

Solar Energy: Clean, Reliable, and Made in the USA

Rhone Resch

President

**Solar Energy Industries
Association**

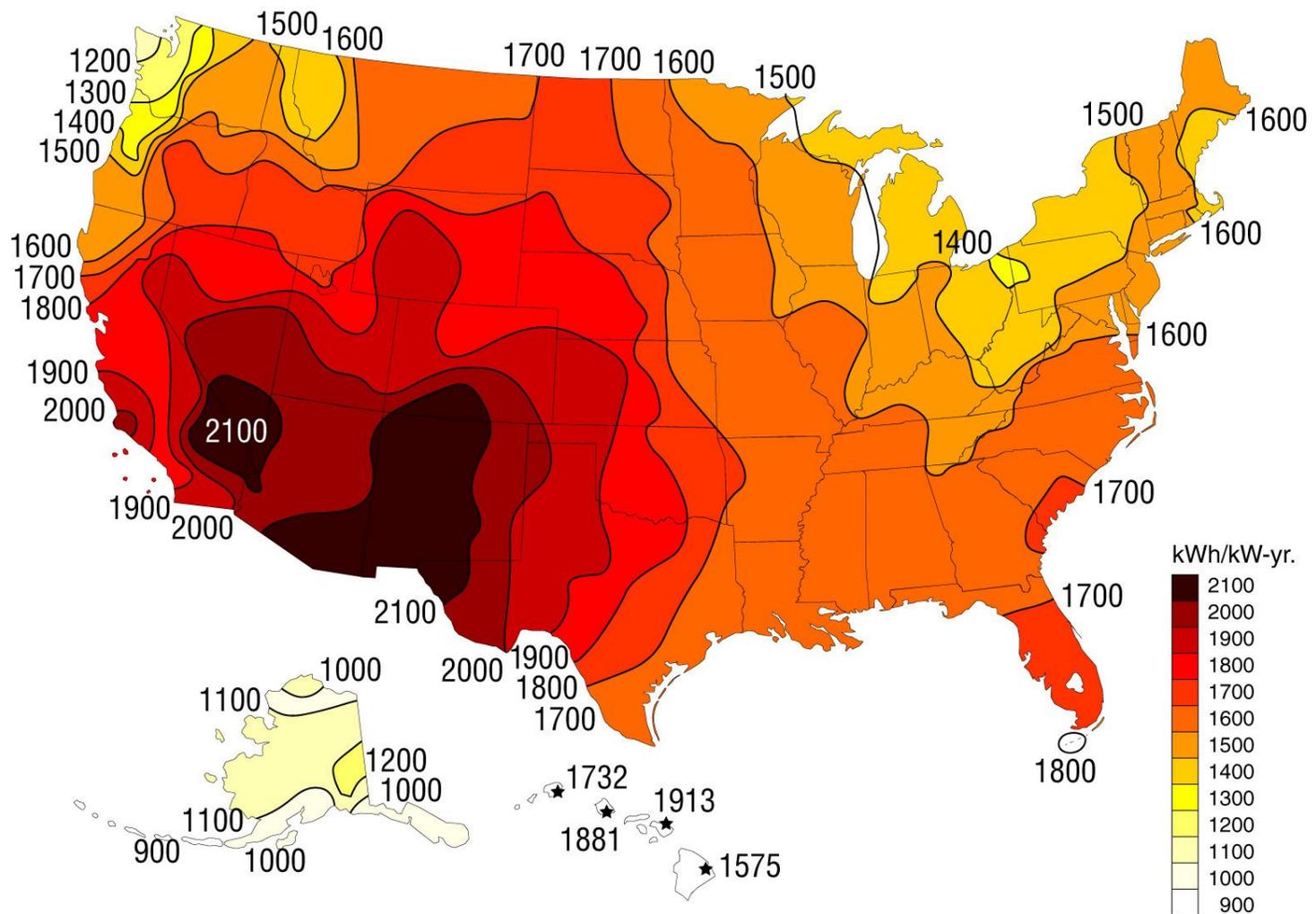
Solar Energy Industry Association



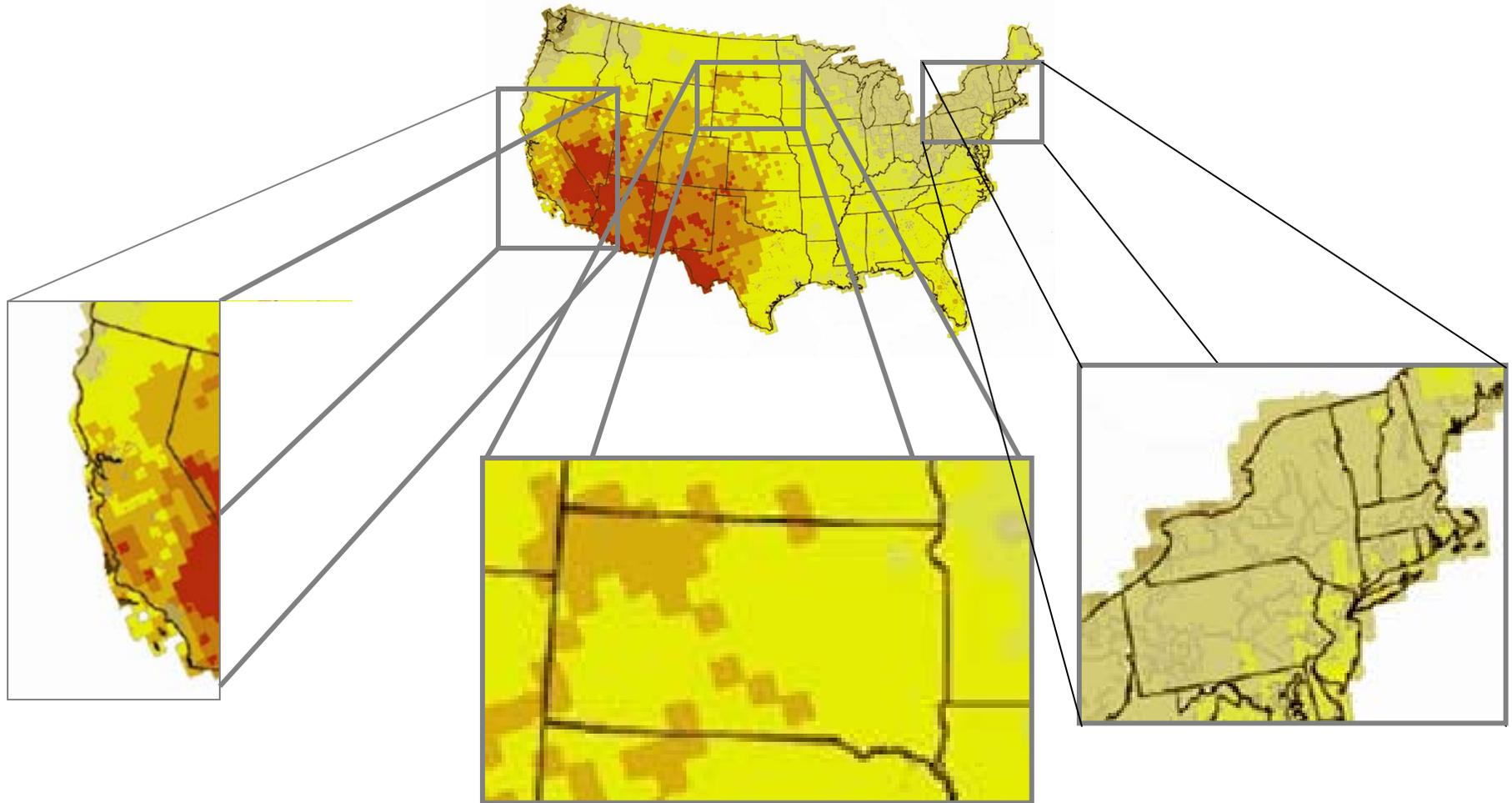
- **National trade association for solar**
- **Federal level**
 - Represent the industry
In Washington
- **State level**
 - Orchestrate activities in
the states
 - 14 state SEIA chapters
- **Over 700 companies employing 20,000**
- **All technologies, all sectors**



