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EU Taxonomy-aligned Covered Bonds with ENGAGE for ESG

Reliable Data, Resilient Structures



Consortium

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DATAWAREHOUSE

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In European structured finance, the systematic use of detailed loan and collateral level data has long underpinned risk assessment, regulatory compliance and investor disclosure. While this practice is commonplace in securitisation, its adoption in the covered bond and Pfandbrief markets remains largely voluntary. Growing supervisory expectations, the EU sustainability agenda and the demand for green bond issuance are converging to make detailed collateral level insight a competitive advantage.

This paper examines how integrating such data into covered bond data management can strengthen operational resilience.

The ENGAGE for ESG initiative offers a practical solution by translating regulatory requirements into usable templates and diagnostics for mortgage-backed instruments, including covered bonds, *Pfandbriefe*, as well as home renovation loan portfolios. It equips issuers with the tools to ensure alignment, maintain pool integrity and future-proof programme compliance in a rapidly evolving regulatory landscape.

Covered bonds are secured debt instruments backed by a dynamic pool of high-quality assets, most commonly (residential) mortgages, known as the cover pool. This pool is subject to strict eligibility criteria and is actively maintained through the substitution of ineligible or amortised assets and replenishment with new qualifying exposures. These mechanisms are governed by asset coverage tests defined in regulation and programme documentation. To ensure compliance and structural integrity, issuers must maintain detailed loan and property-level data. It is however increasingly important to extend this information with energy efficiency and climate risk data.,

The European covered bond market is substantial in scale, with approximately EUR 3.3 trillion in outstanding issuance as of the end of 2023. Residential mortgages represent the majority of collateral, making the market a central channel for housing finance in Europe. In this context, energy efficiency is becoming more embedded in covered bond structuring.

A growing share of new covered bond issuances are structured as green bonds aligned with the International Capital Market Association (ICMA) Green Bond Principles. Since 21 December 2024, issuers have also had the option to apply the European Green Bond Regulation¹, which sets out formal requirements for use-of-proceeds transparency and alignment with the EU Taxonomy Regulation². To comply, the Climate Delegated Act requires issuers to substantiate that cover assets meet technical screening criteria, such as EPC class A or verified inclusion in the top fifteen percent of the national building stock by primary energy demand, as well as ensure ongoing allocation and impact reporting.³

¹ Regulation (EU) 2023/2631 on European Green Bonds, applicable from 21 December 2024.

² Regulation (EU) 2020/852

³ Commission Delegated Regulation (EU) 2021/2139, Annex I Sections 7.1 and 7.7, defining EU Taxonomy screening criteria for buildings.



While *green* covered bonds currently represent a limited share of total issuance, volumes are increasing as investors and policymakers demand higher sustainability standards. This shift is reinforced by broader EU legislative developments, notably the recast Energy Performance of Buildings Directive (EPBD), which mandates a zero-emission building stock by 2050, and the EU Taxonomy Regulation, which underpins the definition of sustainable economic activities.⁴ Together, these frameworks require issuers to integrate detailed energy efficiency metrics that extend beyond the energy performance certificate (EPC) class. To report under the EU Taxonomy and EPBD IV frameworks, detailed information on energy performance metrics, insulation, renewables and physical climate risk is needed.

On 29 July 2025, the European Central Bank (ECB) announced the introduction of a climate-related adjustment to its collateral framework, effective from the second half of 2026.⁵ This "climate factor" will initially apply to marketable debt instruments issued by non-financial corporations, adjusting their collateral value based on climate performance indicators. Although covered bonds are not within the initial scope, the ECB has indicated that the framework's scope and calibration will be reviewed. This signals the strategic relevance of ESG data for issuers seeking to preserve central bank eligibility and favourable collateral treatment in the future.

Why Detailed ESG Data Matters for Risk, Structure, and Compliance

Detailed ESG data is now an important consideration for covered bond issuers in the EU, as rules, supervisory demands and investor expectations increasingly align around the need for detailed information. The shift is not merely driven by voluntary transparency, but by increasingly binding frameworks that condition investor trust, collateral eligibility and regulatory compliance on verifiable data at the loan, collateral and asset level.

The European Banking Authority (EBA)'s Pillar 3 ESG disclosure framework⁶, in force since December 2022, mandates that large institutions disclose the energy performance of loans secured by immovable property. This includes data broken down by EPC label and measured energy consumption. While the reporting is done at portfolio level, compliance requires complete and consistent data collection at the loan and asset level to ensure the accuracy of these aggregates⁷.

