

## Delivering next steps in Solar PV Solutions for Commercial & Residential needs

- Leading Silicon Valley PV Start-up since 2010
- Proven high efficiency with highest energy yield
- China competitive cost enables competitive market positioning

Ashok SINHA 2018 BiFi Workshop Denver, CO September 10, 2018



# Sunpreme – exclusively Bifacial HCT Company since 2014

Agenda

1) Leading the C&I Market

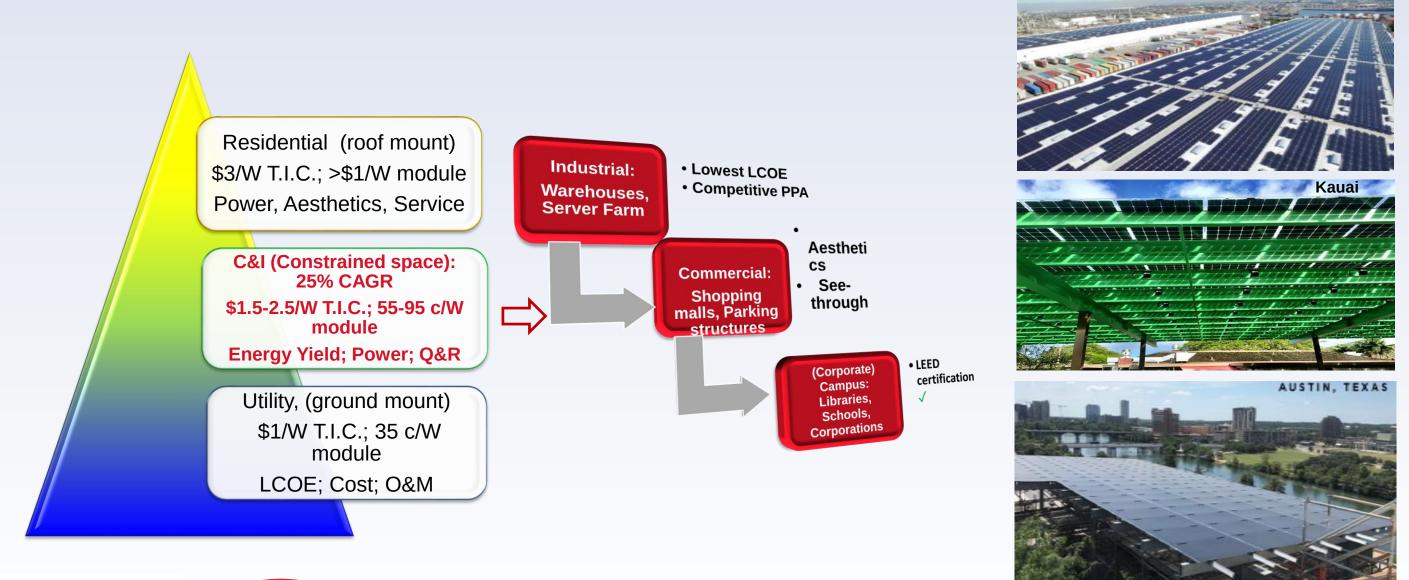
2) Products & Adjacencies

3) COST, PRICE & PROFITABILITY

4) US MANUFACTURING close to customers

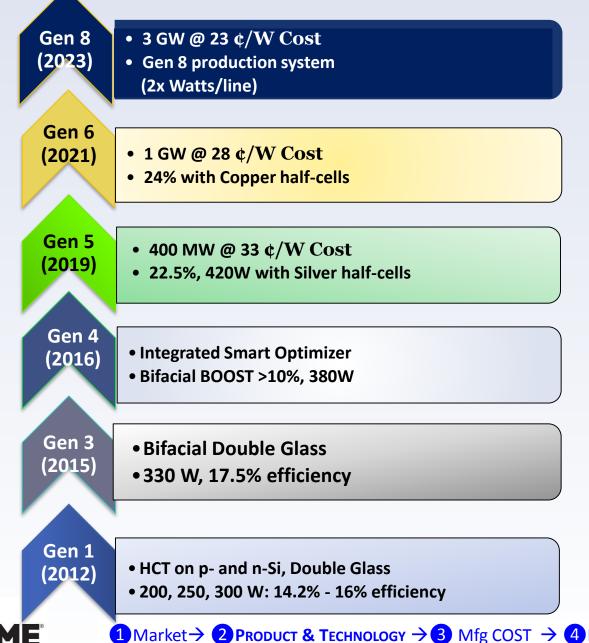
5) Why Sunpreme?