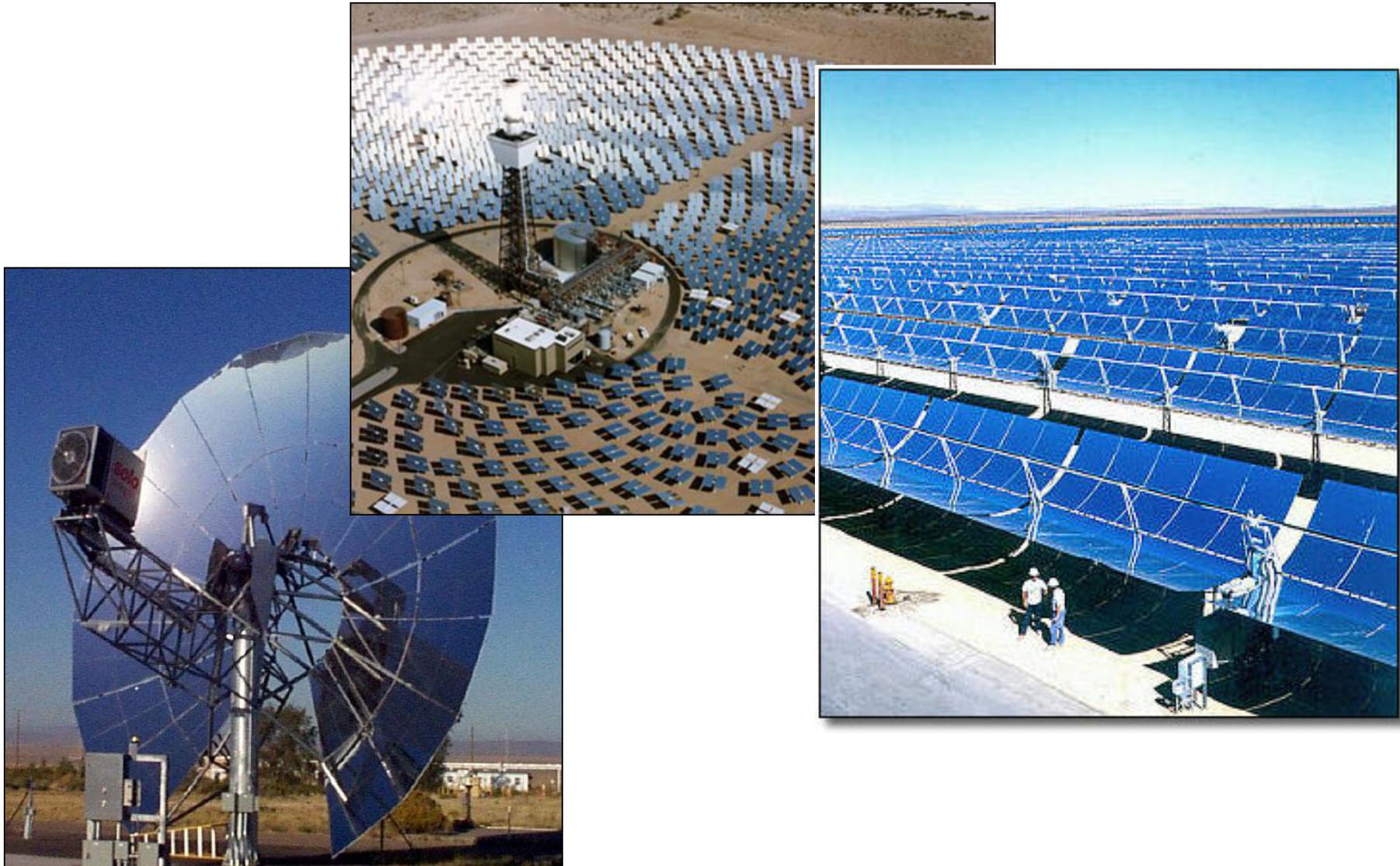
“Best in World” Solar Resources



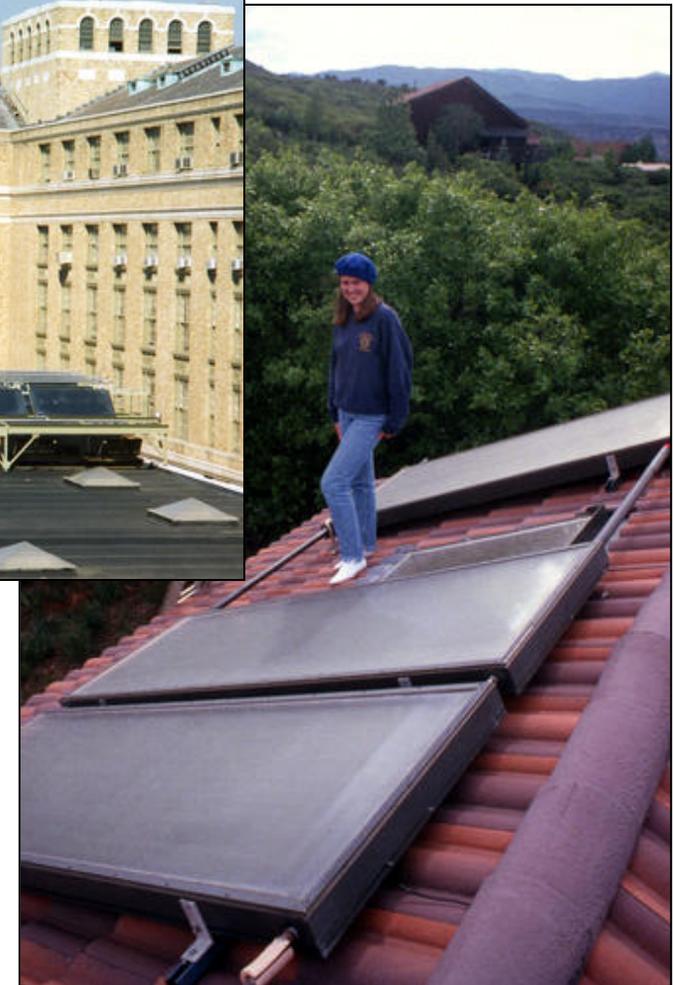
South Dakota Has Great Solar Resources



Concentrating Solar Power



Solar Water Heating



Photovoltaics



Benefits of Solar



- **Endless supply**
- **Cleanest form of energy**
- **Displaces natural gas**
- **Addresses peak power demand**
