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## Fading into the Sunset: Solar and Wind Energy Get Give More Years of Tax Credits with a Phase-Down

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The court cited the right to life and the right to human dignity, “constitutional principles of democracy, equality, social, economic and political justice..., the international principles of sustainable development, precautionary principle, environmental impact assessment, inter and intra-generational equity, and public trust doctrine.” The court found that “the delay and lethargy of the State in implementing the Framework offend the fundamental rights of the citizens.”

The court then created a Climate Change Commission and appointed 21 members from key ministries, nongovernmental organizations, and universities to help ensure implementation of the climate laws.

### **Pending cases**

In addition to these two victories, several suits were recently brought or are in the works. Suits similar to *Urgenda* have been brought in Belgium and New Zealand. Both are in their early stages. A Peruvian farmer has sued RWE, a large German electric power company, in a trial court in Germany seeking money damages for RWE’s alleged share of the costs of adapting to glacial melt. Greenpeace has announced it will sue the government of Norway for allowing offshore oil drilling, arguing that such drilling is a violation of the Norwegian Constitution due to its climate impacts. Greenpeace has also petitioned the Philippines Human Rights Commission for a declaration that the world’s largest oil, gas, and coal companies have violated human rights by contributing to climate change.

Most nations recognize the right to a healthy environment in their constitutions or statutes, and more of these kinds of claims can be expected as climate change becomes more severe. Whether they might gain a footing in the United States is unclear.

## **Fading into the sunset: Solar and wind energy get five more years of tax credits with a phase-down**

### **Felix Mormann**

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In the closing weeks of 2015, the solar and wind energy industries scored a major policy victory as Congress voted to extend the tax credits that have been a key driver of recent renewable energy deployment in the United States. Legislators reached a rare bipartisan compromise when renewable energy advocates agreed to lift the 40-year old export embargo on U.S. oil in exchange for an extra five years of tax credit support for solar and wind energy. Renewable

energy practitioners can now help their clients take advantage of these incentives for several more years and would be wise to do so sooner rather than later because the [Consolidated Appropriations Act of 2016](#) does more than just extend the production tax credit (PTC) for wind and the investment tax credit (ITC) for solar; it modifies both tax credits in two critical ways. First, the act provides for a gradual phase-down of the values of both credits. Second, it extends the “begin construction” language that determines a wind project’s tax credit eligibility to commercial solar projects. While providing much needed policy certainty, Congress also plays favorites and misses an opportunity for reform to enhance the overall efficiency of tax credit support for solar and wind energy.

### **Between boom and bust—a brief history of tax credit support for solar and wind**

First established by the [Energy Policy Act of 1992](#) and codified under 26 U.S.C. § 45, the PTC offers eligible wind power generation facilities tax credits in proportion to their electricity output during the first 10 years of operation. Originally set at \$15 per megawatt-hour (MWh) of wind electricity, the inflation-indexed credit currently amounts to \$23 per MWh. Historically, federal tax credit support for wind has been anything but stable, with the PTC allowed to expire six times in the past 15 years, most recently at the end of 2014 before being retroactively extended last December. The resulting boom-and-bust cycles underscore the PTC’s vital importance for the wind industry with [capacity additions dropping precipitously](#) whenever the credit’s future is uncertain.

Building on the renewable energy ITCs first created by the [Energy Tax Act of 1978](#), the solar ITC, in its current form, was established by the [Energy Policy Act of 2005](#). Codified under 26 U.S.C. § 48 (investment credit for commercial properties), § 25D (personal credit for residential properties), the solar ITC currently awards tax credit equal to 30 percent of a project’s qualifying capital expenditures. While the credit is realized in full the same year that a project begins operation, the § 48 ITC vests over a period of five years. Any transfer of ownership before the end of this period leads to recapture of the unvested portion of the credit. Prior to the Consolidated Appropriations Act of 2016, the solar ITC was slated to drop down to 10 percent for § 48 commercial properties and sunset altogether for § 25D residential properties on January 1, 2017.

