

Bianco, Todd (PUC)

From: Paul Raducha <paul@pvdenergy.com>
Sent: Wednesday, July 13, 2016 11:40 AM
To: WilsonFrias, Cynthia (PUC); Bianco, Todd (PUC)
Subject: Docket 4600 - Input - Comment
Attachments: PVDENERGY - Future of Energy - Analysis of Renewable Energy Projects by State - RI - 05-14-2014.pdf; ATT00001.htm

Cynthia and Todd;

I appreciate your coordination of the PUC meeting regarding Docket 4600. An open and transparent discussion and exchanged of ideas on this subject is key too fair and equitable solution, if not we can settle it with rock paper scissors.

I also appreciated the dry sense of humor peppered though the meeting makes meetings more palatable.

I wanted to provide back up on my input I provided in the meeting.

In the spreadsheet provide by NG we should add / break-out the following the following:

On the vertical axis we need to add the following attributes:

1. **Reduction reliance on feedstock subject to market fluctuations** - Because natural gas plants make up such a large part of the generating fleet, the availability of this fuel has an immediate effect on power grid reliability. For example, the planned or unplanned outage of a major gas pipeline at any time of year would impact many thousands of megawatts of generation. Additionally, when gas- red generators are unavailable to run or underperform, the ISO may need to commit significant amounts of additional generating resources. Fuel costs are the biggest component of wholesale electricity costs. So the price of fuel for natural gas generators—the largest segment of power resources in the region—has a big effect on the region’s electricity prices. Additional pipeline constraints can cause spikes in natural gas prices during very cold winters. (Source: ISONE 2015 Annual report)
2. **Reduction in use of other environmental resources - (*this may or may not be applicable to our energy sourced for Rhode island*)** Coal plants, like most other steam-producing electricity-generating plants, typically withdraw and consume water from nearby water bodies, such as lakes, rivers, or oceans, to create steam for turning their turbines. A typical coal plant with a once-through cooling system withdraws between 70 and 180 billion gallons of water per year and consumes 0.36 to 1.1 billion gallons of that water. A typical coal plant with a wet-recirculating cooling system withdraws only a fraction as much as a once-through-cooled plant, but consumes 1.7 to 4.0 billion gallons per year, while a typical coal plant with a dry-cooled system consumes much less. When water is drawn into a coal power plant, millions of fish eggs, fish larvae, and juvenile fish may also come along with it. In addition, millions of adult fish may become trapped against the intake structures. Many of these fish are injured or die in the process.

On the Horizontal axis we need to break out the "Net Metering" Column:

Although the values provided by net metered DG may have to be aggregated into on group “Net Metering” as it may be hard the break-out the cost structure for each attribute there are separate and distinct attributes we are trying to achieve provided by each and they need to be recognized.

1. **Onsite Net Metering** - directly benefit host (residential / commercial) there are indirect benefits to stakeholders via contribution to the states economic growth via the Host
2. **Virtual Net Metering** - benefits Municipal and Governmental agencies which directly benefit host and therefore directly benefit all ratepayers who are taxpayers.
3. **Community Net Metering** - benefits stakeholders that can not participate in certain programs that they are contributing to, therefore making the solar programs fair and accessible to all.
In addition County solar has lower cost of deployment than that of of certain onsite net metering projects.

Economics:

Just to expand on the economic impact of DG here is the impact I see as a developer:

- Labor - Electricians
- Labor - General Labor
- Labor - Project Managers
- Labor - Engineering / design
- Labor - Legal
- Labor - Accounting
- Permits / fees
- Property taxes on applicable projects
- Local sourced components (thru distributors)
- Lease for land and building owners (land and roof lease)
- Labor for operations and maintenance of projects
- Saving from solar provide disposable income to individuals and organization that are put back into the local economy vs exported.

Based on quick Calculation each 10 MW of solar provides aprox \$4 Million of direct labor wages along with another \$1 to \$2 million of indirect labor / fees.

*See attached documents I produced a bit dated, but you may find interesting. **This report is not for posting on PUC website but for your consumption as a sleeping aid.***

Sincerely