



TSEC Corporation (6443) Investor Conference



2021/12/14



Safe Harbor Notice

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Topics

- 1. Company Introduction**
- 2. PV Market Overview**
- 3. Financials**
- 4. Corporate Strategies**

1. Company Introduction





Company Profile

Established	Jun 24 th , 2010
Company Name	TSEC Corporation
Logo TSEC	Taiwan Solar Energy Corporation
Paid-in-Capital	NTD 4,716million (After completion of private placement on Dec.2,2021)
Plant Locations	HsinChiu (Cells) / PingTung (Modules)
Products	1.Solar Cells 2.Solar Modules 3.PV Project Development
Annual Capacity	High-Efficiency Cells 1GW / Modules 1GW
Employees	Appx. 1,300 (Dec 2021)
Sales Offices	New Taipei / HsinChiu / ChungHwa / Tainan / PingTung

Module Plant



Cell Plant



Headquarters





TSEC Business across PV sectors



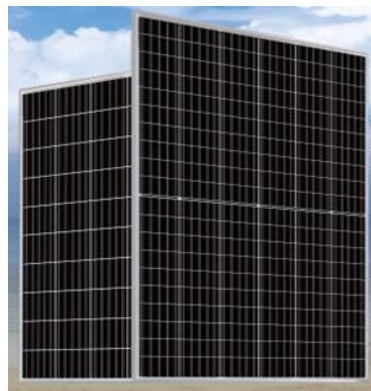
Polysilicon
結晶矽



Wafer
矽晶片



Solar Cell
電池



Solar Module
模組



Systems
系統安裝與維運

Over a decade of experiences, TSEC has become an expert of manufacturer and developer in PV industry.



HsinChiu Solar Cell Plant

The Largest Capacity in Taiwan





PingTung Solar Module Plant

The Largest Capacity in Taiwan



- 2014-2020 Awards from Energy of Bureau
- 2017 National Innovation Awards
- Deloitte Top 500 awards in Asia-Pacific
- The first VPC Certificate from Bureau of Standards





Annual Production Capacity

		Unit	2020	2021	2022	2023
Solar Cells	Max. Capacity	MW	610	1010	1410	1410
Solar Modules	Max. Capacity	MW	600	1050	1,500	1,500

