

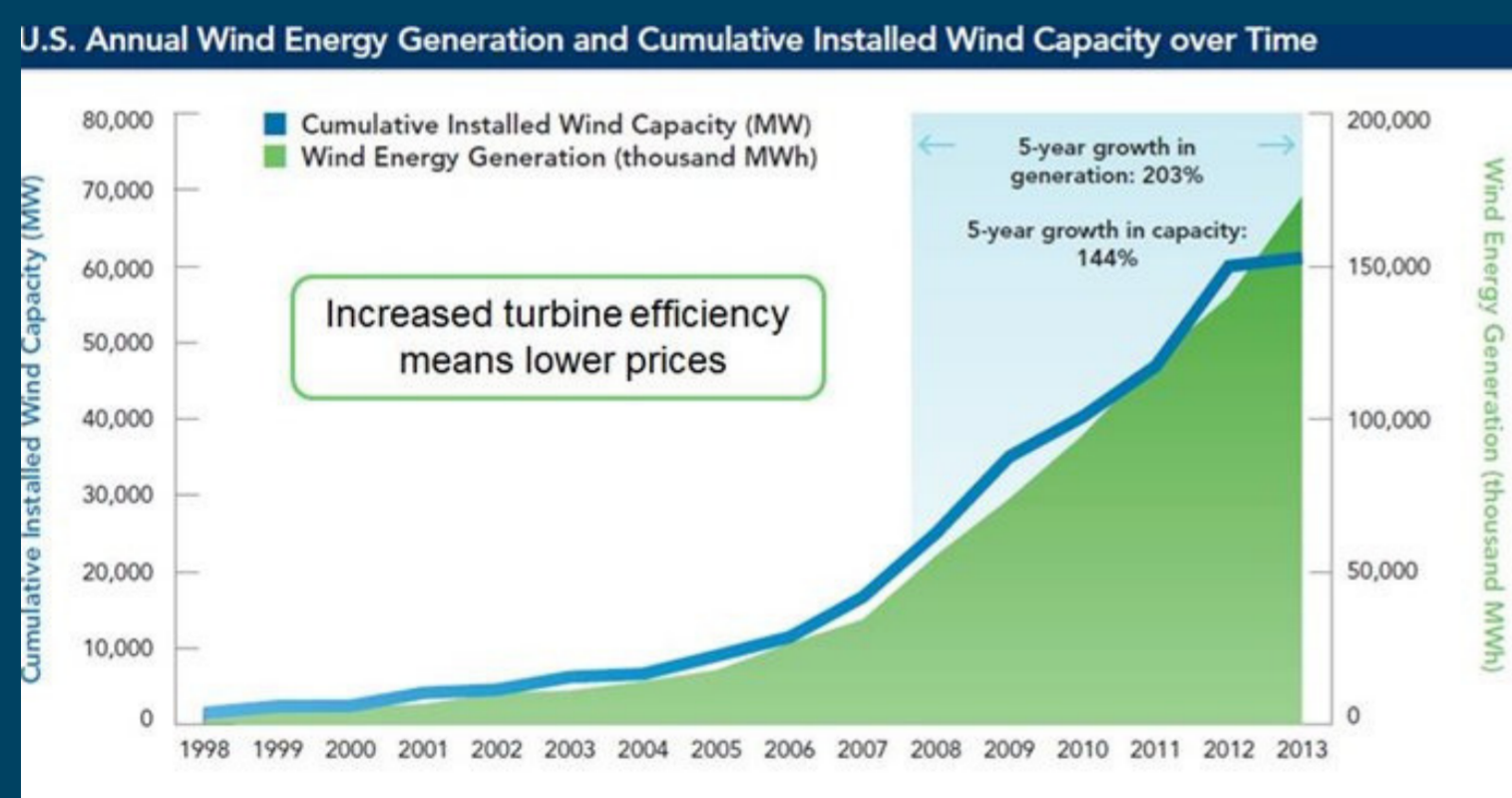
POLICY TOOLS TO PROMOTE WIND ENERGY

Why is wind energy development necessary?

