BANCA D'ITALIA
EUROSISTEMA

Conference "UN Principles for Green Financing for Sustainable Real Estate, Infrastructure and Urban Transformation Projects"

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Conference Hall at the Milan Office of the Bank of Italy

Milan, 11 April 2024

This conference aims to discuss the principles for a sustainable real estate sector identified by the Committee on Urban Development, Housing, and Land Management of the United Nations Economic Commission for Europe. This is a very important topic because about a quarter of European greenhouse gas emissions are attributable to buildings.[1] Therefore, the real estate sector plays a central role in achieving the goal of net zero greenhouse gas emissions by 2050, set by the European Union through legally binding measures.

Of particular importance in this context is the directive on the energy performance of buildings (Energy Performance of Buildings Directive, EPBD), which is about to receive final approval from the European Council. Compared to its initial formulation, the text has been significantly revised, removing some ambitious directions in energy retrofitting actions, particularly in the housing sector, and giving Member States greater flexibility in setting and achieving objectives.[2]

The need for accurate information

Still, all European countries will be required to make a strong effort to comply with the directive. To assess the extent of this effort, it is necessary to have a sufficiently accurate picture of the current energy efficiency conditions of buildings. In Italy, there is no comprehensive database containing this information. The main official source is the Information System on Energy Performance Certificates (SIAPE) managed by ENEA, which collects Energy Performance Certificates (EPCs).

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1 Agenzia europea dell'ambiente, "Greenhouse gas emissions from energy use in buildings in Europe", 24 ottobre 2023.

2 The directive sets targets for reducing the average primary energy consumption of buildings, establishes criteria for the national building renovation plan, and requires Member States to promote the introduction of investment and financing instruments, such as energy efficiency loans and green mortgages for building renovation, in addition to public finance interventions.

However, this archive has a number of limitations[3]; suffice it to say that it contains information on 4.9 million homes, 14 percent of the total (Italy has about 78 million real estate units, of which 36 million are homes). This makes it difficult to derive an unbiased and reliable estimate of the energy efficiency level of the national housing stock. Estimates by researchers at the Bank of Italy[4] suggest that the proportion of energetically inefficient homes (those in energy class F or G)[5] is around 80 percent. This is significantly higher than what is derived from SIAPE: the difference amounts to 9 million more homes to be retrofitted.

Informational problems are also encountered in estimating the exposure to hydrogeological risk of properties, despite the country being particularly exposed to these risks[6]. For example, it is estimated that homes potentially exposed to flooding in Italy are about a quarter of the total, with a value close to 1 trillion euros (at 2020 values); the expected annual loss is estimated to be around 3 billion euros[7].

The role of banks

The information on individual real estate units' EPCs collected by the SIAPE is not publicly available, not even for banks, despite their prominent role in facilitating the real estate retrofitting process. These data would allow banks to fulfill some regulatory obligations more easily[8]; to more accurately assess the value of properties provided as loan collateral, and thus improve their risk management models for climate risks; to better seize new market opportunities for the development of sustainable products.

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3 The SIAPE contains information on 5.6 million Energy Performance Certificates (EPCs) produced from 2015 onwards for new constructions, sales, rentals, or renovations. Over one million EPCs sent by the regions are not included by ENEA due to quality reasons. Data from two regions, Campania and Sardinia, are still missing. Information regarding non-residential properties is particularly limited. Finally, despite guidelines in place since 2015, methodological differences persist across regions.

4 Braggiotti et al., "Predicting Buildings' Energy Performance Certificates in Italy: A Machine Learning-Based Approach", mimeo, Bank of Italy.

5 The real estate units are classified based on their energy efficiency status, measured by the EPC, into ten classes: from G (the least efficient) to A4 (the most efficient).

6 Between 1980 and 2022, extreme weather events in Italy caused 21,760 deaths and 111 billion euros in damages, respectively accounting for 10 and 17 percent of the total for the EU-27 (Agenzia europea dell'ambiente, 2024).

