

Initiate at Buy: Vertically integrated float glass play; Growth with low valuation

Initiating Coverage: BUY | PO: 10.00 HKD | Price: 7.68 HKD

Equity | 03 November 2017

Initiate at Buy with HK\$10 PO; Attractive Valuation

We initiate coverage on Xinyi Glass (XYG) with a Buy rating and PO of HK\$10, based on SOTP with 10x FY18E P/E on its core business and its stake in Xinyi Solar using BofAML's valuation. XYG is China's No.1 float glass producer with 10% market share and No.2 in low-emissivity (low-e) construction glass and the world's largest supplier of automobile aftermarket glass (ARG) with 25% market share. We have XYG as our top pick in the China glass sector given our positive view on float glass industry, its focus on higher value-add products (>30%), healthy b/s (33% net gearing), and 18-20% 2017-20E earnings growth. XYG trades at just 6.7x our 18E P/E with 27% ROE and 7.4% div yield.

Key beneficiary of float glass supply-demand improvement

We are positive on the supply/demand dynamics of the float glass industry given the upcoming cold-repair cycle in 2018-19E (c.13% of capacity to go offline for 9-12 months), which will likely reduce the effective capacity by c.5%. The float glass industry is also likely to enter another round of consolidation— we expect effective capacity to remain flat at 46mntpa while demand is likely to grow at 2% pa until 2020.

Volume growth, driven by strategic expansion overseas

XYG plans to increase its float glass capacity by 50% by 2020E, led by growth overseas in Malaysia/Canada. We expect GP% to improve from 36% in 2016 to 38% in 2020E – Malaysia GP margin is c.10ppt higher vs domestic, thanks to cheaper gas /higher ASP. With expansion in Canada, XYG could gain share in the low-e and ARG markets in the US.

Potential margin improvement from soda ash cost decline

XYG uses gas as its major fuel, sourced mostly directly from upstream suppliers at a discount to benchmark non-residential prices. We expect gas price to decline long term as the govt is targeting to encourage gas consumption. We also highlight XYG has secured 30% of its 2018E soda ash requirement from overseas supplier at c.RMB1,700/t (20% lower vs. spot). **Risks:** large hike in soda ash/ gas px; large drop in property demand

Estimates (Dec)

(HK\$)	2015A	2016A	2017E	2018E	2019E
Net Income (Adjusted - mn)	2,141	3,242	3,787	4,528	5,428
EPS	0.524	0.805	0.947	1.13	1.36
EPS Change (YoY)	55.1%	53.5%	17.7%	19.5%	19.9%
Dividend / Share	0.263	0.418	0.473	0.566	0.679
Free Cash Flow / Share	0.136	0.572	0.391	0.456	0.713

Valuation (Dec)

	2015A	2016A	2017E	2018E	2019E
P/E	14.65x	9.54x	8.11x	6.78x	5.66x
Dividend Yield	3.43%	5.44%	6.17%	7.37%	8.84%
EV / EBITDA*	12.46x	8.59x	7.44x	6.23x	5.21x
Free Cash Flow Yield*	1.73%	7.21%	5.08%	5.93%	9.27%

* For full definitions of *Qmethod*SM measures, see page 37.

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Refer to important disclosures on page 38 to 40. Analyst Certification on page 35. Price Objective Basis/Risk on page 35.

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Stock Data

Price	7.68 HKD
Price Objective	10.00 HKD
Date Established	3-Nov-2017
Investment Opinion	C-1-7
52-Week Range	5.31 HKD-8.52 HKD
Mkt Val / Shares Out (mn)	3,945 USD / 4,007.3
Market Value (mn)	30,776 HKD
Average Daily Value (mn)	10.42 USD
Free Float	45.8%
BofAML Ticker / Exchange	XYIGF / HKG
Bloomberg / Reuters	868 HK / 0868.HK
ROE (2017E)	26.8%
Net Dbt to Eqty (Dec-2016A)	37.1%

Key Income Statement Data (Dec)	2015A	2016A	2017E	2018E	2019E
(HK\$ Millions)					
Sales	11,460	12,848	15,016	17,908	20,552
Gross Profit	3,133	4,659	5,393	6,468	7,674
Sell General & Admin Expense	(1,615)	(1,822)	(2,087)	(2,507)	(2,877)
Operating Profit	2,113	3,338	3,892	4,659	5,598
Net Interest & Other Income	(50)	(77)	(30)	(7)	19
Associates	317	563	645	736	841
Prelax Income	2,380	3,823	4,506	5,387	6,458
Tax (expense) / Benefit	(266)	(607)	(716)	(856)	(1,026)
Net Income (Adjusted)	2,141	3,242	3,787	4,528	5,428
Average Fully Diluted Shares Outstanding	4,031	3,993	3,999	3,999	3,999

Key Cash Flow Statement Data

Net Income	2,113	3,213	3,787	4,528	5,428
Depreciation & Amortization	753	822	911	1,078	1,257
Change in Working Capital	259	327	(167)	(292)	(319)
Deferred Taxation Charge	NA	NA	NA	NA	NA
Other Adjustments, Net	(488)	(798)	34	11	(14)
Cash Flow from Operations	2,637	3,565	4,565	5,325	6,352
Capital Expenditure	(2,105)	(1,346)	(3,000)	(3,500)	(3,500)
(Acquisition) / Disposal of Investments	317	(44)	(55)	(59)	(62)
Other Cash Inflow / (Outflow)	267	(889)	69	71	93
Cash Flow from Investing	(1,520)	(2,280)	(2,986)	(3,487)	(3,469)
Shares Issue / (Repurchase)	(607)	(1,467)	0	0	0
Cost of Dividends Paid	(902)	(608)	(1,387)	(895)	0
Cash Flow from Financing	(625)	225	(1,486)	(974)	(74)
Free Cash Flow	532	2,219	1,565	1,825	2,852
Net Debt	4,730	4,911	4,819	3,956	1,147
Change in Net Debt	(451)	181	(92)	(863)	(2,809)

