Financing the Transition:

Harnessing Securitisation Reform to Decarbonise Buildings, Empower SMEs, and Transform Transport

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Prepared by

CLIMATE STRATEGY & PARTNERS

About Climate Strategy & Partners

Climate Strategy & Partners ("Climate Strategy") is a leading advisory and consulting firm in the areas of climate finance, innovation, and energy efficiency investments, with a focus on the corporate strategies and government policies required to effectively accelerate the transition to a net-zero emissions economy. For 16 years, the Climate Strategy team has been providing global companies, banks and Governments advice on how to deliver the economic transition to a low carbon economy. Climate Strategy's chief executive, Peter Sweatman, has authored or co-authored 20+ white papers, and was the rapporteur to the EU Commission and UN Environment Finance Initiative's Energy Efficiency Financial Institutions Group (EEFIG), leading a decade of ground-breaking work from 2013-23. Climate Strategy supported energy transition policy development at the G20 and in Spain, Mexico, France, and the UK. From 2016-2022, Climate Strategy's subsidiary Energy Efficiency Capital Advisors (EECA) structured and supported ten energy efficiency private placements totalling over Euro 50 million for Spanish cities, companies and buildings for international investors.

About this Report

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The report builds on extensive analysis of the regulatory progress around securitisation in buildings, SMEs, and transport during 2025 and 2026. The views and conclusions expressed herein are attributable only to Climate Strategy & Partners, and not to the supporting organisations nor reviewers. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of Climate Strategy & Partners nor the authors concerning the legal status of any country, territory, city or area or of its authorities, or concerning delimitation of its frontiers or boundaries.

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Executive summary

The European Commission's June 2025 proposals on securitisation regulation reform comes at a decisive time for the Union's climate and financial integration agendas. The success of Europe's Green Deal and the Banking and Savings Union depends on the ability of securitisation markets to adapt and support these ambitions. To play their full role, they must embrace greater transparency, stronger standardisation, and full alignment with Europe's ambitious decarbonisation pathway.

What is securitisation?

Securitisation is a financing technique through which banks bundle loans — such as mortgages, car loans, or SME lending — into a special purpose vehicle (SPV) and sell them to capital market investors in the form of tradable securities. By transferring part of the risk and funding of these loans to investors, banks free up balance sheet capacity and can extend new lending without requiring additional capital.

In Europe, securitisation markets remain significantly smaller than in the United States and other major economies. This limits their role in supporting credit provision and investment at the scale Europe's strategic priorities demand.

Europe faces a significant investment challenge over the coming decades, particularly in relation to the energy transition, building renovation, and industrial modernisation. At the same time, its financial system remains fragmented and predominantly bank-based, with banks providing the majority of financing to households and businesses. This creates a structural constraint: the pace at which new lending can be extended is closely linked to bank balance sheet capacity.

Why does Europe need more financing capacity?

The Draghi Competitiveness Report (2024) and the Letta Single Market Report (2024) both identified the mobilisation of private capital and the deepening of European capital markets as critical to Europe's competitiveness. The EU's financing shortfall for the energy transition alone is estimated at over €600 billion annually, a gap that cannot be filled by bank lending alone.

In this context, securitisation is increasingly being reconsidered as a strategic tool to support European capital markets and unlock additional financing. By transferring risk and funding from banks or credit institutions to capital market investors, securitisation can enable banks and institutions to recycle capital, expand lending, and potentially reduce funding costs.

Recent European policy initiatives have reinforced the strategic role of securitisation in mobilising capital for the energy transition. The European Commission, in cooperation with the EIB Group, has proposed mechanisms (including the Operator Securitisation Facility) explicitly designed to convert future regulated revenue streams from energy assets into liquid, investment-grade securities, freeing up bank lending capacity and crowding in institutional capital. These initiatives sit squarely within the EU securitisation framework and signal a clear policy direction: securitisation is not merely a funding tool for banks, but a strategic instrument for financing Europe's transition infrastructure at scale (European Commission, 2025).

Why securitisation is part of the solution

The Draghi Competitiveness Report (2024) and the Letta Single Market Report (2024) both identified the mobilisation of private capital and the deepening of European capital markets as critical to Europe's competitiveness. The EU's financing shortfall for the energy transition alone is estimated at over €600 billion annually, a gap that cannot be filled by bank lending alone.

Scaling investment in building renovation, clean transport and SMEs (direct access to securitisation markets) will require both increased lending volumes and greater participation from long-term institutional investors. For securitisation markets to play this role effectively, however, investors require transparent, comparable and decision-useful data, including on climate-related risks and performance.

This paper examines how targeted improvements to disclosure can support this objective and sets out Climate Strategy Partners' recommendations on how the framework should evolve across three core asset classes.

1. Real estate securitisations

In most European nations, mortgage debt makes up the vast majority of household liabilities. As a result, buildings represent Europe's largest source of household debt while also accounting for roughly 36% of CO_2 emissions (EC, 2024). Yet today, energy performance and carbon-related data are not adequately captured in mortgage-backed securities (MBS). Therefore, integrating Energy Performance Certificates (EPCs) into disclosure templates on a mandatory basis would provide investors with a clear view of portfolio efficiency, enabling better-informed capital allocation decisions.

The benefits go well beyond transparency. Homes with higher EPC ratings typically deliver lower energy bills, better indoor air quality, and greater thermal comfort, which in turn enhance residents' health, resilience, and quality of life (WHO Europe, 2011; EEA, 2020). At the economic level, energy-efficient homes command higher property values and strengthen household finances (EIB, 2022; EMF EEMI, 2023). In addition, by lowering utility costs, they also increase disposable income, supporting consumption and overall financial stability (IEA, 2014).

Over time, this transparency will also reshape retail loan origination practices: banks will increasingly price EPCs into mortgages and offer preferential products for higher-performing homes, a direction already signalled by ABN AMRO, Rabobank, and Handelsbanken. Embedding EPC data within securitisation would therefore accelerate building renovation, deliver tangible social and economic co-benefits, and meet supervisory expectations for climate risk integration (ECB, 2025).

2. Vehicle securitisations

Transport is the EU's second-largest emitter and central to the Fit-for-55 package. Transport related Asset-Backed Securities (ABS), however, lack standardised disclosure of emissions, fuel type, or efficiency ratings. As the transition accelerates, investors need clarity on what sits within a given security. Just as EPCs differentiate green and brown mortgage portfolios, emissions disclosure would allow the same differentiation in vehicle/transportation finance. Standardising this data within securitisation templates would support investor choice, enhance comparability, and align banks with financed-emissions targets under the EU Taxonomy and Basel standards (BCBS, 2023).

3. SME securitisations

SMEs represent 99% of the total number of EU businesses but face high financing costs and fragmented access to capital. Securitisation could be a powerful channel for SME funding; however, its current uptake is limited by data requirements, complex structuring and legal expenses. Standardising documentation in addition to the proposed reduction to due diligence for securitisations would lower issuance costs, expand investor participation, and strengthen the role of capital markets in supporting Europe's smaller enterprises. This aligns with the Commission's Banking & Savings Union priority and responds directly to the EBA's view that "standardisation and transparency are essential to support market development" (EBA, 2024).

Real Estate Disclosure

As part of the European Commission's current consultation on securitisation reform, one of the objectives is to reduce transaction costs by concentrating on the extra regulatory disclosure burden that securitisations currently face. Part of the cost saving drive is focused on the European Securities Markets Association (ESMA) securitisation loan level disclosure templates, with the aim to reduce the number of fields by 35% or more.