7 The main source for assessing flood risk in Italy is the hazard maps disseminated by ISPRA, updated to 2020, drafted in collaboration with the District Basin Authorities. For analyses concerning our country, these maps are preferable to those developed by the Joint Research Centre of the European Commission, although the latter have the undeniable advantage of being available at the European level and, therefore, useful for comparisons with other European countries. See Loberto M. and Spuri M. (2023) "L'impatto del rischio di alluvione sulla ricchezza immobiliare in Italia", Questioni di economia e finanza, N. 768, Banca d'Italia.Bank of Italy Occasional Papers.

8 Information on the energy efficiency of properties is necessary to fulfill reporting obligations under the so-called third pillar and for the calculation of the Green Asset Ratio, as required by the Taxonomy Regulation. Furthermore, the use of this information is recommended by the EBA Guidelines on loan origination and monitoring, which have been adopted by the Bank of Italy as supervisory guidelines for banks and intermediaries under Article 106 of the *Consolidated Law* on *Banking* (TUB). Italian banks show a relatively low percentage of property guarantees accompanied by certified energy consumption data (17 percent, compared to a EU average of 32 percent; Banca d'Italia, "Impatti contabili dei rischi climatici e ricognizione delle disclosure ESG. Prime evidenze sulle banche italiane", December 2023).

The inability to access SIAPE microdata creates a competitive disadvantage for Italian banks. For example, similar data are publicly available in France, England, and Spain. The Sustainable Finance Coordination Table established at the Ministry of Economy and Finance[9] has initiated a working group with the aim of improving accessibility and integrating databases on environmental and climate risks.

Despite these informational limitations, "green" mortgages can play a very important role in achieving the objectives set by the EPBD[10]. Currently, there is no harmonized definition of this instrument. Banks often classify loans as "green" based on internally developed criteria that, in some cases, comply with market standards, or with the technical screening criteria of the European Union's Taxonomy[11]. Typically, these are mortgages for the purchase of homes with high energy performance (generally, class A or B), or for improving the energy efficiency of a property by at least two classes.

An edition of the Regional Survey on Bank Credit conducted by the branches of the Bank of Italy shows that in 2022 the phenomenon of "green" mortgages was rapidly evolving. A group of 244 individual banks, broadly representative of the Italian banking system, participated in the survey. Of these, over 200 – accounting for more than 90 percent of the sample in terms of total assets – stated that they acquired information on the energy class of properties at the time of loan disbursement. However, the percentage drops to 64 percent when considering only those willing to share information about the phenomenon, and to 54 percent when considering only those that actually provided data on "green" mortgages. Based on this data, the flow of this type of loans in 2022 amounted to approximately 3.5 billion euros, representing 12 percent of mortgage disbursements by the reporting banks.

The fact that only a minority of banks, mostly large ones, are able to provide data on "green" mortgages may reflect various causes. In particular, banks may encounter difficulties in applying the criteria of the EU Taxonomy. They may also want to avoid accusations of greenwashing due to the lack of an official definition. In this regard, the EBA has recently advised the European Commission to introduce a definition of green loans based on the EU Taxonomy, but also taking into account and valuing market practices and prevailing industry standards[12].

An analysis based on data from the MutuiOnline portal shows that between September 2022 and June 2023 "green" mortgages offered by banks affiliated with the platform benefited from an average interest rate discount of 7 basis points compared to other

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9 The Table, chaired by the Treasury Department of the Ministry of Economy and Finance, was established in the autumn of 2022 and includes the Ministry of Environment and Energy Security (MASE), the Bank of Italy, the National Commission for Companies and the Stock Exchange (CONSOB), the Institute for the Supervision of Insurance (IVASS), and the Pension Funds Supervisory Commission (COVIP).

10 Abate, L., Lionetti, V., and Michelangeli, V. (2024), "Is the Italian green mortgage market ready to take off?", mimeo, Bank of Italy.

11 European Banking Authority (2023*), EBA Report in response to the Call for Advice from European Commission on green loans and mortgages*, N. 38.

