



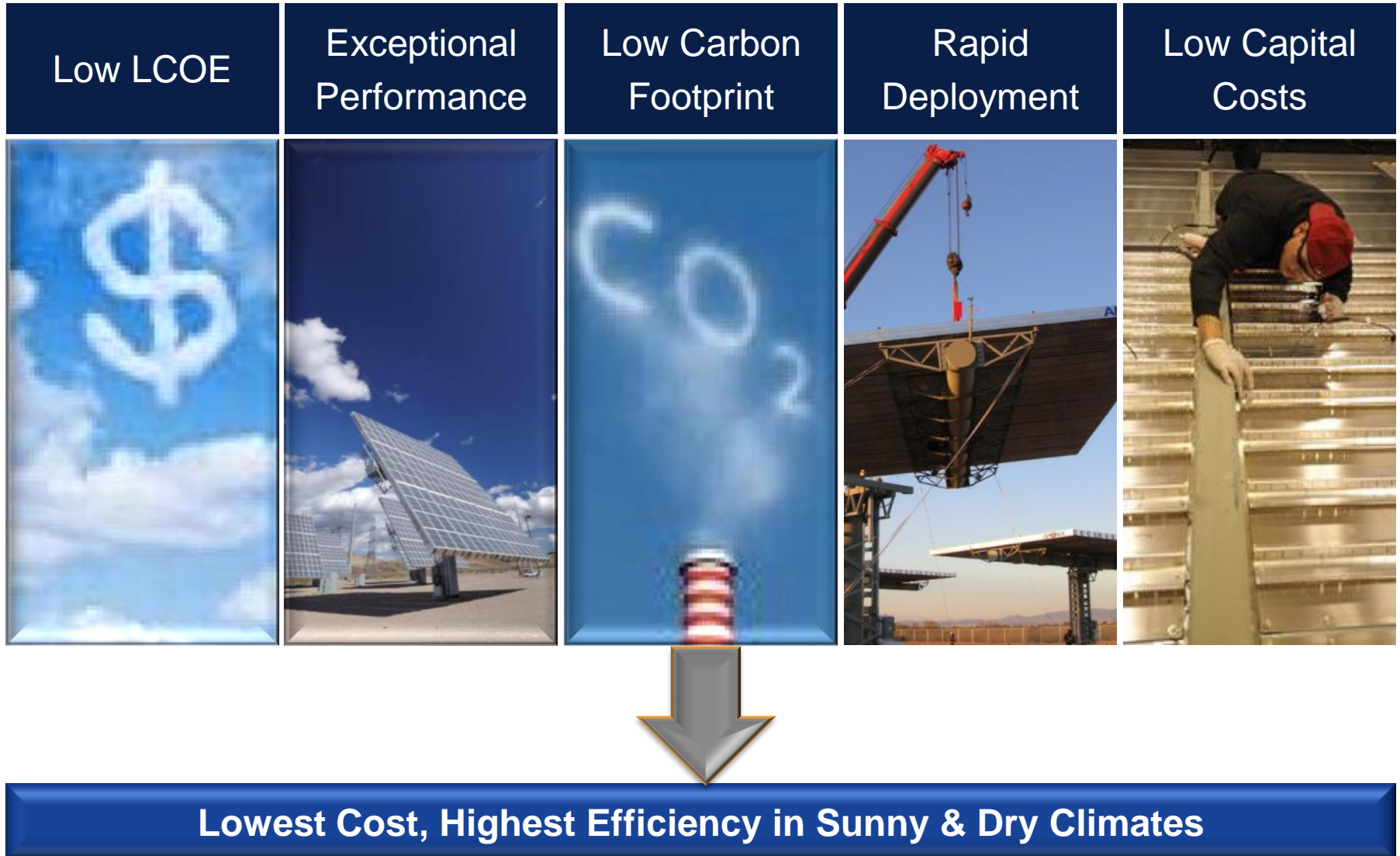
POWERING THE FUTURE NOW™

Concentrated Photovoltaic (CPV) Solar Power Solutions in the Southwest

Carla Pihowich, VP of Marketing & Regulatory
November 7, 2011

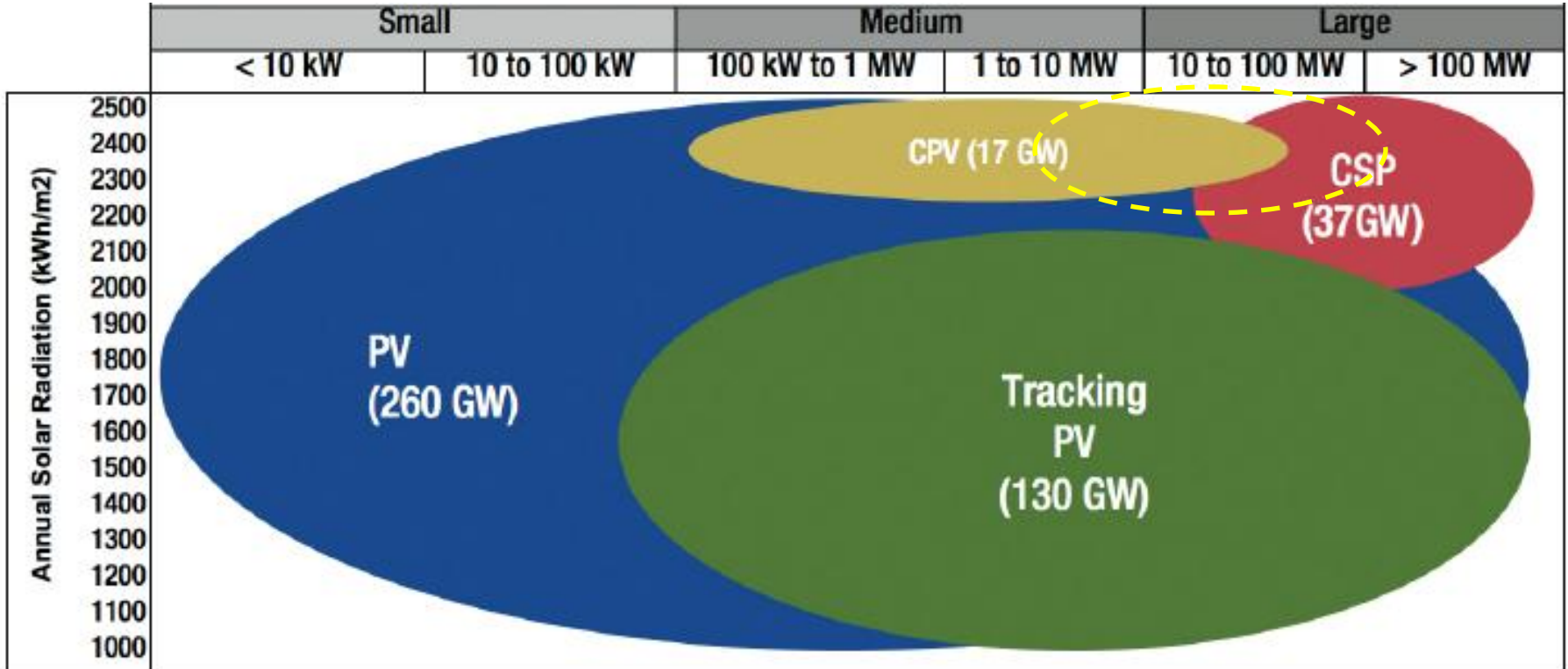


Why CPV?



