

SFA Research Corner

Walking on Sunshine: Using ABS to Fund Residential Solar Installations

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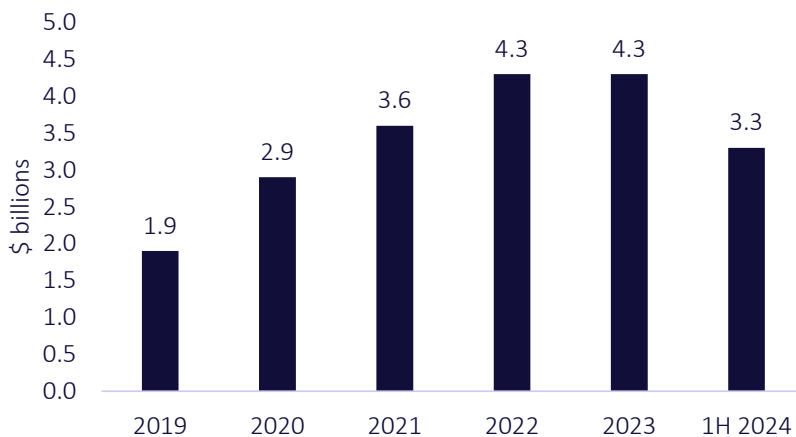


Walking on Sunshine: Using ABS to Fund Residential Solar Installations

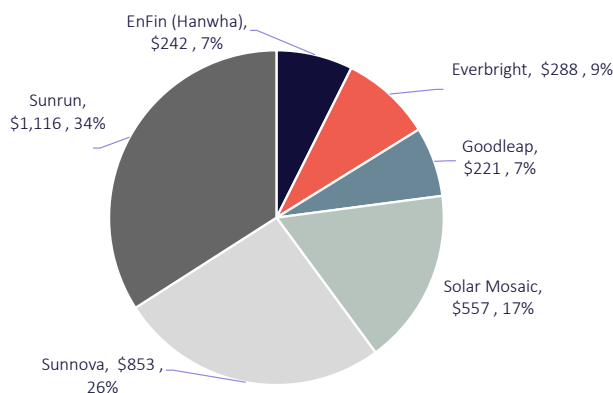
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In the first half of 2024, over \$3.3 billion in residential solar asset-backed securities (ABS) were issued across 11 deals, averaging \$298 million per deal. This amount is just 25 percent short of the \$4.3 billion issued in 2023, which matched the record set in 2022. Notably, repeat issuers Sunrun, Sunnova, and Solar Mosaic account for 77% of this year’s offerings. Two new companies, Everbright and EnFin, debuted their inaugural transactions in 2024, at \$288 million and \$242 million, respectively. The average deal size in 2024 was \$298 million, with the largest deal, offered by Sunrun, reaching \$886 million. Below, we look at 2024 activity.

Solar ABS Issuance on Track to Eclipse 2023



2024 Issuers (\$ millions)



Source: Finsight

Solar installations have greatly benefited from the federal Investment Tax Credit (ITC) established under the [Energy Policy Act of 2005](#) and extended by the [Inflation Reduction Act of 2022](#). The ITC offers a 30% tax credit for systems installed between 2022 and 2032. Third-party owners sell energy into a system can claim this credit and pass off these savings to homeowners. Eligible homeowners own their systems directly can claim the credit on their federal tax return, dollar-for-dollar, for the year the system was installed and activated. By lowering the effective cost of solar installations, the ITC has been instrumental in promoting solar energy adoption, which has increased the need for capital.

According to the Department of Energy, approximately \$15 billion of residential solar energy systems were installed in 2021. About 85% of these installations were financed directly by the owner, through loans, or through third-party ownership options such as leases or solar power purchase agreements (PPAs). Under a lease or PPA arrangement, the homeowner does not own the solar equipment; it is maintained by the third-party owner. Specifically, in a PPA, a project developer installs, owns, and operates the solar system, providing the homeowner with the energy needed.

Residential solar ABS transactions may be backed by one of these three types of financing contracts, which typically have tenors of 20 to 30 years. The cash flow from these financial obligations are used to pay back the ABS investor. Understanding the characteristics of the contracts and the cash flow is essential for evaluating solar ABS.

Key credit considerations for solar ABS include the credit quality of the underlying borrowers, the quality of the solar systems, operational risks, and the experience of the servicer. When examining recent transactions, common collateral trends include high FICO scores – which indicate a strong creditworthiness of the customer base – financing terms of approximately 300 months, and an average loan size of around \$45,000 for ABS backed by loans.