This reduction should be beneficial to issuers, especially first-time issuers who are often dealing with many moving parts when securitising for the first time. However, this move to reduce template fields should not be at the expense of the EPC or other carbon disclosure information (other asset class templates).
Moreover, to ensure the proposal's goals are met in reducing regulator arbitrage between similar assets (both across securitisation - cash vs. synthetic & private vs. public - and other secured lending products), reporting templates need further alignment in relation to EPC/carbon disclosures.

The European Covered Bond Framework (EUCB) governs the structure and regulatory compliance of corporate bond issuance across the European Economic Area (EEA). Part of the required disclosure involves the completion of the Harmonised Transparency Template (HTT), the CB equivalent to the ESMA securitisation templates. This template also requires EPC disclosure on a pool basis, however are purely optional, creating reporting arbitrage versus securitisation.

To address this, the EPC fields in both templates should not only remain, but be upgraded to strictly mandatory from their current optionality status.

The Case for Mandatory EPC Fields in Financial Templates

It is in this context that the question of which fields to retain and which to upgrade becomes critical. Despite growing political consensus around Europe's climate objectives, EPC data remains inconsistently reported across key financial disclosure templates. Currently, EPC fields exist in both the ESMA and HTT templates, yet they are not strictly mandatory or, in case of HTT, are optional. In practice, this optionality enables a quiet erosion of climate-aligned financial reporting, and/or the noncompliance at retail banking level of the EPC requirement for new lending.

Issuers can selectively use funding structures that offer best ease of use, if the EPC fields are not upgraded in both templates, allowing market participants to sidestep transparency without breaching any formal regulation.

In effect, when EPC data are left optional at the capital markets level, the loss of transparency flows downstream, impairing the information available not only to institutional investors seeking to assess climate and credit risk, but also to retail investors relying on the Sustainable Finance Disclosure Regulation (SFDR) labels or the Markets in Financial Instruments Directive (MiFID) II sustainability preferences. The result is a fragmented system where assets can enter the market without meaningful energy efficiency disclosure, undermining both capital allocation decisions and regulatory objectives.

EPC data remains inconsistently reported across key financial disclosure templates

The current absence of mandatory EPC reporting not only limits transparency for investors and lenders, but also undermines the credibility of the EU's broader financial and environmental policy architecture and goals. If EPC fields are deprioritised in the name of template simplification, the integrity of cornerstone initiatives, such as the SFDR, the EU Taxonomy, and MiFID II sustainability preferences, is weakened.

These frameworks depend on consistent, asset-level environmental data to support meaningful classification, risk analysis, and investor protection. Making EPC disclosure mandatory across all relevant templates, including ESMA, HTT, and forthcoming fund template of the Alternative Investment Fund Managers (AIFMD) Annex IV, would address this structural shortcoming. It would close off the current loophole of voluntary reporting, prevent regulatory reporting arbitrage, and promote full harmonisation across asset classes (e.g. covered bonds vs. securitisations), instrument types (cash vs. synthetic), transaction structures (public vs. private).

Importantly, the legal and institutional levers to implement this shift are already in place. The European Commission has delegated authority to amend the EU Capital Requirement Regulations (CRR) Article 129, and ESMA maintains full oversight of securitisation template design and validation standards. Together, these institutions can deliver a coherent, enforceable pathway to integrate EPC data across the financial system, enhancing transparency, aligning market incentives, and supporting the EU's net-zero ambitions. A deeper concern lies in the systemic under-collection of EPC data at loan origination or by rental portals. Although EPC are legally required at the point of sale or rental per Article 12 of the EU Energy Performance of Buildings Directive (EPBD), retail banks and estate agents (physical and virtual) can be reluctant to request these and potentially lose business to other companies that may not.

EPC enforcement is left to national or regional authorities, many of which lack the resources or incentives to ensure compliance, with some potentially fearing the extra cost burden to their voters. However this fear appears misplaced, the table below demonstrates the average EPC costs (selected nations) are minor when compared to the average selling price. When considering impact on renting, these costs should also be viewed against ongoing rental income, plus potential future sale proceeds; which shows further trivialisation of the cost.

Country	Avg. EPC Cost (€)	Avg. Home Sale Price (€)	EPC Cost % of Sale Price	Source (EPC cost)	Source (Sale Price)
Netherlands	~200	~400,000	0.05%	MoneyWeek, 2024	CBS, 2024
France	~180	~300,000	0.06%	MoneyWeek, 2024	INSEE, 2024
Spain	~150	~180,000	0.08%	MoneyWeek, 2024	INE, 2024
Germany	~200	~350,000	0.06%	MoneyWeek, 2024	Destatis, 2024
Denmark	~250†	~450,000‡	0.06%	Estimate‡	Eurostat implied

In addition to this, weak enforcement in some regions, could be the result of future restrictions in relation to lower rated EPCs (explored later in this paper), instead of viewing the EPCs as a strategic opportunity to improve housing stock, there could be concern of disturbing the voting public. As a result, there is growing asymmetry across jurisdictions, where some institutions voluntarily disclose EPCs while others choose not to.

In jurisdictions with low compliance, banks often lack incentives to request, collect, or retain EPC data at the point of mortgage origination. Ironically, as illustrated in the table below, these are often the countries where buildings perform worst, and where EPC data is most critical for managing both credit and climate risk.

Country / Region	Est. EPC Compliance at Origination	Average EPC Rating
Nordic	80-90%+	B-C
NL	85-90%	B-C
Germany	60-70%	C-D
France	50-60%	D-E
Italy	30-40%	E

The mandatory inclusion of EPC fields in both ESMA and HTT templates would create a powerful incentive for banks' capital markets divisions to align with climate disclosure goals. In particular, it would create strong internal pressure on retail lending teams to systematically request EPCs at mortgage origination. In doing so, banks would ensure the future capital market eligibility of their mortgage assets, whether through securitisation or CB programs.

This dynamic, to begin with, would likely play out unevenly across the EEA banking landscape, with certain institutions more exposed to capital markets and thus more responsive to such disclosure mandates. For instance:

- Banks with high loan-to-deposit ratios (LDRs), such as those in the Nordics, rely more heavily on wholesale funding and will be quickest to adapt.
- Institutions in France, Spain, Netherlands and Germany, which frequently utilise traditional securitisations for funding and synthetic securitisation for capital relief, will also be early movers.
- Smaller banks, after the larger initial movers, should be incentivised to mirror their larger competitors so as to not risk action from local regulators.

The Benefits of EPC Mandatory Fields

Beyond the inevitable positive environmental impacts that will come in the longer term from EPC disclosures, there are three other key areas to look at: Europe-wide enforcement via capital markets pressure leading to increase of green bonds, changes in retail lending markets and longer-term household benefits.

An update of the EPC requirements, if combined with mandatory disclosure and designed correctly, could also help standardise ratings across jurisdictions. Beyond the rating itself and the identity of the certifying entity (which is valuable in discouraging fraud), disclosures could include a small number of additional fields, for example, type of envelope insulation, heating system, and energy source. These details would provide investors with a consistent basis for assessing EPCs, regardless of national differences, and would also require on-site inspections rather than superficial assessments, such as those currently possible via Google Street View (please see annex).

Notwithstanding these improvements, EPCs represent the most widely available data point for building energy performance in Europe and should remain central to disclosure frameworks, while recognising that they reflect modelled estimates rather than actual consumption, vary in comparability across Member States, and should be complemented with additional data where available.

The table below illustrates how these supplementary fields could be structured across EPC rating categories.

