Asset Management

SOLAR ABS: A GROWING SECTOR OFFERED SUNNYSIDE UP

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Growth in the renewable energy sector has given rise to a new form of securitized investment opportunity – solar asset-backed securities (ABS). This innovative investment packages consumer receivables originated by solar energy companies, and offers fixed income investors an opportunity to invest in the growing renewable energy movement. Demand for solar renewable energy financing has been fueled by an increasing use of solar power given decreasing installation costs. Furthermore, recent initiatives and regulations mandating the use of solar panels are expected to continue to boost the demand for solar power. With high levels of collateralization and credit enhancement, as well as relatively low default risk, solar ABS provides a potentially attractive opportunity to invest alongside long-term sustainability megatrends.

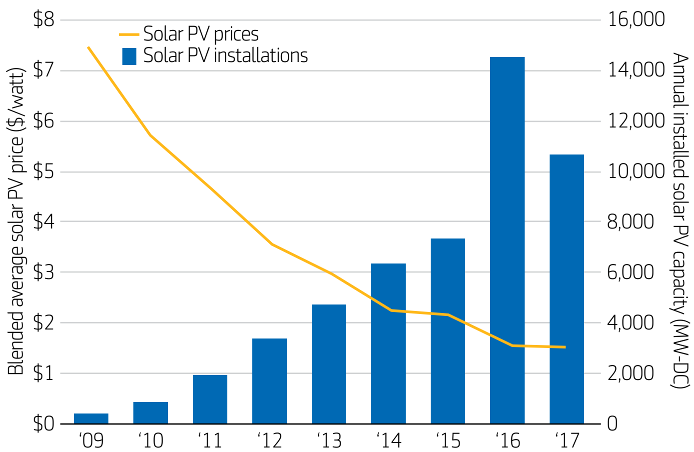
What is solar ABS?

Solar asset-backed securities (ABS) are securities collateralized, or backed, by consumer receivables originated by solar energy companies. Each solar securitization is comprised of loans, leases or power purchase agreements (PPAs) used to finance photovoltaic (PV) systems. Solar loans allow consumers to finance the purchase of a PV system from a solar installer, while solar leases and PPAs both involve renting the equipment from a solar company. Under a PPA, the consumer purchases system-generated electricity at an agreed-upon rate subject to annual increases, versus a solar lease, where payments are typically fixed. The periodic payments from these consumers for their PV systems are the cash flows used to repay solar ABS. While still an emerging sector, solar ABS issuance grew to over $2 billion in 2018 with seven active issuers.

Costs of solar power decline as industry grows

The cost to install solar power has dropped by more than 70% over the last decade[1]. This has enabled the industry to expand into new markets and deploy thousands of solar systems nationwide. As shown in Exhibit 1, solar installation prices are at all-time lows. Today the average-sized residential system costs $18,000, down from $40,000 in 2010[1].

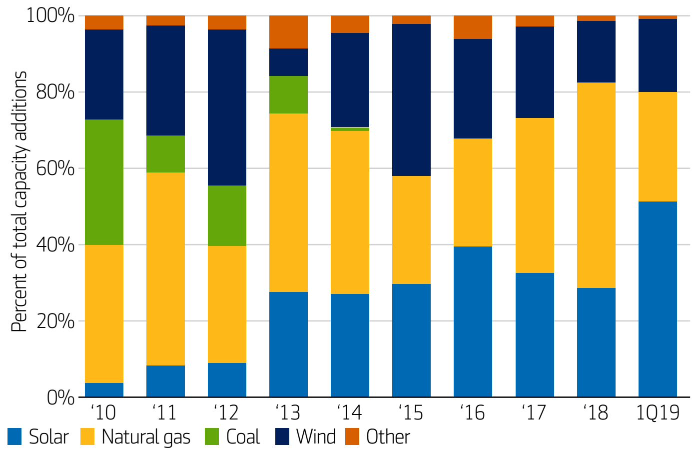
Exhibit 1: More affordable solar prices lead to higher demand



Source: SEIA/GTM Research U.S. Solar Market Insight Lawrence Berkeley National Laboratory, Tracking the Sun
[1]SEIA Solar Industry Research Data

Additionally, as the cost of harnessing solar power has declined and become more competitive with other forms of electricity, its share of new electricity capacity has increased (Exhibit 2).

Exhibit 2: Annual additions of new electric capacity



Source: SEIA/Wood Mackenzie Power & Renewables, U.S. Solar Market Insight, FERC

Solar ABS: Potential benefits for consumers, investors and the environment

Affordable energy alternative

The pursuit of energy efficiency has led homeowners to upgrade appliances, replace doors and windows, and change out light bulbs for their more energy-efficient counterpart. Similarly, solar PV systems can offer consumers an energy-efficient alternative to traditional electricity. Initial implementation and affordability have become less of a barrier with tax incentive programs encouraging consumers to make the switch. Additionally, the growing awareness and affordability of solar power has allowed solar ABS issuers to reassign solar contracts upon a house sale to the new owners with little to no loss of expected cash flow.

