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GREENING THE PRESENT TO DECARBONISE THE FUTURE: AN ANALYSIS OF ITALIAN BANKS' DECARBONISATION STRATEGIES

by Cristina Angelico*, Valeria Lionetti* and Ludovico Ridi*

Abstract

This paper offers an overview of Italian credit institutions' current strategies supporting their longer-term decarbonisation commitments. It exploits detailed survey-based information on the objectives and strategies of large and smaller banks. According to the data, the Italian banking system is starting to set medium to long-term decarbonisation strategies, especially for credit portfolios, by evaluating borrowers' climate ambitions and supplying green lending products. Larger institutions lead this process, but small institutions are also moving forward on this front. Our evidence suggests that banks' efforts go beyond regulatory requirements as even institutions outside the scope of forthcoming regulations are considering setting decarbonisation objectives. By doing so, institutions will enhance their business resilience, ensuring they can withstand and adapt to the evolving risks and opportunities presented by climate change and the transition to a sustainable economy.

JEL Classification: G21, G28, K20.

Keywords: banking and finance, decarbonisation strategies, transition plans, regulation and supervision.

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1 Introduction[1]

The European Union (EU) has positioned itself as a global leader in addressing climate change (see EC, 2021a). Its policy agenda leverages the development of an ambitious regulatory environment which enables households, companies, and the financial sector to transition towards a climate-neutral economy by encouraging investment in sustainable economic activities. The banking sector, as the primary source of funding for EU companies, is crucial for the EU to achieve its climate goals by supporting the financing gap needed for the transition to a low-carbon economy: credit institutions need to be ready to re-orient capital flows towards sustainable economic activities and to foster the transition of their counterparties through lending and investment (see EC, 2023).

Transition finance builds upon companies and financial institutions setting long-term decarbonisation strategies over longer time horizons than those typically used in corporate decision-making (i.e. 3-5 years) (see EC, 2023). Longer-term strategic planning indeed is key for companies and financial institutions to seize the opportunities and manage the risks which could arise from the decarbonisation of the real economy. Leveraging long-term strategies, companies and financial institutions can consistently define action lines and financial plans over short-, medium- and long-time horizons, thus developing well-structured transition plans that can serve as both strategic and risk management tools (see EC, 2023).

Recent EU legislative initiatives require credit institutions to define portfolio-level decarbonisation strategies and risk management processes as part of broadly defined transition plans. Even though the relevant legal provisions are not yet fully enforced, part of the EU credit institutions already defines and – when available – discloses decarbonisation strategies as part of non-financial disclosures and corporate sustainability reporting to the market. In the upcoming years, despite the potential revisions of the relevant legislative initiatives as part of the Omnibus proposal (see EC, 2025a; EC,2025b), institutions' transition plans and decarbonisation strategies could become a relevant tool to assess climate-related and environmental risks and opportunities for both investors and supervisors (see EC, 2024).[2]

To our knowledge, this paper is the first to provide a system-wide analysis of decarbonisation strategies in the Italian banking market. In the absence of structured datasets containing comparable information on credit institutions' sustainability practices, it leverages data collected through the Regional Bank Lending Survey (RBLS) of the Bank of Italy. Specifically, it explores '*the talk and the walk*', meaning how institutions frame their long-term strategic decarbonisation commitments (beyond the usual time horizon for corporate strategic planning) and what the associated strategic actions currently in place are along their portfolios and business lines. In addition, it investigates possible pull factors which could help explain the responses of the surveyed institutions, including the relevant regulatory and supervisory requirements which were expected to apply at the time of the

[1] We would like to thank Paolo Angelini, Enrico Bernardini, Ivan Faiella and Patrizio Pagano for the useful their comments and reviews. A special thanks to Diego Caprara for his technical support. All errors are our own.

[2] On the 8th of November 2024, President of the European Commission Ursula Von der Leyen announced a new strategic plan to boost the competitiveness of the European Union. The plan includes substantial regulatory simplification, including a reduction in the obligations descending from corporate sustainability reporting as per the Corporate Sustainability Reporting Directive (CSRD) and the Corporate Sustainability Due Diligence Directive (CSDDD). Negotiation is currently ongoing as part of the Omnibus Package.

survey, the importance of group-level dependencies, and the sectoral composition of institutions' credit portfolios. The analysis refers to a sample of Italian credit institutions responding as of the end of 2023 and representing 80 per cent of total assets in the Italian banking system. The analysis is not meant to discuss the appropriateness of the practices undertaken by institutions but rather to get an overview of where the banking system was heading at the time the survey. In the current context characterized by broad uncertainty around the regulatory framework, the analysis sheds light on the actions undertaken, ongoing, or planned by financial institutions to achieve their long-term decarbonisation targets with the final aim to provide insights on the strategies that the institutions may pursue in the future regardless of regulatory requirements or their potential lost investments in the case they retrench on their decarbonisation goals. It must be admitted, however, that the analysis cannot capture recent events (e.g. the departure of some leading US and Japanese banks from the Glasgow Financial Alliance for Net Zero (GFANZ) and the revisions of climate disclosure requirements in several regions), which will need to be taken into account in future work.

The paper contributes to the scant literature on the topic. Existing papers have been focusing on larger credit institutions, typically listed or global systemically important banks (see Di Maio et al., 2023; Angelico et al., 2024). Our study instead covers not only larger (i.e. Significant Institutions) but also smaller institutions (i.e. Less Significant Institutions), which will be proportionally subject to some of the regulatory initiatives on transition plans and which could play a crucial role in supporting the transition of local economies as they often have a retail-oriented business model with relevant ties to small and medium-sized enterprises (SMEs) (see EC, 2021). Further, the analysis exploits a rich dataset which contains entity-level responses providing a comprehensive overview of the strategic actions undertaken by credit institutions and to investigate the possible drivers.

The data shows that the Italian banking system has started planning long-term strategic objectives to reduce greenhouse gasses (GHGs) emissions in line with the targets set by international and national laws. While larger institutions have the lead in the process, also smaller institutions are moving forward, often leveraging group-level strategies. Three pull factors may help interpret this finding. First, long-term strategic decarbonisation objectives may be non-trivial and costly to define. Second, credit institutions are subject to proportional supervisory regimes, with larger institutions expected to embed sustainability risks in their business strategies by 2022 and smaller institutions expected to do so by the end of 2025. Finally, the regulatory provisions on strategy-based transition plans, which were expected to apply at the time of the survey, referred mostly to larger institutions.[3] Noticeably, the effort of the banking system seems to exceed the scope of application of the relevant regulatory and supervisory requirements, as also institutions which are not in the scope of such provisions declared that they had started undertaking decarbonisation actions, possibly motivated by the potential benefits stemming from setting and disclosing long-term decarbonisation strategies in terms of business opportunities, risk management, and reputational reward.

Long-term decarbonisation strategies mostly focus on credit portfolios (i.e. borrowers' emissions) and corporate operations, rather than investment portfolios and services, possibly reflecting the predominance of the traditional banking model among Italian credit institutions (see BI, 2024b). Besides, the respondents' propensity to define decarbonisation actions on credit portfolios appears to

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[3] Namely, the Corporate Sustainability Reporting Directive (CSRD) and the Corporate Sustainability Due Diligence Directive (CSDDD).

be related to its sectoral composition: the more institutions are exposed to specific carbon-critical sectors (namely, carbon-intensive manufacturing and electricity), the more likely they are to undertake decarbonisation actions on lending practices.

To meet their decarbonisation objectives on the credit portfolios, institutions evaluate borrowers' climate ambitions as part of the credit granting process, while limiting the use of sectoral targets. The limited use of sectoral targets suggests that institutions foster sustainability practices while avoiding abrupt capital outflows from carbon-intensive sectors or firms, thus reducing the risks of potential unintended consequences associated with the transition to a low-carbon economy (see Angelini, 2024). At the same time, this fact is of particular relevance as it highlights that, while the Omnibus proposal is expected to limit sustainability reporting from non-financial companies, information on corporates' strategies to reduce GHGs emissions remains essential for credit institutions to support the transition of borrowers and investees, by differentiating among companies operating within the same sector of activity, as well as to set and achieve institutions' own decarbonisation objectives.

Lastly, credit institutions declare they plan to enhance the "greenness" of their lending portfolios by issuing green products. Such a strategy may help mitigate their exposure to climate and environmental risks while seizing the opportunity to expand their market share.

The rest of the paper is structured as follows: Section 2 discusses the relevance of business strategies in the context of transition plans and provides an overview of the EU regulatory framework on the topic; Section 3 describes the sample of surveyed institutions; Section 4 and 5 present an overview of the Italian credit institutions' decarbonisation objectives and the actions undertaken or planned to achieved them; Section 6 concludes the paper.

2 A strategic approach to the transition: transition plans in the EU legislation

The transition towards the climate objectives outlined in the Paris Agreement and embedded in the EU legislation entails technological, social, and regulatory changes which involve the economic system as a whole. This transformation can create business opportunities for both the productive and the financial sectors, but it requires assessing and managing the risks that may arise from stranded assets and from extreme climate-related events, as well as to harness the opportunities from sustainable investments that support the transition.

Opportunities and risks from climate and environmental factors are likely to manifest over time horizons which are typically longer than those considered in corporate decision-making. Addressing these factors requires an integrated approach towards the management of today's business and the planning for the future. This approach, traditionally referred to as 'managing with dual strategies' (see Abell, 1993), implies not only the revision of institutions' strategic planning, but it also entails changes to the organizational structure and to the management control, as well as to policies and procedures in place. If appropriately integrated into the overall strategy of institutions, decarbonisation objectives could influence their competitive positioning in the market and help them seize the opportunities arising from changes in the external environment. Indeed, this strategic approach should not be limited to the long-term: it must co-exist coherently and flexibly with the planning and the actions undertaken in the short-term, in order to develop and consolidate the skills and resources needed to maintain the competitive advantage and profitability over time.

Developing a strategic approach in the short- and long-term also involves assessing the potential impact of climate-related risks on the resilience of institutions’ business models and traditional categories of financial risks. Supervisors emphasize the need for institutions to adopt a forward-looking approach and consider a longer-than-usual time horizon when assessing and managing climate and environmental risks. Therefore, risk management processes and methodological tools will need to be adapted, as well as governance arrangements and internal and external reporting.

Transition plans constitute an emerging key element for credit institutions to set decarbonisation strategies: these plans describe how a financial institution intends to align its activities with climate objectives while managing the risks and the opportunities associated with the transition. They can be classified as follows (see NGFS, 2023):

- Strategy-focused plans, aim to provide external transparency on an institution's strategic approach to achieving specific climate goals. They have a broader scope in terms of content and application and are often publicly disclosed.

- Risk mitigation-focused plans, have a narrower scope in terms of content and application and focus on the management of the financial risks associated with the transition to a low-carbon economy. They are not necessarily publicly disclosed.

