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ESG and Securitization: Early Days

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ESG in Securitization (Page 2)

- ESG investing is growing, attracting headlines and investor interest. Securitization will certainly play some role in the sector. Securitization also faces unique ESG challenges, including developing ESG standards for each sector, and attracting ESG funds from competing ESG alternatives.
- ESG and securitization is still in its early phases. From our discussions, investors are 1) writing white papers on how ESG can apply to securitization, 2) developing ESG criteria and methodologies, and 3) creating internal ESG scorecards for different securitization sectors.

ABS Sector (Page 10)

- The first PACE program was introduced in California in 2009 and the first term securitization priced in 2014. Residential PACE programs are currently offered in California, Florida, and Missouri.
- Solar ABS collateral can consist of leases, power purchase agreements (PPAs), or loans used to finance distributed photovoltaic (PV) systems.

CLO Sector (Page 15)

- In the leveraged loan CLO space, while Europe has taken a lead in issuing Environmental, Social, and Governance (ESG) compliant CLOs, the US is starting to open up.

CMBS Sector (Page 17)

- Fannie and Freddie offer green multifamily programs which we summarize.
- LEED certification is a major green building certification system that focuses on energy and water efficiency as well as materials used, air quality, site planning/design, etc.

RMBS Sector (Page 20)

- We highlight a few key issues for ESG in residential mortgages. Some parameters can be objectively measured, but others will have a subjective score/rating.

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ESG and Securitization

ESG Overview

ESG investing is growing, attracting headlines and investor interest. Securitization will certainly play some role in the sector, since it finances a range of collateral that fit ESG objectives. Examples include green collateral (PACE, Solar ABS, energy efficient real estate), loans to under-served borrower groups, and CLOs that focus on ESG-friendly companies. That said, securitization also faces unique ESG challenges, including developing ESG standards for each sector, and attracting ESG funds from competing ESG/Green/Socially responsible alternatives.

What is ESG Again?

ESG investments consider Environmental, Social and Governance risk factors in evaluating investment opportunities. The underlying basis for ESG investing is straightforward; companies that behave sustainably across a range of ESG metrics will make better long-term investments. ESG investments may also align with investor ethical views (e.g., combat climate change, reduce income inequality, etc). Figure 1 highlights some factors for each component of ESG.

Figure 1: ESG: The Big Picture

ESG	Broad issues	Securitization examples
Environment	Climate change, carbon emissions, pollution, resource efficiency, biodiversity	Limit loans with exposure to environmental issues or require adequate protections from enironmental risks. Prioritize real estate properties or other loans that offer environmental/ green/sustainable benefits.
Social	Human rights, labor standards, health & safety, diversity policies, community relations, development of human capital	Consumer well-being. Loans not underwritten for excessive profit/churn; favor lenders with fair origination practices not biased toward any group. Favor loans that provide social benefits without taking on other risks.
Governance	Corporate governance, corruption, rule of law, institutional strength, transparency	Favor securitizations that provide transparency, provide adequate protections in structure, use governance procedures that protect all tranches. Avoid sectors with potential regulatory intervention.

Source : Deutsche Bank, "Incorporating Environmental, Social and Governance Factors into Fixed Income Investment", World Bank

Historically, ESG has been equity-focused, but has expanded to include fixed income. ESG and securitization is still in its early phases. From our discussions, investors are 1) writing white papers on how ESG can apply to securitization, 2) developing ESG criteria and methodologies, and 3) creating internal ESG scorecards for different securitization sectors.

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Figure 2 shows there are a number of variants of "responsible/sustainable investing": ESG, Socially Responsible Investing (SRI), Green Investing and Impact Investing. ESG investment strategies can use 1) negative screening (e.g., Investment criteria exclude investments in specific industries or with certain characteristics), 2) positive screening (seek investments in certain industries or with specific positive attributes) or 3) ESG "scores" to evaluate which investments are eligible and most attractive.

Traditional investing has a straightforward goal: "maximize returns for a given level of risk". ESG may seem to complicate that simple strategy, by adding other constraints or goals. From our perspective, ESG investing requires investors to try and measure specifically identified risk factors as part of that same risk/return analysis. In fact, early rating agency and securitized investor feedback is often marked by the notion that "we've been rating/buying using ESG principles all along!".

A simple standard for ESG securitizations would be: "All else equal, we will buy the more ESG friendly investment". However, we expect measuring ESG in securitization will be nuanced and always contain some subjective aspects.

That said, the prospect of dedicated ESG fund allocations has incentivized fund managers to engage this new segment. ESG funds will require securitized buyers to explicitly measure investments for "ESG-friendliness".

Figure 2: Variants of Responsible / Sustainable Investing

Investment Type	Comment
ESG Investing	ESG (Environmental/ Social/ Governance) targets investments that aim for greater long-term sustainability across these three metrics.
Socially Responsible Investing	Socially Responsible Investing may exclude issuers in certain industries (alcohol, gambling, weapons). SRI may also target investments with specific (perceived) positive characteristics. SRI may also seek to make investments with a targeted social impact.
SDG Investing	Sustainable Development Goals Investing. Initiated by the United Nations Department of Economic and Social Affairs.
Green Investing	Green investing targets a positive impact for the environment.
Impact Investing	Investment that seeks to provide a measurable social impact in addition to a financial return.

Source : Deutsche Bank

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ESG Standardization and Benchmarking

ESG has been around since the mid 2000s, yet there is no standardization of (1) how to determine whether an investment is "ESG", or (2) any widely accepted scale that ranks how ESG-friendly an investment is. In fact, "Incorporating ESG Factors into Fixed Income" identifies 15 distinct bodies that have developed standards/ guidelines for ESG, and a host of third party vendors generate proprietary ESG ratings or scores (Sustainalytics, Refinitiv, MSCI, RobecoSAM, CDP, Bloomberg, etc). Many investors also develop internal ESG methodologies to broadly "rate" ESG investments, which may include third party scores as inputs.

