

sCO₂ Cycles for Concentrating Solar Power

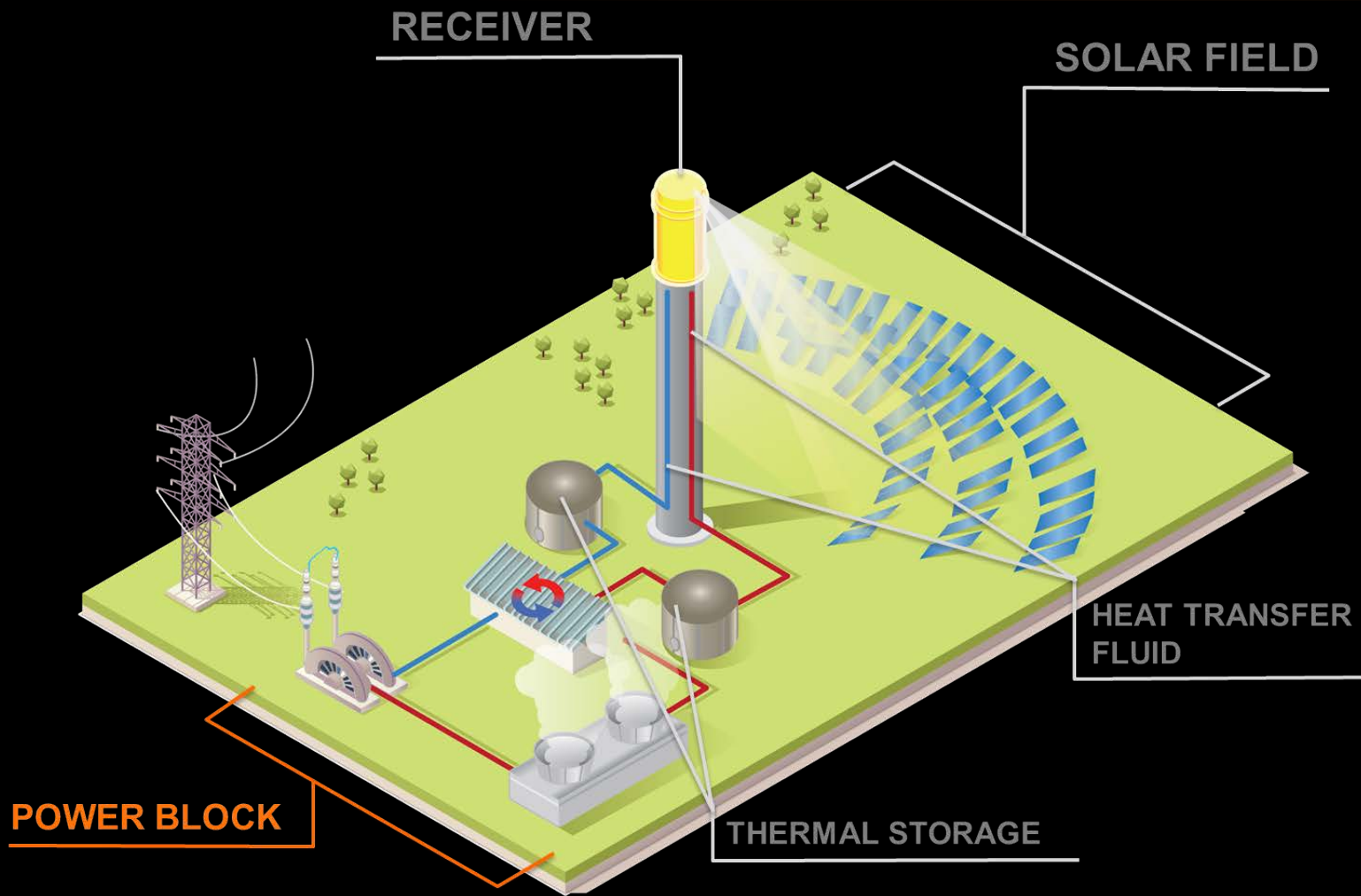
Jesse Gary

Supercritical CO₂ Power Cycles Symposium • September 9, 2014