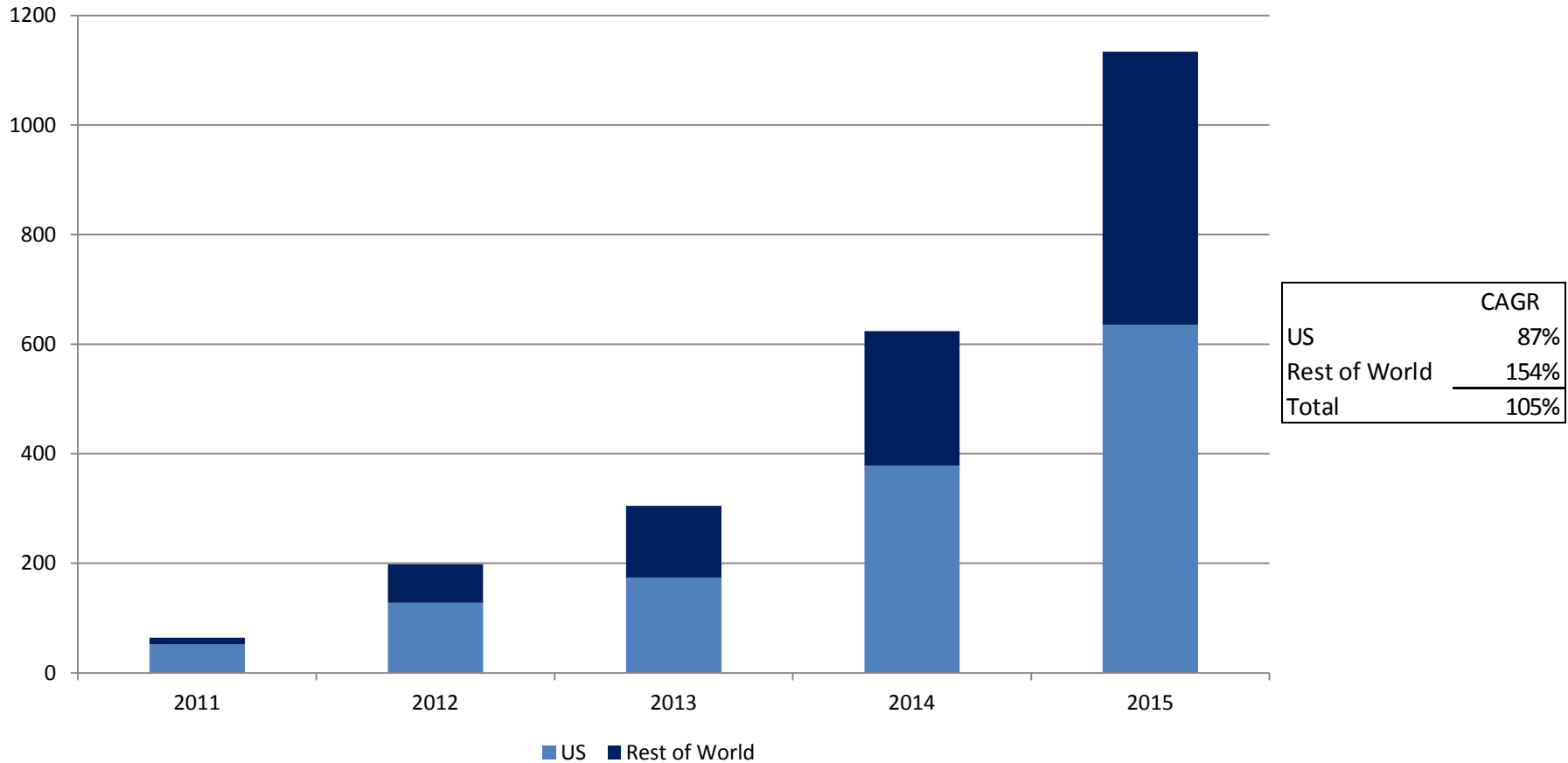
17GW of Installed CPV Projected by 2020

Solar Technology Penetration Based on Location & Market Segment



CPV Installations Projected to Grow at 105% CAGR

Annual Installations

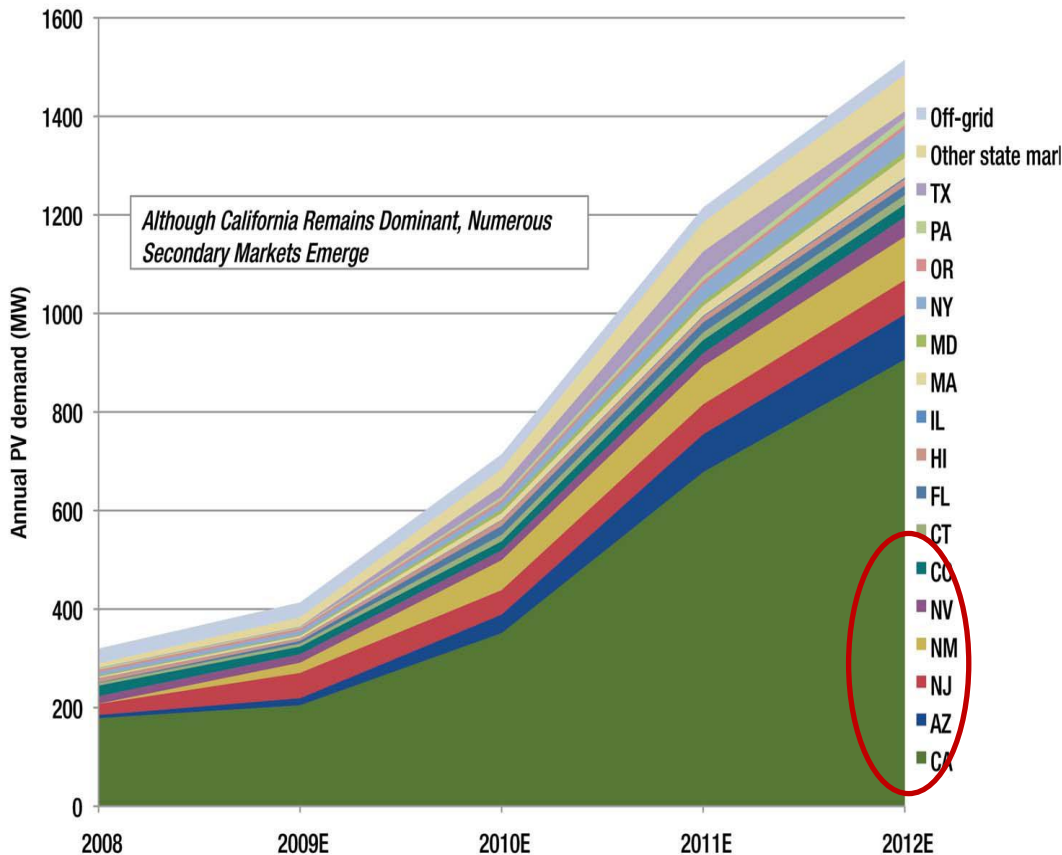


Source: GreenTech Media

Renewable Portfolio Standards

