

TECHNICAL REPORT

CRÉDIT AGRICOLE ITALIA

ANNEX – ELEGIBILITY CRITERIA FOR NEW CONSTRUCTION



Bologna, 12/09/2023



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1. ELIGIBILITY CRITERIA AND EU TAXONOMY

The European Green Deal, and European policies in general, have changed the standards to define economic activities that contribute to reducing the impact on the environment. The Delegated Act of the European Taxonomy aims to determine which economic activity contributes substantially to climate change mitigation.

This annex provides a short overview of the European taxonomy and its objectives (1.1). Furthermore, the document focuses on the impact of the taxonomy on criteria for construction and real estate (1.2). It not only reports the new criteria but also describes a methodology (1.3) to measure if a residential property has a Primary Energy Demand that respects the Technical Screening Criteria (TSC) of EU taxonomy (1.4).

Then a new criterion for new construction was added, as defined by the technical screening criterion 7.1. In this regard only energy metrics are considered in this report, the criterion of substantial contribution to climate change mitigation itself.

1.1. The European Taxonomy

The European Taxonomy, as defined by Regulation (EU) 2020/852 (EU Taxonomy Regulation) and related Delegated Acts, establishes a classification system for economic activities that are considered aligned with the objectives of the European Green Deal. In particular, *the Taxonomy Regulation establishes six environmental objectives:*

- A. *Climate change mitigation*
- B. *Climate change adaptation*
- C. *The sustainable use and protection of water and marine resources*
- D. *The transition to a circular economy*
- E. *Pollution prevention and control*
- F. *The protection and restoration of biodiversity and ecosystems¹*

¹ EU taxonomy for sustainable activities: article 9 - Regulation (EU) 2020/852 of the European parliament and of the council of 18 June 2020

A first delegated act on sustainable activities for climate change adaptation and mitigation objectives was published in the Official Journal on 9 December 2021 and has been applicable since January 2022. A second delegated act for the remaining objectives will be published in 2022. Under the EU Taxonomy, technical screening criteria (TSC) define if an economic activity contributes substantially to the previously listed sustainability objectives. Thus, the taxonomy will play a crucial role in the implementation of the European green deal and to scale up sustainable investment through the orientation of public and private strategies. In this way, the European regulations should protect investors from greenwashing and help companies to be climate-friendly. Clearly, finance is a critical enabler of improvements in existing industries in Europe and globally.

The Taxonomy *also sets out four conditions that an economic activity has to meet to be recognized as Taxonomy aligned:*

- *making a substantial contribution to at least one environmental objective;*
- *doing no significant harm to any other environmental objective;*
- *complying with minimum social safeguards;*
- *complying with the technical screening criteria.*

These technical screening criteria are developed in delegated acts. For each economic activity considered, the technical screening criteria specify environmental performance requirements that ensure the activity makes a substantial contribution to the environmental objective in question and does no significant harm to the other environmental objectives.

The technical screening criteria for ‘substantial contribution’ to an environmental objective ensure that the economic activity either has a substantial positive environmental impact or substantially reduces negative impacts on the environment, e.g. substantially reduced levels of greenhouse gas emissions.

The technical screening criteria for ‘do no significant harm’ ensure that the economic activity does not impede on the other environmental objectives from being reached, i.e. it has no significant negative impact on them.

Both sets of criteria together ensure coherence between the objectives in the EU Taxonomy and guarantee that progress towards one objective is not made at the expense of another.

The performance thresholds in these criteria are science-based and developed on the basis of a robust methodology and an inclusive process. They identify criteria for economic activities that can set sectors on a path consistent with

the EU's climate and environmental goals, based on currently available technologies. Substantial contribution to climate change mitigation, for example, means levels of performance that are aligned with climate neutrality and limiting the increase in temperature to 1.5 degrees Celsius globally. For climate change adaptation this means the implementation of solutions to substantially reduce the most significant identified climate risks to a particular activity such as wildfires, storms or droughts. The Taxonomy Regulation calls such activities 'environmentally sustainable': but this does not mean that activities that do not meet these four conditions are 'unsustainable'.