Rating	Insulation Type	Windows	Heating	Alternative Power
A	Full Envelope	Single Glazed	Gas Boiler	Solar
B	Partial Envelope - Roof	Double Glazed	Wood Burning	Solar & Battery
C	Partial Envelope - Wall Cavity	Triple Glazed	Other Carbon Emission Source	Wind
D	Partial Envelope - Solid Wall External		Electric Heaters	Wind & Battery
E	Partial Envelope - Solid Wall Internal		Butene	Other Zero Emission
F	No Insulation		Heatpump	Other Zero Emission & Battery
G				
NR				

It is important to note that the upcoming review will already reduce the overall disclosure burden by around 35%. Adding two or three fields therefore does not change the fact that the net disclosure burden will significantly fall. Issuers and banks should regard these changes not as a cost or operational burden (as they are a legal requirement now), but as improved portfolio information that ultimately strengthens investor confidence and supports higher long-term profitability.

This perspective is also reflected in the expectations of institutional investors. These investors such as pension funds and insurance companies are long-term asset owners with liabilities extending over decades. As a result, they are exposed to systemic risks (including climate-related risks) that cannot be diversified away.

From this perspective, climate-related data is not an additional reporting burden, but a necessary input for risk management, asset allocation and fiduciary responsibility. The Net-Zero Asset Owner Alliance (NZAOA) highlights that addressing climate risk is aligned with asset owners' long-term financial interests and duties to beneficiaries.

For securitisation markets to attract greater participation from these investors, underlying assets must provide sufficient transparency on climate exposure and performance. Disclosure frameworks therefore play a critical role in enabling investment, rather than constituting unnecessary administrative burden.

Enforcement and Restrictions

As discussed, to maintain CB, securitization programs and access to ECB liquidity programs, internal pressure from capital market divisions to their retail origination side should be sufficient to enforce EPBD and the collection of valid EPCs. This should impact:

- Banks with large CB and/or MBS programs to request EPCs within their jurisdictions, who, in line, apply pressure on sellers to comply so as to not lose potential buyers (reduced lending pool).
- Rental sector via Buy-to-Rent mortgages, which would also have the same pressures as standard mortgages. However, with sufficient volume there could be peer pressure from the buy-to-rents on the other rental properties to comply as well.

Even in jurisdictions with weak enforcement, internal pressure within financial institutions could be sufficient to nudge the market towards better compliance self-enforcement without the need for intervention locally or EEA-wide.

Rental and selling Restrictions

Financial Markets

As Europe continues to align its financial system with the transition to a sustainable economy, EU institutions have explicitly identified green and ESG-aligned financing as central to this agenda (ECB Economic Bulletin, 2025). The EBA has stressed that current lending volumes dedicated to improving energy efficiency remain insufficient to achieve the EU's sustainability objectives (EBA, 2024).

To close this gap, this report proposes the mandatory inclusion of EPC and carbon-related data in securitisation and CB disclosures. Such a measure could act as a powerful mechanism to advance both financial integrity and environmental objectives. These disclosures would align lending with EU climate goals and support smarter, risk-aware capital allocation across jurisdictions (Elderson, 2024).

1. Improve Environmental Risk Awareness and Price Differentiation Capital markets

Incorporating EPC data at the template level allows for improved visibility into the environmental risk profile of mortgage pools. This data could help market participants (structurers and originators) to better price the climate risk of lower EPC rated asset pools, potentially paving the way for clear segmentation of assets based on energy performance. For example, pools with a high share of EPC A- or B-rated properties may benefit from lower spreads or better execution, particularly if structured under the European Green Bond Standard (EUGBS). In contrast, deals containing a high share of EPC F- and G-rated homes (or with poor disclosure), may face pricing penalties or reduced market access.

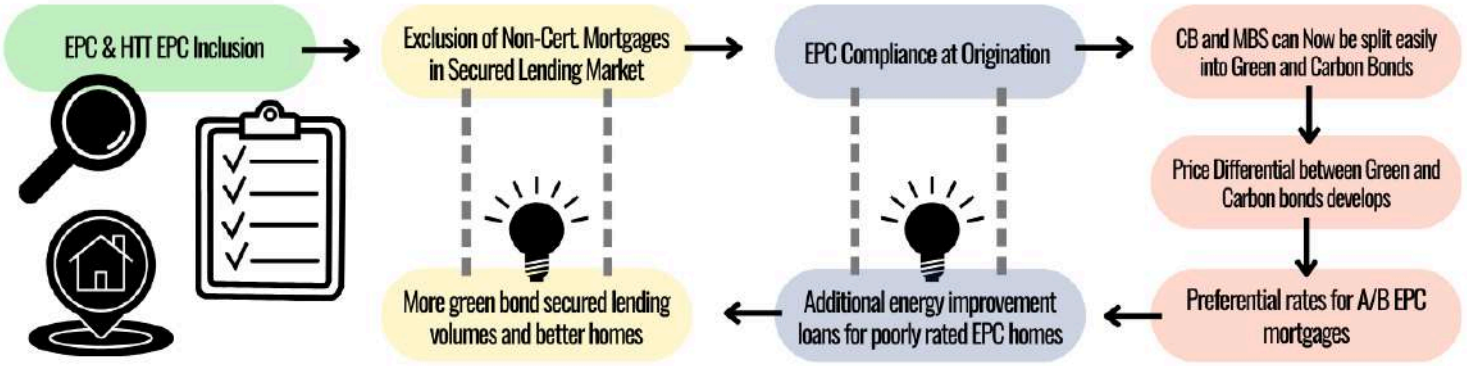
The simple presence of this data could enable a virtuous cycle: transparency supports price differentiation, which then reinforces better mortgage origination standards, giving banks an operational incentive to collect EPC data, not only because regulators' demands, but also because their capital markets divisions could depend on it.

More comprehensive EPC data will allow investors to better assess both the credit risk and climate exposure of mortgage-backed portfolios. Institutional investors increasingly recognise that the households least able to maintain heating in winter or cooling in summer are often the same ones living in poorly rated EPC homes. Access to these data enhances credit modelling, supports climate stress testing, and strengthens alignment with internal ESG mandate.

Case study - Basel's Impact on Streamlining Bank Supervisory Reporting

Published in June of this year, Basel's framework for the voluntary disclosure of climate-related financial risks discusses Template CRFR3: "Transition risk – real estate exposures in the mortgage portfolio by energy efficiency level", requiring banks to provide narrative commentary detailing jurisdictional coverage, particularly legal requirements on building energy efficiency, sources of information used, modelling variables and assumptions, and any significant changes with their key drivers, ensuring transparency in assessing climate-related financial risks linked to energy performance.

Given the Basel Committee's global influence on banking standards, the introduction of the CRFR3 template could strengthen initiatives to integrate EPC fields into ESMA and HTT templates, enhancing harmonization and transparency in supervisory data collection across jurisdictions.



2. Enhanced Mortgage Origination and Support for Energy Retrofitting

Perhaps most significantly, embedding EPC disclosure into the mortgage origination process would create a practical channel for supporting Europe's broader retrofit agenda. Today, millions of homes in Europe remain poorly insulated or inefficient, locking households into high utility costs and contributing disproportionately to emissions.

To address this, France and Spain have announced phased restrictions on the sale or rental of low-rated homes. Properties with poor ratings (EPC F/G and, at a later stage, D) will come under mounting pressure to upgrade in order to remain in the market. In these countries, borrowers and lenders alike will need EPC data (and potentially upgrades) to avoid the risk of stranded assets or regulatory non-compliance. These restrictions should not be seen solely as a threat, but also as an economic opportunity: they are expected to mobilise the construction sector to refurbish homes, which will require new financing activity (including preferential "green" loan products), and ultimately enhance household liquidity through lower energy bills and higher property values.

