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Going Green: Evolution of Renewables ABS Discussed.

Representatives from Renovate America, Kramer Levin and T-Rex recently discussed the development of the renewables ABS market during a live webinar hosted by SCI ([view the webinar here](#)). Focusing on the PACE and solar sectors, this Q&A article highlights the main talking points from the session, including structuring and performance considerations. For a broader and more in-depth exploration of these themes, download a special SCI/Renovate America research report on green securitisation.

Q: How has the renewables ABS sector evolved?

Craig Braun, md, capital markets at Renovate America: Beginning with the PACE sector, Renovate America was able to complete the first securitisation in the space in 2014 in a transaction of just over US\$100m. We followed this issuance up with six further deals since then and plan to be an active issuer in the ABS space for years to come. In total, we've completed over US\$1bn of green bonds that meet the Green Bond Principles of 2015.

PACE is a common form of financing that can be paid back via a voluntary assessment on an annual property tax bill. It has a lien priority that is equal to all other taxes and assessments, which makes it a low-risk asset class from an investor and rating agency perspective.

PACE is a public-private partnership, whereby a PACE provider teams up with a municipal issuer, such as the County of Los Angeles. The municipality uses its bonding ability to issue limited obligation improvement bonds that are backed by the various assessments put in place by PACE providers.

Homeowners can apply for PACE financing to upgrade their HVAC systems, or install solar panels or water conserving measures. There are 55 different product categories that qualify for PACE financing and over a million products within those categories, but the improvements must be energy-efficient, renewable energy-generating or water conserving. For instance, the Californian regime heavily promotes water conservation and even includes seismic protection, while Florida provides for wind protection.

PACE empowers homeowners to make the right choice and the smart choice by providing them with a tool to pursue these improvements with no money out of pocket.

California is by far the most active state out of the 32 states plus Washington, DC that have implemented PACE legislation. In terms of total PACE volume, around US\$1.5bn has been originated so far. HERO, our platform, is available throughout California and will soon be available in Missouri and Florida.

Benjamin Cohen, ceo of T-Rex: The other main renewables ABS asset is solar, which can be purchased via PACE, as well as through power purchase agreements, loans and leases. There has been a 65% compound growth rate in residential and commercial solar panel installments in the US over the last decade, facilitated by improved technology. Technology has enabled the cost of solar power to drop from US\$40 per watt four years ago to 60 cents per watt today.

SolarCity and Sunrun have been at the forefront of the development of solar ABS. We have seen seven solar ABS issued to date – six by SolarCity and one by Sunrun. The majority of these deals securitise power purchase agreements and over time the deals have increased in size and in yield as investors become more comfortable with the asset class.

One issue you find with solar and not with PACE is tax equity. Tax equity is derived from the investment tax credit, which typically provides 30% of the capital stack and is incredibly complex – but not impossible – to structure around in a securitisation.

Q: In terms of structuring, what are the differences between PACE bonds and regular ABS?

CB: The main difference is that the underlying asset is a tax lien and those are bundled up into limited obligation improvement bonds, which serve as the collateral for the securitisation. The interesting aspect of the PACE assessment is that, like most taxes, the only money that's due is the annual or semi-annual tax payment.

If there is a default or a foreclosure, the principal balance does not accelerate. This is a unique feature of the asset class, which isn't widely appreciated. The only thing that is at-risk during a foreclosure is the tax payment due during that period.

If a homeowner doesn't pay their taxes, they're subject to a penalty – which in California is 10% of the tax due – and after a certain number of months interest begins accruing at 1.5% a month. In the event of delinquencies, there's actually more cashflow available to a PACE deal than if the property owners default on their mortgage payment.

That being said, PACE delinquencies are very low – people tend to pay their taxes, and people with PACE assessments tend to perform better than the average tax payer because they're somewhat of a self-selecting pool. These are people that are investing in their homes and seeking to reduce the cost of ownership.

Finally, the servicer on PACE deals – certainly in the case of the Californian regime – is the county in which the assessment is being levied. Typically in securitisations, the servicer is an affiliate of the originator or the B-piece buyer. So, in the case of the HERO platform, 28 different servicers are billing and collecting the taxes.

Laurence Pettit, partner at Kramer Levin: Both the solar and PACE asset classes have initially struggled with educating investors as to how servicing works. In the ABS world, we're used to the servicing process being done in a certain way, but in both solar and PACE there are unique aspects to servicing.