1.2. European Taxonomy and Real Estate

The following paragraph outlines the need to look in detail at the application of the EU Taxonomy, CRIF focuses on the Italian context, in particular, buildings and related energy performance. This section aims to analyze the energy performance requirements for real estate properties, to identify thresholds compliant with the EU Taxonomy. The Technical Screening Criteria cover different sectors; section 7 of the delegated act focuses on construction and real estate activities, describing the type of activity and the criteria to reach sustainable objectives. In particular, criteria are defined for 7 different activities linked with real estate:

1. **Construction of new buildings:** *Development of building projects for residential and non-residential buildings by bringing together financial, technical and physical means to realize the building projects for later sale as well as the construction of complete residential or non-residential buildings, on own account for sale or on a fee or contract basis. [...]*
2. **Renovation of existing buildings:** *Construction and civil engineering works or preparation thereof. [...]*
3. **Individual renovation measures consisting in installation, maintenance or repair of energy efficiency equipment.** [...]
4. **Installation, maintenance and repair of charging stations for electric vehicles in buildings and parking spaces attached to buildings.** [...]
5. **Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings**
6. **Installation, maintenance and repair of renewable energy technologies, on-site.**

7. *Acquisition and ownership of buildings: Buying real estate and exercising ownership of that real estate.*²

This analysis will focus on activities 1 and 7 in order to define a new set of criteria to complement those already described in paragraph 2 in the technical report published in 2021. In particular, CRIF analyzed the requirement of “the top 15% of the national or regional building stock expressed as operational Primary Energy Demand (PED) and demonstrated by adequate evidence, which at least compares the performance of the relevant asset to the performance of the national or regional stock built before 31 December 2020 and at least distinguishes between residential and non-residential buildings” referred to Acquisition and ownership of buildings in Delegated Act. In addition, the same approach was used to analyze and examine the stricter requirements for new construction, or rather the construction of new high-performance buildings while adhering to the appropriate criterion: “The Primary Energy Demand (PED), defining the energy performance of the building resulting from the construction, is at least 10 % lower than the threshold set for the nearly zero-energy building (NZEB) requirements in national measures implementing Directive 2010/31/EU of the European Parliament and of the Council.”

Figure 22 – Technical screening criteria for determining the conditions under which construction and real estate activities contributes substantially to climate change mitigation



Construction of new buildings

The Primary Energy Demand (PED), defining the energy performance of the building resulting from the construction, is at least 10 % lower than the threshold set for the nearly zero-energy building (NZEB) requirements in national measures implementing Directive 2010/31/EU of the European Parliament and of the Council (282). The energy performance is certified using an as built Energy Performance Certificate (EPC).



Acquisition and ownership of buildings

1. **For buildings built before 31 December 2020**, the building has at least an Energy Performance Certificate (EPC) class A. **As an alternative, the building is within the top 15 % of the national or regional building stock expressed as operational Primary Energy Demand (PED) and demonstrated by adequate evidence, which at least compares the performance of the relevant asset to the performance of the national or regional stock built before 31 December 2020 and at least distinguishes between residential and non-residential buildings.**
2. **For buildings built after 31 December 2020**, the building meets the criteria specified in Section 7.1 of this Annex that are relevant at the time of the acquisition.

² Regulation (EU) 2020/852 of the European parliament and of the council of 18 June 2020 – Section 7

Therefore, for a correct evaluation of real estate assets, the necessary information set for evaluating the taxonomic alignment regarding climate change mitigation objective is:

- Building construction date;
- Size of the building;
- Type of building and its energetic systems;
- Location;
- Primary energy requirement (Primary Energy Demand or PED);
- Energy label, if an Energy Performance Certificate is present

However, the current eligibility criteria, already described in chapter 2, focus on energy efficiency using the EPC label. The EU taxonomy has criteria based on an index of energy demand deriving from the EPC. The primary energy demand (PED) is defined as "*The calculated amount of energy needed to meet the energy demand associated with the typical uses of a building expressed by a numeric indicator of total primary energy use in kWh/m² per year and based on the relevant national calculation methodology and as displayed on the Energy Performance Certificate (EPC)*".³ The PED is one of the pieces of information included in the EPC. Therefore, through an analysis of these certifications, it is possible to verify if the properties are eligible using the criteria represented in figure 22.