5,880 MW by 2015 in Texas

Regulatory Case Annual U.S. PV Demand Buildup by State, 2008–2012



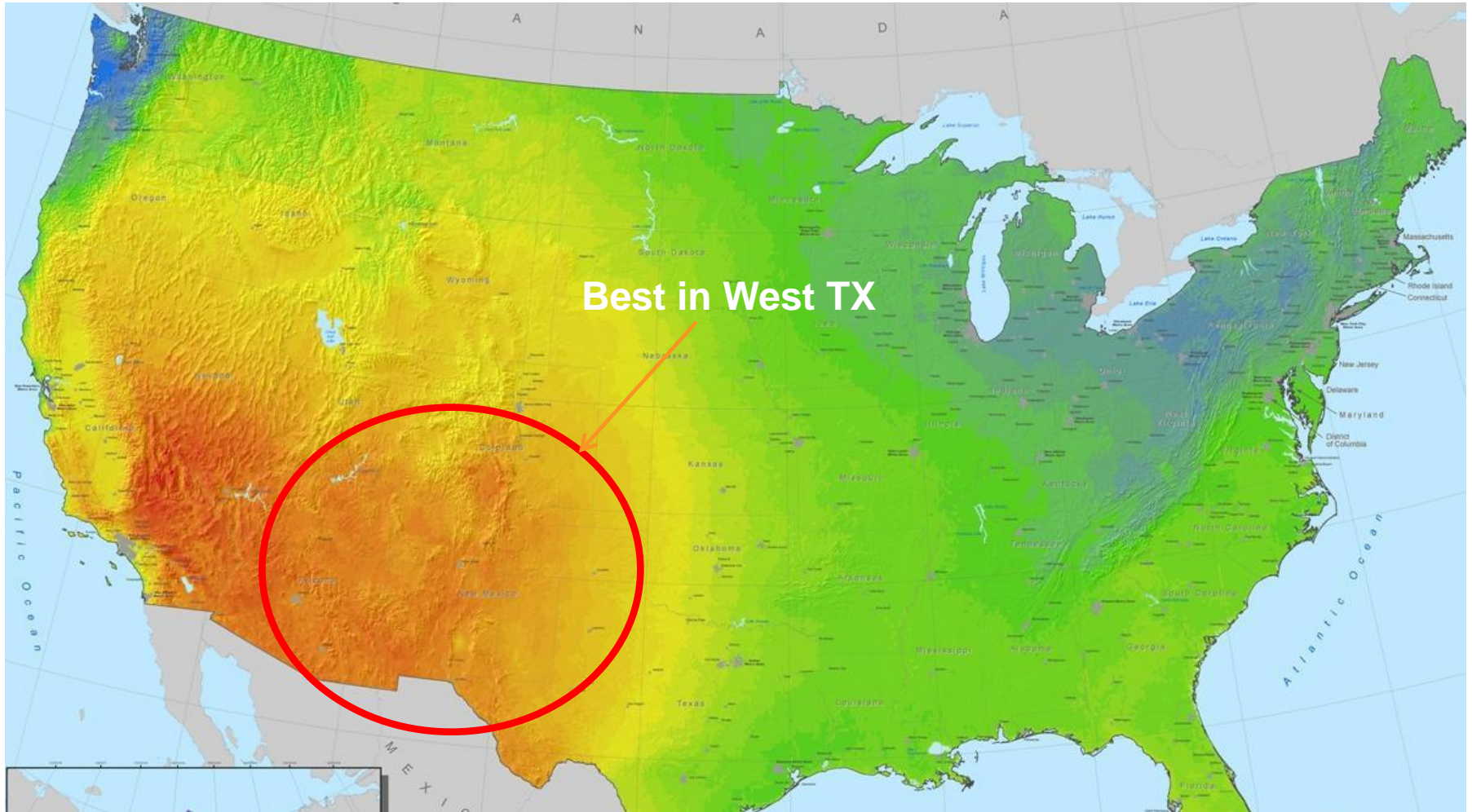
	CA	AZ	NM	NV	CO	TX
Goal	33%	15%	20%	25%	30%	5,880 MW
Year	2020	2025	2020	2025	2020	2015
RPS Rem Thou MWh	36,751	3,615	2,355	2,782	9,987	
Solar Opp (MW)	17,500	1,700	1,100	4,700	1,300	