Key Balance Sheet Data

Property, Plant & Equipment	11,971	11,831	13,416	14,473	14,005
Other Non-Current Assets	4,455	5,655	5,708	5,763	5,822
Trade Receivables	2,381	2,377	2,725	3,219	3,761
Cash & Equivalents	1,298	2,763	2,855	3,718	6,528
Other Current Assets	1,316	1,396	1,552	1,827	2,127
Total Assets	21,422	24,022	26,255	29,001	32,243
Long-Term Debt	3,514	4,509	4,509	4,509	4,509
Other Non-Current Liabilities	223	266	266	266	266
Short-Term Debt	2,514	3,165	3,165	3,165	3,165
Other Current Liabilities	2,445	2,835	3,171	3,649	4,172
Total Liabilities	8,696	10,775	11,111	11,589	12,113
Total Equity	12,726	13,247	15,144	17,411	20,130
Total Equity & Liabilities	21,422	24,022	26,255	29,001	32,243

iQmethodSM - Bus Performance*

Return On Capital Employed	10.1%	14.2%	15.1%	16.4%	17.9%
Return On Equity	17.1%	25.0%	26.8%	27.9%	29.0%
Operating Margin	18.4%	26.0%	25.9%	26.0%	27.2%
EBITDA Margin	25.0%	32.4%	32.0%	32.0%	33.4%

iQmethodSM - Quality of Earnings*

Cash Realization Ratio	1.2x	1.1x	1.2x	1.2x	1.2x
Asset Replacement Ratio	2.8x	1.6x	3.3x	3.2x	2.8x
Tax Rate (Reported)	11.2%	15.9%	15.9%	15.9%	15.9%
Net Debt-to-Equity Ratio	37.2%	37.1%	31.8%	22.7%	5.7%
Interest Cover	23.4x	26.1x	39.1x	NM	NM

Key Metrics

* For full definitions of iQmethodSM measures, see page 37.

Company Sector

Building Materials

Company Description

Xinyi Glass (XYG) is the largest float glass manufacturer in China with c.5mnt of capacity as at 2016. It produces and distributes automobile glass, energy saving construction glass and other glass products. It is the largest automobile glass exporter in China in the aftermarket sector (20% global market share) and one of the leaders in architectural low-emission (low-E) glass in China. XYG has c.29.5% stake in Xinyi Solar Holdings (968 HK), which is the largest solar-glass manufacturer in China

Investment Rationale

We rate Xinyi Glass a buy given our positive view on the float glass industry, its focus on higher value-add products (>30% of total), healthy b/s (33% net gearing), and 18-20% 2017-20E earnings growth, driven by overseas capacity expansion.

Stock Data

Price to Book Value 2.0x

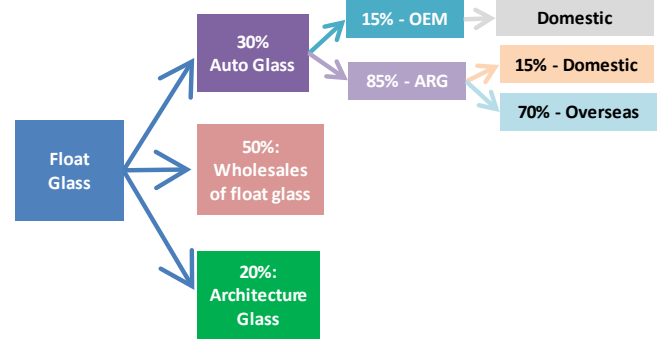
Key Investment Charts

Exhibit 1: Xinyi Glass - Leadership position in different segments

Segment	Ranking	Market share
Float Glass	China - No. 1	China ~10%
Auto Glass - ARG	World - No. 1	Global ~25%, US ~30%
Auto Glass - OEM	World - Top 10	Global ~2%
Low-E Glass	China - No. 2	China ~20%
Solar Glass (Xinyi Solar)	World - No. 1	China ~26%

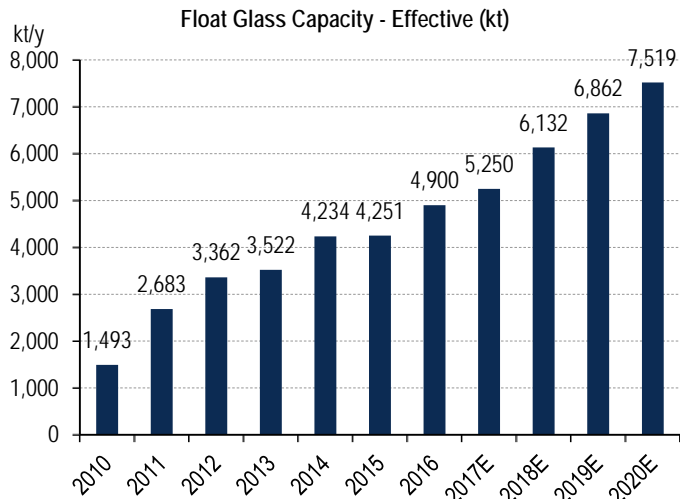
Source: Company data, WIND, Glassinfo, BofA Merrill Lynch Global Research estimates