Conversely, jurisdictions like the Netherlands offer a more incentive-based model, mortgage borrowers with high EPC ratings (A or B) can qualify for preferential interest rates or increased borrowing limits. At the same time, the Dutch system offers additional financing capacity to households purchasing inefficient homes, provided the funds are used for certified energy upgrades.

This dual strategy, combining restrictions with financial incentives, could be utilised across Europe to ensure the EPC targets outlined in the EU Energy Performance of Buildings Directive (EPBD) are met. This extra lending for home improvements should boost the securitisation markets, either via mortgages for MBS or for consumer loans which, whether their EPC ratings should or could also qualify as green bonds.

Case study - How the Latest EPBD Recast Brings Clarity and Innovation

The 2024 EPBD recast strengthens building renovation by linking finance and data. Article 17 mandates project aggregation, packaged renovation solutions, and broad access to green mortgages and loans, ensuring financial institutions are informed and engaged. Article 22 requires public, machine-readable building performance data and easy EPC access for owners, tenants, and lenders, enabling transparency, informed investment, and targeted policy to accelerate Europe's decarbonisation goals. National energy performance databases must be established by the Directive's transposition deadline, 29 May 2026. The Commission will adopt the first implementing act with common data templates by 30 June 2025.

Published in June, the European Commission's guidance on the EPBD recast sets thresholds for EPC classes A and G to enhance clarity, comparability, and market transparency across the EU, in order to facilitate "the work of cross-border players such as banks, insurance companies, financial operators, construction companies and real-estate companies". The guidance also allows EPC updates when new performance data become available, including from digital twins or certified tools, for example after renovations. A simplified procedure enables directly adopting verified data from such sources, improving accuracy, reducing administrative burden, and ensuring EPCs reflect the building's most current energy performance.

3. Social and Economic Benefit

Improving the energy efficiency of residential properties delivers a wide range of social and economic co-benefits. The European Commission has stated that buildings that have undergone energy retrofits contribute to better air quality, comfort and health, in particular for vulnerable households (EC, EPBD Recast Impact Assessment). The World Health Organisation (WHO) has documented that energy-efficient housing reduces exposure to cold and damp, improving respiratory and cardiovascular health (WHO, 2011). The European Environment Agency highlights that such measures increase resilience to temperature extremes and reduce energy poverty (EEA, 2020), while the International Energy Agency (IEA) confirms associated gains in indoor air quality and thermal comfort stability (IEA, Multiple Benefits).

These improvements also have a direct bearing on financial stability. Energy-efficient homes (often supported by small home-improvement loans or green mortgage top-ups) are associated with lower delinquency and default rates, translating into more resilient securitisation and covered bond structures. The European Mortgage Federation has found that energy-efficient properties tend to carry lower credit risk, supporting higher valuations and potentially easing capital requirements (EMF, 2023). Analysis from the Energy Efficiency Financial Institutions Group similarly shows that higher EPC ratings are linked to lower arrears rates and stronger credit performance (EEFIG, 2022). This impact is especially strong when retrofits raise a property from an EPC rating of F or G to C or above. Lower energy costs improve affordability and repayment capacity, creating a positive feedback loop: healthier living conditions, lower outgoings, and stronger loan performance.

Beyond these gains, energy-efficient housing delivers clear economic advantages at both the household and macroeconomic level. As utility bills decline, families gain greater financial flexibility, increasing property values and freeing up income for savings, investment, or consumption (EC, EPBD Recast). Over time, this should provide broad economic stability and boost consumer confidence, particularly in regions where inefficient housing has historically strained household budgets. The IEA confirms that reduced energy expenditure can boost disposable income, spur consumer spending, and contribute to GDP growth (IEA, Multiple Benefits), while the European Investment Bank (EIB) highlights net economic gains from higher asset values and improved economic resilience (EIB, 2022).

Implementation Considerations

While a brief transition period may be needed for operational readiness, integrating mandatory EPC fields is technically feasible and strategically overdue. Delaying implementation risks undermining the EU's core objectives around decarbonisation, energy efficiency, and financial transparency. Swift adoption would demonstrate regulatory alignment with climate goals and promote consistency across real estate, retail banking, and capital markets.

Case study - EPC-Related IT Integration Costs in Banking

Integrating EPC data fields into loan origination systems is technically feasible but often cited as a cost barrier.

Estimates suggest one-off integration costs of €1–3 million per institution (EBA, 2024). By comparison, ING spends over €1 billion annually on IT, while BNP Paribas invests several billion (ING, 2023; BNP Paribas, 2024). Early adopters such as Rabobank and ABN AMRO already embed EPC data in green mortgage products.

While the relative cost of implementation is minimal, the resulting benefits are substantial, particularly in terms of enhanced market transparency, improved supervisory alignment, and the accelerated development of credible green financial products that support sustainable growth and incentivise investor confidence.

In the longer term, households that complete energy upgrades benefit from lower utility bills, higher home values, and stronger financial resilience. Some countries, like the Netherlands, already offer preferential loan terms or increased borrowing capacity for highly rated EPC homes, with additional financing available to help improve lower-rated ones. These measures not only support affordability and loan performance, but also enhance consumer wellbeing and stimulate economic growth through increased spending power. The table below details the average upgrade cost without grants and the annual energy savings in selected European countries. Together, these two measures demonstrate that there will need to be more lending capacity if we are to retrofit at scale and the economic benefit once complete for families and the wider economy.

Case study -Retrofit Economics (Spain vs. Netherlands)

Deep retrofits that combine insulation, renewable heating, and solar PV are often seen as costly, but evidence shows they can be affordable when EU and national grants are applied.

In Spain, Royal Decree 853/2021 provides grants of up to €18,800 per dwelling for upgrades achieving >60% energy savings (IDAE, 2023). A deep retrofit costing €30,000–35,000 is reduced to ~€16,200 net, with annual savings of €2,200 (7.4-year payback).

In the Netherlands, the RVO ISDE scheme and Energiesprong model support industrialised retrofits. A full package (~€40,000 gross, ~€25,000 net after grants) delivers €2,500 annual savings (10-year payback).

Grant-adjusted deep retrofits can outperform partial upgrades on payback, with households able to finance works through green loans where savings cover repayments. For banks, this creates a scalable green product; for investors, it generates securitisable pools aligned with EU climate goals.

	Spain – Insulation-only	Spain – Deep Retrofit	Netherlands – Insulation-only	Netherlands – Deep Retrofit
Gross Cost	~€12,000 (IDAE, 2023)	€30,000–35,000 (IDAE, 2023)	~€18,000 (RVO, 2024)	~€40,000 (Energiesprong, 2022)
Grant	~€5,000 mid-range (RD 853/2021)	€18,800 max (RD 853/2021)	~€5,750 mid-range (RVO, 2024)	€15,000 max (RVO, 2024)
Net Cost	€ 7,000	€ 16,200	€ 12,250	€ 25,000
Annual Savings	~€800 (EC, 2023)	~€2,200 (IDAE, 2023)	~€950 (RVO, 2024)	~€2,500 (Energiesprong, 2022)
Payback	8.8 years	7.4 years	12.9 years	10.0 years

Netherlands, Germany and several northern Member States are already advanced in EPC compliance and the development of financial products linked to energy ratings. The objective of integrating upgraded EPC fields into secured lending disclosures is to support lagging countries and institutions, accelerating progress across the Union in a coordinated manner.

A key barrier remains the perceived cost of renovations, both politically and at the household level. To address this, EU-level guarantees or subsidised funding - potentially underpinned by EU green bond issuance - could be used to reduce lending rates for home improvement loans. Such mechanisms would not only enhance affordability but also distribute benefits across the Union, with northern and central Member States supplying much of the insulation and equipment required.