- **Improves electricity reliability**
- **Saves the consumer money**
- **Creates economic growth**

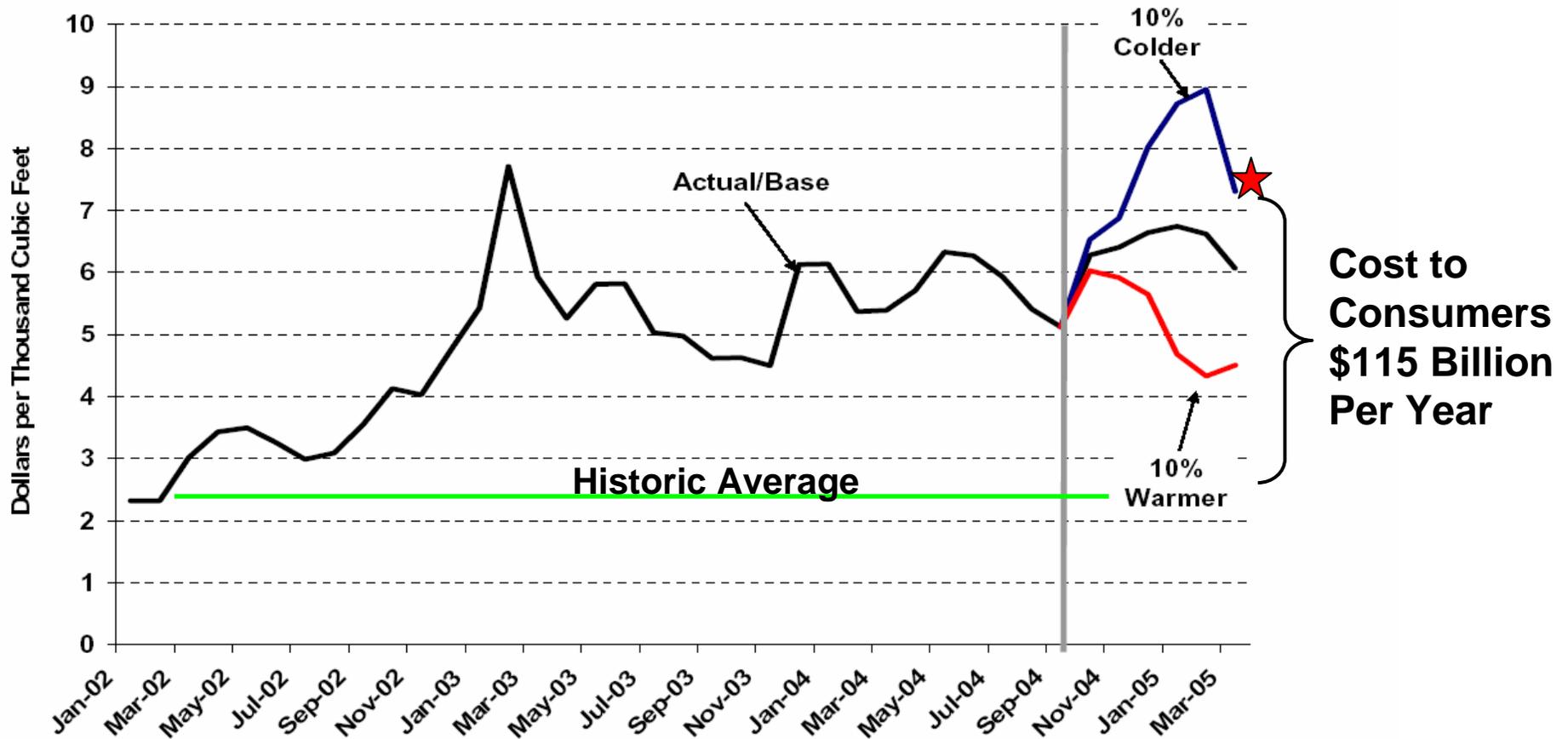


Clean Energy



- **No Air Pollution**
- **No Water Pollution**
- **No Noise Pollution**
- **No Solid Waste**
- **No Radiation Risk**
- **No Transmission Lines**
- **No Cooling Water**

