



World Energy Outlook Electricity Roundtable

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NREL at a Glance

2900

Employees,
postdoctoral
researchers,
interns, visiting
professionals



World-class
facilities, renowned
technology experts

nearly
820

Partnerships
with industry,
academia, and
government

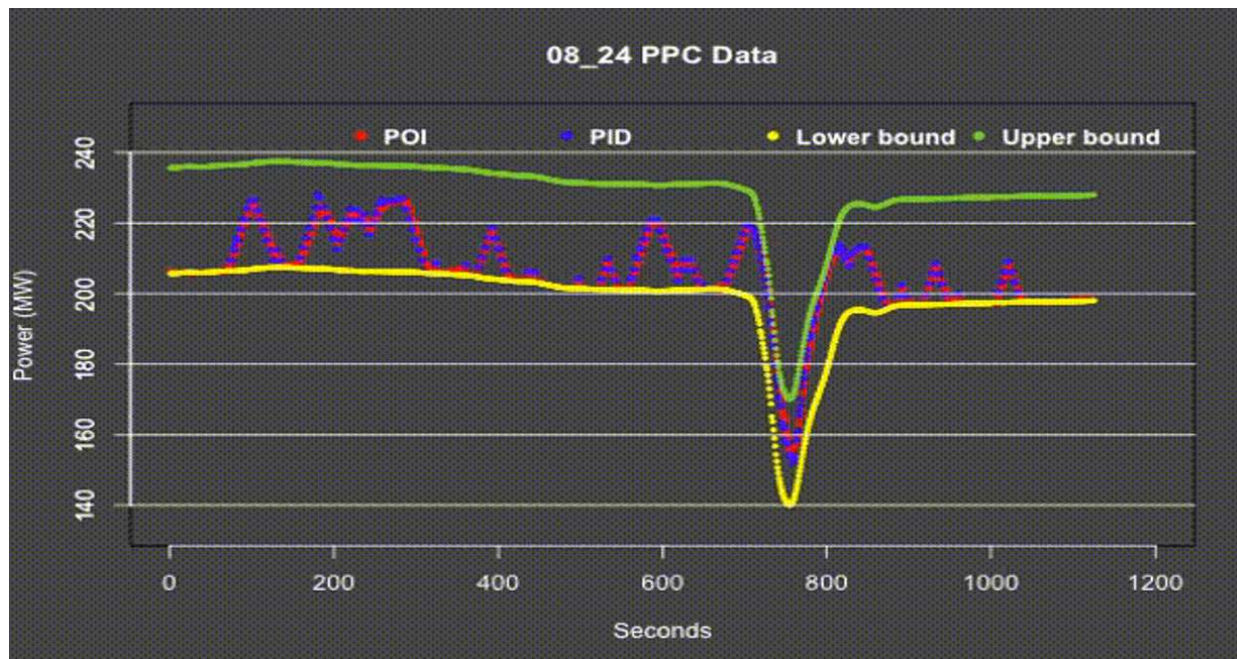
\$500
million

**Annual
Budget**

\$1.1B
annually

**National
economic
impact**

Demonstration of Essential Reliability Services by a 300 MW Solar PV Power Plant



300-MW PV Plant in California



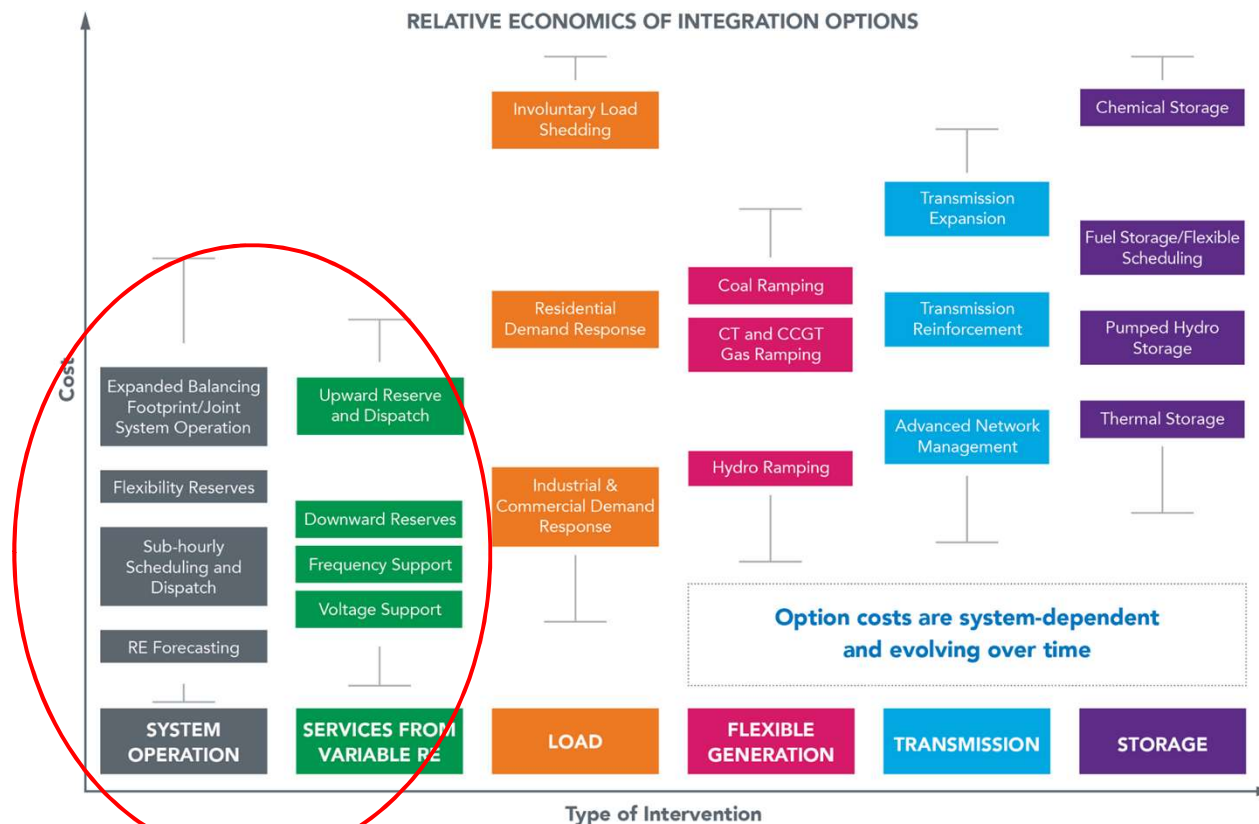
Photo from First Solar

Demonstrated that PV/Wind and RE-hybrid Systems can deliver essential grid services

Source: C. Loutan et al., *Demonstration of Essential Reliability Services by a 300-MW Solar Photovoltaic Power Plant*,

<http://www.nrel.gov/docs/fy17osti/67799.pdf>

Frequently Used Options to Increase Flexibility



Source: J. Cochran et al., *Grid Integration and the Carrying Capacity of the U.S. Grid to Incorporate Variable Renewable Energy*, <http://www.nrel.gov/docs/fy15osti/62607.pdf>