The lack of ESG standardization creates confusion. "Greenwashing" is a term used to describe companies that make unsubstantiated claims about their products or business being environmentally sound or sustainable. For ESG investing, there are risks that "greenwashing" can extend to fund names and goals; regulators will need to review how ESG funds are named and marketed.

Blackrock identifies ESG standardization challenges in its paper: "Towards A Common Language for Sustainable Investing". Blackrock highlights "A true set of global rules or standards are unlikely to emerge in the near term." In a partial testament to the proliferation of standards, Blackrock itself advocates using 1) company public disclosures with industry-specific Sustainability Accounting Standards Board (SASB) guidelines, and 2) climate related risks disclosures in line with TCFC standards.

From our perspective, the limited standardization for equity investments does not bode well for securitizations. Securitization collateral, structures, underlying legal regimes, originators, origination practices, collateral pricing, etc vary across sectors, across originators and over time. Nailing exactly what ESG means in the securitization context will be subject to significant interpretation.

Sample ESG standards

MSCI Bloomberg Barclays recently launched four dedicated fixed income indices, described below. However, the MSCI ESG ratings are mostly applicable to corporates, and are not applied to MBS, ABS and CMBS bonds in the bond index.

- **MSCI.** MSCI ESG benchmarks identifies 37 key ESG issues, and selects the 4-10 most relevant for an industry group and then weights those issues for each sector. Each issue is assigned a score of 0-10 using a rules-based methodology that assesses a bond's Risk Exposure (0 is the least and 10 is the most) and Risk Management (i.e., the company's management of the identified risk, with 0 as the worst, and 10 the best).
    - MSCI rates bonds across 7 rating categories, from AAA to CCC, equivalent to the major rating categories. [1]
- **Bloomberg.** Bloomberg has launched separate objective ESG scores for Environmental Disclosure, Social Disclosure and Governance Disclosure; those three measures generate an overall ESG score; these scores are 0-100 and available under the FLDS function. In addition, Bloomberg users can type ESG <Go> when in a security to see all available ESG metrics on the terminal.

1 https://www.msci.com/bloomberg-barclays-msci-esg-fixed-income-indexes

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Securitization: The Last ESG Frontier?

ESG investment criteria has mostly focused on company-specific investments (stock and debt). Company management can choose investment projects, but can also choose how they manage various ESG risks. Public companies also have extensive disclosure requirements that provide investors with useful ESG inputs (e.g., carbon emissions).

Securitization also has extensive disclosures, but, applying ESG principles to securitization has some challenges. Figure 3 shows that investors must look at the securitization across the three pillars of securitization.

- Securitization has many different parties in a transaction (originator, servicer, trustee, backup servicer, swap counterparties, controlling interests, etc).
  - However, many participants have limited decision-making ability, and must follow the prospectus or PSA when resolving issues within a trust (e.g., control, loan modifications, etc.). By design, the "issuer" is a special purpose vehicle with no management.
- Collateral credit quality varies widely across sectors, and even within a sector.
- Structures vary, but are designed to deal with different types of collateral (revolving or static, loss expectations, etc).

Figure 3: ESG issues for the three pillars of securitization

Originator/Servicer	Collateral	Structure
Origination practices, track record. Origination sales incentives.	Borrower characteristics; disparate impact.	Parties in the deal (servicer, trustee, special servicer).
Servicing practices, track record. Loan modification strategy.	Borrower's use of proceeds and ability to repay.	Potential issues with true sale / legal perfection of assets.
Corporate financial strength. Corporate governance; incentives especially with regard to securitization (gain on sale).	Loan risk layering. Collateral tail risks.	Credit enhancement amount; forms of enhancement. Other structural protections (delinquency triggers, etc).
Rep and warrantee provisions.	Historical delinquency and prepayment performance.	Incentive alignment (risk retention).
Securitization risk retention strategy.	Lending landscape. Scope of competition in the space.	Other investor protections (standardized reporting, voting control thresholds, third party reviews, binding arbitration, etc).

Source : Deutsche Bank

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A deal that includes environmentally friendly collateral (ESG positive) may feature an originator with aggressive origination practices, or a structure that adds different risks (both ESG negative). Figure 4 acknowledges some unique securitization challenges.

Figure 4: Unique securitization issues for ESG measurement

ESG challenge	Comment
Credit risk	Securitization credit evaluation is not a loan tape and a model. Investors must "kick the tires": meet with issuers, ask about underwriting, new products, the credit outlook, etc. Pools with the same high level metrics from two originators merit different credit opinions.
Securitization variability "the snowflake problem"	Subprime auto loans (Subprime Auto ABS) have little in common with CRE transition loans (CRE CLO) so relevant ESG criteria will differ across each asset class. Even within an asset class, each securitization has differences in structure, collateral and sponsor.
Third party ESG scores	Securitization has no ESG scoring. Corporates benefit from MSCI scores, Sustainalytics, etc developed over years with public disclosures.