Natural Gas Prices are Restricting our Economy



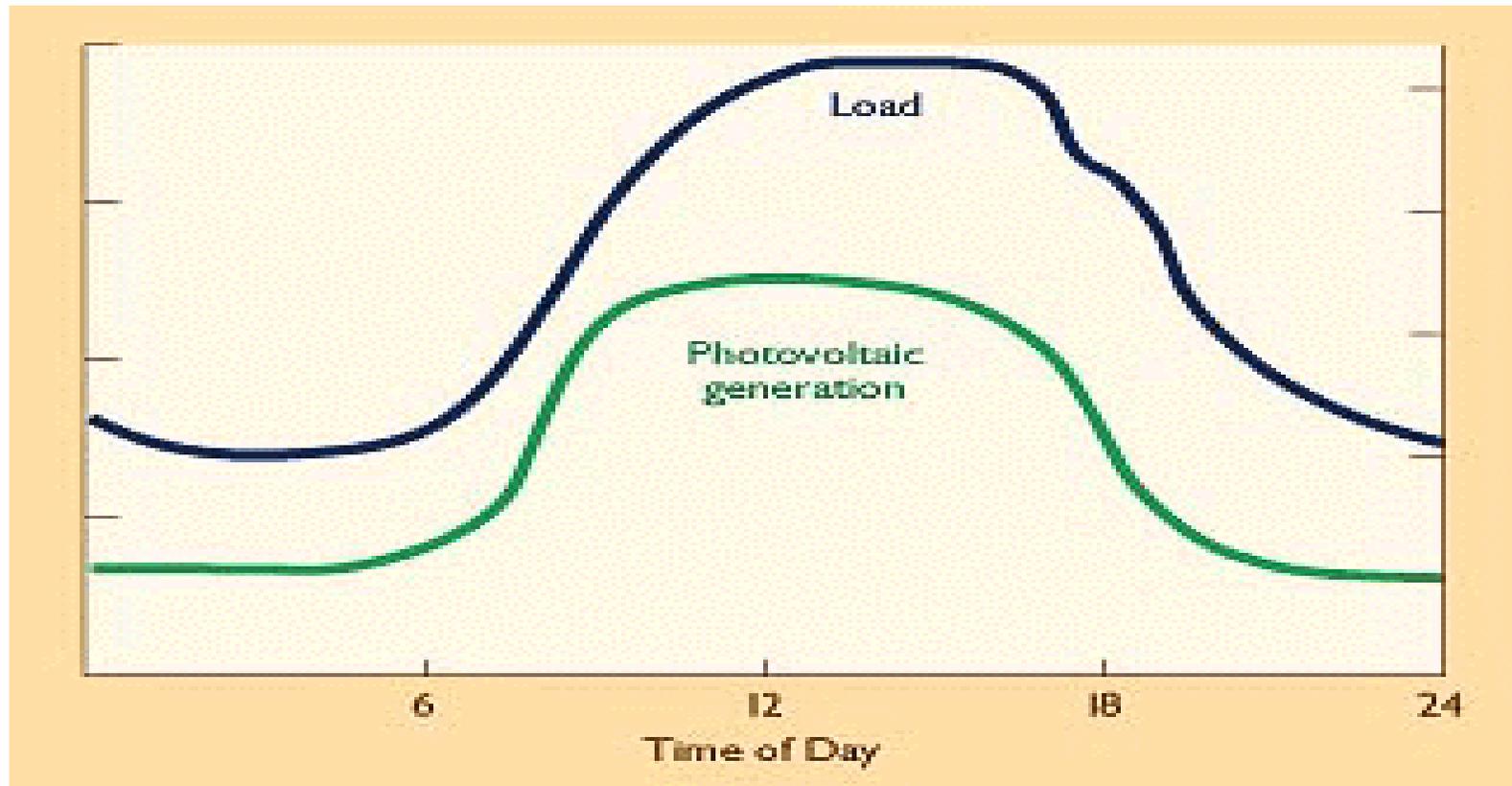
(Energy Information Administration/Short-Term Energy Outlook -- October 2004)

Solar Displaces Natural Gas



- **Solar water heating**
 - Decrease home natural gas use by up to 70%
- **Photovoltaics**
 - Displace the need for inefficient natural gas or diesel peaking units
- **CSP facilities**
 - Replace need for intermediate and peaking natural gas units
- **Replace more than half of new LNG in 5 years**
- **Save the consumer over \$64 billion over 20 years**

Solar Energy Addresses Peak Power Demand



Utility load and PV output versus time of day.