SunShot
U.S. Department of Energy

Concentrating Solar Power



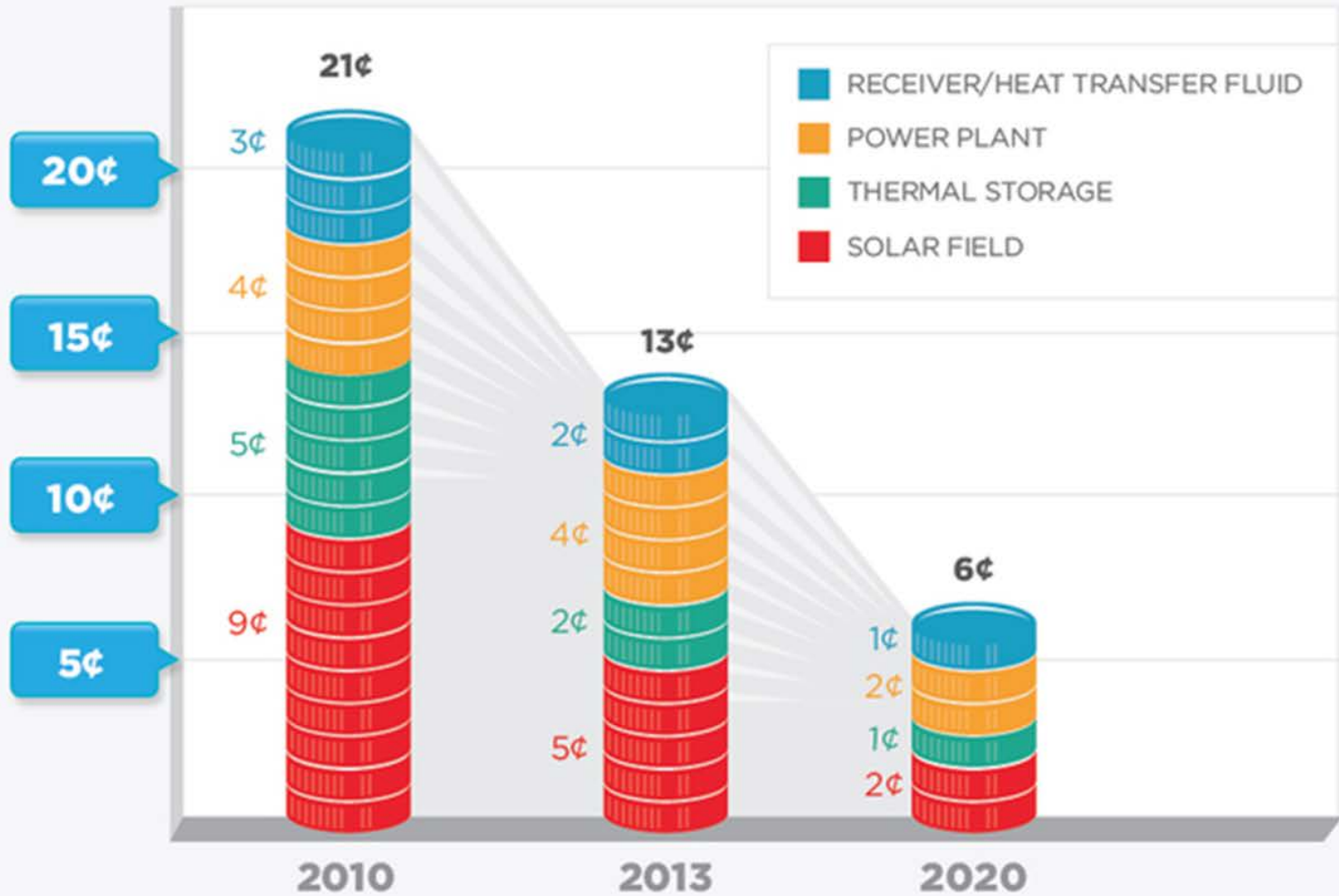
CSP Deployment



