



Renewable Energy Seminar Recap

**An event from the KPMG Global
Energy Institute**





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Tax reform legislation — an overview	John Gimigliano
Impact of tax reform legislation, and solar tariffs, on the renewables energy industry	John Gimigliano
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Introduction >>>

"There's nothing worse than uncertainty for an investor," according to one of our guest panelists at the 2018 KPMG Renewable Energy Financing Seminar.

With the enactment of tax reform legislation in December, that cloud of uncertainty was starting to lift for the renewables industry, as more than 100 participants gathered for our 6th annual event in New York. While the industry still faces long-standing as well as emerging challenges, investors, developers and operators alike said the outlook for the industry was positive.

Certain aspects of tax reform had less of a negative impact on the industry than anticipated, including the welcome continuation of investment and production tax credits. Further, the market to date has been able to absorb newly imposed solar panel and steel tariffs, which, when imposed in the first half of 2018, were not as far-reaching as they could have been.

There was a concern that lower corporate income tax rates together with a new Base Erosion Anti-Abuse Tax might cause tax equity investors to leave the market. So far, the tax equity market appears to have weathered these changes and very few appear to be exiting the market.

Indeed, both the solar and wind markets look healthy for the next few years, according to our guests, with plenty of interest from a wide range of investors. Meanwhile, technology advancements such as grid modernization to accommodate distributed energy and improving battery storage capabilities are supporting that growth.

More and deeper insights from our esteemed panelists can be found on the following pages, which summarize the robust conversation of the day. And, as always, you can find energy industry thought leadership, videos, events and more at the [KPMG Global Energy Institute](#).

We look forward to speaking with you throughout the year, and revisiting the renewables industry's progress at our 2019 seminar.

Tax reform and the renewable energy industry

Moderator: **John Gimigliano**, principal-in-charge, Federal Tax Legislative and Regulatory Services, KPMG in the US

Panelists: **Julie Marion**, Partner, Latham & Watkins; **Rod Anderson**, Partner, Tax Industry Leader for the Power & Utility Industry, KPMG in the US; **Adam Dabrov**, Senior Manager, Trade & Customs Practice, KPMG in the US

The new tax law is neutral for renewables.

Over the years, the sector has been highly dependent upon the tax code more than other industries, Gimigliano said. Since the tax reform bill kept investment tax credit (ITC) and production tax credit (PTC) in place, Anderson said he takes a quasi-negative albeit somewhat "glass-half-full" view of the legislation. "We're lucky there."

Marion agreed, but said, "Maybe I'm a glass-half-empty kind of person. I don't think anybody thinks the bill is great, but I think a lot of people don't think it's as bad as it could have been based on earlier iterations."

However, there are several changes that do impact the energy industry.

Under new rules for Section 174 research and experimentation expenditures, the ability to write off engineering and other costs will become instead a 5-year amortization, or a deduction amortized over 60 months.

Meanwhile, the Section 199 tax deductions applied to the production of electricity has been eliminated, along with a number of other "superfluous" items to help make the numbers work, Gimigliano said.

Finally, beware of BEAT, a new minimum tax on cross-border transactions that can snag companies in the renewables sector, potentially affecting foreign tax equity investors in the US deals. "Tax cuts — great. But don't forget, US\$4 trillion in tax *increases*," Gimigliano said.

That combination of both cuts and increases really makes it a US\$10 trillion dollar bill, he added. "In terms of magnitude, this is easily the largest tax bill in history. For most of us in the room, it's probably the largest tax bill we will see in our careers."

While there are corrections and clarifications to come, the major components of tax reform are likely to stick for some time.

"There is no way you can write a US\$10 trillion dollar bill in 49 days and not have errors, gaps, and inconsistencies. It's kind of a mess."

Clarification will be forthcoming through the Blue Book, expected late summer or early fall, in addition to Treasury regulations (including those retroactive to enactment) and technical corrections.

Meanwhile, the 2018 House race is unusually competitive, with Democrats poised to potentially grab powerful committee chairmanships and try unwinding parts of the law. "Like it or not, the future of tax law is somewhat at risk from the politics of Washington," Gimigliano said.

But even if Democrats take the House, any significant adjustments to the tax bill would require the support of the Senate, which Democrats would have to "run the table" on in 12 states to turn over. The new 21 percent corporate tax rate, for example, will likely stay.

"As it stands today, I think it's more unlikely than not that Republicans hold on to the Senate, and we're not going to get major changes to the bill — at least not right away," Gimigliano said.

Tax reform alone will not prompt a rush of new renewables investors.

While a number of companies may soon be flush with repatriated cash, "I don't think there's going to be this entire new class of investors we didn't have before," Marion said.

Anderson said that he'd like to think there may be some who are looking at tax equity structures to offset increased obligations under the new bill, with relatively low risk. However, the complexity of tax equity structures, due diligence requirements and other issues will keep many away, and the primary tax equity participants from the past will remain most active.

"Hope springs eternal on the new entrants in the tax equity markets," Gimigliano said. "I think every year we say, 'this is the year.'"

The industry is still seeking guidance on the updated section 163(j) limits on deductibility of interest, which apply more widely than in the past.

The updated limits could have an impact on back-levered projects, especially in how the interest disallowance is going to tier up through the partnership, Anderson said, potentially having a dampening effect on some of the structures. The industry is trying to determine whether or not depreciation can be added back in the EBITDA part of the component of the [inaudible] if subject to 30 percent of adjustable taxable income. "That would be absolutely ugly, because all of a sudden, you don't have an add back," he said.

A structure with multiple partners and assets no longer has the ability to aggregate, Anderson continued. "You just get stuck down at that lowest-tier entity. You may have done a lot of taxable income offset from some other partnerships or other business, and you won't be able to access it."

Rate-regulated utilities could bring more renewables projects back on their books.

The rate-regulated side of the industry was successful in lobbying for an exemption from the interest disallowance rules under the theory that any incremental tax obligation due to the elimination of interest deductibility was just going to be passed on to customers, Anderson said. As such, a number of utilities may be looking at coming out of their net operating loss (NOL) positions and becoming taxpayers.