Transition plans can facilitate institutions’ strategic thinking and support their business and risk management strategies, helping them to address the conceptual challenges posed by climate-related factors (for example, limited data availability, challenges with time horizons, and the backward-looking nature of current methodologies). By providing a roadmap for managing climate-related risks, transition plans enable financial institutions to demonstrate awareness and preparedness for potential negative impacts arising from inaction, delayed action, or misalignment with the transition.

Against this background, transition plans are included in recent EU legislative initiatives for credit institutions to set sustainability objectives and decarbonisation strategies, enforcing sustainability disclosure and prudential rules. The Corporate Sustainability Reporting Directive (CSRD), which replaces the scope of the Non-financial Reporting Directive (NFRD), is expected to require credit institutions to disclose - when adopted - decarbonisation objectives in line with the EU climate agenda, as well as to describe the related business strategies. The Corporate Sustainability Due Diligence Directive (CSDDD) aims to promote among large companies, including credit institutions, a proactive approach towards sustainability by designing a full-fledged transition plan which shall contain objectives for climate change mitigation and consistent strategic actions and investment plans. On the other hand, the Capital Requirement Directive (CRD) requires Member States to ensure that credit institutions’ governance bodies develop and monitor the implementation of transition plans to address financial risks posed by climate and environmental factors. At the same time, the prudential regulator encourages credit institutions to handle transition risks from a strategic perspective. Transition plans under CRD allow supervisory authorities to monitor financial institutions' short- and long-term strategies for managing climate-related risks and understand how different transition pathways may affect its ongoing safety and soundness.

This complex regulatory environment, combining strategy- and risk-based dimensions, does not prescribe any particular business model nor requires committing to any pre-determined strategic action. Rather, it aims to promote a proactive strategic approach to meeting climate ambitions, while providing both external audiences with information on institutions' objectives and actions, and micro-prudential authorities with information on the management of climate-related and environmental risks.

On November 2024, the European Commission announced the Omnibus proposal, a simplification of the above-mentioned existing legislation on non-financial corporate reporting (i.e. CSDDD and CSRD) to alleviate regulatory burdens and foster the competitiveness of EU companies (see European Council, 2024). While the Omnibus proposal is not expected to substantially modify the requirements related to the transition plans, in the next years it may reduce the number of institutions required to define and disclose strategy-based transition plans, as well as to influence the informative flow from borrowers and investees in a context where requirements on risk-based transition plans are expected to remain valid for all credit institutions (see EC, 2025a; EC,2025b).

3 Data and sample

Bank of Italy runs with semi-annual frequency the Regional Bank Lending Survey (RBLS) to collect quantitative and qualitative information on the main drivers of credit supply and demand. The survey extends the Bank Lending Survey conducted at the Eurosystem level by integrating its territorial and sectoral details and by involving all the Italian credit institutions, including local branches of foreign institutions which are internationally active. Credit institutions participation is voluntary (see BI, 2024a).

The survey conducted during the first quarter of 2024 included a section on decarbonisation strategies as of the end of 2023. In particular, the section collected information on whether the institutions surveyed: i) established or intended to set long-term strategic decarbonisation objectives beyond the time horizon of usual corporate strategic planning (i.e. 3-5 years) in order to reduce GHGs emissions in line with the EU and the national decarbonisation targets; ii) set or intended to set decarbonisation strategies on their internal corporate operations, lending or investment portfolios and their investment services; iii) defined or intended to define specific lending policies to align their credit portfolios to the decarbonisation commitments (see Annex 1 for further details on the questions).

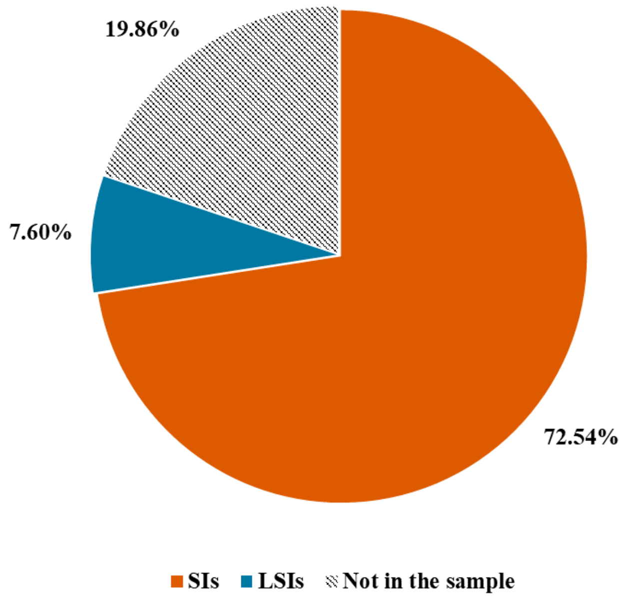
The answers provided are complemented with data on credit institutions' total assets and sectoral exposures to non-financial firms as per Bank of Italy's financial reporting (i.e. *Matrice dei Conti*) at the end of 2023, as well as with additional information on decarbonisation strategies contained in institutions' publicly available documents to provide readers with generic examples of practices observed in the Italian banking market.[4]

The respondents consist of 243 credit institutions out of the 428 which are active in Italy. Their total assets amount to approximately euros 2,544 million and account for 80 per cent of the total assets in

[4] In general, credit institutions tend to provide information on their decarbonisation commitments as part of non-financial disclosures, statements, technical guidelines, and annual sustainability reports, which are usually collected in dedicated sections of their websites. However, at the current juncture, in the absence of structured data or a standardised reporting format, there is still heterogeneity in the types of documents and the information disclosed.

the Italian banking system (see Figure 1) (see BI, 2024b). The respondents include 174 significant institutions (SIs) and 69 less significant (LSIs) (respectively about 72 and 8 per cent of total assets in the Italian banking system).[5] The remaining 20 per cent of total assets accrues to institutions that decided not to participate to the survey (see 'Not in the sample' in Figure 1). SIs include several smaller institutions which are part of larger banking groups.

Figure 1: Representativeness of the RBLS sample
(share of total assets in the Italian banking system)



Since the RBLS sample provides information on a significant portion of the Italian banking market (see BI, 2024a), participants' self-selection in the survey is not expected to lead to distorted results due to the unobserved practices of institutions not in the sample. Besides, importantly, only a residual number of credit institutions participating to the RBLS does not provide answers to the section dedicated to the decarbonisation strategies, suggesting that selection-bias shall not be regarded as significant in our analysis.

Validation rules were applied to the RBLS survey to ensure consistency and robustness across the qualitative answers. In all the figures, answers are weighted using the share of the total assets of the respondents. All figures and analyses are reported at the time of the survey (i.e. as of closing date 2023) to offer a consistent picture.

4 Which institutions are setting decarbonisation objectives?

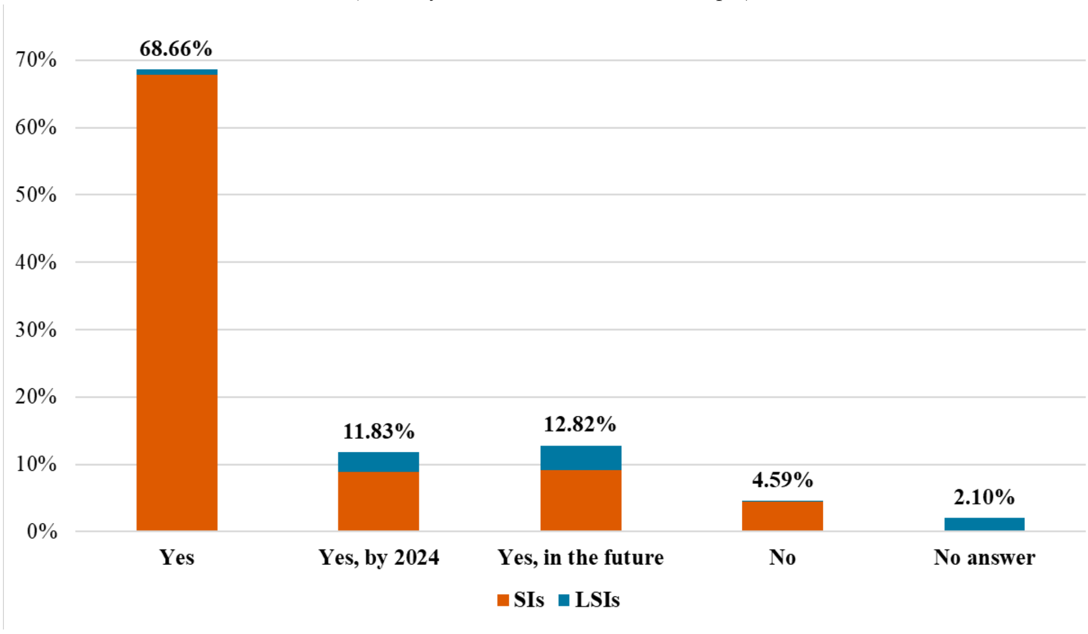
4.1 Overview of the market

Out of the 243 credit institutions responding to the RBLS: i) 71 institutions (accounting for over 80 per cent of total assets in the RBLS sample) declare that they have already set or intend to set by 2024 long-term strategic decarbonisation objectives in order to align GHGs emissions resulting from their

[5] Specifically, SIs in the RBLS sample represent 90 per cent of SI total assets in the Italian banking system, while LSIs in the RBLS sample represent 73 per cent of LSI total assets in the Italian banking system.

own internal corporate operations or banking activities (i.e. investment and lending to counterparties), with the EU and national climate targets (see Figure 2); ii) 144 credit institutions (accounting for approximately 13 per cent of total assets in the RBLS sample) state that they will define long-term strategic decarbonisation objectives after 2024; iii) 20 institutions (representing less than 5 per cent of total assets in the RBLS sample) do not intend to set such objectives at the current stage.

Figure 2: Decarbonisation objectives of Italian credit institutions
(share of total assets in the RBLS sample)



A detailed analysis of the public disclosures of the 71 credit institutions which have set - or intend to set by 2024 - long-term strategic decarbonisation objectives underscore some heterogeneity in institutions' characterization of such pledges. Out of these institutions, only 13 (accounting for 69 per cent of total assets in the RBLS sample) adhere to the Net Zero Banking Alliance (NZBA) and set strategic net-zero pledges in line with the Paris Agreement (UN, 2015), while the remaining define more generic action lines. [6]

Figure 2 highlights that larger credit institutions (SIs) have undertaken more advanced steps in defining long-term decarbonisation objectives, while smaller institutions (LSIs) are moving forward. Two main possible pull factors can explain these divergences. First, defining long-term decarbonisation strategies is often costly and may require dedicated resources. Second, SIs and LSIs are subject to different supervisory and regulatory regimes. The following sections investigate in detail the latter possible driver to understand if different supervisory and expected regulatory regimes can drive the declared strategies.

[6] GFANZ is a global coalition of credit institutions that pledged to align their lending and investment portfolios to net-zero emissions by 2050 through a change in business models and transition plans to support the climate transition. The NZBA published its net-zero transition plan framework which consist of a set of goals, actions, and accountability mechanisms to align an organization's business activities with a pathway to net-zero GHG emissions. NZBA members are required to adopt such framework and set intermediate targets for 2030 by using science-based guidelines.

