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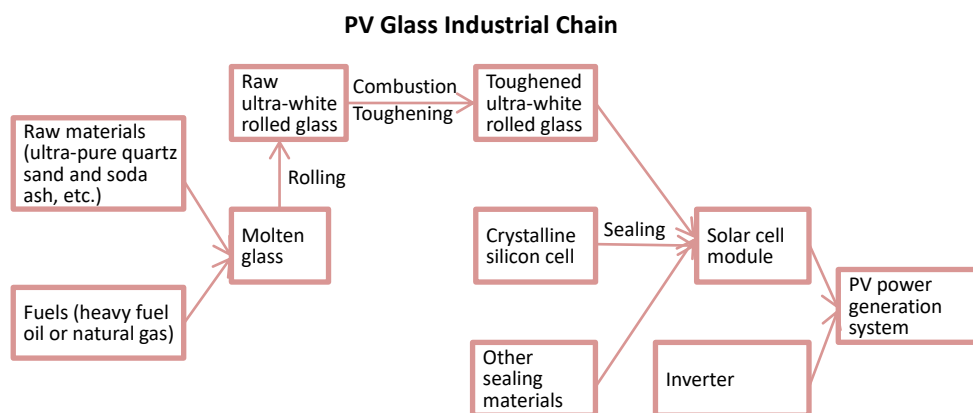
January 29, 2021 Friday

Market Wrap

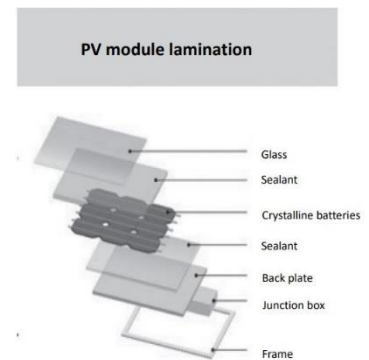
HSI ▼2.55%		HSCEI ▼2.72%		Turnover HK\$205.5 bn ▲31% (30-day average)		SSE Composite ▼1.91%		SZSE Component ▼3.25%		
Sector tracking				Stock tracking						
1D	▲%	1Y	▲%	Shanghai Connect 1D		▲%		Shenzhen Connect 1D		▲%
Personal Prod	3.5	Parts	381.7	VITASOY INT' (345)	15.4	KASEN(496)		16.7		
Food	0.4	Airport	271.3	CHINA LIT (772)	11.4	VITASOY INT' (345)		15.4		
		Auto	251.7	SUNART RETAI (6808)	7.6	CHINA LIT (772)		11.4		
		Equip	241.9	TINGYI (322)	6.7	SUNART RETAI (6808)		7.6		
		Household Prod	147.9	WANT WANT CH (151)	6.3	TINGYI (322)		6.7		

Market Highlight
Xinyi Solar (968 HK): Photovoltaic Glass Prices Keep Rising on Tight Supply

Photovoltaic ("PV") glass prices surge: The market price of mainstream PV glass in China have increased over 70% with the price of 3.2mm products rising from RMB24 per sqm at the beginning of last year to the current average price of RMB43 sqm. As the tight industrial supply is not likely to ease in the short time, PV glass prices may remain strong in 2021.



Source: Flat Glass Group IPO, Orient Securities (Hong Kong)



PV modules are made up of PV glasses, sealants, PV batteries and other components. The addition of PV glasses to PV modules as a cover can provide protection to PV batteries during the lamination process.

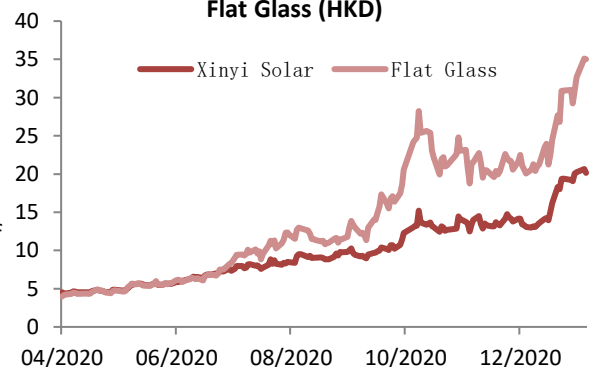
Xinyi Solar vs. Flat Glass

Both Xinyi Solar (968 HK) and Flat Glass (6865 HK) – two leading players in the PV glass market – have got listed on the HKEX.