http://www.nrel.gov/ncpv/documents/pv_util.html

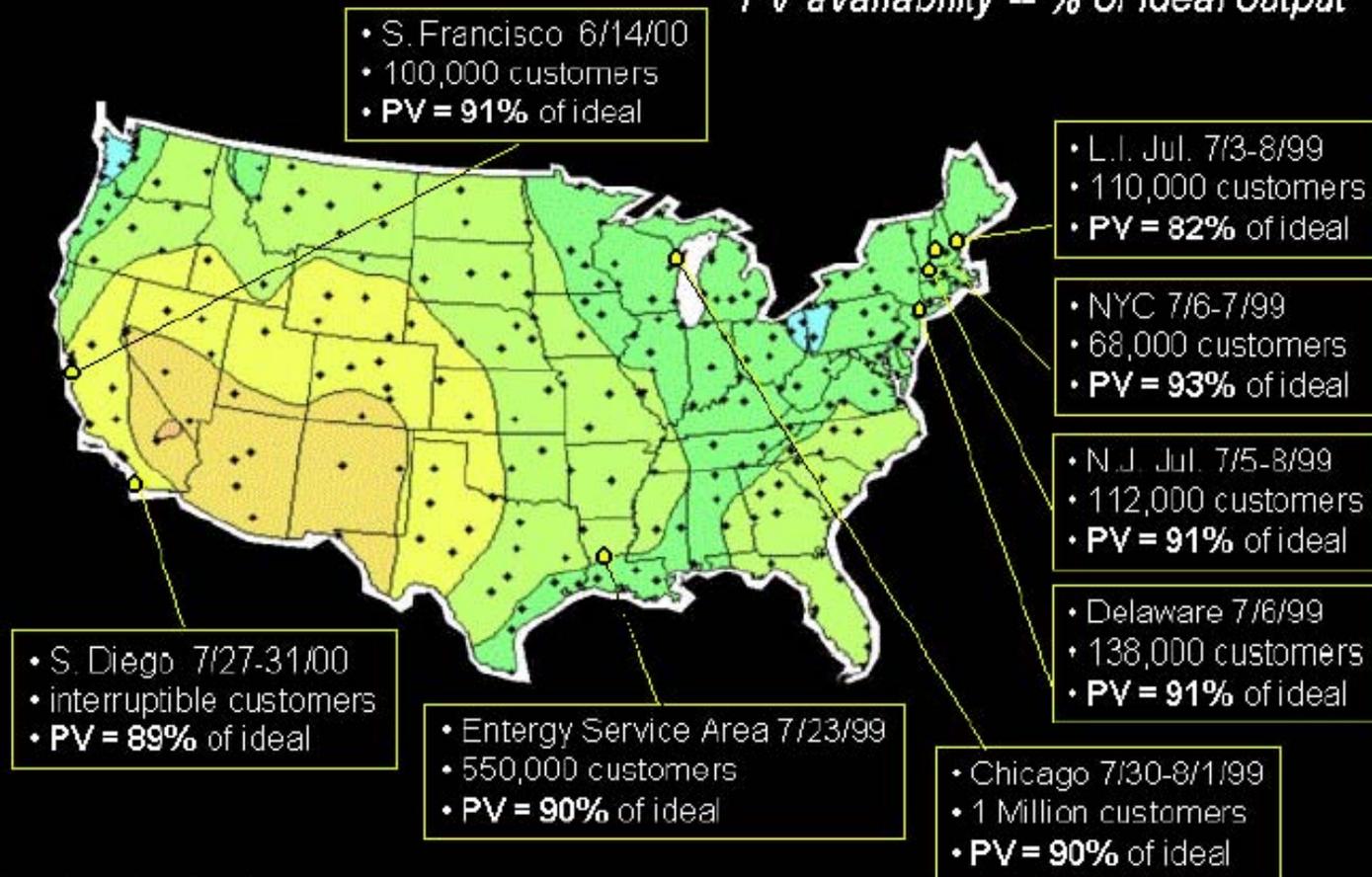
Solar Improves Electricity Reliability



MAJOR 1999-2000 OUTAGES

Perez, Letendre & Herig ASRC / GMC / NREL

PV availability – % of ideal output



Perez et al., ASRC

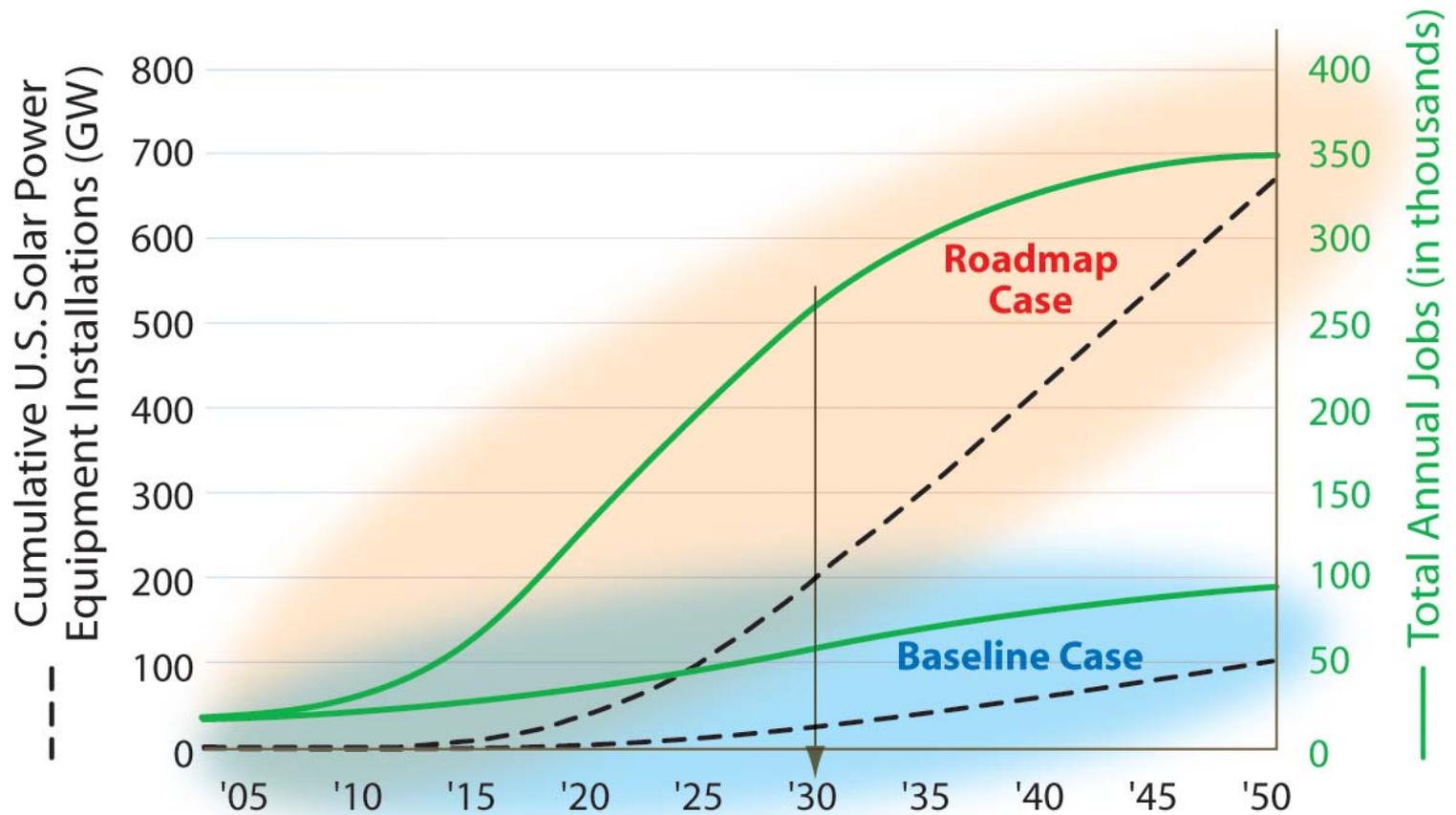
Solar Energy Saves Consumers Money



California - savings per kWh

Reduced peak demand	7.3 - 11.9 cents
Lessening consumption of NG	5.6 - 7.5 cents
Avoiding environmental damage	3.3 cents
Improved grid efficiency	0.7 - 2.6 cents
Avoiding T&D upgrades	4.5 - 10 cents
Total	<hr/> 23 - 35 cents

