Plainsandeastern

From: Luis Contreras <doccontreras@gmail.com>
Sent: Tuesday, June 02, 2015 4:47 PM
To: Plainsandeastern
Subject: < Non-NEPA Comment on P&E 1222 Part 2: P&E's Business Model is Flawed >
Attachments: Clean Line Business Model is Flawed.pdf

Dear Secretary Moniz,

DOE should not participate in the P&E project.

Respectfully,

Dr. Luis Contreras

Eureka Springs, AR

June 2, 2015

Non-NEPA Comment on P&E

Dear Secretary Moniz,

DOE should not participate in the P&E project.

P&E's Business Model is flawed. Using levelized cost of energy (LCOE) to claim remote bulk wind power is the best choice, ignores the fact wind power has a low-value and high-cost. TVA and other utilities will not buy P&E intermittent volatile power. Claiming LCOE is a proxy for power purchase agreements (PPA) is deceptive.

Clean Line is not a utility or a service organization. Their business model, driven by speculation and high profits, is disruptive. Clean Line and their investors are hoping for a windfall; they are not worried about the environment.

Respectfully,

Dr. Luis Contreras
Eureka Springs, AR

1. Remote bulk intermittent wind energy is high-cost and low-value

Price is what you pay. Value is what you get. - Warren Buffett

The levelized cost of energy (LCOE) metric is appropriate when comparing two or more wind farms, or two or more coal-fired plants. Using LCOE to compare dispatchable, reliable, baseline power plants with wind farms is flawed; it suggests either ignorance or deception.

P&E claims wind energy is low-cost in Appendix 6:
"The levelized cost of energy (LCOE) calculation is used in the electric power industry to rigorously compare different ways of sourcing electricity. It takes into account all costs of generating electricity, including capital costs, operating expenses, taxes, and cost of debt, the return on equity, any available subsidies, and necessary transmission additions.

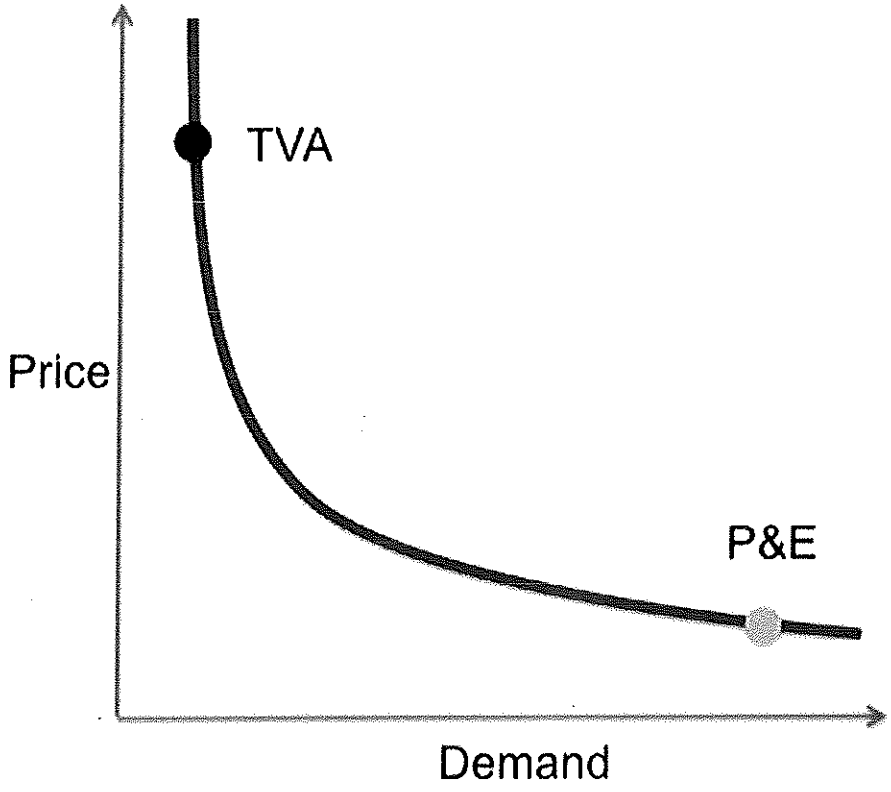
The LCOE analysis produces a levelized cost per unit of energy that is a proxy for a power purchase agreement that a utility would sign. The price of the power purchase agreement, as estimated by the LCOE model, is sufficient for the owner of generation and transmission facilities to recover all the costs associated with the facilities and earn a market rate of return. The LCOE analysis indicates that wind energy delivered by the Project is the lowest-cost way to provide new energy to sources to the region."

