



“SMARTER Finance for Families – Improving Citizens’ Health Comfort and Financial Well-being by Supporting Banks, Residential Investors and Solution Providers with Green Homes and Green Mortgage programs”



D4.06 Sample Portfolio of Sustainable Residential Real Estate Projects

Acronym	SMARTER	Grant Agreement #	847141
Full Title	SMARTER Finance for Families – Improving Citizens’ Health Comfort and Financial Well-being by Supporting Banks, Residential Investors and Solution Providers with Green Homes and Green Mortgage programs		
Start Date	15/05/2019	Duration	24 months
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Deliverable Lead	Copenhagen Centre on Energy Efficiency (DTU)		
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Dissemination Level	Public		

Objective

A sample portfolio based on Task 4.7 and Deliverable 4.4 as inputs of 30+ Sustainable Residential Real Estate Projects to provide a mock “real world” example of what types of underlying sustainable residential investments would make up a portfolio of environmentally ambitious residential properties^{1, 2}.

The sample portfolios reflects environmental objectives expected by European Commission’s Environmentally Sustainable Finance Initiatives^{3,4,5,6,7,8,9,10,11,12} International Policy Initiatives^{13,14,15} environmental ambitions of Mainstream and Climate-Centric International Institutional Investors^{16, 17, 18} environmental performance criteria established by SMARTER¹⁹ and implemented by Sustainable Building Practitioners^{20,21} has been created.

The intention of the sample portfolio of sustainable residential real estate properties and projects and associated sustainable residential real estate finance products sets (‘Sample Portfolio’) is to demonstrate the degree of environmental sustainability that can be achieved across a broad variety of single-family, multi-family and buy-to-let residential real estate projects.

Description

Over 50 types of European Sustainable Residential Real Estate Projects have been evaluated against LEED, SMARTER, BREEAM, DGNB and HQE Certification Systems and in the context of the evolving EU Taxonomy Technical Screening Criteria Buildings^{22,23,24,25} and EU Green Bond Standards^{26,27,28} expectations for Sustainable Covered Bonds and Sustainable Residential Real Estate Securitized Product Sets²⁹. An idealized, archetypal transaction structure to increase the supply of available capital to finance sustainable residential real estate projects is summarized below.

¹ Related Reports and Analytics: Increasing the Supply of Environmentally Sustainable Residential Real Estate Projects Investable by Institutional Investors: D4.07([here](#))

² Related Reports and Analytics: Environmentally Sustainable Residential Real: Sample Portfolio: Data, Analytics, Graphics: D4.06 ([here](#))

³ European Commission. (14 January 2020). The European Green Deal Investment Plan and Just Transition Mechanism. Available [here](#).

⁴ European Commission. Level(s). (2021). The European Framework for Sustainable Buildings. Available [here](#).

⁵ European Commission. (11 December 2019). The European Green Deal. Available [here](#).

⁶ European Commission. (4 March 2020). European Climate Law. Available [here](#).

⁷ European Commission. (5 August 2020). Renewed Sustainable Finance Strategy and Implementation of the Action Plan on Financing Sustainable Growth. Available [here](#).

⁸ European Commission. (22 April 2021). Commission Delegated Regulation amending Delegated Regulation (EU) No 231/2013 as regards the Sustainability Risks and Sustainability Factors to be taken into account by Alternative Investment Fund Managers. Available [here](#).

⁹ European Commission. (22 April 2021). Commission Delegated Regulation amending Delegated Regulations (EU) 2017/2358 and (EU) 2017/2359 as regards the integration of sustainability factors, risks and preferences into the product oversight and governance requirements for insurance undertakings and insurance distributors and into the rules on conduct of business and investment advice for insurance-based investment products. Available [here](#).

¹⁰ European Commission. (22 April 2021). Commission Delegated Regulation amending Delegated Regulations (EU) 2017/2358 and (EU) 2017/2359 as regards the integration of sustainability factors, risks and preferences into the product oversight and governance requirements for insurance undertakings and insurance distributors and into the rules on conduct of business and investment advice for insurance-based investment products. Available [here](#).

¹¹ European Commission. (22 April 2021). Commission Delegated Regulation amending Delegated Regulation (EU) 2015/35 as regards the integration of sustainability risks in the governance of insurance and reinsurance undertakings. Available [here](#).

¹² European Commission. (22 April 2021). Commission Delegated Regulation amending Delegated Regulation (EU) 2017/565 as regards the integration of sustainability factors, risks and preferences into certain organisational requirements and operating conditions for investment firms. Available [here](#).

¹³ Network for Greening the Financial System (May 2020). Integrating Climate-Related and Environmental Risks into Prudential Supervision. Available [here](#).

¹⁴ Network for Greening the Financial System (10 September 2020). Occasional Paper. Case Studies of Environmental Risk Analysis Methodologies. Available [here](#).

¹⁵ Network for Greening the Financial System. (7 June 2021). NGFS Climate Scenarios for Central Banks and Supervisors. Available [here](#).

¹⁶ NN Investment Partners. (20 February 2020). Green Bond Bulletin: Performance Data Confirms Green Bonds Are Becoming Mainstream. Available [here](#).

¹⁷ Invesco. (22 April 2021). Invesco Expands Thematic Environmental Suite by Launching Invesco MSCI Green Building ETF. Available [here](#).

¹⁸ Journal of Banking and Finance. (1 March 2019). Environmental Performance and the Cost of Debt: Evidence from Commercial Mortgages and REIT Bonds. Available [here](#).

¹⁹ SMARTER Finance for Families. Belgium Green Building Council. (2020). Green Mortgages and Renovation Loans: A Toolkits for: Financial Institutions; Developers and Citizens. Available [here](#).

²⁰ SMARTER Finance for Families. (14 September 2019). "Recommended Adjustments to Incorporate the Level(s) Framework and Acceptance of those Adjustments into the EE/Green Homes Certification Tools". Available upon request.

²¹ Green Building Council Denmark, German Sustainable Building Council, Green Building Council España. (March 2021). EU Taxonomy Study: Evaluating the Market-Readiness of the EU Taxonomy Criteria for Buildings. Available [here](#).

²² European Commission. (22 April 2021). EU Taxonomy. Delegated Act. Provisional Version. Available [here](#).

²³ European Commission. (22 April 2021). EU Taxonomy. Delegated Act. Annex I. Provisional Version. Available [here](#).

²⁴ European Commission. (22 April 2021). EU Taxonomy. Delegated Act. Annex II. Provisional Version. Available [here](#).

²⁵ European Commission. (22 April 2021). EU Taxonomy and Sustainable Finance. Available [here](#).

²⁶ European Commission. (6 July 2021). Regulation of the European Parliament and of the Council: Proposed EU Green Bond Standard. Available [here](#).

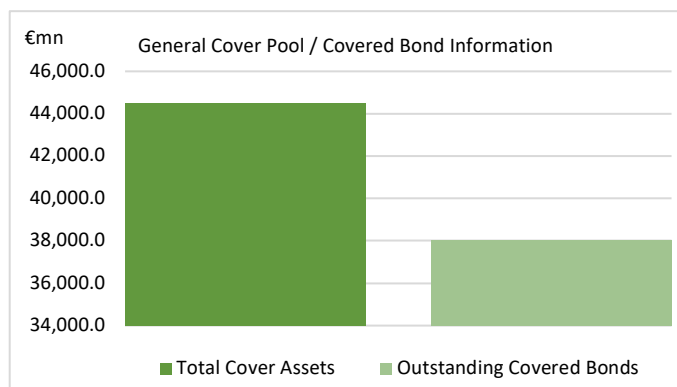
²⁷ European Commission: EU Technical Expert Group on Sustainable Finance. (9 March 2020). Usability Guide for the EU Green Bond Standard. Available [here](#).

²⁸ European Commission: EU Technical Expert Group on Sustainable Finance. (9 March 2020). EU Green Bond Standard: Frequently Asked Questions. Available [here](#).

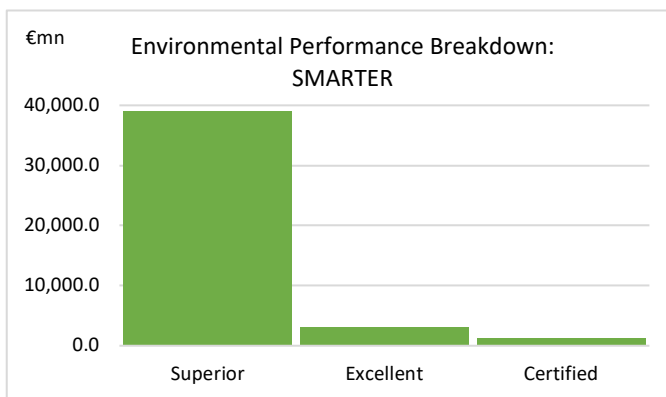
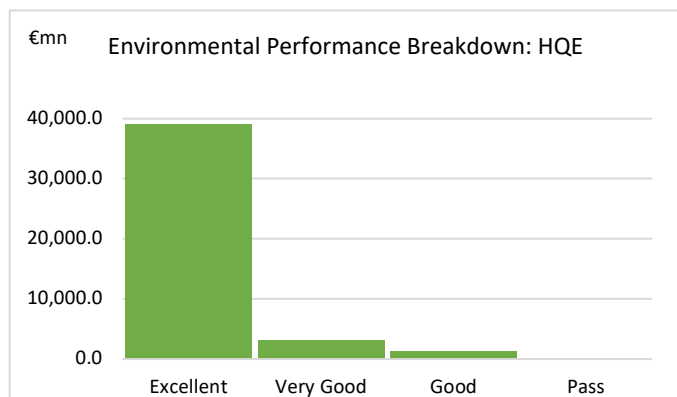
²⁹ Principles for Responsible Investment. (5 May 2021). ESG Incorporation in Securitised Products: The Challenges Ahead. Available [here](#).