Solar Power Creates Economic Growth



"Our Solar Power Future," SEIA

Solar Power Creates Economic Growth



Modules



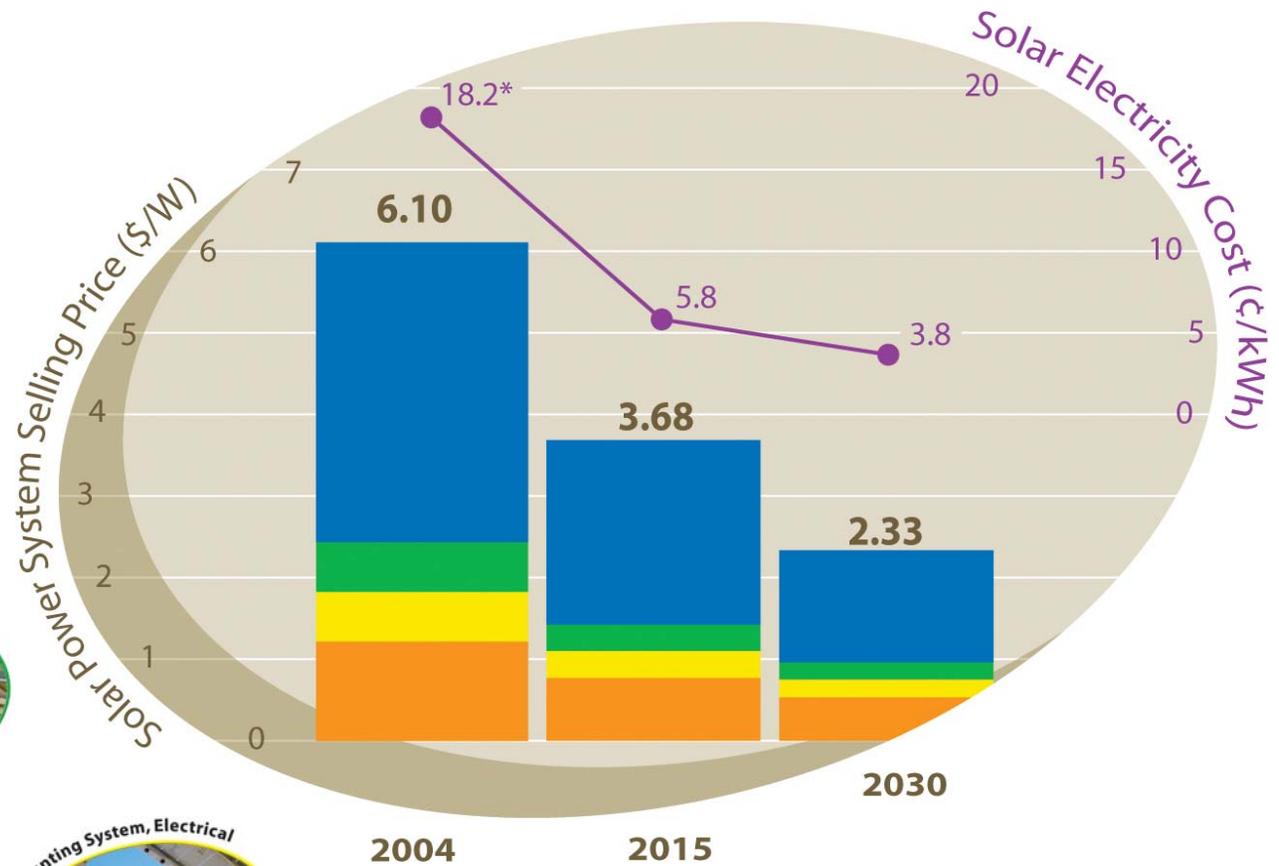
Inverters



Mounting System, Electrical



Engineering / Installation



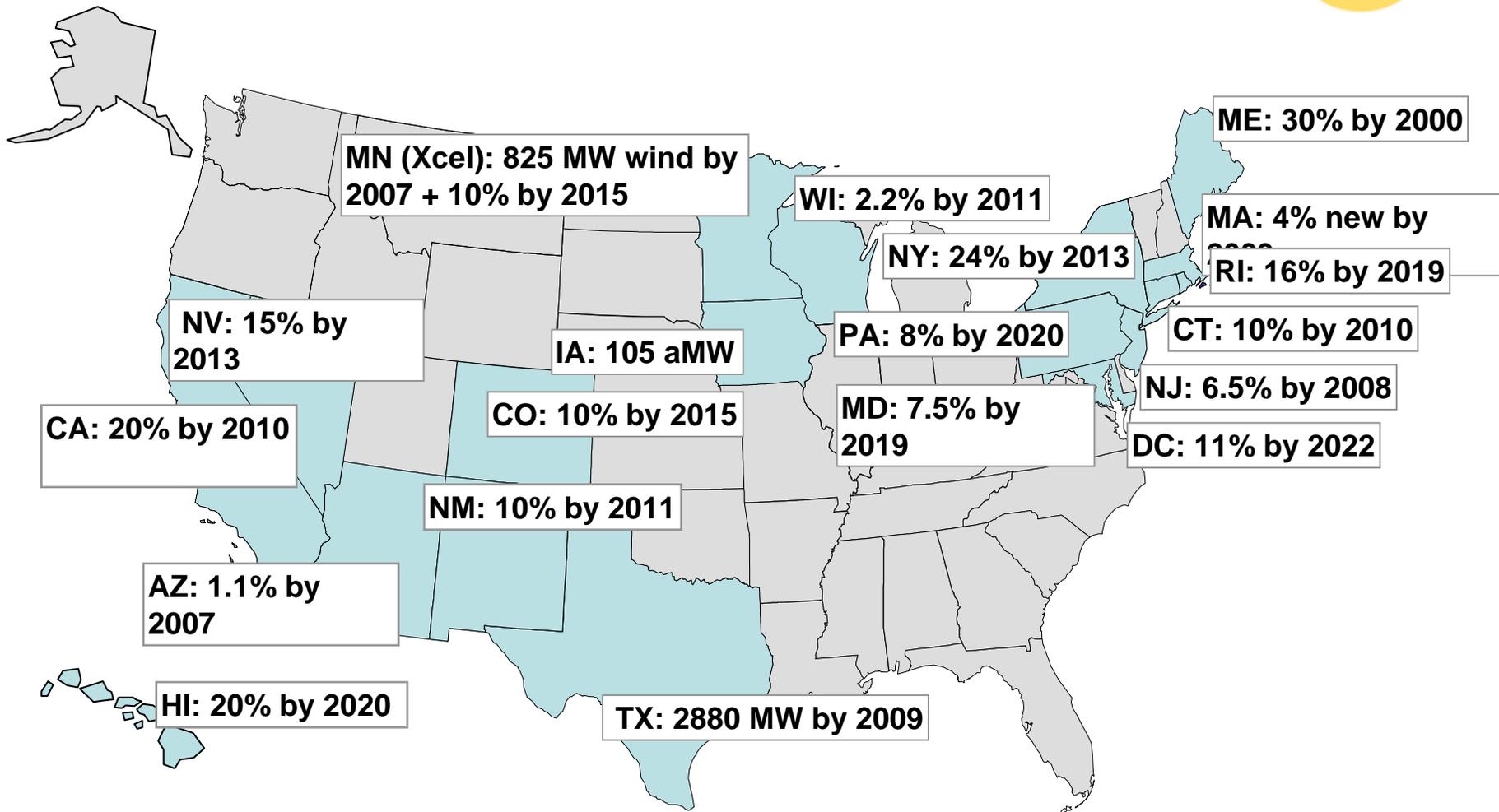
"Our Solar Power Future," SEIA

Washington Perspective

- **States are Defining the “New Energy Policy”**
- **Natural Gas Bill**
- **Energy Bill**
- **Climate Legislation**
- **Energy Security**
- **Presidential Emphasis:**
 - Innovation
 - Ownership
 - Opportunity
 - Security