Source : Deutsche Bank

- **Asset managers.** Fund managers' approach to ESG and securitization is in its initial stages. As noted above, securitization investors are still developing and refining an ESG approach. We are not aware of any dedicated securitized ESG fund. Figure 5 provides some fund manager perspectives based on published papers.
- **Rating agencies.** Rating agencies have developed ESG scores that inform credit ratings. However, they also note that ESG must extend across the securitization. For example, solar financing may get high points for "E", but structures must reflect the risks.
    - In Figure 6 we summarize rating agency's framework or methodology around ESG, where available.
    - In Figure 7 we show samples of ESG factors rating agencies have cited in their ESG documents.
    - The rating agencies all note that considerations for ESG factors in ratings are specifically for the purpose of analyzing the impact ESG issues may have on the credit of rated securities. The agencies highlight they are not rating deals for how well they promote ESG qualities.
- **Regulators.** Individual regulators have not harmonized how they will approach funds that seek to be ESG. A balanced regulator approach will be flexible enough to meet different securitization sector needs (not overly rigid), but we note the harmonization problem extends to all ESG fund products, not just securitization.

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Figure 5: Selected ESG-securitization commentary

Asset Manager	Comments
Asset Manager A	Securitization presents unique challenges to implement ESG, but ESG is clearly needed (subprime mortgage crisis cited as example of lax governance). Weak governance or weak transparency should be avoided. Principles based approach, rather than quantitative approach. Examples: Review lender underwriting and servicing practices, Measure sustainability of specific properties.
Asset Manager B	Key ESG issue centers on engagement with securitization parties, especially due diligence to fully understand lending and servicing practices. Risks around poorly designed products or collection include higher losses, headline risk, greater price volatility, regulatory intervention and contracts failing. Governance must include documentation that can adapt if needed to unique challenges of securitations (e.g., "tranche warfare", ease of amendments). Five categories of ESG ratings in ABS: 1-4 (1 is highest, 4 is lowest), and NR (not rated).
Asset Manager C	ESG must assess multiple counterparties and the underlying assets themselves. Manager has started to collect specific ESG-relevant data for its investments.
Asset Manager D	Many existing aspects of ABS credit analysis can incorporate ESG factors; Building a framework for assessing ESG within ABS transactions is the next step for investors to incorporate these factors into their credit analysis.
Asset Manager E	Developed scoring from 1 (weakest) to 5 (best) for mortgages, with four key objectives: support homeownership, increase access for underserved communities, promote responsible lending, discourage predator lending.

Source : Select white papers and other ESG securitization commentary

Figure 6: Rating agency ESG methodologies

Agency	Framework / Factors for ESG analysis
Fitch	Fitch has implimented ESG relevance scores of 1 to 5 relevance based on ESG categories and sub categories. A category 1 score means the ESG factor is irrelevant to the transaction, program or rating. A category 3 is neutral and a category 5 means the ESG factor is highly relevant to the rating. Fitch breaks each ESG category into sub categories and analysts score deals from 1 to 5 across all subcategories. Fitch then aggregates all of the scores and reports how much each element affects a rated transaction.
Kroll	Kroll takes ESG factors at the loan and transaction level for consideration of whether or not they will impact the interest and principal payments of a deal. Kroll's ESG papers cite various examples of how ESG factors can impact their ratings considerations.
Moody's	Moody's considers ESG factors with material credit implications through their methodology: 1 Credit Analysis: Assess potential ESG impact on: Product Demand, Reputation, Cost of Production, and Financial Strength. 2 Methodology scorecard: Assess material impacts under methodology scorecard for impacts on: Profitability, Leverage, Cash Flow, Business Profile, Financial Policy, and Scale (revenue/assets). 3 Other rating considerations: Assess material impacts on factors not captured in scorecard factors.
S&P	S&P identifies ESG factors by how they impact five pillars in their structured finance analysis. 1 - Credit quality of assets 2 - Legal and regulatory risks 3 - Payment structure and cash flow mechanics 4 - Operational and administrative risks 5 - Counterparty risks

Source : Fitch, "What Investors Want to Know: Structured Finance and Covered Bond ESG Relevance Scores", Oct 15, 2019
Kroll, "Environmental, Social and Governance: KBRA Overview", Jun 20, 2019
Kroll, "Environmental, Social and Governance Considerations by Sector: CRE Securitizations", Feb 4, 2020
Moody's, "General Principles for Assessing Environmental, Social, and Governance Risks", Jan 9, 2019
S&P, "ESG Credit Factors In Structured Finance", Sep 19, 2019

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Figure 7: ESG factors cited by rating agencies

	Environmental	Social	Governance
Fitch Subcategories for relevance scoring	GHG Emissions & air quality Energy management Water & wastewater management Waste & hazardous materials management; ecological impacts Exposure to environment impacts	Human rights, community relations, access & affordability Customer welfare - fair messaging, privacy & data security Labor relations & practices Employee well being Exposure to social impacts	Rule of law, institutional and regulatory quality Transaction & collateral structure Transaction parties & operational risk Data transparency & privacy
Kroll General	Climate change Greenhouse emissions Land use Resource depletion Energy efficiency Waste management Air & water pollution Natural disasters Technology and sourcing Contamination	Diversity & inequality Human rights Labor standards and worker safety Population & demographic changes Employment Income Terrorism and political safety Education Housing	Organization and ownership structure Board size, composition, and independence Board committee structure Transparency and accountability Policies and practices Tax responsibility Cybersecurity Commitment to compliance
CMBS	Environmental, contamination, emissions Natural disasters Climate change Energy efficiency	Population & demographic changes Employment Consumer behavior Terrorism Housing affordability	Regulatory compliance Transaction structure and parties Representation and warranties Conflicts of interest
Moody's Private Sector	Air pollution Carbon regulations Natural & man-made hazards Soil/water pollution and land-use restrictions Water shortages	Customer relations Health & safety Human capital Responsible production Demographic and societal trends	Financial strategy & risk management Management credibility & track record Organizational structure Compliance & reporting Board structure, policies & procedures
Government	Air pollution Carbon regulations Natural & man-made hazards Soil/water pollution and land-use restrictions Water shortages	Demographics Labor & income Education Health & safety Housing Access to basic services	Institutional structure Policy credibility & effectiveness Budget management Transparency and disclosure
S&P General	Greenhouse gas emissions Natural conditions Pollution Other environmental factors Environmental benefits	Safety management Consumer-related Human capital management Social benefits	Strategy, execution, and monitoring Risk management and internal controls Transparency Other governance factors
Auto ABS	Auto emission standards, future electric vehicle predicability and the introduction of auto emission based taxes/fees could impact vehicle collateral values.		
CMBS	LEED and BREEAM certified green buildings may have positive performance as a result of being newer buildings with better operating efficiencies and higher rents. This could lead to higher recovery values for green buildings.		
CLO	Changes to a corporate rating related to ESG factors could affect pools reliant on corporate ratings.		

