中美砂晶製品股份有限公司 Sino-American Silicon Products Ind



Sino-American Silicon Products Inc. 2013.10.

SAS

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SAS does not warranty their accuracy, reliability and completeness. There are a number of factors such as economic conditions, firms abilities, industry environment that could cause actual results and developments to differ materially from those expressed or implied by forward looking statements. Investors should not place undue reliance on them.



SAS Company Profile



Established : 1981

Paid-in Capital : NTD \$5.2 billion

Employees : about 3,500 (worldwide)

Headquarter : Hsinchu Science Park, Taiwan, R.O.C

Products : solar wafer/ cell, 3" ~ 12"semiconductor wafer

Revenue :

2009 NTD 11.9 billion

2010 NTD 22.5 billion

2011 NTD 17.5 billion

2012 NTD 19.1 billion

2013 NTD 10.3 billion (First Half)

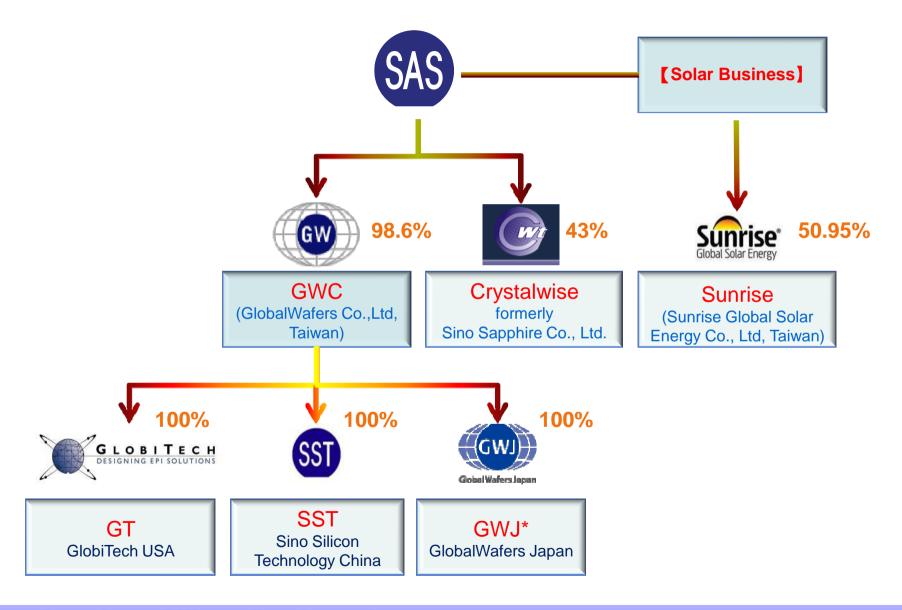


Milestones

1981	Established with focus on semiconductor wafer manufacturing
1999	China subsidiary, SST, established
2000	First in Taiwan to enter solar ingot/ wafer production; mass production of semiconductor polished wafer
2001	IPO on Tawian's OTC market (Ticker # 5483 TT)
2007	Optoelectronics Business (Sapphire Substrate) Unit established
2008	Acquisition of GlobiTech Inc. as US subsidiary
2011	Operation allocation: Solar business to SAS Semiconductor business to GlobalWafers Sapphire business to Sino Sapphire
2012	GlobalWafers acquired semiconductor sector of Covalent Materials as Japan subsidiary GWJ
2013	Subsidiary Sino Sapphire merged with Crystalwise Technology
	Cash acquisition of Sinosolar, a major shareholder of Sunrise Global, increases SAS' direct shareholding in Sunrise Global Solar Energy to 50.95%
2014	Aim to complete acquisition of Sunrise Global Solar Energy

SAS Group Organization Structure





Global Manufacturing Sites



Sapphire



CWT Chunan Factory

4 countries/ 10 plants

Solar



SAS Chunan Factory 1



SAS Chunan Factory 2



Sunrise Factory

Semiconductor



USA TX (GTI)



Hsinchu Factory (SAS Headquarter)



Kunshan Factory (SST)



GWJ(Niigata)



GWJ (Oguni)



GWJ Tokuyama)



GWJ(Sekikawa)