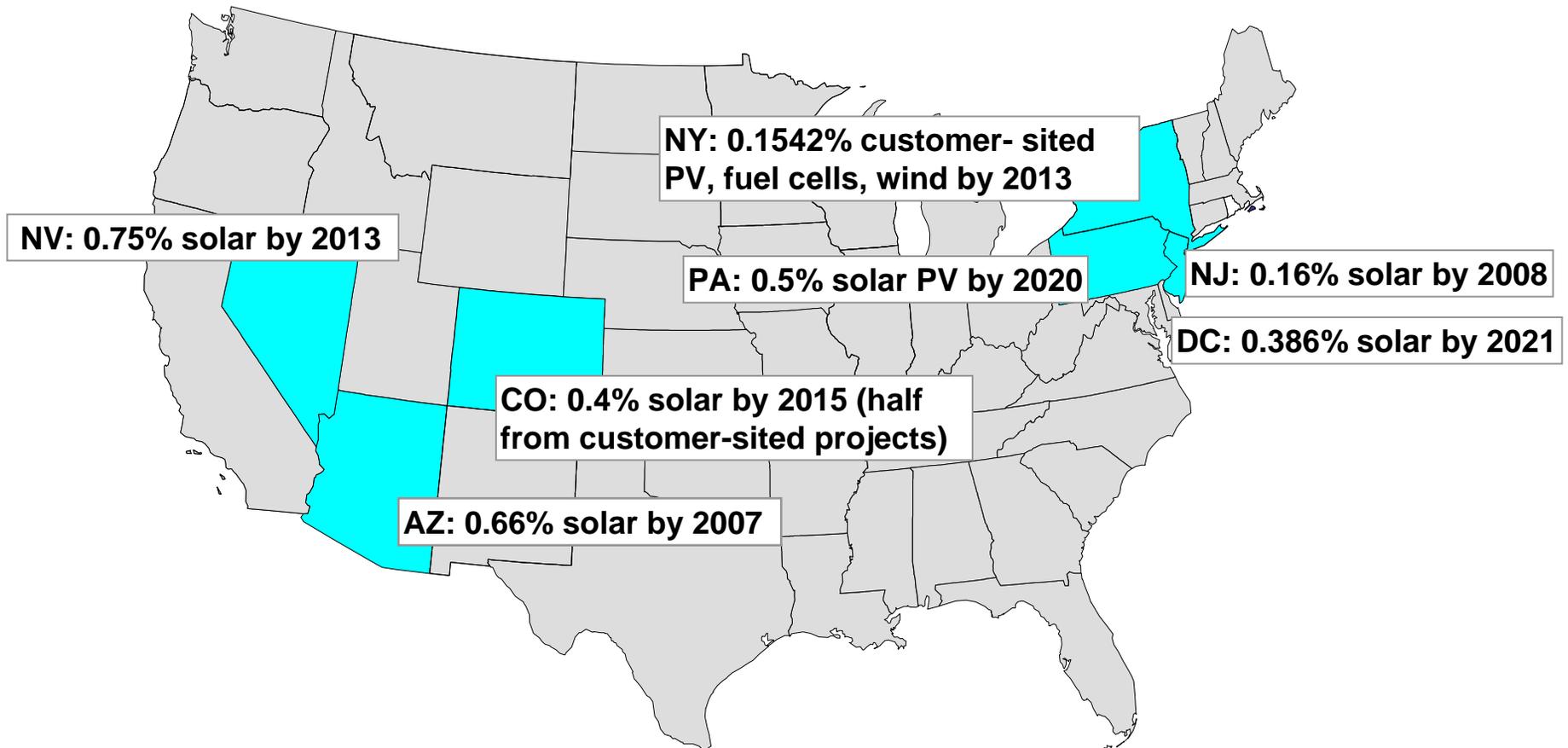


Existing State RPS Requirements: 18 States and Washington D.C.