Exhibit 2: Xinyi Glass Revenue Breakdown by Segment Summary – most exposed to float glass industry supply/ demand dynamics improvement



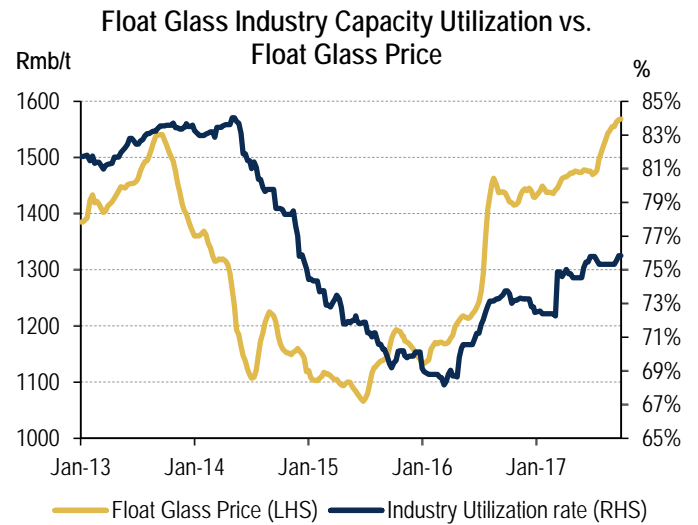
Source: Company data, WIND, Glassinfo, BofA Merrill Lynch Global Research estimates

Chart 1: Xinyi target 50% CAGR in Float Glass Capacity during 2017-20E



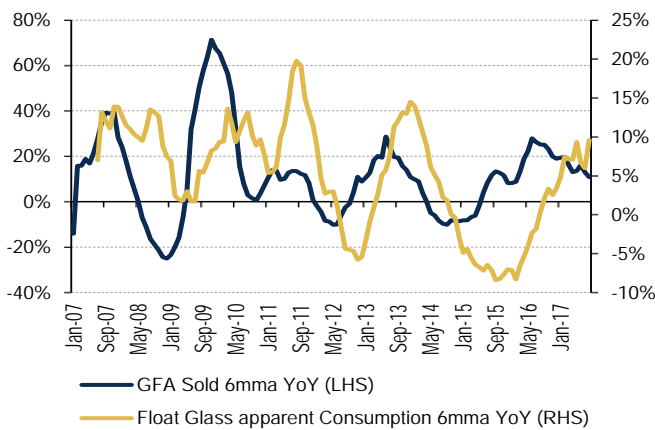
Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 2: Float Glass prices increased with effective utilization of industry



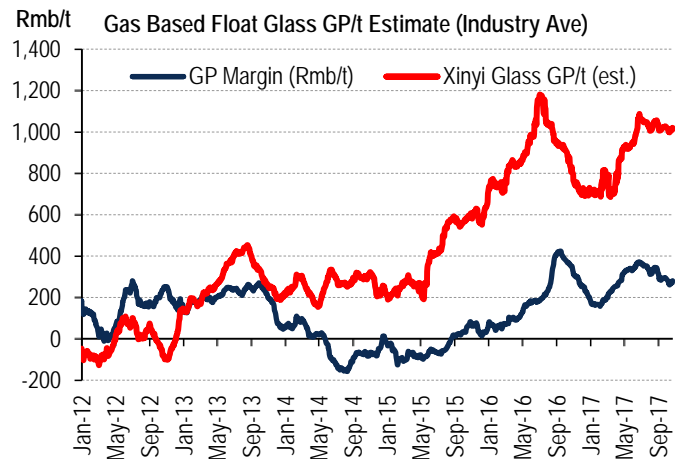
Source: Glassinfo, WIND, Sci99.com, Bloomberg, CEIC, Company data, BofA Merrill Lynch Global Research estimates

Chart 3: We see 18-24 months delay of glass demand vs. property GFA sold, then 18E glass demand likely remain healthy with stable growth from auto glass



Source: Glassinfo, WIND, Bloomberg, BofA Merrill Lynch Global Research estimates

Chart 4: Xinyi Glass Delivering superior return over industry due to focus on high end production (>30%) and better regional exposure



Source: Glassinfo, WIND, Company data, BofA Merrill Lynch Global Research estimates

Investment thesis

Most leveraged to float glass supply-demand improvement

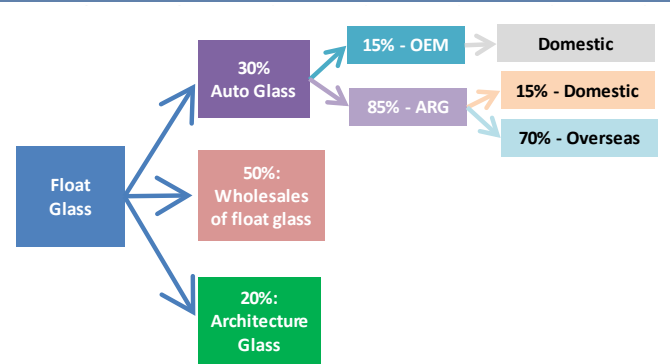
Xinyi Glass (XYG) is the largest float glass manufacturer in China with about 5.3mnt capacity as of 2017E and 10% market share in China, which accounts for >60% global float glass capacity. We are positive on the float glass industry supply-demand dynamics and we believe XYG, with >50% revenue and >40% gross profit contribution from float glass, will be the key beneficiary of the improvement in supply-demand.