4.2 Interaction with supervisory regimes

The differences in responses provided by SIs and LSIs (see Table 1), with the former declaring to be more advanced in setting long-term strategic decarbonisation strategies, suggest that the supervisory requirements could be one of the key drivers of institutions' decarbonisation objectives. Indeed, although SIs and LSIs are both expected to appropriately consider environmental and climate-related risks when setting their business strategies and objectives, the former were to comply with supervisory expectations by 2022 while the latter by 2025 (see ECB, 2020; BI, 2022).

Table 1: Decarbonisation objectives of Italian SIs and LSIs

	a) SIs		**b) LSIs**	
	N. of institutions	Share of total assets (per cent)	N. of institutions	Share of total assets (per cent)
Yes	28	74.86	9	9.53
Yes, by 2024	16	9.86	18	30.66
Yes, in the future	112	10.13	32	38.51
No	14	4.89	6	1.70
No answer	4	0.26	4	19.60
Total	174	100	69	100

Source: RBLS. The table shows the distribution of credit institutions' responses to the survey question on setting strategic decarbonisation objectives beyond the traditional 3- or 5-year horizon of business strategies. Answer 'Yes' indicates that credit institutions declare to have already set long-term strategic decarbonisation objectives. Answer 'Yes, by 2024' indicates that credit institutions intend to set long-term strategic decarbonisation objectives by the end of 2024. Answer 'Yes, in the future' indicates that credit institutions intend to set long-term strategic decarbonisation objectives after 2024. Answer 'No' indicates that credit institutions do not intend to set long-term strategic decarbonisation objectives at the current stage. The table reports answers by credit institutions and by share of total assets for Significant Institutions SIs (panel a) and Less Significant Institutions LSIs (panel b).

Consistently, most of the larger SIs in the sample declare that long-term strategic decarbonisation objectives have already been set. Besides, among those planning to set strategies in the future, a relevant number consists of institutions that are part of larger groups and whose strategic actions depend on those of their own parent companies, which may not have set group-level objectives at the time of the survey. Only a few SIs, instead, state that they do not plan to define any long-term strategic decarbonisation objective at the current stage.

In contrast, half of the LSIs in the sample intends to establish such objectives after 2024, while 27 LSIs have already set or intend to set by 2024 long-term strategic decarbonisation objectives. Only a limited number of LSIs instead responds that no long-term strategic decarbonisation objective will be set.[7]

4.3 Interaction with expected regulatory initiatives

The expected regulatory initiatives are also likely to be a major driver of institutions' decarbonisation objectives. Having in mind that supervisory expectations apply to all credit institutions even if with different timing (see Section 4.2), the observed heterogeneity in the responses might be explained by

[7] The remaining 20 per cent of LSIs total assets in the RBLS sample accrues to 4 institutions not providing any answer to the question.

the application of the CSDDD and the CSRD as only some of the institutions in the sample were expected to be in the scope of these directives according to the criteria in place at the time of the survey (i.e. as of closing date 2023). Specifically, when institutions responded to the RBLS: i) the CSDDD was expected to apply from the financial year 2027 to institutions with a net turnover higher than euro 450 million and more than 1,000 employees; ii) the CSRD was expected to apply to all large institutions (whether listed or unlisted) and all listed companies, from the financial year 2024 (see EC, 2022; EC, 2024b).[8]

Applying the mentioned criteria and leveraging the analysis of Baltrunaite et al. (2024), we identify the list of credit institutions that were expected to fall under the requirements of the CSDDD and the CSRD at the time of the survey, considering those institutions already in the scope of the NFRD. Specifically, we classify the respondents as follows: i) credit institution was expected to be in the scope of the directive (hereafter, 'In scope'); ii) credit institution was not expected to be in the scope of the directive but it is a subsidiary of Italian groups expected to be in the scope of the directive (hereafter, 'Part of groups in scope'); iii) credit institution was not expected to be in the scope of the directive and it is not a subsidiary of Italian groups expected to be in the scope of the directive (hereafter, 'Not in scope'); iv) credit institution was the local branch of internationally active foreign institutions, for which the analysis of Baltrunaite et al. (2024) does not allow to assess whether such institutions were expected to be in the scope of the directive (hereafter, 'National branch of foreign groups').[9] Such classification applies separately for the CSDDD and for the CSRD.

At the time of the survey, the CSDDD and the CSRD were expected to cover a relevant portion of the Italian banking industry, representing 71 and 74 per cent of total assets in the RBLS sample respectively (see Table 2). The implications of the two directives were expected to be even more widespread in the Italian banking market when accounting for those institutions which – albeit not directly subject to the directives – are part of larger groups in scope (representing approximately 13% of the total assets in the RBLS sample). While – at the time of the survey – the CSDDD and the CSRD were expected to apply to the same SIs in the RBLS sample, the number of LSIs in the scope of the CSRD was significantly higher than that of the LSIs in the scope of the CSDDD due to the broader scope of application of the former. Nevertheless, according to the Omnibus proposal, such differences should disappear since the scope of application of the CSRD (as reported in Table 2) should be amended to be aligned to that of the CSDDD, thus reducing the number of LSI subject to the directive (see EC, 2025a; EC,2025b).

[8] Provisions were expected to apply at the consolidated level.
[9] In this section, institutions which are national branches of internationally active groups are excluded from the analysis due to confidentiality reasons (see Table 2).

Table 2: Application of CSDDD and CSRD in the RBLS sample – Reference date 31 Dec 2023

	a) SIs		b) LSIs		c) Total	
	N. of institutions	Share of total assets (per cent)	N. of institutions	Share of total assets (per cent)	N. of institutions	Share of total assets (per cent)
CSDDD						
In scope	10	74.28	6	36.97	16	70.74
Part of groups in scope	157	12.79	3	6.39	160	12.18
Not in scope	2	5.45	60	56.64	62	10.31
National branch of foreign groups	5	7.45	0	0	5	6.77
Total	174	100	69	100	243	100
CSRD						
In scope	10	74.28	34	74.27	44	74.28
Part of groups in scope	157	12.79	7	12.03	164	12.72
Not in scope	2	5.45	28	13.69	30	6.23
National branch of foreign groups	5	7.48	0	0	5	6.77
Total	174	100	69	100	243	100

Source: RBLS and Baltrunaite et al. (2024). The table shows separately (rows) the distribution of RBLS credit institutions falling in the scope of the Corporate Sustainability Due Diligence Directive (CSDDD) and of the Corporate Sustainability Reporting Directive (CSRD), considering institutions to which the Non-Financial Reporting Directive (NFRD) already applied. For consistency with the analysis of the RBLS, the scope of application of the directives is evaluated at the time of the survey (i.e. as of closing date 2023). Credit institutions are classified according to the methodology presented in Section 4 of this paper. The table reports the distribution by number of credit institutions and by share of total assets for Significant Institutions SIs (panel a), Less Significant Institutions LSIs (panel b), and total sample (panel c).

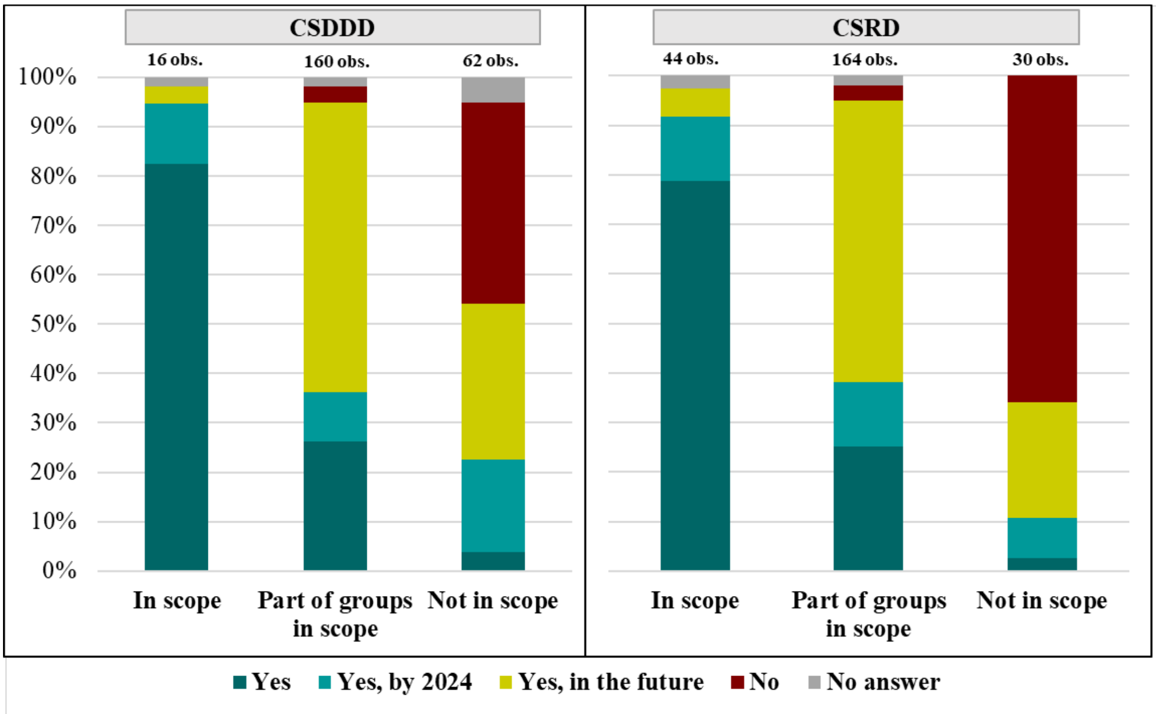
The majority of credit institutions which were expected to be in the scope of the CSDDD or of the CSRD responded that they have already defined long-term strategies in order to be aligned with the transition trajectories of national and EU legislations (see Figure 3). Notably, the effort of the Italian banking market in setting long-term strategic decarbonisation strategies seems to go beyond the expected scope of application of the CSDDD and of the CSRD, as respondents not expected to be directly in the scope of such directives reported to have undertaken steps in defining decarbonisation objectives. In particular, a majority of the subsidiaries of groups expected to be in the scope of the directives (covering approximately 90 per cent of the institutions in this group) declared that long-term strategic decarbonisation objectives have been already defined or would be defined over the upcoming years, suggesting that legislations may influence their strategic actions even though they are not directly in the scope of application of such legislations.[10] At the same time, also a share of

[10] Specifically, in the RBLS sample: i) among the subsidiaries of groups which were expected to be in the scope of the CSDDD, 31 credit institutions (accounting for 4 per cent of total assets in the RBLS sample) responded that long-term strategic decarbonisation objectives would have been defined by 2024, while 112 institutions (covering 7 per cent of total assets in the RBLS sample) were intending to do so over the upcoming years; ii) i) among the subsidiaries of groups which were expected to be in the scope of the CSRD, 33 credit institutions (accounting for 5 per cent of total assets in the RBLS sample) responded that long-term strategic decarbonisation objected would have been defined by 2024, while 114 institutions (covering 7 per cent of total assets in the RBLS sample) were intending to do so in the upcoming years.

institutions not in scope nor part of a group in scope (covering between 70 and 80 per cent of the institutions in this group) set or planned to set pledges in the future.