Source : Fitch, "What Investors Want to Know: Structured Finance and Covered Bond ESG Relevance Scores", Oct 15, 2019
Kroll, "Environmental, Social and Governance: KBRA Overview", Jun 20, 2019
Kroll, "Environmental, Social and Governance Considerations by Sector: CRE Securitizations", Feb 4, 2020
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ABS Sector

PACE ABS

PACE, or Property Assessed Clean Energy, financing programs allow property owners to fund improvements related to energy efficiency, renewable energy, or water conservation by repaying the cost of the project via an assessment which is added to the property tax bill. PACE programs can be established by municipalities in states which have passed statutes to allow these programs. The municipalities work with PACE originators to put the financing programs in place and issue PACE bonds to fund the assessments. These PACE bonds, which are backed solely by the cash flows from the underlying assessments, serve as the collateral for the securitizations. There are both commercial and residential PACE programs. The first PACE program was introduced in California in 2009 and the first term securitization priced in 2014. Residential PACE programs are currently offered in California, Florida, and Missouri.

The full cost of a home renovation project can be funded via PACE, and financing terms can go out to as many as 30 years, depending on the originator and the nature of the improvements being financed. The average amount of a PACE assessment is roughly $25,000. The PACE assessment is effectively a lien on the property and transfers with the property in the event of a sale. If a homeowner defaults on a PACE assessment, the amounts in arrears will be due but the obligation will remain outstanding. Underwriting for PACE assessments has been largely focused on the value of the property, rather than the obligor's credit, however regulatory developments have brought more focus to the borrower's ability to repay.

Homeowners who are funding energy efficiency renovations might choose to go with PACE financing vs a home equity loan for a number of reasons. While borrowers with excellent credit would likely be able to get a better rate with home equity financing, the interest rates for PACE assessments are competitive for borrowers outside the top credit tiers. PACE assessments can have longer terms than what are typically available for home equity loans, and homeowners can generally borrow up to 15% of the value of the property. While PACE assessments are paid alongside property taxes, only the interest portion of PACE assessment payments are tax deductible.

Because PACE assessments are owed alongside property taxes, they are senior to all other liens on a given property, including mortgages. Fannie and Freddie will not purchase mortgages with PACE assessments unless the assessments are subordinated to the mortgage. In December 2017, FHA issued guidance stating that properties with outstanding PACE assessments are no longer eligible for FHA mortgage financing.

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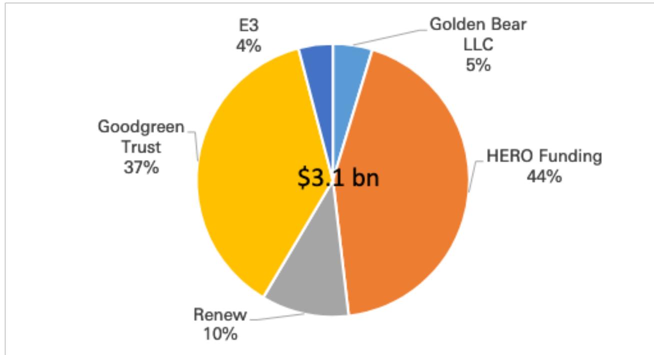
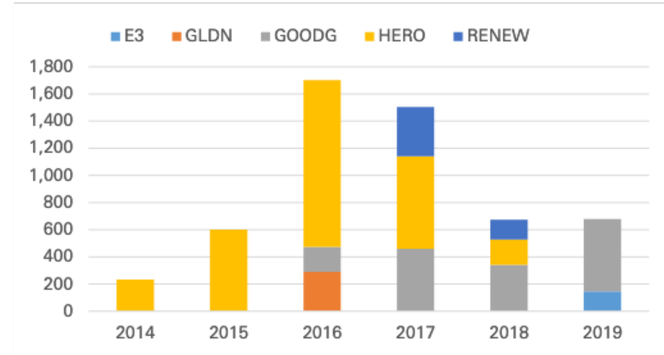
Figure 8: PACE ABS Outstandings



Source : Deutsche Bank, Bloomberg Finance LP

Figure 9: Annual PACE ABS, $mm



Source : Deutsche Bank, Bloomberg Finance LP

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Solar ABS

The solar ABS sector has been in existence since 2013, when SolarCity (now Tesla Energy) priced its first transaction. While the sector remains a small part of overall ABS issuance, the market has seen deal frequency increase, with seven transactions pricing in both 2017 and 2018. We've seen 31 term ABS transactions price to date for a total of $6.1 billion. Current ABS outstandings total $5.2 billion, and we expect this to grow, in part of because of rising issuance but also because the underlying loans, leases and power purchase agreements (PPAs) tend to have longer terms (10 to 25 years, typically 20) than other forms of consumer debt.