...but retirements of conventional generation will fuel future demand -- 23,000 MW of coal plants are scheduled to decommission by 2020

Source: GTM Research - The United States PV Market Executive Summary, Database of State Incentives for Renewables & Energy Efficiency, dsireusa.org; Rem. RPS table electricity consumption Y.E. 2009 less renewable generation Y.E. 2008, EIA (www.eia.gov);

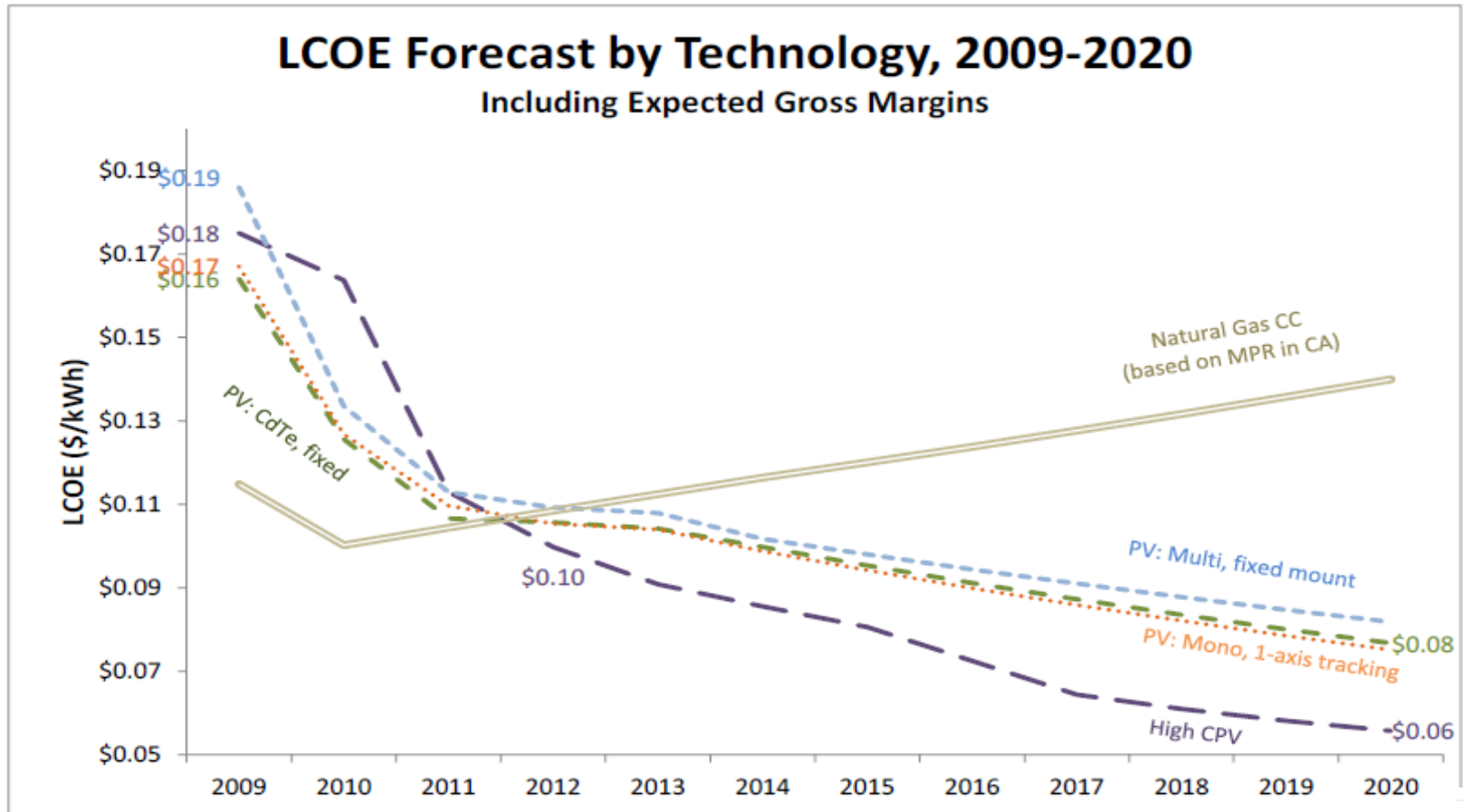
