

Appendix: eligibility criteria for Italian Green Residential Real Estate

Following the best current market practices, Crédit Agricole Green Bond Framework defines the Green Real Estate as “Loans or investments to finance new or existing residential buildings aligned with current environmental regulation and belonging to the top 15% of the most carbon efficient buildings (kg CO₂e/sq m) in their respective countries”.

The definition of the top 15% of the most carbon efficient buildings varies over time and location depending on the energy performance of existing building stock. This appendix is dedicated to residential real estate in Italy to specify the eligibility criteria implemented by Crédit Agricole Italia Banking Group (the “CAIBG”) for its Green Covered Bonds.

Analysis of current Italian Building Stock:

Overall, the Italian stock has experienced a massive change in energy efficiency according to the construction year. For those buildings built before 1991, G and F classes weighted about 60-70% while during the period 1992-2005, the intermediate energy classes (i.e. C, D) significantly increase their contribution. This is the first signal of a real moderate change in the real-estate sector towards energy efficiency. Concerning EPC label G, the Italian Law 10/1991¹ contributes to halving its contribution in the same period.

Accordingly, the legislative Decree 192/2005 introduced more severe restrictions to support energy efficiency-boosting while the Ministerial Decree 26/06/2015 also provides massive support to the transition to high energy-efficient buildings.

In the last decade, the European Union has taken a wide range of initiatives to accelerate the transition to a clean energy economy. Real-estate is the most consuming energy sector (around 40%), and it is responsible for approximately 36% of the actual European greenhouse emissions².

Considering the energy efficiency section, Italy has been adopting a mix of fiscal, economic, regulatory measures to reduce by 43.0% the primary energy consumptions before 2030, compared to the PRIMES³ baseline scenario. On the other hand, the EU set an indicative reduction goal of -32.5%, around ten basis points lower than the Italian one. This result suggests the importance of effective measures trimming the existing average gap in Italy's energy efficiency and many other European countries.

¹ <https://www.efficientaenergetica.enea.it/component/jdownloads/send/27-leggi/66-legge-9-gennaio-1991-n-10.html>

² https://ec.europa.eu/energy/topics/energy-efficiency/energy-efficient-buildings/energy-performance-buildings-directive_en

³ “The PRIMES model, run by the E3MLab of National Technical University of Athens (NTUA), has been used to quantify the Baseline scenario for all the EU-27 Member-States up to the year 2030. PRIMES is a partial equilibrium model of the EU energy system providing projections for the medium and long term starting from 2010 and running up to 2030 with results for every fifth year. The PRIMES model was complemented by a series of specialised models and databases, including the POLES world energy model and the GEM-E3 macroeconomic model.”, Trends to 2030 – Update 2007, European Commission, Directorate-General for Energy and Transport, April 2008, Available At: https://ec.europa.eu/energy/sites/ener/files/documents/trends_to_2030_update_2007.pdf.

Comparison between EU and Italian 2020 & 2030 energy targets

	2020 OBJECTIVES		2030 OBJECTIVES	
	EU	ITALY	EU	ITALY
RENEWABLES ENERGIES (RES)				
Share of energy from RES in the final gross consumption	20%	17%	32%	30%
Share of energy from RES in the final gross consumption in the transport sector	10%	10%	14%	22%
Share of energy from RES in the final gross consumption for heating and cooling			+1.3% per year (indicative)	+1.3% per year (indicative)
ENERGY EFFICIENCY				
Reduction in primary energy consumption compared to the PRIMES 2007 scenario	-20%	-24%	-32.5% (indicative)	-43% (indicative)
Final consumption savings as a result of obligatory energy efficiency systems	-1.5% per year (without transport sector)	-1.5% per year (without transport sector)	-0.8% per year (with the transport sector)	-0.8% per year (with the transport sector)
GREENHOUSE GAS EMISSIONS				
Reduction in GHG vs 2005 for all plants subject to ETS rules	-21%		-43%	
Reduction in GHG vs 2005 for all non-ETS sectors	-10%	-13%	-30%	-33%
The overall reduction in greenhouse gases compared to 1990 levels	-20%		-40%	
ELECTRICITY INTERCONNECTEDNESS				
Level of electricity interconnectedness	10%	8%	15%	10%
Electricity interconnection capacity (MW)		9.285		14.375