Tesla/SolarCity and Solar Mosaic have been the leading issuers in the space, with $1.2 and $1.5 billion in total supply to date. Issuance has steadily increased, with nearly $2 billion pricing in 2019, putting it in a similar context to timeshare ABS supply which typically averages roughly $2.5 billion annually. According to the U.S. Energy Information Administration, solar power accounted for 1.3% of U.S. electricity generation in 2017, compared with 63% for fossil fuels and 20% for nuclear4. The U.S. solar industry's trade group, The Solar Energy Industries Association, estimates that solar accounts for more than 2% of U.S. electrical generation at present

Solar ABS collateral can consist of leases, power purchase agreements (PPAs), or loans used to finance distributed photovoltaic (PV) systems. Solar lease and PPAs both essentially involve renting the equipment from a lessor, with the difference being that in the case of the PPA, the obligor agrees to purchase system-generated electricity at an agreed-upon rate subject to annual increases, known as "escalators" (typically around 3%), while a lease payment would be fixed. These options allow a homeowner to use solar energy to power their home without incurring the upfront costs of the equipment and installation; in addition, the responsibility for maintenance would typically fall on the leasing company, rather than the homeowner.

If the homeowner decides to sell their home before the end of the lease term, the obligation would typically stay with the home. This means that the lease would need to be reassigned to the new buyer (introducing the risk of downward credit drift) or the homeowner would have to take action to end the lease prematurely, leading to voluntary prepayment or, potentially, default. If a PV system generates more electricity than a homeowner can use, excess supply can be delivered back to the grid for a credit, which is referred to as net energy metering (NEM). For solar loans, the borrower is typically responsible for maintenance and servicing costs related to the PV system.

Credit enhancement for solar ABS transactions is generally comprised of overcollateralization, subordination, reserve accounts, and excess spread. Transactions typically have early amortization and manager termination triggers which are tied to debt servicer coverage ratios (DSCR). Average FICOs for deals in this sector typically approach the mid-700's. Kroll has been the most active rating agency in this sector by far, typically rating senior classes in the single or double A category.

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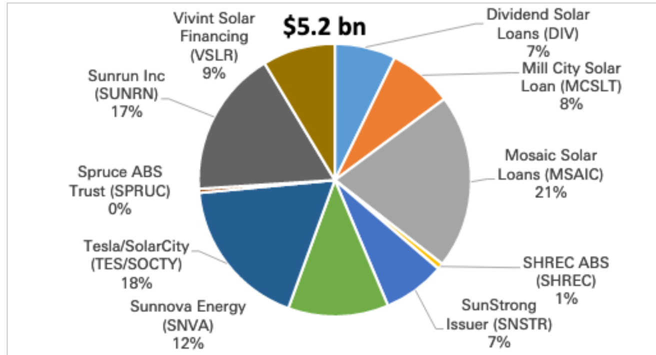
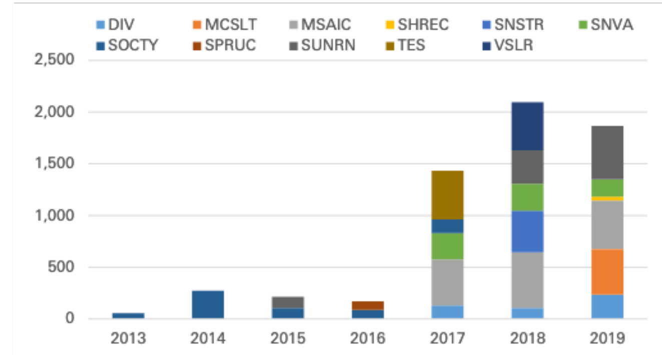
Figure 10: Solar ABS Outstandings



Source : Deutsche Bank, Bloomberg Finance LP

Figure 11: Annual Solar ABS issuance, $mm



Source : Deutsche Bank, Bloomberg Finance LP

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Auto ABS

In 2014, Toyota Motor Credit Corporation (TMCC) issued the first auto ABS Green Bond, TAOT 2014-A. In all, TMCC issued 3 ABS Green Bond transactions from 2014 through 2016 for a total of $4.6 billion. The program wasn't limited to U.S. ABS, as they also issued a euro 600 million senior unsecured Green Bond. The company defined Green Bonds as "instruments in which the proceeds are applied exclusively towards projects that promote climate or other environmental sustainability initiatives."(source: company reports).

In order for deal to be considered a Green Bond, the vehicles being financed had to satisfy three criteria: They had to be gasoline-electric vehicles or alternative fuel powertrain vehicles, the MPG (or equivalent) had to be least 35, and the U.S. EPA Smog Rating had to be 8 or better.

Other auto lenders could follow suit if they have sufficient electric/hybrid loan pools. While not formally marketed as green bonds, Tesla's auto ABS securitizations would also meet the criteria specified by TMCC, as their pools consist of 100% EV collateral, and the vehicles get the equivalent of 120+ mpg, as well as the highest possible EPA smog ratings (10 out of 10).

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CLO Sector

In the leveraged loan CLO space, while Europe has taken a lead in issuing Environmental, Social, and Governance (ESG) compliant CLOs, the US is starting to open up. In Europe, there are about eight CLOs issued so far, which have ESG friendly language, compared to just three deals in the US[2] .

ESG screening methods by CLO manager:

#1 Negative Screening:

Up to this point, ESG language has been predominantly negative screening based, where loans issued by borrowers in certain types of business activities are restricted in CLOs. Examples of such businesses include tobacco, weapons, speculative oil & gas, pornography, trade in ozone depleting substances, endangered or protected wildlife etc. Some CLO investors believe that negative screening language may not represent a true ESG CLO, since the concentration of such borrowers is very low anyway. However, the efforts are considered a step forward in right direction.

