Wind Industry Faces New Roadblocks as Tax Credit Deadline Looms

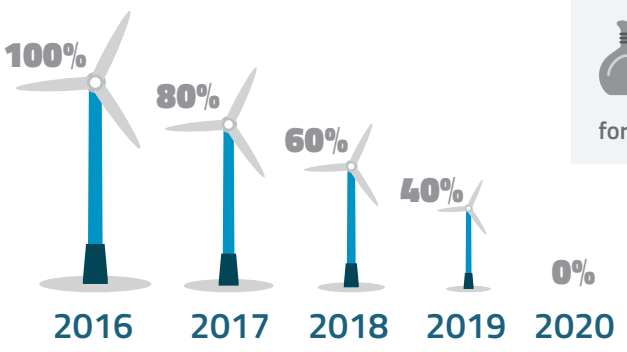
Weak Growth in Electricity Demand and Low Natural Gas Prices Main Threats to Future Growth

Industry Insight

The U.S. wind energy industry has grown significantly over the past decade thanks to federal and state support, along with technology advancements improving costs and performance. The federal production tax credit (PTC) has left the greatest impact on the industry. However, **the PTC expires in 2019** narrowing the window for new projects as the industry prepares for a slowdown. Other challenges, such as **attempts to redefine PURPA terms** and assess the impact of wind farms on tourism, along with slow growth in electric demand, make the outlook on wind less certain.

#1: Production Tax Phaseout

The **four-year extension of the PTC in December 2015 with a phase-out schedule came as respite** for the industry, providing a predictable path for transition, following two decades of boom-and-bust cycles caused by expirations and short-term extensions of the incentive. The PTC for wind remained at 100 percent through 2016, declining by 20 percentage points from each year onwards and expiring in 2020.