Transaction Structure

The transaction structure builds a covered bond issued by Société Générale with an added range of property types and borrower profiles seen in the European residential real estate sector. The structural characteristics of the cover pool are depicted below. The eligible assets are fully composed of French residential mortgages guaranteed by Crédit Logement and transferred into the cover pool using guaranteed loans (i.e. Collateral Directive Framework³⁰). The outstanding amount of the eligible assets pledged as collateral of the loans are indicated instead of the amount of the guaranteed loans. The nominal outstanding amount of the eligible assets is booked in Off-Balance Sheet as guarantee received.



The assumed environmental performance profiles of the underlying residential properties is depicted below. The distribution of the cover pool across the certification categories is depicted first against HQE (a French certification system) given the geographic composition of the portfolio, followed additional certification systems. The environmental performance is assumed to be distributed with the certification categories evenly across the certification systems which simplifies differing criteria with anticipated convergence towards the EU Taxonomy for Sustainable Activities^{31,32,33}. The properties are assumed to be EU Taxonomy-aligned and the cover pool is therefore considered an eligible portfolio under the EU Green Bond Standard³⁴.



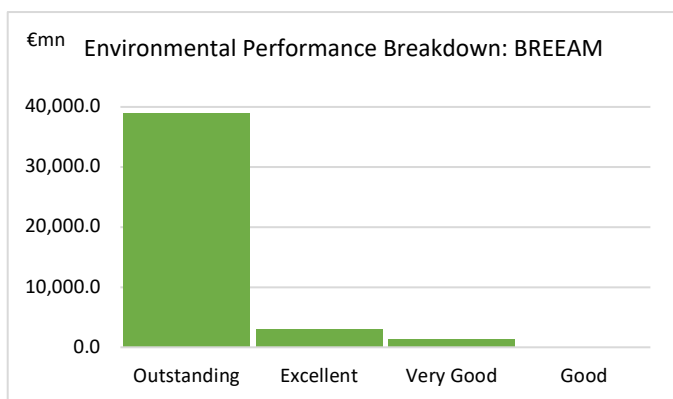
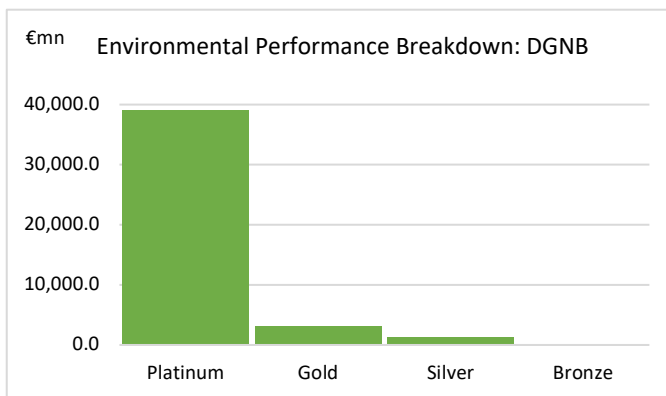
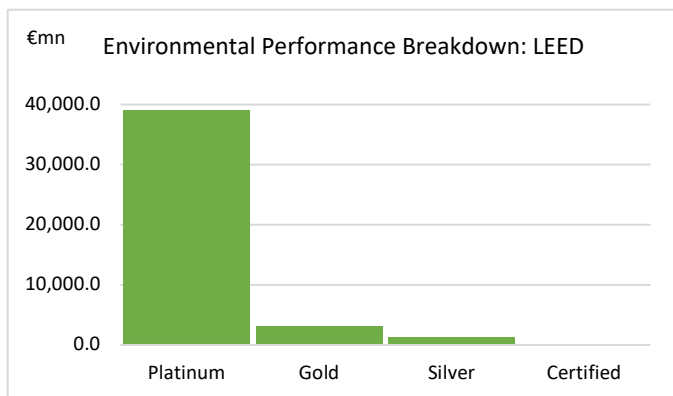
³⁰ European Commission. (2002). Financial Collateral - Directive 2002/47/EC. Available [here](#).

³¹ Official Journal of the European Union (22 June 2020). Taxonomy Regulation. EU Taxonomy on Sustainable Activities. Available [here](#).

³² European Commission: EU Technical Expert Group on Sustainable Finance. (13 March 2020). Taxonomy Tools. Available [here](#).

³³ European Commission: EU Technical Expert Group on Sustainable Finance. (9 March 2020). Technical Report. Taxonomy: Final Report of the Technical Expert Group on Sustainable Finance. Available [here](#).

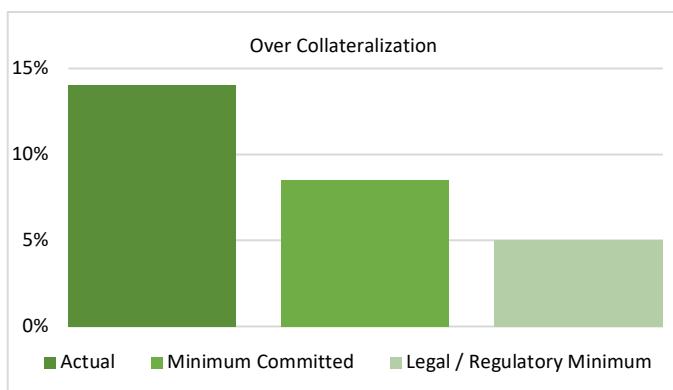
³⁴ European Commission: EU Technical Expert Group on Sustainable Finance. (9 March 2020). Usability Guide for the EU Green Bond Standard. Available [here](#).



Overcollateralisation ('OC') Profile:

OC Calculations: Actual:

Also referred to as the Nominal Overcollateralisation "OC" ratio. This ratio is established to comply with contractual and rating agencies' minimum requirements as a nominal rate calculated by dividing the nominal outstanding amount of eligible assets (substitute assets and accrued interests excluded) by the nominal amount of covered bonds (after taking into account if any interest rate or currency swaps and accrued interests excluded). The most restricting OC rate required by the rating agencies is disclosed in the sample portfolio.



OC Calculations: Legal Minimum:

Also referred to as the Legal Coverage Ratio. This ratio is calculated by dividing the total assets (including accrued interests, substitute assets and other assets as prepayments and net accrued incomes on derivatives) by the amount of privileged debts accrued interests included (covered bonds, sums due on derivatives and collateral management fees). When the eligible assets are transferred into the cover pool using guaranteed loans, the amount of the guaranteed loans in the assets amount is replaced by the amount of the eligible assets pledged as collateral. Following amendments to the French Covered Bond Legal Framework for Sociétés de Credit Foncier (SCF) and Sociétés de

Financement de l'Habitat (SFH) that came into force on 28 May 2014, a cap on intragroup exposure has been set at 25% of non-privileged resources and the legal minimum collateralisation raised to 105%, from 102%, on a nominal basis³⁵.

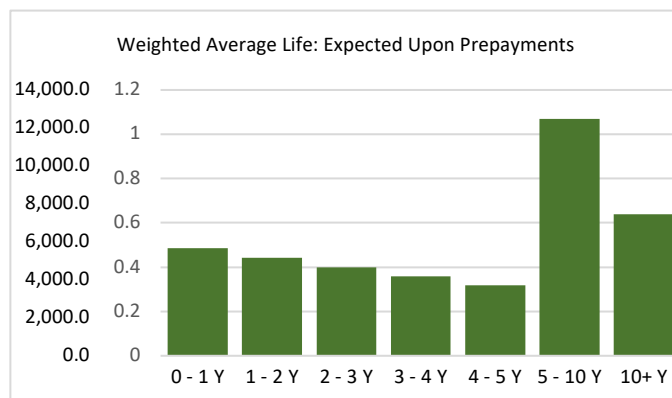
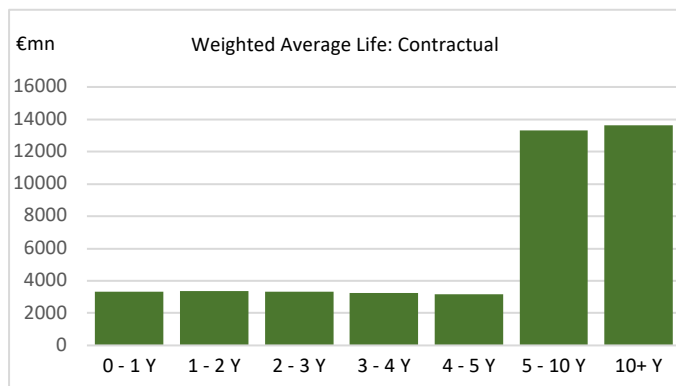
OC Calculation: Committed OC:

The Committed OC is equal to Contractual OC in order to reassure Rating Agencies.