#2 Prohibited Industries:

ESG prohibited industries definition scope is wider than seen in negative screening language. Under ESG eligibility criteria the collateral manager determines that the obligor is not undertaking any activities or derives any revenue from ESG prohibited industry.

In addition to the restriction list seen in negative screening other activities of the prohibited issuer include:

- mining of, and trade in, coal, uranium, as well as minerals produced in zones of military conflicts and areas designated by the UN as "war zones"
- production of fossil fuels threatening bio-diversity
- production and trade in prohibited chemicals and chemicals restricted
- production of fossil fuels threatening bio-diversity
- activities damaging biodiversity
- may currently or in the future have a negative impact on the environment, child welfare and access to education, human welfare, rights and health and animal welfare

#3 Positive Screening:

In Europe, however, CLO managers have started to adopt a stricter, positive screening language as seen in NIBC' NWEST VI-A deal, priced in November 2019. Below points are the highlights of ESG language seen in NWEST VI-A.

2 S&P LCD:https://www.lcdcomps.com/lcd/n/article.html?aid=12453880&rid=30&t=1, Deutsche Bank

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- In addition to ESG prohibited industries, the positive screening language broadens the definition of ESG ineligible assets by incorporating an ESG score.
- The collateral manager assigns an ESG score using proprietary ESG due diligence procedures carried out to make sure that collateral obligation reflects the level of compliance of the relevant obligor with the ESG eligibility criteria.
  - The score varies from -1 to +7: maximum and assets with a score of 0 (Low) or -1 (Negative) are classified as ineligible.
  - The collateral manager objective is to maintain a par weighted average ESG score of no less than "5 (High)". However, it is not obliged to reach, maintain, or improve any such weighted average ESG score. Moreover, failure to reach or maintain the target weighted average ESG score will not be a breach by the collateral manager of its duties.
  - The collateral manager may use an internal methodology or third party screening output but ultimately the manager will decide the obligor's ESG score at its sole discretion.

The manager prepares Quarterly ESG Report summarizing ESG Industry Categories of the Collateral Obligations, Weighted Average ESG Score, change in composition due to the ESG policy, any score rating obtained from internationally recognized agencies etc.

Figure 12: ESG rated CLOs

Issue Date	Deal Ticker	Manager	Balance, $mm	ESG Type	Europe / US
1-Mar-18	PRVD 1X	Permira Debt Managers	362.5	Negative Screening	Europe
9-Nov-18	PRVD 2X	Permira Debt Managers	361.3	Negative Screening	Europe
5-Apr-19	BHLAE 2019-1X	Bardin Hill (Halcyon)	359	Negative Screening	Europe
6-Jun-19	FOAKS 1X	Fair Oaks Capital Ltd	329.6	Negative Screening	Europe
27-Jun-19	PRVD 3X	Permira Debt Managers	382.2	Negative Screening	Europe
13-Jul-19	TCLO 6X	Chenavari Credit Partners	360.4	Negative Screening	Europe
19-Jul-19	TIKEH 5X	Tikehau Capital Europe	451.2	Negative Screening	Europe
7-Oct-19	RFTE 2019-1X	King Street	408.5	Negative Screening	Europe
24-Oct-19	CFOUR 1X	Capital Four CLO Management	385	Negative Screening	Europe
18-Nov-19	NWEST VI-X	NIBC Bank	410	Positive Screening	Europe
25-Jul-19	VENTR 2019-38A	MJX Asset Management	607.9	Negative Screening	US
12-Jul-19	PIPK 2019-4A	Partners Group	407	Negative Screening	US
1-Nov-19	MIDO 2019-10A	MidOcean Credit Fund Management	402.7	Negative Screening	US

Source : Deutsche Bank, S&P LCD

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CMBS Sector

Fannie & Freddie Multifamily

Freddie K Multifamily

- In 2016, Freddie developed its Green Advantage program whose goal is to incentivize water and energy updates for older multifamily properties that will save water and energy expenses.
- Freddie's Green Advantage program has two options Green Up® and Green Up Plus® (Figure 13).
- The options provide financing incentives for borrowers who make energy and water consumption reduction improvements at their properties and require borrowers to monitor and report on energy and water consumption over time.
- From the program's inception through the end of 2018, over 450,000 units across approximately 1,600 properties were financed with Green Up and Green Up Plus loans, totaling over $44.7 billion in loans.
- Green Bond issuances are designated through the KG-Deal program.
- Water-savings improvements are most common (77% of loans); examples include showerheads, bathroom aerators, kitchen aerators and toilets. Energy-saving improvements are LED lighting for interior, exterior and common areas and HVAC thermostats.
  - The projected average cost for improvements was $470 per unit.
  - Properties are projected to save on average $220 per unit per year.
- Green Consultants (must meet specific qualifications and not be affiliated with borrower, seller or lender) provide property analysis with recommendations for improvements; borrowers can choose projects that meet the required saving thresholds.

Fannie Mae Multifamily

- Multiple recognized organizations can award Green Building Certifications. Alternatively, borrowers can pursue smart property improvements, including Energy Star appliances, upgrading boiler, etc. Goal for improvements is to reduce annual energy and/or water consumption by 30%, including at least 15% energy reduction. Depending on the certification, properties may be newly constructed or retrofitted to meet the criteria. To incentivize owners to pursue these projects, owners can receive preferential pricing or higher loan proceeds (Figure 14).

