

SUNPOWER™

SunPower Overview in Japan

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Safe Harbor

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements that do not represent historical facts and may be based on underlying assumptions. SunPower uses words and phrases such as "expects," “believes,” “plans,” “anticipates,” "continue," "growing," "will," to identify forward-looking statements in this presentation, including forward-looking statements regarding: (a) plans and expectations regarding the company’s cost reduction roadmap, (b) cell manufacturing ramp plan, (c) financial forecasts, (d) future government award funding, (e) future solar and traditional electricity rates, and (f) trends and growth in the solar industry. Such forward-looking statements are based on information available to the company as of the date of this release and involve a number of risks and uncertainties, some beyond the company's control, that could cause actual results to differ materially from those anticipated by these forward-looking statements, including risks and uncertainties such as: (i) the company's ability to obtain and maintain an adequate supply of raw materials and components, as well as the price it pays for such; (ii) general business and economic conditions, including seasonality of the industry; (iii) growth trends in the solar power industry; (iv) the continuation of governmental and related economic incentives promoting the use of solar power; (v) the improved availability of third-party financing arrangements for the company's customers; (vi) construction difficulties or potential delays, including permitting and transmission access and upgrades; (vii) the company's ability to ramp new production lines and realize expected manufacturing efficiencies; (viii) manufacturing difficulties that could arise; (ix) the success of the company's ongoing research and development efforts to compete with other companies and competing technologies; and (x) other risks described in the company's Annual Report on Form 10-K for the year ended January 3, 2010, and other filings with the Securities and Exchange Commission. These forward-looking statements should not be relied upon as representing the company's views as of any subsequent date, and the company is under no obligation to, and expressly disclaims any responsibility to, update or alter its forward-looking statements, whether as a result of new information, future events or otherwise.

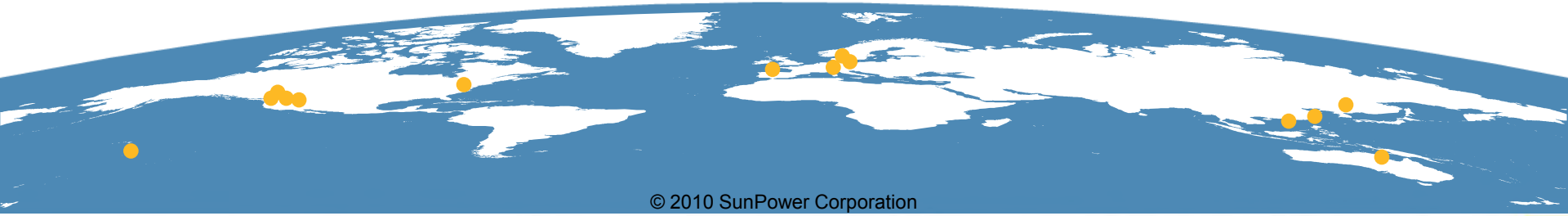
SunPower

- >1 GW solar PV deployed
- >1000 dealers and growing rapidly
- Diversified portfolio: roofs to power plants
- 4+ GW power plant pipeline
- 2009 revenue of $1.5 billion
- 550 MW 2010 production
- 5,000+ Employees; 100% solar
- Publicly listed NASDAQ: SPWRA, SPWRB