"They would love to have renewable projects in their rate base so they can get return on their investment, as opposed to being the recipient of the power purchase agreement where they are just passing on the PPA cost," he said.

The Base Erosion and Anti-Abuse Tax (BEAT), designed to prevent foreign-headquartered companies from excessively stripping income from the US base, also impacts renewable energy finance.

Any large corporate taxpayer who engages in cross-border, intercompany transactions — and that includes the institutions who are the major tax equity players — has to worry about BEAT, Marion said, referring to BEAT as "an add-on minimum tax."

Anderson said that as a result of BEAT, he's seen some evidence that there's less interest in tax equity from foreign-based entities, primarily due to uncertainty around the impact.

Marion agreed. "Some of the changes in the tax bill are familiar in the sense that it looked like something we had before, or an extension of what we had. BEAT is entirely new as part of the international package, and I think people don't really have a handle on this yet."

The president is using his executive power to influence trade, including solar panel imports.

The US typically protects itself from predatory pricing, import surges and low-cost imports by implementing anti-dumping measures, Dabrov said. However, China has evaded a lot of those measures by moving production and by shipping goods through other countries.

President Trump, who campaigned on aggressively protecting US trade interests, didn't want to wait for legislative remedies and chose instead the tools available to him in the executive branch.

"He's done his homework, he's been well-advised," Dabrov said. The section 201 tariffs are designed to protect against increased imports, and 301 are protectionist measures against countries not abiding by their international trade obligations. "They've gone outside the box to find ways to promote their protectionist agenda."

Not only will the tariffs being imposed now likely stay in place for a couple of years, but commerce, international trade, and other government entities are being more aggressive than ever, Dabrov said. "There's no question that the protectionist agenda is here to stay as long as President Trump is in office."

Tax equity investors in renewables probably won't look to take advantage of full expensing under the new tax regime.

The new legislation allows firms to deduct the entire cost of their purchases in the first year, replacing bonus depreciation schedules.

Outside of the tax equity world, direct investors in projects who need not worry about capital account maintenance could be interested in 100 percent expensing, Anderson said. However, historically, tax equity transactions often elected out of taking bonus depreciation because of the pressure on capital accounts and the need to reallocate losses or credits to it, and that's likely to continue.

The legislation also for the first time qualifies used property under bonus depreciation rules. While this is significant in the traditional M&A space, it is less so in renewables. However, it will be interesting to see what happens with older projects that might be starting to flip out, whether it "opens up a new market for somebody to step in and assume those assets," Anderson said.

The new 20 percent deduction for pass-through income adds complexity, with unclear benefits for partnerships in renewables projects.

The deduction arose from Congress's efforts, influenced by lobbying, to pass legislation that was "legal entity neutral" once the corporate rate was lowered below the individual rate. The 20 percent deduction essentially brings the effective rate of income earned in a partnership down to between that 37 percent and 21 percent to try to maintain legal entity neutrality.

However, when it comes to partnerships in renewables financing, "I think a lot of us are scratching our heads about how the deduction applies," Marion said. "There are a lot of unanswered questions."

Anderson added that section 199 rules restrict developers' ability to take the deduction. Most of them include their service company in a separate part of their structure, so those wages aren't going up through the partnership. The deduction typically won't apply to tax equity structures, whose investors are often subject to the corporate rate.

Ultimately, the new regime is complex, and the deduction expires in 2025, "so we're all going to incur massive brain damage trying to figure out how it works — and then it goes away," Gimigliano said.

"That thing about simplicity in tax reform, that's only for individuals," Marion said. "The business side is anything but simple."

Key changes — business

- Corporate rate: 21 percent, effective for years beginning after 31 December 2017. Special rules for fiscal year filers.
- Cost recovery: 100 percent expensing for investments in depreciable property other than real property or certain utility property; applies to both new and used property, and to investments after 27 September 2017 and before 1 January 2023; phase-out 2023 – 2026.
- Interest expense: Disallow net business interest deductions in excess of 30 percent of "adjusted taxable income"; adjusted taxable income generally is EBITDA from 2018-2021 and EBIT thereafter; does not apply to interest expense allocable to a regulated utility business. Disallowed interest carried forward indefinitely.
- Net operating losses (NOLs): Limited to 80 percent of taxable income (for losses arising in tax years beginning after 2017); generally no carrybacks; indefinite carryforward.
- Corporate AMT: Repealed; credit carryforwards partially refundable in years 2019, 2020 and 2021; fully refundable by 2022; consider sequester on refunds.
- Research activities: No changes to research credit; Sec. 174 costs generally amortized over 60 months beginning in 2022.
- Selected revenue raisers/Other: Repeal Sec. 199; other deductions and preferences limited or eliminated.

Key proposals — international

- Participation exemption system: Create a 100 percent exemption for dividends received from 10 percent owned foreign corporations.
- Repatriation of existing earnings and profits (E&P): Foreign earnings accumulated under old system deemed repatriated; rate of 15.5 percent for cash/cash equivalents and 8 percent for illiquid assets; tax is payable over 8 years (backloaded).
- Current tax on certain foreign income (aka "mintax"): Create a current tax on global intangible low-taxed income (GILTI); taxed amount is generally CFC income in excess of a 10 percent return on basis in business property; partial FTC offset permitted (no carryforward).
- Domestic corporations are allowed 50 percent (37.5 percent after 31 December 2025) deduction for GILTI amount and a 37.5 percent (21.875 percent after 31 December 2025) deduction for income deemed derived from foreign intangibles (FDII).
- Related-party transaction base erosion measures: Create a Base Erosion Anti-Abuse Tax (BEAT) that functions as an alternative minimum tax by adding back related party deductions (not including COGS) and certain credits; applies to taxpayers with annual domestic gross receipts in excess of US\$500 million. Effective for tax years beginning after 31 December 2017.