Exhibit 3: Xinyi Glass - Leadership position in different segments

Segment	Ranking	Market share
Float Glass	China - No. 1	China ~10%
Auto Glass - ARG	World - No. 1	Global ~25%, US ~30%
Auto Glass - OEM	World - Top 10	Global ~2%
Low-E Glass	China - No. 2	China ~20%
Solar Glass (Xinyi Solar)	World - No. 1	China ~26%

Source: Company data, WIND, Glassinfo, BofA Merrill Lynch Global Research estimates

Exhibit 4: Xinyi Glass - Revenue breakdown by segment summary



Source: Company data, WIND, Glassinfo, BofA Merrill Lynch Global Research estimates

Supply tightness in 2018E, driven by cold-repair cycle

We expect China float glass production capacity to remain at around 45-46mnt pa as the government has banned approval of new and replacement lines. We also expect 10% (coal/heavy oil-based) of total capacity to be phased out in the long term given the government's seriousness about environmental protection and the more polluting nature of these capacities. Given the 5-8 year cycle of cold-repair, we estimate 2018 will be a major year for the large wave of new lines added in 2010 – we expect around 13% of the total float glass capacity in China to go into cold-repair during 2018, which would reduce the effective capacity by a significant 5%.

50% capacity expansion overseas to drive growth

XYG plans to increase its total float glass capacity by 50%, from 5.25mnt pa in 2017E to 7.9mnt pa in 2020E, mainly driven by expansions in Malaysia (from 1,000t/d currently to 4,000t/d) and Canada with 1,800t/d new capacity by 2020E. While the rapid expansion will drive volume growth, we expect the GP margin to improve as well – Malaysia GP margin is nearly 10ppt higher vs. domestic production plants, thanks to cheaper gas prices and higher ASP in exporting to other Southeast Asia regions (without export tax and antitrust policies). With expansion in Canada, we believe XYG will be able to gain share in the low-e construction and auto ARG markets in the US.

Concerns about high costs overdone, in our view

XYG uses natural gas as its major fuel source, with LNG at its Guangdong Province. Given high volume usage, it has been able to purchase natural gas directly from upstream suppliers at a discount to benchmark non-residential gas prices - only Tianjin plant (15% of total) is subjected to the 20% winter gas price increase from PetroChina. We estimate each 1% increase in natural gas price would impact our 2018E EPS by -0.3%, alternatively, each RMB0.1/cbm hike in natural gas price would result in RMB25/t increase in float glass unit cost and impact our 2018E EPS by -2.4%. On soda ash, XYG has imported 6,400kt of soda ash, enough to meet 30% of total requirement in 2018E, with prices locked in at 1H17 average level of RMB1,700-1,800/t vs. current spot price of RMB2,300/t. We estimate each 1% increase in soda ash price would impact our 2018E EPS by -0.3%, alternatively, each RMB100/t hike in soda ash price would result in RMB20/t increase in float glass unit cost and impact our 2018E EPS by -2.2%.

Valuation

Our valuation is based on a SOTP (sum-of-the-parts) approach and uses (1) 10x one-year forward P/E multiple for XYG's core operations, similar to its historical mid-range of 8-11x; and (2) attributable interest of market cap of Xinyi Solar, based on BofAML's Xinyi Solar valuation of HK\$4.4. We apply a 15% conglomerate discount to arrive at our PO of HK\$10/sh, implying 8.8x our 2018E P/E, within the historical mid-range of 8-11x.

Exhibit 5: Xinyi Glass SOTP Valuation

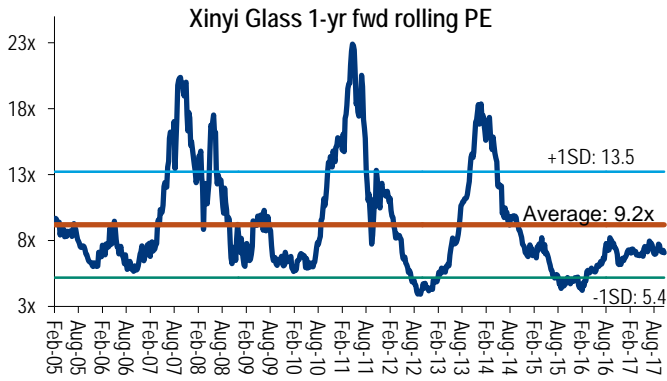
Xinyi Glass - Sum of the parts (SOTP) Valuation		2018E	Value/ sh (HK\$/sh)
1. Core non-solar business			
Xinyi Glass - NPAT	HK\$m	4,528	1.1
- Share of profit from Xinyi Solar	HK\$m	-756	-0.2
= Xinyi Glass - Core NPAT	HK\$m	3,772	0.9
x Target PE Multiple	x	10	
= Target Market Cap of Xinyi Glass' core business		37,721	9.4
2. Investment in Xinyi Solar			
Market cap of Xinyi Solar based on BofAML PO	HK\$m	32,665	4.4
x Xinyi Glass's stake in Xinyi Solar	%	29.5%	
= Attributable Market Cap of XYS for XYG	HK\$m	9,646	2.4
Total target valuation for Xinyi Glass (1+2)	HK\$m	47,367	11.8
Conglomerate discount	%	15%	
Final Valuation	HK\$m	40,262	10.1