Improved EPC data would also enable banks to target lending more effectively, as already demonstrated in the Netherlands. This in turn strengthens capital efficiency, enhances returns on equity, and supports a virtuous cycle of renovation and reinvestment. Upfront disclosure (and subsequent renovation) costs should be viewed as an investment in more resilient loan portfolios: as homes become more efficient, household running costs fall, credit performance improves, and risk weights can be reduced, whether on a standalone basis or through securitised bonds. The resulting capital relief allows for additional lending and, all else being equal, contributes to stronger and more sustainable bank profitability.

Case study - Rabobank's Role in Green Mortgage Innovation

Rabobank has been at the forefront of utilising EPC rating data to create mortgage products that incentivise borrowers to upgrade their homes. By 2024, over €12 billion of Rabobank's residential mortgage book had EPC information, forming the basis for preferential "green mortgage" products (Rabobank, 2025). Borrowers with EPC ratings of A or B were eligible for up to 0.2% lower interest rates or increased borrowing capacity, directly linking affordability with energy performance (EMF, 2023).

Through its Sustainable Funding Framework (2025), Rabobank explicitly recognises green buildings and clean transportation as eligible asset classes (Rabobank, 2025). In 2025, the bank allocated €4.5 billion to green funding, a portion of which was earmarked for securitisations backed by EPC-aligned mortgage portfolios.

The bank also supports the Netherlands' retrofit agenda by offering top-up loans of up to €25,000 for homeowners purchasing inefficient properties, provided the funds are dedicated to certified energy upgrades (RVO, 2024). This financing model reduces household energy costs by an average of €1,500–2,500 per year, while increasing property values by 3–5%, strengthening both financial stability and investor confidence (EIB, 2022; IDAE, 2023).

Rabobank's approach demonstrates how mandatory EPC disclosures can be leveraged to deliver climate impacting lending and financial resilience. This alignment also creates a structured pathway to issue mortgage-backed securities (MBS) that qualify under the EU Green Bond Standard (EUGBS) and the EU Taxonomy (ECB, 2023).

The review of the EU securitisation framework marks an important step towards narrowing the gap between covered bonds and securitised bonds. Simplified reporting templates, lower capital charges for senior STS tranches, and expanded LCR eligibility bring securitisation more closely in line with the broader secured lending market. However, further regulatory support will still be required, alongside enhanced disclosures, if securitisation is to play its full role in achieving net-zero.

From an investor perspective, these considerations are closely linked to the growing use of portfolio-level emissions accounting and target-setting frameworks. Institutional investors are increasingly required to measure and manage financed emissions across their portfolios, including exposures to real estate lending and structured products. Initiatives such as the Net-Zero Asset Owner Alliance (NZAOA) and the Partnership for Carbon Accounting Financials (PCAF) provide methodologies for tracking emissions and assessing alignment with decarbonisation pathways.

In this context, the availability of consistent, asset-level data is critical. Without sufficient transparency on underlying exposures, securitised assets risk being excluded from portfolio construction or treated conservatively within carbon accounting frameworks. Enhanced disclosure can therefore support not only regulatory objectives, but also the practical integration of securitisation into investor climate strategies.

To maximise the effectiveness of disclosure, a broader policy discussion will be needed on the regulatory treatment of green versus carbon bonds and loans. This should include consideration of preferential capital requirements, LCR eligibility, and ECB haircut adjustments for green bonds backed by high-EPC or zero-emission collateral. Lower funding costs on these instruments would create a direct commercial incentive for originators to collect EPC and emissions data at origination — and, where ratings are low, to offer retrofit loans at preferential rates, with the upgraded EPC then unlocking further green bond eligibility downstream.For synthetic structures, which are likely to securitise higher-risk carbon loans under a new regulatory regime, other measures such as thicker mezzanine tranche requirements may also be necessary. **These capital-based adjustments extend beyond the scope of this paper, but warrant detailed examination in a dedicated follow-up study, as they could strongly impact the success of energy transition.**

Transportation & Equipment Templates: A Capital Markets Gap in the Green Transition

The transport sector contributes to over 25% of EU greenhouse gas emissions, making it a central focus of Europe's decarbonisation efforts. Yet, within current ESMA securitisation templates, there is no dedicated or mandatory field to report engine/propulsion type or fuel source across transport and equipment-related assets. This omission risks maintaining the status quo in capital markets, where carbon-intensive assets continue to be financed without appropriate disclosure or differentiation.

Despite legislative progress through the EU Taxonomy, Fit for 55, and sector-specific policies like FuelEU Maritime and ReFuelEU Aviation, securitisation templates have lagged behind. Without a carbon data field, investors and lenders are unable to accurately assess the climate impact of securitised asset pools, particularly in asset classes that are directly responsible for a substantial share of emissions.

Even in mature markets, such as auto asset-backed securities (ABS), where green bond issuance is growing (mostly under the International Capital Market Association (ICMA) voluntary principles), there is a lack of consistent reporting. Fuel-type data are often available at origination, but disclosure remains optional and non-standardised, limiting alignment with the EU Green Bond Standard and reducing transparency for ESG investors.

In transport, the parallel incentive to real estate applies: lower funding costs on green ABS backed by zero-emission collateral would drive originators to classify and disclose propulsion type at origination, which should be a simple mapping exercise and, where portfolios contain EV and zero-emission vehicles, provide the same favourable regulatory treatment for EUGB. There should then be clear incentives to issue under this framework faster than currently is the case.

Environmental Reporting Across Key Transport Asset Classes

The ESMA framework applies a series of templates to different securitisation asset types, depending on the structure of the deal. While auto ABS has a dedicated template, other categories including commercial (truck & bus) vehicles, equipment, or shipping, often rely on generic lease or non-standard formats.

Auto ABS

One of the most mature and liquid ABS markets in Europe, with both private and public issuance platforms used widely across jurisdictions. Transactions are typically originated by manufacturer-aligned captive finance arms (e.g., Volkswagen Financial Services (VWFS), BMW Bank, RCI Banque/Mobilize Financial Services, funding the sale of new vehicles, but often include a mix of used cars (trade-ins) and light commercial vehicles, particularly among self-employed or small business customers.

While the ESMA Auto ABS template already captures make and model, it does not mandate identification of propulsion type, such as electric vehicle (EV), plug-in hybrid (PHEV), hybrid, petrol, or diesel. This omission is easy to address as originators already possess this data and many internally classify loan books by fuel type, so disclosure should not present a significant burden.

As the EU approaches the 2035 ban on new internal combustion engine (ICE) passenger vehicles, the absence of propulsion-type fields limits capital market alignment with both EU Green Bond Standard (EUGBS) and EU Taxonomy requirements. Inclusion of a mandatory field would facilitate more accurate pool stratification and enable better environmental performance tracking across time, originators, and jurisdictions.

Moreover, EV penetration is accelerating across EU member states, with certain jurisdictions already nearing or surpassing 20–30% of new sales. This creates a structural need for capital markets to differentiate green pools from residual ICE exposures, particularly as EUGBS auto ABS issuance becomes more likely in the near future.

Commercial vehicle ABS (Truck and Bus)

These consist of leasing and hire-purchase contracts for light trucks, vans, Heavy Goods Vehicles (HGVs), and bus fleets, and have existed for a couple of decades or more, typically utilising non-standard or leasing templates within ESMA's framework. As with passenger vehicles, manufacture and model are disclosed, but carbon or fuel source is currently absent.

In urban transport, policy drivers are mounting. Under the Revised Clean Vehicles Directive (CVD), all new urban buses must be zero-emission by 2035, with intermediate targets in many cities beginning in 2030. This presents a clear bifurcation in risk and residual value, yet current ESMA templates offer no mechanism for investors to evaluate the environmental profile of collateral pools.