2013 1H Financial Highlights



UNIT : NTD M	SAS (Consolidated)	SAS (Standalone)	GWC (Consolidated)	Sunrise	Crystalwise (Consolidated)
Capital	5,231	5,231	3,175	2,505	1,704
SAS shareholding	-	-	98.6%	50.95%	43%
Consolidated in SAS FS	-	-	√	V	-
Revenue	10,264	2,390	7,937	1,637	1,001
Gross Profit	1,053	-591	1,697	141	9
GPM	10%	-25%	21%	9%	2%
PAT	315	315	880	103	-95
EPS	0.60	0.60	2.77	0.41	-0.56
Capacity	-	800 MW (annual)	See other page	350 MW (annual)	2" PS -800K 2" PSS-400K (month)



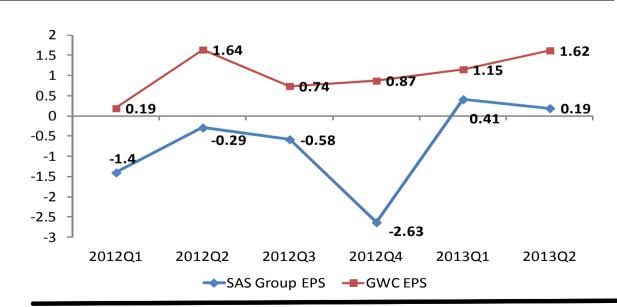
SAS Consolidated Financial Figures

UNIT : NTD M	2012Q1	2012Q2	2012Q 3	2012Q4	2013Q1	2013Q2
Revenue	2,107	6,383	5,489	5,110	4,912	5,353
Gross Profit	-289	607	486	97	399	655
GPM	-13.72%	9.51%	8.85%	1.90%	8.12%	12.24%
PAT	-622	-123	-319	-1296	220	106

2013 Q2 index

■ Debt Ratio 51%

■ Current Ratio 137%





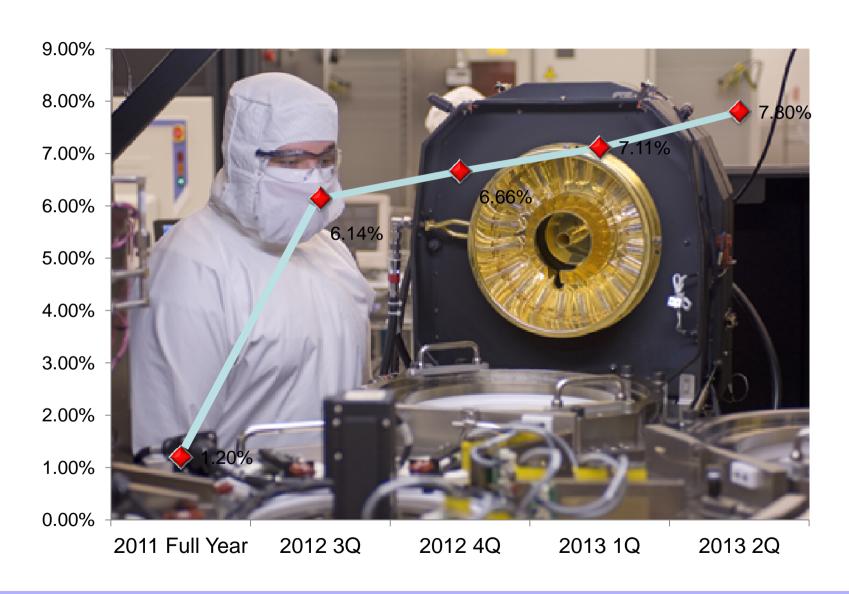
SAS Group Semiconductor Sector



GlobalWafers Co., Ltd.