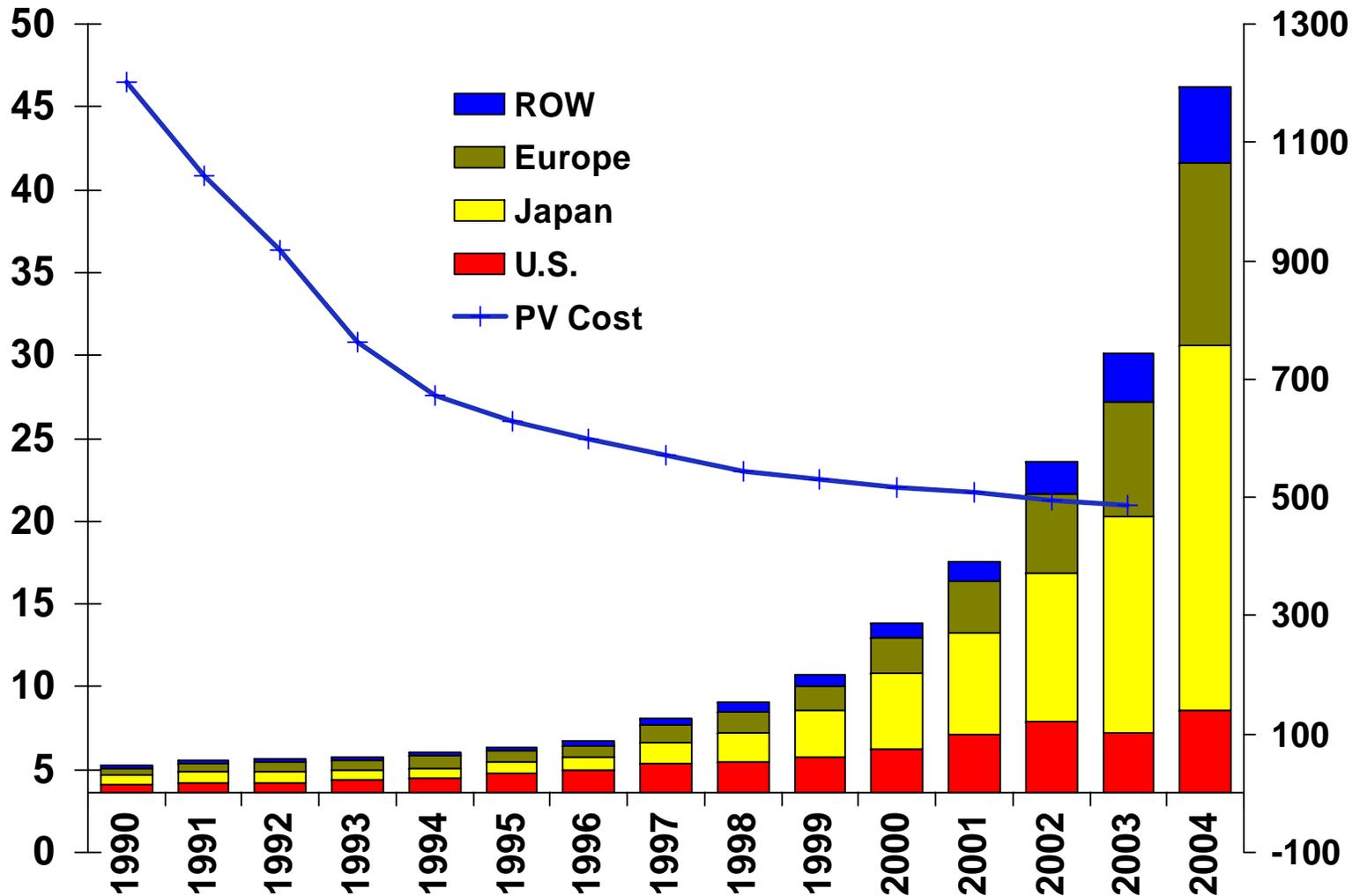
Source: Ryan Wiser, LBNL, 2005

Solar Set-Asides: 6 States and Washington, D.C.



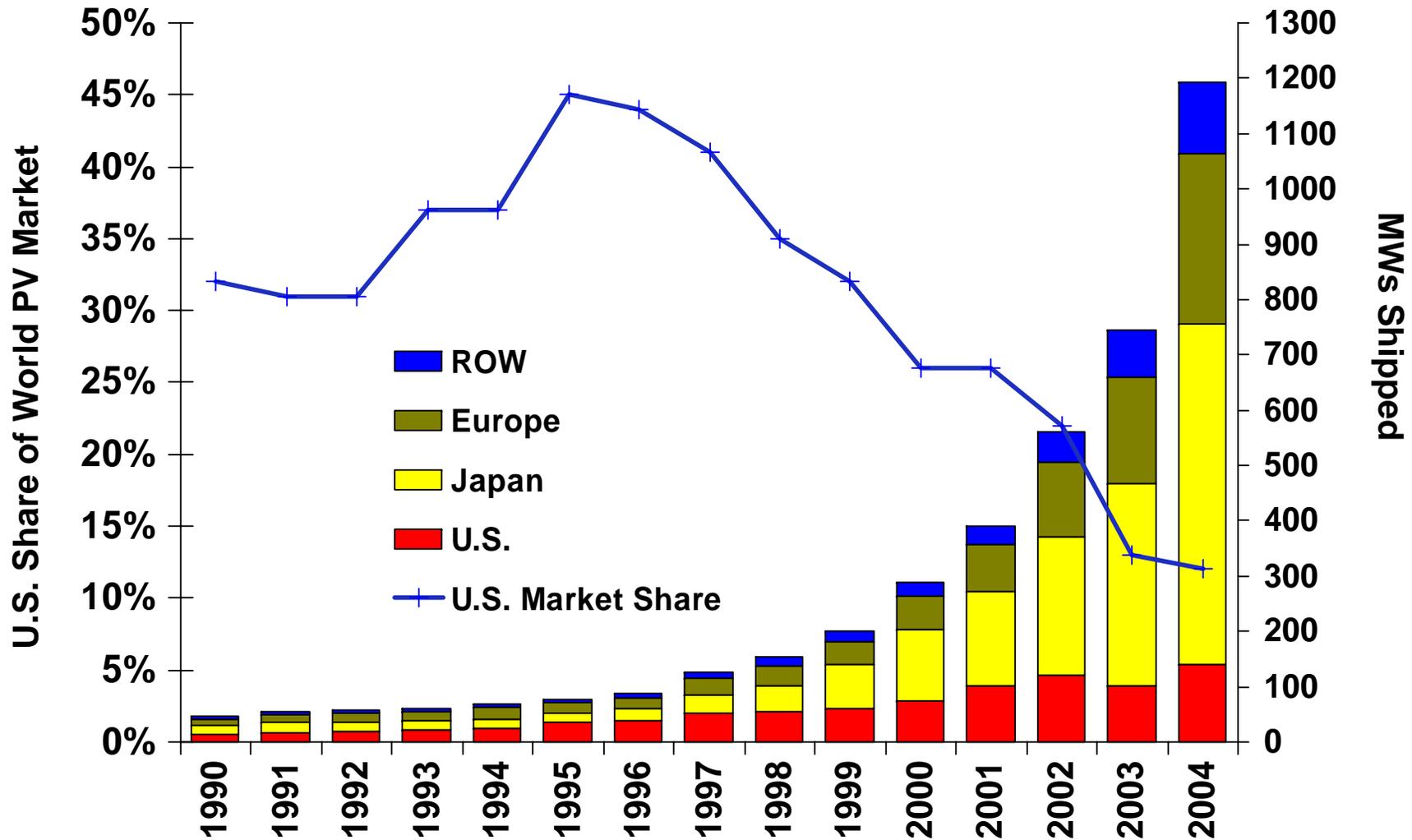
Source: Ryan Wiser, LBNL, 2005

PV Costs and Shipments



Source for market data: Paul Maycock, PV News, Volume 24, No. 3 March 2005

PV Shipments and Market Share



Source for market data: Paul Maycock, PV News, Volume 24, No. 3 March 2005

We Have A Choice



- ☀ Solar is Clean**
- ☀ Solar is Reliable**
- ☀ Solar is Made in the USA**
- ☀ Solar is a Great Energy Source for South Dakota**



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