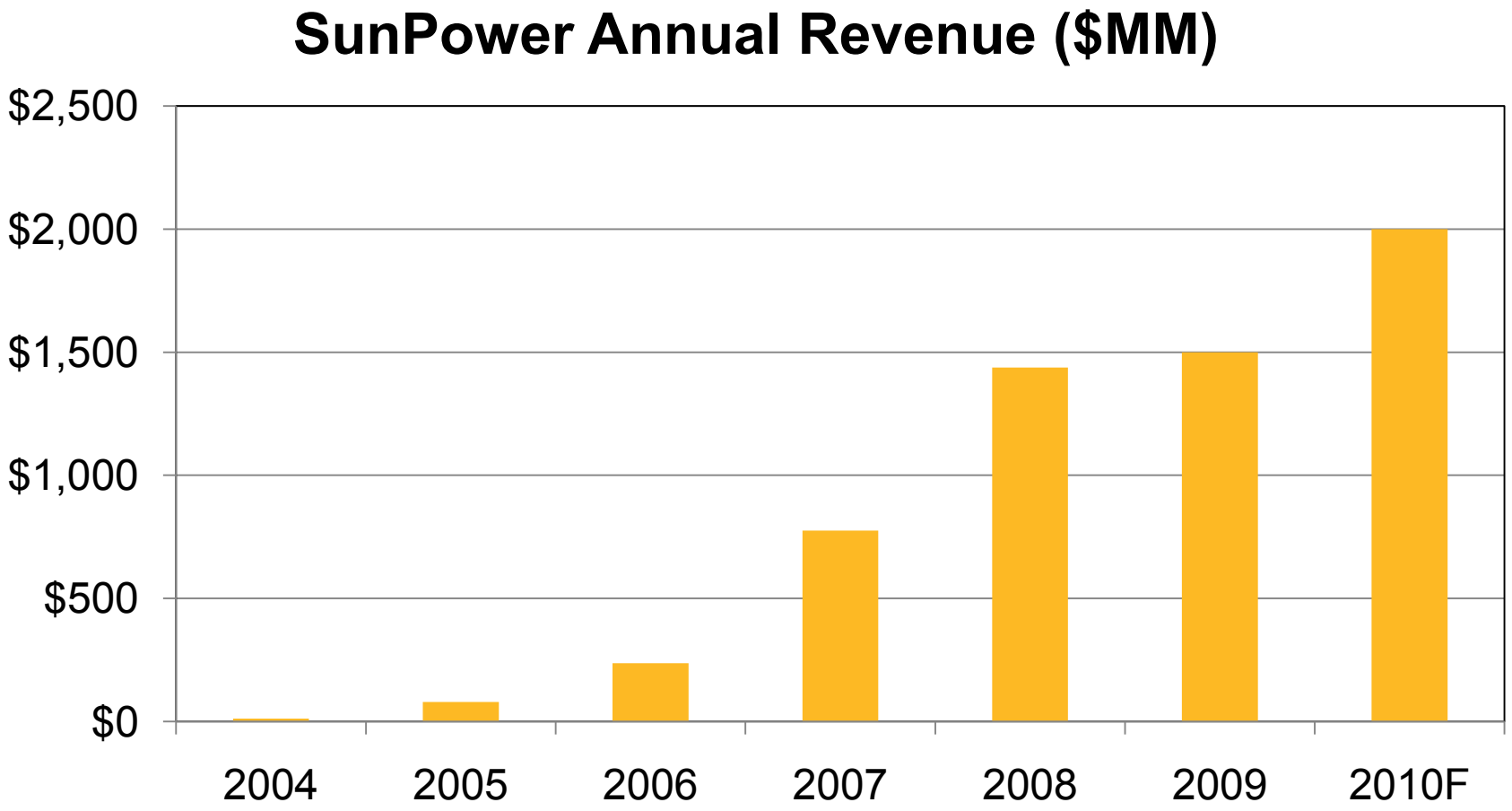
Residential

Commercial

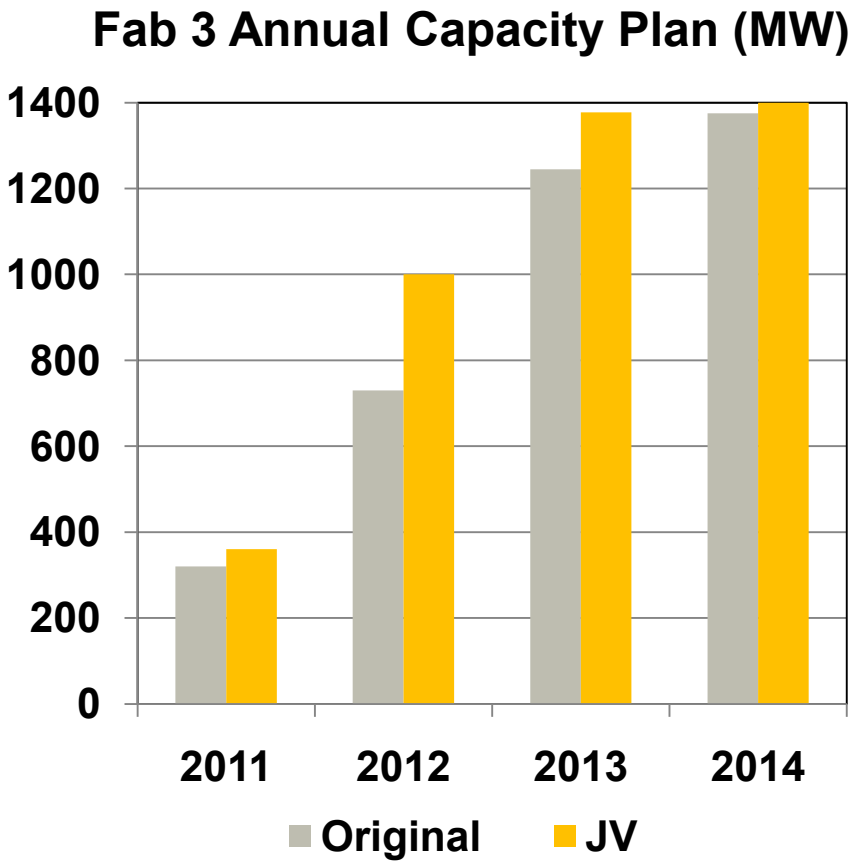
Power Plants



Diversified Market Strategy: Adjust to Policy



Fab 3 Capacity Ramp / Benefits



- Create industry-leading solar cell manufacturing platform
- Accelerate Cost Reduction/Watt
  - Triple nameplate MW in 3 years
  - Additional 200+ MW in 2012
- Fab 3 improvements to Fabs 1 & 2
- Fab 1 & 2 capacity – 574 MW

Vertically Integrated

Direct control: ingot through system and development

Polysilicon | **Ingot** | **Wafer** | **Cell** | **Panel** | **System/ EPC** | **Project Dev't**

------ Strategic Partnerships ------ Core IP Core IP Core IP

- Acquired PowerLight in January 2007
- Worldwide leader in large solar systems & PPs

- Acquired SunRay Renewables in March 2010.