Tax equity financing ➤

Moderator: **Katherine M. Breaks**, Tax Managing Director, Tax Credit and Energy Advisory Services, KPMG in the US

Panelists: **Santosh Raikar**, Managing Director, Renewable Energy Investments, State Street Bank; **Bob Schoenherr**, Vice President, D.E. Shaw & Co., LP; **Meghan Schultz**, Senior Vice President — Finance, Invenergy, LLC; **Lance Markowitz**, Managing Director & Group Head, Leasing and Merchant Banking at MUFG Americas

Tax reform will lead to less tax equity in the capital stack for renewables.

A lower corporate income tax rate isn't necessarily a good thing in the "topsy-turvy world of renewable energy financing," Breaks said as she launched the panel discussion on tax equity financing.

Tax deductions, which were once worth 35 cents on the dollar are now only worth 21 cents. The value of future tax losses generated by a renewables investment — part of what the tax equity investor is paying for — is worth less in the new world. The panelists agreed that the lower corporate tax has led to a reduction in the percentage of project financing provided by tax equity by approximately 5–10 percent.

Schultz added that another structural impact of tax reform is the ability to take 100 percent expensing. Some tax equity investors will likely allow projects to take advantage of it, others won't.

But while new projects may include less tax equity, projects with 2 or 3 years of operating history that are already using tax equity are probably more valuable today, by 5–10 percent due to the lower tax rate and therefore higher after-tax returns, Schoenherr said.

The tax equity market is stable.

Overall the renewables market is steady, Raikar said.

"I don't think the economics have changed dramatically underneath the pipeline that I'm seeing from the beginning of this year," he said. "Renewable tax equity and renewable energy as a whole hasn't been impacted to the detriment of the industry."

More efficient wind turbines means projects generate more production tax credits and tax credits are a larger percentage of the overall return.

There's been a steady decline in cash IRR in the wind space at the same time interest rates are going up, he said. As wind projects have become cheaper to build and more efficient while the production tax credit (PTC) has remained in place, developers are getting more tax credits per transaction. In turn, the benefit is going back to the offtaker and pricing is dropping to levels not beneficial to the industry for the long term, or to the developer.

"I don't think that projects should be built just because of tax benefits," Markowitz said. "I'm a really strong supporter of the tax credits, but what I see I don't think is healthy."

Indeed, prices would have been expected to go up after tax reform due to project economics and tariffs, Schultz said. But there has been very little impact.

Likewise, Schoenherr said he's seen the PTC financing wind repowerings, accounting for 80–90 percent of the project economics, and the projects aren't generating meaningful cash flow.

BEAT is not the problem the renewables industry feared it would be.

Despite concerns that the Base Erosion Anti-Abuse Tax (BEAT) provision would dampen tax equity investor interest in renewables, the panelists agreed that the market is stable.

"It seems that all the key players are still in the industry, and we may have a new entrant here or there," Schultz said. "A couple of people have maybe paused slightly to figure out what their tax plan is, but I don't think anyone's really moving away," Schoenherr added.

State Street is in its busiest year since Raikar joined, he said. The bank is seeing some secondary market transactions coming from organizations reevaluating their tax situation under the new regime.

"I'm hopeful that once we are through the shock there will be a lot more steady stream of people and perhaps more appetite for tax equity," he said.

Project-level debt remains rare.

The panelists also agreed that the new interest deductibility limitation is not softening the willingness to use project-level debt in new investments.

However, Schultz said she differentiates between wind and solar. For wind, project-level debt would be great, but unlikely. It's easier with the solar ITC to layer on debt.

Schoenherr agreed. "I think the inter-lender points are already basically resolved because back leverage has a lot of the rights that project-level debt would have, and the recapture issue has been addressed before."

Markowitz said his bank has done a number of transactions that placed debt inside the project. With a lease for example it is easier to put debt in the project than for a partnership flip because of capital account issues. "It becomes much more complicated, and the brain surgery required sometimes isn't worth the benefit."

Schoenherr's firm hasn't done any project-level debt solar projects under the new tax regime, he said. Tax equity has been historically opposed to it and he questioned whether the industry could be more creative about it.

Tax equity investing, and the market, look strong for the near term.

Raikar says that based on the pipeline he is seeing there will be a higher level of projects in the coming year. And all panelists expect both the solar and wind markets to expand.

The year-over-year growth reflects a rebound from the uncertainty that had weighed on the market prior to the enactment of tax reform and the imposition of tariffs, Schultz said.

"From a developer perspective you wanted to extend your COD date as long as you could until some of these things were addressed," she said.

Solar has relied heavily on utility scale PPAs, Schoenherr said, and he's seeing a lot of pickup in PPA RFPs with a healthy pipeline through 2021.

Batteries will play a role going forward, but the industry isn't there yet.

State Street is seeing some new projects that include storage and has some proposals outstanding, Raikar said.

Schultz said she also has seen a number of potential offtakers seeking proposals for solar plus storage, but how much is actually being contracted remains to be seen.

"It's clear that the market is exploring it ... and trying to understand how to price it compared just to a straight solar project," she said. "I think it's all coming but maybe at scale it will be a year or 2."

Markowitz agreed that he has not seen much activity involving batteries in projects but expects to in the future, and in particular would like to see wind plus storage. "Those are the kinds of developments that are really going to make this industry grow."



State policy update ➤➤➤

David Gahl, director of state affairs, northeast, Solar Energy Industry Association (SEIA)

Gahl provided an overview of the US solar market and state policies, as well as an update on industry developments, particularly in the northeast. His key points included the following:

The solar industry remains very strong.

SEIA's goal is for the United States to reach 100 gigawatts (GW) of solar capacity as early as 2020. As of 2017, the organization reports:

- 53.3 GW solar installed
- enough solar power for 10.1 million US homes
- 59 percent annual growth rate over 10 years
- 250,000 solar industry employees
- 1.6 million individual installations nationwide.

A year-over-year drop in solar installations in 2017 should be viewed within the context of a record-breaking 2016.