### **Fading into the sunset—five more years with a phase-down**

The Consolidated Appropriations Act of 2016 adds an extra five years to the solar ITC and wind PTC, coupled with a gradual phase-down for both. The act retroactively extends the wind PTC, previously expired at the end of 2014, through the end of 2019. Starting January 1, 2017, the PTC will ramp down in 20-percent increments annually before sunsetting altogether at the beginning of 2020. Nominal values remain subject to potential adjustments for inflation by the Internal Revenue Service (IRS). In lieu of the PTC, wind developers may opt to receive an ITC, initially worth 30 percent of qualifying capital expenditures and subject to the same gradual

phase-down as the PTC. Table 1 illustrates the phase-down timeline for both the PTC default and the ITC option for wind projects.

Table 1: Phase-Down Timeline for Wind Tax Credits

Date	through 2016	Jan. 1, 2017	Jan. 1, 2018	Jan. 1, 2019	Jan. 1, 2020
PTC Value*	\$23 / MWh	\$18.4 / MWh	\$13.8 / MWh	\$9.2 / MWh	n.a.
ITC Rate**	30%	24%	18%	12%	n.a.

\* Nominal value subject to potential inflation adjustments by IRS

\*\* Requires selection by wind developer in lieu of PTC

Adding to the solar ITCs' original runtime through 2016, eligible solar projects now have until the end of 2021 to lock in the ITC. Starting January 1, 2020, the solar ITC will ramp down in annual increments. On January 1, 2022, the \$ 48 ITC for commercial properties will drop down to 10 percent while the \$ 25D ITC for residential properties will sunset altogether. Table 2 illustrates the solar ITC's phase-down timeline.

Table 2: Phase-Down Timeline for Solar Tax Credits

Date	through 2019	Jan. 1, 2020	Jan. 1, 2021	Jan. 1, 2022
§ 48 ITC Rate*	30%	26%	22%	10%
§ 25D ITC Rate**	30%	26%	22%	n.a.

\* Investment tax credit for commercial properties

\*\* Homeowner's personal tax credit for residential properties

### How to lock in tax credit rates—begin of construction vs. placement in service

The scheduled phase-down and eventual sunset of all but the \$ 48 solar ITC make it more important than ever for solar and wind developers to lock in the tax credit eligibility of their projects as early as possible in order to secure the highest possible rate. Since the [American Taxpayer Relief Act of 2012](#), wind developers can lock in a project's PTC eligibility by beginning construction as opposed to the previous, more restrictive requirement that a project had to be placed in service to secure tax credit eligibility. The Consolidated Appropriations Act of 2016 extends the "begin construction" language to the § 48 solar ITC for commercial properties but leaves the § 25D solar ITC for residential properties subject to the original "place in service" requirement. With lead times of up to two years or more, especially for large-scale projects, the ability to lock in tax credit eligibility and rate at the start of construction, rather than the—often much later —placement in service represents a further, albeit less salient extension of the

§ 48 solar ITC. The placement in service remains a backstop requirement under § 48 insofar as a project that begins construction prior to January 1, 2022 but is not placed in service before January 1, 2024 will only qualify for ITC at the floor rate of 10 percent.

Following the American Taxpayer Relief Act of 2012, the IRS issued Notices [2013-29](#), [2013-60](#), [2014-46](#), and [2015-25](#) to provide guidance on how to meet the “begin construction” requirement for the § 45 wind PTC. A comprehensive analysis of the Notices is beyond the scope of this article. In a nutshell, practitioners can help their clients meet the requirement in one of two ways. First, they can satisfy the “physical work” test by starting, and continuing, physical work of a significant nature on the project, beginning with acts such as commencing the excavation for the foundation, setting anchor bolts into the ground, or pouring concrete pads for the foundation. Preliminary activities, such as those related to planning, design, financing, or permitting do not satisfy the physical work test. Second, taxpayers can satisfy the “safe harbor” test by paying or incurring 5 percent or more of the total cost of the facility provided they make continuous efforts to advance toward its completion thereafter. Importantly, the relocation of a facility or its transfer to another taxpayer after construction has begun under either test need not affect the lock-in of the PTC assuming continuous efforts. The IRS is expected to issue another Notice in the coming months to reflect the latest PTC extension as well as to provide guidance on how to meet the “begin construction” requirement for the § 48 solar ITC, likely to also rely on the physical work and safe harbor tests outlined above.