Xinyi Solar, got listed on the HKEX in December 2013, is the world's largest solar PV glass manufacturer. It currently has the production line with melting capacity of 7,800-tonne/day, holding a share of more than 30% in the global market.

Flat Glass, established in 1998, got listed on the HKEX in November 2015 and in A-share market in February 2019. Its current melting capacity is maintained at 5,400-tonne/day, accounting for c.20.3% of the global market share.

Higher PV glass prices drive up stocks: The rising PV glass prices set off a surge in stock prices of both companies. Flat Glass was up more than 3-fold while Xinyi Solar rose more than 1-fold since last year.

Stock Price Performance of Xinyi Solar and Flat Glass (HKD)


Source: Bloomberg, company data, Orient Securities (Hong Kong)

Analysis: Reasons behind PV Glass Prices Rise

Demand side:

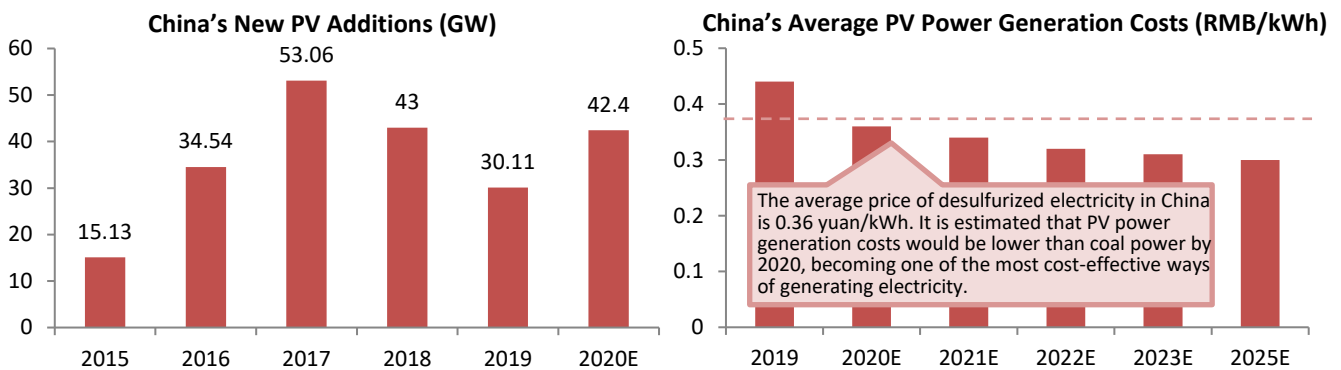
Demand for PV installations rebounded as the impact of China-531 Policy – a policy designed to control breakneck growth in the solar sector – receded and PV costs plummeted.

The Chinese government announced a series of new PV policies including the “531 Policy” in 2018 to push forward the PV industry through lower prices and market-oriented management instead of subsidies and size-driven management. Prices for each segment of PV manufacturing fell sharply due to the slumping downstream demand brought about by the policy. China’s new PV additions have recorded a continuous YoY decline in 2018-19.

New PV additions in the first half of 2020 was negatively impacted by the outbreak of COVID-19, down 23% YoY to 6.15GW from January to May. However, according to China’s National Energy Administration and China PV Industry Association, China’s PV installation is expected to be around 35.8GW-48.9GW in 2020. The rise in PV installations amid the pandemic indicated that the cost of PV power generation has been partially competitive against that of traditional power generation due to the plummeting cost of PV module under the weight of reducing subsidies. **In other words, the PV industry exhibited self-restoring ability.** With the pandemic largely under control in 2H20, PV power plants need to seep up installation to meet the rising demand from PV construction.

The rising awareness of low-carbon energy technologies and the global policy agreement on carbon neutrality will spur more solar installations around the world.

New policies will be implemented as carbon emissions has drawn global attention, which will push up global demand for PV installation. China has pledged to bring carbon dioxide emissions to a peak before 2030 and become carbon neutral before 2060. EU set a goal in 2014 to reduce greenhouse gas emissions to 40% below 1990 levels by 2030. Germany has recently appealed to EU to achieve carbon neutrality in the EU by 2050. Solar energy, renewable and emission-free, is the best alternative to traditional energy sources. Global PV installations will climb to 1,721GW in 2030 and 5,670GW in 2050, the IEA projected, offering great potential for PV energy development.