The 30 percent decline in solar megawatts (MW) installed last year can be explained by anticipation as to the impact of proposed solar and other import tariffs, as well as record breaking construction in 2016 in advance of an expected solar Investment Tax Credit (ITC) expiration.

"What we saw in 2017 is something of a reset back to a more normal level of installations," Gahl said. "You have to put that 30 percent drop into perspective."

In fact, 2017 installations were still more than 40 percent higher than in 2015. Last year, solar accounted for 30 percent of all new electric capacity installed and now generates nearly 2 percent of all electricity nationally.

Price declines slowed in 2017, but the industry still has room for cost reductions through greater efficiency.

Solar prices had dropped by more than 50 percent in just 5 years, helping boost installations, until tariff concerns decelerated that decline significantly in 2017. But recent system price increases, attributable to rising module costs related to the Section 201 safeguards case, could be offset in the future by decreases in soft costs. In the residential market, these costs account for 66 percent of the total installation cost.

"There are a variety of costs that can still be reduced, and that can make solar even more cost competitive going forward, especially on the residential side," Gahl said.

Solar continues to increase its share of capacity relative to other sources.

For the last 5 years, solar has accounted for more than 25 percent of the total capacity installed across technologies, including more than 43 percent in 2016. Just several years earlier, in 2010, solar represented only a 4 percent share.

"All these factors have come together to drive explosive growth in the solar market, and at this point, solar is comparable to the other technologies, especially gas and wind," Gahl said. "Going forward, we're going to see solar staying in the game in terms of new installed capacity."

Bright points exist in the solar industry's three primary market segments.

- Residential: While the overall growth curve has remained steady since 2010, annual installed capacity has diversified to include more states beyond the leader, California.
- Utility-Scale: The pipeline is strong with nearly 17,000 MW-DC contracted or under construction, and nearly 27,000 MW's announced.
- Non-residential: More states are beginning to authorize community solar projects, which is expected to make up a growing portion of the segment going forward. "These are taking off across the country," Gahl said.

Annual solar installations are forecast to continue their climb after a couple of flat years.

Import tariffs will clearly impact 2017 and 2018 growth, "but we're going to ride this out," Gahl said. "I think this is a temporary speed bump rather than a long-term problem."

By 2023, SEIA forecasts 15,000 GW of annual solar installations, back to 2016 levels, representing approximately US\$15 billion in investment.

The grid has proven it can accommodate renewables on a wider scale.

The usual criticism is that renewables, as intermittent sources of power, cause reliability problems, and so there's an upper limit on how much solar and wind the system can take.

However, 15 states already have renewables penetration at 10 percent or above, with no reductions in reliability and no issues.

"They've managed the grid effectively, and I think it's a lesson that with appropriate planning, grid operators should be able to handle those kinds of resources and that kind of penetration going forward," Gahl said. "I think a lot of these concerns are significantly overblown."

Several issues dominate debate at the state level.

- More aggressive state Renewable Portfolio Standard (RPS) policies requiring greater electricity from renewables by 2030.
- Successors to net energy metering policies, given the maturing market.
- Next-generation solar incentive programs.
- Community solar programs, providing greater accessibility to a more diverse customer base.
- Consumer protection efforts to educate customers and better define provider responsibilities.

Northeast states have made recent commitments to renewables.

- New York: The state committed to generating 50 percent of its electricity from renewable sources

by 2030, driven in part by a US\$1.4 billion investment in 26 large-scale projects, including 22 utility-scale solar installations. The state also established a successor to net metering for commercial and community solar and revised incentives. "Based on the forecast, the solar market will not need incentives to continue to grow in the state," Gahl said.

- New Jersey: After the seminar, the legislature passed bills to stabilize the solar renewable energy credit (SREC) market. They also authorized community solar and matched New York's goal of generating 50 percent of its electricity from renewable sources.
- Massachusetts: The state's new 1600 MW declining block incentive program, SMART, provides strong incentives for solar development. The program should be up and running by the mid-2018.

Renewables can play an even larger role in grid modernization efforts, particularly as storage improves.

Many new utility-scale solar projects are incorporating storage to better control when resources are deployed into the grid, particularly at peak demand. Storage is where solar was 5 or 6 years ago, but a number of state governments are spending time and attention on bringing costs down, and regulators are tackling how to include storage in ratemaking.

One of challenges of grid modernization is how distributed generation can plug into and solve constraint points along the grid. "There's value that can be obtained by the strategic deployment of solar resources in those locations," Gahl said.



Accounting topics >>>

Moderator: **Richard G. Blumenreich**, principal-in-charge, Tax Credit and Energy Advisory Services, KPMG in the US

Panelists: **Stuart Logan**, Audit Partner, Audit Quality Professional Practice, KPMG in the US; **Joseph Yusz**, Director, Accounting Advisory Services, KPMG in the US; **Milton Massery**, Director of Accounting, Cypress Creek Renewables

While Hypothetical Liquidation at Book Value (HLBV) is applied to flip partnership transactions, questions remain around the exact role HLBV plays and other effects on GAAP.

"We're looking at whether just applying HLBV technically as it's written is always the right result, or whether overlapping GAAP principles on top of that is more appropriate," Blumenreich said.

Renewables partnerships are complex, tax-motivated capital structures which complicates the accounting from both the developer's and the tax equity investor's point of view, Yusz explained. The investment is in the underlying interest, which can be treated as cost method of accounting or, more commonly among these types of investors, recorded as an equity benefit. HLBV is then commonly used for allocating income loss, and it attempts to measure how much better — or worse — an investor is from one point in time to the other, while incorporating different preferential rights, economic interests and priorities.

The concept of applying HLBV for the treatment of various types of allocations, preferential positions, basis differences, and allocations for these investments comes from a 2000 proposed Standard Operating Procedures (SOP). While the SOP provides background, it was never codified, therefore it's technically not GAAP and can't be accepted as the authority.

In a systematic and rational approach, investors need not follow everything "to the letter of the literature."