1.3. Methodology for identifying new eligibility criteria under the EU Taxonomy

CRIF and CTI⁴ used statistical and expert approaches to define the PED thresholds referred to in sections 7.1 and 7.7 of the TSC. A precise definition of the thresholds that define the top 15% of most energy-efficient buildings or properties better than the so-called "nZEBs" (nearly Zero-Energy Buildings) are presented. The following methodology aims to identify the energy performance "threshold" below which a building can be considered energy-efficient, following the criteria represented in figure 22 and contributing to climate change mitigation.

An EPC database contains a significant data and information about each property for which an EPC has been released, and some of this information is needed to evaluate a property under the TSC. Especially the criteria for

³ Regulation (EU) 2020/852 of the European parliament and of the council of 18 June 2020 – note 281

⁴ The CTI is the Italian Standardization Body for energy efficiency and EPC:
<https://www.cti2000.it/index.php?controller=sezioni&action=lista&id=1>

acquisition and ownership of building. By having such data, it is possible to identify the top 15% threshold accurately. Starting with an EPC, it is necessary and sufficient to have the EP_{gl,nren} (PED in the Italian EPC) value for each dwelling, EP_{gl,nren} expressed the non-renewable primary energy used by the construction. EPCs have been analyzed by CRIF and CTI to define this TOP 15% in terms of PED in the Italian context, following the insights of data. Aggregated data or simulations have been used for clusters of properties with a number of certificates not statistically significant. As an example, to identify the “threshold” for buildings having a performance 10% better than so-called “nZEBs” (nearly Zero-Energy Buildings), aggregated data has been used due to the lack of information. In fact, nZEBs buildings are a very energy-efficient subset of the national building stock, but they are not uniformly present on the territory and for all building types. For the categories for which it was possible to collect sufficient data even after a data quality process, such as residential properties in colder climates, the maximum consumption of properties classified as NZEB was calculated, and then the 90th percentile was subsequently selected. In cases of the insignificant sample, expert thresholds were obtained also thanks to aggregated data. The following two paths have been used according to the availability of data:

- data from the public SIAPE or regional database (aggregated EPC data);
- data from regional database records (data for individual EPCs).

For new buildings, the absence of a national threshold for these properties makes it necessary to establish one outside the regulatory framework, in a scenario where properties labelled as nearly zero-energy buildings represent less than 0.1% of the entire Italian building stock. A mere data analysis was not enough to define all these policies because of the lack of data and the heterogeneity of the sample. The CTI and CRIF's approach and result are robust because the thresholds are applicable for all buildings, thanks to the evaluations of experts in real estate energy efficiency. The thresholds, for new and existing properties, can be applied to certificates prepared using older calculation methods, dating back to before 2015 and before the introduction of the new Italian legislation for the energy efficiency of buildings (some of these certificates are valid until 2025).

The thresholds that identify the green share of the Italian building stock that is the most energy-efficient differ according to:

- the year of construction of the property (pre- and post-2021 as per the Taxonomy),
- the climate zone, and
- intended use.

In conclusion, multiple thresholds are defined, according to the property features.

1.4. EU Taxonomy eligibility criteria

This paragraph illustrates the two technical screening criteria that CRIF used to evaluate the Crèdit Agricole Italia portfolio.

1.4.1. Construction of new building

Description of the activity

Development of building projects for residential and non-residential buildings by bringing together financial, technical and physical means to realise the building projects for later sale as well as the construction of complete residential or non-residential buildings, on own account for sale or on a fee or contract basis. [...]