Maturity Profile:

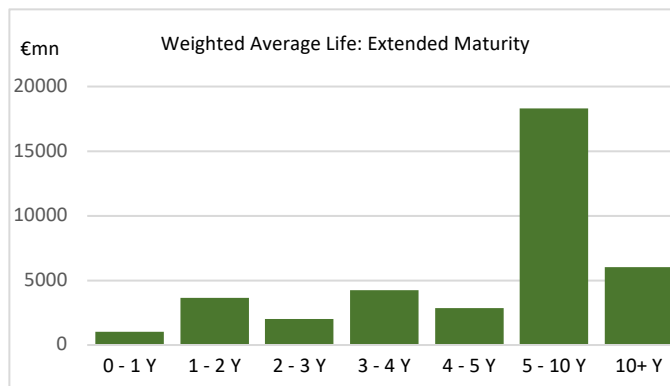
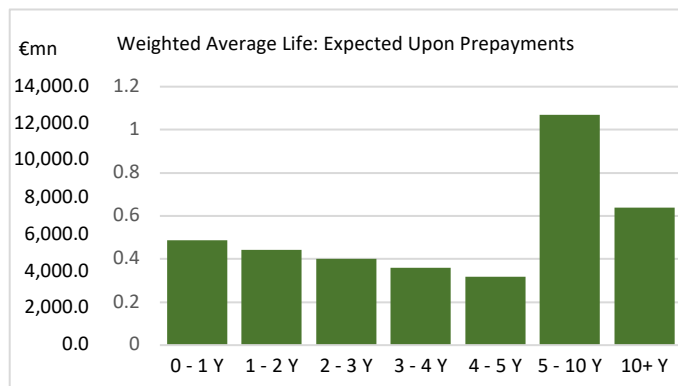
Contractual Maturity:

Contractual maturities are calculated assuming a zero prepayment scenario on the cover pool assets. Regarding covered bonds and substitute assets, contractual maturity is calculated according to the legal final maturity. Regarding soft bullet covered bonds, contractual maturity is calculated according to the initial legal final maturity without any extension.



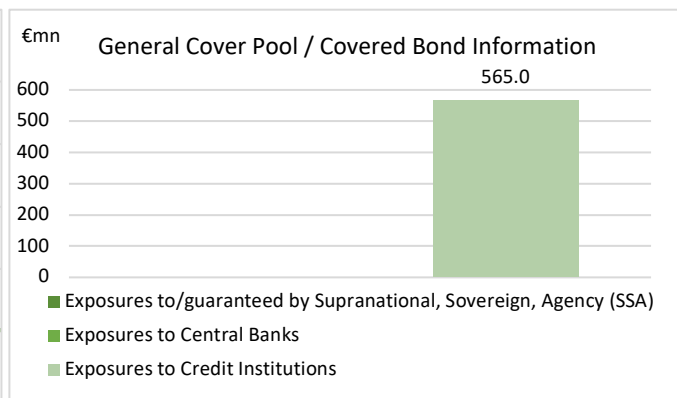
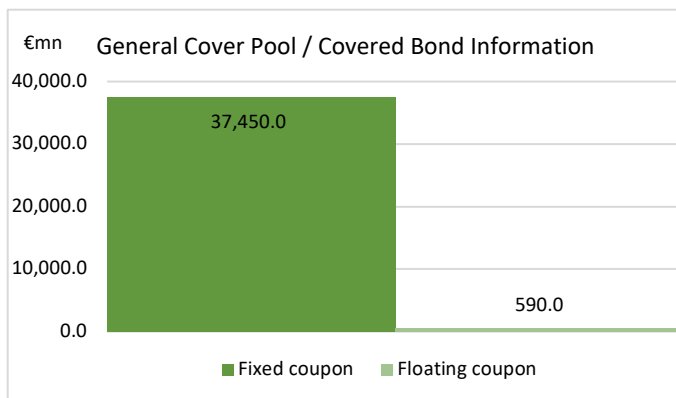
Expected Maturity:

Expected WAL and maturities of the cover pool assets are calculated assuming an average percentage of prepayment rate observed over the last year. The substitute assets being composed of cash and term deposits to financial institutions, their expected maturity is assumed to be equal to their contractual one. Regarding soft bullet covered bonds, expected maturity is calculated according to the legal final maturity including the extended maturity of 1 year.



Additional cover pool characteristics are depicted below.

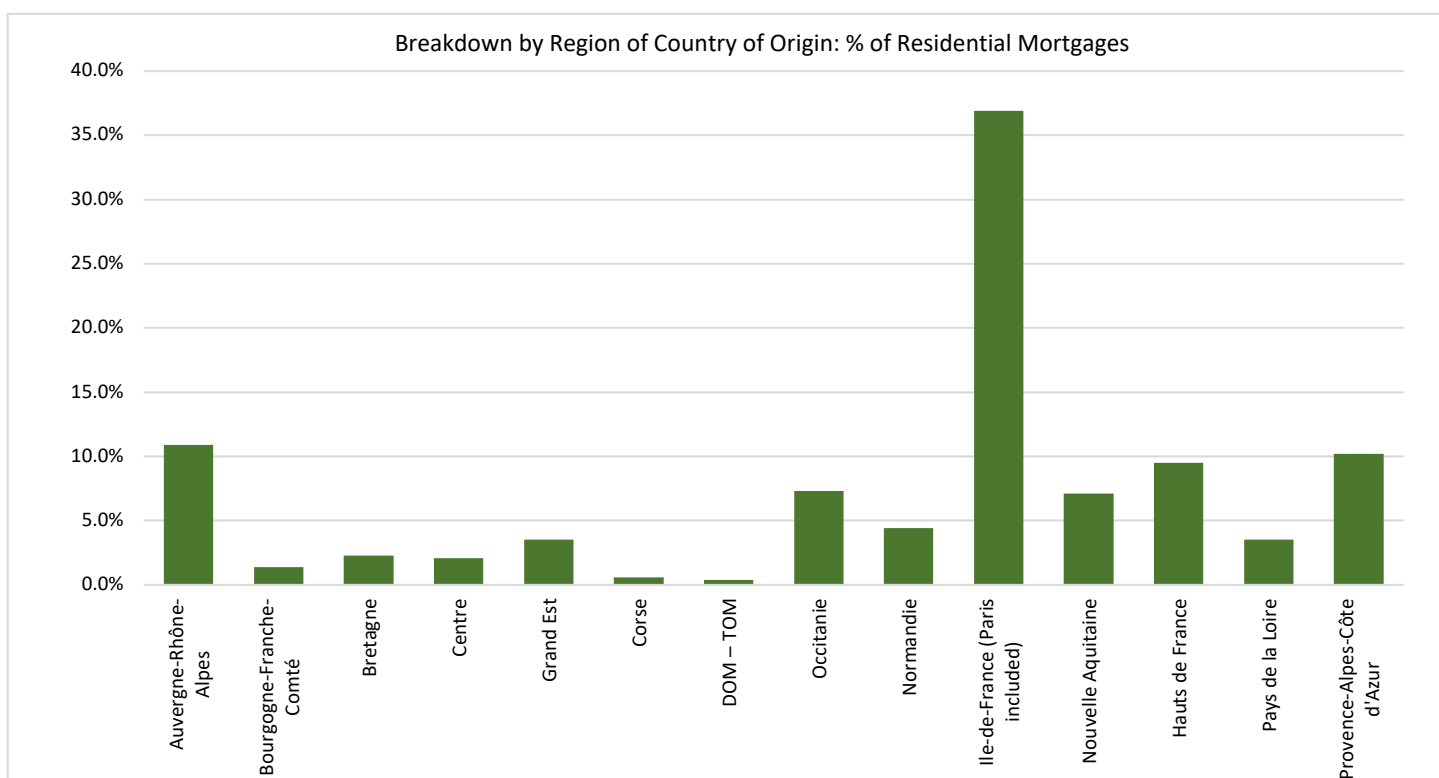
³⁵ European Covered Covered Bond Council. (28 May 2014) French Covered Bond Legal Framework for Sociétés de Credit Foncier (SCF) and Sociétés de Financement de l'Habitat (SFH). Available [here](#).



Loan-Level Characteristics:

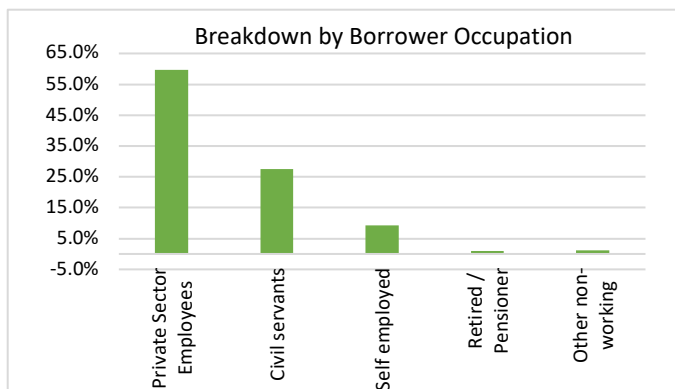
Geographic Distribution:

The geographic distribution across regions in France is depicted below and can be further adapted to reflect project in Belgium, Bosnia Herzegovina, Bulgaria, Czech Republic, Georgia, Greece, Ireland, Italy, Poland, Romania, Slovak Republic, Turkey and Ukraine.