Figure 3: Interaction of Italian credit institutions' decarbonisation objectives with CSDDD and CSRD – Reference date 31 Dec 2023

(share of total assets in the RBLS sample within institutions classification – national branches of foreign institutions excluded)



Note: For consistency with the analysis of the RBLS, the scope of application of the directives is evaluated at the time of the survey (i.e. as of closing date 2023).

To sum up, Figure 3 suggests that the CSDDD and the CSRD alone do not fully explain Italian credit intuitions' willingness to set long-term decarbonisation strategies: the effort of the Italian credit institutions to meet sustainability objectives goes beyond regulatory provisions. Institutions may be seizing the advantages, including the reputational ones, which stem from the development of climate-related and environmental strategies, using voluntary commitments to signal their willingness to capitalise on prospective business opportunities coherently with their risk appetite (see Section 2).

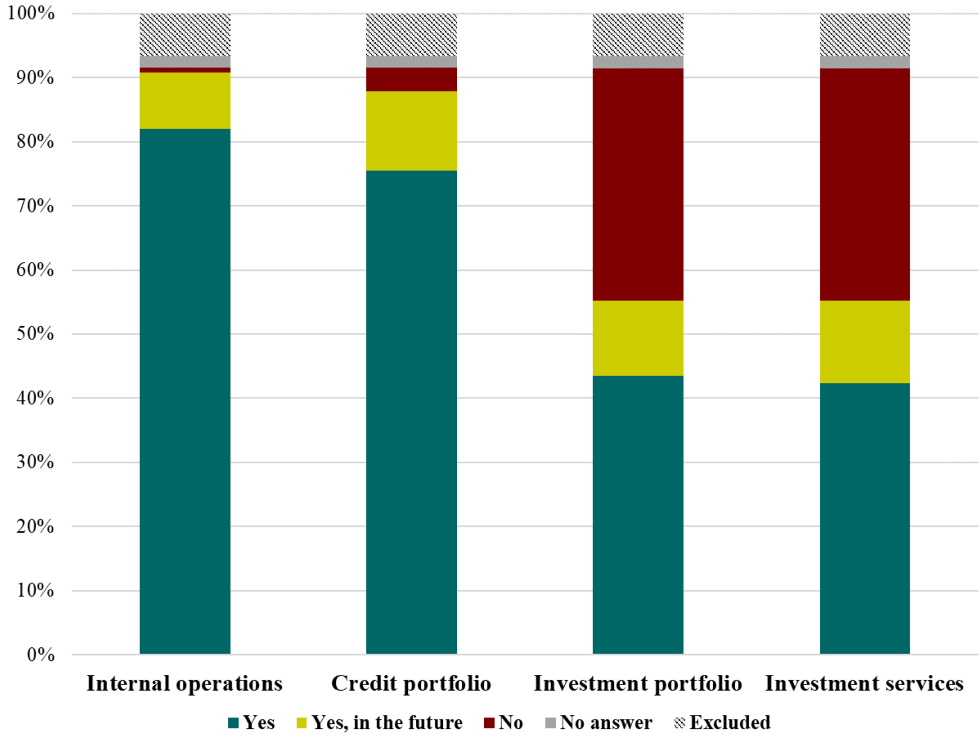
5 How do Italian credit institutions define their decarbonisation strategies?

5.1 Overview of the decarbonisation strategies

The RBLS allows us to gather insights on the decarbonisation strategies currently undertaken by credit institutions to reduce the GHGs emissions resulting from their own activities and from those of their counterparties (i.e. borrowers and investees). The analysis of the responses from the 215 credit institutions answering that they have already set or intended to set long-term strategic decarbonisation objectives suggests some clear patterns (Figure 4).[11]

[11] In this section, 28 institutions (accounting for 7 per cent of total assets in the RBLS sample) are excluded from the analysis since declaring not to set any long-term strategic decarbonisation objective or not providing any response in this regard. Out of such 28 institutions, 18 institutions (accounting for 5 per cent of SIs total assets in the RBLS sample) are SIs and 10 institutions (accounting for 20 per cent of LSIs total assets in the RBLS sample) are LSIs.

Figure 4: Italian credit institutions' decarbonisation strategies
(share of total assets in the RBLS sample)



Most of the respondents to the RBLS survey declare that they have defined or intend to define decarbonisation strategies concerning corporate activities referring to internal corporate operations (e.g. energy consumption, travel policies) or their credit portfolios (i.e. emissions of borrowers), while actions on investment portfolios and investment services are not cross-cutting (see Annex 2). This result may reflect the fact that the traditional banking business model is prevailing among credit institutions in Italy (see BI, 2024b).

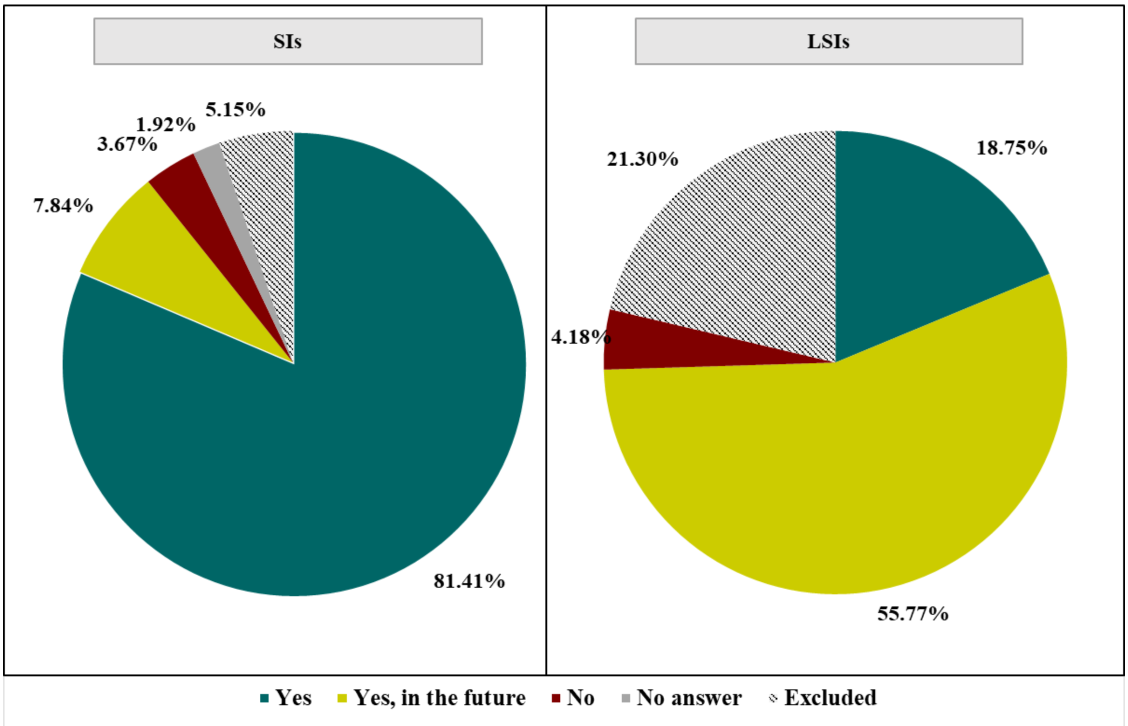
5.2 Decarbonisation strategies on credit portfolios

Given their relevance, this section deep dives into how institutions currently embed their decarbonisation objectives in lending practices. First, it analyses possible determinants of institutions' responses by exploring the effect of different supervisory regimes in line with Section 4 and institutions' exposure to carbon-critical sectors which may act as an additional pull factor to mitigate climate-related and environmental risks (see Angelico and Bernardini, 2025). Lastly, it investigates which strategic actions (i.e. sectoral targets, KPIs, etc.) institutions have in place over the different business lines of credit portfolios, differentiating between households, SMEs, and large corporates.

5.2.1 Interaction with supervisory regimes

Most of the SIs sets decarbonisation objectives on their credit portfolios or intends to do so over the next years (see Figure 5). Regarding the LSIs, a larger majority of institutions intends to set this type of objectives in the future, while others declare to have already set such objectives.

Figure 5: Decarbonisation objectives on credit portfolios by SIs and LSIs
(share of total assets by SIs and LSIs in the RBLS sample)



The different timing in the action planned by SIs and LSIs is coherent with the supervisory requirements according to which, while all credit institutions are expected to adequately embed climate-related and environmental risks as part of their business strategies and risk management framework – including in their credit practices – (see ECB, 2020; BI, 2022), SIs were expected to comply by the end 2022, and LSIs are to do so by the end of 2025 (see Section 4.2).

5.2.2 Interaction with lending to non-financial corporations and carbon-critical sectors

5.2.2.1 A system-wide analysis

Outstanding loans to non-financial corporates (NFCs) by credit institutions in the RBLS sample totaled approximately euros 520 million in 2023. Institutions declaring to have established or intending to set decarbonisation objectives on their credit portfolios granted 90 per cent of total lending in the RBLS sample (see Figure 6). The residual 10 per cent accrues to institutions responding not to set decarbonisation objectives on credit portfolios, not providing answer to the question or declaring not to set any decarbonisation objective at all.

