.



Application of a statistical method



OP Mortgage Bank uses statistical methods to identify the best 15% of its building stock in case of lack of data.

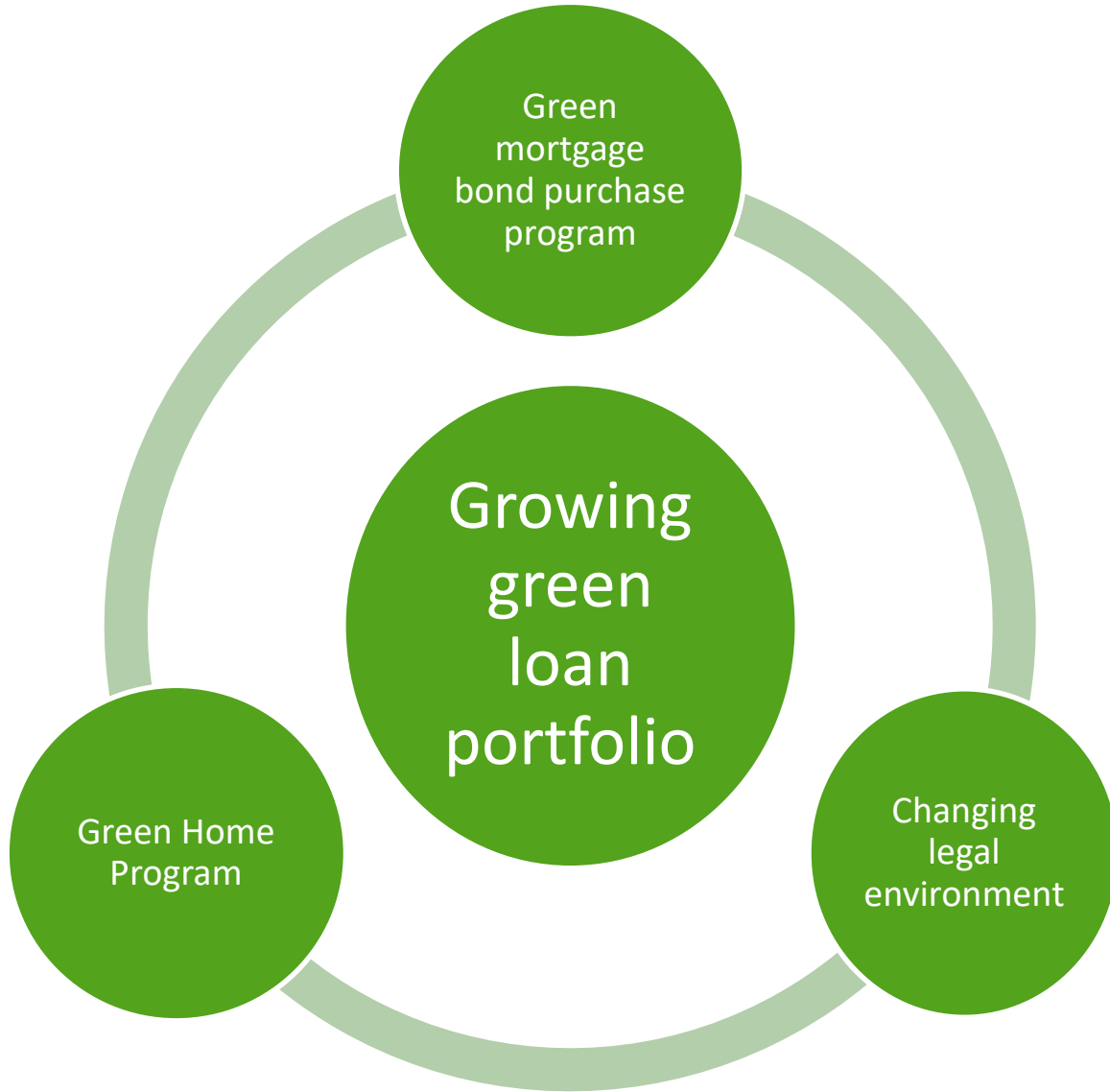


ING also uses the analysis of external databases to identify the top 15% of the building stock.

In Hungary, portfolio estimation using conservative statistical approach can be a solution to eliminate problems due to lack of data.

* Based on the data provided by Lechner Knowledge Center (2016-2019)

Factors affecting the volume of the green loan portfolio



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Providing access to all energy related data:

We suggest that the legislator should provide access for banks to the databases which can play a role in supporting green financing as well as in determining and proving the sustainability of the renewable energy and infrastructural investments to be implemented.

Supporting the energy modernization of households:

- Development of subsidized programs to promote modernization
- The measurement of the extent of energy modernization should be simplified and made more cost-effective.
- It is advisable to review the legal regulation of condominiums.

Thank you for your attention!