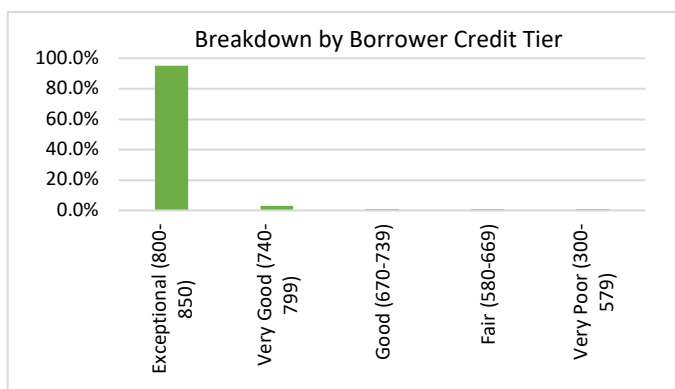


Borrower Distribution:

General categories of borrower occupation are broken down below as a proportion of the cover pool.

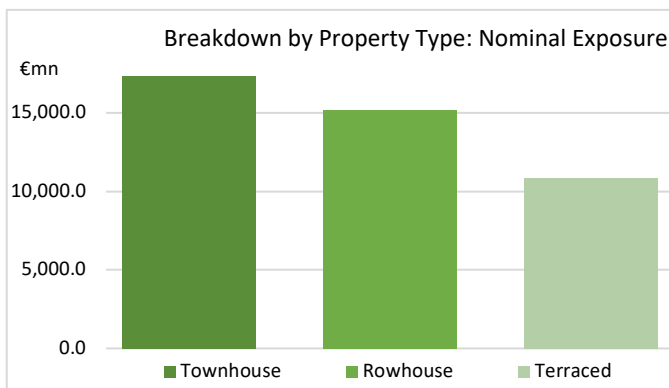
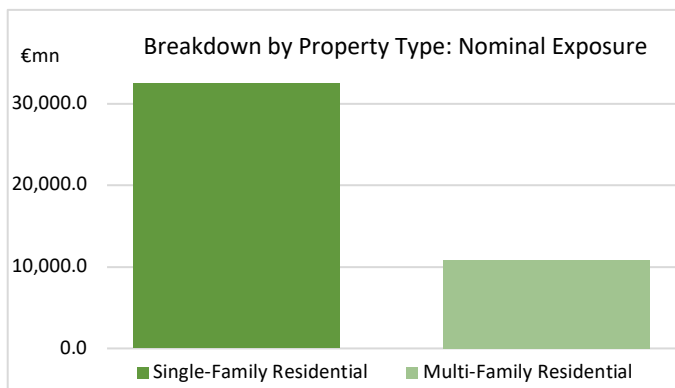


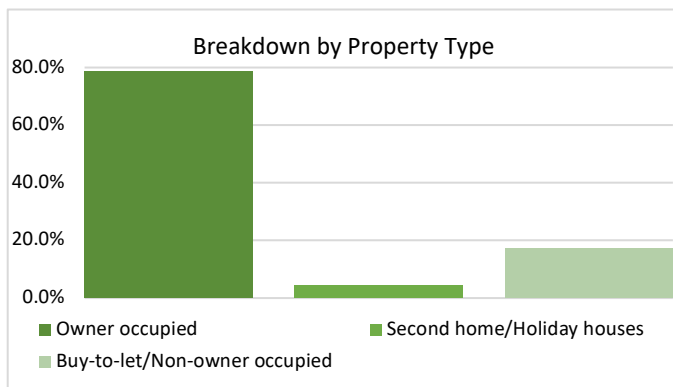
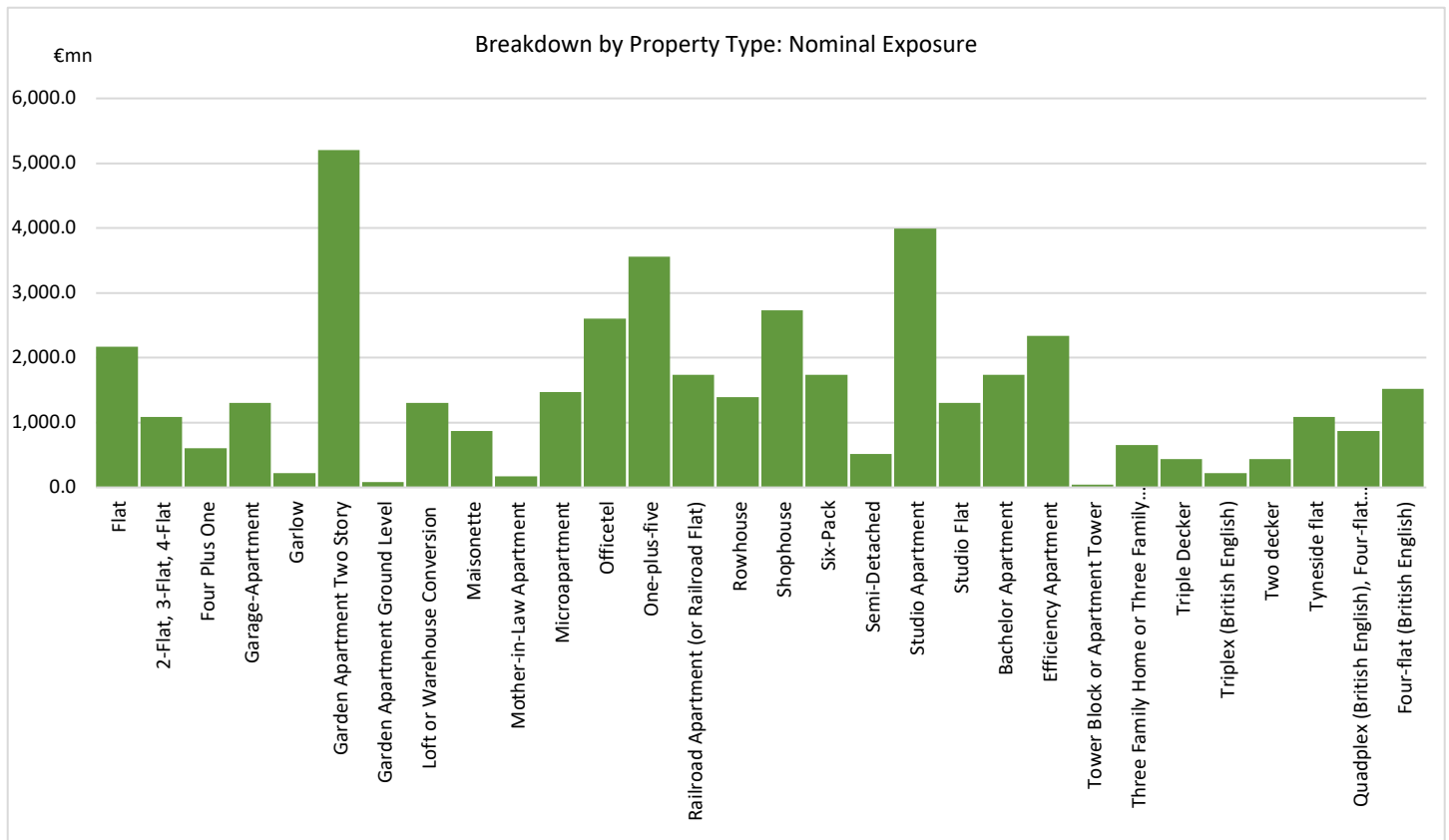
As French lenders typically refer to English credit report when they decide whether to extend mortgage, the borrower credit tier distribution is broken down by FICO bucket as a proportion of the cover pool.



Property-Type Distribution:

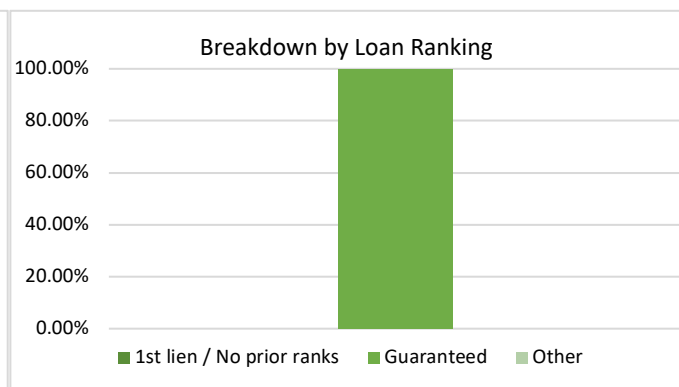
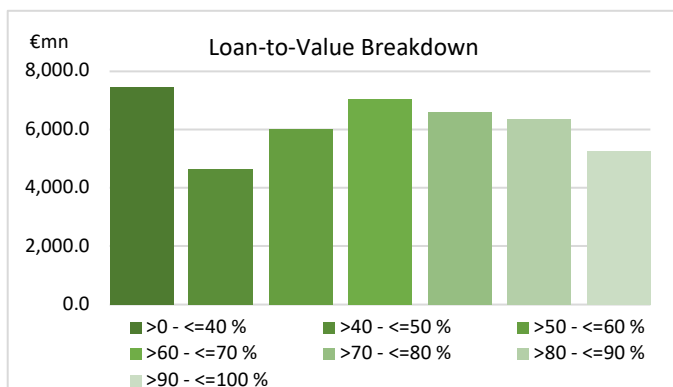
The property types are broken down into three cascading levels of detail. The first is the broadest breakdown by property-type based on whether the properties are single-family residential properties or multi-family residential properties. The following breakdowns are successively more granular.