As with passenger vehicles, manufacture and model are disclosed, but carbon or fuel source is currently absent.

As with passenger vehicles, mapping fuel source (diesel, compressed natural gas (CNG), electric and hybrid) should be simple and not create additional administrative burdens. Clear mapping would facilitate green securitisation and allow market participants to assess compliance with public procurement mandates and zero-emission fleet rollouts.

Equipment ABS

Equipment ABS-backed by construction machinery, agricultural vehicles, and industrial equipment, are less frequent than auto deals but continue to provide an important funding source for specialist lenders and bank-originated portfolios. These transactions may be issued in both private and public formats.

Current adoption of electric farming and construction equipment is in its infancy

Current adoption of electric farming and construction equipment is in its infancy; however, it is growing as farmers and developers focus on their substantial contribution to non-road mobile machinery emissions. As with the other vehicle classes, equipment manufacturers and originators shouldn't be burdened by the inclusion of fuel type data, and achieve the same benefits that this should bring in the near future.

Shipping & Aviation

Although niche within the ABS universe, aircraft and vessel leases are occasionally securitised through bespoke or non-standard templates, especially in private transactions. As regulatory focus increases on hard-to-abate sectors, including aviation and maritime, the need to classify fuel source and engine retrofit status becomes essential.

For shipping, fuels such as Heavy Fuel Oil (HFO), Low Sulphur Fuel Oil (LSFO), Liquefied Natural Gas (LNG), and emerging zero-carbon fuels (e.g. methanol, ammonia) vary dramatically in their carbon footprint. Similarly, aircraft powered by conventional jet fuel versus those using Sustainable Aviation Fuel (SAF) represent divergent climate exposures.

A standardised carbon disclosure field across ESMA templates would future-proof the securitisation of transport finance assets

While these transactions are relatively infrequent today, a standardised carbon disclosure field across ESMA templates would future-proof the securitisation of transport finance assets and allow the emergence of taxonomy-aligned shipping and aviation ABS, particularly as ReFuelEU Aviation and FuelEU Maritime implementation proceeds.

The Role of Capital Markets in Supporting Transition Finance

In the absence of environmental data, securitised instruments containing high-emission transport assets remain indistinguishable from greener alternatives. This not only impairs accurate credit risk pricing, but also constrains the development of credible green or transition-labelled financial products.

In the absence of environmental data, securitised instruments containing high-emission transport assets remain indistinguishable from greener alternatives

The ECB has consistently highlighted that inadequate climate data hampers the accurate assessment of credit portfolios and securitisation exposures (ECB, 2022). With respect to vehicle financing, it has underscored the urgent need for banks to improve emissions transparency (ECB, 2023).

Leading banks have also begun to act. Rabobank's Sustainable Funding Framework (2025) explicitly recognises clean transportation as an eligible green asset class, creating a pathway for linking auto loan securitisations to vehicle emissions categories (Rabobank, 2025). Similarly, BNP Paribas has called for standardised emissions disclosure in consumer loan pools to ensure the credibility of green ABS (BNP Paribas, 2024). The EIB, through its Climate Awareness Bond programme, has supported transactions referencing vehicle efficiency data as part of its green lending pipeline (EIB, 2023).

If Europe is to effectively decarbonise its transport sector, the financial system must be equipped to support and signal that transition. Enhanced transparency through carbon-related data would allow more accurate risk assessment, facilitate green bond issuance, and provide a credible pathway for securitised finance to align with broader regulatory objectives, including the EU Taxonomy, SFDR, and Green Deal targets. The introduction of a mandatory fuel-type disclosure field (via drop-down menu) across relevant ESMA templates would be a proportionate and impactful step toward enabling this alignment.

Lending to SMEs via Securitisation

This paper does not propose changes to the existing SME CLO market, where banks pool loans to SMEs across sectors. Instead, the focus is on creating a complementary pathway for SMEs themselves, such as solar installation companies with customer receivables to securitise directly. These direct SME securitisations remain rare in Europe due to high legal and issuance costs, but targeted reforms could make them viable.
In particular, new or smaller originators face challenges in ramping up portfolios to securitisable scale, while investors remain wary of perceived credit risk and illiquidity. These inefficiencies not only hinder capital formation for SMEs, but also limit the broader development of a more diversified and resilient securitisation market. A targeted, phased intervention led by the European Investment Fund (EIF) or other EU institutions, could help overcome these bottlenecks via a combination of warehousing support, standardised legal structuring, credit guarantees, and improved data transparency. This coordinated effort could lay the foundation for a more liquid, investable, and self-sustaining SME ABS ecosystem aligned with the Banking and Saving Union agenda.

Lack of Performance Data on SME Portfolio

A critical obstacle in SME securitisation is the absence of reliable, long-term performance data on SME loan portfolios. Without this track record investors struggle to assess credit quality and price risk accurately. This lack of availability undermines investor or financing banks' ability to participate in a potential securitisation program.

A critical obstacle in SME securitisation is the absence of reliable, long-term performance data on SME loan portfolios

There are two potential solutions to this, both requiring EU institutional support mostly likely via the EIB or EIF. The first option would include the EIF providing banks with performance guarantees on their securitisation position. Not only would this remove the credit risk of a new originator without sufficient data, it would also remove the regulator capital that the financing party would hold, freeing up more lending capacity. The second option would be for the EIF to create a multi-seller warehouse facility, which could buy the receivables of the SMEs and finance them directly for a ramp-up period of 2 to 3 years. This would allow for performance data to be accumulated, receivables to reach a stand-alone transaction scale, and remove some of the upfront legal fees and bank structuring costs. Once at scale, term-take out transactions could be undertaken with private sector banks.

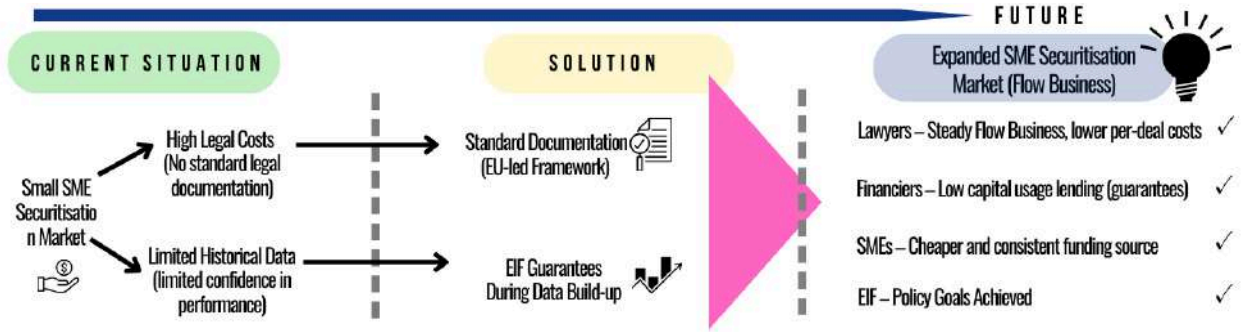
These structures would serve as both financing tools and data incubators, providing a runway for assets to mature and, with time and public or private issuances, a dedicated investor base should emerge as the SME ABS product becomes better understood.

High Legal and Structuring Costs

Another key issue for new SME issuers is the high upfront costs of securitisation, particularly legal fees (often both drafting and review counsels) and the structuring costs levied by banks. These costs disproportionately burden smaller originators, and inconsistencies in legal language between firms make it difficult to contain them. This barrier deters first time issuers and suppresses repeat issuance business, keeping deal flow thin.