Technical screening criteria - Substantial contribution to climate change mitigation

Constructions of new buildings for which:

- 1. The Primary Energy Demand (PED), defining the energy performance of the building resulting from the construction, is at least 10 % lower than the threshold set for the nearly zero-energy building (NZEB) requirements in national measures implementing Directive 2010/31/EU of the European Parliament and of the Council (282). The energy performance is certified using an as built Energy Performance Certificate (EPC).*
- 2. For buildings larger than 5 000 m², [...].*
- 3. For buildings larger than 5 000 m², [...].⁵*

CRIF and the CTI focused on properties with a surface of less than 5,000 square meters, therefore the first point of the article reported above. The energetic system's performance is easily measurable and with the EPC is possible to determine if a property respects the criteria with reasonable certainty.

⁵ Regulation (EU) 2020/852 of the European parliament and of the council of 18 June 2020 – 7.1

The thresholds defined by CRIF-CTI for newly built residential properties are shown in the table below:

Residential properties		Climate zone					
		A	B	C	D	E	F
Year of construction > 2020	NZEB – 10%	45	45	50	55	70	70
	PED						

1.4.2. Acquisition and ownership of buildings

Description of the activity

Buying real estate and exercising ownership of that real estate. [...]

Technical screening criteria - Substantial contribution to climate change mitigation

Constructions of new buildings for which:

1. *For buildings built before 31 December 2020, the building has at least an Energy Performance Certificate (EPC) class A. As an alternative, the building is within the top 15 % of the national or regional building stock expressed as operational Primary Energy Demand (PED) and demonstrated by adequate evidence, which at least compares the performance of the relevant asset to the performance of the national or regional stock built before 31 December 2020 and at least distinguishes between residential and non-residential buildings.*
2. *For buildings built after 31 December 2020, the building meets the criteria specified in Section 7.1 of this Annex that are relevant at the time of the acquisition.*
3. *Where the building is a large non-residential building [...]⁶*

The thresholds identified by CRIF and CTI did not fully meet the requirements of the EU taxonomy. For large non-residential buildings there are additional monitoring criteria that are not subject to analyses of this report.

The identified thresholds are as follows:

⁶ Regulation (EU) 2020/852 of the European parliament and of the council of 18 June 2020 – 7.7

Residential properties		Climate zone					
		A	B	C	D	E	F
Year of construction <= 2020	EPC Class	A					
	TOP 15% - PED	65	65	70	75	100	105

1.5. CAI eligibility criteria for construction of new building

For all buildings constructed after December 2020, CAI applies criterion 7.1 of EU technical screening, adopting the thresholds defined above (see 1.4.1). New properties are eligible only if these are highly efficient, mortgages for new buildings are evaluated following this criterion. This criterion will be represented as eligibility criterion number 3 (number 1 depends on the label, number 2 on the year of construction), as shown in the following table:

Criteria applicable to loans originated before the publication of the updated Crédit Agricole Green Bond Framework

Current Criteria	EPC available	EPC not available
Buildings built until 31 st Dec 2020	Criterion 1 EPC (A, B, C)	Criterion 2 Construction year (2016-2020)
Buildings built from 1 st Jan 2021	Criterion 3 - Technical screening criteria 7.1	Not eligible

Criteria applicable to loans originated after the publication of the updated Crédit Agricole Green Bond Framework

Target Criteria	EPC available	EPC not available
Buildings built until 31 st Dec 2020	Criterion 3 - Technical screening criteria 7.7	Not eligible
Buildings built from 1 st Jan 2021	Criterion 3 - Technical screening criteria 7.1	

2. Crédit Agricole Italia portfolio analysis

Under the criteria presented in Chapter 2 of the technical report and section 1.5 of this document, 9,539 eligible mortgages in the Crédit Agricole portfolio (following 'Portfolio') correspond to € 1,152,848,235 total current balance as at 30/06/2023. As shown in section 3.2.2 on the Technical Report: Green Covered Bond (Bologna, 02/03/2021), 98.3% of newly-built properties are eligible because of an EPC equal or better to the C class. For this reason, a haircut of 2.5% has to be applied to the value of the eligible portfolio under Criterion 2. Therefore, the total eligible amount decreases from € 1,159,675,929 to € 1,152,848,235. The average amount of the eligible current Portfolio's exposure⁷ is €120,859.