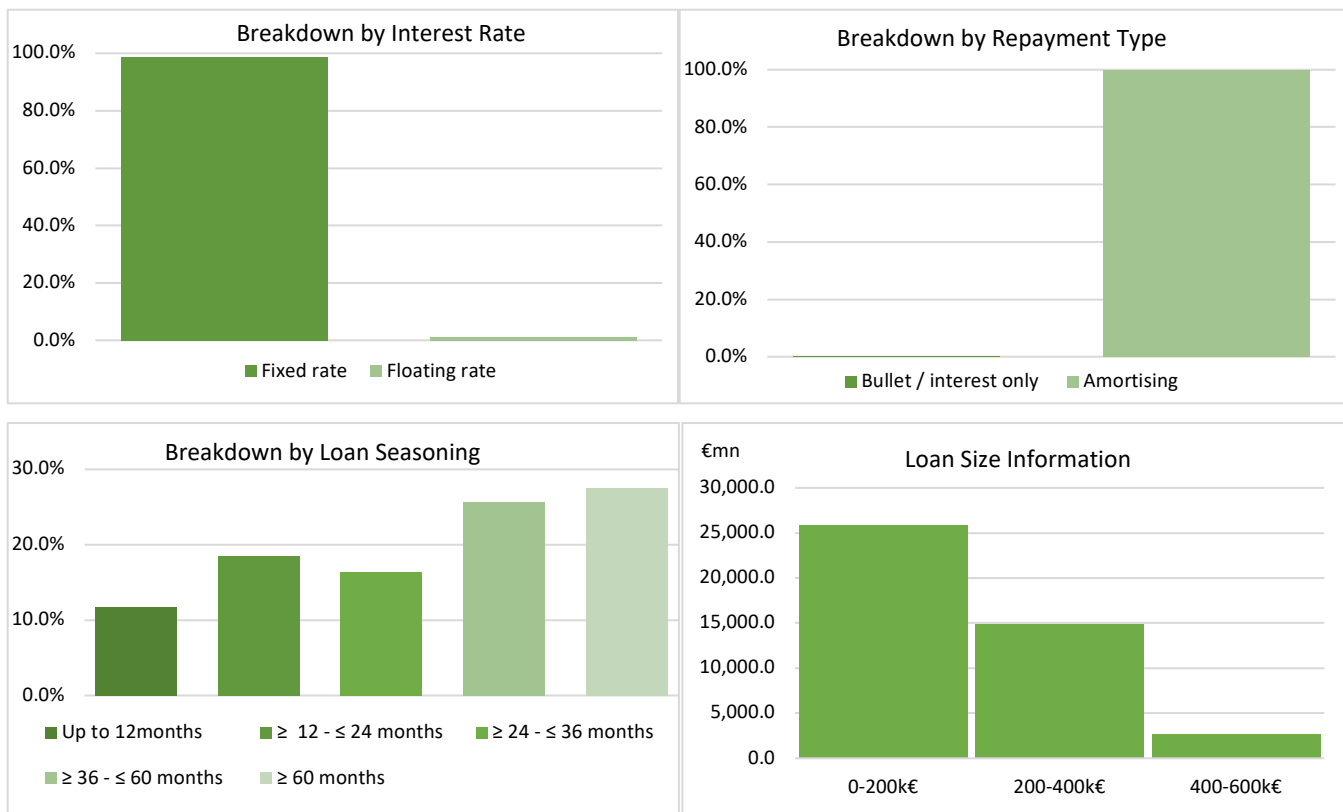




Loan Feature Breakdown:

The composition of loan-level characteristics is depicted below.





Conventional v Sustainable Conversion based on 16 Risk Types and 4 Product Features

The table below demonstrates how the sustainability profile of residential real estate delivers environmental performance and financial benefits to the homeowner along with favorable environmental and sustainability outcomes to the financial institutions originating the mortgage and the institutional investor investing in the portfolio backed by the mortgages as well guarantors providing credit enhancement and swap counterparties hedging risks in the mortgage pipeline, relative to conventional mortgages equal in all other aspects.

Depicted below is the degree of environmental performance impacts 15 types of risk reduced by sustainability, including: Climate Risk, Transition Risk, Physical Risk, Credit Risk: Probability of Default, Credit Risk: Loss Given Default, Credit Risk: Correlation: 1st Order: Borrower Specific, Credit Risk: Correlation: 1st Order: Property Specific, Credit Risk: Correlation: 2nd Order: Securitised Product, Market Risk: Climate VaR, Market Risk: Stressed VaR, Option-Adjusted Spread, Prepayment Risk, Interest Rate Risk, Underwriting Risk, Liquidity Risk and Operational Risk. Depicted below are assumed adjustments to typical mortgage terms to convert a conventional mortgage into green mortgage based on the sustainability characteristics. The figures below assumes the category of environmental performance within any of the certification systems (e.g. HQE Excellent, LEED Platinum, BREEAM Outstanding, SMARTER Superior and DGNB Platinum). The figures below also assume an EU Taxonomy-aligned property and EU Green Bond Standard eligible mortgage and/or pool of mortgages. As an example of how the adjustment would work for a qualifying mortgage to capture to reduced credit risk in the form of a lower probability of default would be for the typical Mortgage Insurance Premium at underwriting to be multiplied by 10%, the market-based Mortgage Rate at underwriting to be multiplied by 95%, the typical Loan-to-Value ratio at underwriting to be multiplied by 110% not to surpass 100% and the typical Debt-to-bond Ratio at underwriting would be increased by 150 basis points. The full scope of the adjustments would allow the bank to capture the impact of sustainability on the risk profile of the mortgage while ensuring the economic benefits of sustainability are accurately transmitted to the homeowner and also shared with the bank.

Conventional v Sustainable Conversion based on 16 Risk Types and 4 Product Features

Mortgage Conversion	Mortgage Insurance Premium	Mortgage Rate	Loan-to-Value Ratio	Debt-to-Income Ratio
Climate Risk	x0.1	x0.95		
Transition Risk	x0.1	x0.95		
Physical Risk	x0.1	x0.95		
Credit Risk: Probability of Default	x0.1	x0.85	+1.10 up to 100%	+150bps
Credit Risk: Loss Given Default	x0.1	x0.85	+1.10 up to 100%	+2pps
Credit Risk: Correlation: 1st Order: Borrower Specific	x0.1	x0.85	+1.10 up to 100%	+150bps
Credit Risk: Correlation: 1st Order: Property Specific	x0.1	x0.85	+1.10 up to 100%	+150bps
Credit Risk: Correlation: 2nd Order: Securitized Product		x0.85		
Market Risk: Climate VaR ¹		x0.98		
Market Risk: Stressed VaR ²		x0.98		
Option-Adjusted Spread ³		x0.85		
Prepayment Risk ⁴		x0.8		
Interest Rate Risk:		x0.8		
Underwriting Risk	x0.1	x0.9		
Liquidity Risk		x0.98		
Operational Risk	While Operational Risk is not direct function borrower or property attributes or economic or market conditions it will be reduced by the robust data-set provided by property-level certification thereby justifying potential capital relief thereby further justifying application of above incentives since operational risk reduction is specific and exclusive to a green mortgage			

Peer Comparison: Environmentally Sustainable Residential Mortgage Deal: Green Belém

Green Belém No. 1^{36,37} is a recently issued environmentally sustainable residential mortgage deal. A summary of the property types, borrower credit-tiers, loan-types and deal performance are provided below as an example of a comparable deal which was issued in the capital markets.

Description

GBELM 1 A		Not Priced		CUSIP BCC2N86X5 Disc Mrgn --/--	
As of --		Prepay 10CPR		WAL 4.12 Collateral 100.0% WHOLE1.9% --	
GBELM 1 A Mtge		Send		Page 4/5 Security Description	
PT RMBS WHOLE		--(--)--		ISIN PTTGCM0000 Replines 95 Buy 90 Sell	
1 Bond Summary		2 Group Summary		3 Comments 4 Structural Summary 5 Overview	
Deal/Bond Profile		Credit Enhancement		Structure	
10 Tranche Type FLT, STEP		1M Excess Spread			
Orig Structure Type I		11 Credit Support Curr 15.87%			
Cross Collateralized No		Credit Support Orig 13.95%			
Prepay Groups 1		Thickness Curr 84.13%			
Curr Bond/Deal Bal % 83.36%		Thickness Orig 86.05%			
Calls 10.00% Collat Call		Wrap Provider No Wrap			
Int. Determin. Calendar(s) TE, U3, U...					
Next Rate Determin. Date 06/17/2021					
Rate Determin. Rule 2 bus. days					
		Hedges			
		Interest Rate Cap			
Triggers and Tests (Mar 21) TRIG »					
Interest Deferral Trigger		Pass			
Reserve Reduction Trigger		Pass			
Turbo Amortisation Event		Pass			

³⁶ Unión de Créditos Inmobiliarios, Santander, BNP Paribas. (28 April 2020). Green Belém No. 1: Prospectus. Available [here](#).

³⁷ Bloomberg. (13 July 2021). <Menu> BESG> Sustainable Debt. Available upon request.