GWC Market Share



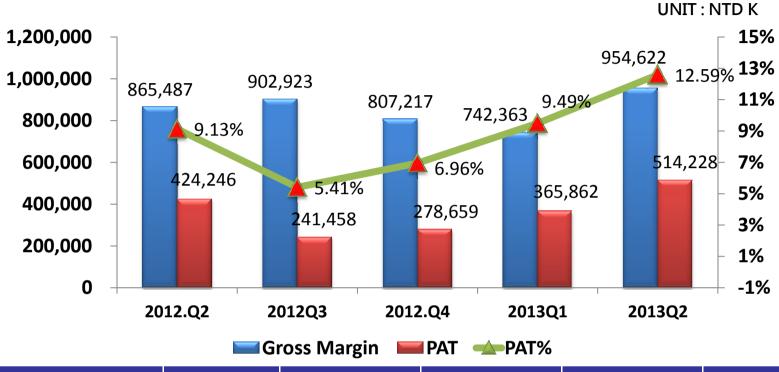
GWC Group



Sites	GWC (Taiwan)	SST (Kunshan, China)	GTI (Texas, USA)	GWJ Gobal Michael (Japan)	
Products	3" - 8" Heavily-doped wafersDiffusion wafers	3" - 8" Heavily-doped wafersDiffusion wafers	4"- 8" Epitaxy EPI	 5" - 12" Light & Heavily- doped wafers Diffusion wafers SOI Wafers Epitaxial wafers 	
Group Products Application	 Automotive power de Power discrete Image sensor MEMS NAND flash memory 				
Capacity	 4" equivalent 1000K/M Ingot growing/slicing Wafer lapping/polishing Wafer Diffusion 	 6" equivalent 360K/M 8" equivalent 40K/M Wafer lapping 500K/M 	● 6" equivalent EPI 470K/M● 8" polish 21K/M	 6" wafer 280K/M 8" wafer 320K/M 12" wafer 185K/M Diffusion wafer 130K/M SOI wafer 5000 pcs/M EPI 150K/M 	

GWC Quarterly Consolidated Financial Performance



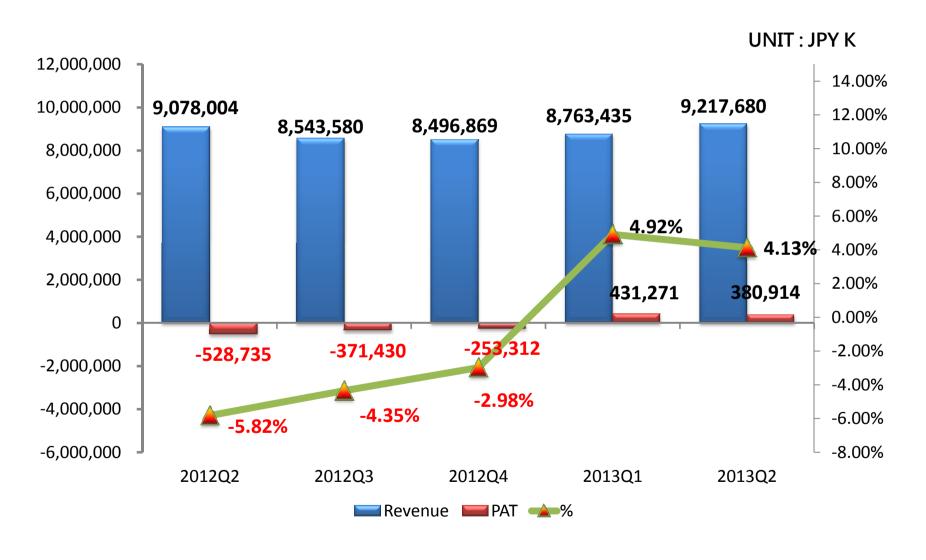


Items	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2
Revenue (K)	4,647,390	4,462,969	4,005,865	3,853,786	4,082,967
EPS	1.45	1.01	0.87	1.15	1.62
	_	EPS \$3.44		•	

2012 Divided Policy
Cash divided NTD 889 million in 2013Q3



GWJ Quarterly Revenue and PAT Trend Chart



Payback Analysis of Investment in GWJ SAS

*In terms of JPY K

Investment	
2012/04 Payment to Seller	28,000,000
GWJ 2012/04 Net Cash on hand	2,000,000
2012/11 Refunds from Seller	4,535,404
Actual Investment	21,464,596