Price Objective (PO):	10.0
Current sh price:	7.61
Upside %	31%

	FY17E	FY18E	FY19E
P/E - Current	8.0x	6.7x	5.6x
P/E - PO Implied	10.6x	8.8x	7.4x
EV/EBITDA - Current	7.3x	6.0x	4.6x
EV/EBITDA - PO Implied	9.3x	7.7x	6.0x

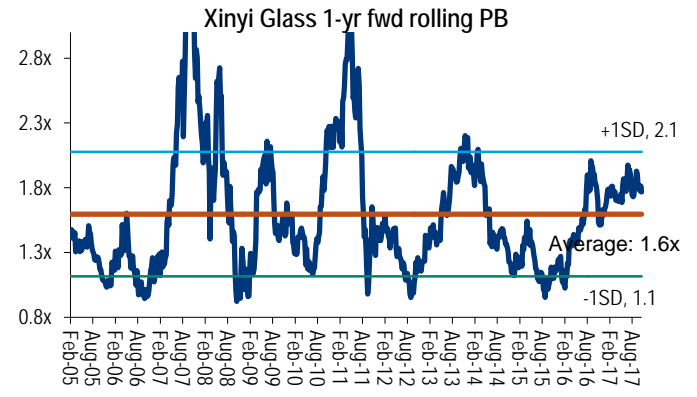
Source: Company data, Bloomberg, BofA Merrill Lynch Global Research estimates

Chart 5: Xinyi Glass: One-year forward rolling P/E



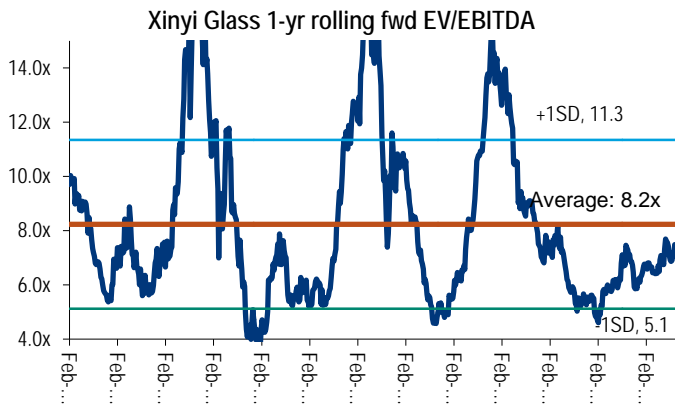
Source: Bloomberg, Company data, BofA Merrill Lynch Global Research estimates

Chart 6: Xinyi Glass: One-year forward rolling P/B



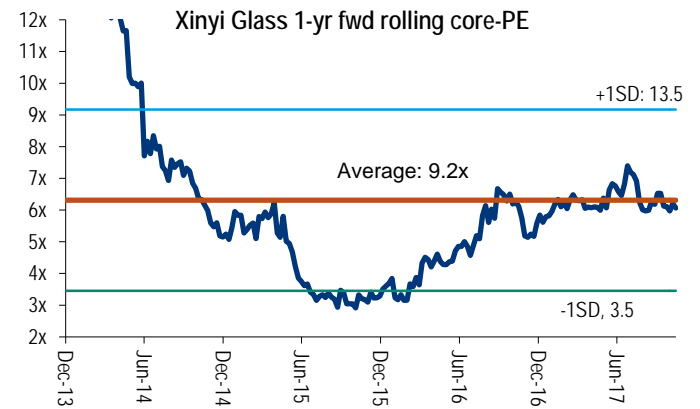
Source: Bloomberg, Company data, BofA Merrill Lynch Global Research estimates

Chart 7: Xinyi Glass: One-year forward rolling EV/EBITDA



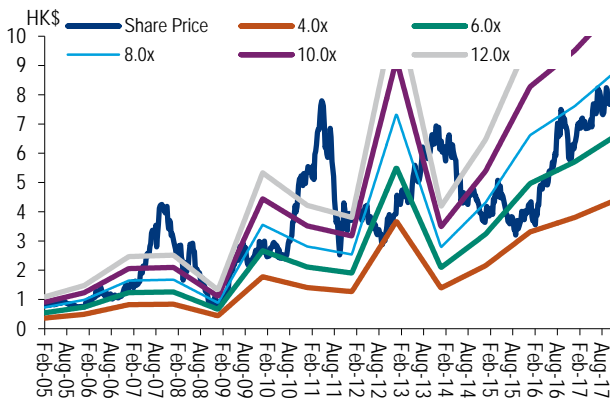
Source: Bloomberg, Company data, BofA Merrill Lynch Global Research estimates

Chart 8: Xinyi Glass: One-year forward rolling core P/E (taking away attributable income and current market cap of XYS)



