Orange Button 1.0 : An Open Source Data Taxonomy for PV

2018 PV Systems Symposium

Albuquerque, NM
May 1, 2018

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If you are managing solar assets, what causes you pain?

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- The biggest obstacle to the mainstreaming of solar energy is not, according to John Previtali (VP for Environmental Finance at Wells Fargo), its cost or intermittency; it's *data management*.

- "The issue is that data comes into us in an incredible disparity of different forms, including PDFs, Excel spreadsheets and Word documents," he said. "You have this *huge jungle of documents*, and then you have to have people *manually hunt and peck* through that data to *pick out what they need and then validate* that that data is correct."

https://solarindustrymag.com/orange-button-initiative-takes-aim-solar-soft-costs

What is a data taxonomy?

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- A taxonomy establish a structured nomenclature and vocabulary for data elements
  - Enables automated archive, retrieval and transfer of data between applications
- A taxonomy has a logical hierarchy akin to classes and properties
  - E.g., *SiteDetails* group has elements for
    - *Latitude*
    - *Longitude*
    - An *Address* group (line 1, line 2, city, county , state, zip)
- A taxonomy element has associated metadata
  - E.g., an element *GlobalHorizontalIrradiance* should have
    - *Unit* : W/m2
    - *DateTime* (in a specified date format and timezone)
    - *Duration* (instantaneous or averaging interval)

What is Orange Button?

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- Orange Button℠ is an open data interchange standard for the residential, commercial/industrial, and utility-scale Distributed Energy Resource (solar PV plus storage) industry, comprising
  - information models,
  - a standard taxonomy,
  - a standard Application Program Interface (API),
  - supporting compliance test suites.
- Orange Button 1.0 was released on April 19, 2018.

- Orange Button Resources: https://sunspec.org/orange-button-workgroup/
  - Requires IP Agreement to see content
- Project description: https://sunspec.org/sunspec-osdx/

What can Orange Button do / not do?

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- OB 1.0 focuses on financial data management, e.g.
  - Loan origination, construction finance, project sale, billing
  - Built using XBRL – taxonomy language for e.g., SEC filings
- OB intends to fully support Operations use cases
  - Currently, OB supports reporting of e.g. monthly/annual production, capacity and performance testing
  - Does not support archive/exchange of the data used to produce these reports
- We anticipate further development to extend the taxonomy and associated software

- We want to hear your user stories!
  - What data management challenges do you face?