The first section will provide an overview of mortgages on a geographical level and time of origination. In the second section, the report focuses on the eligible properties, and therefore mortgages, because of their energy label and performance certificates (criterion 1, see paragraph 2.2.1) or because they have been recently built (criterion 2 and 3, see paragraph 2.2.2 and 2.2.3).

⁷ as at 30 June 2023

2.1. Overview of Crédit Agricole Italia’s Eligible Buildings

The following charts show the regional distribution of eligible buildings and the relative current financing amount; all the constructions under assessment are residential.

Firstly, figure 1 provides the distribution of buildings by the ISTAT area⁸; similarly, figure 2 shows the share in terms of the current financing amount.

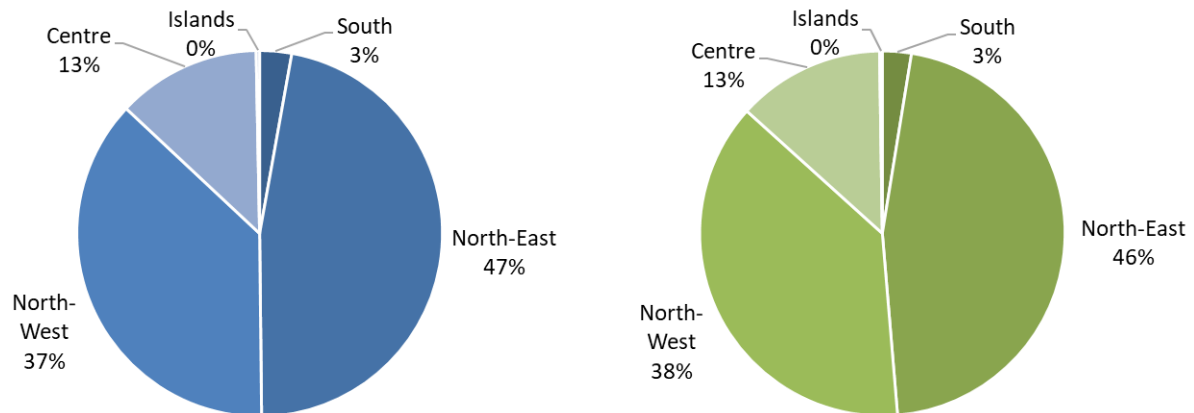


Figure 1 - Share of eligible properties according to the area breakdown Figure 1 - Share of the current financing amount according to the area breakdown

Source: CRIF elaboration on Crédit Agricole portfolio

Indeed, around 46% of the Portfolio is located in the North-East area, followed by North-West, with about 38% of the total. The central regions weigh approximately 13% while the South and Islands together about 3%. Overall, the Northern regions have a massive representation, counting for 84%. Accordingly, the following figure shows the overview of properties and the current financing amount by region. Moreover, the distribution of the Portfolio is analyzed through a colored scaled approach (see figure 2).

⁸ North-West: Liguria, Lombardia, Piemonte, Valle d’Aosta. North-East: Emilia-Romagna, Friuli Venezia Giulia, Veneto, Trentino-Alto Adige. Centre: Lazio, Marche, Toscana, Umbria. South: Abruzzo, Basilicata, Calabria, Campania, Molise, Puglia. Islands: Sardegna, Sicilia

Figure 2 – Distribution (%) of properties by ISTAT breakdown and regions



	Buildings	Current Ammount in mln €
1 Lombardia	2,340	307.98 €
2 Veneto	2,046	245.76 €
3 Emilia-Romagna	1,649	202.00 €
4 Piemonte	961	103.77 €
5 Friuli - Venezia Giulia	777	83.90 €
6 Toscana	645	82.58 €
7 Lazio	420	53.19 €
8 Campania	251	28.73 €
9 Liguria	245	28.18 €
10 Marche	97	10.08 €
11 Umbria	55	5.58 €
12 Trentino - Alto Adige	23	3.04 €
13 Sardegna	17	1.80 €
14 Sicilia	12	1.02 €
15 Abruzzo	8	0.73 €
16 Puglia	7	0.56 €
17 Valle d'Aosta	6	0.52 €
18 Basilicata	2	0.11 €
19 Calabria	1	0.07 €
20 Molise	1	0.06 €
Total	9,563	1,159.68 €

Source: CRIF elaboration on Crédit Agricole portfolio

The Lombardia is the most represented region, with around 24% of the buildings, closely followed by Veneto, approximately 22%, and Emilia-Romagna, 17%. Looking at the central area, Toscana weighs more than 6% of the whole Portfolio, while Campania is the most represented in the Southern region with 3%. Finally, only 0.3% of the Portfolio belongs to buildings in the islands.