SunPower Applications

Residential

Commercial & Gov't

Power Plants

Market Leader in North America

Commercial

Number 1

Largest Commercial Installed Base in North America

Residential

Number 1

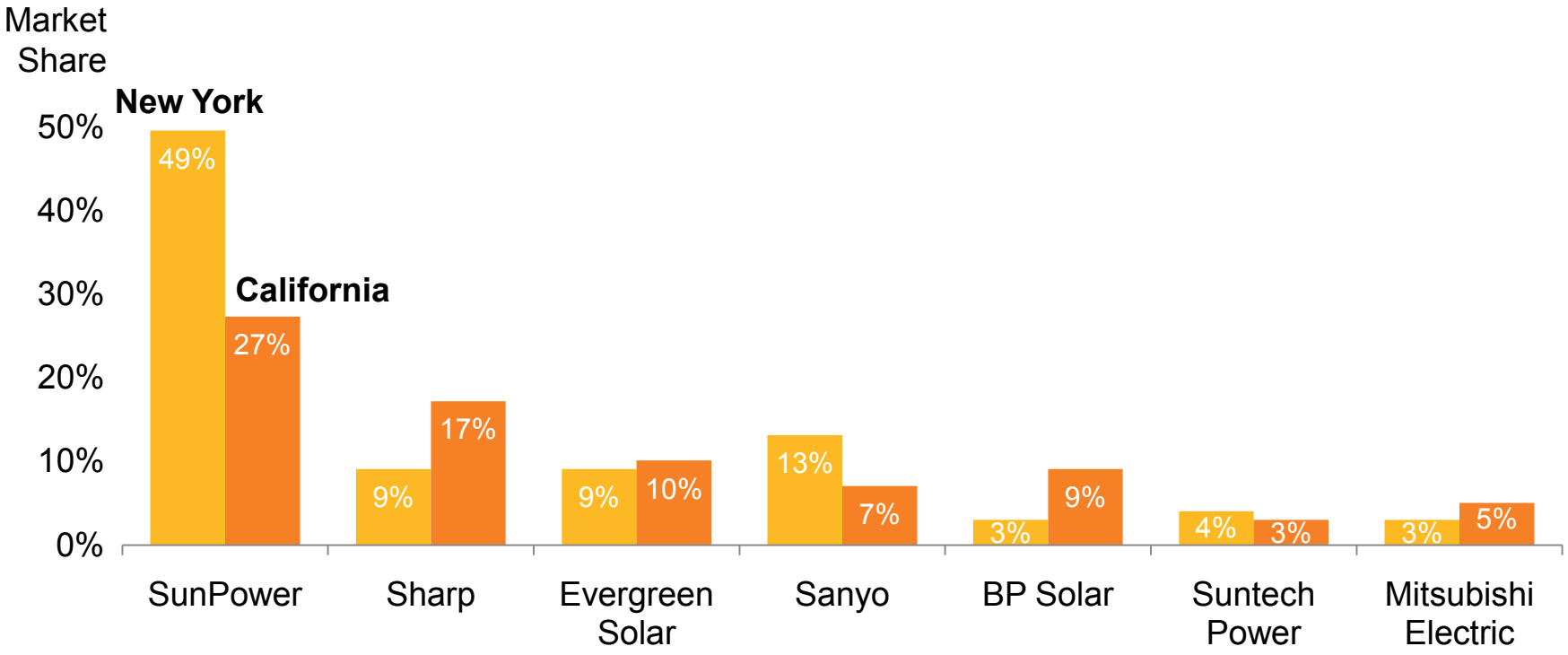
Largest Residential Installed Base in North America

Power Plants

Number 1

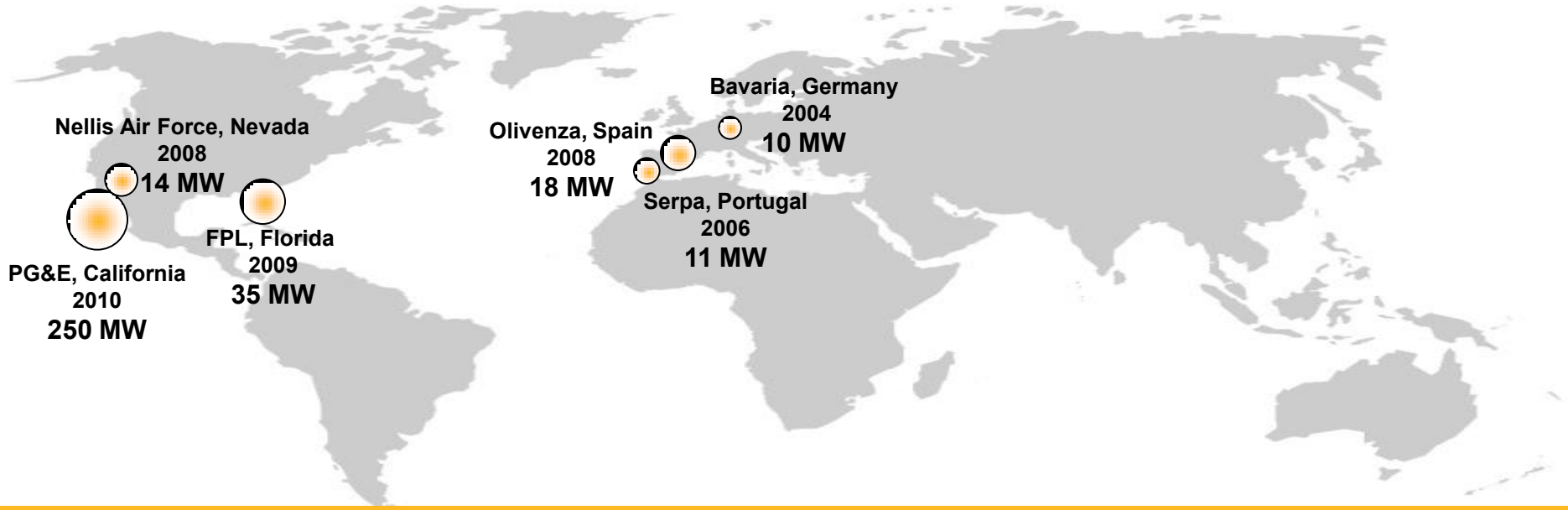
Largest Solar PV Power Plants in North America