⁴ Directive (EU) 2024/1275 on the energy performance of buildings, Article 1 and Recital 4.

⁵ European Central Bank, Press Release – ECB introduces climate-related adjustment to collateral framework, 29 July 2025.

Available at: [ECB to adapt collateral framework to address climate-related transition risks](#)

⁶ Commission Implementing Regulation (EU) 2022/2453 of 30 November 2022 amending the implementing technical standards laid down in Implementing Regulation (EU) 2021/637 as regards the disclosure of environmental, social and governance risks. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2022.324.01.0001.01.ENG&toc=OJ%3AL%3A2022%3A324%3ATOC

⁷ European Banking Authority, Final Draft Implementing Technical Standards on ESG Disclosures under Article 449a CRR, including Template 2: "Loans collateralised by immovable property – energy efficiency of the collateral", effective June 2022.

Issuers who invest early in comprehensive, validated EPC and energy data, robust EU Taxonomy mapping, and transparent data lineage will be best positioned to meet the growing demands of regulators, central banks and investors. Beyond compliance, such capabilities will strengthen pricing, market access and long-term funding resilience.

Supervision and Prudential Risk

The ECB has identified climate and environmental risks as key supervisory concerns and, in its 2020 Guide, set expectations for banks to integrate these risks into governance, risk management, internal capital adequacy assessment process (ICAAP) and stress testing. In practice, for mortgage and covered bond programmes, this means capturing decision-grade collateral data (for example EPC ratings, energy efficiency metrics and climate risk metrics) to inform risk identification and modelling.

Empirical evidence in Europe indicates that energy-efficient dwellings are associated with lower mortgage default risk, supporting the refinement of probability of default (PD) and loss given default (LGD) estimates where reliable asset-level data are available.^{8 9}

The ECB's recent decision to incorporate a climate adjustment factor into the Eurosystem collateral framework, effective from the second half of 2026, underscores the increasing weight assigned to ESG performance in capital markets.

Green Bond Transparency and Ongoing Compliance

For covered bonds issued under the EU Green Bond Regulation or aligned with the ICMA Green Bond Principles, transparency is paramount. Issuers must substantiate claims against the EU Taxonomy's technical screening criteria for buildings, which require EPC class A or evidence that an asset is within the national or regional top fifteen percent by primary energy demand.

In practice, this requires a reliable and comprehensive set of collateral-level data, including EPCs, primary and final energy demand metrics, and details of building characteristics that influence insulation and renewable energy performance, supported by external review and ongoing allocation and impact reporting in accordance with EU requirements.

Detailed energy efficiency data also preserves programme integrity over time. Green cover pools evolve through substitutions; without systematic tracking of energy efficiency attributes, replacements can dilute environmental performance and jeopardise Taxonomy alignment and label claims. Maintaining auditable asset and collateral level records supports accurate

⁸ ECB, Guide on climate related and environmental risks (2020), setting supervisory expectations to embed C&E risks in governance, risk management, ICAAP and stress testing. ECB Banking Supervision

⁹ Billio, Costola, Pelizzon & Riedel (2021), "Buildings' Energy Efficiency and the Probability of Mortgage Default: The Dutch Case", finding lower default risk for energy efficient homes in loan level Dutch data.

proceeds allocation, safeguards the pool's green status through life and sustains investor confidence and regulatory compliance.

The ENGAGE Approach: From Policy Intent to Operational Data

Launched three years ago by a consortium including European DataWarehouse, Hypoport, Unión de Créditos Inmobiliarios, National -Nederlanden, the Ca' Foscari University of Venice and Dexai, the ENGAGE for ESG initiative tackles a core market challenge: it operationalizes the EU Taxonomy regulatory requirements into concrete data fields.