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Figure 13: Freddie Green Multifamily Programs

	Green Up®	Green Up Plus®
Minimum Projected Consumption Reduction1	30% of energy or water/sewer consumption for the whole property, with a minimum of 15% from energy, based on Green Assessment®	30% of energy or water/sewer consumption for the whole property, with a minimum of 15% from energy, based on Green Assessment Plus®
Underwriting Approach2	Recognize up to 50% of projected owner-paid energy and/or water/sewer savings based on Green Assessment	Recognize up to 75% of projected owner-paid energy and/or water/sewer savings based on Green Assessment Plus
Time to Complete Green Improvements	2 years to complete	
Escrow Requirements	Funds for energy/water efficiency work will be escrowed at 125% of cost and released as work is completed	
Required Third-Party Reports	Green Assessment	Green Assessment Plus
Benchmarking Data Collection1	Green Up and Green Up Plus loans require borrowers to engage a third-party data collection consultant, prior to the origination of the loan, to collect, input and monitor actual energy and water usage through	
Green Assessment	A report detailing proposed property-level improvements to promote utility consumption efficiency at the property. It uses the ASHRAE Level 1 standard plus additional specific and rigorous inspection and consumption data requirements. The report describes projected savings in terms of utility consumption and dollars saved per improvement item.	A highly detailed property analysis based on an ASHRAE level 2 energy audit.A highly detailed property analysis based on an ASHRAE level 2 energy audit.
Loan Proceeds/ Sizing	■ Debt Coverage Ratio (DCR): -0.05x of policy-compliant DCR. Subject to lesser of 1.20x or program/product limit ■ Loan-to-Value (LTV) ratio: +5.0% of policy-compliant LTV. Subject to greater of 85% or program/product limit	■ DCR: -0.05x of policy-compliant DCR. Subject to lesser of 1.20x or program/product limit ■ LTV: +5.0% of policy-compliant LTV. Subject to greater of 85% or program/product limit
As-Is DCR/LTV	■ DCR: -0.05x of policy compliant DCR ■ Subject to lessor of 1.20x or product limit ■ LTV: +5.0% of policy compliant LTV ■ Subject to greater of 85% or product limit	■ DCR: -0.05x of policy compliant DCR ■ Subject to lessor of 1.20x or product limit ■ LTV: +5.0% of policy compliant LTV ■ Subject to greater of 85% or product limit
As-Improved DCR/LTV (If Applicable)	■ Must meet policy compliant DCR/LTV; no adjustments ■ Based on As-Improved NOI and AsImproved appraised value	Must meet policy compliant DCR/LTV; no adjustments ■ Based on As-Improved NOI and AsImproved appraised value

Source : Freddie Mac. https://mf.freddiemac.com/docs/KG_Bond_Framework.pdf

Figure 14: Fannie Green Multifamily Programs

	Green Rewards	Green Building Certification Pricing
Ideal Fit	Existing properties ready to make energy- and water-saving improvements	New construction or existing properties awarded a green building certification
Loan Type	Refinance, acquisition, supplemental, and 2nd supplemental	Refinance, acquisition, and supplemental
Interest Rate and Rate Lock	Fixed-rate with Streamlined Rate Lock option or variable rate	Fixed-rate with Streamlined Rate Lock option or variable rate
Energy and water audit report cost	100% paid by Fannie Mae	N/A
Pricing incentive	Lower interest rate	
Additional Loan Proceeds	Up to 5% more than standard DUS Loan; underwrite 75% of owner and 25% of tenant projected cost savings	Standard DUS
Minimum projected consumption reduction	30% energy and/or water combined, inclusive of at least 15% minimum energy consumption reduction	None
Minimum green improvement budget	None	
Max LTV	Standard DUS	
DSCR	Standard DUS	
Documentation	Energy and water audit report	Current, Fannie Mae recognized green building certification

Source : Fannie Mae. https://multifamily.fanniemae.com/sites/g/files/koqyhd161/files/migrated-files/content/fact_sheet/competitive-advantage-green-financing.pdf

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Commercial real estate property certifications

LEED Certification

- LEED (Leadership in Energy and Environmental Design) is a green building certification developed by the US Green Building Council (www.usgbc.org). LEED certification can apply to various property types, and can be used for new construction or retro-fits. LEED certification follows a rigorous application and review (https://www.usgbc.org/cert-guide).
- The LEED rating system classifies the environmental soundness of buildings, often focusing on energy and water efficiency. Other aspects of LEED buildings include materials used, air quality, site planning and design, etc.
- The LEED rating system measures on a scale of 100 points across six credit categories: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, and Innovation in Design. Additional points can be earned for other aspects of the property.
- There are four certificate levels. LEED-certified ® (40-49 points), LEED Silver ® (50-59 points), LEED Gold ® (60-79 points), LEED Platinum ® (80+ points)
- Green buildings
  - Buildings account for ~40% of energy used and ~40% of carbon emissions (United Nations and U.S. Energy Information Administration estimates)
  - New York City recently passed a buildings emissions law called Local Law 97 of 2019.
  - https://www.urbangreencouncil.org/content/nyc-building-emissions-law-frequently-asked-questions

Other green building certifications

- **BREEAM.** Building Research Establishment Environmental Assessment Method. BREEAM is the first initiative to measure and promote green buildings and is used globally. BREEAM assigns a number score to buildings and has six rating categories: Outstanding (>= 85 points, top 1%) to Pass (>=30 points, top 75%). BREEAM measures across 10 factors: Management, Health/Wellbeing, Energy, Transport, Water, Materials, Waste, Land Use/Ecology, Pollution and Innovation. Each category has a different weighting and the sum of scores add up to the overall building score. https://www.breeam.com/
- **Building Energy Codes.** "National model energy codes are developed by two private organizations, ASHRAE and the International Codes Council. ASHRAE develops the model commercial energy code, known as 90.1. The International Code Council develops the International Energy Conservation Code (IECC), which contains chapters for both residential and commercial buildings." (Source: https://www.energy.gov/eere/buildings/building-energy-codes-program)
- **Energy Star.** Energy Star ratings are assigned to appliances in households, office equipment, lighting and HVAC. The program is run by the US Environmental Protection Agency and the Department of Energy.
- **International classifications.** Other countries use local green certification programs.