### Market Positioning for the \$25B C&I space at 25% CAGR: Sunpreme excels, with unique strengths in LCOE, Aesthetics, LEED certifications



LOS ANGELES, CALIFORNIA (10 M

\* SUNPREME has commercialized 5 generations of progressively powerful products Poised to surpass PERC and CdTe in Cost/W



#### Architecture designed for Moore's law Costs

. Track record: Innovation driven costs from 68  $\rightarrow$  36 c/W over past 6 yrs

. First manufacturing-worthy heterojunction process with HCT PLATFORM

. Early to market with double glass modules at 6x

. Early to market with Bifacial modules, benchmark Bifaciality of >95%

. Industry's first fully Moore's law compatible process with 98%+ yield in 24x7 operations

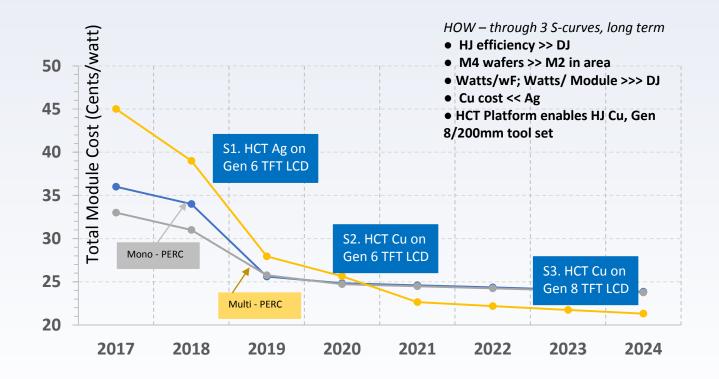
. **A Unique feature** of the HCT process – not possible to replicate in diffused junction or CdTe technologies

**1** Market  $\rightarrow$  **2 PRODUCT & TECHNOLOGY**  $\rightarrow$  **3** Mfg COST  $\rightarrow$  **4** Price  $\rightarrow$  **5** Cash Flow  $\rightarrow$  **6** Growth  $\rightarrow$  **7** Liquidity