Investment		2012 Q2	2012 Q3	2012 Q4	2013 Q1	2013 Q2	Sub-Total
21,464,596	PAT	-528,734	-371,430	-182,319	431,271	380,914	-270,298
	ЕВПОА	350,357	573,645	816,259	1,802,236	1,821,878	5,364,375
	*WACC	3.81%	3.81%	3.81%	3.81%	3.81%	
	Discounted Cash inflow	347,051	568,233	800,928	1,768,388	1,787,661	
	Accmulated Cash inflow	347,051	915,284	1,716,212	3,484,600	5,272,261	**
	% of investment payback	1.62%	4.26%	8.00%	16.23%	24.56%	**

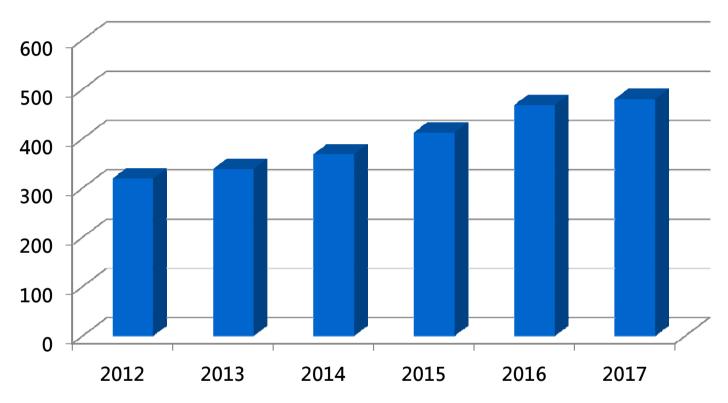
^{* 2012/01~2013/08} Taiwan Stock Market average dividend yield

^{**} Taking into consideration of the 10 billion GWJ capital reduction in a one-time way in Q3, we estimated a pro forma payback ratio in Q3 will be around 79%

Global Semiconductor Market Forecasts



Unit: US Billion



Source: IC Insights, 2013-06

- > 2013 global semiconductor market value forecast US\$ 332.3 billion, up 6%
- > Estimated growth in 2014, 2015, 2016 and 2017 of 9%, 12%, 14% and 3%, respectively



Global Semiconductor Market Growth Forecasts

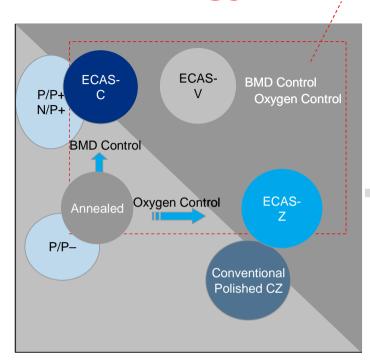
	2012	2013(f)	2014(f)	2015(f)	2016(f)	2011~ 16(f) CAGR
Automotive	0.4%	3.3%	10.4%	7.6%	9.4%	6.1%
Communication	2.3%	5.6%	8.9%	4.6%	5.7%	5.4%
Consumption	-5.9%	1.4%	3.2%	-0.2%	0.9%	-0.2%
IT	-5.0%	5.2%	12.5%	2.7%	6.4%	4.2%
Industrial	-7.9%	4.3%	13%	7.6%	10.7%	5.3%
Military/ Aero	-5.3%	2.8%	2.7%	5.3%	2.5%	1.7%
Global Semiconductor	-3.0%	4.5%	9.9%	3.6%	6.2%	4.1%

Source: IEK, 2013-03

Core Technology Towards Niche Markets







Surface Layer Strength

GWC Group Wafer Business Core Technology

BMD Control

- COP Control
- Surface Oxygen Control
- Defect Control
- Resistance Control
- DW Diffusion/ Processing
- Uniformity Technology for Epi
- Resistance Control Technology of Heavy Dope Crystallization





Logic

CMOS Image Sensor

Analog



GWC Global Tier -1 Client base

<u>Taiwan</u> <u>Japan</u> <u>US/ Europe</u>















2014(f) GWC Group Capacity Expansion

Company	Expansion Target
USA GT	Epi Wafer
JAPAN GWJ	8" Wafer
China SST	o vvaler



SAS Group Solar Business Sector



Sino American Silicon Products Inc.



