

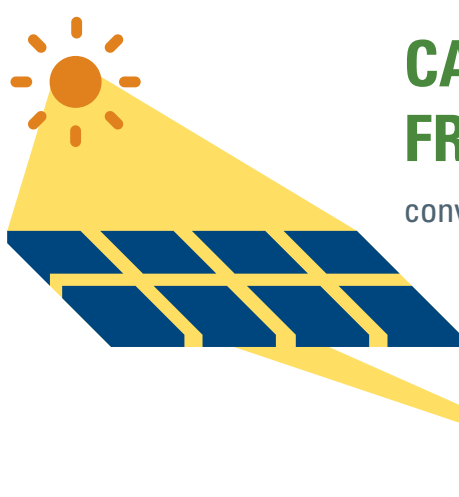
OPPORTUNITY

How much energy
is generated by
photovoltaics in
GSA buildings?

1% OF GSA'S ENERGY COMES FROM SOLAR¹

TECHNOLOGY

How does
PV work?



**CAPTURES ENERGY
FROM THE SUN**

converts 13–19% into electricity²

M&V

Where did
Measurement and
Verification occur?

SANDIA NATIONAL LABORATORIES and **NEW MEXICO STATE UNIVERSITY'S COLLEGE OF ENGINEERING** assessed performance of 5 PV installations provided by Sunpower, Evergreen Solar, Solyndra, United Solar Ovonix, and Abound Solar at the Major General Emmett J. Bean Federal Center in Indianapolis, Indiana

RESULTS

How did
photovoltaics
perform in M&V?

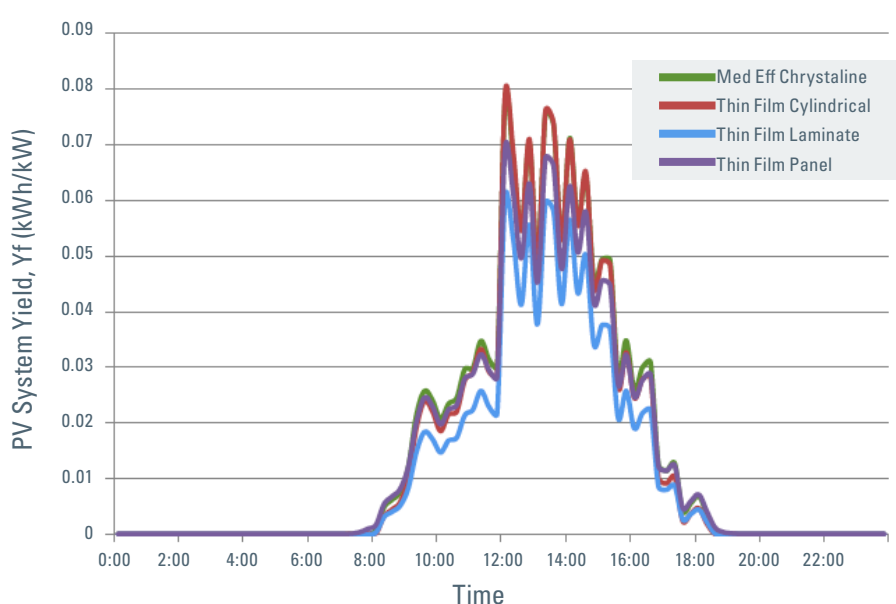
**8%
OF SITE
LOAD ENERGY**
generated from PV³

**PARITY
AMONG SYSTEMS**
under cloudy skies⁴

**19
YEAR**
payback⁵
Steady decline in
PV cost will further
improve payback⁶

Laboratory Systems Perform Similarly Under Cloudy Skies

PV System Yield on Cloudy Day, March 3, 2012



DEPLOYMENT

Where does
M&V recommend
deploying
photovoltaics?

**PV EFFECTIVE EVEN IN DIFFUSE,
4-SEASON CLIMATES**
PRICE SHOULD DRIVE PV SELECTION

Modeling tools produce accurate simulations for both sunny
and cloudy climates

¹GSA Energy Usage Analysis System, 2013 ²Photovoltaic System Performance. Andrew L. Rosenthal (USD OE, NMSU, SNL) December 2012, p.5 ³Ibid, p.12 ⁴Ibid, p.1 ⁵Ibid, p.12 ⁶Ibid, p.3