

ITC and PTC Extensions: What do they mean for Arizona?

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The essentials

- On December 18, 2015, Congress passed The Consolidated Appropriations Act which extended Investment and Production Tax Credits for select renewable energies, effective through 2020.
- An Investment Tax Credit (ITC) allows a taxpayer to take a certain percentage of an investment or purchase from his taxes. Similarly, a Production Tax Credit (PTC) is a tax reduction by a given amount per unit of a good produced.
- The Act extends the current 30 percent ITC for qualifying solar energy facilities to 2019. It then creates a phase out program where the ITC is reduced to increasingly lower values until 2022. This ITC also applies to qualifying hydroelectric, biofuel, and methane recapturing programs.
- The Act also extends the current PTC for wind and other qualifying facilities for another year. Thereafter, the PTC is incrementally reduced before being completely phased out in 2020.
- The Act also includes an unrelated provision which lifts a 40 year ban on the exportation of crude oil from the U.S. While this seems to be at odds with the favorable renewable energy provisions of the Act, the wind industry has viewed this as an acceptable tradeoff and a net win for the environment.
- The Act is expected to create \$73 billion in new renewable energy investment, 8 million more households powered by renewable energy, and 37 gigawatts of new wind and solar capacity.

Overview

On December 18, 2015, Congress passed Public Law No. 114-113 titled “The Consolidated Appropriations Act.”¹ The Act gives significant extensions of the Investment and Production Tax Credits for select renewables, including solar, wind, geothermal, and other specific renewables (discussed below). While the Act grants a provision lifting the ban on crude oil exports from the U.S., the renewable energy industry has largely viewed the Act as a win for the both the renewable energy industry and the environment. The Act is expected to create \$73 billion in new private investment in renewable energy, 8 million more households powered by renewable energy, and an additional 37 gigawatts of wind and solar capacity.²

¹ <https://www.congress.gov/114/bills/hr2029/BILLS-114hr2029enr.pdf>

² <http://about.bnef.com/white-papers/impact-of-tax-credit-extensions-for-wind-and-solar/>

What is an Investment Tax Credit?

An Investment Tax Credit (ITC) allows a consumer or company that purchase or invests in solar property to take a given percentage of that purchase off of their federal income taxes for that year in the form of a tax credit. This means that it comes in the form of a dollar-for-dollar reduction in the income taxes for that consumer or company claiming the credit.³ For example, a Solar ITC of 30 percent would allow a consumer who purchased a rooftop solar unit to take 30% of the price of the rooftop solar unit off of their federal income taxes for that year. The ITC applies to all solar installations, distributed and utility-scale alike.

The Solar ITC:

The Act extended the 30% solar ITC for those projects whose construction begins before January 1, 2019. For those whose construction begins between January 1, 2019 and January 1, 2021, the ITC falls to 26%. Between 2022 and 2024, the ITC drops to 22%. These properties must be placed in service prior to January 1, 2024 to qualify for their respective ITC percentages. Those whose initiation of construction qualifies them for an ITC, but whose in-service date is not before 2024 will receive an ITC of 10%.

What is a Production Tax Credit?

A Production Tax Credit (PTC) allows a consumer or company that produced a certain good – in this case, electricity – to take a specified dollar amount per unit production of that good off of the taxes that have to pay in a given year. For example, a Wind Energy PTC of 1 cent per KWhr would allow a wind developer to pay 1 cent less on their federal income taxes for every KWhr of wind energy produced. Production tax credits typically last only for a specified term, and it is typical that an energy producer will be forced to choose between receiving a PTC or an ITC.

How does a company choose between ITC and PTC?

