

# Life after the ITC

**Policy** | On 1 January this year, the solar investment tax credit, responsible for fuelling the rapid growth of the US market, began its decline. Cecilia Keating assesses what impact it will have



Credit: Wikimedia Commons

Federal tax provisions set out by members of Congress one week before Christmas did not bring good tidings to the US solar industry.

While the wind industry wrangled an extra year of federal incentives in the tax package, the US\$1.37 trillion budget omitted the extension of the solar investment tax credit (ITC) industry groups had lobbied for throughout the year.

The only federal incentive for solar installations, the solar ITC (which extends to storage, when co-located and co-developed) started its decline on 1 January.

The incentive, signed into law by President George W Bush in 2005 and renewed three times since, allowed solar system owners to recoup 30% of a project's total cost from their taxes. The subsidy dropped to 26% on 1 January of this year and will depreciate further next year to 22% before leveling at 10% for utility and commercial solar projects and expiring entirely for the residential market in 2022.

The Solar Energy Industries Association (SEIA), which has fronted the lobby to get the credit extended, has said that a 10-year extension of the full credit until 2030 would spur more than US\$87 billion in investment and generate 81.8GW

of deployment above the baseline.

Developers and analysts approached by *PV Tech Power* agreed that while an extension would turbocharge growth and level a federal tax code many believe to be biased towards fossil fuels, the utility-scale segment of the industry will weather any subsequent dip in growth. This is largely due to ever-declining materials costs, improving technology efficiencies and the maturity of financing models. The depreciation of the credit may have a bigger impact in the smaller-scale solar segments, where system costs are higher, and in the storage industry, where the technology is greener and the economic case for a subsidy is stronger.

Annual capacity is set to steadily increase in the US between 2020 and 2022 in the utility-scale, residential and commercial segments, BloombergNEF figures show. The firm estimates that new solar additions will leap from 11.1GW<sub>DC</sub> at the end of 2019 to 14.9GW<sub>DC</sub> in 2020, 16.1GW<sub>DC</sub> in 2021 and nearly 18GW<sub>DC</sub> in 2022.

## The rush to safe harbour

In 2020, the capacity of new installations is set to eclipse the 12-month record set in 2016 when 14.1GW<sub>DC</sub> was installed, or double the 7.3GW<sub>DC</sub> the year prior.

## A hoped-for extension to the US solar ITC has been rejected by Congress

The boom was due to the scheduled step-down of the solar ITC from 30% to 10% (a plan that was ultimately nixed) in 2016.

A similar phenomenon is at work once again, with a rush of project developments announced at the tail end of 2019 as developers met the conditions needed to qualify them for the full 30% credit before it started depreciating. In December 2019, analyst Wood Mackenzie noted that 21.3GW of new utility PV projects were announced from Q1 to the end of Q3 of 2019, bringing the contracted utility PV pipeline to a record high of 45.5GW<sub>DC</sub>.

The US Internal Revenue Service deems a project's construction to have officially "begun" when either "physical work of a significant nature" has started, or 5% of a project's total cost has been spent. Purchasing – or safe harbouring – inverters and panels is one of the simplest ways developers can meet that benchmark and qualify their project for the existing ITC rate.

In December, residential and commercial developer Sunnova secured US\$150 million of financing to purchase safe-harbour equipment, following in the footsteps of SunPower who purchased 200MW of safe-harbour panels, or enough to satisfy its residential lease customers and commercial PPAs through to 2022. Texas utility-scale developer 7X Energy revealed that it had purchased 2GWAC-worth of inverters.

"It's a call to action from a selling perspective," says Daniel Marino, chief commercial officer at BayWa r.e. Solar Systems LLC, the firm's distribution, residential and commercial and industrial business. The step-down "is helping solar companies sell more solar in the short-term because of the threat of an impending charge".

