From: Luis Contreras
To: Plainsandeastern
Subject: P&E Clean Line part 2 Section 1222: The energy question is not wind or sunlight!
Date: Monday, July 13, 2015 8:34:42 PM
Attachments: The energy question is not wind or sunlight.pdf

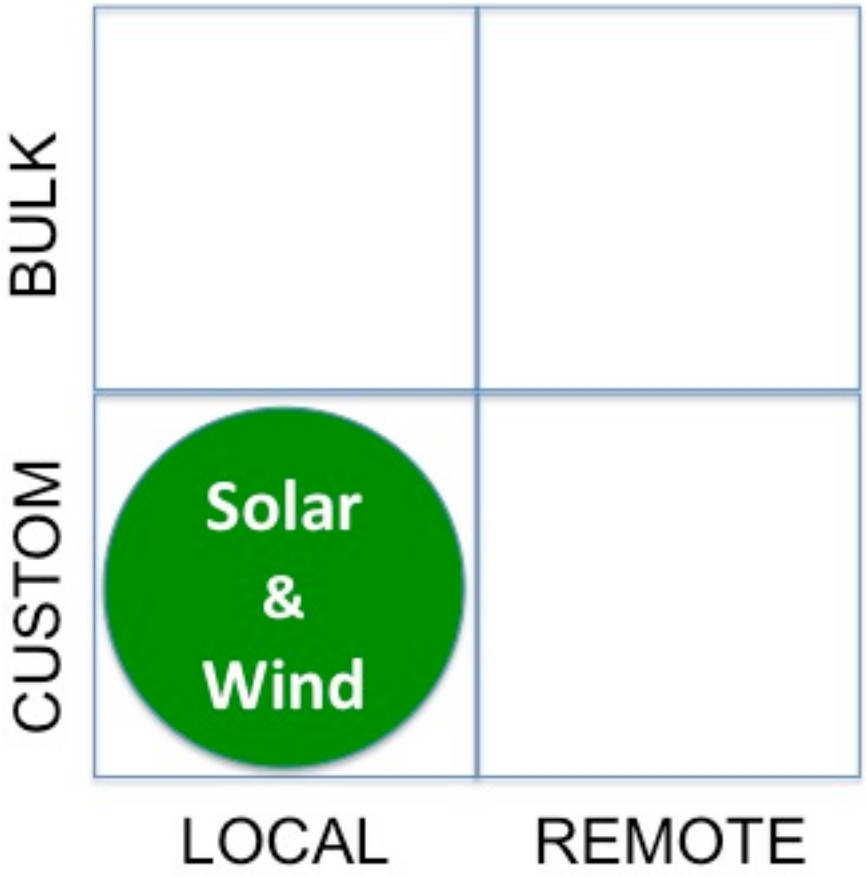
July 13, 2015

The energy question is not about Wind or Sunlight

Dear Secretary Moniz,

This will be my last comment opposing the P&E Clean Line project. Thank you for your consideration.

Here is a better way to think about energy generation. The important questions are: where and how much.



Custom means the right amount of power to meet demand. Local is about the distance from the load.

Examples of local / custom wind energy solutions

A small number of wind turbines to power a coastal community, located near the load are an efficient energy solution.

Offshore Wind Energy already cheaper than Gas & Nuclear Power Plants
April 11, 2015
http://cleantehnica.com/2015/04/11/offshore-wind-energy-already-cheaper-gas-fired-nuclear-power-plants/

The new Forth-Worth TX, Facebook Data Center will be powered by a 200 MW dedicated wind farm 90 miles away. A few poles and wires will be used to bring the power to the Data Center.

Facebook is building a big wind-powered data center in Texas
July 7, 2015
http://fortune.com/2015/07/07/facebook-data-center-texas/