12 EBA (2023). *Opinion of the European Banking Authority on green loans and mortgages*, N. 13, December.

mortgages, other things equal. The discount could be explained by the lower credit risk of these loans. Numerous studies show that higher energy efficiency of a property tends to be associated with a lower risk of default, as the borrower bears lower costs for managing the property and is less exposed to future energy price fluctuations[13]. In case of default on a "green" mortgage the loss for the bank is on average lower[14].

Currently, "green" mortgages do not benefit from a preferential prudential treatment and, in particular, do not absorb less capital than others. In perspective, should the evidence on the reduction of risk parameters (PD and LGD) become robust enough to be used for new estimates by banks adopting internal models, or to justify a review of the standard method for calculating capital requirements, the discount on "green" mortgages could further increase. To promote the development of these instruments, it could also be useful to provide consulting services to property owners on available technical options for improving energy efficiency, achievable savings, financing methods, and incentives. The experience of so-called one-stop shops in various European countries goes in this direction; although these services are managed by the public administration at the national or local level, banks could equip themselves to offer similar consulting services to their clients.

The role of the national legislator

I conclude with some indications for the design of real estate policies set forth in a recent study by researchers at the Bank[15], indications that present similarities with the principles of the United Nations that will be illustrated during the conference.

Incentives to improve the energy efficienty of real estate properties, especially housing, should be designed according to a series of criteria. They should primarily target needy families and, under the same family conditions, less energy-efficient homes. They should be limited to owner-occupied homes, excluding second homes and vacant homes, which

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13 European Commission (2021a), "*Report on risk assessment: The Quantitative Relationship between Energy Efficiency Improvements and Lower Probability of Default of Associated Loans and the Increased Value of the Underlying Assets*"; Guin, B., and Korhonen, P. (2020), "*Does Energy Efficiency Predict Mortgage performance?*", Bank of England, Staff Working Paper, N. 852; Billio, M., Costola, M., Pelizzon, L., and Riedel, M. (2020), "*Final Report on Correlation Analysis between Energy Efficiency and Risk*", WP5/D5/7, EdDaPP.; Billio, M., Costola, M., Pelizzon, L., and Riedel, M. (2021) "*Buildings' Energy Efficiency and the Probability of Mortgage Default: The Dutch Case.*" J. Real Estate Financ. Econ.; An, X., and Pivo, G. (2020), "*Green buildings in commercial mortgage backed securities: the effects of LEED and energy star certification on default risk and loan terms.*" Real Estate Economics, 48(1), pp. 7-42; Zancanella, P., Bertoldi, P., and Boza-Kiss, B. (2018), "*Energy efficiency, the value of buildings and the payment default risk*", EUR 29471 EN, Publications Office of the European Union, Luxembourg, ISBN 978-92-79-977510, doi:10.2760/267367, JRC113215; Colabella, A., Lavecchia, L., Michelangeli, V., and Pico, R. (2023), "*To eat or to heat: are energy bills squeezing people's spending?*", Banca d'Italia, Questioni di Economia e finanza, N. 800.

14 Reusens, P., Vastmans, F., and Damen, S. (2023), "*A new framework to disentangle the impact of changes in dwelling characteristics on house price indices*", Economic Modelling, 123, 106252; Kahn, M. E., and Kok, N. (2014), "*The capitalization of green labels in the California housing market",* Regional Science and Urban Economics, 47, 25-34.

15 de Blasio et al. (2024), "Improving the Energy Efficiency of Homes in Italy: State of the Art and Considerations for Public Interventions", Banca d'Italia Occasional papers series, No. 845.

constitute almost a third of the total[16]. They should involve adequate cost sharing by the beneficiary to limit moral hazard, be modulated based on expected energy savings, and remain stable over time, to allow property owners to fully understand their characteristics and plan investment.

Furthermore, there should be a more balanced set of tools, taking into account the characteristics of different categories of recipients: alongside tax deductions and credits (currently prevalent in Italy), direct subsidies and support for access to credit could be introduced. Finally, efforts should be made to reduce bureaucratic burdens for property redevelopment, to facilitate those who decide to invest in the energy efficiency of their homes.

16 Based on data from the Istat Permanent Population Census for 2021.

Designed by the Printing and Publishing Division of the Bank of Italy