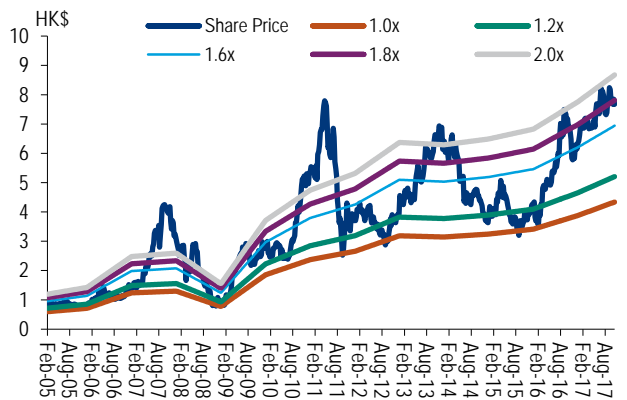
Source: Bloomberg, Company data, BofA Merrill Lynch Global Research estimates

Chart 9: Xinyi Glass: One-year forward rolling P/E bands



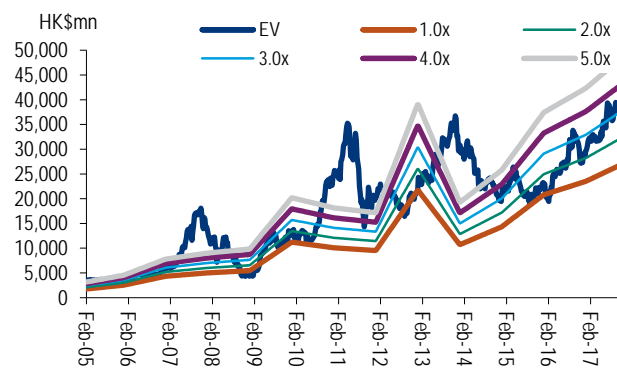
Source: Bloomberg, Company data, BofA Merrill Lynch Global Research estimates

Chart 10: Xinyi Glass: One-year forward rolling P/B bands



Source: Bloomberg, Company data, BofA Merrill Lynch Global Research estimates

Chart 11: Xinyi Glass: One-year forward rolling EV/EBITDA bands



Source: Bloomberg, Company data, BofA Merrill Lynch Global Research estimates

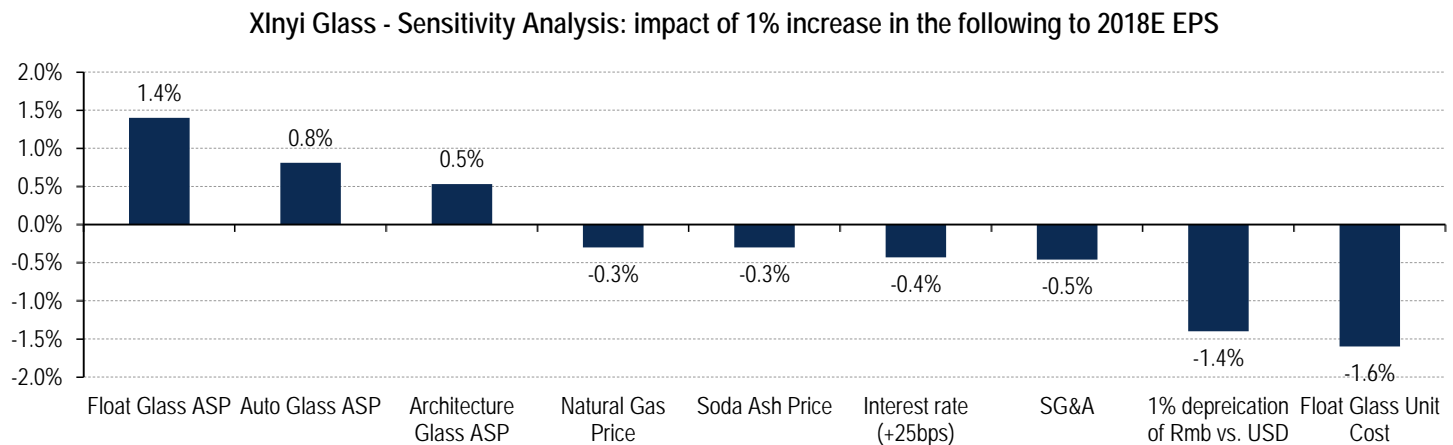
Investment risks

- **Weaker-than-expected economy/ property demand:** Around 65% of float glass demand stems from construction – should China’s economy slow sharply or if China launches more-than-expected property tightening measures, it could impact property construction and result in weaker-than-expected float glass demand and prices.
- **More-than-expected capacity addition:** If new float glass capacity addition is higher than our expectation, there could be an oversupply of products, thereby putting pressure on float glass prices.
- **Delay in commencement of new projects overseas:** XYG targets to establish new factories overseas in Canada and Malaysia where it has limited operational experience, therefore delays in project construction/ramp-up could negatively impact sales volume.
- **Large hike in soda ash prices:** Soda ash is a major cost component, accounting for about 25% of total COGS for float glass. If soda ash price rises abruptly, the company may not be able to fully pass on the higher costs, resulting in margin squeeze.
- **Large hike in natural gas prices:** Natural gas is another major cost component, accounting for about 35% of total COGS for float glass. If natural gas price rises abruptly due to unforeseen circumstances, the company may not be able to fully pass on the higher costs, resulting in margin squeeze.
- **Large currency fluctuations:** Given most of the sales are made in RMB and XYG reports in HK\$, a large depreciation in RMB would result in a drop in revenue reported. As XYG is expanding to Malaysia and Canada – significant depreciation of the Malaysian ringgit and the Canadian dollar may also result in FX loss.
- **Equity dilution from share placement/convertible bonds:** XYG has issued convertible bonds but they were redeemed in full by Jun’17, thus precluding further share dilution ahead. XYG also went for several equity financing rounds during 2007-13, when it was expanding rapidly, to secure enough operating cash flow to support capex, especially in its solar glass/ solar farm business, which were spin-off to Xinyi Solar. However, with positive free cash flow of > RMB1.5-1.8bn in 2017/18E, we believe XYG will more than meet its capex demand with internal resources and borrowings, and thus see limited likelihood for it to seek share placement.