Examples of local / custom solar solutions

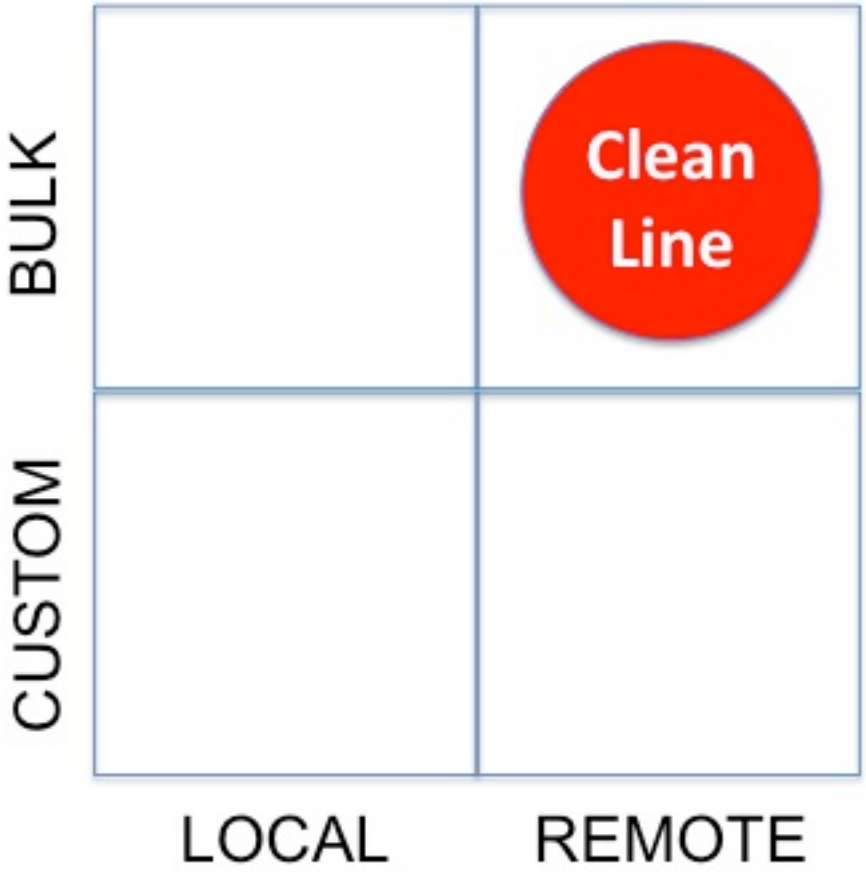
In addition to rooftop solar systems and community solar systems used worldwide, there are many ways to use solar panels.

The new EPA emission standards for large interstate trucks and trailers can be met with inexpensive thin-film solar panels to provide refrigeration, air conditioning, and many other electrical needs. No more idle trucks on parking areas.

School buses with solar panels provide electric for air conditioning, and for schools while parked in the sun waiting for the end of class.

Sometimes power is needed at a temporary location in construction or for emergency services. The trailer below is built from a standard semi-trailer with solar panels on the sides and the roof, and batteries inside the trailer: a stand-alone solar energy system on wheels.

Bulk / Remote energy solutions are high-cost, low-value



Onshore, remote, bulk wind farms are a lousy idea. Bulk makes the intermittency and variability of wind power unmanageable. If you are wondering if you would have similar problems with remote, bulk **solar farms**, the answer is yes.

Transmission and distribution deal with electrons; they all look the same. Intermittency is magnified by bulk generation.

What was Clean Line thinking when they planed to sell 7,000 MW from Oklahoma? Too bad Clean Line does not understand transmission issues; they could have saved their investors over $80 Million and thousands of landowners a great deal of grief. So National Grid and the Z Brothers are out a small chunk of cash, big deal, they will find a way to claim it as a business loss and get a tax credit.

Tyson is said to be planning massive layoffs in Arkansas, and ship frozen chickens in refrigerated containers to China.

USDA to Allow Chickens From U.S. to Be Shipped to China for Processing and Back to U.S. for Consumption
http://ecowatch.com/2014/03/05/usda-chickens-shipped-china/

Tyson would save a few pennies per chicken, to have processing done by cheap labor in inhumane conditions.

Can this be done? Sure, and Tyson may save a few dollars, but no one is going to buy Chinese Chicken knowing the huge carbon footprint in the process. Same with Clean Line, pretending to be “clean.”

Bulk remote wind power falls under the category of variable generation, as its maximum available power varies over time. It cannot be predicted with perfect accuracy (uncertainty). Variable Wind power is not synchronized to the electrical frequency of the power grid and is generally unresponsive to system frequency.

These three characteristics — variability, uncertainty, and asynchronism — are inherent challenges for maintaining a reliable and secure power grid.

NREL has a study on ways to control the *output* of wind turbines to claim wind energy is dispatchable, but clearly is not. Given the huge mass of wind turbines, slowing the rotational speed in a very short time, is like trying to stop an elephant on a dime.

So why would DOE choose to participate in an infeasible and unsustainable project?

Respectfully,

Dr. Luis Contreras