Why SunShot

SunShot Goal: 5 - 6¢/kWh without subsidy.

A 75% cost reduction by 2020.
SunShot 2030 Goals

Commercial PV: $0.04/kWh

Utility-scale PV: $0.03/kWh

Residential PV: $0.05/kWh
SunShot Program Structure

2020 Goal

6¢/kWh

SunShot 2020 Goal
The cost of market inefficiency caused by data scarcity is typically passed along to the consumer or results in missed opportunity.
Soft Costs and Deployment Barriers

- Soft costs and Deployment barriers are the result of a lack of information needed to do a job or make a decision
- They can be called “transaction costs”
  - Information/data search, gathering and generation costs
  - Opportunity costs, inefficiency or inaction when decisions appear risky
  - Compliance and enforcement costs
- These information gaps slow market growth and can prevent market access
SunShot Soft Costs Strategic Areas

NETWORKING AND TECHNICAL ASSISTANCE
Empowering state and local decision-makers through timely and actionable resources, peer networks, and technical assistance.

BUSINESS INNOVATION
Developing solar finance and business solutions to expand access to capital and accelerate market growth.

DATA ANALYSIS
Harnessing big data analysis and technical solutions to support the many stakeholders involved in solar deployment.

TRAINING
Training an innovative solar workforce to enable the solar industry to meet growing demand.
The Orange Button Initiative simplify and standardizes solar data so you can use it.
Standards for More Efficiency in Solar Finance

Jon Previtali, VP Renewable Energy & Environmental Finance
June 2017
Standards for More Efficiency in Solar Finance

8+GW portfolio comprised of 50+ Wind projects and 300+ Solar projects
~$4.8bn of tax equity invested into 385 wind and solar projects across 29 states

Wells Fargo Renewable Energy & Environmental Finance (REEF)
Soft Costs of Solar

A good portion is data retrieval, transfer, re-entry & error correction.

Source: US DOE
Project Finance Information Flow: ORIGINATION

- EPC Contractor
- Energy (PPA) Offtaker
- REC Offtaker
- Environmental Consultant
- Equipment Factory Auditors
- Permitting Authorities
- Interconnecting Utility
- Insurance Company
- Equipment Vendors

~100 files per project

- Project Developer
- Data Room
- Independent Engineer
- Appraiser
- Attorneys
- Tax Consultant
- Insurance Consultant
- Environmental Consultant
- Transmission Consultant
- Energy Price Forecaster

- Wells Fargo Project Origination
  - Internal Data: Credit Ratings, Current Exposure, Pricing Files, etc.
  - Origination Request
  - Investment Memo
  - Flow of Funds
  - Portfolio Mgmt. Handoff Package
  - Wells Fargo Back-Up Operator & Monitoring Provider
Standards for More Efficiency in Solar Finance

Project Finance Project Finance Data Flow with Documents, “The Old Way”

Contractors, Vendors, & Other Stakeholders
Consultants

Bank’s Project Finance Person
Data Flow with Data in Documents, “The Modern Way”
Project Finance Information Flow: PORTFOLIO MANAGEMENT

Collateral Agents (banks)
- Financial Data: Revenue & Expenses

Project Operators
- Monthly Ops Reports: Energy Production, Issues, Billing Data

Energy Price Forecaster
- Updated Energy Price Forecasts

Insurance Company
- Updated Insurance Certifications

Internal Bank Sources
- Updated Credit Ratings, Exposure

Wells Fargo Portfolio Management

- Data Retrieval & Consolidation

Comparison to Investment Memo & last report

- Quarterly Reports (fund level*)
- Annual Reviews (fund & project level)

~12 files per fund/year
~5 files per project/year
~2,000 files per year

*a fund is a collection of projects
Portfolio Management Data Flow with Documents, “The Old Way”

Collateral Agents (other banks), Internal Sources, Operators, Price Forecasters, etc.

Project’s Asset Manager

Bank’s Asset Manager

Standards for More Efficiency in Solar Finance

Collateral Agents (other banks), Internal Sources, Operators, Price Forecasters, etc.

Project’s Asset Manager

Data

Bank’s Asset Manager

Data

ORANGE BUTTON
Data Streams can be Rerouted after Project/Portfolio Sales
Data Streams can be Rerouted after Project/Portfolio Sales
Another best practice that can be done right now:
Like Documents for Multiple Projects with Reference Pages/Documents with Defined Terms

Like (the same) Project Documents, for each Project in a Portfolio or Fund.

Reference Document for each Project contains:
- Defined Terms
- Unique Reference Values

Like bodies of Project Documents, for each Project in a Portfolio or Fund with unique Reference Pages with:
- Defined Terms
- Unique Reference Values
Thank you!

Jonathan.m.previtali@wellsfargo.com
(415) 947-1980