Poly Si

Ingot

Wafer

Cell

Module

Systen

Strategic Investment in Solar Value Chain



Main Products:



Pseudo Square Mono Crystalline Wafer



Full Square Mono Crystalline Wafer



High Efficiency Multi Crystalline Wafer



U Wafer



Cell Capacity: 350MW

Location: Taiwan

Ownership: 50.95%

Main Product: Mono Crystalline



Location: Taiwan Ownership: 8.44%

Main Product: Polycrystalline Cell

Capacity: 600MW







Briefing on Sunrise Global Solar Energy (Solar Cell)

Company Profile



■Established: 2007

■Paid-in Capital: NTD \$2.5 billion

■Employees: 431

■ Headquarters: Lize Industry Park, Yilan County

■Revenue: 2010 NTD 3.51 billion

2011 NTD 3.26 billion

2012 NTD 2.33 billion

2013 NTD 1.64 billion (1H)



2007.08	Established
2008.12	5-year R&D program with The University of New South Wales, cell plant and facility construction
2011.01	IPO (Ticker # 5217 TT)
2011.04	Reached peak efficiency of 19.2% in standard volume production (mass production)
2011.12	Annual capacity of 350MW
2012.06	P-type cell reached peak efficiency of 20.2% (Mass Production)
2013.06	CELCO cell reached peak efficiency of 20.6%

2013.06.20 R&D Breakthroughs



『CELCO』 Cell

- Characteristics:
 60 CELCO cell module output of 290 watts
 Module efficiency 17.6% → certified by German institute VDE
- RD advantages:
 - PID resistant
 - Superior low-light performance
 - Excellent color uniformity
- Market advantages:
 Cost-competitive
 P-type generates same output as N-type