Prepayment Overview

GBELM 1 A		Not Priced	CUSIP BCC2N86X5	Disc Mrgn --/--	
As of --		Prepay 10CPR	WAL 4.12	Collateral 100.0%	WHOLE1.9%
GBELM 1 A Mtge		Send	Page 5/5 Security Description		
PT RMBS WHOLE		--(--)--	ISIN PTTGCM00000	Replines	% Buy % Sell
1) Bond Summary		2) Group Summary	3) Comments	4) Structural Summary	5) Overview
Bond Overview		Collateral Overview			
10) Tranche Type	FLT, STEP	Bal EUR	327,928,522		
Bal (Jun 21)	EUR 273,372,421	Pool Factor	0.8517623		
Fct (Jun 21)	0.825150683	Rep Lines	4028	Type	
Cpn (Jun 21)	0.00700%			Security	Generic
Cumulative Loss	N/A			CPR	VPR CDR SEV
11) Curr Support	15.87%				
12) Orig Support	13.95%				
Writedown	Implied				
P/I Pmts	PPPP / IIII				
Wrap	No Wrap				
Curr Rating	Fitch AA DBRS AAA				
Structural Overview		15) Historical Payments			
Prepay Groups	1	Bond	Principal	Interest	Loss Shortfall
Credit Groups	1				
Profile	I	06/21/2	14,631,767	5,096	0 0
Actual Loss Bonds	None	03/22/2	12,302,441	6,832	0 0
Implied Loss Bonds	ALL	12/21/2	10,708,372	38,523	0 0
Mar 21 Trig Status	Pass	Collat	Principal	Interest	Loss Shortfall
Calls	10.00% Collat Call				
		Jun21			
		Mar			
		Dec20			

Credit Ratings

GBELM 1 A		Not Priced	CUSIP BCC2N86X5		Disc Mrgn --/--
As of --		Prepay 10CPR	WAL 4.12 Collateral 100.0%		WHOLE 1.9%
GBELM 1 A Mtge		Send	Page 1/5 Security Description		
PT RMBS WHOLE		--(--)--	ISIN PTTGCXOM0000	Replines	% Buy % Sell
1) Bond Summary		2) Group Summary	3) Comments	4) Structural Summary	5) Overview
Issuer RMBS Green Belem		6) Pro DSCO »	7) Docs DSCO »	16) Servicer	Union de Creditos Inmobi...
Series 1		Class A	Mty 03/20/2063 14	ISIN PTTGCXOM0000	17) Lead Mgr Banco Santander
10) Class Description		FLT, STEP	FIGI BBG00SGB4DV9	18) Trustee	Citibank NA
Current		Original		Payment Details	
Bal EUR	273,372,421	Bal EUR	331,300,000	Next Pay	09/20/2021
Fct (Jun 21)	0.825150683	WAL	3.4Yrs@ 10 CPR	Rcd Date	09/17/2021
Cpn (Jun 21)	0.00700%	1st Coupon	0.35800%	Pay Day	20th
Class/Grp Pct	83.36%	Class/Grp Pct	86.05%	Frequency	Quarterly
Beg Accrue	06/21/2021	1st Pay	09/21/2020	Pay Delay	0 Days
End Accrue	09/19/2021	1st Settle	04/30/2020	Day Count	ACT/360
11) Cr Supp		15.87%	Dated Date	04/30/2020	Calendars
			Priced	100.00 04/30/2020	Call
					10.00% Collat Call
					Call Date
					03/20/2025
					See all calls
					Rating
					Fitch
					DBRS
					AA
					AAA
					AAH
					Additional Information
					Clearstream, Euroclear,
					Repo Elig(ECB), EU/UK SR
					Art 6, Reg S
					Min Size
					100,000
					Increment
					1,000
					13) Cpn Details FCG »
					1 x EUR003M +55BP
					Cap
					NO CAP
					Floor
					0.0000% @ -0.55%
					Quarterly Reset
					Next Reset
					09/20/2021

Collateral Performance

GBELM 1 A

Not Priced

CUSIP BCC2N86X5

Disc Mrgn --/--

As of --

Prepay 10CPR

WAL 4.12

Collateral 100.0%

WHOLE1.9%

--

GBELM 1 A Mtge

Export

Settings

Collateral Performance

PT RMBS WHOLE

--(--)--

ISIN PTTGCXOM0000

Loan Level

Months of History

72

All Collateral

Classic

Delq

Characteristics

Custom

All

	Earliest
1) Balance (M)	364,736
2) Pool Factor	0.947
3) # of Loans	3,868
4) WAC	1.946
5) WAM	324
6) WALA	49
7) WALTV (Amort) %	54.00
8) LTV > 80%	5.97
9) Delinq 30 days %	0.00
10) Delinq 60 days %	0.00
11) Delinq 90 days %	0.00
12) Foreclosure %	0.00
13) Delinq. 60+ %	0.00
14) Delinq. 90+ %	0.00
15) Balance > 1MM	0.00

Collateral Composition

GBELM 1 A		Not Priced		CUSIP BCC2N86X5		Disc Mrgn --/--	
As of --		Prepay 10CPR		WAL 4.12		Collateral 100.0% WHOLE1.9%	
GBELM 1 A Mtge		Collateral Composition					
PT RMBS WHOLE		--(--)--		ISIN PTTGCM00000		Loan Level	
Composition		Overview		Show All		33 Clear	
						32 3868 of 3868 Loans	
						34 All Collateral	
						As of 09/2020	
1) Overview		Property Type		Curr %		Earlies...	
2) Addl Info 1				09/2020		09/2020	
3) Addl Info 2		101 Residential (Flat/Apartmen...		66.3		66.3	
4) Custom		102 Residential (House, detach...		33.7		33.7	
5) Quartiles		Original Amortization Term				Purpose	
Distribution						402 2018	
6) Amortized LTV		103 30 Year		40.5		25.4	
7) Orig Loan Size		104 40 Year		17.8		16.4	
8) Curr Loan Size		105 35 Year		5.6		13.8	
9) Coupon		106 25 Year		3.0		12.6	
10) Maturity		107 29 Year		2.7		8.2	
11) Age		108 27 Year		2.5		7.2	
12) Factor		109 38 Year		2.4		5.2	
13) Next Reset		110 20 Year		2.3		5.0	
		111 28 Year		2.1		2.7	
		112 36 Year		1.9		1.9	
		113 23 Year		1.7		1.5	
		114 37 Year		1.7		Current Interest Rate Index	
		115 26 Year		1.5		413 EUR006M	
		116 39 Year		1.4		65.3	
		117 34 Year		1.3		34.7	
		118 24 Year		1.2		414 Fixed Rate	
		Account Status				Servicer	
		119 Current		100.0		415 U.C.I. , S.A.,ESTABLECIMEN...	
				100.0		100.0	
						Geographics	
						416 No Data	
						100.0	
						100.0	

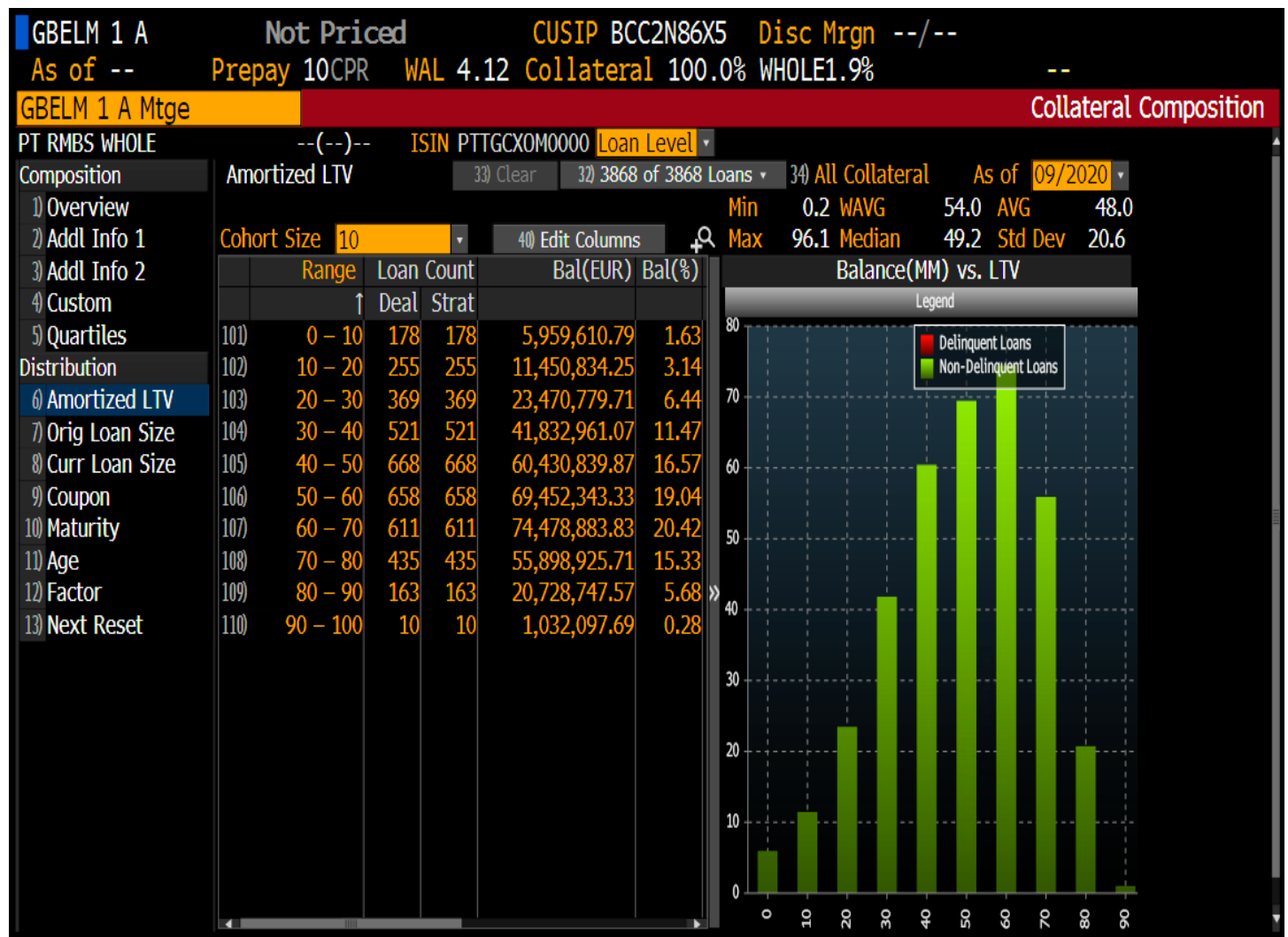
Collateral Composition: including Property Type, Primary Income Verification, Account Status, Geographics, Employment, Primary Income, Purchase and Loan Currency Denomination