CPV is Best for Sunny & Dry Climates

Expect market to migrate to where the sun is best



Plenty of Headroom

CPV has the lowest energy production costs

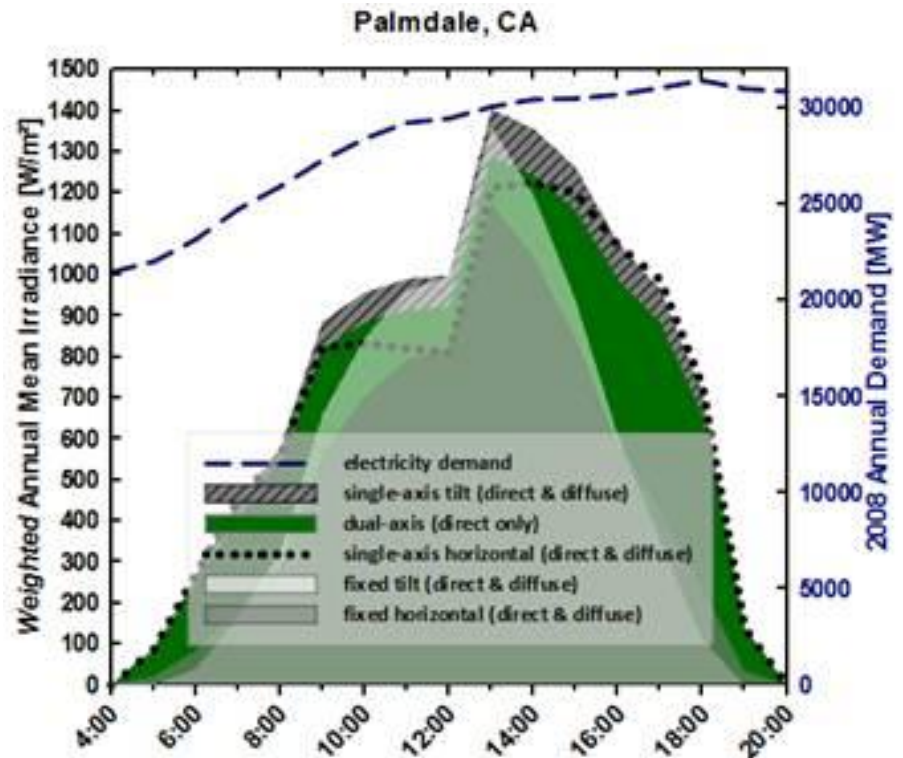
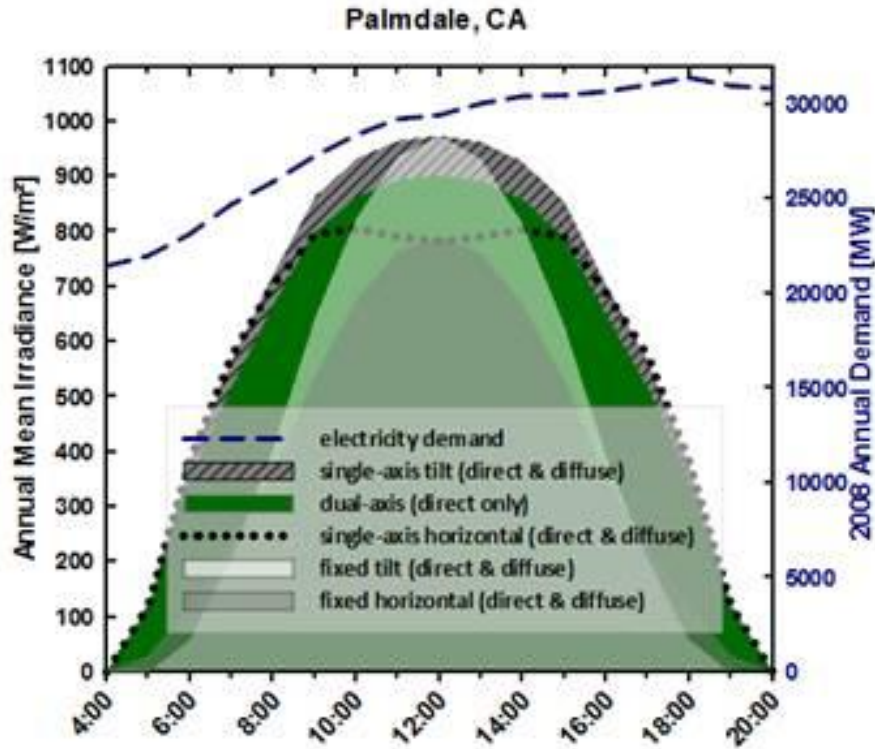


LCOE calculation for a sample 20 MW plant in Phoenix, AZ with a DNI of 6.9 kWh/m²/day



From Power to Energy

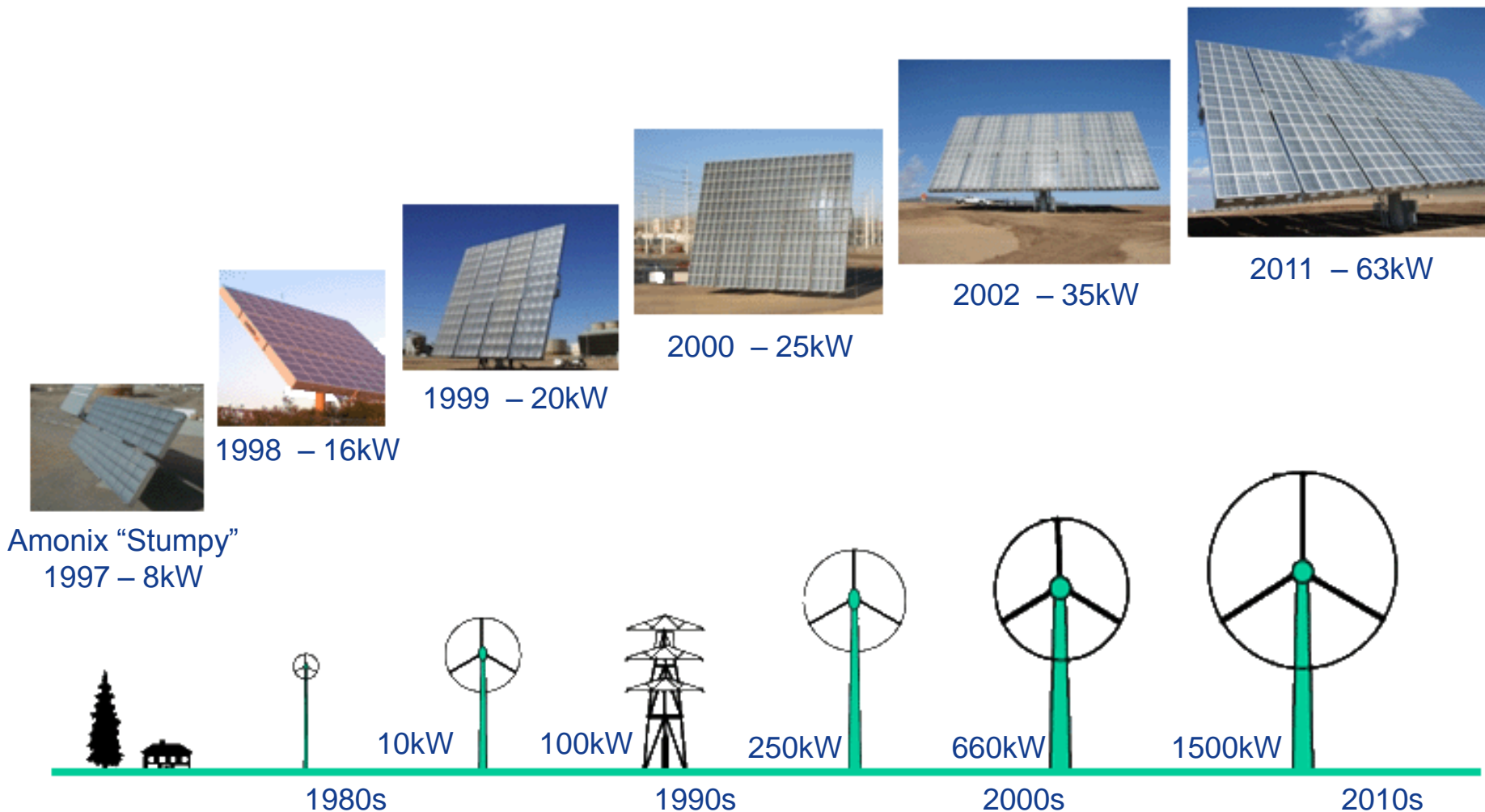
Built-In Two-Axis Tracking (At No Additional Cost)