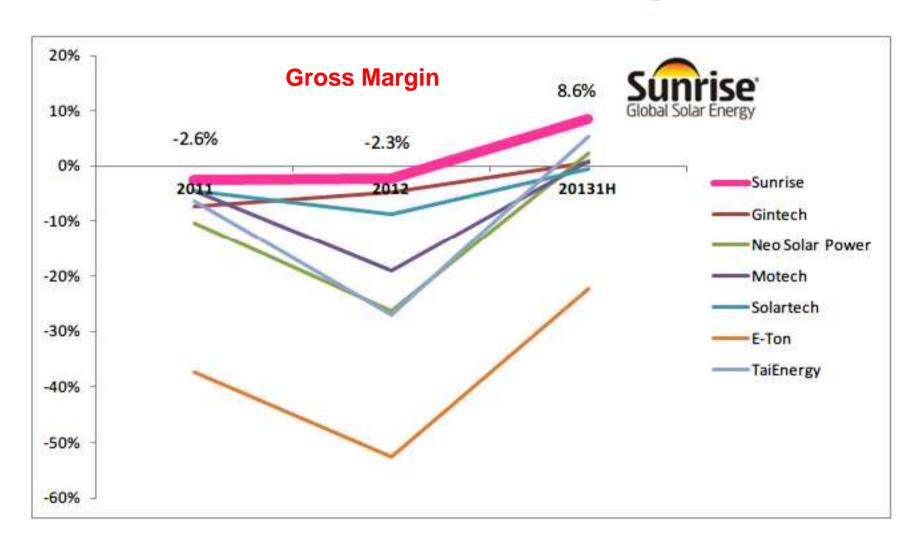


Outstanding LID

■ Great temperature

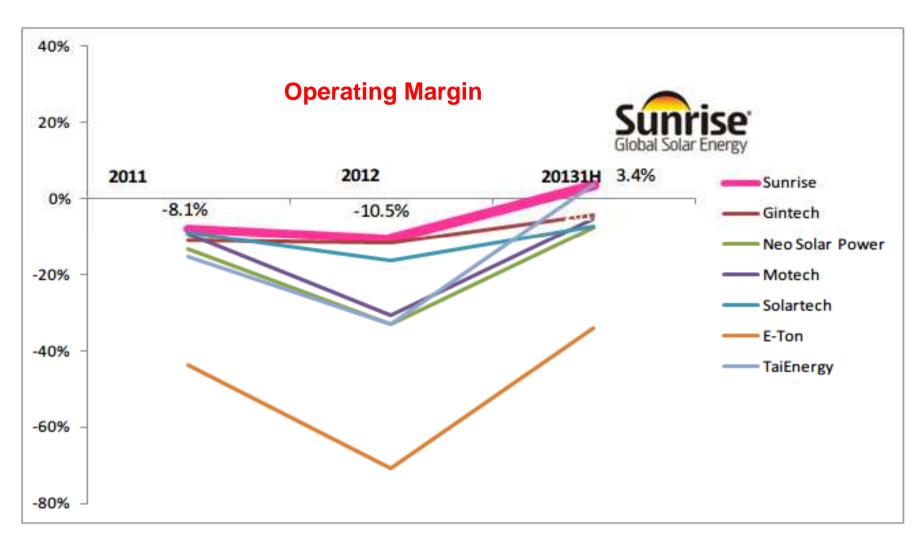


Taiwan Solar Cell Makers – Financial Performance Comparison





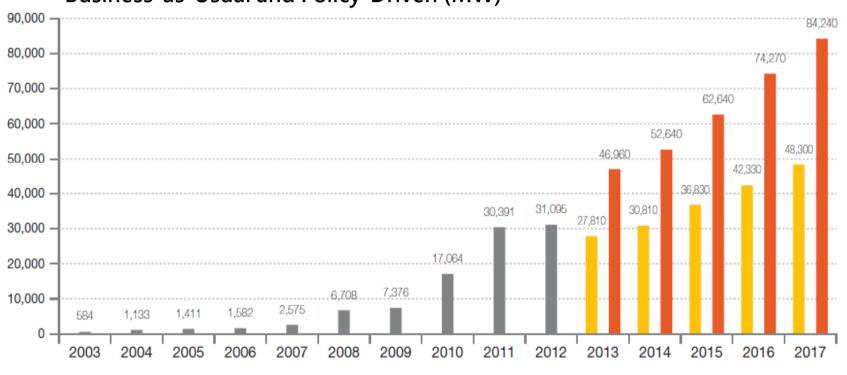
Taiwan Solar Cell Makers – Financial Performance Comparison





Global Solar Installation Forecasts

Global annual PV market scenarios through 2017 - Business-as-Usual and Policy-Driven (MW)



EPIA Policy-Driven

EPIA Business-as-Usual

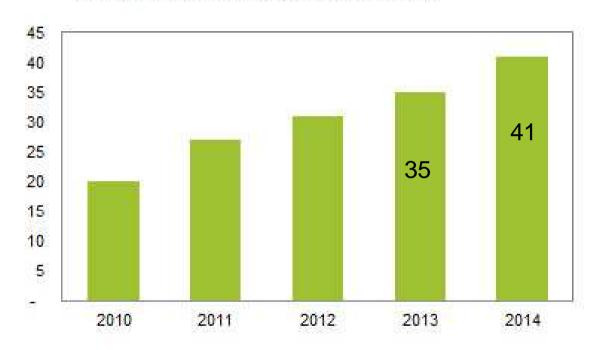
Historical data

(Source: EPIA, 2013-05)



Latest Installation Forecast from IHS

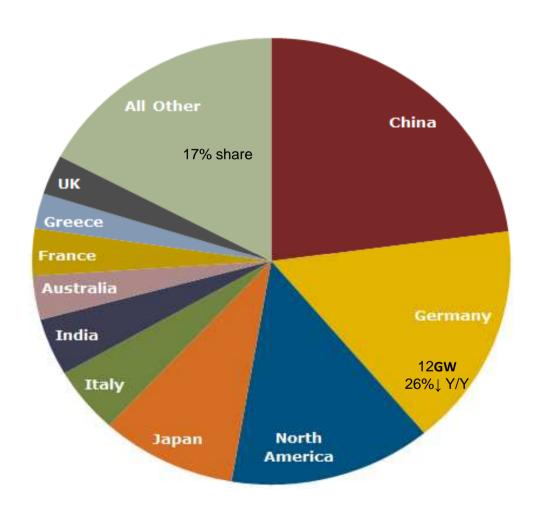
Global Photovoltaic Installations (in Gigawatts)



Source: IHS Inc. October 2013



2013(f) PV Market Demand by Country



(Source: NPD Solarbuzz 2013-05)

