

SFA Research Corner Solar ABS Issuance Warmed by ITC and Alternative Energy Investing

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Solar ABS Issuance Warmed by ITC and Alternative Energy Investing

Growth in the solar energy sector has contributed to the rise in the securitization of products used to finance PV systems. In 2022, \$4.3 billion of solar ABS were offered, an increase of 207% from 2017 and a 20% increase over 2021. The increase occurred even as supply in the broader ABS market dropped by 8% due to higher rates and macroeconomic concerns. Solar ABS currently has over \$10 billion of ABS outstanding. With more than 90% of the \$10 billion bonds outstanding rated investment grade, solar ABS has also been a natural fit for investors looking for highly rated green investments.

Sillic

2.0

1.5

1.0

0.5

0.0

2017

This trend is expected to continue as power from renewable sources, such as solar and wind, is expected to represent 16% of all generation in 2023, rising to 18% in 2024. The U.S. Energy Information Administration (EIA) expects solar photovoltaic (PV) capacity to grow in 2023 and 2024 for both utility-scale (by 32 gigawatts each year) and small-scale (by 9 gigawatts in 2023 and 12 in 2024). In kind, the EIA expects coal's share of electricity generation nationwide to fall from 20% in 2022 to 18% in 2023 and 17% in 2024 as reported in the EIA's latest <u>Short-Term</u> Energy Outlook.

Solar ABS Issuance Warmed by Increased Interest in Renewable Energy and Green Investments

Source: Finsight, SFA Market Compilation

2010

Solar ABS (left side scale) -Overall ABS

2020

2018

Solar has increased by an average annual growth rate of <u>33%</u> over the past 10 years. Arguably the biggest driver of growth has been the passage of the federal solar Investment Tax Credit (ITC) in 2006. Largely thanks to the ITC, installed solar <u>capacity</u>, as measured by megawatts of direct current, has grown 19x over the past decade. Commercial capacity increased by 11x during this same period. Combined expansion—residential, commercial, community, and utility—now provides enough solar capacity to power 23 million homes. In 2022, President Biden extended the ITC, which was set to expire by year-end 2023, to 2034 and expanded the credit from 22% to 30%. The 30% credit applies to residential and commercial systems, and will step down in 2033 to 26%, then 22% in 2034. The incentives are not all on the federal level. Incentives on the state and local level include utility rebates, subsidized loans, net energy metering (credit given for returning electricity back to the grid), and property tax exemptions.



100

50

2022

2021



SSOCIATION U.S. Electricity Generation by Source, All Sectors percentage share billion kilowatthours forecast forecast 50% 4.000 other sources 45% wind 40% 3.000 hydropower 35% 30% 25% 2.000 natural gas 20% 15% coal 1,000 10% 5% nuclear 0% 0 2017 2018 2019 2016 2015 2016 2017 2019 2019 2020 2021 2021 2023 2023 2015 2020 2022 2023 3 4 2024 021 201 201 201 201

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

Overview of Solar ABS and the Underlying Collateral

Solar ABS may be backed by leases, by power purchase agreements (PPAs)—which involve renting solar equipment from a solar company—or by closed-end loans. With the extension of the ITC mentioned above, we expect financing will lean towards loans and away from leases or PPAs, skewing the composition of the ABS supply towards solar loan ABS. The three largest issuers in 2022 were GoodLeap, Sunnova Energy Corp., and Solar Mosaic, Inc. In 2022, Luminace, a platform of Brookfield Renewable, became the first issuer of solar ABS backed by commercial and industrial solar assets.

Most solar ABS is secured by a pool of high-quality fixed-rate loans with weighted average FICO scores greater than 700. The loans are long dated with maturities out approximately 20 years. The average loan balance is approximately \$40,000. A typical pool contains roughly 10,000 loans. Although the loans are secured by the solar equipment, the recovery rate assumed for solar systems is very low given the inherent characteristics and physical limitations of a residential solar system. For example, S&P assumes zero recoveries in the event of default "given the limited value of the equipment upon repossession due to depreciation and advances in technology." Moreover, the rating agency also does "not believe it is likely for the solar system to be redeployed, and the cost to remove a solar system from a residential property may offset any recoveries."

Internal credit enhancements for solar ABS include subordination, overcollateralization and reserve accounts. So far, credit performance has been stable according to <u>KBRA's Solar Loan Index</u> which tracks 41 securitized solar loan pools totaling \$7.3 billion. December data shows annualized net losses for the index have averaged 1.07% versus a five-year average of 1.27%. For late-stage (90-120 days) delinquencies, the 12-month average is 0.15%, in line with the 5-year average of 0.14%.



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