Sensitivity Analysis – Most sensitive to float glass ASP

According to our Sensitivity Analysis, XYG's earnings are most sensitive to float glass ASP, with 1% change resulting in 1.4% change in 2018E EPS. On costs, we estimate each 1% increase in natural gas price would impact 2018E EPS by -0.3%; alternatively, each RMB0.1/cbm hike in natural gas price would result in RMB25/t increase in float glass unit cost and impact 2018E EPS by -2.4%. We estimate each 1% increase in soda ash price would impact 2018E EPS by -0.3%; alternatively, each RMB100/t hike in soda ash price would result in RMB20/t increase in float glass unit cost and impact 2018E EPS by -2.2%. Overall, 1% increase in float glass production cost would impact 2018E EPS by 1.6%.

Chart 12: Xinyi Glass: 2018E EPS Sensitivity Analysis



Source: Company data, BofA Merrill Lynch Global Research estimates

BofAML Scenario Analysis – overall risks skewed to the upside

We present a sensitivity analysis on three key factors to determine the risk to our FY18 earnings estimates for Xinyi Glass. Overall, the BofAML Scenario Analysis suggests overall risks are skewed to the upside.

Float Glass ASP

Base case: our base case forecasts float glass ASP up 5% YoY in FY18 driven by a gradual improvement in supply/ demand dynamics of the float glass industry.

Upside case: a faster than expected improvement in the supply side of float glass (e.g. more cold repair) and on the demand side (e.g. better than expected property demand) means 10% YoY increase in ASP and our earnings would be 9% higher than our base case

Downside case: a worst then expected demand (e.g. large reduction in property demand or a worsen economy) and less than expected supply side improvement (e.g. less capacity under cold repair) means 3% lower ASP than our base case which could lower earnings by 5%

Natural Gas Price

Base case: we expect natural gas price to increase just 1% YoY despite slightly higher oil prices forecast next year – given Xinyi’s pricing power vs gas providers and long term contracts which are at discount to spot price

Upside case: government’s incentive to push increased gas consumption long term means 10% lower gas price vs. base case and this would help earnings by 5%

Downside case: winter heating season adjustment have an impact on gas price for Xinyi and gas price is 8% higher than our base case – leading to 4% lower earnings

Soda Ash Price

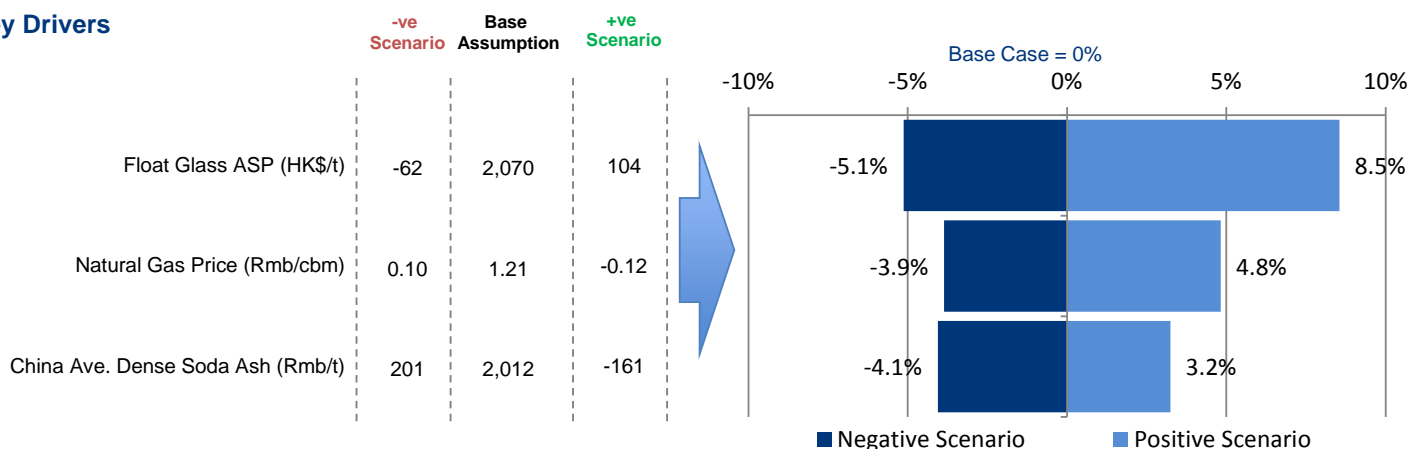
Base case: with Xinyi securing >30% of their soda ash volume at price 20% lower than spot, we see soda ash costs up just 5% YoY in 2018E.