### **Playing favorites—residential solar and other redheaded stepchildren**

The Consolidated Appropriations Act of 2016 marks what is likely to be the final extension of federal tax credit support for solar and wind energy. Along the way, the act offers insights into the legislators’ valuation of different renewable energy technologies. Federal tax support for renewables in general has oft been criticized for Congress’ picking winners and playing favorites between fossil-fueled energy and renewable energy. With its latest, more selective tax credit extension, Congress picks winners and openly discriminates among renewables. A whole suite of renewable power generation technologies, including biomass, geothermal, hydroelectric, landfill gas, and municipal solid waste, among others, did not see their tax credits extended. Similarly, but more subtly, Congress treats residential solar as the redheaded stepchild compared to commercial solar and wind. To be sure, the § 25D solar ITC for residential properties did receive the same 5-year extension and phase-down as the § 48 solar ITC for commercial properties. But the residential credit phases out completely at the end of 2021 while the commercial credit continues indefinitely at 10 percent. Moreover, Congress extended the more lenient “begin construction” standard for locking in tax credit eligibility and rates from wind to commercial solar but continues to hold residential solar to the much more restrictive “placement in service” standard. To illustrate, let’s assume a solar project that began continuous construction on December 31, 2021 and was placed into service on December 31, 2023. On commercial property, the project would earn an ITC worth 22 percent of capital expenditures

while the same project, on residential property, would not qualify for any tax credit support at all.

### **Efficacy is not the same as efficiency—a missed opportunity for reform**

Notwithstanding the laudable policy certainty it creates, the recent extension of the solar ITC and wind PTC also represents a missed reform opportunity to enhance the overall efficiency of both tax credits. There can be little doubt as to the efficacy of federal tax credits for solar and wind. With uninterrupted tax credit support in place, solar and wind power have experienced annual growth rates of 53 percent and 31 percent, respectively. Efficacy, however, is not the same as efficiency and, as I've explained in greater detail [elsewhere](#), today's tax credit regime is woefully inefficient.

Renewable energy developers and their projects tend to lack the quintessential requirement to benefit from tax credits—a high enough tax bill to offset with these credits. Many renewable power projects take 10 or more years before they recover their high up-front costs and begin to generate taxable profits. Without tax liability from other sources, project developers could carry forward their tax credits but the lost time value would cost them up to two-thirds the tax credit value. The tax code's prohibition of trading in tax attributes, meanwhile, precludes developers from simply selling off their tax credits.

Enter the “tax equity” investor looking for ways to offset tax liabilities from other sources. Taking a temporary ownership stake, these investors can monetize a renewable project's tax credits right away. But the required financial acumen and hefty tax bills have limited the pool of tax equity investors to two-dozen large banks and highly profitable corporations. Cashing in on their exclusivity, these investors exact returns of up to 15 percent or more for their investments in renewable energy projects, more than twice the going rates for conventional equity and project debt.

Besides driving up the cost of capital, the need to bring in a tax equity investor also imposes considerable transaction costs for complex deal structures that enable renewable project developers to effectively sell off their tax credits without running afoul of the tax code. Structuring these deals often requires millions of dollars in legal fees. In the end, developers realize roughly two-thirds of their tax credits' value—with the remainder going to bankers and lawyers. Diverting billions of tax dollars away from their intended use every year, these inefficiencies are bad news for taxpayers and the renewable energy industry.

There's a better, more efficient way.

### **Tax credit where credit is due—making the ITC and PTC refundable**

Making the ITC and PTC refundable would give developers a choice between using tax credits