Created by Taylor Gosk

Over the last forty years clean energy sources have become a priority in the United States and around the world, primarily due to dangerous levels of air pollutants and a more nuanced understanding of climate change (US DOE, 2015). Climate change is primarily caused by greenhouse gas emissions, which are released when burning coal, oil, or natural gas to create energy (US DOE, 2015). These non-renewable sources of energy are significantly damaging the global environment through severe pollution and the progression of climate change, but non-renewables are not the only option for producing energy. Renewable energy sources, such as solar, wind, and geothermal energy can produce the same power without depleting global resources and damaging Earth's climate in the process. Climate change will have an impact on every citizen within the United States, but taking action to decrease emissions and develop wind energy will improve the future for Americans.

Wind energy is a reliable source of renewable power. In order to develop this source to capacity public policy is necessary to promote development.



Wind Energy Growth

Economic Benefits of Wind

- ✓ Over 114,000 U.S. Citizens employed by wind energy
 - ✓ The lowest levelized cost of electricity (LCOE) in the US is on-shore wind energy
 - ✓ Wind energy avoided 201 million tons of CO2 in 2018
- (AWEA, 2019)

Addressing the Myths

- ✗ Wind turbines rarely impact any flying animals, such as birds
- ✗ The sound of a wind turbine is softer than an air conditioner
- ✗ Wind turbines do not cause cancer

(US DOE, 2015)

The Potential of Wind Energy

Wind energy is harnessed by installing wind turbines, on land or off the coast, that range from 200 to 700 feet in height. The movement of the turbines blades creates energy can be used in the same capacity as burning coal, oil, or gas, but doesn't produce any harmful emissions upon energy production. Forty states within the United States produce wind energy today (Carley, 2011) More than \$145 billion has invested into wind energy in the last decade within the United States (AWEA, 2019). This energy source has huge potential to expand around the United States with a potential of more than 2,000 gigawatts that could be produced along the coasts, enough to power the US (Sovacool, 2008).

FEDERAL WIND POLICY

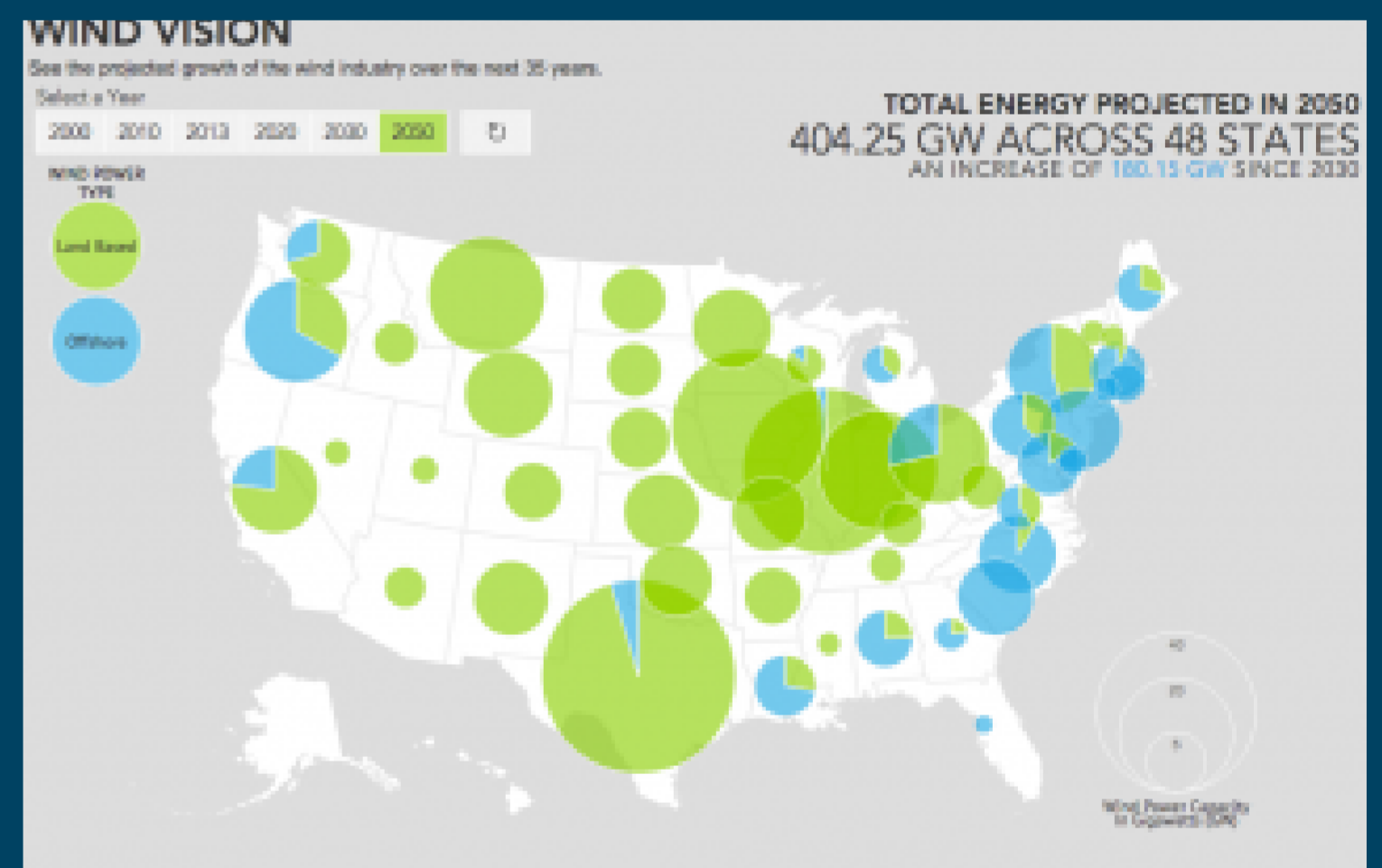
New Markets Tax Credit (NMTC)