Figure 6: Decarbonisation objectives on credit portfolios and lending to carbon-critical sectors
(share of total outstanding loans to NFCs in 2023 by institutions in the RBLS sample)

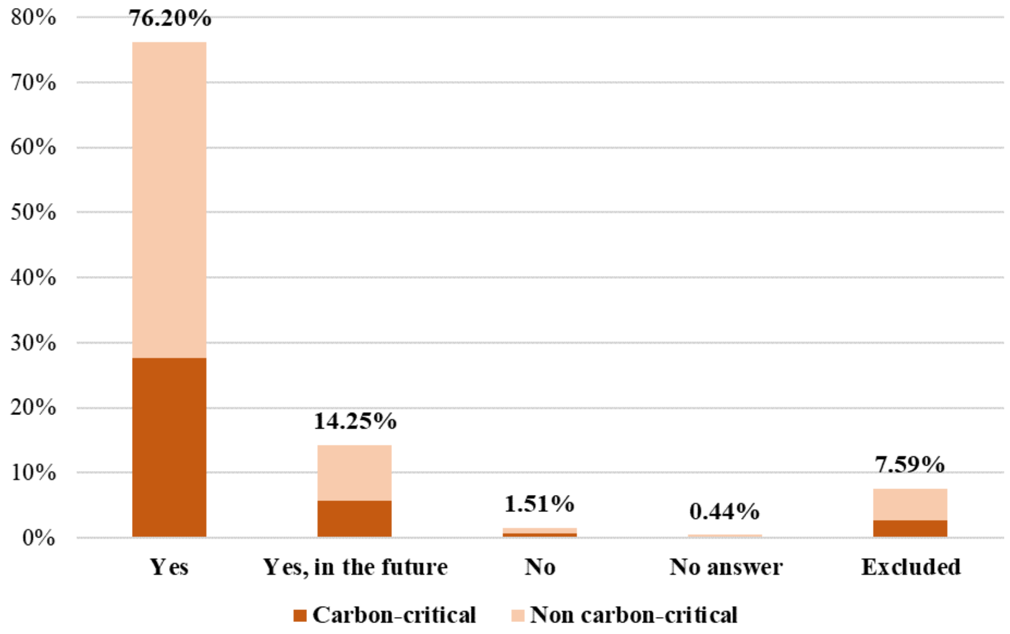
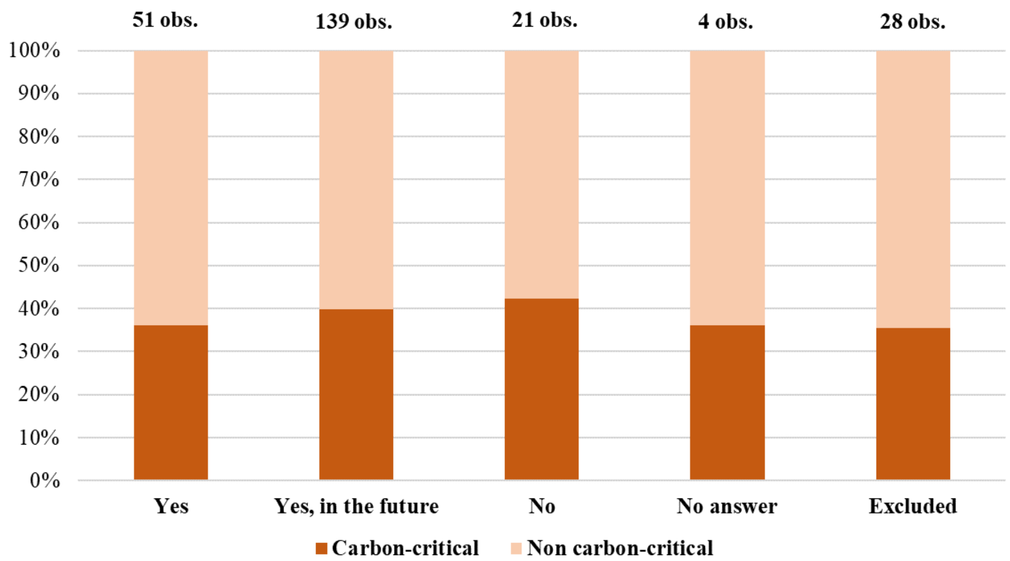


Figure 7: Decarbonisation objectives on credit portfolios and share of lending to carbon-critical sectors
(share of total outstanding loans to NFCs in 2023 by institutions in the RBLS sample split by their response to the survey)



About 37 per cent of total loans in the RBLS in 2023 were granted to NFCs in carbon-critical sectors, which represent a subset of the sectoral classification used for the prudential disclosures of ESG risks (see EBA, 2022). Following Lavecchia and Faiella (2020) such sectors are selected according to their relevance in the credit portfolios of the overall Italian banking system and to their emission intensity (as a proxy of the exposure to transition risks).[12] Importantly, institutions with strategic

[12] The analysis leverages sector-specific data from the Bank of Italy's financial reporting (i.e. *Matrice dei Conti*), which provides information on loans to NFCs at the NACE-2 level. Such information is mapped into carbon-critical economic sectors, according to the list of NACE-2 presented in Table A2 of Annex 3.

decarbonisation objectives on their credit portfolio (or which intended to set such objectives in the future) owned 90 per cent of such loans (see Table A3 of Annex 3). At the same time, the share of lending to carbon-critical sectors over the total loans to NFCs was not substantially different between institutions which already defined strategic decarbonisation objectives versus those which intended to define such objectives over the upcoming years or those which did not intend to set them (see Figure 7).

All in all, credit institutions with objectives (or planning to set them by 2024) are the largest in our sample, and they grant most of the credit to NFCs, including those operating in the carbon-critical sectors. Nevertheless, if considered as an aggregate, they do not have portfolios more concentrated towards carbon-critical sectors.

5.2.2.2 An entity-level analysis

Given this framework, we exploit entity-level data to investigate whether institutions with portfolios more concentrated toward specific carbon-critical sectors may be more willing to set objectives on their credit portfolios, possibly to mitigate the risks stemming from the transition to a low-carbon economy.

A total of 211 observations (covering approximately 92 per cent of total assets in the RBLS sample) are included in this analysis.[13] Observations are divided into two groups, reflecting whether strategic decarbonisation objectives were established at the time of the survey. Group 1 refers to observations responding 'Yes, in the future' or 'No' to the relevant RBLS question, while Group 2 contains institutions answering 'Yes'. Table 3 reports the summary statistics for the two groups on sectoral lending to NFCs and on the corresponding portfolio shares, confirming the aggregate figures discussed above. As already mentioned in Section 5.2.2.1, institutions which established decarbonisation targets (Group 2) are the largest and are granting more credit to the so-called carbon-critical sectors, such as carbon-intensive sub-sectors within manufacturing (i.e. chemicals, iron, steel, concrete, cement, machinery production, food and beverages, tobacco products, coke and petroleum refinement), construction and electricity. Nevertheless, on average the shares of credit to carbon-critical sectors over total loans are not substantially different across the two groups for most of the analysed sectors, except for electricity, oil and coal, and carbon-intensive manufacturing.

Leveraging this setup, we estimate the following logistic regressions:

$$\pi(Target_{i,2023} = 1) = F(\alpha + \mathrm{X}_{i,2023}\,\beta)$$

where $Target_{i,2023}$ is a dummy variable taking value 1 if the observation declared to set decarbonisation objectives on its credit portfolio at the time of the survey (i.e. it belongs to Group 2), 0 otherwise. Matrix $\mathrm{X}_{i,2023}$ contains: i) total outstanding loans in 2023 (in gross carrying amount) to companies operating in carbon-critical sectors as a share of total outstanding loans to NFCs; ii) a

[13] Out of the 215 institutions included in the analysis of the question on strategic decarbonisation objectives on credit portfolios, 4 institutions (representing less than 2 per cent of total assets in the RBLS sample) are not included in this section as they do not provide an answer to the RBLS question.

dummy taking value 1 if the observation is a SI, which is used as a proxy for institutions' total assets and supervisory regime.[14]

Table 3: Summary statistics on Italian credit institutions' loans to NFCs (2023)

	Group 1			Group 2		
	Mean	*SD*	*Total*	*Mean*	*SD*	*Total*
Total loans (mln.)	511.94	788.50	81,909.88	7,765.66	21,655.17	396,048.70
***Panel a)* Lending to non-financial companies by carbon-critical sectors (euros millions)**						
Agriculture	21.02	31.47	3,363.56	209.77	525.80	10,698.32
Oil and coal	0.008	0.01	1.27	2.70	15.79	137.92
Carbon-intensive Manufacturing	51.77	88.34	8,283.60	1,175.20	3,078.11	59,935.22
Electricity	8.62	20.37	1,379.26	229.76	727.18	11,717.60
Waste management	5.55	15.38	888.45	78.95	206.59	4,026.55
Construction	64.54	112.32	10,326.34	627.04	1,773.88	31,979.09
Land Transport	12.92	38.24	2,067.23	154.67	449.72	7,887.99
Accommodation and food	40.80	70.18	6,528.27	331.20	884.98	16,891.18
Non-carbon-critical	306.70	481.27	4,9071.90	4,956.37	14,093.76	252,774.80
***Panel b)* Portfolio shares by carbon-critical sectors (per cent of total loans to non-financial corporates)**						
Agriculture	4.97	4.73		4.71	3.55	
Oil and coal	0.001	0.01		0.035	0.20	
Carbon-intensive Manufacturing	8.92	4.60		11.70	5.35	
Electricity	1.68	2.92		3.23	6.71	
Waste management	0.87	0.79		1.00	1.06	
Construction	12.66	4.89		11.45	5.15	
Land Transport	2.19	2.00		2.35	1.64	
Accommodation and food	11.01	11.42		7.92	7.35	
Non-carbon-critical	57.70	12.22		57.59	10.11	
Observations	160			51		

Source: RBLS and *Matrice dei Conti*. The table shows summary statistics on total outstanding loans as of the end of 2023 to NFCs by Italian credit institutions in the RBLS sample. From this table, are excluded those credit institutions which respond '*No'* or do not respond to the question in Section 4.1 of this paper. Panel a) reports statistics on the volumes (in thousands of euros) of outstanding loans in 2023 to NFCs by Italian credit institutions in the RBLS sample. Panel b) reports statistics on outstanding loans to NFCs as a share of total outstanding loans in 2023 to NFCs by Italian credit institutions in the RBLS sample. The table reports information by group. Group 1 refers to institutions which responded '*Yes, in the future'* or *'No'* to the RBLS question on setting strategic decarbonisation objectives on credit portfolios. Group 2 refers to institutions which responded '*Yes'* to the same question. Carbon-critical sectors are identified according to Faiella and Lavecchia (2020).

[14] The α is a constant and F is a logistic function. Standard errors are robust and clustered at banking the group level in order to account for correlations between respondents reflecting unobservable ties between parent companies and subsidiaries.