Number One Choice of Homeowners



Based on NYSERDA and CSI data for systems completed in 2008 and 2009

1. Largest residential installed base in the United States
2. Tens of thousands of residential systems installed across the globe



Leadership in power plant & utility worldwide

Over 250 MW of power plants installed in Europe

Serpa, Portugal
11 MW

Isla Mayor, Spain
8 MW

Olivenza, Spain
18 MW

Jumilla, Spain
23 MW

Montalto, Italy
24 MW

Muehlhausen,
Germany, 6 MW

Product Suite

State-of-the art technology

SunPower Panels

Most powerful PV panels on the market

SunPower T5 Solar Roof Tile

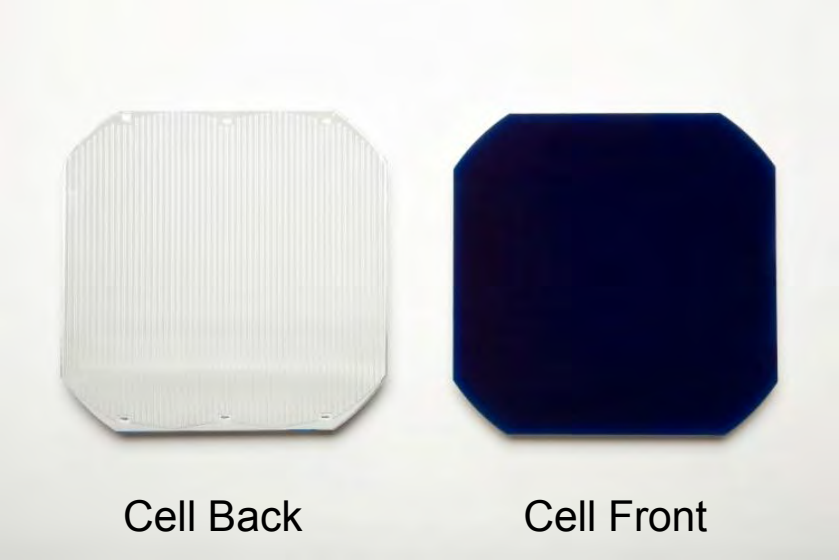
Most power density (kWp/m^2) per rooftop