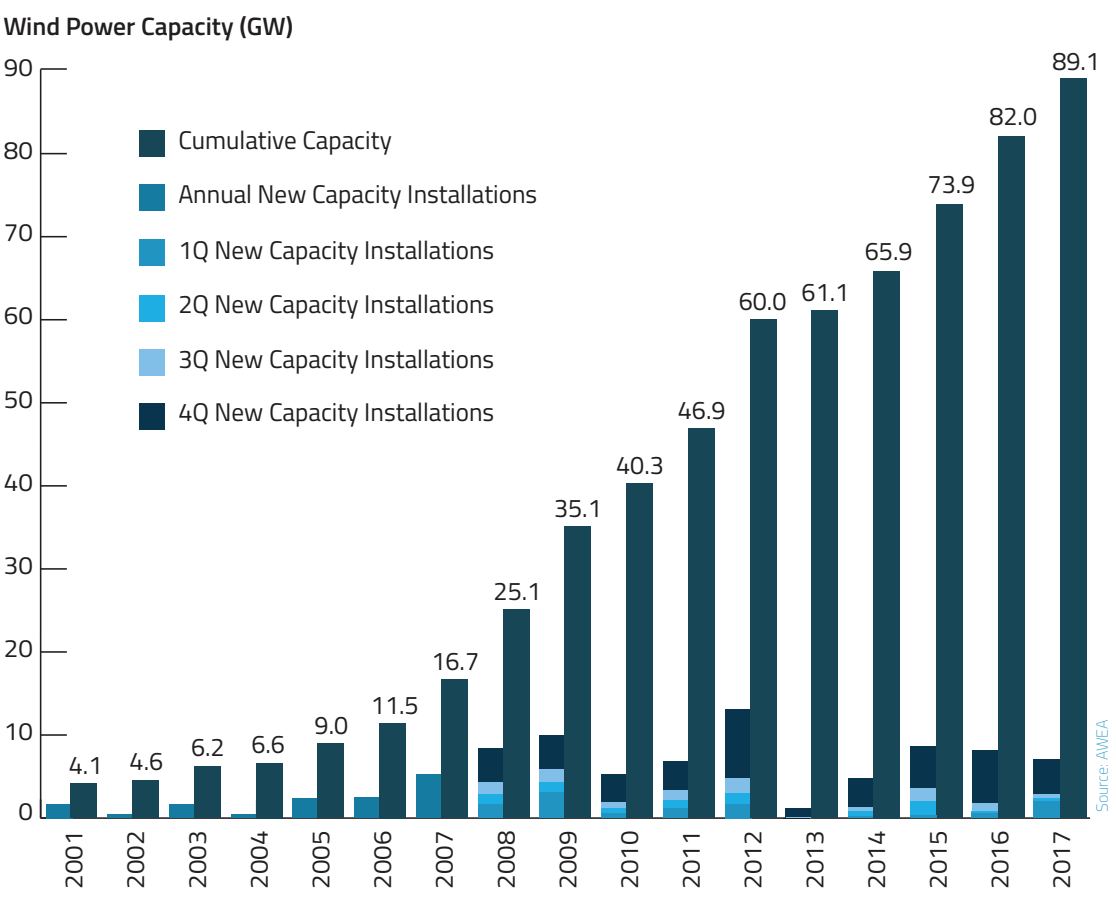


$0.023/kWh

for the first 10 years of utility-scale generation

In the four years when the PTC lapsed (2000, 2002, 2004, 2013) industry activity dropped significantly. In 2013, **even after a brief expiration, installations of new wind farms fell by 92 percent**.

#2: Wind Industry Growth



In 2017, the U.S. installed 7,017 MW of wind capacity compared to 8,203 MW commissioned during 2016. The PTC survived the federal tax reform enacted in December 2017, which originally sought to slash the incentive. Nevertheless, the threat of potential changes **kept the industry scrambling in the final weeks of the year** when activity is often the highest, in part because of **timing qualifications** for tax incentives. According to AWEA, there is now **89,077 MW of cumulative installed capacity in the U.S.**

#3: Diverse Challenges for Wind

Wind developers are rushing to expand as the window for new projects is narrowing. A January 24 report from the EIA projected that wind will grow by 9 percent (8.3 GW) by the end of the year, **surpassing hydro as the largest source of clean energy for the first time in history**. However, recently, the industry has **faced multiple challenges nationwide**.

ID — Payout Cuts

12/7: The ID PUC **slashed** PacifiCorp subsidiary Rocky Mountain Power's **wind integration rate from $3.06 per MWh to $0.57 per MWh** for for wind facilities that qualify for 20-year contracts

MT — PPA Compromise

12/12: The MT PSC approved a **15-year contract for NorthWestern Energy to purchase power** from TransAlta's 23-MW New Colony Wind facility at **$23.30 per MWh**. The developer requested a 25-year contract at a fixed price of **$43.63 per MWh**, while the utility requested a rate of **$13.96 per MWh**

PJM — Rejection of Complaint

12/4: **PJM dismissed EDF Renewable Energy's complaint** that the regional grid operators' failure to coordinate had inflated costs and caused delays for developers

ME — Moratorium on Wind

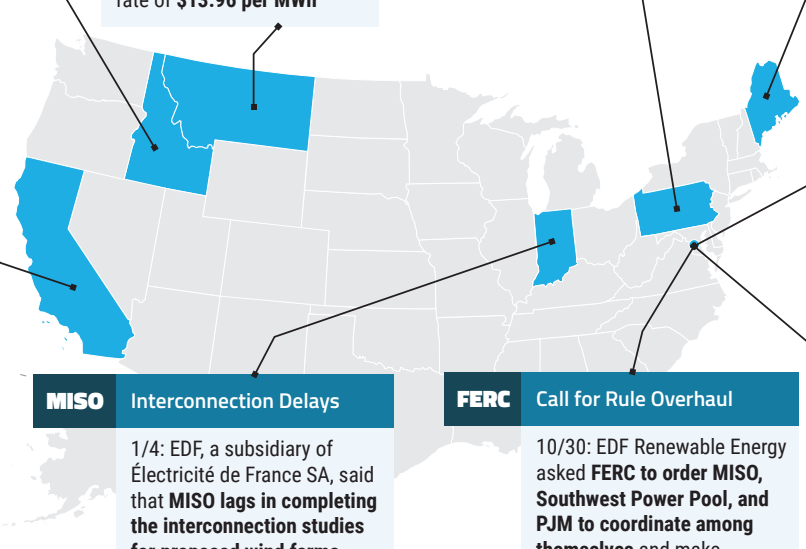
1/24: **Maine Governor Paul LePage** imposed **a moratorium on new wind turbines** out of concern for the state's $6-billion tourism industry