Source: CRIF elaboration from Italian Integrated National Energy and Climate Plan, 2019

Looking at the Italian real estate market, in 2016, over 19 million buildings owned by individuals consists of principal residences together with more than 13 million ancillary buildings (e.g. garage) over 57 million dwellings⁴.

The first Italian National Energetic Plan was introduced in 1991 while the energy label (ACE - Attestato Certificazione Energetica) in 2005 because of the EU Directive 2002/91 on the EPBD (ENEA, 2020). Nowadays, the building's energy performance certificate consists of the APE – Attestato Prestazione Energetica (2015). According to the existing law, the EPC is mandatory in rent, acquisition, construction of a new building and energy renovation.

In this context, based on the existing methodology, the energy performance is defined through a ranking from A4 (more efficient) to G (less efficient) and expressed in KWh/m^2 per year.

⁴ Agenzia delle Entrate, 2019, Available at:

<https://www.agenziaentrate.gov.it/portale/documents/20143/2239117/1.+Lo+stock+immobiliare+in+Italia+analisi+degli+utilizzi.pdf/138b6e74-f5a5-f574-c16c-7d6bee248b06>

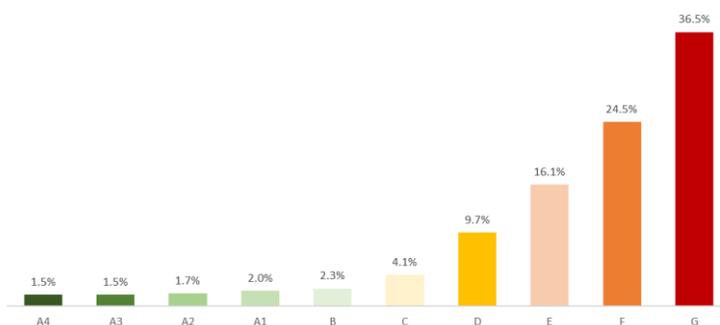
The dwelling's energy class is assigned computing a non-renewable global energy performance index ($EP_{gl,nren}$). Under specific criteria, the assigned rating returns a numeric value indicating both the building's energy demand and consumption of non-renewable energy sources.

The $EP_{gl,nren}$ ⁵ provides information about the kilo-wattage of energy required by the building under standard conditions per every square meter of floor-space heated over a year.

As represented in the figure here below, more than one-third of the data pool consists of G labelled buildings. Besides adding EPC F, more than half of the dataset is represented, while A4 and A3 properties weigh 1.5%. With this regard, adding EPCs A (i.e. A4, A3, A2, A1), B and C the 13.1% of the pool is identified. As a result, A, B and C labelled Italian residential properties can be considered to align the top 15% of the Italian stock's most energy-efficient buildings.

Class	Threshold
A4	$\leq 0,4 EP_{gl,nren}$
A3	$\leq 0,6 EP_{gl,nren}$
A2	$\leq 0,8 EP_{gl,nren}$
A1	$\leq 1,0 EP_{gl,nren}$
B	$\leq 1,2 EP_{gl,nren}$
C	$\leq 1,5 EP_{gl,nren}$
D	$\leq 2,0 EP_{gl,nren}$
E	$\leq 2,6 EP_{gl,nren}$
F	$\leq 3,5 EP_{gl,nren}$
G	$> 3,5 EP_{gl,nren}$