SunPower T0 & T20 Trackers

Most installed single-axis tracker in the world

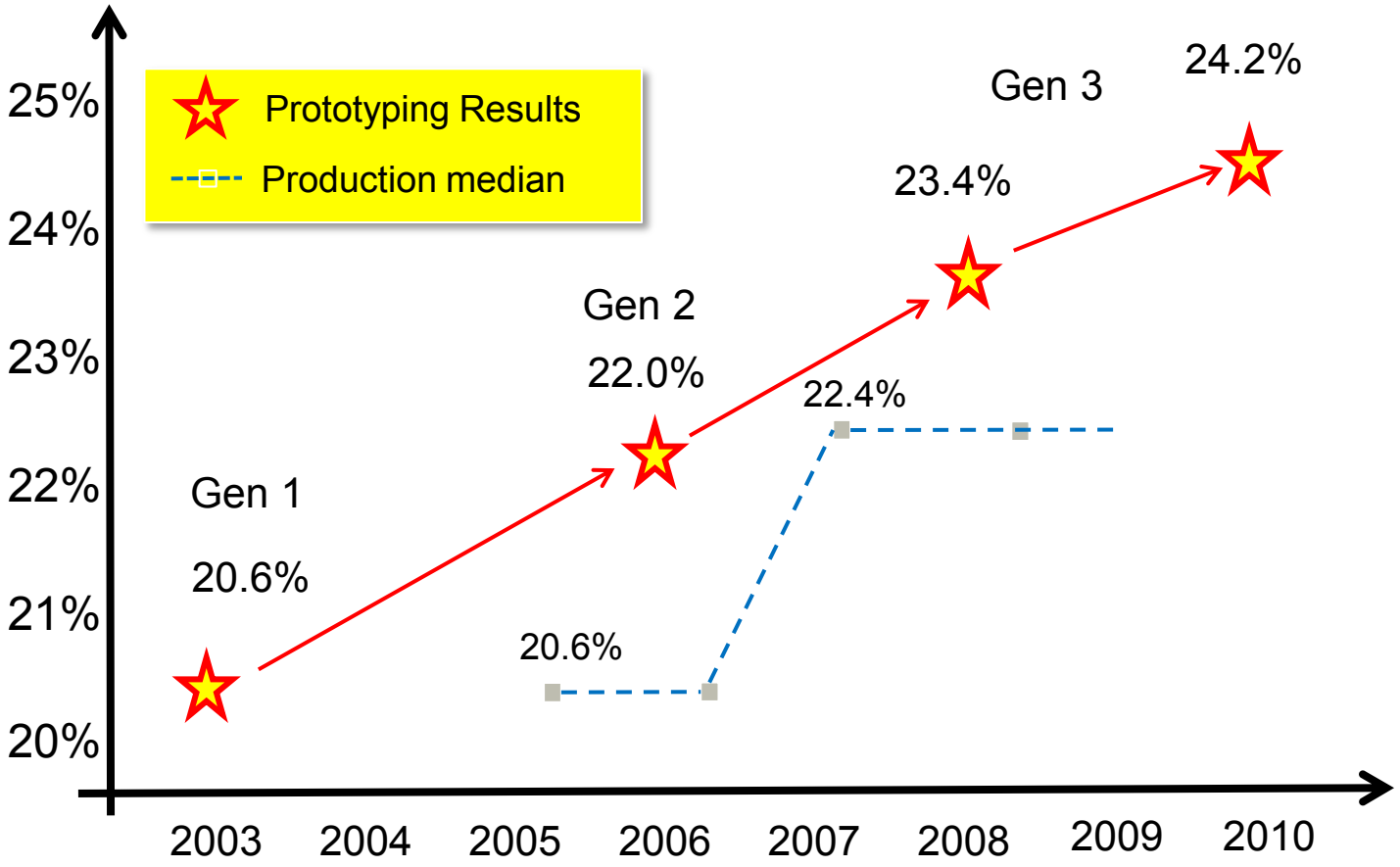
Most sunlight captured

SunPower Solar Cells



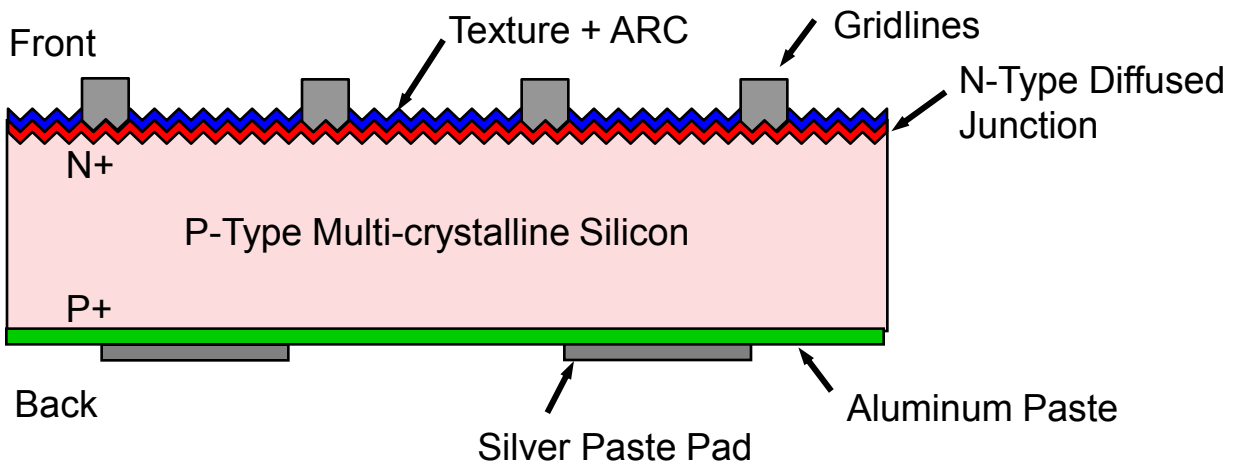
- Highest efficiency commercially available solar cell
- Up to 50% higher than conventional cells
- Proprietary all-back contact n-type solar cell design
- By locating the electrical contacts on the back surface, SunPower achieves conversion efficiencies of up to 24.2%