Amonix captures more sun energy compared to fixed tilt PV Flat Plate, even though Amonix cannot capture diffuse light

CPV is Evolving

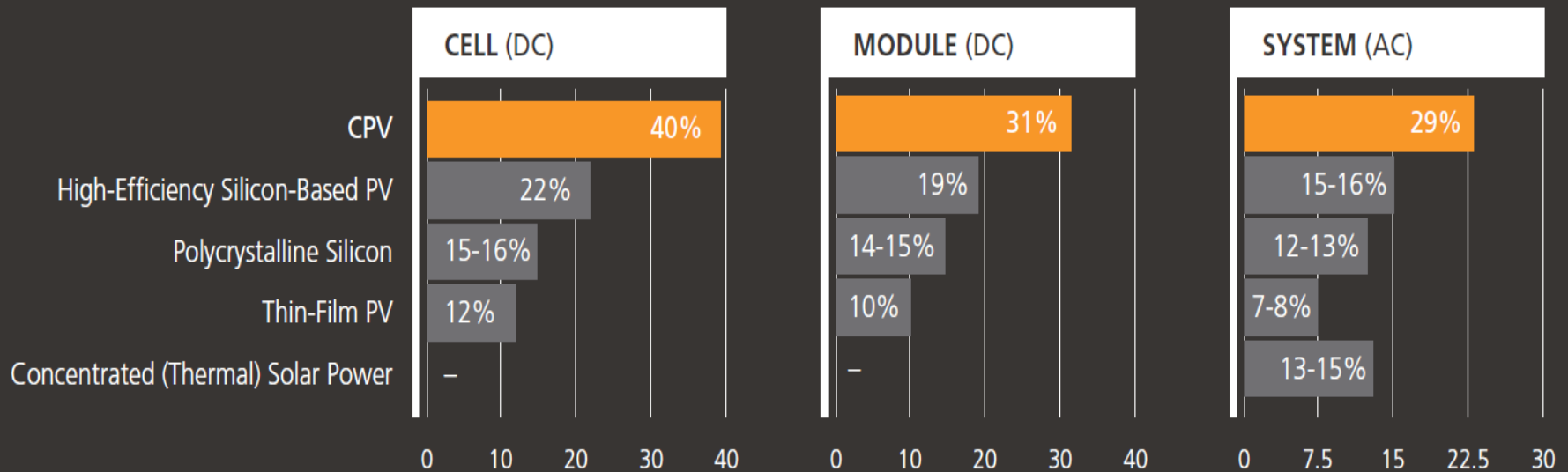
An Evolution that Parallels the Wind Industry