While InvestEU, via the EIF, has expanded support for SME and green securitisations, primarily through guarantees (European Investment Fund, 2025), these initiatives are delivered through bank intermediaries. As a result, the structuring and legal documentation of transactions remain largely bank-driven and tailored on a case-by-case basis.

The EIF, or a similar EU-level body, could - possibly with input from the wider European banking sector - develop model documentation and standardised transaction frameworks to streamline legal execution. Each legal template document could adopt a set of harmonised core definitions, accompanied by country-specific schedules to reflect national legal or regulatory nuances. By standardising the core contractual framework, the reliance on costly true sale legal opinions could be significantly reduced, and potentially eliminated altogether over time.



A standardised legal framework, paired with a harmonised credit model, would help reduce upfront banking fees, which can equate to 1.5% facility face amount. While some resistance from legal and banking professionals might be expected, this shift should be seen as an opportunity, not a threat. The SME ABS market remains small in part due to these high entry costs. Removing such barriers could unlock significant market growth, leading to increase of available credit start-ups and other small businesses. For banks and legal firms, this transition would replace sporadic, resource-intensive transactions with a steady pipeline of streamlined, lower-cost deals, offering consistent revenue through higher volumes rather than one-off premium mandates.

We do not have to look far to see what this could look like. Spain's Mercado Alternativo de Renta Fija (MARF) has been operating for several years, aimed at raising capital for smaller SMEs through transactions typically between €10–50 million, sizes often considered too small for traditional bank financing. The main instruments are commercial paper (pagarés) and bonds/loans, sometimes supported by guarantees. Both the documentation and issuance models are standardised, which helps keep legal and advisory costs low. From 2027, MARF issuers that fall under EU disclosure obligations will have their information connected to the European Single Access Point (ESAP), with other SMEs able to upload data voluntarily. A well-designed pan-European securitisation framework could build on MARF's vision and framework, but go further by making ESAP connectivity mandatory to ensure harmonised disclosure across the EU. transparency across Member States.

Targeted EU intervention, through EIF guarantees and/or multi-seller warehouses, and standardised legal frameworks, can solve both challenges. Warehousing structures would not only provide essential ramp-up capital but also generate the much-needed performance data over time, creating a credible asset class. Meanwhile, harmonised documentation and lower transaction costs would ease market access and encourage repeat issuance.

Together, these reforms would reduce friction, deepen investor confidence, and lay the groundwork for a scalable, pan-European SME securitisation market.

Standardisation Implementation

A. Create a single set of core documents applicable across Eurozone markets.
B. Attach national annexes or schedules to address jurisdiction-specific legal or regulatory nuances.
C. Use one Euro Note Purchase Agreement, supplemented with local schedules rather than multiple redrafts.
D. Permit additional jurisdictions to join post-closing (revolving-finance structures) through schedule updates, rather than renegotiating full contracts.

💡Benefits:

- Reduces legal fees and structuring costs, encouraging inaugural and repeat SME securitisations.✔
- Promotes a level playing field and supports the InvestEU goal of mobilising private capital for innovation and SME growth. ✔

Conclusion and Recommendations

These proposals arrive at a decisive moment. Europe's financial system is being reshaped by the Green Deal and the EU Energy Performance of Buildings Directive. When paired with robust carbon disclosures, these reforms have the potential to steer lending decisively toward green assets and those requiring energy upgrade financing. Yet the EU's securitisation market remains underutilised and fragmented, limiting its ability to support this transition. The impact is most acute in green mortgages, low-carbon transport, and SMEs, sectors that are central to innovation and net-zero delivery.

Our analysis shows that mandatory disclosure fields, combined with standardised frameworks, can achieve this alignment without imposing disproportionate costs. On the contrary, they would accelerate product innovation, broaden investor participation, and reduce long-term systemic risks. The Commission's current review offers not only a path to greater transparency, but also a rare opportunity to align securitisation with Europe's broader climate and economic objectives: mobilising private capital for renovation, transport decarbonisation, and SME growth. The following recommendations set out the specific regulatory steps required to seize it.

Harmonise Disclosure Across All Secured Lending Instruments

- Mandate consistency of climate-related disclosure across public and private securitisations, (synthetic and cash), covered bonds, and other secured lending instruments. Regulatory arbitrage between structurally similar products should be eliminated, rather than managed.
- Require compatibility with PCAF and NZAOA emissions accounting methodologies so that institutional investors can integrate securitised exposures into portfolio-level climate strategies without data gaps or workarounds.
- Initiate a dedicated review of preferential regulatory treatment, covering CRR capital requirements, LCR eligibility, and ECB haircut adjustments, for green bonds backed by high-EPC or zero-emission collateral. This is the mechanism through which disclosure reform reshapes originator economics, driving both EPC collection and retrofit lending at scale across real estate and transport.

Real Estate: Mandatory EPC Disclosure Across Asset Classes

- Upgrade EPC fields from optional to strictly mandatory in all real estate disclosure templates, ESMA securitisation templates, the Harmonised Transparency Template (HTT) for covered bonds (plus other secured lending platforms), and any future AIFMD Annex IV fund disclosures. Optionality has enabled a quiet erosion of climate-aligned reporting; it must be closed off. Banks will face direct internal pressure to collect valid EPCs at mortgage origination, driving compliance through capital markets rather than requiring public intervention in jurisdictions where regulatory enforcement is not guaranteed.
- Add four supplementary fields across all secured lending disclosure templates to give investors further visibility into portfolio upgrade pathways: (i) insulation type (full envelope to none); (ii) window glazing (triple to single); (iii) heating source (gas boiler to heat pump); and (iv) alternative power (solar, wind and other zero-emission sources).
- These fields would provide a consistent basis for assessing energy performance regardless of national differences. Where certified EPCs are absent or outdated, lenders should be encouraged to use registry-matched, synthetic, and modelled data (subject to clear quality scoring and auditability standards) as an interim measure while coverage improves.

Transport: Fuel and Powertrain Transparency

- Introduce a mandatory fuel/powertrain dropdown in ESMA auto, lease, equipment and isosteric ABS templates, covering each sub-asset class. This would allow investors to differentiate portfolios by carbon intensity, enable credible green or transition-labelled ABS products, and create a clear incentive for banks to expand green leasing and lending. These subproducts could have the following field options:
    - Auto loan and leases: petrol, diesel, hybrid, plug-in hybrid, battery electric, hydrogen, and other categories (for both carbon and zero carbon).
    - Truck, bus and other commercial vehicles: petrol, diesel, CNG, hybrid, plug-in hybrid, battery electric, hydrogen, and other categories (for both carbon and zero carbon).
    - Equipment, tractors and other working vehicles: petrol, diesel, CNG, hybrid, plug-in hybrid, battery electric, hydrogen, and other categories (for both carbon and zero carbon).
    - Shipping and Aviation: heavy fuel oil, very low sulphur fuel, marine gas/diesel oil, LNG, LPG, fossil methanol, grey ammonia, blue ammonia, green ammonia, green methanol, hydrogen, jet A or A-1, SAF, synthetic E-fuel, battery, hybrid, and other category (for both carbon and zero carbon).

SMEs: Standardised Documentation Framework

- Establish an EU-supported model securitisation documentation set, harmonised EU core definitions with national annexes, that significantly reduces upfront legal costs and removes the reliance on bespoke, bank-driven structuring..
- This would significantly reduce upfront legal costs -which currently deter new SME issuers - and support repeat or cross-border issuance by lowering barriers to entry.
- While InvestEU and EIF already support SME securitisations through guarantees and enhancements, the structuring process (especially legally) remains bespoke and bank-driven. Standardised documentation would level the playing field and broaden access to capital markets for Europe's entrepreneurs. Standard EU supported SME platforms could be modelled on Spain's MARF with direct connectivity to the ESAP system.