SunPower Cell Efficiency History



Technology Comparison

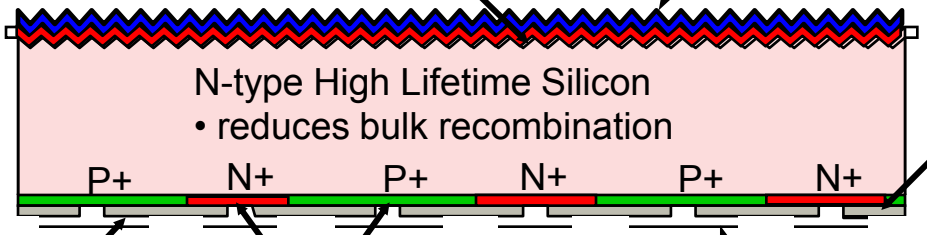
Conventional Solar Cell 15% Efficiency



SunPower's Solar Cell 22% Efficiency

Lightly doped front diffusion
• Reduces recombination loss

Texture +ARC



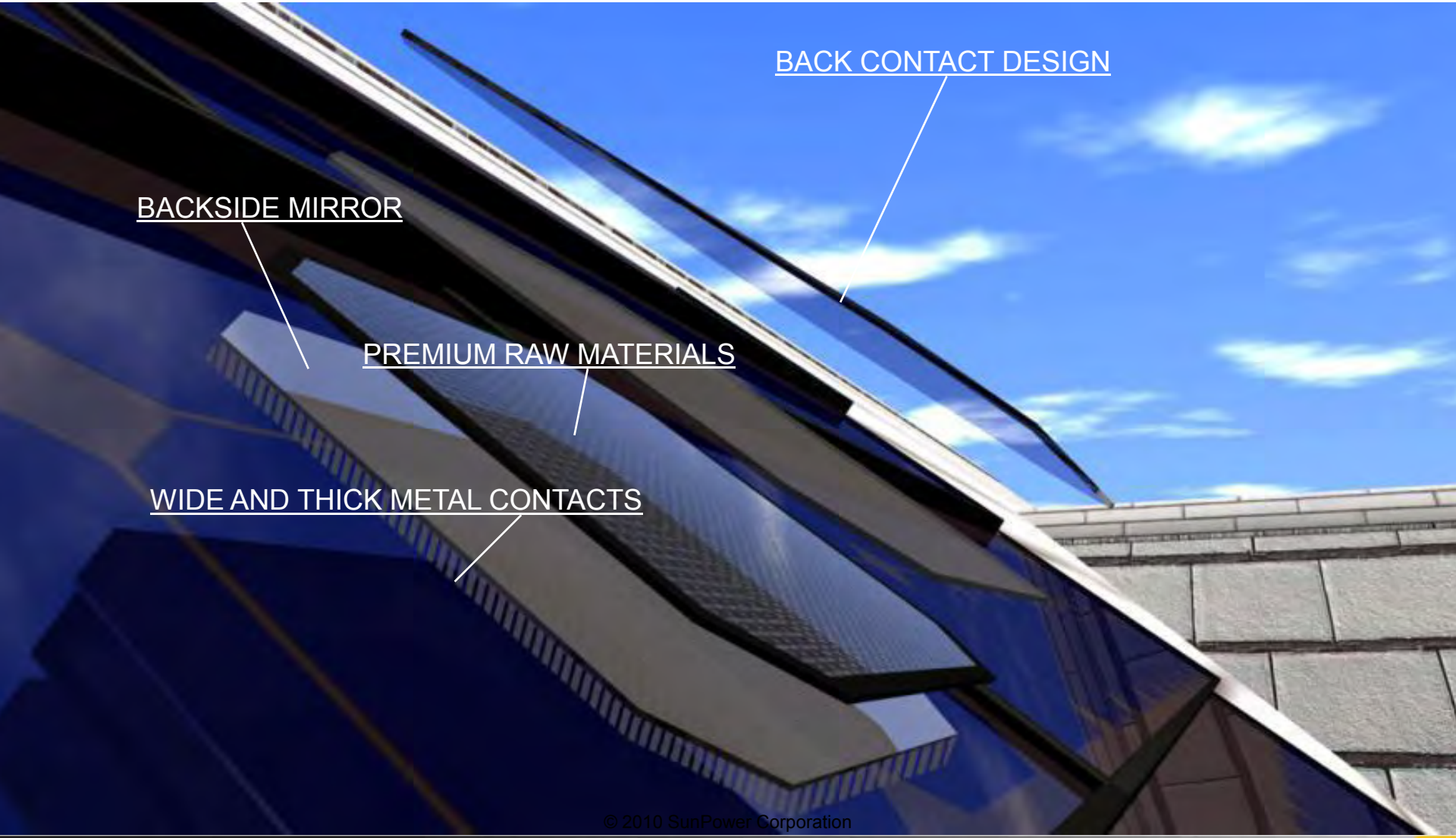
Passivating SiO_2 layer
• Reduces surface recombination loss

Backside Mirror
• Reduces back light absorption & causes light trapping

Localized Contacts
• Reduces contact recombination loss

Backside Gridlines
• Eliminates shadowing
• High-coverage metal reduces resistance loss

SunPower Cells Capture More Sunlight



More Energy Delivered per Rated Watt

- Superior light capture
  - Back contact, anti-reflective coating on cell / module
- Superior temperature performance
  - Reduced voltage temperature coefficient, 5% less degradation range
- No light-induced degradation
  - Avoid immediate 2–3% degradation after first exposure to light
- Higher voltage and current
  - Reduced metal/silicon interface area, no front surface shading

SunPower Panels

Most powerful PV panels on the market

- World record cell efficiency: 24.2%
- Produces up to 50% more than conventional panels and 100% more than thin film panels per unit area
- Highest real-world performance in high temperature and low light

More Energy Delivered on a Commercial Roof

2,146 SunPower 300 Panels	1,533 Conventional 208 W Panels	Thin Film Amorphous
T10 Commercial Roof Tile	25° Fixed Tilt Racking System	Integrated Roof Membrane

- Annual kWh simulation based in Rome, Italy on 5,000 sq meter roof

SunPower technology delivers most competitive cost per kWh over the lifetime of the project

$$\text{Cost/kWh}_{\text{over life of project}} = \frac{\text{Balance of Plant} + \text{Land} + \text{Panel} + \text{O\&M Costs}}{\text{Sunlight Collection} \times \text{Conversion Efficiency}}$$

FPL Desoto 25 MW SunPower T0 Tracker

Plant Inauguration – October, 2009


www.sunpowercorp.com