TVA and other utilities know remote bulk wind energy is high-cost and low-value.

P&E is using a supply paradigm. How much power can we make and where can we deliver it?

TVA has a demand paradigm: How can we meet a customer driven variable load, from month to month and hour by hour at the least cost? To TVA the cost of generation and transmission is irrelevant given the low value of wind power.

The Demand curve for remote bulk wind energy shows no power distribution demand.



TVA has a ratepayer, electric load, and service perspective:
Wind blows when the wind blows. P&E is selling bulk wind power from far away wind farms with several shortcomings. Using for illustration

purposes 3,500 MW and assuming there are enough turbines to generate the full amount, not the nameplate capacity:

- When the wind blows to hard, the wind turbines shut down and 3,500 MW go off the grid at once, with no warning.
- When the wind is not blowing, TVA needs to find other source for the 3,500 MW
- TVA's peak demand is around 5:30 PM, when there is little wind
- P&E wind power peaks in the middle of the night, causing TVA to turn-off other dispatchable sources as they have no way to store power.
- During a typical night, the amount of power generated may vary widely from hour to hour and from minute to minute. Why would TVA buy 3,500 MW and get an average of 2,000 MW with a standard deviation of 500 MW? In other words, the capacity available would be for a point in time between 500 MW and 3,500 MW.
- Industrial turbines require maintenance and have many moving parts. Let's say the uptime is

For most areas of the US, **peak** demand is most likely to occur on hot, weekday late afternoons in July or August. During these times there is little or no wind and, therefore, little or no electricity from wind turbines.

If you are thinking of "comparing apples and oranges" you know why TVA is staying away from P&E.

2. The P&E Clean Line business model is disruptive

Energy World's article, May 25, 2015, "**Forget the PTC, Wind Energy's Real Problem Is Transmission,**" explains Clean Line business model:

"Wind Farm developers bid for access to transmission service and in return can guarantee a long-term market to sell their power. In return, owner operators like Clean Energy Line Partners benefit from long-term stable revenues from developers reliant on the service."

"The most interesting element, however, is still to come. For as the phase introduction of these transmission superhighways becomes reality, the revenues that they generate won't be so easily overlooked. ***Expect therefore, for many of these projects to quickly change hands, superseding existing grid and utility infrastructure as they do so."***

Greedy wind farm developers need to sell power. The model is based on supply not demand. There is no demand for high-cost, low-value remote bulk wind power.

What **Energy World** considers the most interesting element, **Clean Line selling the transmission line to the highest bidder superseding existing grid and utility infrastructure**, DOE and others should see as a *disruptive threat* of quick financial gains for the electric industry.

When greedy speculators control the market abusing financing and accounting regulations the economy suffers. The March 2007, Subprime Mortgage Industry Collapse proves this point:

With 0% down needed to buy new homes, an unlimited supply of money could be created. With each loan, banks would quickly securitize

the loan and pass the risk off to someone else. Ratings agencies put AAA ratings on these loans that made them highly desirable to foreign investors and pension funds. The total amount of derivatives held by the financial institutions exploded and the total % cash reserves grew smaller and smaller.

Why would DOE choose to participate in the P&E Clean Line project?

Reference:

Forget the PTC, Wind Energy's Real Problem Is Transmission
Renewable Energy World, May 25, 2015
http://www.renewableenergyworld.com/articles/2015/05/forget-the-ptc-wind-energy-s-real-problem-is-transmission.html?eid=288961982&bid=1081748