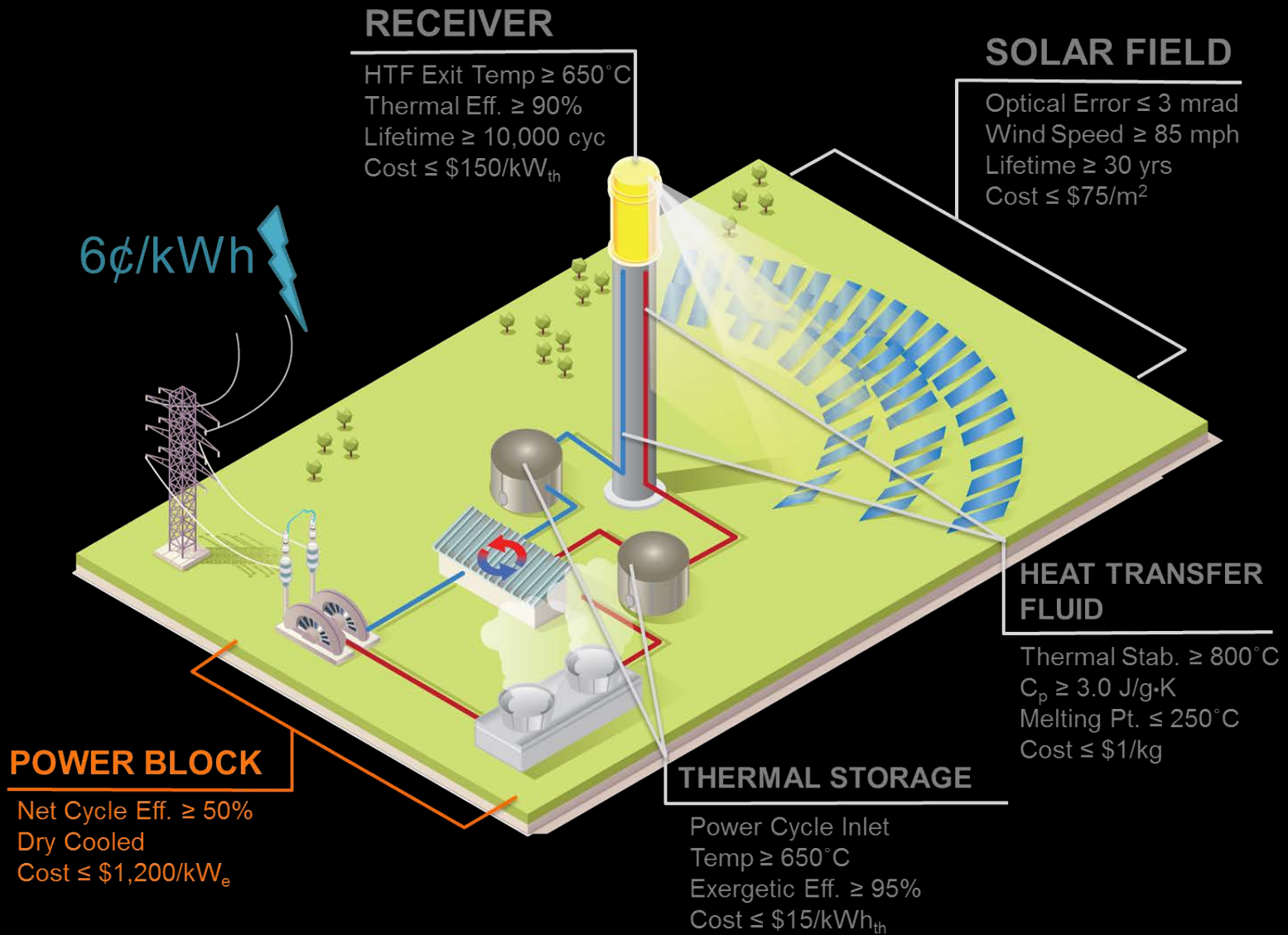
- Worldwide: Over 5 GW operational or under construction
- USA: 1.8 GW operational or under construction