"If we're trying to apply HLBV in a liquidation scenario, does that mean you're totally beholden to the liquidation case clause in your contract? Maybe, but not necessarily so," Yusz said, referring to other aspects of GAAP that should be considered. "You really need to make sure you're applying substance over form in terms of evaluating the overall structure and intent of the deal."

He added that it's important to understand the intentions of the benefit stream and how it's supposed to be allocated to the different types of investors and over the life of the investment, "and not necessarily in terms of a moment in time, in isolation."

A typical HLBV waterfall structure adjusts for minimum gain chargeback (MGCB), the removal of capital account deficit, and liquidation provisions of the LLC agreement. But even after allocations are made and losses or gains are calculated for the year, more accounting judgments may still be necessary, Blumenreich said.

Consider taking a GAAP-centric vs. a tax-centric point of view.

Those with what Logan called a "tax mind" calculate the tax basis following the literal application of the LLC agreement. The result is a "very, very pedantic application, very detailed," adding that, "it just drives up costs, it drives up the level of precision that most investors don't really need and don't really want."

Meanwhile, the GAAP-centric view takes practical policy elections in the application of HLBV that represent the same principles but reduces the cost of compliance both near and long term.

"You definitely see those two views out there," Logan said. "But the question remains, how does [the tax-centric view] comply with the accounting standard that emphasizes substance over form? So you have this immediate conflict."

"At the end of the day, HLBV is going to be used for GAAP purposes," Massery said. "When you're modeling and allocating that out, keep in mind that accounting needs to own it and understand all the key decisions being made. Don't let tax drive the strictness in building out those models."

Logan agreed and suggested that organizations set their policy at the beginning and sticking to it. He also recommended working closely with the auditors, as their viewpoints differ from one firm to another.

A set policy helps the consistent application of the basis difference when evaluating tax equity structures.

"I always try to take a step back to understand what the basis difference is from, because it will likely drive the accounting," Logan said.

In one common type, a tax equity investor acquires an interest in a partnership at fair value, but due to the sponsor typically contributing assets on a carryover basis into the project, there's a disconnect between the investor's fair value interest and the underlying share of the net assets from the project entity's equity, Yusz said. When accounting for that basis difference, it's common to see it attributed to the underlying tangible assets and amortized over the life of the assets.

Another popular example includes a basis difference caused by the Investment Tax Credit (ITC) as soon as the switch is flipped on a solar facility, Logan said. It's typical to see an initial gain flushed through the income statement on day one, a very literal application of HLBV.

"Personally, I've always struggled with that, because since when does the issuance of equity result in a 30 percent gain?" he asked. "It doesn't seem that systematic or rationale or faithfully consistent with investment over the life. But, it's widely accepted."

An alternative is to freeze the difference and not recognize it on day one but rather over the life of the underlying assets, he continued. Others have debated that it should be spread over the recapture period, typically seen only in very unique structures.

"It comes down to policy," Logan reiterated. "What is the policy that you're going to elect, what is your view as to how you should be applying HLBV, and let's apply it consistently and document it."

Organizations are using different approaches to adjusting their HLBV models for the new, lower tax rate.

Following the passage of tax reform legislation, the debate was whether or not to change HLBV calculations as of 31 December 2017 to account for the new corporate tax rate coming into effect 1 January 2018, Logan said. In KPMG in the US's view, the answer may come back again to each company's established policy for the application of HLBV.

"Your value or investment has been impacted one way or another as a result of that rate change," he said. "It seemed reasonable that it should be factored into the calculation."

The other, literal view is that the tax rate is still 35 percent on 31 December and it stays in the HLBV calculation, which then pushes the impact into the subsequent period, Logan said. Companies that didn't make the change at year end are now looking at changes in the rates being put into the model.

Logan also encouraged companies to read their deal logs and review how internal rate of return (IRR) is calculated. Some stipulate the calculation is after tax, in which case, it's affected by rate change. Some logs go as far as providing a calculation based on a stated rate. "So in those models, where they've actually stipulated a rate, that's a legal document, and you probably shouldn't change that."

Yusz agreed. "Let's make sure whatever we do, we're going to apply it consistently across all of our types of investments. And let's make sure when we're doing this, we also articulate where in the model and in the accounting journal entries we are going to make sure it's appropriately addressed."

Over the last few years, the SEC has not issued many comment letters regarding HLBV and accounting for income and loss. However, there's a desire for more understanding around the methodologies and basis for allocation related to these complicated capital structures, Joseph Yusz said.

"When it comes down to it, the regulators are requesting more robust disclosure," he said. "In most cases, they are not challenging whether you can do that or not."



Hot topics in deal structuring >>>

Moderator: **Henry Berling**, Advisory Managing Director, KPMG in the US

Panelists: **William Gerald Demas**, Executive Director, Copenhagen Infrastructure Partners; **Mark Liffmann**, Chief Executive Officer, Omnidian; **Jeff Weiss**, Co-Chairman and Managing Director, Distributed Sun; **Scott Zajac**, Chief Executive Officer, Rockwood Asset Management

The renewables industry is coming off double-digit growth but facing several challenges, including the run-off of federal tax credits.

"The landscape is changing," Berling said as he set the stage for the discussion. "We've got the good and we've got some headwinds. But I think everybody is here because we believe the industry has an opportunity to fulfill the stated objectives of doubling again over the next 10-12 years."

"This generational opportunity that we're all working in the middle of is the electricity inversion. It's happening in the conversion of brown power to green power," Weiss said. He referenced the career advice given to Dustin Hoffman in the 1967 film, *The Graduate*: plastics. "If that movie was done today, the answer would be 'electricity.'"

Panel participants agreed that four elements are driving development, efficiency and innovation in renewables: technology, engineering, capital markets, and regulation.

The industry is dealing with the negative impact of tax reform on tax equity returns.

"The tax law is awful for our industry. Let's just call it what it is," Weiss said. Due to the new legislation, "tax equity is still wonderful, but it's 5 percent less wonderful."

To counter that, Weiss said developers are now in the position of trying to convince sponsor investors that lower taxes will help make up the difference.