According to **Shaun O’Neill, President and Chief Strategy Officer of Concord Servicing**, effective communication with the borrower is crucial for managing solar asset performance, whether they are loans, leases, or PPAs. From the granting of Permission to Operate (PTO) to initial invoicing, establishing clear expectations on value proposition, estimated savings, and benefits is essential for positive loan performance.

Prepayment risk is also a consideration. According to [KBRA’s research](#) in March 2024 “rising mortgage rates and continued home price appreciation over the prior 24 months has led to a slowdown in housing turnover and refinancing activity, pushing mortgage prepayment speeds to historically low levels. Solar prepayment rates have fallen in tandem, as home sales and cash-out refis have historically been two of the main solar prepay drivers.”

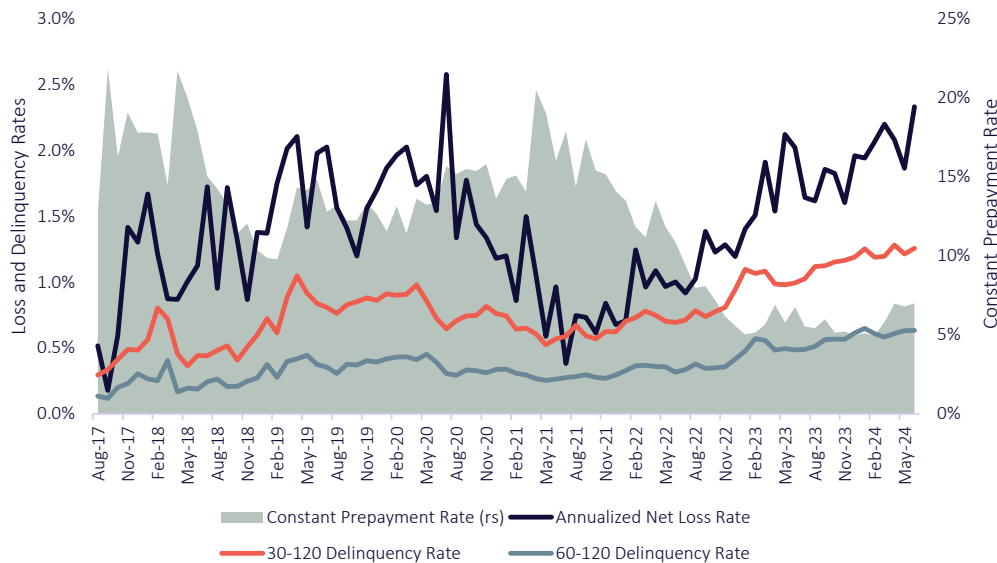
Key Collateral Characteristics of Recent Solar ABS

Sunrun 2024-2		Everbright 2024-A		EnFin 2024-1		Sunnova 2024-GRID1		Mosaic 2024-2	
Deal Size	\$886 mm	\$288 mm	\$253 mm	\$237 mm	\$340 mm				
# of Systems	48,628	6711	5480	5,071	9,706				
Financing Product	PPA and Leases								
Wtd Avg Term of Financing Product	299 months	297 months	302	297	295				
State with largest presence	CA: 39.7%	TX: 31.64%	TX: 21.72%	PR: 30.46%	CA: 19.06%				
PPA vs Lease	PPA: 65.8% Lease: 29%								
Avg FICO score of customer	741	746	756	716	755				
Parent Company	NextEra Energy	NextEra Energy	Hanwha Group	Sunnova Energy Corp	Solar Mosaic LLC				
Financing Product	Loans	Loans	Loans	Loans	Loans				

Source: Compiled from KBRA.com

Credit performance of solar ABS has reflected broader consumer trends of rising losses and delinquencies, as higher prices and elevated interest rates strain consumer wallets. This is reflected in [KBRA's U.S. Solar Loan ABS Index for June 2024](#), which tracks the monthly credit performance of \$12.4 billion publicly rated solar ABS pools issued primarily by GoodLeap, Mosaic and Sunnova. The index's annualized net loss rate is up 31 bp for the year, as the 30-59 day delinquency rate and the 60-120 day delinquency rate are up 12 bp and 15 bp, respectively. The recovery rate during this period has fallen by 251 bp. The constant prepayment rate stands at 6.99%, nearly a third of the five-year high of 20.50% reached in April 2021.

KBRA's U.S. Solar Loan ABS Index for June 2024



Source: KBRA

The residential solar ABS market has shown meaningful growth, driven by favorable tax incentives and rising demand for solar energy. With more than \$15 billion ABS outstanding across 15 unique shelves, securitization has increasingly become a crucial source of funds to support this growth.