

***I captured the highlights of the conversation and key points that were not included in the presenter's slides. If we have slides to pair with these notes it would be GREAT!***

Solar thermal hot water and solar PV

Private partners can take advantage of tax credits that public entities cannot

Public and private partnerships can open up new avenues to funding

Decrease the cost of capital through public bonds

Projected cost savings are not always materialized

PPA-

Third party financing of the system allows for zero capital investment for the site owner and immediately decreases utility payments for PPA signee (site owner) – see SEIA attachment

Different models

Building owner is the investor and hires an EPC to carry out the work

Solar PV two party model- utility constructs and sells the power to the building owner

Sunsense- utility incentives for installed capacity (example of a utility incentive program)

Intro to John Pierce and our Third Party PPA working group as well as our goals and plan of action.

Why renewable energy at the Biltmore, George Vanderbilt was a trendsetter all the way back to 1895

1.7 mW over 9 acres and offsets 20% of their power use.

What you need to know. Make sure to search and know the company that you are doing business with. Bargain and know your options.

Understanding your contract. Make sure you know what 'turnkey' means. Is O and M included, sales tax? Growing vegetables, grazing sheep.

Make the most of it! The third site didn't make sense and Vanessa took the initiative to train all 1900 employees on energy efficiency and renewables.

Cindy Register

Their group functions as owner and capital

Shares the block with the Nature Research Center. Canopy over the parking deck.

Couldn't get LEED certification for the parking deck bc it was uninhabited. The parking spaces are worth more with the shading

250 kW / \$4 watt. Project budget couldn't support the investment. Couldn't get the tax credit.

State property office is comfortable with leasing rooftops, the previous example was cell signal towers.

State parking, coordination of access??

10 year term with an additional 10 year renewal

3 groups at the pre-bid and only 1 bid

Performance bond was equal to the costs put into the structure below it. Termination value if the developer backed out was equal to the price of the infrastructure (canopy structure) that the state construction office sunk into the project already.

Copies of the lease and RFP will be made available.

Annual rental rates \$13,200 a year at 2.5% for the first 10 years and then 3% escalator for the second term. Lease payments go back to the general fund instead of becoming discretionary funds for use by that University or 'silo'.

Foundation versus state owned land (some loopholes have been closed). Auxillary funds/land. More questions to be asked of the GA's office about this. ***How do we incentivize the University's to take the time, energy and effort to sink into a successful project? Currently there is very little incentive other than good will and personal passion to do the right thing, we need to send a clear economic driver that this is an accepted and preferred behavior.***

Solar thermal economics

CH4 price has a huge impact on the payback on solar thermal.

Plummeting prices of solar PV helps a ton but

Every energy source has its pluses and minuses, how does it impact tourism at Biltmore... how did you choose where to locate the facility?

Visitors to the Biltmore Estate have not traditionally come to see a renewable energy power plant. If you can see it from everywhere it would have been a no-go. Site selection was key, they used an old cow pasture that is out of the way of all the guests, they have additional land to expand if possible. The guests have been so excited about it that Vanessa has been asked to create a Sustainability Tour. They wanted to make sure that it wouldn't affect any of the visitor's experience. Don't ruin the view but it needs to be accessible. Secured by an electrical fence for public safety and security.

Smaller university (didn't figure out who)... Served by a city-owned utility. That muni utility has a 20 year PPA with Duke. They wanted to know how they could go about doing this, very interested.