GBELM 1 A		Not Priced		CUSIP BCC2N86X5		Disc Mrgn --/--	
As of --		Prepay 10CPR		WAL 4.12		Collateral 100.0% WHOLE1.9%	
GBELM 1 A Mtge		Collateral Composition					
PT RMBS WHOLE		--(--)--		ISIN PTTGCXOM0000		Loan Level ▾	
Composition		Custom		Show All		33) Clear	
				32) 3868 of 3868 Loans ▾		34) All Collateral	
						As of 09/2020 ▾	
1) Overview				Curr %		Earlies...	
2) Addl Info 1		Property Type		09/2020		09/2020	
3) Addl Info 2		101) Residential (Flat/Apartmen...		66.3		66.3	
4) Custom		102) Residential (House, detach...		33.7		33.7	
5) Quartiles		Primary Income Verification					
Distribution		103) Verified		100.0		100.0	
6) Amortized LTV		Account Status					
7) Orig Loan Size		104) Current		100.0		100.0	
8) Curr Loan Size		Geographics					
9) Coupon		105) No Data		100.0		100.0	
10) Maturity							
11) Age							
12) Factor							
13) Next Reset							
				Employment Status		09/2020	
				401) Employed or full loan is gu...		67.8	
				402) Protected life-time employ...		17.0	
				403) Self-employed		11.1	
				404) Pensioner		2.8	
				405) Unemployed		1.0	
				406) Other		0.3	
				Primary Income(m)			
				407) 0 – 25		44.6	
				408) 25 – 50		41.8	
				409) 50 – 75		9.7	
				410) 75 – 100		2.6	
				411) 100 – 125		0.8	
				412) 125 – 150		0.2	
				413) 150 – 175		0.2	
				414) 175 – 200		0.1	
				Purpose			
				415) Purchase		100.0	
				Loan Currency Denomination			
				416) EUR		100.0	

Collateral Composition: Quartiles:

GBELM 1 A		Not Priced	CUSIP BCC2N86X5	Disc Mrgn --/--		
As of --		Prepay 10CPR	WAL 4.12	Collateral 100.0%	WHOLE1.9%	--
GBELM 1 A Mtge		Collateral Composition				
PT RMBS WHOLE		--(--)--	ISIN PTTGCXOM0000	Loan Level		
Composition	Quartiles	Show All	33) Clear	32) 3868 of 3868 Loans	34) All Collateral	As of 09/2020
1) Overview						
2) Addl Info 1	Amortized LTV		Min	25%	Median	75%
3) Addl Info 2	Orig Loan Size (EUR)		0	33	49	64
4) Custom	Curr Loan Size (EUR)		12,500	65,000	97,000	136,000
5) Quartiles	Maturity		6,629	52,948	82,552	120,358
Distribution	Factor (%)		7	264	314	351
6) Amortized LTV	Age		0.044	0.833	0.896	0.944
7) Orig Loan Size	Coupon (%)		14	27	46	77
8) Curr Loan Size			0.835	1.395	1.885	2.590
9) Coupon						
10) Maturity						
11) Age						
12) Factor						
13) Next Reset						

Distribution: Amortized LTV:



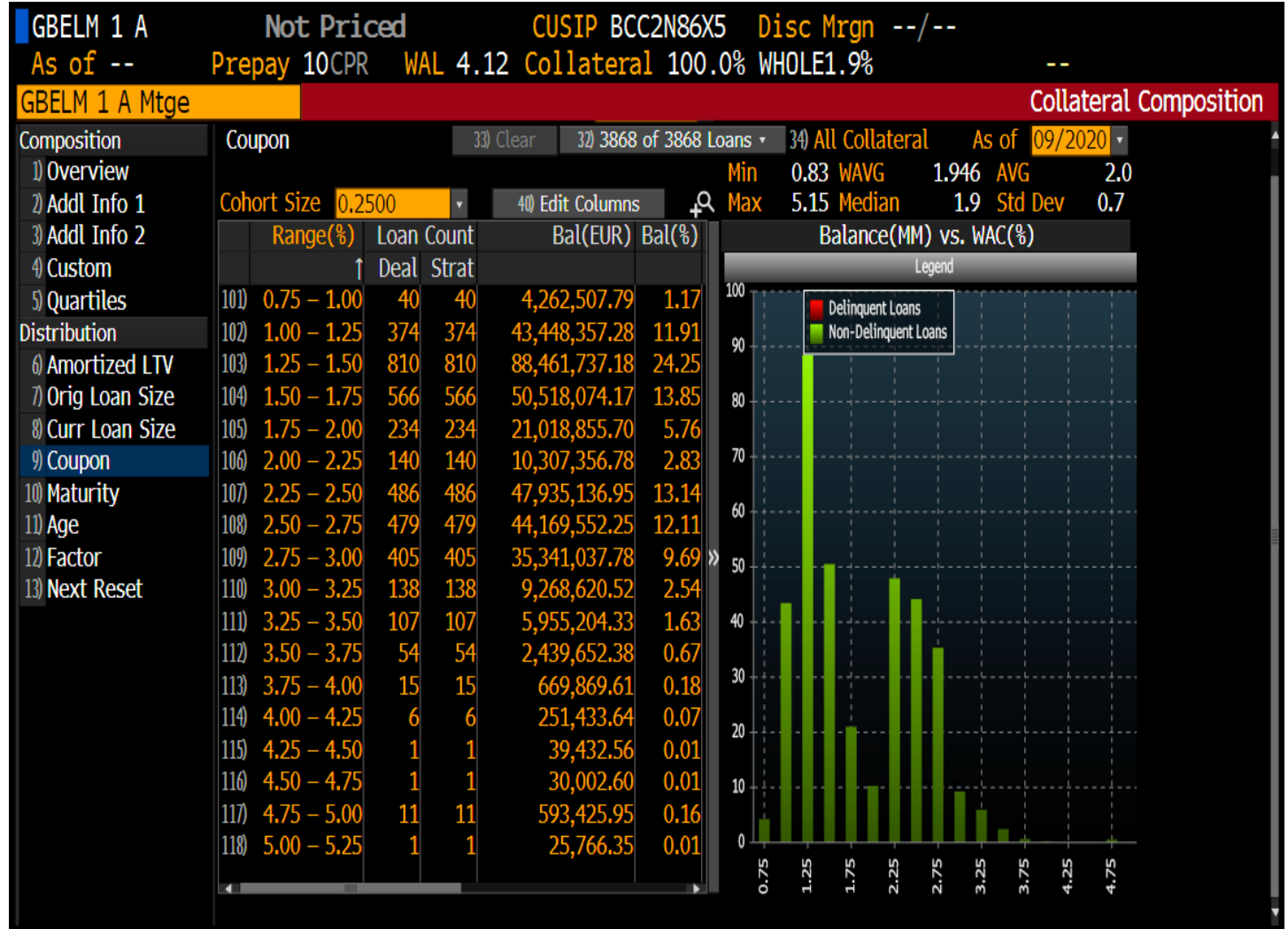
Distribution: Original Loan Size



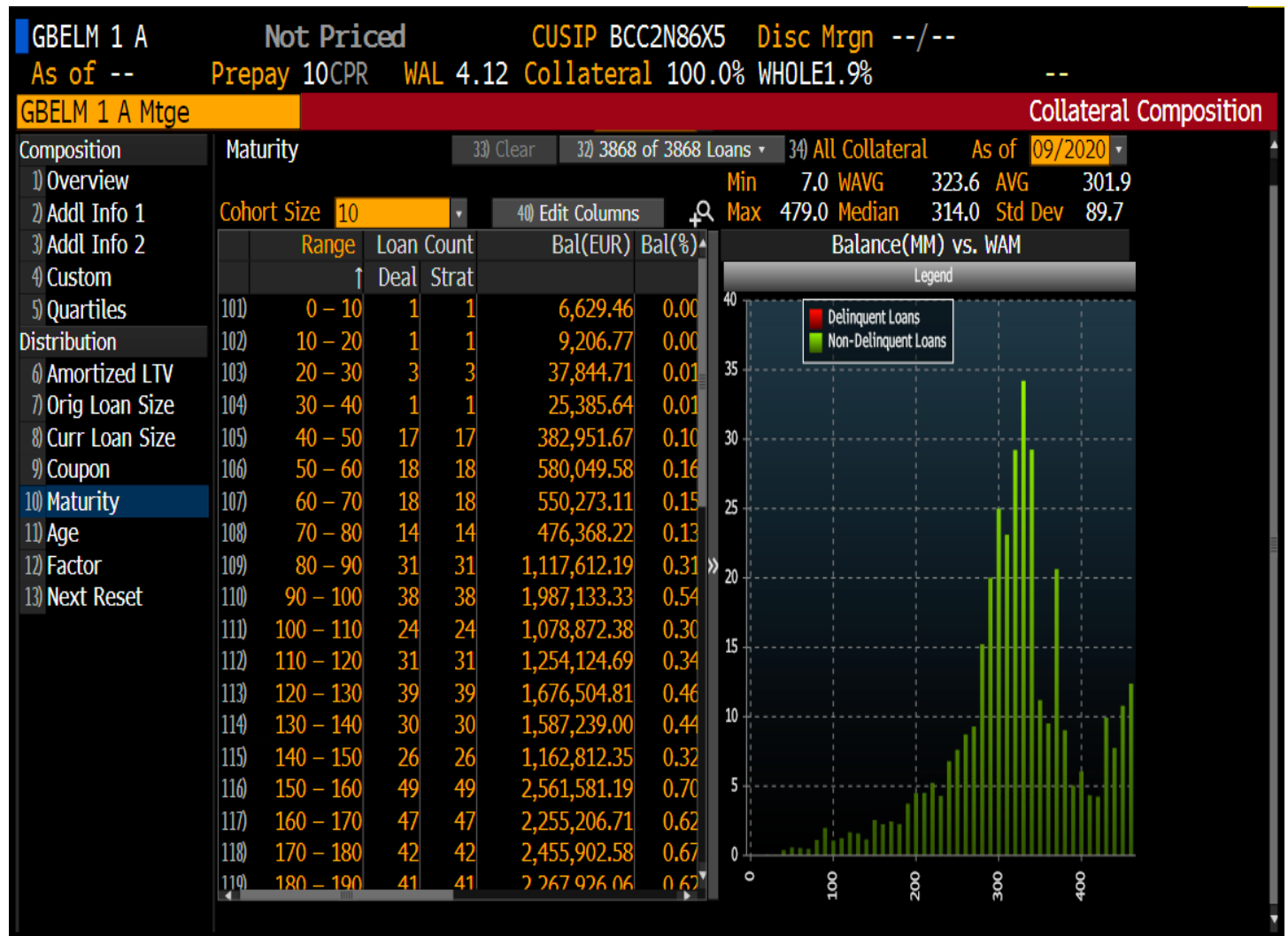
Distribution: Current Loan Size



Distribution: Coupon



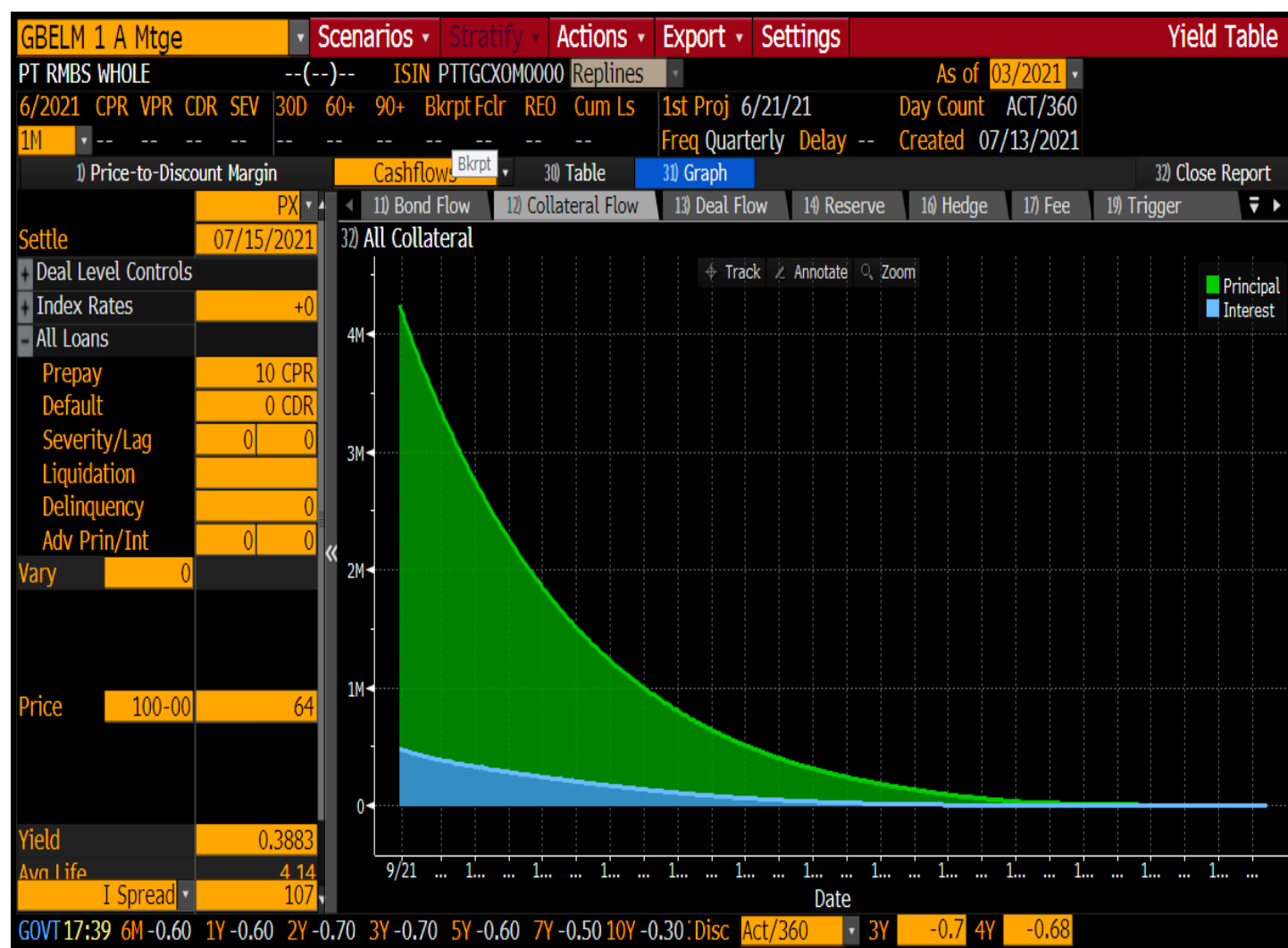
Distribution: Maturity



Structure Paydown: Bond Flows



Structure Paydown: Collateral Flow



Capital Requirements: Basel IV

GBELM 1 A

Not Priced

CUSIP BCC2N86X5

Disc Mrgn --/--

As of --

Prepay 10CPR

WAL 4.12

Collateral 100.0%

WHOLE1.9%

--

GBELM 1 A Mtge

CRD IV - IRB Approach (Long Term Ratings)

PT RMBS WHOLE

--(--)--

ISIN PTTGCXOM0000

Replines

Is Re-securitisation

No

Risk Weights(%)

Effective Exposures

4,028

Is Granular

Yes

Rating

Quality

Senior

Non

Non

Senior

Non

Senior

Is Most Senior

Yes

Step

Composite Rating

AA+

AAA

1

7

12

20

20

30

Quality Step (QS)

2

AA[+/-]

2

8

15

25

25

40

Risk Weights (RW)

8%

A+

3

10

18

35

35

50

8% of Applicable RW

.64%

A

4

12

20

35

40

65

A-

5

20

35

35

60

100

Price

100.000

BBB+

6

35

50

50

100

150

Tranche Amount

10,000,000 EUR

BBB

7

60

75

75

150

225

Factor

0.825150683

BBB-

8

100

100

100

200

350

Amount

8,251,507 EUR

BB+

9

250

250

250

300

500

BB

10

425

425

425

500

650

Capital Requirement

52,810 EUR

BB-

11

650

650

650

700

850

Below

12

1250

1250

1250

1250

1250

If rating change of

-1 notches

Additional Cap Req

0 EUR

Capital Requirements: SSFA

GBELM 1 A	Not Priced	CUSIP BCC2N86X5	Disc Mrgn --/--
As of --	Prepay 10CPR	WAL 4.12	Collateral 100.0% WHOLE1.9%
GBELM 1 A Mtge	Simplified Supervisory Formula Approach		
PT RMBS WHOLE	--(--)--	ISIN PTTGCXOM0000	Replines As Of 09/2020
Weighted Average Capital Requirement	8.00 (Kg)		
90+ Delinq % by Bal	0.00 (w)		
Prudent (%)	0.00		
Non-Prudent (%)	100.00		
Weighted Average Risk Weighting	8.00 (Ka)		
Attachment Point	14.73 (A) l = 6.73		
Thickness	85.27		
Detachment Point	100.00 (D) u = 92.00		
Supervisory Calibration	0.5 (p) a = -25.00		
Capital Structure Requirement	1.60 (Kssfa)		
Securitization Risk Weight Factor	1.60 (SRWF)		
As Of Period	September 2020		