Distribution (%) of EPCs for residential buildings



Source: CRIF elaboration on SIAPE⁶ data

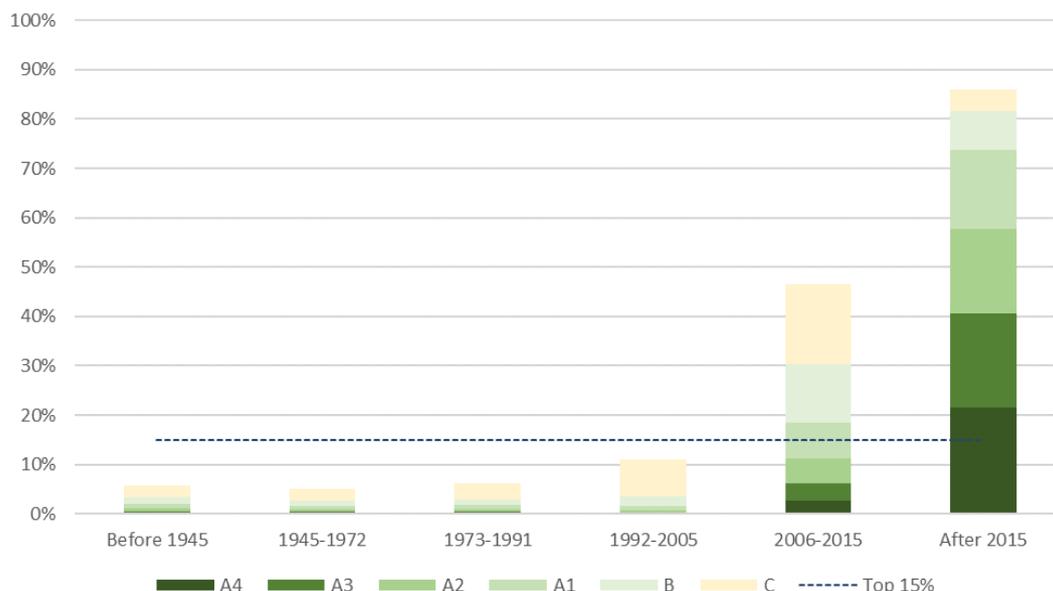
Accordingly, the legislative Decree 192/2005 introduced more severe restrictions to support energy efficiency-boosting while the Ministerial Decree 26/06/2015 also provides massive support to the transition to high energy-efficient buildings. Consequently, around 86% of residential properties built after 2015 and stored in the SIAPE data pool are A, B and C labelled.

Finally, filtering on new residential properties built after 2015 only, the next figure shows the distribution of EPCs in the SIAPE database. An additional filter on the year of EPC issuance is applied to the analysed period 2016-2020. The analysed perimeter is slightly lower than 5% of the entire pool of residential EPCs, uploaded in the SIAPE system. This result is in line with the rate of new constructions concerning the Italian stock in the last years. As a result, 98.3% of newly-built properties present an EPC equal or better to the C class.

⁵ Expressed in kWh/m²

⁶ Accordingly, the Italian Decree issued on 26th of June 2015 introduced a new national database to gather EPCs from regions to provide an overview of the National building stock and allow a more detailed analysis at the regional level. ENEA manages the SIAPE system

Distribution (%) of EPC classes A (A4, A3, A2, A1), B and C per year of construction

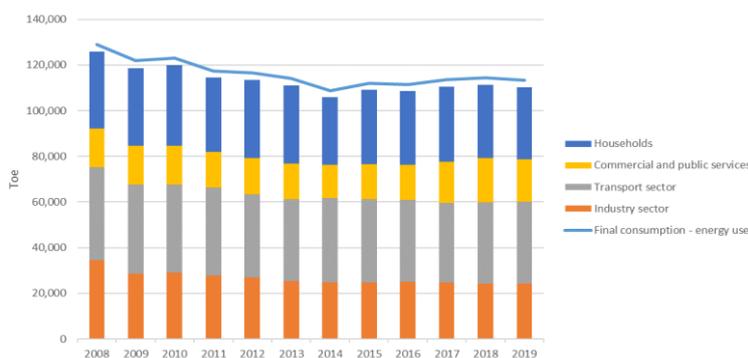


Source: CRIF elaboration on SIAPE data

Residential buildings with A, B, or C EPC or built after 2015 (in absence of EPC) strictly belong to the top 15% of the most energy efficient buildings in Italy.