2. PV Market Overview

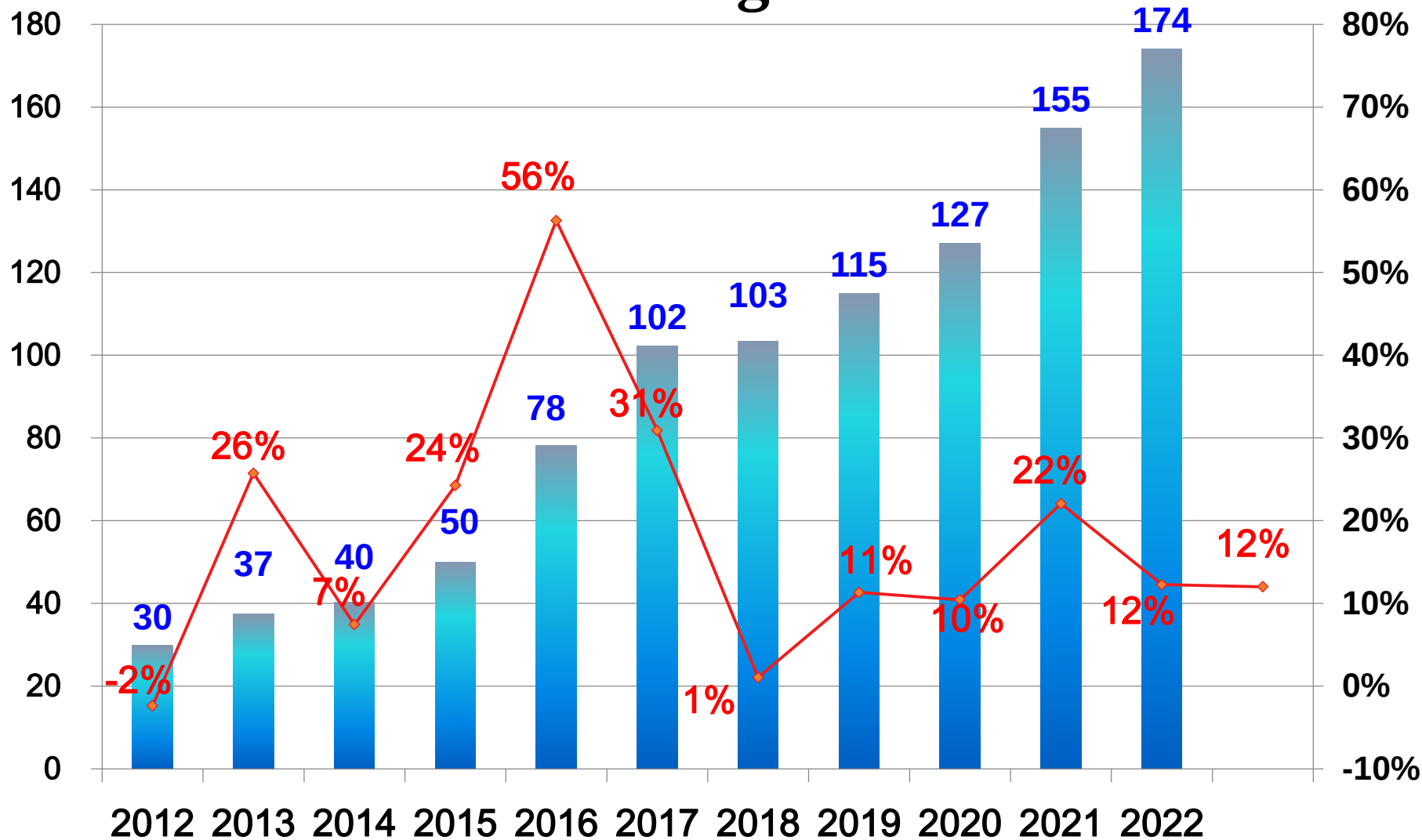


挑戰今日 創造未來



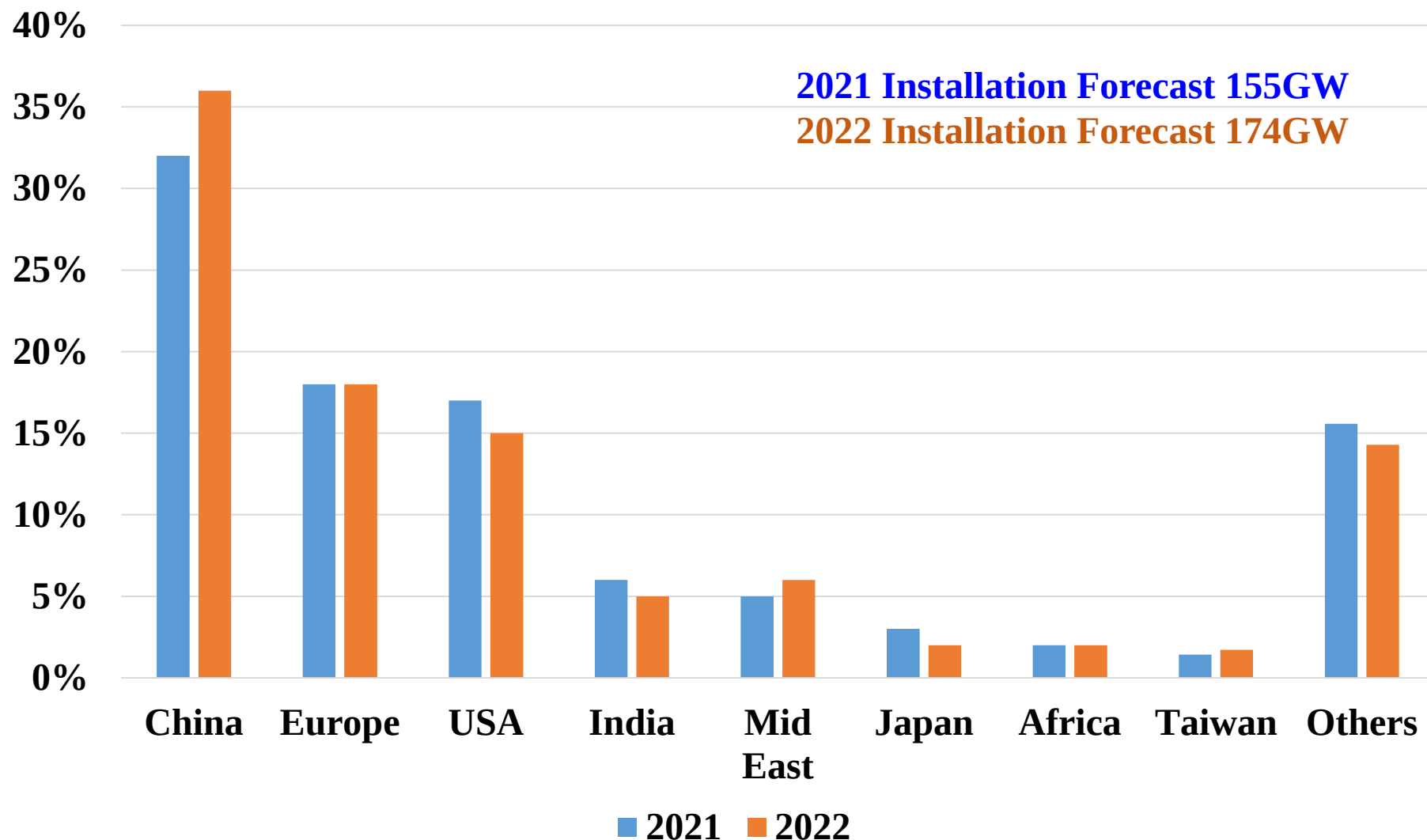
Global Installation

Unit: 1 Giga Watts

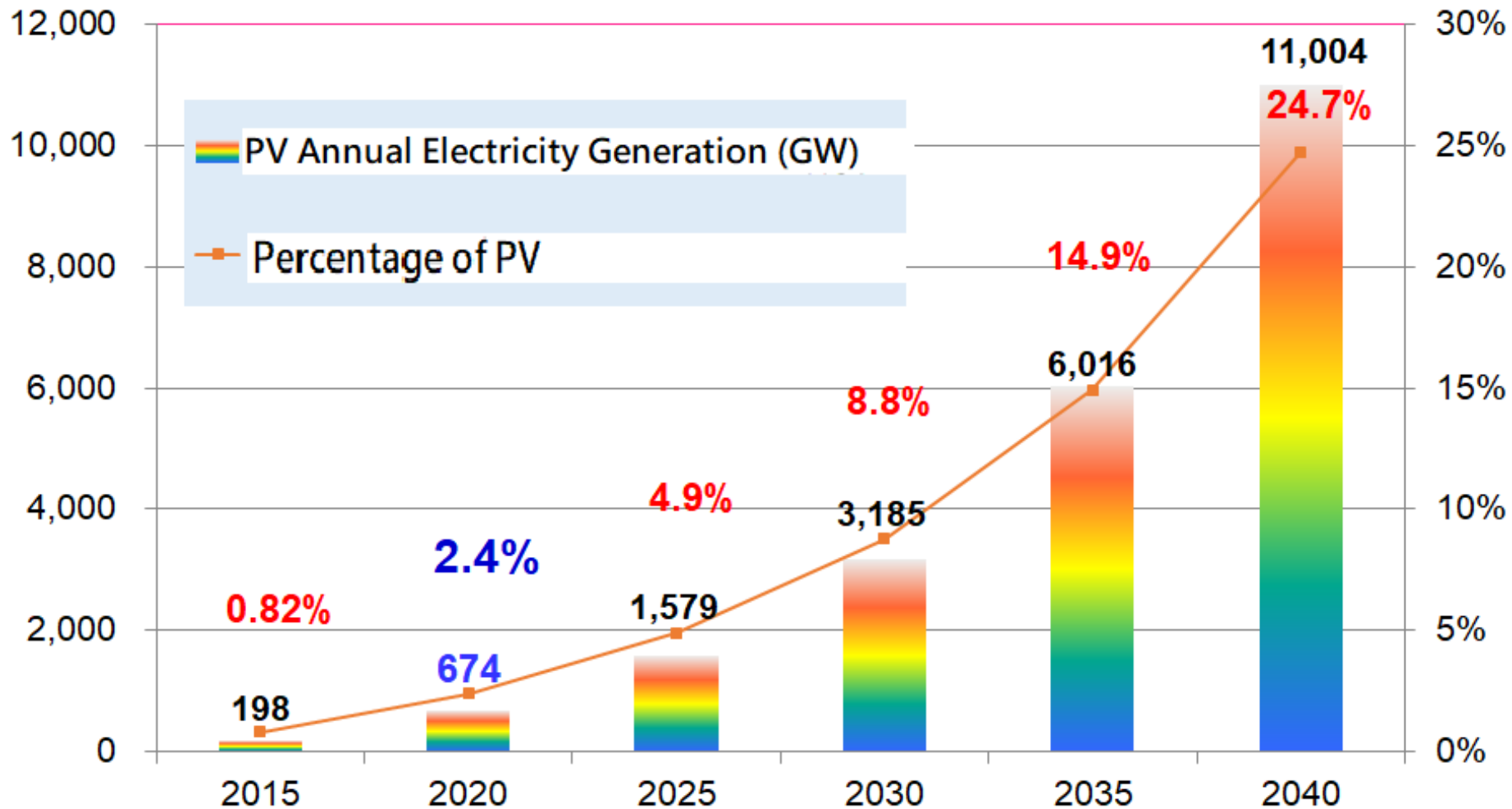


Data Source: TSEC Marketing、PVInfolink

PV Installation and Estimation

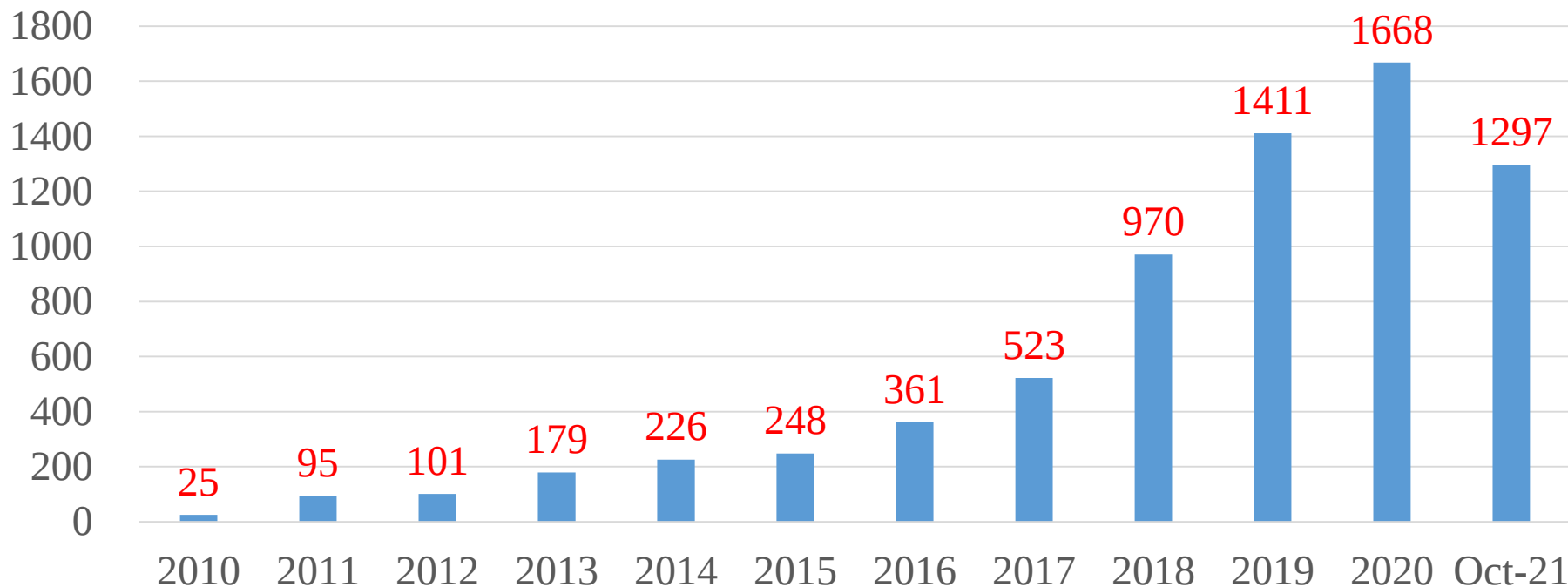


PV Electricity Generation %



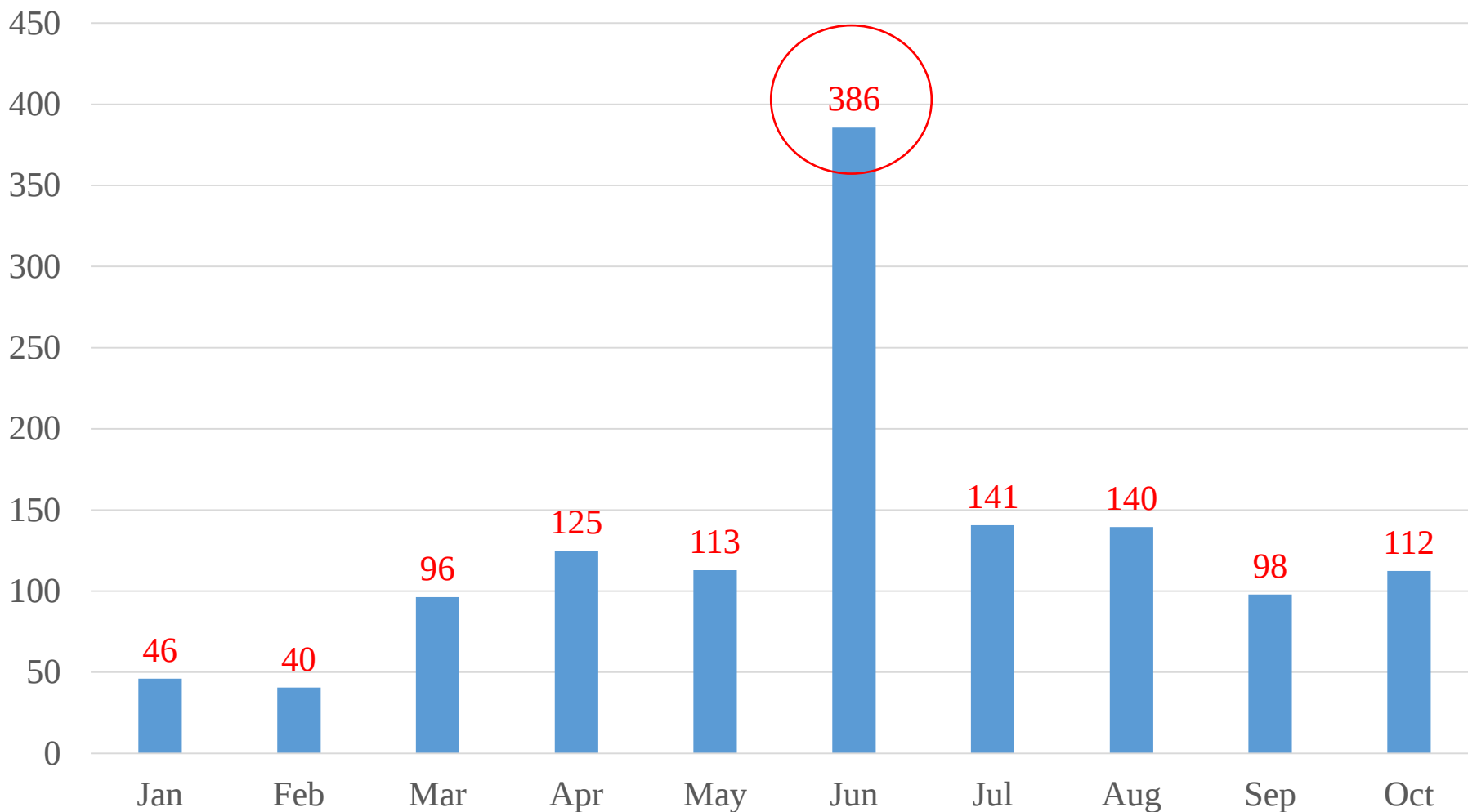
1. The Executive Yuan approved the "Green Energy Industry Launching Plan" in 2003 to focus on the promotion of solar photovoltaic energy in Taiwan.
2. The Ministry of Economic Affairs announced the start of Energy Transition and Reform in May 2016. It set a target of 20GW for PV installation before the year end of 2025, of which is around 10% of annual electricity consumption of the country.
3. According to Energy of Bureau, the installed capacity from Jan~Oct 2021 is 1.297GW, and the estimated total installed capacity this year is about 1.8-2.1GW. The cumulative total installed capacity at the end of the year could reach to 8GW.
4. Before the completion of 20GW by 2025, there is still 12GW remained to be installed. Hence, in order to achieve this goal, the average annual installation volume must reach 3GW/yr in the next three years.
5. Major power users such as TSMC have pledged 100% green power by 2025. It is estimated that Taiwan's total power consumption will increase by another 10% within the next few years. Undoubtedly, Taiwan's PV market will continue to grow after year 2025.

