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## I. Executive Summary

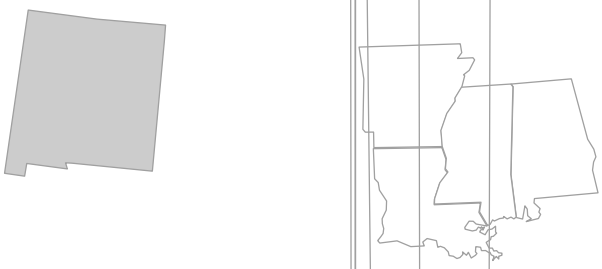
The federal wind Production Tax Credit ("PTC"), first enacted in 1992[1] to "jump start" a nascent, but promising industry,[2] provides wind producers with a subsidy of $22 per megawatt hour of electricity generated.[3] The PTC has been extended seven times,[4] but is scheduled to expire under current law on December 31, 2012. Extension of the federal wind PTC has become the "stalking horse" in the debate on government's role in picking energy "winners and losers." Although wind advocates proffer several internally inconsistent rationales[5] for continuing the federal wind PTC, a closer examination of compelling facts and data indicates these purported justifications are not about wind's continued viability without the PTC. Rather, the wind industry's areMCID 1 >>BDC /CS0 cs 0 25

1 Removing Big Wind's "Training Wheels": The Case for Ending the Federal Production Tax Credit

Notable as well, is that over 50 percent of all wind generation capacity is located in just five states, with over 75 percent located in 11 states.[12] This suggests that roughly 80 percent of U.S. taxpayers fund federal wind tax subsidies to promote wind generation concentrated in the remaining 20 percent of the country. The more equitable approach is to have states that choose to mandate increased wind development fund that public policy choice themselves through their RPS programs. The federal wind PTC, however, requires residents of all states, even those with no RPS programs and very little wind development, to subsidize wind generation although they receive little, if any, economic benefit. This significant public policy inequity could be easily remedied if the federal wind PTC were to expire.

Another reason to let the federal PTC expire is that this "one

supporting infrastructure, such as power transmission lines and backup generation,



Source: Database of State Incentives for Renewables and Efficiency.
Note: As of September 2012, Indiana, Pennsylvania and West Virginia include separate tier of non-renewable 'alternative' energy resources.

Although a few states adopted RPS policies as early as the mid to late 1990s, most states enacted their RPS mandates between 2004 and 2007, long after Congress adopted the federal wind PTC.[23] States typically classify a wide range of renewables as eligible to meet supplier RPS obligations. To date, however, wind generation accounts for 90 percent of all new renewable resources developed under state RPS programs.[24] Therefore, the widespread adoption of RPS mandates has established a substantial and ever increasing market for wind that did not exist when the federal PTC was enacted in 1992. (See Figure 2.)

[23] Exeter Associates, Inc. (2008). Progress Report: Review of State Renewable Portfolio Standard Programs in the Northeast & Mid-Atlantic Regions. Prepared by Exeter Associates, Inc., for the Northeast and Mid-Atlantic States Collaborative on RPS Implementation, December, 2008.

[24] The Congressional Research Service notes the importance of RPS policies as being the "primary renewable energy demand driver" over the past several years. See Phillip Brown (2012). U.S. Renewable Electricity: How Does the Production Tax Credit (PTC) Impact Wind Market? Washington: Congressional Research Service, p.8.

Source: Earth Policy Institute.
Note: Numerous states adopted RPS policies prior to 2004, however, it was notuntil 2006-2007 that these policies accounted for 50 percent of U.S. retail electricity sales.

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Source: U.S. Energy Information Administration; NorthBridge Group analysis.

It is easy to see why RPS mandates have driven wind generation development more than the federal wind PTC. Unlike the federal wind PTC, state RPS requirements: (a) set a fixed and relatively large annual renewable generation requirement that every electricity supplier must meet to provide service; and (b) are not subject to periodic renewal since these annual RPS mandates extend well out into the future.