2.2. Application of eligibility criteria

This section applies the eligibility criteria to the Portfolios, starting from the following table that provides an insight into the eligible financing according to the eligibility criteria. About 70% of the portfolio was assessed based on an EPC, and 3% is in line with the NZEB-10% threshold, the taxonomy requirement for new construction.

Table 1 - Overview of eligible financing per Criterion
Source: CRIF elaboration on Portfolio

Criterion	Number of loans	Current financing amount (mln €)
1 EPC (A, B, C)	6,470 68%	777,923,060 67%
2 Construction year (2016-2020)	2,354 25%	272,059,229 23%
3 Taxonomy (2021)	715 7%	109,693,640 9%
Grand Total	9,539	1,159,675,929

*As shown in section 3.2.2 on the Technical Report: Green Covered Bond (Bologna, 02/03/2021), 98.3% of newly-built properties are eligible because of an EPC equal or better to the C class. For this reason, a haircut of 2.5% has to be applied to the value of the eligible portfolio under Criterion 2. Therefore, the amount eligible for criterion 2 is €265,231,535 and the total eligible amount decreases from €1,159,675,929 to €1,152,848,235.

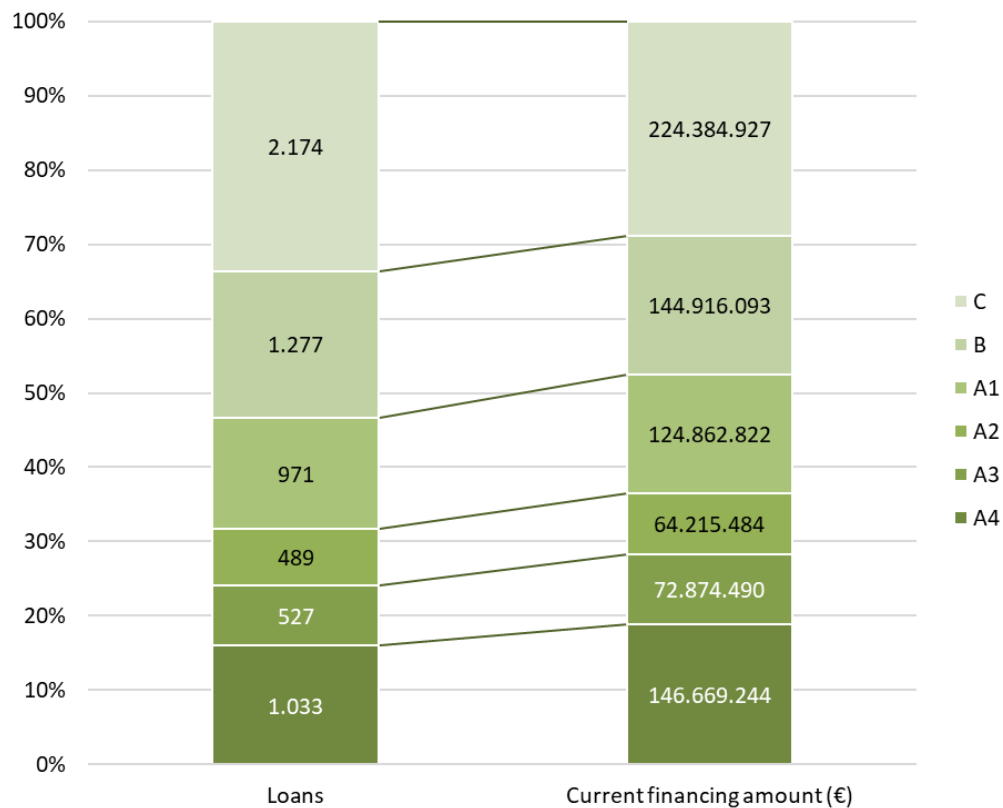
Table 6 - Overview of eligible financing per Criterion per year of origination
Source: CRIF elaboration on Portfolio