Efficiencies can help offset that 5 percent, Zajac said. "I think we could really get back to almost neutral on a tax equity standpoint. It's not like people are billing for work they didn't do, but we just can't treat a subscription agreement on a community solar project with the same legal analysis that we just used on a complex PPA."

Demas said there's a positive side to the tax law change. "We have to beat up tax equity to get comfortable with different types of contracts, with some merchant risk. That's when innovation happens," he said. "Those who have the ability to be a little forward thinking and get ahead of the pack will really get some first-mover advantage."

The decline of the 20-year power purchase agreement is challenging the industry to lower risk and create innovative structures to appeal to the capital markets.

"PPAs are fantastic products for investors, however, it's just not realistic that the market will be dominated by PPAs in the near future," said Demas, whose infrastructure fund is almost exclusively focusing on hedged deals currently. At 12 or 14 cents, "you didn't have to think a lot about how to build a solar project at that price." The forced change "from the easy, subsidized PPA world" will help drive innovation.

Indeed, today's solar contracts are more complicated structures, Weiss said. "The challenge right now is to understand that and to put new capital markets architecture around it so it works. The industry is going to be bigger if we do."

Long-duration, low-risk capital is abundant, however, "we haven't really succeeded yet as an industry in lowering the risk associated with this investment to tap into that capital," Liffman said. "If we can, then we can tap into much larger sources of capital over time."

Recently imposed tariffs were misguided, but not insurmountable.

"When the tariffs were announced on the panels and subsequently steel, everyone thought the world was over," Demas said. "But guess what? Everybody's got a little more room than they tell you."

The industry's answer has been to "value engineer" around the tariff, Weiss said. In fact, panel prices had already been driven some 10 cents higher than the tariffs ultimately raised them by manufacturers exploiting monopoly profits, and prices hit their ceiling the day before the tariffs were announced. "Now all we're doing is trying to get rid of that extra 9 or 10 cents. It's a shame that we have to do it, but we're doing it."

"The tariffs were stupid, didn't create jobs, and if anything killed jobs in the United States," Liffman said. However, while tariffs had a big effect on utility scale, they have had relatively negligible effects in residential and commercial, especially as the sector improves efficiencies. "There are enormous soft costs, particularly in the residential space, that can be squeezed out and thwart the effects of the tariffs."

More project designs are factoring in storage, and costs continue to fall.

Storage went from a cool but expensive concept to being included in every paired storage case for every project Demas's firm looks at, he said.

"The grid is in chaos with all these renewables and intricate generation coming on. Batteries will have to play an essential part of the picture," he said. With costs coming down, "I think in 5 years, it will become commonplace to see storage on renewable energy assets."

Weiss called the recent 3.6 cent-per-kilowatt-hour bid in Colorado to Xcel Energy for combined solar and storage "miraculous." Storage used to cost US\$1,000 a watt 4 years ago, and it's now well under US\$200 and heading under US\$100. "At somewhere around US\$75 or US\$100 at deployed scale, it's totally game over and works in every business model."

For more on the topic, both Weiss and Zajac recommended Lazard's *Levelized Cost of Storage Analysis*.

Renewables need to meet the needs of the capital markets to tap assets.

Simplicity and predictability are critical for continuing to attract the capital markets to the industry, Weiss said. And you have to understand the players and meet them where they are. "We have to go and play in their sandbox, by their rules. And the more we figure out how we do that, the more lower-cost capital we'll get."

Liffman agreed. "So far we've been tapping into the intrepid explorers from the financial markets who are willing to take on some esoteric risk. But we need to significantly de-risk that investment and deliver what the capital markets want."

Investors need to meet the industry halfway, too, according to Demas. "Those of us who want to invest

in the sector have to not think of it as asset acquisition or asset investment, but asset *creation*," he said. "You don't get long-term predictable cash flows just by showing up. You have to put some work into it. I think capital has to be entrepreneurial and creative, versus just being a financial investment."

"The capital stack just needs to change. It's been a one trick pony — debt, senior debt, tax equity, and cash equity," Zajac said. "There's room for mezzanine in there, there's room for long duration, short duration components. But you have an underlying product that's probably the most financeable, safe and inflation/deflation resistant form of energy that you can find, and we have a long life ahead of us. These are great times."



How enhancements in technology affect renewable energy financing ➤

Moderator: **Jonathan White**, Advisory Managing Director, Corporate Strategy, KPMG in the US

Panelists: **Sam Stockdale**, Vice President, Global Real Estate, JPMorgan Chase & Co.; **Simar Grewal**, Director, ConEdison; **Tad Neeley**, Chief Executive Officer, Banyan Infrastructure; **Kristen Fornes**, Director of Business Development, Socore Energy

New technologies are encouraging growth and helping to attract capital to the renewables industry.

In the commercial and industrial (C&I) space, technology gives customers greater transparency into their power usage, including how they can use renewables to offset risk and guarantee lower energy prices, said Fornes, whose company develops commercial solar.

While big companies may not be focused on energy costs now while prices are low, electricity remains one of their largest, non-revenue generating expenses, she said. "When CFOs look at the bottom line, this is a big category."

The blockchain technology being introduced by Neeley's startup is designed to help smaller renewables projects attract capital by bringing the same kind of capital stack and risk assurances currently enjoyed by only the largest projects.

"By using distributed ledger and automated contracts, we can deal with a lot of complex structures that would be way too hard to deal with on a million-dollar project," he said. "So as you scale that up, an investor who can write only a US\$100 million check could have lots of these projects that are smaller but are operating at the same level of competency."

From the utility point of view, the key growth drivers still remain regulation and policy, including New York's aggressive renewables mandates, as well as the quest for greater resiliency and business continuity, according

to ConEdison's Grewal. But changing retail customer attitudes also are influencing the uptake of renewables.

"People want more control, they want to see their bill go down, they expect more convenience, and they expect more choice," he said. He added that for corporations, "I think we're at a point that environmental responsibility can be good for business in that it's economically beneficial and its stewardship. There's no downside to it."

The market still lacks a comprehensive technology platform for managing complex portfolios.