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RMBS Sector

We highlight a few key issues for ESG in residential mortgages. Some parameters can be objectively measured, but others will have a subjective score/rating. Even objectively measurable parameters could potentially vary across ESG investment platforms (e.g,. the amount of insurance needed to protect vs environmental issues, different levels of DTI that still qualify as "responsible lending", etc.).

Environmental

- **Environmental protection.** Residential loans should have adequate protection from environmental hazards such as flood, fire, wind, either via home insurance, incremental credit enhancement or some combination. Servicers should be able to adapt to environmental events to accommodate temporary hardship for borrowers.
- **Energy efficiency.** Energy efficient housing is more attractive; new construction can include more efficient energy and water usage, use environmentally-friendly materials and avoid pollution during construction.

Social

- **Homeownership.** Homeownership provides social benefits as homeowners benefit from building up equity over the life of the loan. Pools with greater exposure to underserved communities (rural areas, minorities, etc) may also be assigned higher ESG scores for the social benefit of lending to these groups.
- **Ability to repay / Responsible lending.** Borrower ability to repay incorporated into the mortgage underwriting; ESG investors may use additional or more stringent criteria than the Qualified Mortgage standard.
  - Examples could include debt-to-income thresholds (a maximum DTI allowed in any deal, or a limit on the percentage of loans that can exceed a specified level, limits on mortgage origination fees, requirement that all loans be owner-occupied, a maximum loan rate relative to the conforming mortgage rate, etc).
- **Loan modifications.** Servicers should have adequate loan modification strategies to deal with borrowers who may need assistance during life events (unexpected hospital bills, job loss, etc). Staffing levels and past experience are potential guides to score.

Governance

- RMBS 2.0 deals include many features where RMBS 1.0 had noteworthy shortcomings in how to deal with widespread credit issues.
- **Due diligence.** RMBS 2.0 deals go through extensive due diligence by third parties, and any violations are reported to investors in original documents. Extensive due diligence should limit fraud.

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- **Representations and warranties.** Clearly outline a review process for early payment defaults or loans that did not meet original stated disclosures, performed by third party. Clearly defined obligation for originator/sponsor to "fix" any loans that have material issues. Binding arbitration for loans where there is disagreement on whether material infringement occurred.
- **Investor coordination.** Clear mechanisms to allow investors to communicate and clearly defined voting thresholds to replace different parties in a deal.

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Appendix A

Figure 15: Principle Proliferation: Principles, Guidelines, Disclosures and Certifications

Name (Abbreviation)	Description
Climate 100+	Climate Action 100+ is an investor initiative to ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change
Green Bond Principles (GBP)	Published by the International Capital Markets Association, GBP are voluntary process guidelines that recommend transparency and disclosure and promote integrity in the development of the Green Bond market by clarifying the approach for issuance of a Green Bond
Green Building Certifications	Recognized organizations that can classify a property as Green; usually different classifications exist. Examples of recognized organizations include the US Green Building Council (LEED), US Environmental Protection Agency (Energy Star), Build it Green (GreenPoint Rating)
Principles for Responsible Investment (PRI)	Six principles of investing that seek to include ESG issues into investment analysis
Social Bond Principles (SBP)	Social Bonds are use of proceeds bonds that raise funds for new and existing projects with positive social outcomes
Sustainability Bond Guidelines	Sustainability Bonds are bonds where the proceeds will be exclusively applied to finance or re-finance a combination of both Green and Social Projects
Task Force on Climate-related Financial Disclosures (TFCD)	Financial Stability Board task force that sets global standards for corporate disclosure

Source : Organization websites, World Bank, United Nations

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Figure 16: Groups working on ESG standards or other ESG support for investors

Initials	Long name	Comment	Link
SASB	Sustainability Accounting Standards Board	The IIRC's mission is to establish integrated reporting and thinking within mainstream business practice as the norm in the public and private sectors.	https://www.sasb.org/
TFCD	Task Force on Climate-related Financial Disclosures	The FSB Task Force on Climate-related Financial Disclosures (TCFD) will develop voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholder	https://www.fsb-tcfd.org/about/
CDSB	Climate Disclosure Standards Board	The Climate Disclosure Standards Board (CDSB) is an international consortium of business and environmental NGOs. We are committed to advancing and aligning the global mainstream corporate reporting model ...We do this by offering companies a framework for reporting environmental information with the same rigour as financial information.	https://www.cdsb.net/
GRI	Global Reporting Initiative	GRI helps businesses and governments worldwide understand and communicate their impact on critical sustainability issues such as climate change, human rights, governance and social well-being	www.globalreporting.org
IIRC	International Integrated Reporting Council (IIRC)	The IIRC's mission is to establish integrated reporting and thinking within mainstream business practice as the norm in the public and private sectors. The IIRC's vision is to align capital allocation and corporate behaviour to wider goals of financial stability and sustainable development through the cycle of integrated reporting and thinking.	https://integratedreporting.org/
ICMA	International Capital Market Association	Publish Social, Sustainable, and Green Bond Guidelines. Provide handbooks and a database on bonds	https://www.icmagroup.org/green-social-and-sustainability-bonds/resource-centre/

Source : Organization websites, World Bank, United Nations

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Appendix 1

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