Criterion	Loan Origination	Number of loans	Current financing amount (€)
1 EPC (A, B, C)	Before 2017	4	282.280
	2017	233	23.030.655
	2018	908	95.620.643
	2019	804	88.977.737
	2020	1.552	190.972.170
	2021	1.546	192.043.613
	2022	1.423	186.995.962
Total Criterion 1		6.470	777.923.060
2 Construction year (2016-2020)	Before 2016	25	3.156.661
	2016	380	39.517.867
	2017	455	47.371.906
	2018	331	36.236.493
	2019	376	42.849.699
	2020	510	66.465.402
	2021	225	29.052.701
	2022	52	7.408.499
Total Criterion 2		2.354	272.059.229
3 Taxonomy	2021	252	37.800.610
	2022	463	71.893.030
Total Criterion 3		715	109.693.640
Grand Total		9.539	1.159.675.929

2.2.1. Eligibility under criterion 1 – TOP 15% of awarded EPCs at a national level

The eligible Portfolio under **Criterion 1** consists of 6,470 loans, and the next figure summarizes the EPC's distribution of the residential Portfolio. As the Portfolio contains EPCs issued before and after the *Requisiti Minimi* translated into law, bringing a new standardized labeling methodology, EPCs 'A', 'A+' are considered labeled as 'A1', as well as 'B+' from EPC 'B'.

Figure 3 – Distribution of EPCs for eligible loans and current financing amount under Criterion 1
Source: CRIF elaboration on Portfolio



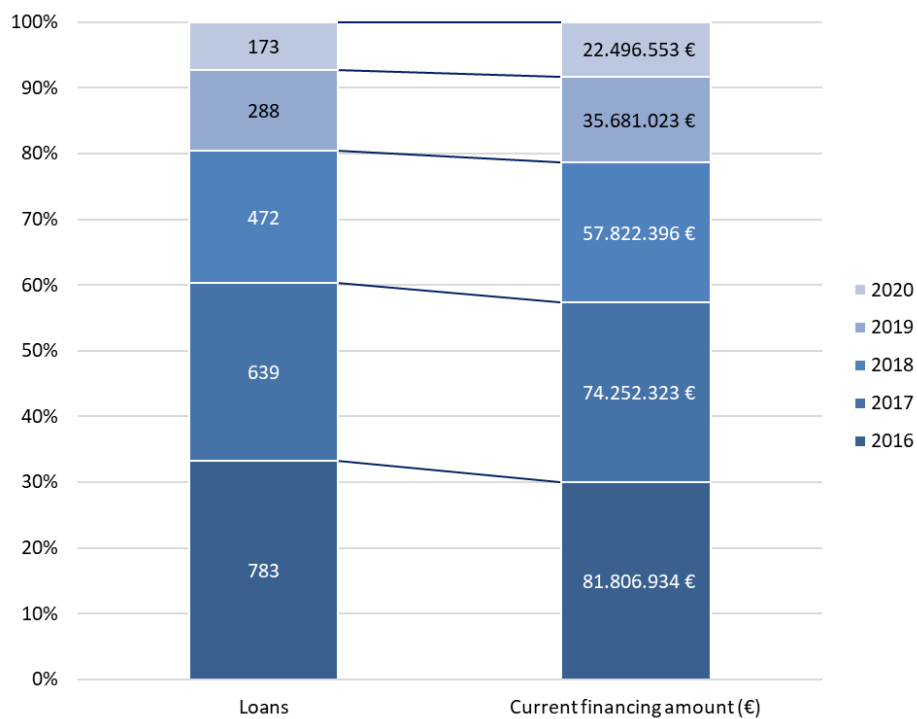
Among the eligible Portfolio, around 34% of buildings are 'C' class properties, but the current residual debt of those loans is around 29%. Conversely, buildings in class 'A' ('A4', 'A3', 'A2', 'A1', 'A' and 'A+') weight 47% of the Portfolio, in particular, 'A4' weight 16%; but the equivalent financing amount is 53% for those buildings in class 'A', with 'A4' at 19%.