CA — Emissions Planning

12/28: The CA PUC proposed to adopt **a two-year planning cycle to set emission targets** and consider integrated resource plans rather than requiring early activities to utilize federal tax credits citing **declining renewable costs** regardless of the tax benefits

FED — PURPA Rollback

11/29: U.S. House lawmaker Tim Walberg (R-MI) introduced the **PURPA Modernization Act of 2017** (**H.R. 4476**) aimed at lowering the requirements for utilities to purchase power from renewable generators



MISO — Interconnection Delays

1/4: EDF, a subsidiary of Électricité de France SA, said that **MISO lags in completing the interconnection studies for proposed wind farms** potentially putting billions of investment dollars at risk

FERC — Call for Rule Overhaul

10/30: EDF Renewable Energy asked **FERC to order MISO, Southwest Power Pool, and PJM to coordinate among themselves** and make connecting new projects to the grid easier

FERC — Funding for Upgrades

1/26: The **U.S. Court of Appeals for the District of Columbia Circuit** instructed **FERC** to revise its rules for funding transmission system upgrades made when new generators are connected to the grid

#4: Policy Support for Offshore Wind

Over the past six months, **several states have enacted policies supporting offshore wind**. In December 2016, Deepwater Wind commissioned the Block Island Wind Farm, **the first commercial offshore wind project** in the U.S. The $360-million, 30 MW farm is in Rhode Island state waters. **New York and Massachusetts** recently committed to develop a combined **4 GW of offshore wind by 2030**.

MD

5/11: The MD PSC awarded 20-year offshore renewable energy credits to US Wind's 248 MW project and Deepwater Wind's 120 MW Skipjack project. Maryland's **HB 226**, enacted in 2013, requires **a maximum of 2.5 percent of the state's total retail electric sales** to come from **offshore wind** starting in 2017

NY — 18-E-0071

1/29: NYSERDA released a **roadmap towards its offshore wind target of 2.4 GW by 2030**, identifying the most favorable areas for development, options for how to procure the capacity, and costs, benefits, and infrastructure requirements. Over the next two years, New York will purchase at least 800 MW of offshore wind

MA — H. 4568

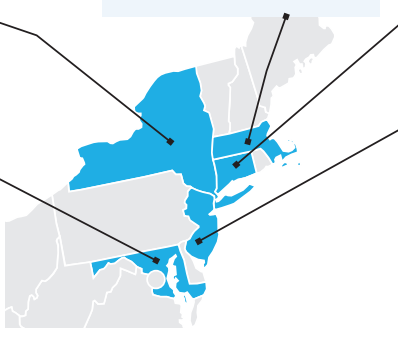
8/8: The MA State Legislature passed H. 4568 which **requires utilities to procure 1.6 GW of offshore wind capacity by 2027** through long-term contracts and sets **minimum size requirement of 400 MW nameplate capacity** for individual solicitations