Table 4: Italian credit institutions' decarbonisation commitment and exposure to carbon-critical sectors

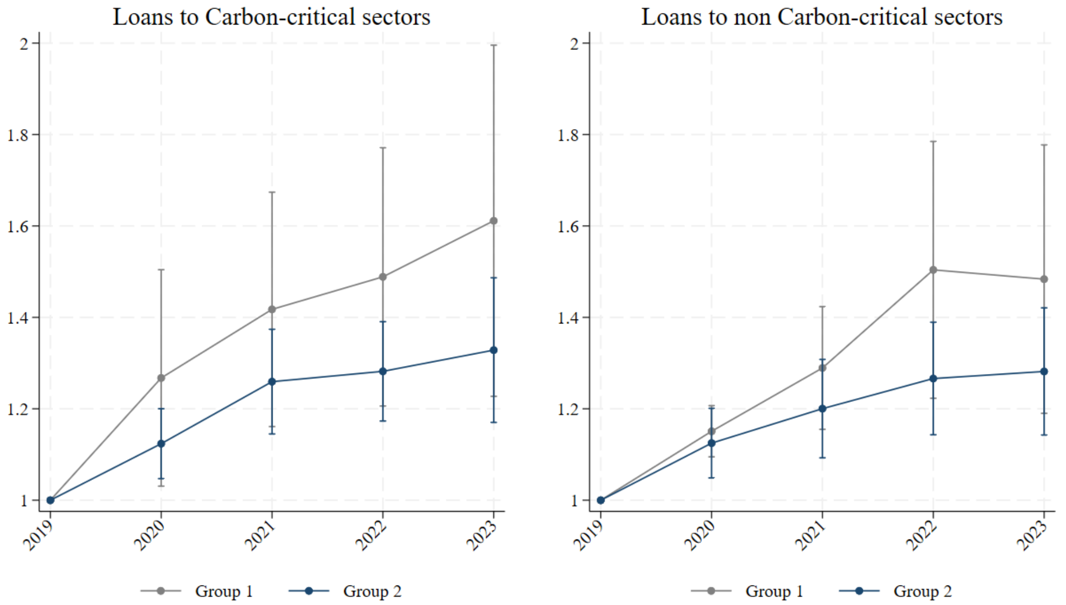
	(1) Odds ratio	(2) Odds ratio
Share of Agriculture	0.973	
	(0.036)	
Share of Oil and coal	674.294	
	(5,950.543)	
Share of Carbon-intensive Manufacturing	1.113**	
	(0.049)	
Share of Electricity	1.111***	
	(0.038)	
Share of Waste management	1.080	
	(0.190)	
Share of Construction	0.989	
	(0.037)	
Share of Land Transport	1.060	
	(0.074)	
Share of Accommodation and Food	0.989	
	(0.025)	
Share of Total Carbon-critical Sectors		1.002
		(0.011)
Dummy for Significant Institutions	1.897	1.356
	(1.307)	(0.975)
Constant	0.060**	0.237**
	(0.081)	(0.168)
Observations	211	211

Clustered standard errors displayed in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The estimates suggest that exposure to transition risk might be a driver of their decarbonisation strategy by documenting a positive and statistically significant correlation between the probability that an institution had a decarbonisation objective on its credit portfolio at the time of the survey and its exposure to a few key carbon-critical sectors - namely the 'Carbon-intensive manufacturing' and 'Electricity' sectors - when controlling for the institutions being a SI (see Table 4, column 1). On the other hand, there are no significant differences when we consider the exposure to all the carbon-critical sectors (see Table 4, column 2). This is expected since carbon-critical sectors are a substantial share of institutions' outstanding loans. Our evidence suggests that institutions might be focusing on relevant sub-sectors when deciding on their decarbonisation objectives rather than looking at a wider range of carbon-intensive sectors, as the latter account for a substantial share of their overall credit portfolios.

Notably, no significant differences across the two groups are observed in their exposure to carbon-critical and non-carbon-critical sectors in the period between 2019 and 2023 (see Figure 8). This finding suggests that during the latest years institutions with decarbonisation objectives by the end of 2023 (Group 2) were not changing their credit allocation differently than those without such goals (Group 1), specifically in favor of non-carbon-critical sectors.

Figure 8: Italian credit institutions' lending to carbon-critical sectors over time by answer to the RBLS



Source: RBLS and *Matrice dei Conti*. The figure shows the mean and the 95 per cent confidence intervals by groups between 2019 and 2023. Statistics are calculated by group. Group 1 refers to institutions which responded '*Yes, in the future*' or *'No'* to the RBLS question on setting strategic decarbonisation objectives on credit portfolios. Group 2 refers to institutions which responded '*Yes*' to the same question. Carbon-critical sectors are identified according to Faiella and Lavecchia (2020).

5.2.3 An overview of credit institutions' decarbonisation actions

The RBLS delves deeper into the strategic actions undertaken by credit institutions to decarbonise their credit portfolios and it provides insights on the prospective changes in the respondents' credit supply policies. It exploits the responses from the 190 credit institutions answering that they are setting objectives to decarbonise their credit portfolios.[15]

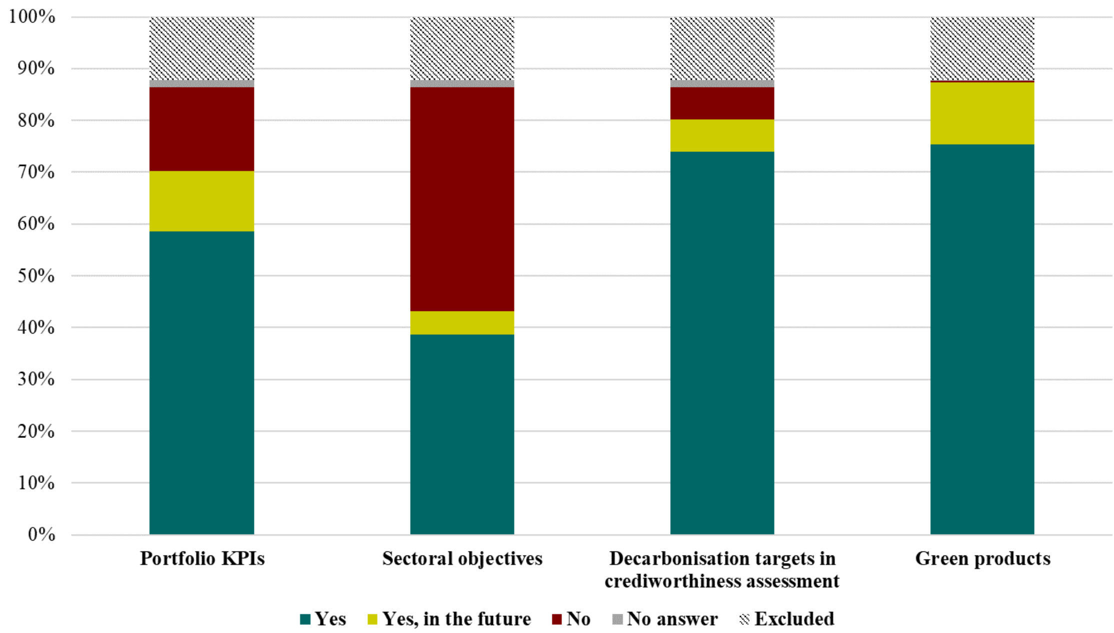
The survey investigates four complementary areas: i) portfolio KPIs, i.e. the development and monitoring of key performance indicators (KPIs) at the portfolio level (for instance, in the form of a green asset ratio - GAR, energy performance of mortgage portfolio or carbon-risk concentration); ii) sectoral targets, i.e. setting sectoral targets in the credit allocation process to increase lending to low-carbon sectors; iii) creditworthiness assessment, i.e. inclusion – also by the means of qualitative considerations – of counterparties' decarbonisation objectives in the creditworthiness assessment process; iv) green products, i.e. development and commercialisation of 'green' lending products, for instance in the form of energy-efficient mortgages. The four possible strategic action lines to decarbonise credit portfolios reflect common practices identified in the banking system and included in the potential strategy for risk mitigation in the recommendations and in the expectations of EU and national regulatory and supervisory bodies (see EBA, 2025; ECB, 2020; BI, 2022). Questions on

[15] In this section, 53 institutions (accounting for 12 per cent of total assets in the RBLS sample) are excluded from the analysis since declaring not to set any long-term strategic decarbonisation objective on their credit portfolio or not providing any response in this regard. Out of such 53 institutions, 36 institutions (accounting for 11 per cent of SIs total assets in the RBLS sample) are SIs and 17 institutions (accounting for 26 per cent of LSIs total assets in the RBLS sample) are LSIs.

credit portfolios' decarbonisation strategies refer to different business lines: households (HHs), small and medium-sized enterprises (SMEs), and NFCs other than SMEs (hereafter, 'large corporates').

Figure 9 shows that institutions' current strategic actions to decarbonise credit portfolios mainly involve developing and monitoring KPIs, enhancing the creditworthiness assessment based on counterparties' sustainability information, and issuing green lending products. In particular, responses to the survey suggest that green lending products, such as green loans and mortgages, are widespread across credit institutions in the RBLS willing to decarbonise their credit portfolios. This might be the case because issuing such products may offer credit institutions a credible way of managing their exposure to transition risks and, at the same time, a strategic opportunity to signal responsible lending practices and be in a market which is expected to grow over the upcoming years (see EBA, 2021; EBA, 2023).

Figure 9: Italian credit institutions' decarbonisation actions on credit portfolios
(share of total assets in the RBLS sample)



As strategic options to decarbonise credit portfolios are not mutually exclusive and entail different implementation costs, credit institutions may be willing to seize the advantages stemming from each option and possibly harness the complementarities across them. Three-quarters of credit institutions in the RBLS sample (representing approximately 86 per cent of total assets in the RBLS) combine at least two of the presented action lines, with 32 per cent of such institutions (covering 27 per cent of total assets in the RBLS) declaring to have implemented all of them at the time of the survey. Among those institutions combining at least two of the presented action lines, respondents usually select the use of portfolio-level KPIs and the issuance of green lending products.

When analysing responses, no significant differences emerge between SIs and LSIs, and surveyed institutions usually refer all their strategic actions to the same business line (e.g. HHs, SMEs, or NFCs). This evidence leads to a relevant conclusion: while supervisory regimes can help in understanding the expected timing of institutions' actions, the composition of their client base might affect the selection of the actions they are implementing to foster long-term strategic decarbonisation objectives.

5.2.3.1 Portfolio KPIs

Approximately 70 per cent of respondents (covering 70 per cent of total assets in the RBLS sample) develops and monitor – or intend to do so in the upcoming years – KPIs at the credit portfolio level (e.g. the GAR or the energy efficiency of mortgage portfolios), with most of the institutions referring such KPIs both to HHs and NFCs, including SMEs. Respondents who have strategic goals on the credit portfolios, but do not develop or monitor relevant portfolio KPIs represent 9 per cent of the sample (covering 16 per cent of total assets in the RBLS sample). The rest of the sample, instead, refers to missing data or institutions without decarbonisation strategies on their credit portfolio. Findings are analogous for SIs and LSIs (see Table 5).

Table 5: Italian credit institutions using decarbonisation KPIs on credit portfolios

	a) SIs		**b) LSI**		**c) Total**	
	N. of institutions	Share of total assets (per cent)	N. of institutions	Share of total assets (per cent)	N. of institutions	Share of total assets (per cent)
HHs only	1	0.04	1	0.55	2	0.09
SMEs only	1	0.02	1	3.52	2	0.35
Large corporates only	8	0.68	2	0.95	10	1.29
All corporates	79	7.91	9	12.44	88	8.30
HHs and corporates	32	61.55	29	51.76	61	60.26
No	15	17.61	8	3.64	23	16.19
No answer	2	1.37	2	1.66	4	1.39
Excluded	36	10.81	18	25.49	53	12.14
Total	174	100	69	100	243	100

Source: RBLS. The table shows the distribution of credit institutions' responses to the survey question regarding the development and monitoring of decarbonisation KPIs on credit portfolios. '*Excluded'* observations refer to credit institutions which do not set long-term strategic decarbonisation objectives on credit portfolios or which do not provide any answer on their intention to set such objectives. Answer *'HHs only*' indicates that credit institution's strategic action refers to households only. Answer '*SMEs only'* indicates that the credit institution's strategic action refers to small- and medium-sized non-financial companies only. Answer 'large corporates' indicates that the credit institution's strategic action refers to large non-financial companies only. Answer '*All corporates'* indicates that the credit institution's strategic action refers to all non-financial companies, including small- and medium-sized enterprises. Answer '*HHs and corporates'* indicates that the credit institution's strategic action refers both to households and to non-financial companies, including small- and medium-sized enterprises. Answer '*No'* indicates that the credit institution does not set the strategic action at the current stage. The table reports answers by credit institutions and by share of total assets for Significant Institutions (panel a), Less Significant Institutions (panel b) and total sample (panel c).

