

Wind Energy – Low Cost Electricity for Tennessee

Tennessee is already taking advantage of wind energy. The state is home to the Southeast's first wind farm, Buffalo Mountain, which generates enough electricity to power 3,400 homes a year. Additionally, the Tennessee Valley Authority (TVA) has entered into contracts with wind farms across the Midwest, delivering 1,242 megawatts (MW) of low cost energy to TVA customers.

Over the past five years, wind turbine technology has significantly improved. **New turbines operate more reliably, more predictably and at lower costs.**

Wind power development in Tennessee would boost local economies and bring more renewable energy to the state at a cost-effective and reliable price.

Wind Power Prices are Cheap and Continuing to Drop:

- Over the past 7 years, the average wind power purchase agreement price has declined by 66%, and is continuing to improve.
- A recent forecast from the Lawrence Berkley National Laboratory (LBNL) demonstrates that wind power is frequently cheaper than using natural gas.
- According to the latest research from LBNL, "the national average level-through price of wind PPAs [power purchase agreements] within the Berkeley Lab sample has dropped to around the \$20/MWh level, inclusive of the federal production tax credit (PTC)."
- Utilities in the South have already signed nearly 4 gigawatts of wind power PPAs – because it lowers electricity bills for their customers.

PTC Phase-out:

- Low-cost wind power can be partly attributed to the federal Production Tax Credit.
- This important tax credit has begun phasing out by 20% each year, and will be completely eliminated by 2020.
- All sources of energy receive incentives, and wind energy's primary incentive (the PTC) is being phased-out.



How Valuable Is Wind Power Beyond Direct Cost?

- Wind power emits no toxic air emissions to generate electricity, and does not consume water to generate electricity. Wind power also uses substantially less land and water than fossil fuels.
- Wind power in 2015 saved nearly 73 billion gallons of water or about 553 billion bottles of water.
- According to the Department of Energy, wind power's reduction of harmful air emissions would equate to a cost savings of roughly 4.0 cents per kilowatt hour of clean electricity generated.
- Society pays the price for harmful air emissions; predominately through our health and the health of ecosystems. These externalized costs (externalities) do not show up on electric bills directly, but society pays them never-the-less.

Sources:

- Tennessee Valley Authority. "[Wind Energy Contracts](#)"
- [Anderson County Financial Report \(June 2006\)](#).
- Smartbrief (June, 2016). "[AWEA: Cost of wind energy has fallen 66% since 2010](#)"
- Department of Energy (August 2016). "[2015 Wind Technologies Report](#)"
- Southern Alliance for Clean Energy (SACE) (August 2016). "[Seriously, utilities, buy wind now](#)"
- Department of Energy (2015). "[Wind Vision Report](#)"
- SWEA (April 2016). "[Electric Utitlites Could Lose Billions of Wind Energy Savings](#)"
- SACE (Nov. 2015) "[How Valuable is Wind Energy?](#)"

The Southern Wind Energy Association (SWEA) is an industry-led initiative that works to promote the responsible development of wind energy throughout the South. SWEA's scope

includes onshore wind development in-region, wind energy use in-region, offshore wind energy development in-region, and wind energy-related transmission development that affects the region. To learn more, visit www.southernwind.org or contact simon@southernwind.org.