In solar, as there is some ongoing maintenance involved on the solar installations and because historically there weren't many companies involved in the sector, the idea of there being a back-up servicer was challenging. In PACE, the challenge is parsing out the different servicing roles: as well as the counties which handle billing and collecting, other servicing duties are performed by the trustee, while the municipality is responsible for foreclosures.

Other than that, the structuring differences are fundamental because PACE is a tax and thus has a benefit from the lien perspective and is secured by the entire property, which is not the case with rooftop solar ABS. In terms of cashflows, you can look to tax lien ABS for comparable payment history and you can access data from counties on how often people are delinquent on their real estate taxes. In the case of California, where limited obligation improvement bonds have been popular for years for other purposes, there is also an indicative history of how those bonds have performed.

Rooftop solar is novel in many respects. We know how diligently people pay utility bills, but the extent to which you can apply that payment history to rooftop solar was open to question from rating agencies and investors. But over time a consensus has formed on how that should be analysed and, as more deals are done, we're starting to develop our own payment history for the bonds - which will provide a significant benefit as the years go by.

Q: California accounts for the majority of PACE assessments currently in place. What are the challenges of expanding the PACE programme into other states?

LP: The initial challenge is something that none of us in the ABS world are very familiar with and it involves state-level politics: each state has its own priorities and legislative issues to deal with. That being said, there is a huge take-up nationwide of PACE legislation - so, despite having to navigate each statehouse separately, PACE is gaining traction because it is popular with both elected officials and consumers.

It resonates with elected officials because the Californian experience has shown PACE to have a tremendous economic stimulus, and it's popular with consumers who embrace new ways to finance home improvements. Seeing as consumers vote for elected officials, PACE creates a virtuous circle.

The most significant attraction is that PACE has a measurable impact on the use of renewable energy and on energy savings. In addition, although it provides a public benefit, it doesn't cost the public sector any money because whoever is hired as the programme administrator (such as Renovate America) will be responsible for ensuring that funding is in place for the improvements installed using PACE.

The programme administrator also has to find an investor to buy the individual assessments or the improvement bonds that are backed by the assessments. There is no period of time during the origination process where the sponsoring municipality has to use its own funds to pay for any of the programme costs.

Renovate America and others have proven that PACE assessments are an interesting asset for ABS investors, but they derive from municipal finance and marrying some legal and contractual concepts from muni finance with the expectations of ABS investors can be a challenge. Therefore it is important to be involved early and scrutinise the contracts and agreements, and the underlying muni bond indentures to ensure they comply with the expectations of an ABS investor and that they provide for contracted cashflows to be paid from the consumer all the way to the ABS investor.

There are always wrinkles in each state that need to be addressed or at least understood before a programme is launched to ensure there's an efficient means for collecting the tax. Clearly California is a good example.

There also needs to be a clear legal framework that tells you as an ABS investor at what point someone has the right to enforce on a delinquent property owner and that there is someone monitoring the process, who will enforce the remedies where necessary.

Q: Why is the scalability of PACE platforms an advantage?

CB: Once you get beyond the political and legislative challenges, with a tech-enabled platform, the PACE business is highly scalable. We estimate that the opportunity for PACE in the US is an annual market of US\$159bn in home improvements, which either reduce energy or water consumption, or generate renewable energy.

California represents about US\$22bn of this opportunity and so far we've just scratched the surface in the state. If you translate this across other states, there is a huge opportunity - especially

considering residential properties account for 20% of US energy consumption and, of that, HVAC systems represent 40%.

However, there are a number of barriers to entry. Each programme administrator has to work in each state and get the issuers lined up and then get each community to the stage where consumers can opt into a PACE programme. It's a lot of hammer-and-chisel work upfront, but once the infrastructure and the contractor (point of sale) network is in place, the platform can easily be scaled up.

Q: How do commercial PACE financings differ from residential PACE financings? Can we expect any term securitisations in the commercial space?

LP: Residential and commercial programmes are almost exactly the same, except that the improvements/projects are larger in the commercial sector and can be more complicated. They tend to require accommodation or negotiation with the property owner/commercial mortgagee and that makes the origination process more time-consuming.

It is just a question of time before commercial PACE programme administrators can put together portfolios that are suitable for securitisation. It is taking time for commercial property owners to realise the benefits of participating in commercial PACE programmes.

Unlike residential consumers, commercial property owners have multiple options available to them and are more cautious on adopting PACE. But the popularity of commercial PACE is growing and there are no structural or legal reasons why there can't be term securitisations of commercial PACE – it's more about accumulating an appropriate pool.

Q: In terms of refinancings, do lenders typically require PACE obligations to be repaid prior to the new funding?