CPV Offers Higher Efficiencies

29% System, 31% Module, 40% Cell Efficiencies

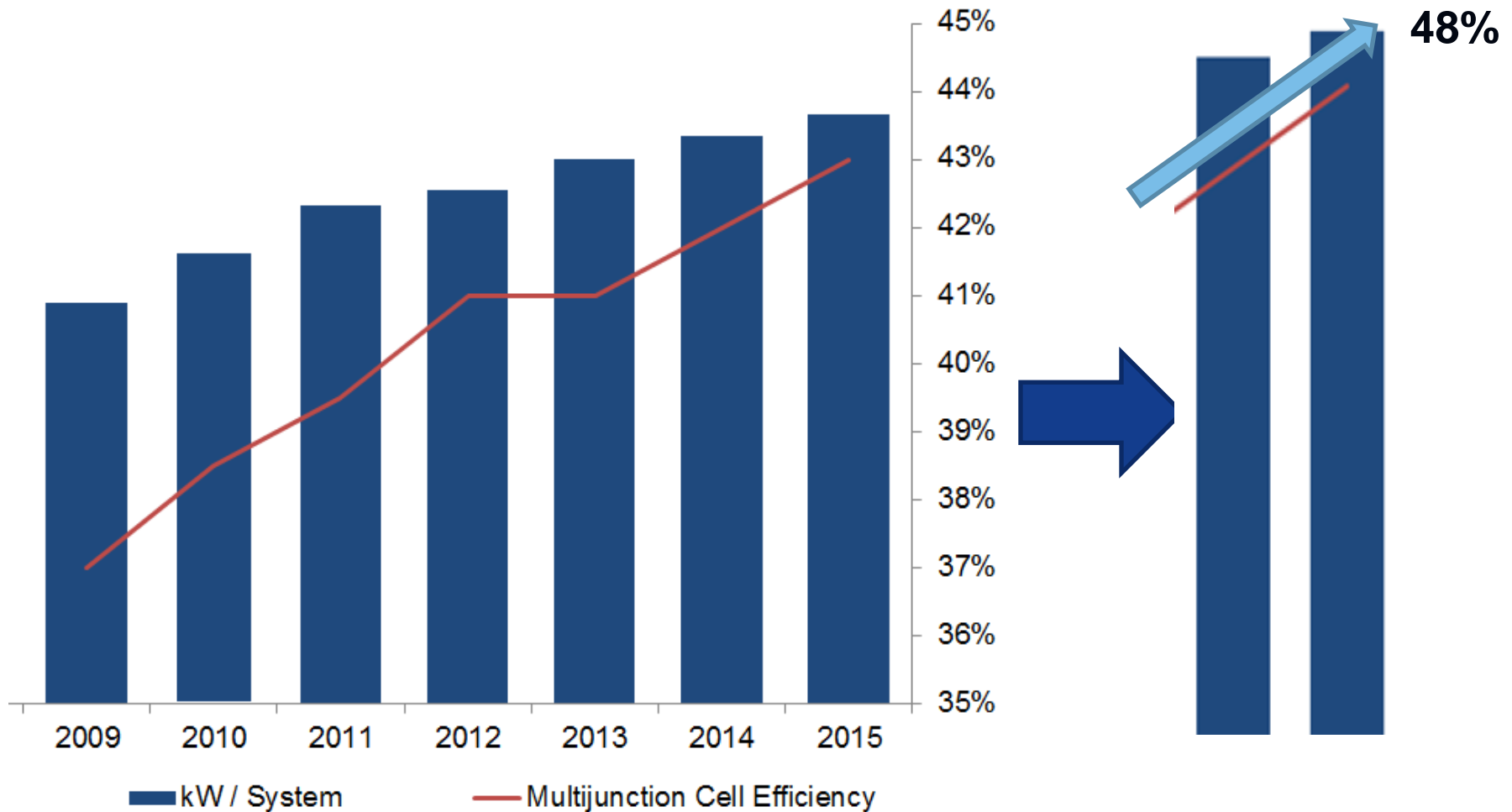
COMPARISON OF EFFICIENCIES ACROSS THE SOLAR LANDSCAPE



More energy per acre than any other solar technology

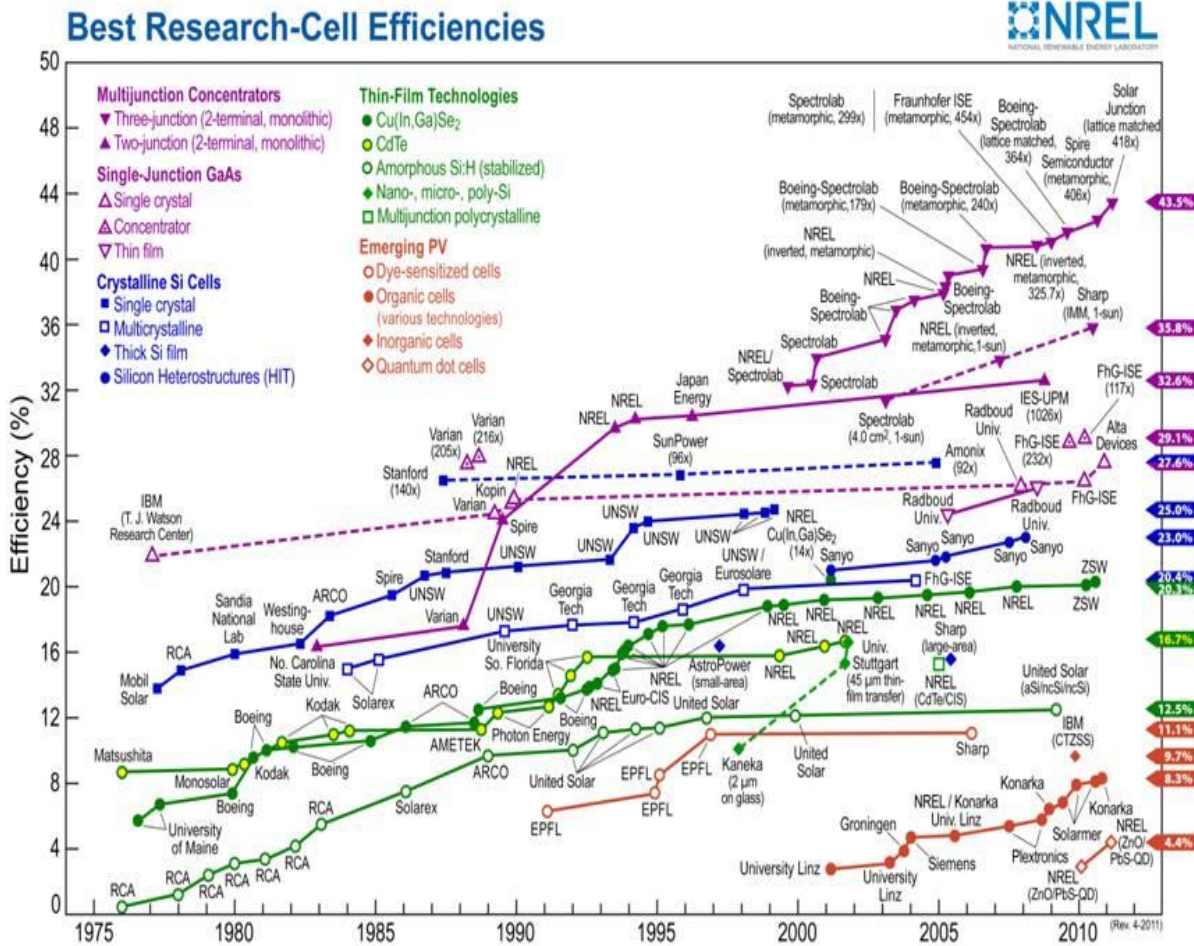
Solid Roadmap for Continued Innovation

Increasing power output with the same footprint



CPV Landscape – Efficiencies Continue to Climb

45% cell = \$0.55/w Crystalline Module



- World record broken for cell efficiency: 43.5% (Solar Junction)
- About \$1B of investment has gone into the CPV industry recently
- ~50 companies in III-V semiconductor supply chain