Source: Company data, internet data, Orient Securities (Hong Kong)

Supply side:

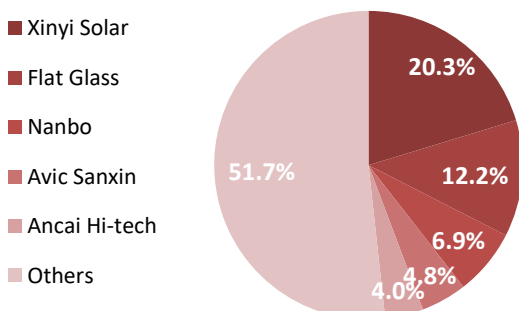
PV glass production capacity expansion will be constrained for the short term due to supply-side structural reform and long period of production capacity investment cycle.

China forged ahead supply-side structural reform in 2017, adding PV glass to the new capacity replacement projects, where new production capacity can only be built by removing obsolete facilities. As a capital-intensive industry, PV production requires large initial investment of RMB600-700 million/1000 tonnes. Meanwhile, it has a long period of building cycle – approximately 1-2 years. Therefore, only large-cap leading players were able to ramp up production capacity over the previous years amid a lackluster PV glass market. Since 2H20, quite a few companies have announced to push forward production capacity expansion, whereas the tight-supply situation will not be alleviated for the short term.

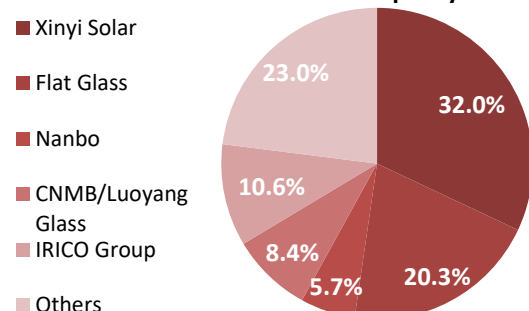
PV glass market will be duopoly, strengthening bargaining power of leading players.

With the rising manufacturer concentration of the PV glass industry, Xinyi Solar’s production capacity share expanded from 20.3% to 32% while Flat Glass from 12.2% to 20.3%. The two leading players have accounted for over half of the production capacity market share in 2019, and are expected to rise further going forward, suggesting an increase in PV glass manufacturers’ bargaining power compared to low-concentration module manufacturers.

2014 World PV Glass Production Capacity Market Share



2019 World PV Glass Production Capacity Market Share



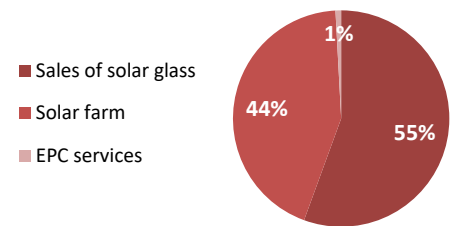
Source: Company data, Flat Glass Group IPO, Orient Securities (Hong Kong)

Xinyi Solar: World's Largest PV Glass Manufacturer

Xinyi Solar operates its business through three segments: 1) sales and production of solar glass; 2) solar farm business; 3) EPC business. The first two segments are the Group's core business.

Xinyi Solar is the world's largest PV glass manufacturer. Its total melting capacity was maintained at 7,800-t/d by the end of 2019, ranking first with a market share of more than 30%. **Xinyi Solar completed the spin-off and separate listing of Xinyi Energy, its solar farm operation arm, on the HKEX in May 2019.** After the spin-off, Xinyi Energy becomes the provision of operating and managing services of solar farms built by Xinyi Solar.

Gross Profit Breakdown (by business)



Source: Company data, Orient Securities (Hong Kong)

PV glass companies: production capacity, 2015-2021E

PC (t/d)	2015	2016	2017	2018	2019	2020E	2021E
Xinyi Solar	3900	5800	6300	5200	7800	9800	13800
Flat Glass	2290	2290	2290	4290	5400	7400	9800