Taiwan Annual PV Installation



- 2020 reached record high of 1,668MW, total accumulation 5.8GW nationwide.
- 2021 the annual installation could reach 2,000MW, while the cumulative number might come to 8GW by the year end.
- Each year will require at least 3GW installation in order to achieve 20GW by 2025.

2021 Monthly Installation (MW)





Scale-Size PV Projects in Next 2 years

Project	Volume (MW)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2022 TOTAL	Q1	Q2	Q3	Q4	2023 TOTAL
A	356										20	20	20	60	45	45	45	45	180
					30	30	30	26						116					0
B	140							15	15	15	15	15		75		50	15		65
														0					0
C	69							5	5	5	5	5	5	30					0
		10	10	10	3	3	3							39					0
D	114													0					0
		18	20	20	20	15	13	8						114					0
E	67			5	18	18	18	11						70					0
														0					0
F	35	5	10	10			5	5			5	5	5	50					0
														0					0
G	90								10	10				20		60			60
														0					0
H	150								10	10	10	10	10	50	50	50			100
														0					0
I	340													0			80	80	160
														0					0
J	70													0					0
										10	10	10	10	40	30				30
TOTAL	1,431	33	40	45	71	66	69	70	40	50	65	65	50	664	125	205	140	125	595



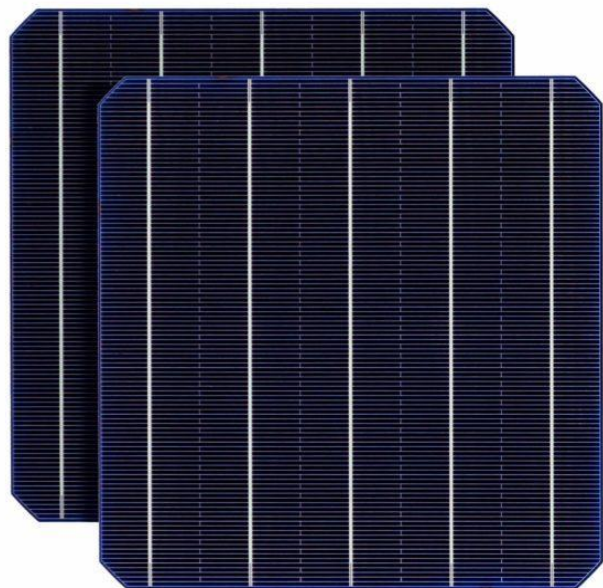
The Rise of Larger Wafers (M10/G12)

- Starting year 2019, PV wafer manufacturers have introduced larger wafer sizes, which methodology and thinking are similar to Semi-Conductor starting from 6~8" to 12".
- The old version of wafer G1 will be obsoleted by the year end of 2022 and **M10/G12(10~12") will become the major products instead.**

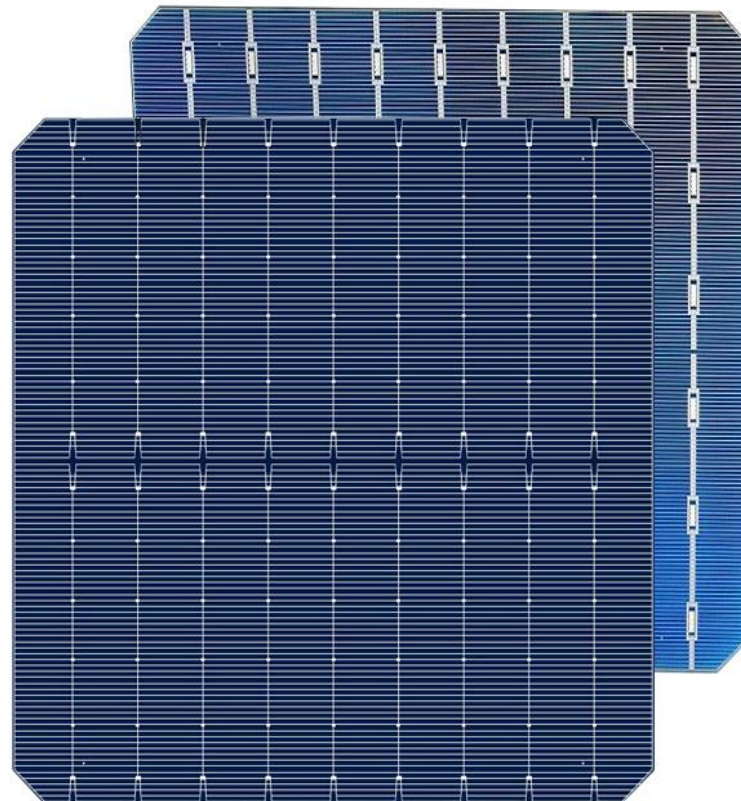
Wafer Code	Length cm	Cell/pc Watt	Increase %	6X10 Panel Watt	6 X12 Panel Watt	kWh Cost in %
G1	15.875	5.60	100%	330	400	100.0%
M6	16.600	6.15	110%	360	435	96.4%
M10	18.200	7.50	132%	450	540	90.6%
G12	21.000	9.85	176%	580	700	82.3%