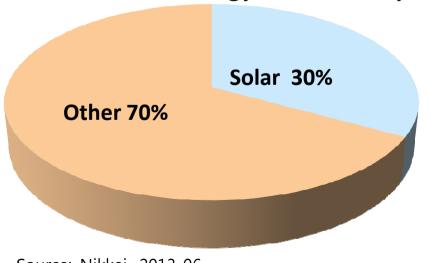
- 2013(f) total demand:31GW, up 7% YoY
- Top 10 to account for 83%
- China to surpass Germany
- German demand to decrease to 12GW, down 26% YoY
- APAC (China, Japan, India)-> up 50% YoY
- Emerging countries could see demand double by 2017 e.g: South Africa, Arab nations, Thailand, Israel and Mexico

Japan Renewable Energy Market to Grow 440% by 2020



- ➤ Japan renewable energy market to grow 440% in 2012~20 (fiscal year) to around ¥ 1.188 trillion (USD \$12.2 billion)
- ➤ Solar market to double to around ¥ 376 billion, for 30% global market share

Renewable Energy Market in Japan



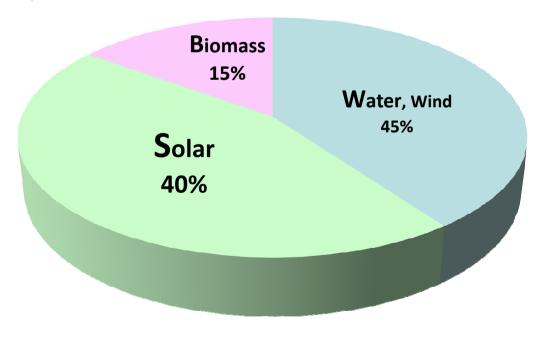
With long-term relationship with Japanese customers, SAS will benefit from booming Japan market growth

Source: Nikkei 2013-06

SAS

Japan FIT Spurs Renewable Energy

- ➤ Hydroelectric power accounts for 4% of power output in Japan, the highest share among renewable energy generation
- ➤ Japan's 2030 energy goals: Solar 40%, biomass 15% and water/ wind 45%



Source: Nikkei 2013-06



Traditional Crystalline Solar Solution Dominates Solar Market Growth



First Solar acquired TetraSun, a high-efficiency cell manufactur with rooftop solar system knowhow

➤2013Q2 First Solar moves into monocrystalline cell via TetraSun acquisition

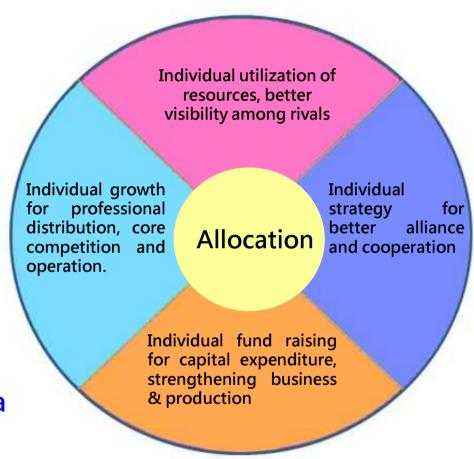
First Solar to start a 100MW manufacturing line for monocrystalline cell in 2014; mass production from 2015

SAS

Strong Growth on Solar Business



- ◆ SunEdison Inc. (formerly MEMC) announced spin off of semiconductor business as "SunEdison Semiconductor Inc."; SunEdison keeps solar business
- ◆ SunEdison Semiconductor Inc. plans to file for IPO in 2013Q3 and has scheduled a public offering for early 2014; capital will be used to build solar farms



Solar Industry Outlook



- Recovering demand spurs solar installation policy in the US,
 Japan and China; market expected to grow steadily
- To meet increasing demand, SAS merged Sunrise, known for high-efficiency monocrystalline cell production; via vertical integration, SAS is better able to provide customers with superior mono/ poly-crystalline solutions, improving efficiency and operation
- Focus of the solar market has shifted from Europe to the US and Asia, especially China and Japan; SAS will explore opportunities in emerging solar markets via global subsidiaries such as GlobalWafers in Japan, GlobiTech in the US and SST in China