## Icing on the cake

Benoit Allehaut, managing director of Capital Dynamics' Clean Infrastructure Fund, says that he is "not convinced that, over the very long term, the industry needs the 30% ITC in perpetuity." "Solar is

priced extremely competitively," Allehaut says. "We're at a very different stage of the growth cycle of the industry, compared to where we were five or 10 years ago."

Capital Dynamics is the largest private owner of solar assets in the US and owns four of the 15 largest solar projects in the country. In 2019, the firm acquired 2,249MW of solar capacity. While it entered the commercial and industrial segment in 2019 with the acquisition of Sol Systems and through a partnership with Johnston Controls, its bread and butter has always been large, utility-scale projects – "plain vanilla" projects, according to Allehaut, with "good-quality, long-term cash flow, long-term PPAs" that appeal to institutional investors.

"We're not advocating for or against subsidies, we leave that to trade associations," he says. "But when you look at the levelised cost of energy of utility-scale solar, without the ITC or with an ITC at 10% only, it is still extremely good value for money for customers, which is really at the end of the day what matters," he says.

The step-down might "push some capacity out" in its core segment, he says, but utility-scale solar will largely weather the tax change.

Figures from the US Department of Energy's Lawrence Berkeley National Laboratory published in late December show that PPA prices for utility-scale PV have fallen by US\$10 per MWh annually in most years since 2013. Another metric of price decline – the median installed PV price – fell 70% since 2010 (see p.70).

"An extension of the solar investment tax credit at this point would have really been the icing on the cake. We still have a very good technology that can stand on its own without a tax incentive to bolster it,"

Colin Smith, senior solar analyst for Wood Mackenzie, says. Utility-scale developers, he adds, "tend to be more concerned by tariffs, simply because a 10c tariff has a bigger impact on the lower system costs in terms of raising the overall percentage and eating in to their margin".

President Trump's tariffs on imported solar cells and modules turned two years old on 22 January, and late 2019 saw an unpredictable back and forth between his administration and the courts on whether bifacial modules would be included in the suite of tariffs.

For Fred Robinson, executive vice-president of Baywa r.e. Solar Projects LLC, the firm's utility-scale business, it's a matter of making the federal tax code fairer and more environmentally friendly.

"From a utility-scale perspective, every power plant benefits from subsidy or tax relief of some form or another. We want to have a level playing field," he says. "That's our first objective. The second objective is that we want a price on carbon [...] I think the ITC does a decent job of at least getting close to valuing that component [carbon], and it's probably the most politically viable. We want to see the ITC get extended."

Smaller-scale developers will feel the tax rule change more acutely, according to WoodMackenzie's Smith, given that the dollar-per-watt figure is higher and the tax incentive goes "a lot further" to make solar attractive to consumers.

"With the ITC going away, it doesn't necessarily put the existing states where solar is now developing rather prolifically in jeopardy, but it certainly might make it harder for developers to find new clients and make an attractive, compelling offer for building solar on the homes," he adds.

At BloombergNEF, the in-house view is

that the step-down could bring down costs in the residential and commercial segment. The cost of a solar system in the US ranges "between US\$3 to US\$4 per watt" or about three times more than a customer would pay in Australia, and significantly more than in Europe, BloombergNEF solar analyst Tara Narayanan explains.

"We believe a large portion of the inflated costs are simply because of high customer acquisition costs, overheads and marketing," she says. "And to an extent that's supported because providers and distributors are able to tell customers they are going to get a rebate on the system. And so, once the tax credit rolls off, we think prices will actually come down, which will be a good thing."

Baywa r.e.'s Marino says his long-term view is "bullish" for the firm's commercial, residential and distributed business despite anticipating a "little dip in growth" when it steps down to 10% for commercial and industrial and expires for residential in 2022.

"I'm seeing trends of declining materials costs and rising utility rates offsetting, at least from a residential, commercial and industrial perspective, a lot of the negative of the ITC decline. Solar costs will keep going down," he says.