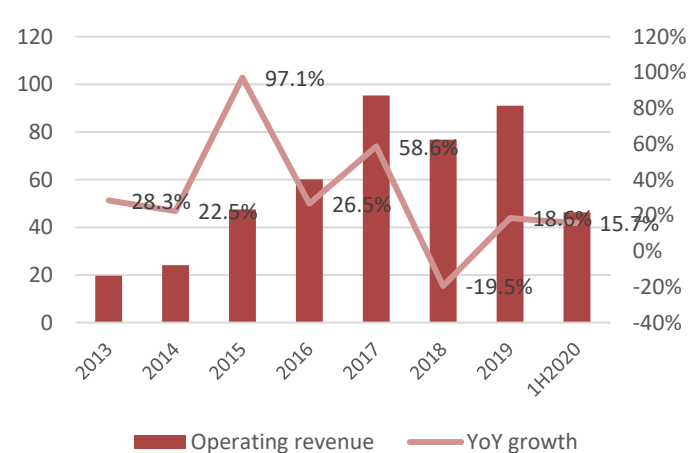
Production capacity is in a phase of expansion: Xinyi Solar's two new production lines with daily melting capacity of 1,000-tonne/day in Beihai, Guangxi already started trial run in 2H20 and yet the operation of its new production lines in Wuhu will be postponed to 2021 due to the adjustment of production line design and construction delay. The Group aims to start the operation of a new production line with melting capacity of 1,000-tonne/day in each quarter of 2021-22 to meet the market requirements. As for the other players: Flat Glass plans to commence the operation of a production line with a daily melting capacity of 2,000-tonne/day and of 2,400-tonne/day in 2020 and 2021; Fujian Xinfuxing Glass is expected to ignite the furnace for trial run of its 2,200-tonne/day production line in 2021; both Nanbo Glass and IRICO Group New Energy intend to ramp up production capacity and haven't started yet. It is estimated that the production capacity market share of Xinyi Solar and Flat Glass will expand further to more than 60%, increasing market concentration.

Results Rebound After Being Hit Hard by "531"

"531 Policy" and capacity drop delivered a shock to operating results: The Group's melting capacity rose from 1,500-t/d by the end of 2012 to 7,800-t/d by the end of 2019, leading the operating revenue to hit the fast lane before 2017. The demand for PV glass in China slumped after "531" with the selling price down over 20% in mid-2018. Meanwhile, the Group had some facilities cold repaired, which led to the large fall in operating revenue in 2017.

Rapid revenue growth continued due to unleashed capacity and PV recovery: The Group's production line with daily melting capacity of 2,000-tonne/day already started trial run in 2H20. It is estimated that 4000-tonne will be added each year in the following two years. Given the current short-supply PV market, capacity expansion will push revenue growth. The Group's operation revenue continued to climb in 1H20 amid the coronavirus crisis and is expected to record a significant growth in the coming years as the blow of the "531 Policy" and the pandemic receded in 2H20.

Operating Revenue (HKD mn)



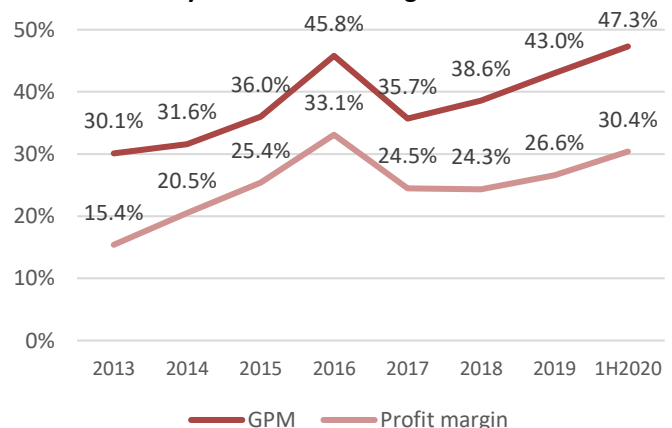
Source: Company data, Orient Securities (Hong Kong)

Profitability Keeps Bouncing Back

The Group's GPM moves in lockstep with the net profit margin, indication operating expenses have a small proportion of the total costs. The fluctuation in the raw materials (such as soda ash), energy costs and selling prices can easily affect the GPM of PV glass and yet solar farms recorded stable GPM. Xinyi Solar's PV glass GPM is maintained above 30%, significantly higher than that of 10%-20% in small- and mid-sized manufacturers while the GPM of solar farms is maintained at 75%.

The Group's GPM slumped due to the drop in PV glass selling prices under the weight of the "531 Policy" and the oversupply in 2017-18. However, the selling prices have been climbing back since 2019, showing signs of GPM recovery. With PV glass prices skyrocketing from August to October, the Group's GPM is expected to break above 50% in 2020.