- Most of the Taiwan manufacturers are still producing G1 solar cell and modules of which has fallen behind the international standards. **The need for upgrades is in no time.**

PV Cell Sizes Comparison



VS.



G1 (2018)

Watts / cell: 5.6W
Efficiency : 22.45%

M10 (2022)

7.5W
22.8%



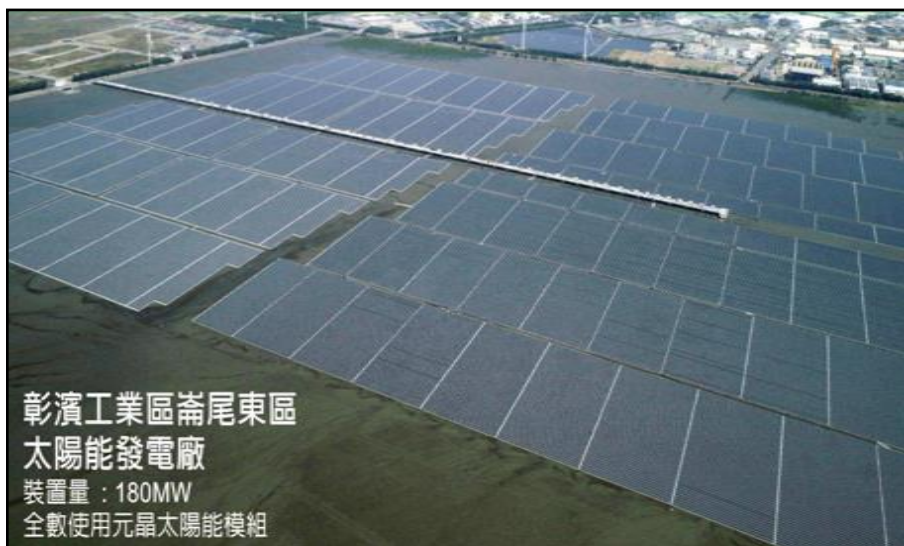
Taiwan PV Cell Manufacturers Comparison Table

Company	Ranking	Cell (G1)	Upgrades (M6)	Brand New Line M6~G12 Competible	Total Capacity MW
TSEC	1	600		400	1,000
B	2	600			600
C	2	540	60		600
D	3	150	300		450
E	4	300			300
F	5	75	75		150
G	6	20	80		100
TOTAL		2,285	515	400	3,200



Taiwan Panel Manufacturers Comparison Table

Company	Ranking	Cell (G1)	Upgrades (M6)	Brand New Line M6~G12 Competible	Total Capacity MW
TSEC	1	600		400	1,000
B	2	450		300	750
C	3	200	100		300
D	4	150	100		250
E	4	175	75		250
F	5	25	75		100
G	5	25	75		100
TOTAL		1,625	425	700	2,750



Taiwan is an island surrounding by seas. The country location is right at the earthquake and typhoon zone in Pacific Area. To cope with this harsh environment, TSEC Corp. has developed different solar panels for customer selections of which are special designed to sustain in high salt-mist environments. Our unique products also serve as product differentiation to the global market.

