



Financial Result of 2nd Quarter 2017

Aug, 2017

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Solar Business Sector













Company Profile



2015

- Established : 1981
- Paid-in Capital : TWD 5,800mn
- Employees

Headquarter

Products

- : 8,495 (2017/06)
- : Hsinchu Science Park, Taiwan R.O.C.
 - : Solar Wafer / Cell / Module / Power Plant Semiconductor Wafer (3"~12") ~ all-time high ~
- Revenue
- : 2017 Jan~ Jun TWD 27,592 mp



Milestones

- **1981** Sino-American Silicon Products Inc. established
- **1999** SST established in China
- **2000** Enter Solar Ingot / Wafer Business
- 2001 SAS IPO in Taiwan (5483 TT)
- 2008 Acquired GlobiTech Incorporated, TX, USA
- **2011** Company spin off SAS / GWC / SSC
- **2012** Acquired Covalent Silicon, Japan
- **2014** Acquired ALEO module fab of Bosch group, Germany Merged Sunrise Global Solar Energy Co., Ltd. Taiwan
- **2015** SAS Sunrise Inc. (SSR) established for Solar Power Plant, Project Palo ground breaking
- 2015 GWC IPO in Taiwan (6488 TT)
- **2016** 50MW Power Plant(Project Palo) completed in Mar 2016
- **2016** Acquired Topsil Semiconductor Materials A/S (Denmark) silicon (FZ and CZ) activities
- 2016 Acquired SunEdison Semiconductor, Ltd. (SEMI)











Organization SAS sapphire solar semiconductor SAS Sunrise SAS 40.38% 50.84% 100% SAS 30% 100% 100% **CSC** (GW) **GWC** CSC Crystalwise SSR SAS SSY formerly GlobalWafers **Cathay Sunrise** (British Cayman (Chunan fab) (Yilan fab) Sino Sapphire Co., Ltd. Co..Ltd. Taiwan Corp. Islands) 100% ALEO aleo solar GmbH Prenzlau, Germany (**GW**) 100% TOPSIL 100% GLOBITECH SST 100% a SunEdison 100% 100% **Sepalco** 100% Global Wafers Japan

GW.J

GlobalWafers

Japan

SEMI

SunEdison

Semiconductor.

Ltd. USA etc.

SST

Sino Silicon

Technology

China

GT

GlobiTech

USA

ALEO-SUNRISE

aleo sunrise GmbH

Prenzlau, Germany

SEPALCO

Palo

Philippines

TGW

Topsil

GlobalWafers

Denmark

SAS Group (Solar)





SAS Consolidated Financial Statements



TWD mn	2014	%	2015	%	2016	%	1H17	%
Revenue	27,821	100	28,269	100	31,599	100	27,592	100
GM	3,498	13	4,271	15	3,435	11	4,351	16
ΟΙ	1,447	5	2,237	7	42	0	1,948	7
PBT	1,925	7	1,960	6	(856)	(3)	1,082	4
PAT	1,128	4	535	1	(1,589)	(5)	(276)	(1)
Total Debt & Debt ratio	19,304	47	17,617	38	55,787	67	39,266	50
ROE (%)	6.16		4.21		(6.16)		1.36	
EPS	2.06		0.93		(2.77)		(0.48)	

SAS Consolidated Financial Statements



TWD mn	1Q16	%	2Q16	%	3Q16	%	4Q16	
Revenue	7,091	100	7,549	100	7,184	100	9,775	100
GM	1,123	16	1,363	18	220	3	729	7
ΟΙ	567	8	780	10	(404)	(6)	(901)	(9)
PBT	398	6	514	7	(1,058)	(15)	(710)	(7)
PAT	207	3	292	4	(1,304)	(18)	(784)	(8)
Total Debt & Debt ratio	17,850	37	19,676	39	20,600	43	55,787	67
ROE (%)	1.16		1.54		(4.13)		(4.34)	
EPS	0.36		0.51		(2.27)		(1.37)	

SAS Consolidated Financial Statements



TWD mn	1Q17	%	2Q17	%	%	
Revenue	13,577	100	14,015	100		
GM	1,847	14	2,504	18		
ΟΙ	647	5	1,301	9		
PBT	(9)	0	1,091	8		
PAT	(405)	(3)	128	1		
Total Debt & Debt ratio	54,424	66	39,266	50		
ROE (%)	(1.06)		2.35			
EPS	(0.7)		0.22			

SAS – Financial Statements 2012~2017







SAS Solar Manufacturing Site



(unit: MW)

-	Company	Products	2015	2016	2017	Location
	SAS	Wafer	1,000	1,000	1,000	Taiwan
S	SAS	Cell	800	800	800	Taiwan
A S	Aleo-Sunrise	Cell	0	200	200	Cormany
	aleo	Module	340	340	340	Germany
	SAS Sunrise	Solar Farm	0	70	50~100	Taiwan Japan
	CSC	Solarram		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		

Multi Wafer Technology Roadmap



continued to improve 7

SAS Cells Performance



• SAS's cell efficiency is higher than industry standards



Presence along the solar value chain





SAS dedicate to provide the PV Total Solutions with Competitive LCOE and WACC.

能源計算器的平準化成本Levelized cost of electricity (LCOE) 加權平均資本成本(Weighted Average Cost of Capital, WACC)

Sino-American Silicon Products Inc. 15

Global PV Installation



Top 4 share more than 70% market, India indicates growth



China PV Industry



Could reach 250GW cumulative PV installation by 2020







100GW cumulative PV installation target by 2022



Source: Energy Trend 2017/07

Global Production Capacity for PV Cells 2016~2020

SAS

PERC migration increasing from 2016



US AD rates review(1st) of Taiwanese Cell Suppliers



Company	Tariff Rate (%)
Sino-american Silicon Products Inc.	3.50
Solartech Energy Corp.	3.50
Motech Industries, Inc.	4.20
AU Optronics Corporation	4.09
EEPV CORP.	4.09
E-TON Solar Tech. Co., Ltd.	4.09
Gintech Energy Corporation	and 4.09
Inventec Energy Corporation	4.09
Inventech Solar Energy Corporation	4.09
Kyocera Mexicana S.A. de C.V.	4.09
Sunengine Corporation Itd.	4.09
Sunrise Global Solar Energy	4.09
TSEC Corporation	4.09
Win Win Precision Technology Co., Ltd.	4.09

Source: US DoC Energy Trend, Mar 2017

Monocrystalline vs. Multicrystalline Wafer



Monocrystalline wafer production gains momentum in 2016 & will continue growing until 2020

Monocrystalline vs Muticrystalline wafer production 2010-2020



SAS Dividend Policy



<u>Year</u>	<u>EPS</u>	Dividend
2013	TWD 0.57	TWD 1.0
2014	TWD 2.06	TWD 1.8
2015	TWD 0.93	TWD 1.5
2016	TWD (2.77)	TWD 1.5
1H17	TWD (0.48)	-