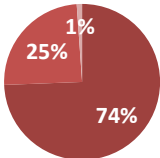
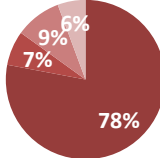
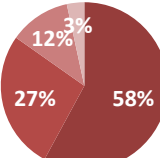
Xinyi Solar's Profit Margin and GPM



Source: Company data, Orient Securities (Hong Kong)

Peer Comparison (HK-listed)

We select three leading PV glass players for comparison. These three manufacturers account for 62.9% of the global PV glass production capacity market share. We mainly focus on the PV glass segment (based on 2019 Annual Report).

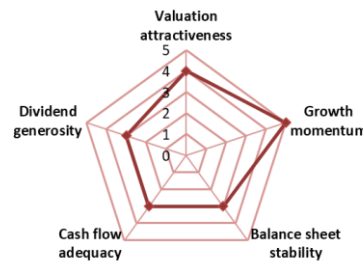
(RMB)	Xinyi Solar (968 HK)	Flat Glass (6865 HK)	IRICO New Energy (438 HK)
Operating mode			
Core Business	PV glass PV power generation	Glass products, including PV glass, architectural glass and household glass	PV glass, PV drill New materials
Business breakdown (by revenue)	<ul style="list-style-type: none"> Sales of solar glass Solar farm EPC services 	<ul style="list-style-type: none"> PV glass Household glass Architectural glass Others 	<ul style="list-style-type: none"> PV glass New materials Solar cell and module Others 
PV glass PC by 2019	7,800-t/d	5,400-t/d	2,400-t/d
Production line location	Wuhu, Anhui Tianjin Malacca, Malaysia	Fengyang, Anhui Hai Phone, Vietnam	Hefei Yan'an
Production capacity under construction	Two 1,000t/d production lines in Beihai, Guangxi, already started trial run in 2H20 Four 1,000t/d production lines in Wuhu, Anhui, expected to commence operation in 2021 New addition of one 1,000t/d production line each quarter in 2021-22	Two 1,000t/d production lines in Hai Phone, Vietnam, expected to ignite by the end of 2020 Two 1,200t/d production lines in Fengyang, expected to ignite in 2021 Reached an agreement with Fengyang Government to build two 1,200t/d production lines in 2020-22	No plan for building production capacity
Our view	Xinyi Solar and Flat Glass have already accounted for over half of the global production capacity market share and taken up most production quota in the coming expansion plan. It is estimated that the market share of the two leading players will keep rising. Entry barriers to PV glass production - technology-intensive and capital-intensive – are quite high. By far only Xinyi Solar and Flat Glass have the production lines with a daily melting capacity of 1000t/d. Besides, the companies need to invest RMB600-700 million before the trial run. Small-sized PV glass manufacturer is not capable of large-scale capacity expansion. Therefore, the future PV glass market will be further controlled by leading players.		
2019 Financial Performance	(unnoted items are denominated in RMB)		
Overall revenue	HKD9.096 billion	HKD4.807 billion	HKD2.245 billion
Growth compared to last year	18.6%	47.34%	-3.72%
PV glass GP	HKD2.174 billion	1.23 billion	N/A
PV glass GPM	32.1%	32.87%	N/A
Overall GP	HKD3.912 billion	1.517 billion	265 million
Overall GPM	43%	31.56%	11.8%
Net profit	HKD2.417 billion	0.717 billion	74 million
Net profit margin	26.6%	14.9%	4.0%
Our view	Both Xinyi Solar and Flat Glass have similar levels of GPM – slightly above 30% and 10%-20% higher than that of rivals. This is due mainly to the strong bargaining power of leading players with higher ex-factory prices. Besides, the effects of economies of scale can be clearly seen in PV glass production. In other words, large-scale production line has better economic effects. Xinyi Solar and Flat Glass have already built production lines with melting capacity of 1000t/d, far outrunning rivals both technologically and financially.		
Valuation			
P/E	57.7x	77x	41.8x
P/B	10.0x	12.3x	20.7x
MV (HKD)	153.958 billion	88.23billion	6.877 billion
Our view	Xinyi Solar and Flat Glass enjoy unmatched first-mover advantages in both profitability and production capacity expansion. Therefore, the market valuation of the two leading players are relatively high.		