4. Financials



Income statement

Q1~Q3,2021

In Thousands of New Taiwan Dollars

	Q1		Q2		Q3		Q1-Q3	
OPERATING REVENUE	1,136,833	100%	1,369,157	100%	1,405,785	100%	3,911,775	100%
OPERATING COSTS	1,077,194	95%	1,366,829	100%	1,383,444	98%	3,827,467	98%
UNREALIZED GAIN ON TRANSACTIONS WITH ASSOCIATES	(379)	0%	(74)	0%	0	0%	(453)	0%
GROSS PROFIT	59,260	5%	2,254	0%	22,341	2%	83,855	2%
TOTAL OPERATING EXPENSES	68,706	6%	97,327	7%	126,849	9%	292,882	7%
INCOME FROM OPERATIONS	(9,446)	-1%	(95,073)	-7%	(104,508)	-7%	(209,027)	-5%
TOTAL NON-OPERATING INCOME AND EXPENSES	16,256	1%	(2,489)	0%	(18,141)	-1%	(4,374)	0%
INCOME BEFORE INCOME TAX	6,810	1%	(97,562)	-7%	(122,649)	-9%	(213,401)	-5%
INCOME TAX EXPENSE	4,860	0%	(3,772)	0%	(16,920)	-1%	(15,832)	0%
NET INCOME	1,950	0%	(93,790)	-7%	(105,729)	-8%	(197,569)	-5%

Remark: The net loss was mainly due to pandemic crisis of Covid-19.

4. Corporate Strategies



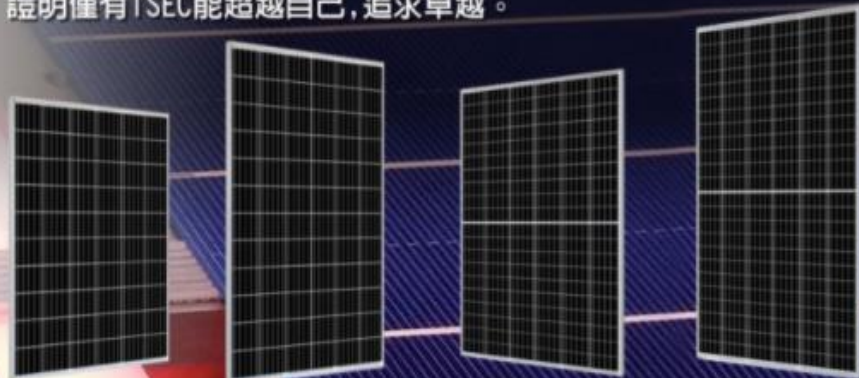
財團法人中經發展中心驗證
<http://www.mitw.org.tw>

No.30100080-00002 (TSS65TNG)
No.30100080-00003 (TSS65TNIH)
6吋單結晶矽太陽能電池
No.30100080-00004 (TSS65TNG)
6吋單結晶矽太陽能電池(雙面)



專注完美

元晶TSEC太陽能電池與模組產品，源自台灣的高品質工藝與高效能表現，連續七年榮獲台灣金能獎肯定並通過多項國際認證，證明僅有TSEC能超越自己，追求卓越。



通過經濟部自願性產品檢驗認證

通過經濟部工業局MIT產品驗證：6吋單結晶矽太陽能電池

：6吋單結晶矽太陽能電池(雙面)



Corporate Strategies in Yr 2022

The company has always adhered to the four main principles : ``**lower cost**‘‘, ``**higher quality**‘‘, ``**differentiation**‘‘ and ``**rapid response to market changes**‘‘ as its business strategies:

Production Strategy

- a) TSEC is currently the only domestic supplier of large-size solar cells of M10 and G12, and such product differentiation will be a major source for higher profit to the company.
- b) Increase the utilization of production capacity and reduce production costs with economies of scale and increase the bargaining power of purchases.

Marketing strategy

- a) Large-scale projects and small & medium-sized customer groups in Taiwan are still our main revenue sources. In year 2022, the module domestic demand will surpass the actual supply.
- b) Strive for higher market share of PV module in Taiwan

TSEC has reached 30% of the domestic market share in 2021, and the target for 2022 is set to reach over 35%.



Foundation Deepening Strategy

Gradually invest in the downstream PV projects to create a stable and profitable foundation for the company.

Financial Planning Strategy

- a) Upgrading the corporate credit rating**
- b) Cut costs and interest rates**

Implement corporate governance and actively pursue the challenge of net zero emissions

- a) Continue to implement the quality of corporate governance to reach the second-tier level of listed companies.**
- b) Establish a carbon risk and carbon asset management system (ESG)**



TSEC Corporation

Taiwan Solar Energy