Unfortunately, energy management software technology has not standardized across renewable infrastructure, Stockdale said. For Stockdale, who leads operations sustainability for JPMorgan, there's no one solution that provides a view of the bank's portfolio of thousands of assets around the globe.

"I don't want my property managers and folks on the asset management side to have eight different platforms to log into, and that's a real issue, even at the state level — even at the utility level," he said. "Until there's really 'one truth' that can tie everything together, it's hard to have insight down to what you actually have in your backyard right now, and what you can do in the future."

"There are companies out there putting together digital platforms to try to manage this for customers," Fornes said. "It's just going to be a race to see who gets there first, what the products look like, and ultimately, how do they help customers make decisions."

Different regulations state to state continue to hamper renewables expansion, including the incorporation of storage assets.

Stockdale described the regulatory environment in some states as "unfriendly," adding that some are so far behind "they are a utility dictatorship," he said. "Until you have consistency in regulation that really enables me to understand what my risk is it's going to create a tangled web to try to decipher and address the long-term risk."

Neeley's first pilot customer is a 10 megawatt solar farm in New Jersey that receives 80 percent of its revenue from SREC. But the market has been volatile and there's been significant cost to guarantee the SREC price in order to attract commercial financing. He suggested that in the absence of a cross-state solution, the industry could look at incorporating storage as a hedge.

Fornes added that much more work needs to be done around standardizing the process of coupling storage on renewables projects. "There's really very little understanding from a permitting and a utility perspective on what that storage asset means, what are the risks associated, and what is the long-term play of having the asset at the site."

New Jersey is one state with a solid standard interconnection process outlined for storage for new C&I and utility scale projects, Fornes said. But overall, there's an opportunity for the industry to standardize the process and make it more efficient, removing a lot of the soft costs.

"We can spend 8 months just trying to get permits approved for a new storage asset in a state that's never seen storage, because there are just too many questions around what could happen," she said.

Technology can't do all the heavy lifting; policy and regulation continue to play a role in the industry's growth.

"Policy and regulatory, they go hand in hand, and they're key in encouraging investment and keeping it moving forward," Grewal said.

Some state renewable portfolio standards have been in place for a decade, and more progressive states are looking into offshore wind and hydropower to offset the gas infrastructure, he said. "In the absence of leadership at the federal level, some states have stepped up."

But there are three areas of friction the utilities business model needs to overcome, Grewal added: residential customer access to renewables impacted by economic status; the continued view that distributed energy resources (DER) are unreliable and therefore risky; and the cost of service.

There are signs of progress, such as through the Utility-Solar Partnership to lower costs, he said. Furthermore, utilities are starting to see the potential of using DER to help offset or defer traditional solutions, such as ConEd's deferred construction of a US\$1.2 billion Queens substation via a combination of demand management and customer-sited DER.

"That's a good outcome not just for us but for rate payers, the community as a whole, and other investors," Grewal said. "But we still need a comprehensive rate reform plan."

Customers faces challenges in certain markets, including how solar is assessed and taxed.

Existing tariff and tax structures are penalizing corporate customers for building projects, Stockdale said.

"Sophisticated companies know how to do it, especially if they're advised by a sophisticated partner," he said. "But some folks don't, they get slammed, and then the benefit of the project goes out the window."

For example, even in states like Ohio with tax exemption programs, covered parking structures doubling as solar carports are still heavily taxed, Stockdale said. "That kills my project. A state like Ohio does want the renewable capacity, but they have regulations that fight each other and make it hard to execute these types of large-scale projects."

C&I customers take chances proceeding with projects in states with no set policy, given that state or federal policy enacted at a later date can kill the returns, Fornes said. "It's difficult for C&I customers to take on that risk because it can eat all of the savings of their projects."

Under Florida's recently passed law, for example, it now costs more in property taxes on an annual basis to own a solar asset on a rooftop than it does to actually maintain that solar asset, she added.

Access to capital remains one of the greatest challenges to renewables growth; technology can help.

The industry needs to continue to make it easier for customers beyond the largest, most credit-worthy companies to attract the capital necessary to participate, Fornes said.

Solving the required duration for investors as well as the credit risk issue through technology also is important for expanding renewables to the largest growth markets of Southeast Asia and Africa, where 60 percent of the population does not have electricity, Neeley added.

Further, as the largest C&I customers generate their own and buy less energy, utilities could be driven to push more costs on to customers who can't afford to build their own systems or join a community solar system, Fornes said.

"Utilities are forced to basically uphold the line, somebody has to pay for this," she said. "But I think it's also an opportunity for the financiers and the developers to figure out the products and the ways we can service these customers."

Grewal pointed out that utilities can't turn service away, and so there's a significant opportunity to own solar in the low-income space. "We need to make sure that someone is paying for us, and the cost is not being shifted in the wrong direction." ConEd has one of the largest low-income programs in the nation, and at the same time, has to be the backbone for all DERs that come online.

As such, Stockdale added, "I think we've started to see a shift where utilities are becoming more technology companies than anything else."

Non-developer sources of financing >>>

Moderator: **Mike Hayes**, Global Leader of Renewables, KPMG in Ireland

Panelists: **Mark Friedland**, Chief Legal and Compliance Officer, Orion Energy Partners, L.P.; **Bernardo Goarmon**, Chief Financial Officer, EDP North America; **Ignacio Ruiz Hens**, Head of Investments & Strategy, Americas at Cubico Sustainable Investments

Non-developer financing sources are leveraging their varied strengths in a competitive environment.

Hens checked off a number of advantages for renewables investors like his firm, Cubico. Scale, as well as having capital lined up without the need to fundraise, are important for being competitive for an RFP. He added that his firm is not dependent on stock performance, which also helps in buying assets.

Hens also said that in this sophisticated and transparent market with many advisors, investors need to take a more aggressive approach.

"When the developer comes up with a new asset, they will end up talking to everybody," he said. "It's very easy to find the assets, but to get to the assets, you have a competitive edge."