Closing Perspective

The recommendations outlined here are the levers that could determine whether securitisation contributes meaningfully to Europe's transition. Mandatory EPC and fuel disclosures embed climate data directly into market infrastructure, changing how banks originate loans and how investors allocate capital. Standardised SME documentation reduces friction and opens securitisation to a wider base of issuers, deepening markets and lowering costs.

These measures together could set the ball rolling: banks would originate greener loans, investors would reward transparency, households and SMEs would access affordable financing, and capital markets would recycle this momentum through securitisation. This is precisely the virtuous cycle envisaged in the Green Deal and supervisory roadmaps. The EU now has the opportunity to deliver it.

Annex

Mortgage Book EPC Backfilling

European banks are already filling gaps in Energy Performance Certificate (EPC) data to support climate risk measurement and regulatory disclosures. In mature registry markets such as the Netherlands and France, lenders systematically combine national certificate databases with property-data matching and targeted estimation to achieve portfolio coverage at scale.

1. Registry EPCs

Official certificates enter first and are automatically refreshed as national registries update. These records carry the highest regulatory trust but are rarely complete at portfolio scale.

- List of national and regional registers at end of this appendix.

2. Property Data Platform

Collateral addresses are standardized and then matched to buildings, connecting the missing data and systematic identification of remaining EPC gaps. Platforms increasingly ingest legacy documentation including pre-digital certificates. Periodic refreshes capture changes linked to transactions, valuations, or renovations.

- Calcasa
- Matrixian
- Sprengnetter
- European DataWarehouse
- AFD Software

3. Synthetic EPC Provider

Engineering-based estimates are generated where certificates do not exist or are outdated. Typical inputs include cadastre data, construction period, dwelling type, and building dimensions, producing transparent quality scoring/EPC ratings. Calculation methodologies are typically defined within national regulatory frameworks, with synthetic estimates often aligned to officially recognized approaches to support auditability and supervisory acceptance.

- SkenData
- Norm Technologies
- CSTB (Centre Scientifique et Technique du Bâtiment)

4. Portfolio ESG Platform

Observed and modelled EPC data are consolidated into financed-emissions metrics, transition pathways, and regulatory disclosures. Automated updates and audit logs ensure traceability as upstream datasets evolve.

- Deepki
- Measurabl
- BuildingMinds

Public-Private Momentum in Energy Data

While the backfilling of missing EPC data remains largely market-led, driven by data platforms, modelling providers, and lender data-engineering efforts, European initiatives are progressively strengthening the technical and methodological foundations of energy certification. Programs such as D²EPC Project, crossCert Project, DEEP, and CRREM are advancing digital certification architectures, improving methodological consistency, and expanding access to performance datasets. Although these efforts do not directly fill portfolio gaps, they are expected to enhance the reliability, comparability, and scalability of coverage strategies over time.

Registry-Led Backfilling in French Mortgages

France provides a structurally favourable environment for mortgage energy-data coverage due to its centralized Diagnostic de Performance Énergétique (DPE) registry. This national infrastructure enables lenders to match collateral addresses directly with certified energy labels, materially reducing dependence on purely synthetic estimates.

BNP Paribas illustrates the pipeline in practice. The bank collaborates with the national registry to analyse the climate performance of its residential portfolio, using official DPE records as the primary data source (Step 1). Property-data workflows support address matching and dataset integration (Step 2), while machine-learning techniques estimate energy performance for properties lacking certificates (Step 3). The resulting dataset is incorporated into portfolio climate metrics and disclosures with clear distinctions between observed and modelled values (Step 4).

A similar hybrid approach is visible across the French market. Lenders collect DPEs from borrowers where available, supplement them with registry records, and rely on externally computed building-performance estimates when certified diagnoses are absent. The result is a registry-first, model-supported framework that maximizes regulatory defensibility while enabling scalable portfolio coverage.

EPC Registries Across EU Member States

Country	Registry Type	Registry Name / Region	Registry URL
Austria	Regional	Burgenland, Kärnten, Niederösterreich, Tirol, Salzburg, Steiermark	energieausweise.net
	Regional	Wien	wien.gv.at/wukseagis
	Regional	Oberösterreich	statistik.at
	Regional	Vorarlberg	eawz.at
Belgium	Regional	Brussels Capital Region	peb-epb.brussels
	Regional	Flanders	woningpas.vlaanderen.be
	Regional	Wallonia	peb.energie.wallonie.be
Bulgaria	National		portal.seea.government.bg
Croatia	National		eenergetskicertifikat.mgipu.hr
Cyprus	National		epc.meci.gov.cy
Czech Republic	National		mpo-enex.cz
Denmark	National		sparenergi.dk
Estonia	National		ehr.ee
Finland	National		motiva.fi
France	National	ADEME	ademe.fr
Germany	National	DENA	dena.de
Greece	National		buildingcert.gr
Hungary	National		e-tanusitas.mekh.hu
Ireland	National	SEAI	ndber.seai.ie
Italy	Regional	Varies by region	cened.it (example for Lombardy)
Latvia	National		buvn.lv
Lithuania	National		stat.gov.lt
Luxembourg	National		energiepass.lu
Malta	National		building-regulations.gov.mt
Netherlands	National	EP-Online	ep-online.nl
Poland	National		epbd.gov.pl
Portugal	National	SCE	adene.pt
Romania	National		mlpda.ro
Slovakia	National		energetickecertifikaty.sk
Slovenia	National		energetika-portal.si
Spain	Regional	Varies by Autonomous Community	mitma.gob.es (central portal)
Sweden	National		boverket.se

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Acronyms

Alternative Investment Fund Managers Directive	AIFMD
Asset-Backed Securities	ABS
Basel Committee on Banking Supervision	BCBS
Capital Requirements Regulation	CRR
Central Bureau of Statistics (Statistics Netherlands)	CBS
Covered Bonds	CB
Delegated Acts	DA
Directive on Mortgage Credit	MCD
Energy Efficiency Capital Advisors	EECA
Energy Efficiency Financial Institutions Group	EEFIG
Energy Efficient Mortgages Initiative	EEMI
Energy Efficient Mortgages Initiative – Market Insights Report	EMF EEMI
Energy Performance Certificate	EPC
Energy Performance of Buildings Directive	EPBD
Environmental, Social and Governance	ESG
European Banking Authority	EBA
European Central Bank	ECB
European Commission	EC
European Covered Bond Framework	EUCB
European Economic Area	EEA
European Environment Agency	EEA
European Green Bond Standard	EUGBS
European Investment Bank	EIB
European Investment Fund	EIF
European Mortgage Federation	EMF
European Securities and Markets Authority	ESMA
Harmonised Transparency Template	HTT
Heavy Goods Vehicles	HGVs
International Capital Market Association	ICMA
International Energy Agency	IEA
International Monetary Fund	IMF
International Organization for Standardization	ISO
International Standard Industrial Classification	ISIC
Loan-to-Deposit Ratio	LDR
Markets in Financial Instruments Directive II	MiFID II
Mortgage-Backed Securities	MBS
Organisation for Economic Co-operation and Development	OECD
Rijksdienst voor Ondernemend Nederland	RVO
Small and Medium-sized Enterprises	SMEs
Sustainable Aviation Fuel	SAF
Sustainable Finance Disclosure Regulation	SFDR
Targeted Longer-Term Refinancing Operations	TLTRO
United Nations Environment Programme Finance Initiative	UNEP FI
Volkswagen Financial Services	VWFS
World Health Organization (Europe)	WHO Europe

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