Potentially attractive investment opportunities

Solar ABS can offer an attractive risk/reward profile for fixed income investors. The securities are typically well structured with high levels of collateralization and credit enhancement, relatively low risk of default, and an attractive spread. Solar ABS are collateralized by the underlying PV systems, with credit enhancement consisting of (i) overcollateralization, (ii) subordinate bonds, (iii) general reserve account, (iv) inverter replacement reserve account, and (v) excess spread. Additionally, to date, all solar ABS transactions have been comprised of pools of consumers with weighted-average FICO scores above 700. Moreover, because solar lease or loan payments often displace a consumer's former energy payment, we believe losses in this sector will remain low. Defaulting on a solar loan is unlikely to reduce a consumer's overall payment obligation as they need to purchase electricity in some form but rather, it could revert them to paying higher monthly energy expenses. While this asset class has not been through a credit cycle given the first solar ABS was issued in 2013, we believe a combination of the higher credit quality consumer and the desire for a budget-saving power source may reduce the risk of default/loss on the underlying loan/lease payment streams.

A sustainable ecological solution

With a focus on combatting climate change, consumers and utilities are continuing to shift away from traditional fossil fuels and pivot toward renewable energy sources such as solar, wind and geothermal. Unlike coal, petroleum, and other fossil fuels, solar power contributes to a more sustainable environment as a clean, carbon-free form of green energy. Solar ABS directly supports a sustainable future by offering solar energy providers a term funding source. Solar loan/lease payments primarily displace the homeowner's former energy bill, with the average system generally sized to provide over 90% of the home's current usage.

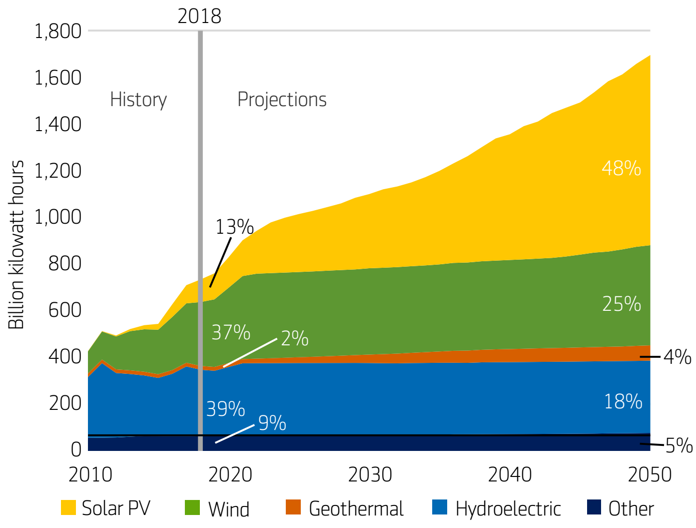
Looking forward as a growing sector evolves

As an emerging industry, the legislative landscape surrounding the solar industry is constantly changing. For instance, laws affecting net metering—the method of measuring the amount of energy generated by consumer solar energy systems that is added back to the grid—and the price at which this solar energy is sold back has varied; tax credit legislation, including tax credits given for the purchase of residential PV systems start declining in 2020 and end after 2021; as well as solar import tariffs enacted by President Trump in 2018 have all affected the solar industry.

Although the opportunities related to solar are bright, there are potential risks[2] that should be considered. While solar technology is not new, there is risk that over time the customer will no longer achieve the expected economic savings if local energy rates were to transition to a discount versus the cost of the solar loan/lease. Similarly, supply could be at risk if solar power generation is lower than expected due to degradation of PV system performance or lack of equipment maintenance.

Looking ahead, recent initiatives and regulations mandating the use of solar panels are expected to continue to boost the demand for solar power. For example, California legislation mandating all new homes be built with solar panels will contribute to the surge in solar adoption. More broadly, the [secular sustainability shift] supports the case for solar. Although some may debate the cause of global warming, the increasing focus on combating climate change globally is clear. Utilities are investing in wind and solar power, and deemphasizing use of fossil fuels. As outlined in the US Energy Information Administration's annual report for 2019, electricity generation from renewables, particular solar energy, is expected to continue to increase (Exhibit 3).

Exhibit 3: Renewable electricity generation



Source: US Energy Information Administration (EIA) – Annual Energy Outlook 2019.

Conclusion

As legislation, technology and equipment within this sector continue to develop, we believe the potential challenges must be monitored closely to evaluate the impact on investment opportunities. However, as with any new asset class, the evolution of the origination process, the bond structure and the adaptation of technology are likely to make solar ABS an interesting sector for growth and sustainable investment opportunities.

[2]Please see disclosures for additional information on general risks associated with asset-backed securities.

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