2.2.2. Eligibility under criterion 2 – construction year

CRIF analyzed the Portfolio under Criterion 2, considering the existing law about *Requisiti Minimi* and the Italian residential stock distribution according to the construction year (since 2016). As stated in the present report, the current law prescribes the release of an EPC for new buildings. Figure 4 shows the distribution of the Portfolio’s eligible buildings under Criterion 2 (construction year since 2016). Besides, in 2016-2020, 98.3% of the EPCs issued for new residential buildings and uploaded in the SIAPE database ranged from C to A4.

The chart below represents the distribution of loans and the residual debt for the year of construction of the primary understanding buildings. The Portfolio is equally distributed over the different years of construction of the main building.

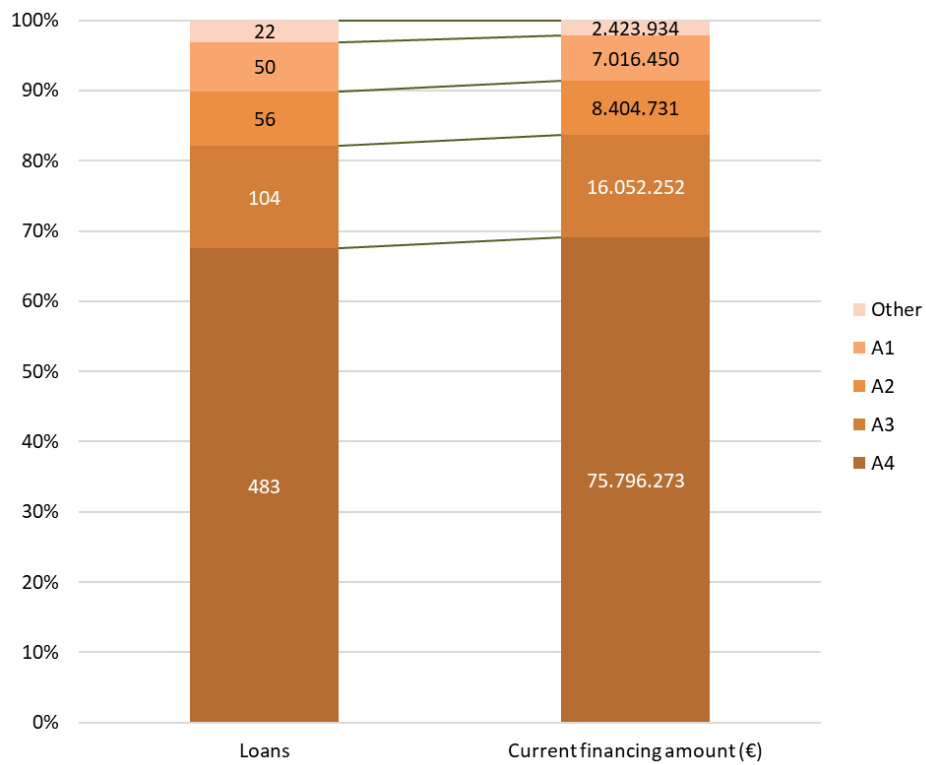
Figure 4 – Distribution of EPCs for eligible loans and current financing amount under Criterion 2
Source: CRIF elaboration on Portfolio



2.2.3. Eligibility under criterion 3 – Taxonomy (2021, NZEB-10%)

CRIF analyzed the Portfolio under Criterion 3 - Taxonomy, for building constructed after 2020. The eligible buildings under the 3rd criterion have high energy performance. In particular, 68% are in class A4, the best-performing one, and 69% of the residual debt is associated with the best EPC label.

Figure 5 – Distribution of EPCs for eligible loans and current financing amount under Criterion 3
Source: CRIF elaboration on Portfolio





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