### Long term cost/performance of HCT Bifacial vs. PERC

Sunpreme HCT Bifacial has three drivers for leapfrogging

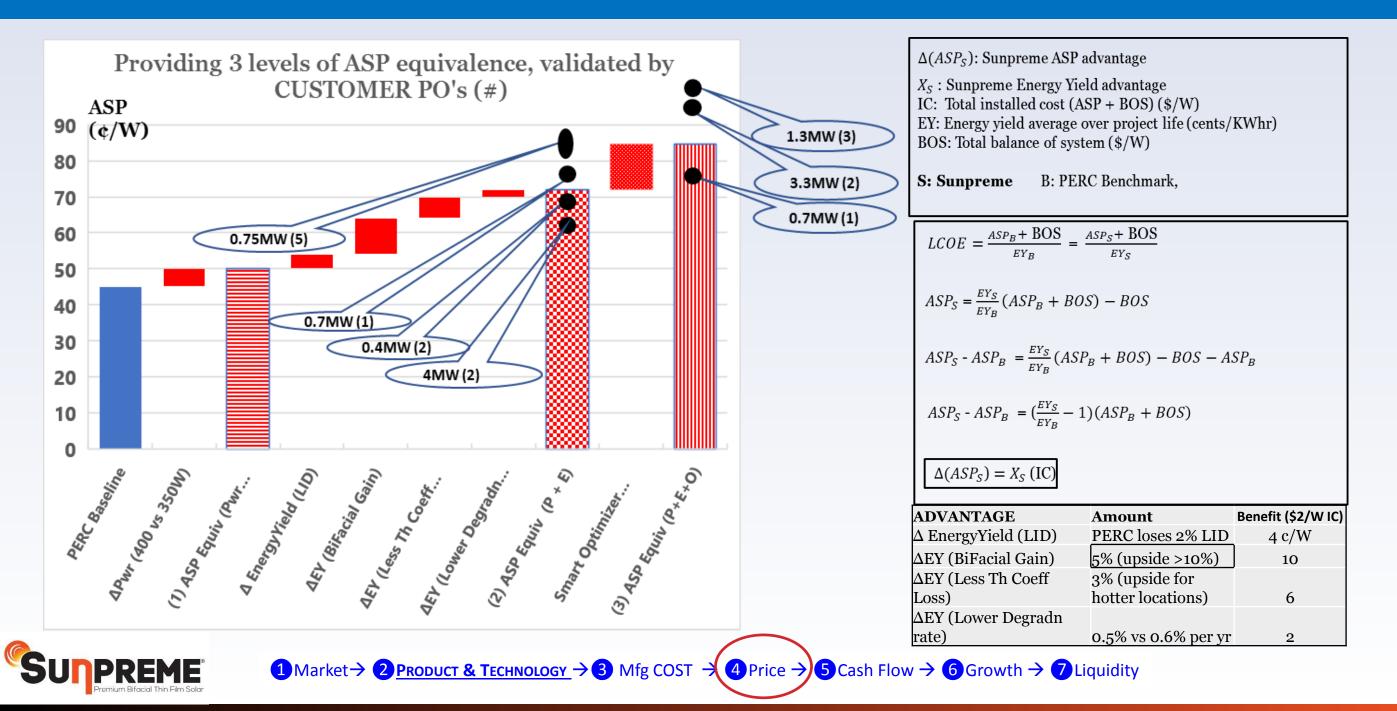
- a. Cell efficiency: HIT gets 23% now, 24.5% with Copper
- b. Si wafer cost: A bit higher at 36.5 c/wafer due to n-Si, but when normalized to c/W actually lower at 5.8 c/W
- c. Gen 8 LCD process equipment for a further 5 c/W cost reduction [Moore's law #2].
  - HCT, with symmetric cells and CVD, PVD dominant equipment can do it, PERC or HIT can not





#### 3 levels of ASP Equivalence Model, validated by recent customer data points (16)

- (1) At time t=0; greater Power, Lower non-electrical BOS cost
- (2) At t=EOL (25 yr); Cumulative Energy Yield levered by Systems Price (Range \$1.5 to \$2.5, assume a conservative \$2.0/W in this example)
- (3) Additional Energy Yield of 6.25% due to integrated Optimizer



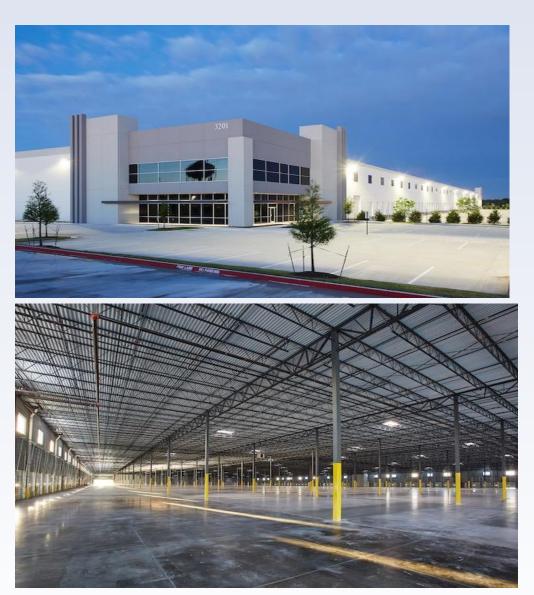
Factory Detail – for P&L, ROI and IRR, with *conservative* assumptions