Source: Company data, Orient Securities (Hong Kong)

Total Revenue		Gross Profit Breakdown (by business)		Financial Summary																																										
				<table border="1"> <thead> <tr> <th>(HKD mn)</th> <th>2017</th> <th>2018</th> <th>2019</th> </tr> </thead> <tbody> <tr> <td>Revenue</td> <td>9,527</td> <td>7,672</td> <td>9,096</td> </tr> <tr> <td>EBIT</td> <td>2,913</td> <td>2,449</td> <td>3,315</td> </tr> <tr> <td>Net profit</td> <td>2,332</td> <td>1,863</td> <td>2,416</td> </tr> <tr> <td>Dividend yield</td> <td>28.5</td> <td>18.1</td> <td>19.6</td> </tr> <tr> <td>EPS (HKD)</td> <td>0.3</td> <td>0.2</td> <td>0.3</td> </tr> <tr> <td>DPS (HKD)</td> <td>1.500</td> <td>1.362</td> <td>1.754</td> </tr> <tr> <td>Net gearing</td> <td>56.1</td> <td>66.2</td> <td>27.4</td> </tr> <tr> <td>Free cash flow</td> <td>(1,199)</td> <td>(739)</td> <td>(720)</td> </tr> <tr> <td>DPR (%)</td> <td>47.8</td> <td>49.2</td> <td>46.8</td> </tr> </tbody> </table>			(HKD mn)	2017	2018	2019	Revenue	9,527	7,672	9,096	EBIT	2,913	2,449	3,315	Net profit	2,332	1,863	2,416	Dividend yield	28.5	18.1	19.6	EPS (HKD)	0.3	0.2	0.3	DPS (HKD)	1.500	1.362	1.754	Net gearing	56.1	66.2	27.4	Free cash flow	(1,199)	(739)	(720)	DPR (%)	47.8	49.2	46.8
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<p>The Group's revenue recorded a drop in 2018 due to "531" and yet rebounded strongly in 2019.</p>		<p>After the spin-off and separate listing of solar farm business, PV glass has become the major gross profit source, accounting for 55.6% of the overall gross profit.</p>		<p>The Group's revenue and profit rebounded in 2019 after "531". Its net gearing dropped significantly after the spin-off of solar farm in 2018.</p>																																										

Strength

- The Group has the largest market share with competitive advantages in capital and technology.
- The Group keeps ramping up production capacity with further expansion plan going forward.
- Solar farm business has stable cash flow, which could recoup the funds after the spin-off.
- The Group has a distinct scale advantage with GPM far outrunning small-sized rivals.

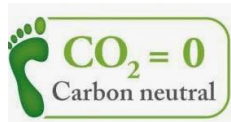


Weakness

- PV power generation is moving toward grid parity with subsidies being slashed.
- The investment in the early stage of PV glass production capacity building is huge yet with a long payback period.

Opportunity

- Promising prospects for renewable energy as low-carbon awareness increases.
- PV power generation might be the cheapest power option with the development of PV technology.



Threat

- Trade frictions led to the "double-anti" actions to PV glass in overseas market.
- The fall in traditional energy prices made PV power generation less attractive.

Key Risk	Valuation	Our Opinion						
<ul style="list-style-type: none"> ■ The accelerating subsidy cuts would deliver a shock to PV industry. ■ The imbalance of supply and demand for PV glass would weigh on the selling prices. ■ The stable supply of energy and raw materials and price volatility. 	<table border="1"> <tr> <td>P/E</td> <td>57.7x</td> </tr> <tr> <td>P/B</td> <td>10.0x</td> </tr> <tr> <td>Dividend Yield</td> <td>0.8%</td> </tr> </table>	P/E	57.7x	P/B	10.0x	Dividend Yield	0.8%	<ul style="list-style-type: none"> 👉 World's largest PV glass manufacturer backed by strong technology support. 👉 The production capacity market share is expected to increase with 4000t/d production line to start trial run in 2020. 👉 Strong bargaining power with high GPM due to high industrial concentration. 👉 To face tough competition against traditional energy with PV subsidies being slashed.
P/E	57.7x							
P/B	10.0x							
Dividend Yield	0.8%							

Relative Performance	P/E Band	P/B Band
<p>The Group shares have outperformed the HSI over the past year.</p>	<p>The Group's P/E ratio is 57.7x, higher than its 5-year-average of 15.7x.</p>	<p>The Group's P/B ratio is 10x, higher than its 5-year-average of 3.1x.</p>

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