These results are consistent with the supervisory expectations issued by the European Central Bank (ECB) and the Bank of Italy on risk management and the disclosure of climate-related and environmental risks (see ECB, 2020; BI, 2022). Such expectations identify the setting and monitoring of portfolio-level KPIs as possible instruments for the definition of strategic and risk management actions addressing climate-related and environmental risks, as well as for disclosure purposes. For instance, credit institutions' currently available disclosures often refer to portfolio-level KPIs which inform decision-making and remuneration policies of management bodies, promote their accountability, or define strategic objectives in line with credit institution's decarbonisation ambitions (e.g. in the form of volumes of green lending products to be allocated). Also, institutions disclose – where applicable – KPIs related to regulatory requirements, such as the GAR (see EBA, 2022).

5.2.3.2 Sectoral targets

Approximately 34 per cent of respondents (accounting for 44 per cent of total assets in the RBLS sample) establish – or intend to establish in the upcoming years - sectoral targets in credit allocation processes to increase lending towards low-carbon industries. Out of these institutions, 45 per cent of respondents (covering 32 per cent of total assets in the RBLS sample) refers to NFCs including both SMEs and large corporates, 17 per cent (representing 3 per cent of total assets in the RBLS sample) refers to large corporates only, while 32 per cent (worth 7 per cent of total assets in the RBLS sample) also includes HHs when setting sectoral targets. The latter might refer to the energy efficiency features of residential real estate, which are typically used by institutions when evaluating the carbon footprint of their mortgage portfolios. In contrast, 43 per cent of respondents (accounting for over 43 per cent of total assets in the RBLS sample) do not set sectoral targets. Credit institutions' practices do not differ across SIs and LSIs (see Table 6).

Table 6: Italian credit institutions setting sectoral decarbonisation targets on credit portfolios

	a) SIs		b) LSI		c) Total	
	N. of institutions	Share of total assets (per cent)	N. of institutions	Share of total assets (per cent)	N. of institutions	Share of total assets (per cent)
HHs only	0	0	0	0	0	0
SMEs only	2	0.05	3	4.48	5	0.47
Large corporates only	9	2.11	5	13.13	14	3.72
All corporates	20	32.42	17	27.69	37	31.78
HHs and corporates	19	7.60	7	4.25	26	7.24
No	86	45.65	18	23.30	104	43.26
No answer	2	1.37	2	1.66	4	1.39
Excluded	36	10.81	18	25.49	53	12.14
Total	174	100	69	100	243	100

Source: RBLS. The table shows the distribution of credit institutions' responses to the survey question regarding the development of sectoral decarbonisations targets on credit portfolios. '*Excluded'* observations refer to credit institutions which do not set long-term strategic decarbonisation objectives on credit portfolios or which do not provide any answer on their intention to set such objectives. Answer *'HHs only'* indicates that credit institution's strategic action refers to households only. Answer *'SMEs only'* indicates that the credit institution's strategic action refers to small- and medium-sized non-financial companies only. Answer 'large corporates' indicates that the credit institution's strategic action refers to large non-financial companies only. Answer *'All corporates'* indicates that the credit institution's strategic action refers to all non-financial companies, including small- and medium-sized enterprises. Answer 'HHs and corporates' indicates that the credit institution's strategic action refers both to households and to non-financial companies, including small- and medium-sized enterprises. Answer '*No'* indicates that the credit institution does not set the strategic action at the current stage. The table reports answers by credit institutions and by share of total assets for Significant Institutions (panel a), Less Significant Institutions (panel b), and total sample (panel c).

Noteworthy, the RBLS results refer specifically to sectoral targets aiming at increasing institutions' lending towards low-carbon industries, while targets for reducing exposure toward high-carbon sectors are not considered. Including these exposures could increase the share of respondents defining sectoral targets. More information on the sectoral decarbonisation pledges of European credit institutions, as well as the challenges in assessing them, can be found in Angelico and Bernardini (2024).

5.2.3.3 Borrowers' creditworthiness assessment

Less than half of responding credit institutions (accounting for 80 per cent of total assets in the RBLS sample) embed - or intend to embed over the next years - counterparties' decarbonisation objectives in creditworthiness assessment. Most of such institutions refer to all NFCs, encompassing both large companies and SMEs. Smaller institutions also consider HHs in their strategy: likely, they may be referring to the possible improvement of the energy performance of real estate used as collateral, which could be incorporated in the creditworthiness assessment of borrowers (e.g. through collateral valuation). A remaining significant share of smaller credit institutions (worth 6 per cent of total assets in the RBLS sample) do not undertake action in this sense. Similar findings hold when analysing SIs' and LSIs' responses (see Table 7).

Within the sample of institutions considered, 53 respondents (covering approximately 35 per cent of total assets in the RBLS sample) establish both sectoral targets to increase their exposure toward low-carbon sectors and consider – or intend to consider –borrowers' sustainability features as part of their creditworthiness assessment (at least for one business line). This piece of evidence underscores possible complementarities across the two action lines, especially for large credit institutions, and suggests that they may seek to increase lending to low-carbon sectors while avoiding an abrupt transition and credit reduction to high-carbon sectors and considering the wide heterogeneity across firms within such sectors in terms of future emissions trajectories and decarbonisation commitments (see Angelini, 2024).

Results shall be read keeping in mind that credit institutions are expected to identify, assess, and monitor any climate-related and environmental risk relevant to the creditworthiness of clients, in line with the EBA Guidelines on loan origination and monitoring.[16] Consistently, counterparties' decarbonisation objectives or ambitions may be taken into account by credit institutions within a broader set of data aiming at informing the identification, monitoring, and management of sustainability risks. Based on available disclosures, practices appear to be heterogeneous and entail a mixture of quantitative and qualitative criteria at different granularity levels including sectoral criteria or enhanced due diligence processes.

[16] For SIs, refer to Expectation 5.3 in ECB, 'Guide on climate-related and environmental risks: supervisory expectations relating to risk management and disclosure', 2020. For LSIs, refer to Expectation 8 in Banca d'Italia, 'Supervisory expectation on climate-related and environmental risks', 2022.

Table 7: Italian credit institutions using counterparties' decarbonisation objectives in creditworthiness assessment.

	a) SIs		b) LSI		c) Total	
	N. of institutions	Share of total assets (per cent)	N. of institutions	Share of total assets (per cent)	N. of institutions	Share of total assets (per cent)
HHs only	1	0.03	0	0	1	0.03
SMEs only	2	0.05	2	3.61	4	0.39
Large corporates only	8	4.20	7	15.67	15	5.84
All corporates	25	76.44	19	33.26	44	71.90
HHs and corporates	19	1.18	12	10.29	31	2.04
No	81	5.92	10	10.02	91	6.27
No answer	2	1.37	2	1.66	4	1.39
Excluded	36	10.81	18	25.49	53	12.14
Total	174	100	69	100	243	100

Source: RBLS. The table shows the distribution of credit institutions' responses to the survey question regarding the use of counterparties' decarbonisation objectives in creditworthiness assessment. '*Excluded'* observations refer to credit institutions which do not set long-term strategic decarbonisation objectives on credit portfolios or which do not provide any answer on their intention to set such objectives. Answer '*HHs only'* indicates that the credit institution's strategic action refers to households only. Answer '*SMEs only'* indicates that the credit institution's strategic action refers to small- and medium-sized non-financial companies only. Answer *'Large corporates'* indicates that the credit institution's strategic action refers to large non-financial companies only. Answer '*All corporates'* indicates that the credit institution's strategic action refers to all non-financial companies, including small- and medium-sized enterprises. Answer '*HHs and corporates'* indicates that the credit institution's strategic action refers both to households and to non-financial companies, including small- and medium-sized enterprises. Answer '*No'* indicates that credit institution does not set the strategic action at the current stage. The table reports answers by credit institutions and by share of total assets for Significant Institutions (panel a), Less Significant Institutions (panel b), and total sample (panel c).

5.2.3.4 Green products

A large share of responding institutions offers 'green' lending products which aim at improving the sustainability profile of assets or support counterparties in the transition of their economic activities (Figure 7). Indeed, 75 per cent of respondents (representing 87 per cent of total assets in the RBLS sample) declare that they offer – or intend to offer in the upcoming years[17] – 'green' lending products: approximately 57 per cent (accounting for 65 per cent of total assets in the RBLS sample) develops 'green' products both for NFCs and HHs, and the remaining 43 per cent of institutions (accounting for 22 per cent of total assets in the RBLS sample) offers 'green' products which are dedicated only to NFCs including both large corporates and SMEs. The share of respondents not offering green financing solutions to clients is negligible (6 respondents accounting for less than 1 per cent of total assets in the RBLS sample). Similar findings hold when analysing the responses of SIs and LSIs (see Table 6).

[17] Specifically, 49 institutions (representing 75 per cent of total assets in the RBLS sample) declare that they already offer green lending products at the time of the survey, while 133 respondents (covering 12 per cent of total assets in the RBLS sample) responds that they intend to offer such products in the upcoming years.

Table 8: Italian credit institutions issuing green lending products.

	a) SIs		b) LSI		c) Total	
	N. of institutions	Share of total assets (per cent)	N. of institutions	Share of total assets (per cent)	N. of institutions	Share of total assets (per cent)
HHs only	7	1.36	2	1.11	9	1.91
SMEs only	0	0	1	3.52	1	0.33
Large corporates only	2	1.64	1	0.65	3	1.54
All corporates	71	21.44	3	7.34	74	19.98
HHs and corporates	57	64.66	38	57.64	95	63.62
No	1	0.08	5	2.58	6	0.32
No answer	0	0	2	1.66	2	0.16
Excluded	36	10.81	18	25.49	53	12.14
Total	174	100	69	100	243	100

Source: RBLS. The table shows the distribution of credit institutions' responses to the survey question regarding the issuance of green lending products. 'Excluded' observations refer to credit institutions which do not set long-term strategic decarbonisation objectives on credit portfolios or which do not provide any answer on their intention to set such objectives. Answer '*HHs only*' indicates that the credit institution's strategic action refers to households only. Answer '*SMEs only'* indicates that the credit institution's strategic action refers to small- and medium-sized non-financial companies only. Answer *'Large corporates'* indicates that the credit institution's strategic action refers to large non-financial companies only. Answer '*All corporates'* indicates that the credit institution's strategic action refers to all non-financial companies, including small- and medium-sized enterprises. Answer '*HHs and corporates'* indicates that the credit institution's strategic action refers both to households and to non-financial companies, including small- and medium-sized enterprises. Answer '*No'* indicates that the credit institution does not set the strategic action at the current stage. The table reports answers by credit institutions and by share of total assets for Significant Institutions (panel a), Less Significant Institutions (panel b), and total sample (panel c).