The real estate market and households sector represent a strategic arena where energy-efficient measures can impact achieving CO₂ reduction target, improving the life quality of inhabitants and supporting the financial industry in the process of 'green' identification and labelling.

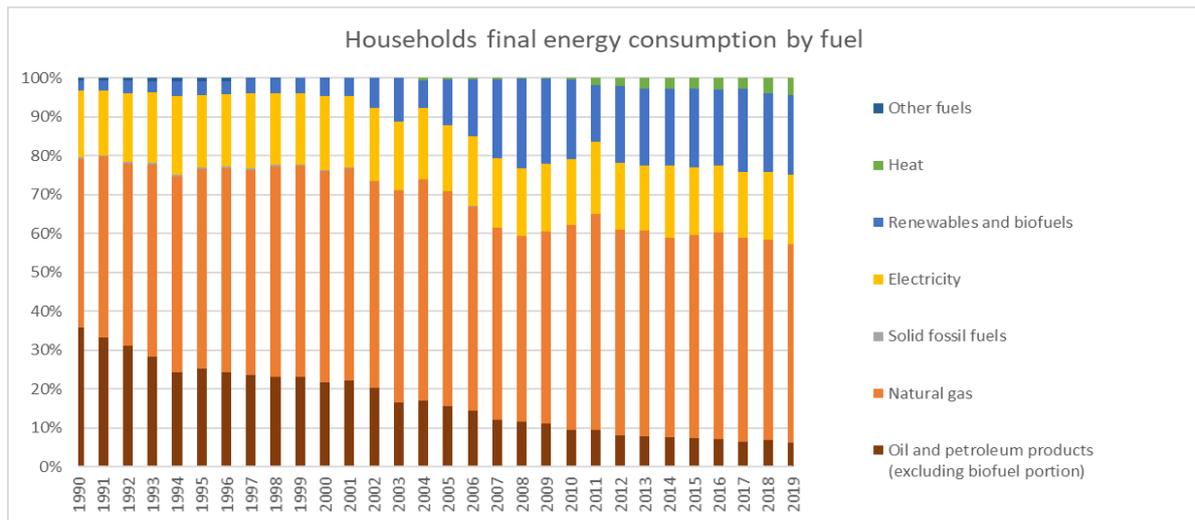
Final energy consumption by sector, Italy



Source: CRIF elaboration on Eurostat data

With this regard, the next figure shows how oil and petroleum households' consumption decreased over time, passing from around 36% in 1990 to 6% in 2019. Conversely, in the last years, the heating systems rose, and renewables and biofuels sources show a considerable increase from 2005, leading to 21% of consumptions in 2019. Electricity and gas use remains relatively stable on average, 18% and 52% respectively.

Households final energy consumption by fuel



Source: CRIF elaboration on Eurostat data

Consequently, the new residential buildings can contribute to decarbonizing the energy mix consumed by the residential sector in Italy.

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Eligibility criteria for Crédit Agricole Italia Green Covered Bond:

CRITERION 1: TOP 15% ENERGY-EFFICIENT RESIDENTIAL BUILDINGS PROXY USING EPC

Home loans financing the acquisition of Italian residential properties with A, B, and C EPC in force.

CRITERION 2: TOP 15% ENERGY-EFFICIENT RESIDENTIAL BUILDINGS PROXY USING THE YEAR OF BUILDING'S CONSTRUCTION

Home loans financing the acquisition of Italian newly residential buildings built after the 1st January 2016 after application of a prudent 2.5% haircut over the pool identified under this criterion.

Crédit Agricole Italia is committed to regularly update this appendix in order to take into account the most recent Green Bond regulation and Green Real Estate standards