The investment tax credit is the choice for most investors in the solar industry. It provides an immediate 30% benefit via the income tax credit on all eligible costs on day 1 that it is placed in service. Many developers and tax equity investors need the ITC as a mechanism to defer the high costs of developing a solar utility so that it can be economically viable compared to other types of energy projects. In a discussion with First Solar concerning the impact of ITC's and PTC's on a company, the production tax credit has not been in favor in the solar industry mainly due to the economic issues mentioned above. In

³ <http://www.seia.org/policy/finance-tax/solar-investment-tax-credit>

addition, the PTC is only available for 10 tax years starting with the in-service date. The 10 years of cash flows also come with some amount of risk as it based on how much electricity produced. Any changes to weather patterns, sun output, global warming, or unexpected downtime can seriously affect the present value of those PTC cash benefits. While PTC has the potential to provide greater benefits under optimal circumstances, there is greater risk of PTC's being less beneficial than ITC's.

The PTC for Wind, Geothermal, and Closed Loop Biomass

Producers of electricity from wind, geothermal, and closed loop biomass will be eligible for a production tax credit which varies based on the commencement date of the construction of the facility. These PTCs will last for 10 years from the date that the facility begins generating energy. Closed loop biomass facilities and geothermal facilities will not be eligible for a PTC if their commencement of construction date is after December 31, 2016, but they will receive the same PTC as wind if their date is prior to December 31st. Wind facilities will receive a PTC credit which is based on a commencement date of construction as outlined in Figure 1 below. There is also an investment tax credit eligible for wind facilities, which can be chosen in lieu of the production tax credit. Wind facilities that choose this route must make an irrevocable election to claim these investment tax credits. Those facilities will have the ITC credit amount reduced by the same amounts over the same period as the PTC shown below.⁴ Investment tax credits are tied to the total value of the facility, whereas production tax credits' value is determined by the energy produced over a ten-year period.

<i>Construction Commencement Date</i>	<i>Production Tax Credit</i>
Prior to December 31, 2016	\$.023/kWhr
January 1, 2017 – December 31, 2017	\$.0184/kWhr
January 1, 2018, - December 31, 2018	\$.0138/kWhr
January 1, 2019 – December 31, 2019	\$.0092/kWhr
After December 31, 2019	No Production Tax Credit Available

Figure 1: Production Tax Credit amounts available to wind facilities for specified construction commencement dates. Note: these amounts will be adjusted by an "inflation adjustment factor," therefore these values may vary.

Production Tax Credits for Other Qualifying Facilities

⁴ <http://energy.gov/savings/renewable-electricity-production-tax-credit-ptc>

The other facilities, which qualify for production tax credits are: open-loop biomass, landfill gas, municipal solid waste, qualified hydroelectric, marine and hydrokinetic energy sources. If the date of commencement of construction of these facilities is prior to December 31, 2016 the facility will be eligible for a \$.012/kWhr production tax credit. No credit is currently available for those facilities whose construction begins after this date.

What Does This Mean for Solar?

Not surprisingly, the extension of the ITC is predicted to be a boon for the solar industry. The extension of the ITC is estimated to cause a 54 percent increase in PV solar installations from 2016 through 2020 resulting in over 72 GW of total installations over this time⁵ period. It is expected to add 220,000 solar jobs over this time period, doubling the current number of solar workers. Furthermore, the ITC extension is estimated to create a \$40 billion economic investment in the solar industry over this period. Perhaps most importantly, these increases are estimated to bring about a 25 million metric ton annual offset of carbon dioxide emissions.⁶

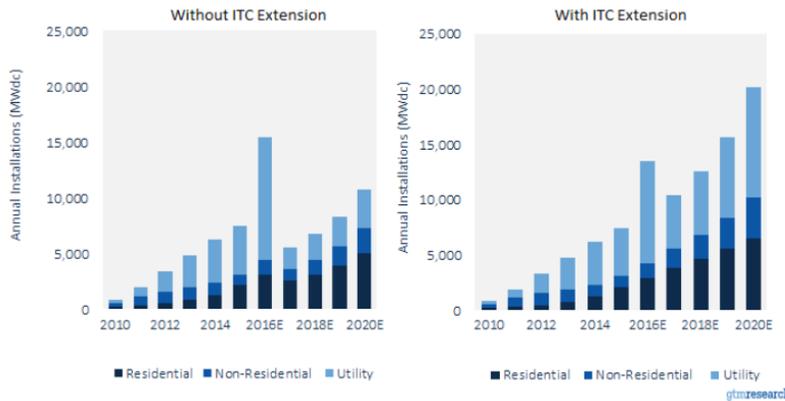


Figure 2: A comparison of the projected growth of various sectors of the PV industry with and without the ITC Extension. ¹ Source: Greentech media

What Does this Mean for Wind?