SunShot CSP Goal

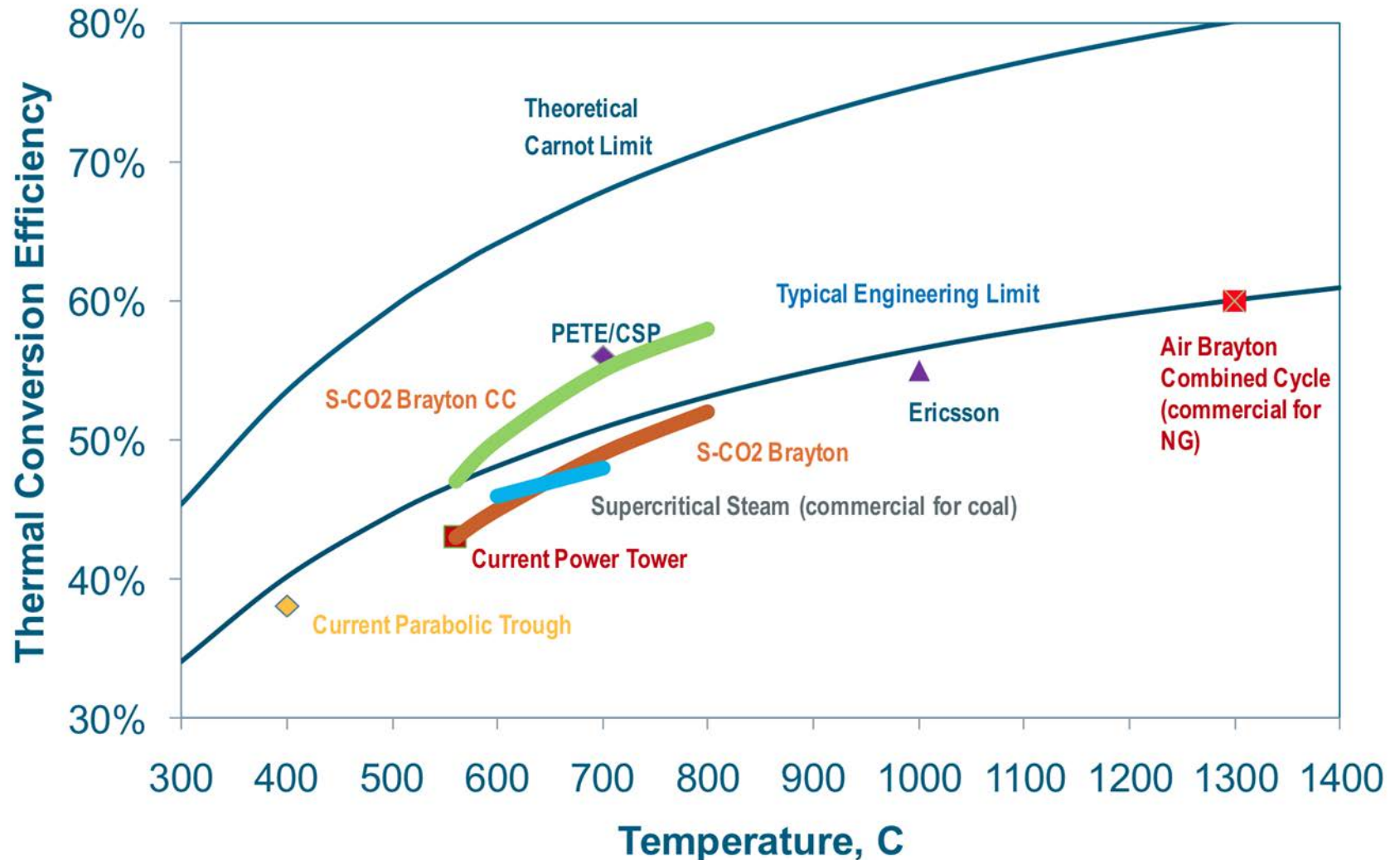
Levelized Cost of Electricity in 2010
Cents per Kilowatt Hour



DOE SunShot CSP Strategy



Cycle Efficiency



DOE CSP sCO₂ Portfolio

- Goal: To innovate and develop next-generation sCO₂ technologies for CSP, including high-efficiency dry-cooled power cycles and components, direct high-temperature sCO₂ receivers, and durable containment materials and coatings.
- Current Investment: Approximately \$17 million in 6 projects at companies, universities and national laboratories.
- Future Investment: \$25M FOA planned for FY 15.