ENGAGE provides modular *add-on* templates based on common disclosure standards and a user-friendly portal. The ENGAGE pilot institutions perceive as the key added value the following features:

- **Templates Built With and For the Market:** the ENGAGE Templates are designed as an *add-on* to the Annex 2 (residential mortgage loans) and Annex 6 (consumer loans) of the Securitisation Regulation¹⁰ disclosure formats with ESG-specific fields. These can however be used for all portfolio types: mortgage funds, securitisation, covered bonds and internal portfolio reporting. The Templates include the data fields needed for disclosure of substantial contribution criteria (e.g., EPC thresholds), Do No Significant Harm (DNSH) and minimum safeguards. They were developed through collaboration with the two ENGAGE pilot lending institutions.
- **Portal Analytics and Diagnostics:** the ENGAGE Portal transforms raw data into actionable insights. Users upload loan tapes according to the ENGAGE Templates and receive automated assessments on the alignment degree of their transactions or portfolios, including detailed breakdowns. For example, an ENGAGE EU Taxonomy alignment report could draw out that 85% of the loans met the substantial-contribution criteria, while 10% of the loans failed DNSH due to missing data. The ENGAGE Portal includes a diagnostic feature that flags gaps, such as incomplete EPCs, enabling issuers to address issues pre-audit.

¹⁰ Regulation (EU) 2017/2402 of the European Parliament and of the Council of 12 December 2017



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ENGAGE

for ESG

EU Taxonomy Assessment Overview

Portfolio Name

Sample ENGAGE EU Taxonomy Alignment Report

Portfolio Date (DD-MM-YYYY)

31-07-2025

Total # of Loans

22245

Total # of Building Units

22263

Total Balance

€2,482,852,803.59

TSC passed %

34.23%

TSC assessment*

Section	Economic Activity	Subsection	SCC (check passed)			DNSH* (check) passed			TSC Passed (SCC + DNSH)		
			# of loans	# of Building Units	Balance	# of loans	# of Building Units	Balance	# of loans	# of Building Units	Balance
7.7(1)	Acquisition and ownership of buildings	Buildings built before 31 December 2020: building has at least an Energy Performance Certificate (EPC) class A.	5791	2270	€669,261,920.17	19127.5	7577	€2,122,560,650.85	4976	1940.5	€577,440,173.28
7.7(1a)		Buildings built before 31 December 2020 - Alternative: building is within Top 15%	1053	391	€124,092,513.17				917	338	€107,883,107.08
7.7(2)		Buildings built after 31 December 2020	1346	534	€189,034,044.16				1165	463.5	€164,000,718.01
Total			8189	3195	€982,388,477.49	19127.5	7577	€2,122,560,650.85	7057	2742	€849,923,998.37

* If there are multiple checks under this criteria we display the aggregate result of the applicable underlying checks.

** Failed at least one of the underlying check or no data was present to accurately assess the criteria of the relevant economic activity

- **ESG Data Quality:** the ENGAGE Portal includes a built-in data quality module that flags gaps, inconsistencies and missing ESG fields at loan level before disclosure or reporting. High-quality ESG data is essential to ensure the reliable alignment with green frameworks, reduce audit risk and maintain investor trust throughout the bond lifecycle.
- **Transaction-Form Agnostic:** though based on securitisation standards, ENGAGE Templates apply across covered bond pools, residential real estate portfolios, and other real estate assets. This versatility allows issuers to streamline risk management, investor reporting, and compliance within a single framework. It reduces operational costs and redundancy.

Advantages of detailed collateral data

Detailed data has long supported credit risk assessment, pricing and investor diligence in European capital markets. In covered bonds and *Pfandbriefe*, public transparency is typically at programme or pool level rather than at the level of each loan. That remains the legal baseline, yet investor and supervisory expectations are moving toward more decision grade collateral information, particularly for real estate energy in relation to energy efficiency performance. The EU covered bond framework requires sufficiently detailed, periodic programme disclosures and many issuers now extend their voluntary reporting to include energy related characteristics of residential collateral.¹¹

¹¹ Directive (EU) 2019/2162, Article 14 investor information, confirming programme level transparency rather than loan level.

Most lenders capture property and borrower attributes for risk, finance and reporting. The EU securitisation regime has cemented loan level practices for mortgages and other collateral types and supervisors and rating agencies have built processes around such tapes.^{12 13} That infrastructure can be repurposed to enhance covered bond risk management and investor materials without changing the legal disclosure baseline.

Converging ESG disclosures for covered bonds and Pfandbriefe

In the covered bond market, asset transparency has historically been less granular. However, investors increasingly seek ESG transparency in cover pools, focusing on EPC distribution and climate risks such as flooding or heat stress. Issuers now embed these metrics in investor reports and programme disclosures to support comparability and label reliability.