⁵ <http://www.seia.org/research-resources/impacts-solar-investment-tax-credit-extension>

⁶ <http://www.seia.org/sites/default/files/FOR%20IMMEDIATE%20RELEASE%20-%20ITC%20Extension%20Will%20Increase%20Solar%20Installations%20....pdf>

Much like solar, the ITC and PTC extensions mean good things for wind energy over the next five years.⁷ The extension is expected to create a 19 GW boost in wind energy over the next five years, enough to supply energy to \$8 million U.S. homes. Moreover, the extension is expected to create an added \$33 billion in wind investment over this time period. This increase in wind energy will offset more than 17 million metric tons of carbon per year.

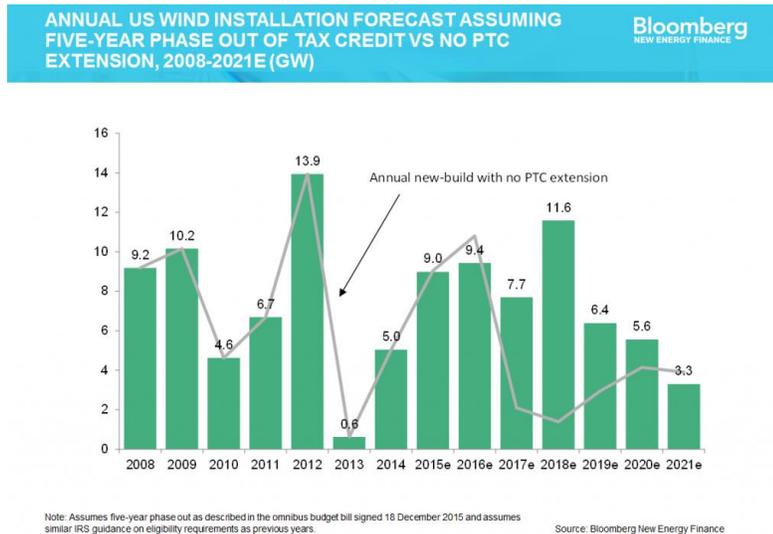


Figure 3: Annual wind installation forecasting with and without the PTC extension. The gray line shows forecasts without the PTC extension, while the teal bars show predicted forecasts with the PTC extension.

A Caveat: Lifting the Ban on Crude Oil Exports

While the extensions are largely seen as a victory for both renewable energy and the environment, there was a concession made to the fossil fuel industry in the Act. The Act lifted a 40 year ban on crude oil exportation from the U.S. While some projections indicate that this could lead to a 20 million ton annual increase in carbon emissions, the carbon offsets from the increases in wind and solar energy are expected to vastly outweigh this increase.⁸ Because of this net positive effect on the climate, the Act is seen as a wind for renewables and the environment.

What Does the Extension Mean for Arizona?

⁷ <http://www.seia.org/research-resources/impacts-solar-investment-tax-credit-extension>

⁸ <http://blogs.cfr.org/levi/2015/12/15/oil-exports-budget-deal-market-climate-and-geopolitical-consequences/>

The extension of the ITC is expected to be a boon for the solar industry, and its benefits will (hopefully) be seen most heavily by a small number of solar-rich, renewable-friendly states. Arizona is one of these states. With such large predicted increases in residential, non-residential, and utility-scale PV, Arizona can expect a few consequences. First, the battle over net-metering policies will have much higher stakes and much more heated controversies. Second, grid-parity will be furthered. A third prediction is that energy storage will come closer than ever to becoming cost effective in Arizona. Finally, Arizona could more easily comply with the Clean Power Plan should it survive its current challenges. As one of the top solar states, Arizona will likely see disproportionately drastic impacts which will shape the Arizona solar landscape over the next five years. The ITC and PTC should help reach the state achieve that promise

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