Virginia's Largest Hospital Solar Tracker: A Year In Review

Scott Blankenship, Carilion New River Valley Medical Center

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SOLAR + BREWERY BUS TOUR

Don’t golf? Like free drinks? Join us for a field trip to Carilion, followed by happy hour at Three Notch’ed Brewery

THURSDAY, MAY 16TH
12:00-5:00

RSVP to nicole@securefutures.solar
Special Considerations

- Management approval
- Land stewardship and local farmer engagement
- Solar Generation Agreement with Secure Futures
- Interconnection Agreement with Appalachian Power Company
- County permitting
- Mobilization, installation and operations
Presentation Overview

1. Design
2. Features
3. Results
System Design
Carilion’s Objectives by Going Solar

- Why did Carilion go solar?
- What are other sustainability programs in Carilion?
- $0 customer capital investment
Special Challenges

- Working with Appalachian Power Company through Self Generation Agreement (SGA)
- County concerns
- Local farmers’ concerns about stewardship of the land
System Size

1.3 Megawatts

3,880 US-made solar panels

Approx. 9 acres
Energy Monitoring
Single-Axis Tracking

Carilion is the only hospital system in the Commonwealth to utilize a single-axis tracking solar system.
Storage

The project also represents a proof of concept of a Nanogrid, using a JLM 60 KW battery storage unit to help Carilion further reduce its peak load demand charges.
Entrepreneur-Sheep!

Sheep control the vegetation under the panels with less of an environmental impact than traditional mowing.
Entrepreneur-Sheep!
Results
Avoided Cost of Energy in 2018: $148,256

- Energy Savings: 34.6%
- Demand Savings: 65.4%
2018 Hourly Solar Irradiance (Expected* vs Actual)

* 30 year average data from National Renewable Energy Laboratory
Peak Demand in 2018

- Actual Demand (Without Solar)
- Demand with Solar

January, February, March, April, May, June, July, August, September, October, November, December
2,121 MWh of estimated electricity produced annually

3.2 million pounds of estimated carbon offset

17% offset of annual electricity requirements

Equivalent to the energy demand of 157 U.S. homes

32% reduction in hospital’s peak energy demand

2019 Governor’s Environmental Excellence Award
Questions?