Hayes added that he's seen equity investors trying to connect with developers at a much earlier stage, and even entering into arrangements to take on development risk.

Hens agreed. "Some investors are absolutely return-driven. So to keep certain numbers, you end up having to take a little risk."

Friedland said his private equity firm, Orion Energy Partners, stretches to advance as much as 95 percent of the capital for a project. With a staff experienced in operations, it also can act as a one-stop shop and move quickly if they believe they have something to offer. One deal came together in 4 weeks from first meeting to financing.

Orion Energy charges a higher rate for taking on some more risk but also acts as a non-controlling partner, which has appeal among many potential portfolio

companies, he added. However, it can be difficult to find well-structured deals. The firm has looked at more than 1,000 deals in 2 years, while its portfolio has just about nine commitments.

It took a while for the investor community to understand the merits of the renewables asset class, EDP's Goarmon said. However, "if you have the right product, money is really not a constraint. The constraint is the quality of the project."

As such, EDP is disciplined in its approach to delivering quality, so that for every 60–70 opportunities explored, the renewable energy company executes one, he said. In all of 2017, EDP executed two projects.

Because EDP does not have the lowest cost of capital, it focuses on execution. With a deep understanding of risk, the company is in a good position to price the pipeline and grasp the development requirements, Goarmon said. It also offers global scale, finding ways across the supply chain.

Some investors may not receive the performance they're looking for in return for risk taken.

Hayes asked if investors are starting to take unnecessary risk when pricing transactions. While the panelists didn't think so, they did provide some caution.

Hens said it was possible that returns could be driven down by liquidity, so that some investors may view that the payoff for the investment is not worth the risk. Meanwhile, Friedland has observed that some equity funds are experiencing low deployment rates after their investors had come in looking for returns above 20 percent, which is hard to hit.

Some institutions such as regional commercial banks that had withdrawn from the sector after the financial crisis and subsequent Dodd Frank rules “are slowly putting their toe back in the water, and maybe wondering if the regulatory landscape will lighten up for them,” Friedland said. However, he added that it’s typical for returns to get squashed after that capital comes in “if they can find a way to deploy capital in a repeatable format.”

The industry is working to understand and educate about risk in today's power purchase agreements (PPAs).

When it comes to PPAs, “one has to properly understand the risk so we can price them,” Goarmon said. He added that meeting customer demands is paramount. “I fully believe that the industry needs to migrate to more complex and sophisticated structures to address customer needs, and as a way to charge them a premium as well.”

Investors need to better understand risk, Hens said, including volumetric risk for which there are a number of interesting insurance products. There’s also a need to understand uncertainty at both the micro and macro level, from congestion issues — which are very local and specific — to the direction of gas prices and future of certain technologies.

“It’s an effort for us to come from the background of traditional PPAs — which is comfortable, there’s not basis risk, there’s no volumetric risk — and now we have to add a lot of risk everywhere, including the risk we have to deal with when we structure the financing,” Hens said. “So I think as sponsors our job is to help the financing community adapt with us, otherwise the deals wouldn’t happen.”

The number one rule for Orion Energy when it looks at financing is whether there is a “binary outcome risk,” such as in potential regulatory change, Friedland said. “If it’s either A or B, and if B happens all revenues are shut off, that doesn’t work.”

He added, “It’s really unfortunate when you see someone who thought they were doing the right thing, put in their own money and went out for a 20-year PPA that got whittled down to 10. I bet you there’s not enough economics to go around to pay everybody.”

Goarmon added that every 2 weeks or so “there’s something we need to socialize with some of the lenders to make sure we are properly understanding, because I always tell the teams internally, first it has to work for us as the shareholder; financing is the second derivative of it.”

Corporate demand for renewables is growing and corporate PPAs continue to play a role.

There’s increasing appetite for corporate renewable gas, particularly among the tech giants of the world, Friedland said. They typically go to large broker desks contracted with some of the smaller RNG facilities.

But while they don’t necessarily need more financing, some of the smarter developers will reach out to get ahead.

“The ones who are forward thinking will come to us with elements of the project in place and say, ‘we know we’re not ready for you yet, but this is what we’ve got, would you be interested, and what would the financing terms look like at a high level?’” he said. Several such projects started that way a year and a half ago and will be financed by Orion Energy this year.

The market for renewable energy in the United States is huge, Hens added, and current PPAs are “accessible” and driving growth. “I think it’s better to deliver physically right there,” he said. “There are things too difficult to explain to your grandmother, right? You have to understand everything.”

Deals are happening, but Hens said that while he believes it’s important for developers to line up PPAs that are going to be bankable, he also sees the market is “pushing the financing community to take risks that they probably wouldn’t want to take years ago.”

He added, “there aren’t so many no-brainer type of approaches, every project has some complexity somewhere, maybe it’s the financing. But we have to get used to being creative at some point.”

The US is slowly considering offshore wind.

It’s still too early to say if the US will host a healthy offshore wind market, Goarmon said. EDP, which has several interesting wind projects in Europe and the UK, is taking an initial step in the US.

“We are not first movers by any means, but I was 3 or 4 years in denial, that no way offshore will play a role in this country,” said. “And you know what? It is happening.”

However, the offshore wind market in the US is likely to remain challenged, Goarmon continued.

“We don’t see the US having the ability to have the scale like we see in Europe. You have a market but you have to build supply chain... but, with the scale of the projects, it is hard to justify the supply chain,” he said, adding, “it’s going to take a while to get paid.”

The benefit of tax reform: certainty.

Friedland said that from the debt side, tax reform has been a wash overall. The deductibility of interest is an issue as companies borrow. On the other hand, the accelerated depreciation typically will create NOLs going forward, and tax distributions will qualify for pass-through treatment.

“Put all that together, that doesn’t really change the analysis that much from a debt perspective,” Friedman said.

Reform introduced certainty that the market needed, particularly for the origination phase, Hens said.

“What have now may not be perfect and there may be amendments, but at least we know what we have.”

“The most important thing is to have certainty,” Goarmon said. “There’s nothing worse than uncertainty for an investor.”

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