DOE sCO₂ Tech Team

- Office of Energy Efficiency and Renewable Energy
 - SunShot Initiative
 - Geothermal Technologies Office
- Office of Fossil Energy
- Office of Nuclear Energy
- Office of the Under Secretary for Science and Technology

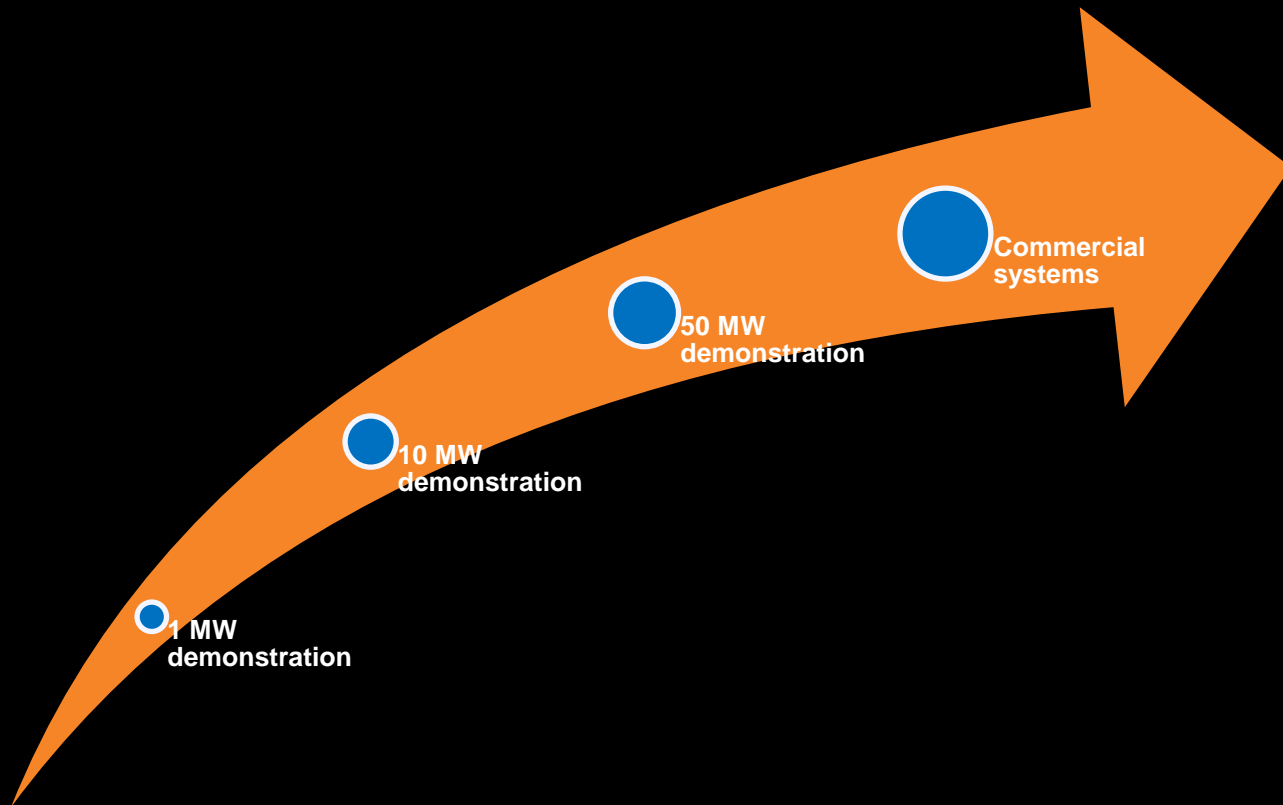


SUPERCRITICAL CARBON DIOXIDE POWER CYCLE DEVELOPMENT WORKSHOP

June 23-24, 2014

Embassy Suites DC Convention Center
900 10th Street, NW
Washington, DC 20001

Pathway to Market





SunShot

U.S. Department of Energy

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