The overall goal of this incentive is to use the capital raised to provide affordable financing for sustainable projects in lower income areas. This incentive provides federal income tax credit for individuals and corporate taxpayers in exchange for making equity investments in vehicles certified as Community Development Entities (CDEs). These equity investments allow investors to benefit from a tax credit equal to 39% of the cost of the investment. This can be granted over a 7-year period and is in addition to the returns on the investment. For example, this tax credit was used to create the Coastal Energy Project, a 6-megawatt land-based wind farm in Grayland, Washington. (US DOE, 2018)

Renewable Electricity Production Tax Credit (PTC)

This corporate tax credit is for electricity generated by qualified renewable energy resources, such as wind energy. Founded in 1992, the policy is a per-kilowatt-hour (kWh) tax credit, with the current production tax credit amount at \$0.019/kWh for wind energy. This credit is continuous for 10 years after the date the facility was in service and the policy allows for utilities and wind farm developers to receive federal tax incentives for producing wind energy and makes it more economically feasible for developers to put in the high upfront cost of development. (US DOE, 2018)

Projected Wind Energy
Growth in the United States
by 2050 (DOE, 2015)



(AWEA, 2018)

Developing comprehensive wind energy policy is the solution to combatting climate change and protecting the health of all Americans

State v. Federal Wind Energy Policy

State Wind Energy Policy differs from Federal Policy, as states utilize standards more frequently, such as the Renewable Portfolio Standard (RPS). This policy mandates that a certain percent of energy produced within a state must come from renewable energy sources (DOE, 2015). This policy allows for “carve outs,” specific requirements of electricity produced from a specific energy source, such as wind energy. The policy has been extremely influential in developing wind energy across the United States and 50% of renewable energy development in the US is attributed to RPS's (Carley, 2011).

SOURCES

Carley, Sanya. (2011). State Renewable Energy Electricity Policies: An Empirical Evaluation of Effectiveness. *Energy Policy*, 37, 3071-3081. 10.1016/j.enpol.2009.03.062. Retrieved from https://www.researchgate.net/publication/222190787_State_Renewable_Energy_Electricity_Policies_An_Empirical_Evaluation_of_Effectiveness

U.S. Department of Energy (2015). Wind Vision: A New Era for Wind Power in the United States. *Wind Vision*, 1-108. doi:10.2172/1220428. Retrieved from https://www.energy.gov/sites/prod/files/wv_chapter2_wind_power_in_the_united_states.pdf

Sovacool, B. (2008). The Problem with the “Portfolio Approach” in American Energy Policy. *Policy Sciences*, 41(3), 245-261. Retrieved from <http://www.jstor.org/stable/40270968>

American Wind Energy Association. (2019). Wind Facts at a Glance. Retrieved April 1, 2019, from <https://www.awea.org/wind-101/basics-of-wind-energy/wind-facts-at-a-glance>

US Department of Energy. (2018). Advancing the Growth of the U.S. Wind Industry: Federal Incentives, Funding, and Partnership Opportunities. doi:10.2172/1220428