That post-RPS wind generation increased fivefold between 2006 and 2011, also underscores that state RPS mandates, not the pre-existing federal wind PTC, were the

future wind industry growth.[27] Participants at a recent Platts Financing US Power Conference corroborate this conclusion with a Standard & Poor's speaker noting that "if the PTC is not renewed … state renewable portfolio standards can play a large role in making the renewable energy industry viable" and that "renewables with RPS will still have contracts…we came up with $150 billion over the next 10 years still to be built with renewables."[28]

As noted earlier, RECs are the tradable instruments used in RPS -1.17 Tg insediad 1til1l havCe re the tr

Source: Author’s

Cost comparisons offer some insights into the prevalent overincentive problem created by the federal wind PTC. A recent study by the Breakthrough Institute, for instance,

One of the most immediate challenges associated with integrating increased wind resources into regional power grids is the development of costly transmission infrastructure to move electricity from very remote rural areas, where wind speeds are usually at their highest, to locations where loads are concentrated. Over the past five years alone, the Federal Energy Regulatory Commission ("FERC") has approved over $15 billion in new transmission investments simply to facilitate the movement of wind generation.[51] These investments translate into higher costs and higher rates for retail customers.

Source: Federal Energy Regulatory Commission.

considerable speeds. See Steve Hargreaves. "Wind Power Hits 57% Mark in Colorado." CNNMoney, August 6, 2012. Accessed on August 8, 2012: http://money.cnn.com/2012/08/06/news/economy/wind-power-Colorado/index.htm?i Also see Rocky Barker (2012). "Wind Production Exceeds Hydro in Pacific Northwest for First Time Tuesday." Idaho Statesman, October 16.

[51] The $15 billion estimate does not include the $7 billion in ERCOT-related transmission investment approved by the Texas Public Utilities Commission. Texas, for instance, passed Senate Bill 20 in 2005

A number of recent academic studies corroborate the presence of additional, and often hidden, costs associated with intermittent wind generation. For example, in a recent Energy Journal article,[52] the authors conclude, "the variability of wind resources" and "the need for higher levels of reserve generating capacity to maintain reliability standards impose additional costs on the system that should not be ignored."[53]

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economic conditions. On the contrary, the report notes these negative pricing outcomes are simply a function of opportunistic pricing strategies pursued by wind generators willing to impose costs on other generators so they can continue to receive the guaranteed federal tax subsidy. These negative pricing outcomes distort the market by sending incorrect price signals, which harm the reliable and cost-effective operation of the electric system.[61] In particular, after analyzing energy production and real time pricing information from various regional grid operators, the report concluded: "negative prices created by the PTC harm reliability by [penalizing] other resources.…critical to backstopping wind's fluctuating output,[62]…[thus] increasing the likelihood existing units will choose to retire, and deterring build of new capacity."[63]

Source: RTO Websites; and Form EIA-923, Energy Information Administration, U.S. Department of Energy.

The resulting market distortions and harm to reliability provide perhaps the strongest reasons for allowing the federal wind PTC to expire. Recent comments of

> Federal incentives for renewable energy …have distorted the competitive wholesale market in ERCOT. Wind has been supported by a federal production tax credit that provides $22 per MWH of energy generated by a wind resource. With this substantial incentive wind resources can actually bid negative prices into the market and still make a profit. We've seen a number of days with a negative clearing price in the west zone of ERCOT where most of the wind resources are installed. When a wind resource bids a negative price that of course means that the resources is [sic] willing to pay someone else to take electricity generated by the wind farm because they are receiving the $22 federal tax credit. The market distortions caused by renewable energy incentives are one of the primary causes of our current resource adequacy issue. Federal renewable incentives allow wind resources to bid artificially low…and this distortion makes it difficult for other generation types to recover their cost and discourages investment in new generation. Given the significant renewable generation capacity already installed in Texas and the distortionary effects of incentives on the markets,…we all need to move with extreme caution before adopting any additional incentives or mandates.[64]

As such, the inefficient federal PTC should be allowed to expire because it has morphed from an ill-designed temporary subsidy designed to jump start what was purportedly thought of as an "infant industry," to an inequitable tax handout that now allows the well-established wind industry to compete unfairly with essential and more reliable conventional resources such as domestic natural gas.

[64] Chairman Donna Nelson testimony before the Texas Senate Natural Resources Subcommittee (September 6, 2012), transcribed from http://www.senate.state.tx.us/avarchive/ .