Marino predicts that over the longer term the industry will see "significant growth rates and lower customer acquisition costs, which is one of the main headaches in the residential segments", regardless of the step-down.

While there used to be a handful of states driving the market, there are now "more than 20" states driving growth, he says.

### Push from corporates and states

While the federal administration has made it clear that decarbonisation is not a priority, states and companies are picking up the slack.

California's solar homes mandate came into effect on 1 January and will turbocharge rooftop solar in the state. Twenty-nine states, Washington, D.C., and three territories now have renewable energy standards.

The US corporate PPA market is flourishing, too, triggered by falling technology costs and the security offered by fixed-price and long-term energy deals. BloombergNEF figures published in January note that the volumes of corporate PPAs hit 9.6GW in 2019, a sharp increase on the 5.4GW recorded in 2018.

### US solar advocates have vowed to continue the fight for continued federal support for the sector



"The states have done a tremendous job of pushing in light of the step-down to make sure the markets are strong, and corporates and cities are doing it as well," says Baywa r.e. Solar Projects' Robinson.

### A credit for storage

The shrinking of the solar ITC will be felt in the storage industry, where the tax credit has been key in driving the commercialisation of storage in both utility-scale and small-scale segments.

"It forced the solar industry to think about how to finance and assess the risk of storage," explains BloombergNEF's Narayanan. "It reflects the early days of solar, where everyone is asking the same questions: What is technology risk? How likely is the system to fail? Which hardware provider can I trust?"

"Solar has become a safe thing, fixed-income, long-term contracts and revenue streams. [The ITC encouraged industry] to try to see how it can make storage look like that and get projects off the ground," she says.

The Energy Storage Association says that more than 1GW of grid battery systems have been deployed so far, and that there are more than 7GW included in utility resource plans. The group is calling for a standalone storage ITC, in particular as an increasing number of utilities and residents turn to storage to circumvent the grid instability showcased after wildfires in California this year.

The group told *PV Tech Power's* sister website, *Energy Storage News* that lobbying for the credit was a "priority" in December and that the subsidy would "allow the US to maintain its lead in the advanced energy economy" and "offset some of the uncertainty with ongoing trade disputes and tariff threats."

Gregory Whetstone, president of the national American Council on Renewable Energy (ACORE) says that "storage is a real priority that really does not have a tax incentive in the code today, and should." "That's a real priority for us because we need more energy storage to accommodate higher levels of penetration and to make our grid more resilient," he says.

### Battle stations

The fight for better federal tax relief for the solar industry is far from over, according to trade groups.

"The decision not to extend the ITC last year was a missed opportunity to add jobs and economic growth this year, and reduce carbon emissions in a meaningful way," says Dan Whitten, vice-president of public affairs for the SEIA. "We'll continue advocating for policy at the state and federal level that supports solar and helps us meet our economic and climate goals, and we will be working with members of Congress on a legislative approach that addresses those important goals."

ACORE's Whetstone says that the group will be "picking up where it left off last year" in order to address an "uneven playing field in the tax code".

The presidential election in November, of course, could see the election of a decarbonisation-friendly administration keen to resuscitate the ITC. ("It certainly presents the opportunity to have a friendlier policy environment in which to address these issues," Whetstone notes.) Democratic candidate Elizabeth Warren was one of 20 Democratic senators to write a letter urging policymakers to extend the solar ITC extension in June 2019. Joe Biden, Bernie Sanders and Warren have pledged to implement carbon-neutral electricity or net-zero emissions targets if elected.

Wood Mackenzie's Smith muses that, after a tumultuous year marked by a trade war, solar tariffs and the uncertain future of the ITC, policy certainty is more important than all else.

"I think that most developers – whether they are in favour or against current administration – most agree that it has presented a lot of uncertainty, which inherently comes with risk," he says.

"As long as developers really understand what the landscape looks like, they are going to be relatively happy about it. It's really the certainty aspect they are looking for." ■

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