CB: Yes they do. The options for a homeowner are either to pay their PACE obligation off, have it transferred to the new property or apply for a limited subordinate PACE product, which we call PACE 2.0. Any time there is a problem with a homeowner in terms of a refi, we have a dedicated group of property advisors that work with realtors and mortgage brokers to facilitate the sale or transfer.

Q: How should investors evaluate risks in solar and PACE securitisations?

BC: There are a handful of risks to be aware of: the typical prepayment and refinancing risk; if there is a default, what is the lag before payment; and what recoveries can be expected. A lesser risk is creditworthiness. Investors have to figure out the likelihood of these risks occurring across an entire portfolio under various scenarios.

The risks become more complex for solar ABS, but also more transparent. An additional risk for solar is how many hours of energy will be produced by the installation. It is necessary to evaluate the characteristics of the solar panel itself, as well as the purchase/lease/loan agreement.

It also important to look at forward power market conditions – especially when evaluating residual positions – because many contracts are for 20 years, yet the life of the panel will likely last for 40 years. Understanding these risks is critical for liquidity and access to capital.

Q: In general, how have PACE securitisations performed?

CB: Renovate America has only issued six deals and two of our competitors have done a deal each, but they were pure private placements and so there's limited information publicly available. With respect to our transactions, delinquencies tend to rise just after the tax payment is due – because sometimes people forget to pay or they have other issues – and then trend downwards.

For the HERO Funding Trust 2014-1 and 2014-2 deals, delinquencies for the 2014-2015 fiscal tax year are averaging just under 40bp. On the 2015-1 and 2015-2 deals, for the 2015-2016 fiscal tax year, delinquencies are a little over 2%. Overall Californian tax delinquencies are on average double that figure, so the transactions are showing very good performance.

Q: Have solar securitisations performed as well as expected?

BC: Solar securitisations have performed better than expected across a few different metrics, including the default rate applied by rating agencies. While more solar securitisations have been issued than PACE securitisations, the total volume of securitised solar assets is lower and so the sector also has limited data points.

Without adequate tools and confidence in the numbers, rating agencies have taken conservative assumptions towards solar. But all the data that has come in over the brief 2.5 years since the first deal in the space shows that default rates are incredibly low – a fraction of what the rating agencies expected them to be – and all the note ratings have been affirmed thus far.

Another good indication of the performance of solar ABS deals is how the securities trade in the secondary market. A great example is SolarCity's first securitisation: it was rated triple-B plus, with a seven-year WAL, and priced in November 2013 at a spread of swaps plus 265bp. Eight months later, its third deal priced at plus 180bp, with a higher advance rate but the same rating and WAL.

A secondary trade of the first deal was subsequently executed at similar levels. Such spread compression reflects the fact that investors are becoming more comfortable with the asset class and the collateral is becoming more seasoned.

Q: Looking ahead, how is the recent extension of the investment tax credit (ITC) likely to impact the solar sector?

LP: The ITC was extended in December 2015 as a 30% credit for residential and commercial solar projects until end-2019, after which the credit drops year by year. The decreases are to 26% in 2020, 22% in 2021 and then permanently to 10% for commercial solar and zero for residential solar. The Solar Energy Industries Association projects that the extension of the credit will result in 50%-55% additional installation capacity, compared to what would have been expected without the extension.

The association is projecting the installation of 98 gigawatts of solar power by end-2020, which is enough to power over 20 million homes. This is, of course, good news for the solar ABS market and indirectly for PACE providers as well.

Q: What are the prospects for tapping the European investor base?

CB: We view the prospects as bright: we're hoping to attract European investors to the US PACE ABS deals we're issuing. We're aiming to provide additional supply this year and recently had our first four HERO deals verified as being in alignment with the Green Bond Principles. This means that the HERO programme is the first ABS platform to issue solely green bonds and the first entirely green bond platform in the world.

PACE aligns nicely with green bond principles because the energy savings/impact is known upfront. We recognise that the European investor base has certain pockets of money that are dedicated to green investment. We plan to take the HERO programme on the road to Europe and meet with investors at the Global ABS conference in Barcelona.

We're unfamiliar with the legislative landscape in Europe, although PACE can work anywhere – it's a matter of having the enabling legislation in place.

Q: Will PACE cannibalise current renewable energy type-deals?

BC: It can and it has. Because PACE is such a straightforward structure and is very easy for investors to understand, you see Renovate America as a market leader originating tremendous volume in a short space of time. Other renewables finance companies have typically struggled to replicate the efficiencies of PACE and so there is significant opportunity to grow its market share, both in the US and – with appropriate legislation – beyond.

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