The RBLS shows that credit institutions deem such products as key in meeting their decarbonisation ambitions. Still, this result might screen for a wide heterogeneity in practices across banks. Indeed, as pointed out by the EBA (2023), market practices in terms of green loans and mortgages in the EU banking system are heterogeneous as green lending includes products such as green mortgages for the acquisition of residential real estate with high energy performance or the renovation of existing buildings to improve their energy efficiency, as well as loans to NFCs whose use of proceeds is dedicated to purchase green assets or to finance more complex transition projects (see EBA, 2023).

The extensive practices of green lending products in our sample are particularly relevant given the view of the EBA 'Report on the management and supervision of EGS risks' which identifies the development of sustainable lending products as a way of enhancing the level of portfolios' greenness and at the same time mitigating the exposure to climate-related transition risk (see EBA, 2021). Despite green lending products being central in credit institutions' decarbonisation strategies, research quantifying the relevance of such markets in Italy and in the EU is still limited and requires further attention (Abate et al., 2024).

5.3 Decarbonisation strategies on other business lines

This section complements the discussion on credit portfolios by investigating institutions' decarbonisation objectives on own corporate operations (Section 5.3.1), and on investment portfolios and investment services (Section 5.3.2).

5.3.1 Corporate operations

In general, most of the institutions define or intend to define in the future decarbonisation objectives in relation to the reduction of the emissions resulting from own corporate operations (see Figure 4). This is true for both SIs and LSIs.[18] According to the public information disclosed by the banks on their websites, in general, institutions plan to decarbonise business operations through the construction of energy efficient premises, the refurbishment or retrofitting of existing offices according to energy-efficiency standards, the development of internal policies on energy consumption from electricity, heating or cooling systems, as well as on waste management or business travels.[19]

5.3.2 Investment portfolio and investment services

Less than half of institutions in the RBLS sample (covering approximately 55 per cent of total assets in the RBLS sample) declare to set or intend to set in the future decarbonisation objectives on investment portfolios or investment services (see Figure 4). The 45 per cent of institutions (accounting for 36 per cent of total assets in the RBLS sample) do not set objectives in this sense, possibly reflecting differences in institutions' business models. Furthermore, institutions usually answer that decarbonisation objectives also on investment services have been set, suggesting possibly complementary strategic planning over these business lines (see Table A1 in Annex 2, Panel a and b)

According to the public information disclosed, institutions' targets may be at portfolio level (e.g. in the form of weighted average emission intensity of counterparties and in the form of absolute financed emissions in critical sectors), at asset-level (e.g. in terms of shares or volumes of assets under management with an ESG or ESG-linked profile) or issuer-level (e.g. in the form of stewardship and engagement activities).

6 Conclusions

This paper investigates how credit institutions in Italy are currently rethinking their strategic planning processes to include decarbonisation objectives as key variables. The widespread adoption of medium to long-term objectives, coupled with concrete actions within lending portfolios and corporate operations, indicates a growing commitment to addressing climate-related challenges. A significant share of the Italian banking market has already established decarbonisation strategies over different business lines, with other institutions planning to do so over the upcoming years. The influence of expected regulations – at the time of the survey - is evident, but the proactive steps taken by institutions beyond the immediate scope of these rules suggest the importance of broader factors such as reputational benefits and emerging business opportunities.

Credit institutions mostly started to embed sustainability criteria in credit granting, and to develop and offer green lending products. Our evidence suggests that it could be a cross-cutting strategy which allows institutions to position themselves in a market expected to grow in the next years while

[18] Only 5 LSIs (representing less than 1 per cent of total assets in the RBLS sample and approximately 9 per cent of LSIs total assets in the RBLS sample) declare that they do not intend to set decarbonisation targets related to internal business operations. Out of this, 1 has already defined long-term strategic decarbonisation targets and 3 belong to a group intending to define such targets in the future.

[19] Energy efficiency standards include international certification schemes, such as EMAS (Eco-Management and Audit Scheme), LEED (Leadership in Energy and Environmental Design), or BREEAM (Building Research Establishment Environmental Assessment Method).

mitigating risks which may emerge over time horizons longer than those typically considered in corporate decision making. Although recent regulatory uncertainty rises doubt on the future decarbonisation pathways, in the near future credit institutions may be willing to keep on exploiting opportunities and seizing the reputational advantages which may descend from longer-term decarbonisation commitments.

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Annex

Annex 1: *RBLS Survey – Section M on Decarbonisation strategies*

M1a	**Have you set or do you intend to set objectives (beyond the traditional 3- or 5- years of business strategies) in order to reduce GHGs emissions (resulting from internal business operation or business portfolios) in line with the EU and the Italian decarbonisation targets?**	*1 = Yes, already set* *2 = Yes, to be defined by 2024* *3 = Yes, we intend to do it in the future but we have not started activities yet.* *4 = No, we do not intend to set strategic decarbonisation targets.*
M2	**In case of a positive answer to the previous question, specify if the strategic decarbonisation objectives you have set or intend to set refer to emissions stemming from:**	
M2a	Internal operations (e.g. energy consumption, travel policies)	*1 = Yes.* *2 = Yes, we intend to do it in the future.* *3 = No.*
M2b	Credit portfolio (i.e. counterparties' emissions)	
M2c	Investment portfolio (i.e. counterparties' emissions)	
M2d	Investment services (i.e. counterparties' emissions)	
M3	**In case of a positive answer to the previous question, specify which activities have been implemented to reach the strategic decarbonisation objectives.**	
M3a	Development and monitoring of key performance indicators (e.g. green asset ratio, average energy efficiency of collateral, indicators for geographic concentration of counterparties).	*1 = Yes, for larger corporates only.* *2 = Yes, for small and medium enterprises (SMEs) only.* *3 = Yes, only for corporates (i.e. SMEs and larger corporates).* *4 = Yes, only for households;* *5 = Yes, both for corporates and households.* *6 = No.*
M3b	Sectoral targets in credit allocation to increase exposure to sectors with low carbon intensity.	
M3c	Inclusion, also via qualitative considerations, of counterparties' decarbonisation objectives in the creditworthiness assessment.	
M3d	Development and commercialisation of 'green' lending products (e.g. mortgages or loans to improve energy efficiency of buildings).	
Additional comments regarding specific questions		*Open Text*

Annex 2: *Decarbonisation objectives by SIs and LSIs* (Section 5)

Table A1: Italian credit institutions' strategic decarbonisation objectives by SIs and LSIs
(share of total assets in the RBLS sample)

	a) SIs		**b) LSIs**	
	N. of institutions	Share of total assets (per cent)	N. of institutions	Share of total assets (per cent)
a. Business operations				
Yes	60	86.12	31	43.15
Yes, in the future	92	6.81	23	26.70
No	1	0.04	5	8.85
No answer	3	1.88	0	0
b. Credit portfolio				
Yes	39	81.41	12	18.75
Yes, in the future	99	7.84	40	55.77
No	14	3.67	7	4.18
No answer	4	1.92	0	0
c. Investment portfolio				
Yes	27	47.08	11	8.70
Yes, in the future	27	7.86	36	49.23
No	96	37.77	12	20.77
No answer	6	2.14	0	0
d. Investment services				
Yes	33	45.65	12	10.10
Yes, in the future	27	9.91	32	42.27
No	90	37.15	15	26.33
No answer	6	2.14	0	0
Excluded	18	5.15	10	21.30
Total	174	100	69	100

Source: RBLS. The table shows the distribution of credit institutions' responses to the survey question on how credit institutions setting or intending to set long-term strategic decarbonisation objectives are planning to reduce GHG emissions resulting from their business operations or from those of their counterparties. '*Excluded'* observations refer to credit institutions which do not set long term strategic decarbonisation objectives or which do not provide any answer on their intention to set such objectives. Answer '*Yes'* indicates that credit institutions declare to have already set long-term strategic decarbonisation objectives. Answer *'Yes, in the future'* indicates that credit institutions intend to set long-term strategic decarbonisation objectives after 2024. Answer '*No'* indicates that credit institutions do not intend to set long-term strategic decarbonisation objectives at the current stage. The table reports answers by credit institutions and by share of total assets for Significant Institutions (panel a) and Less Significant Institutions (panel b).

Annex 3: *Loans to NFCs* (Section 5.1.2)

Table A2: List of Carbon-critical sectors by NACE2 classification

Label	NACE 2
Agriculture	A.01
Oil and coal	B.05, B.06
Carbon-intensive Manufacturing	C.10, C.11, C.12, C.19, C.20, C.23, C.24, C.28
Electricity	D.35
Waste	E.37, E.38, E.39
Construction	F.41, F.42, F.43
Land Transport	H.49
Accommodation and food service activities	I.55, I.56

Source: Faiella and Lavecchia (2020), *'The carbon footprint of Italian loans'*, Banca d'Italia – Quaderni d'Economia e Finanza No. 557.

Table A3: Italian credit institutions' total outstanding loans to NFCs in carbon-critical sectors (2023)
(total outstanding loans by carbon-critical sector in 2023 issued by institutions in the RBLS sample – Euros thousands)

	Yes	*Yes, in the future*	*No*	*No answer*	*Excluded*	**Total**
Agriculture	10,698.32	3,136.21	227.35	123.92	914.39	15,100.19
Oil and coal	137.92	1.27	0.01	0.00	250.28	389.47
Carbon-intensive Manufacturing	59,935.22	7,747.09	536.51	206.23	6,028.93	74,453.97
Electricity	11,717.60	1,289.13	90.13	45.07	1,051.66	14,193.58
Waste	4,026.55	811.18	77.27	20.35	329.42	5,264.78
Construction	31,979.09	9,225.98	1,100.36	299.16	2,398.69	45,003.28
Land Transport	7,887.99	1,572.12	495.11	42.54	937.50	10,935.26
Accommodation and food	16,891.18	5,736.60	791.67	96.56	2,099.61	25,615.62
Non-critical	252,774.81	445,63.88	4,508.03	1,474.54	25,455.87	328,777.12
Total	396,048.69	74,083.44	7,826.44	2,308.36	39,466.35	519,733.27

Source: RBLS and *Matrice dei Conti*. The table shows the total outstanding loans to NFCs as of the end of 2023 by credit institutions responding to the RBLS survey. Credit institutions are grouped according to their answer to the RBLS question on setting long-term strategic decarbonisation objectives on credit portfolios. Answer '*Yes'* indicates that the institution has already set or intends to establish by 2024 strategic decarbonisation objectives on its credit portfolio. Answer *'Yes, in the future'* indicates that the institution intends to set after 2024 strategic decarbonisation objectives on its credit portfolio. Answer '*No'* indicated that the institution does not intend to define such objectives. '*Excluded'* observations refer to credit institutions which do not set long-term strategic decarbonisation objectives or which do not provide any answer on their intention to set such objectives. Carbon-critical sectors are defined according to Faiella and Lavecchia (2020).