CT

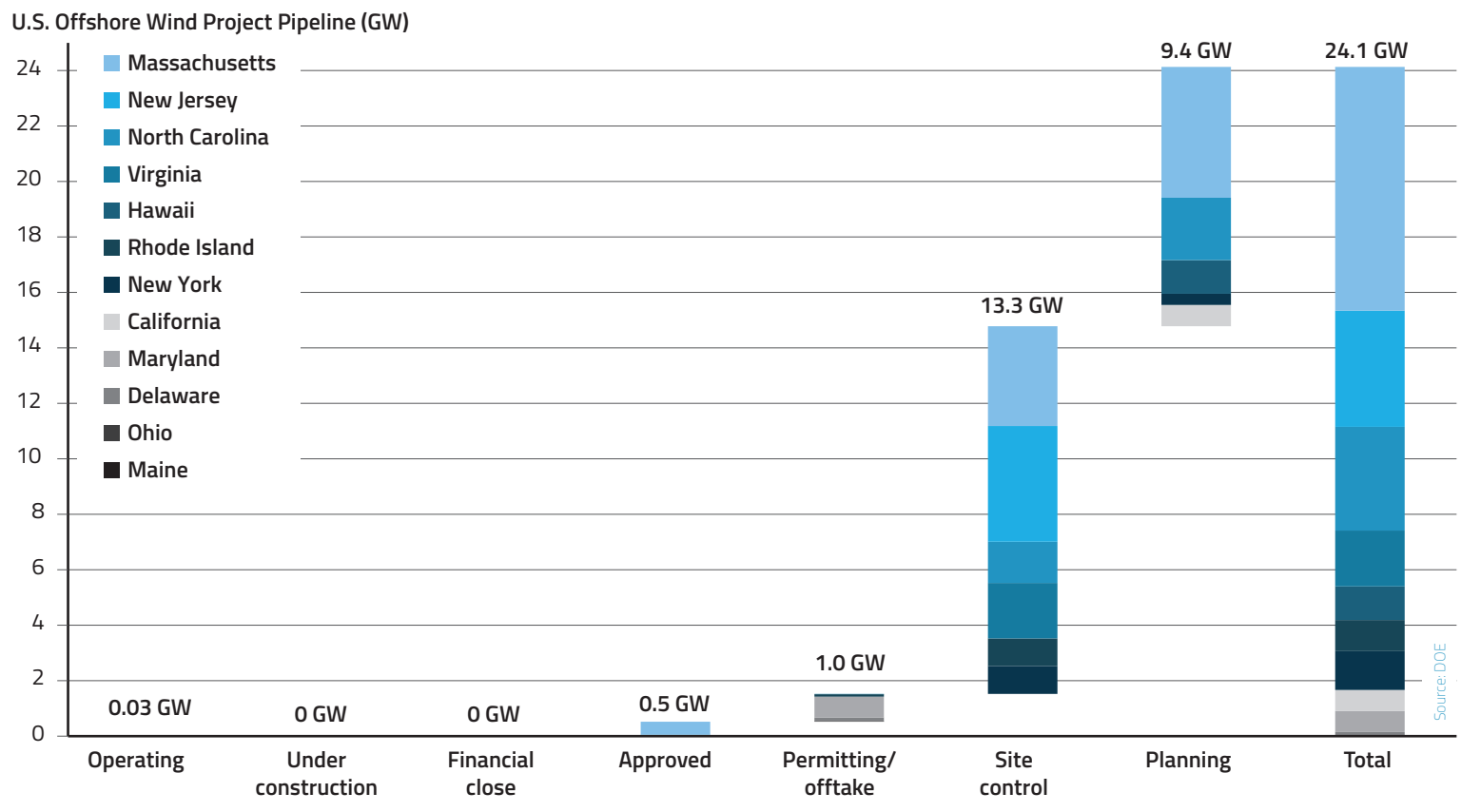
1/31: The CT DEEP requested proposals for clean energy development, including up to **about 220 MW of offshore wind**

NJ

1/31: NJ Governor Phil Murphy ordered the NJ BPU to set up rules and, together with the NJ DEP, **develop a plan for deploying 3.5 GW of offshore wind by 2030**



According to DOE, the U.S. offshore wind project development **pipeline includes 24,135 MW** of potential installed capacity. New project announcements and offshore wind-specific policies have boosted the interest of U.S. markets. However, the DOE notes that large scale deployment is contingent on significant cost reductions and technology advancements.



Bottom Line

Bridge the Gap
The PTC phase out was meant to wean the wind industry off subsidies. Currently, the key step towards self-sustenance is to continue lowering wind energy costs to beat natural gas and solar. Continued improvements in technology could allow manufacturers to improve efficiencies and achieve economies of scale to decrease capital costs. Improving the capacity factor of wind projects can also help reduce the cost per unit of energy produced.

Corporate Interest
Market dynamics can also play a critical role given the growing interest for wind energy in the corporate sector. This interest has paved the way for offtake agreements, a trend that will likely continue. In recent years, commitments from large corporations like Google and Apple in particular have created new market prospects.

State Drive
State policies, particularly RPS, have catalyzed the spread of renewables, and such policies will continue to chart further expansion for wind energy. According to DOE, of all wind power capacity built in the U.S. from 2000-2016, roughly 51 percent has been delivered to load serving entities with RPS obligations. Nevertheless, the performance of the wind industry in the future amid declining subsidies, modest growth in electricity demand, and low natural gas prices remains to be seen.