Opportunity for Economic Development

Job Creation – N. Las Vegas, NV Case Study

Over 330 Jobs Created



North Las Vegas, NV

Manufacturing Proprietary
MegaModules®



Quick Time from Groundbreaking
to Volume Production

Development Advantages with CPV

Easier & Less Risky

Flexible Deployment

No Water in Power Production

Better Use of Land



Modular

Minimal Consumption for Cleaning

Environmentally Friendly

Rapid Installation & Deployment

1/2 a MW Installed in 1 Day*

Ships to Site



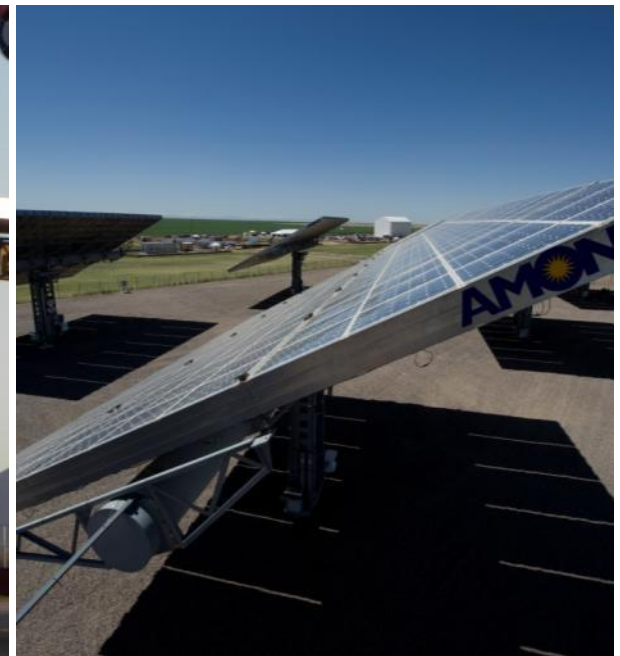
Installs like wind

Efficient Installation
Process



Quick to Deploy

From Truck Bed
To Tracking



More efficiency per acre

Amonix Powered Project: Hatch, NM – 5 MW

Commissioned – Largest Commissioned CPV plant in North America

Generation Facility	
Deal Type	Equipment Sale to NextEra
AC-PTC Capacity	5.04 MW
Expected Generation	13,918 MWh
Commissioned	8/31/2011
Capacity Factor	29.41%
Electrical Interconnect	
Interconnect Voltage	23.9kV
Distance	On-site
Interconnection Status	Energized
Service Territory	El Paso Electric
Site & Permitting	
Site Control	Yes – Owned by Village of Hatch, Leased by NextEra (90Yr)
Permitting Agency	Village of Hatch
Site	41 acres
Land Type	High Desert. Open acreage with low brush and mesquite trees. Adjacent to Skyline Onion Processing plant.



Amonix Powered Project: Alamosa, CO – 30 MW

Under Construction -- The Largest CPV project in the world

Generation Facility	
Facility Name	Alamosa Solar Generating Project
AC-PTC Capacity	30.72 MW
Number of Systems	492
System Type	Amonix 7700
Sponsor	Cogentrix Solar
EPC Firm	Mortenson Construction
Location	Alamosa, Colorado
Electrical Facts	
Service Territory	Public Service of Colorado
Energy Contract	Long-term PPA
Annual Generation	87,554 MWh / year
Financing	
Owner/Operator	Cogentrix Solar
Tax Equity	Cogentrix Solar
Debt	\$90.6 million conditional commitment from Department of Energy Loan Guarantee Office

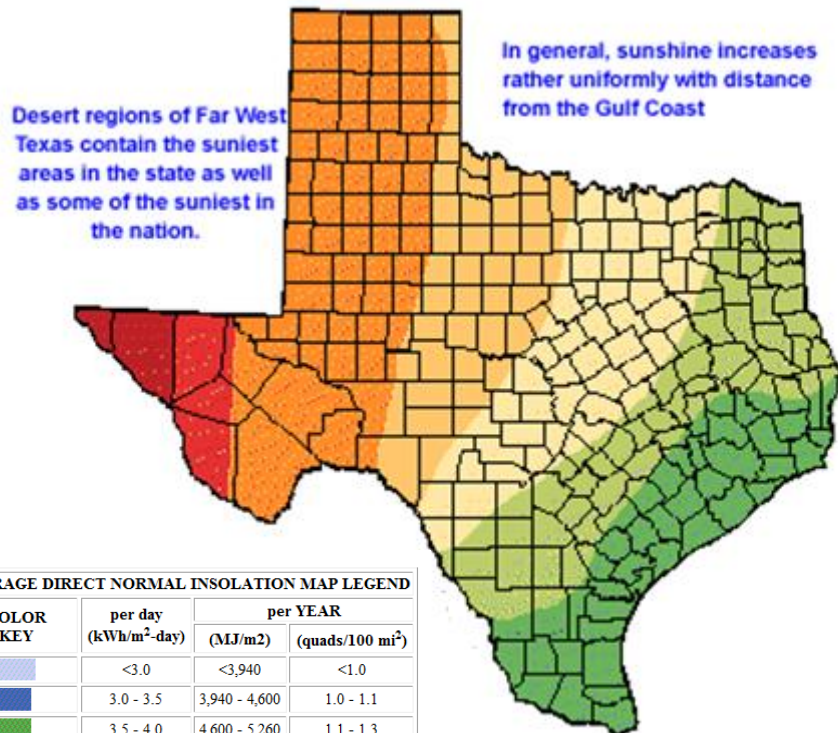


Cogentrix



CPV Wins in Sunny & Dry Climates

Opportunity for solar development in Texas is high



- Record peak demands – 68,294 MW (Aug 2011)
- RPS – Almost 6,000 MW by 2015
- TX is solar and developer-friendly
- CPV produces more energy than PV when needed most
- Local economic development opportunity

AVERAGE DIRECT NORMAL INSOLATION MAP LEGEND

COLOR KEY	per day (kWh/m ² -day)	per YEAR	
		(MJ/m ²)	(quads/100 mi ²)
	<3.0	<3,940	<1.0
	3.0 - 3.5	3,940 - 4,600	1.0 - 1.1
	3.5 - 4.0	4,600 - 5,260	1.1 - 1.3
	4.0 - 4.5	5,260 - 5,910	1.3 - 1.5
	4.5 - 5.0	5,910 - 6,570	1.5 - 1.6
	5.0 - 5.5	6,570 - 7,230	1.6 - 1.8
	5.5 - 6.0	7,230 - 7,880	1.8 - 1.9
	6.0 - 6.5	7,880 - 8,540	1.9 - 2.1
	6.5 - 7.0	8,540 - 9,200	2.1 - 2.3
	>7.0	>9,200	>2.3



amonix.com