Supervisors, including the ECB, expect institutions to capture property-level data on energy performance and physical climate risks to inform stress testing and credit risk management¹⁴. BaFin's 2019 Merkblatt was an early signal to institutions to capture the data needed to assess sustainability risks. This includes integrating environmental risks, such as energy performance, into governance and credit processes for property-backed exposures. Green covered bonds require verifiable asset-level data, EPCs, energy demand, renovation status to substantiate environmental claims and enable external assurance.

Substitution Assets and Whole Pool Clarity

Substitution assets, typically comprising cash, government securities or short-dated exposures, form an integral part of many covered bond structures. They provide liquidity flexibility and ensure compliance with minimum over collateralisation and asset coverage tests. However, in green or sustainable series, the inclusion of non-aligned substitution assets can compromise the environmental profile of the cover pool and jeopardise the reliability of energy efficiency or ESG labels.

To mitigate this risk, issuers must implement robust asset monitoring frameworks at the loan and collateral level. This includes applying ESG eligibility criteria to all assets, whether mortgages or substitution assets, prior to inclusion in the cover pool register. Systematic collateral-level tagging of EPC ratings, primary energy demand and other taxonomy-relevant fields supports ongoing compliance with programme-level eligibility rules and enables dynamic rebalancing consistent with pool composition guidelines. For Pfandbriefe, the statutory *Deckungsregister* must capture every eligible asset. Embedding ESG attributes at collateral level enhances the traceability and auditability of sustainability data and supports risk valuation practices such as *Beleihungswert* determination. In covered bond programmes

¹² ESMA securitisation disclosure framework and loan level templates under Article 7 SECR.

¹³ Directive (EU) 2019/2162, Article 14 on "Investor Information".

¹⁴ European Central Bank, Guide on climate related and environmental risks for banks, 2020.



governed by an Asset Coverage Test (ACT), ESG-compliant tagging ensures that green series maintain alignment with portfolio constraints, particularly when substitution assets are introduced to manage liquidity buffers.

Maintaining a consolidated, real-time view of the full cover pool, including the ESG status of each asset, is essential for accurate reporting against the investor report, cover pool monitor review and internal programme compliance certificates. From a portfolio steering perspective, this enables forward-looking scenario analysis and ensures continued alignment with stated use-of-proceeds or framework commitments.

As ESG criteria become embedded in risk policy, audit procedures and investor disclosures, collateral-level ESG data is no longer optional. It underpins the operational integrity of the programme and supports differentiation in the covered bond market, where ESG data reliability increasingly informs pricing, investor appetite and central bank eligibility.

ESG Data in the Deckungsregister: Securing the Future of the Pfandbrief

The *Pfandbrief* framework imposes particularly high standards of cover asset documentation, transparency, and risk management. Under the *Pfandbriefgesetz* and the *Deckungsregisterverordnung*, every eligible asset, whether a mortgage loan or substitution asset, must be recorded in the *Deckungsregister*. This register is subject to

ENGAGE for ESG enhances the structural robustness of covered bond programmes by supporting both asset-side validation and liability-side disclosure in line with evolving ESG



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standards. On the asset side, the framework enables issuers to perform systematic, detailed assessments of collateral against EU Taxonomy criteria, covering substantial contribution, Do No Significant Harm, and minimum safeguards. These assessments support the accurate registration of eligible assets in the cover pool, facilitate compliance with programme tests such as the Asset Coverage Test (ACT), and underpin the integrity of investor reporting, pool auditability, and internal control processes.

On the liability side, ENGAGE for ESG provides the data infrastructure necessary to substantiate ESG-related disclosures in the final terms of labelled issuances, whether under the ICMA Green Bond Principles or the EU Green Bond Regulation. The ability to trace use-of-proceeds to verifiably aligned collateral enhances the transparency of ESG-labelled tranches, supports efficient allocation and impact reporting, and meets the growing scrutiny of institutional investors and regulatory stakeholders. In doing so, ENGAGE for ESG enables issuers to operationalise sustainable issuance within existing programme documentation, without compromising structural rigour or market transparency.

ENGAGE for ESG: Get in Touch

If you are a covered bond issuer, investor, regulator or data user looking to enhance ESG transparency in your portfolios or programmes, we invite you to connect with us. Whether you are exploring EU Taxonomy alignment, preparing for sustainable issuance, or seeking to future-proof your programme architecture, the ENGAGE for ESG solution offers tested, practical tools and insights. We are available to demonstrate the ENGAGE Templates and ENGAGE Portal functionalities and use cases across different transaction types. Please reach out to learn how ENGAGE for ESG can support your objectives.