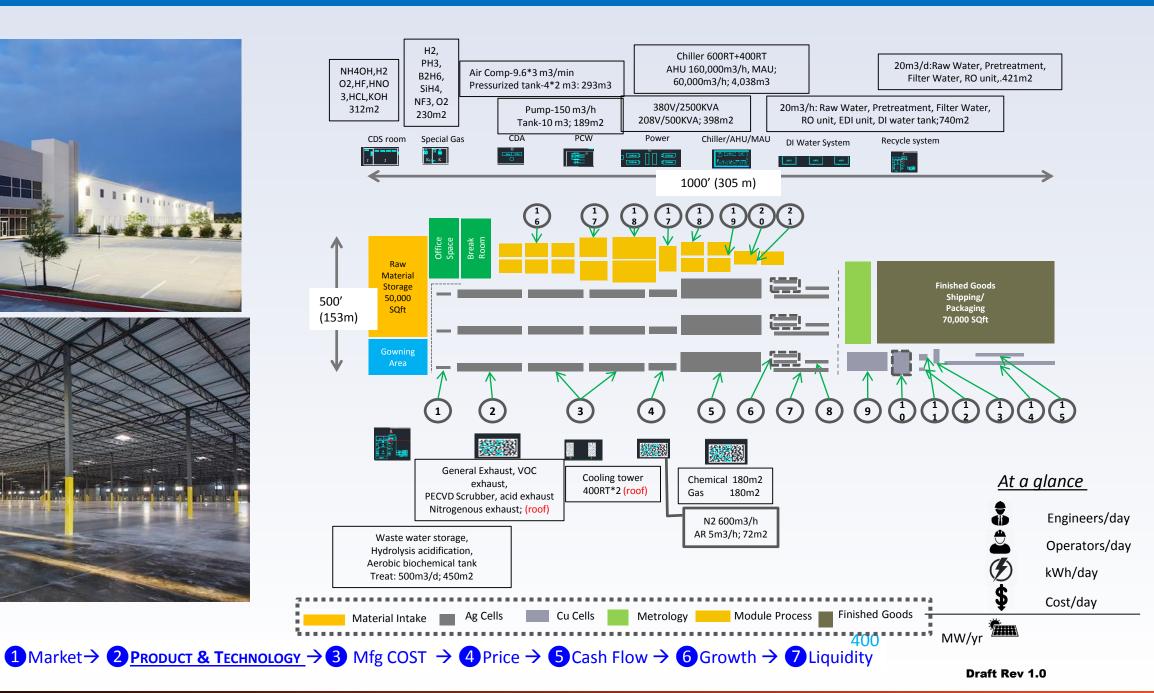
Gross margins of 30-35% are a benchmark for solar PV, compatible with SEDG – for the first time

#	P&L Item (\$1000's)	FYı	FY2	FY3	FY4	FY5
1	US Production Volume (Cell + Module)	0	125	136	136	408
2	Blended ASP incl. MSA off-take (\$/W)	-	0.75	0.7	0.65	0.6
3	All-in Module Manufacturing Cost (\$/W)	-	0.52	0.47	0.42	0.39
4	Sales	-	\$93,750	\$95,200	\$88,400	\$244,800
5	COGS, incl rent, production, Reinsurance (2%), Depreciation (10 yr)	-	-65,000	-63,920	-57,120	-159,120
6	Gross Profit	-	\$28,750	\$31,280	\$31,280	\$85,680
7	Gross Profit (%)	-	31%	33%	35%	35%
8	G&A, incentives	-2,500	-3,500	-4,000	-5,000	-6,000
9	BLE Personnel, Travel & Training	-6,500	-7,000	-8,000	-9,000	-10,000.00
10	Net Income	-\$9,000	\$18,250	\$19,280	\$17,280	\$69,680
11	Valuation (at 6x)	-	\$109,500	\$115,680	\$103,680	\$418,080
12	Investment (FY4 to be from internal profits)	\$42,500	\$3,000	-	[\$60,000]	-
12	ROI	-	-	-	~2.5 yrs.	~ 1yr.
13	Net cash Flow	-\$51,500	\$15,250	\$19,280	\$17,280	\$69,680
14	IRR	-	-	-	-	33% → 45% in FY6



## An integrated 400 MW Cell & Module Factory under advanced planning for a US location







# Why Sunpreme Smart Bifacial Products: Customers' Choice for C&I

Current Products & Team



#### Most Powerful panels in the world

Ranked among top 3, differentiated HCT platform



Superlative energy generation capability Smart Bifacial boost, very low thermal coefficient and zero LID



Team has executed on the entire value chain 100MW installed, Over 200MW in customer MSA

#### <u>Future Roadmap</u>



New, advanced materials for Performance

Precision fine-line interconnects, nano surface engineering



Stepped Cost reductions for Value

Extending Moore's law to solar PV



Adjacencies for compound Growth Total solutions for energy systems