Upside case: soda ash price correct with more import and relieve in supply pressure, price is 8% lower than our base case and result in 3% higher earnings

Downside case: soda ash price increase 10% more than our base case due to continued tightness in soda ash supply, leading to 4% lower earnings

Exhibit 6: Scenario Analysis: Risks skewed to the upside

Key Drivers

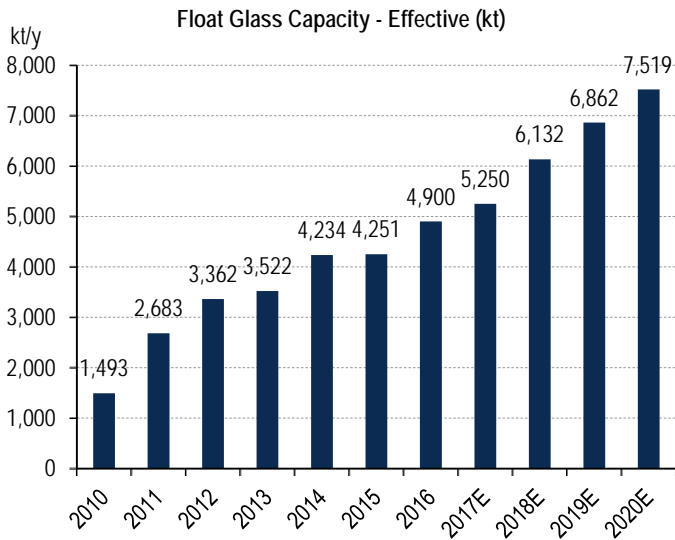


Source: Company data, BofA Merrill Lynch Global Research estimates

Leader in float glass

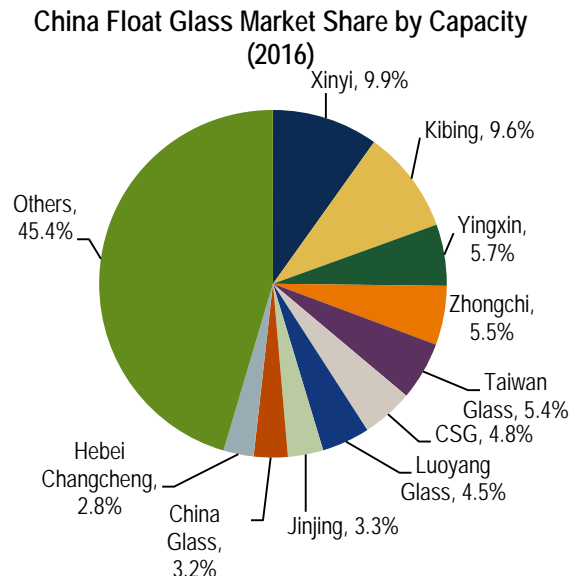
XYG is the largest float glass producer in China in terms of production capacity with about 5.3mnt pa capacity and a market share of 9.7% as of 30 June 2017. The wholesale of float glass constituted about 50% of XYG's revenue in 2016, with a strong customer base, including some of the leading manufacturers like Fuyao Glass, CSG, Saint-Gobain, Pilkington, Asahi Glass, etc.

Chart 13: XYG target to growth float glass capacity by 50% by 2020E vs. 2017E, driven by fast overseas expansion



Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 14: XYG is the leader in the China float glass market

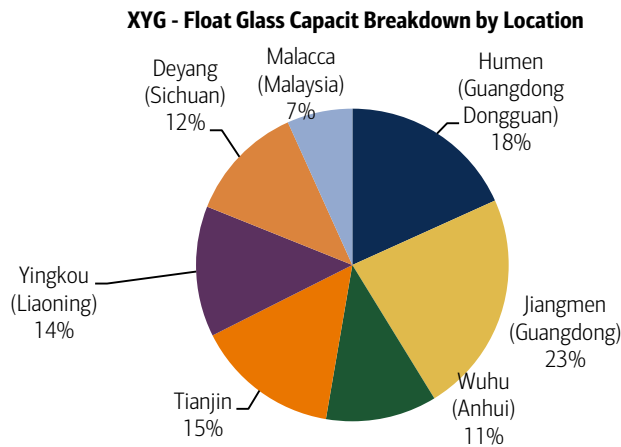


Source: Glassinfo, WIND, Sci99.com, Bloomberg, CEIC, Company data, BofA Merrill Lynch Global Research estimates

Strategic location with proximity to key markets

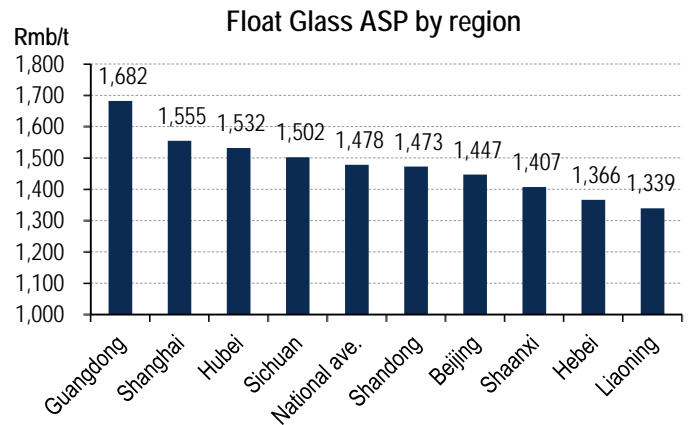
XYG has production complexes in Deyang (West), Dongguan & Jiangmen (South), Tianjin (North), Wuhu (East) and Yingkou (North East), which are in the most affluent economic zones in China with proximity to key customers.

Chart 15: XYG has 41% capacity in Guangdong Province...



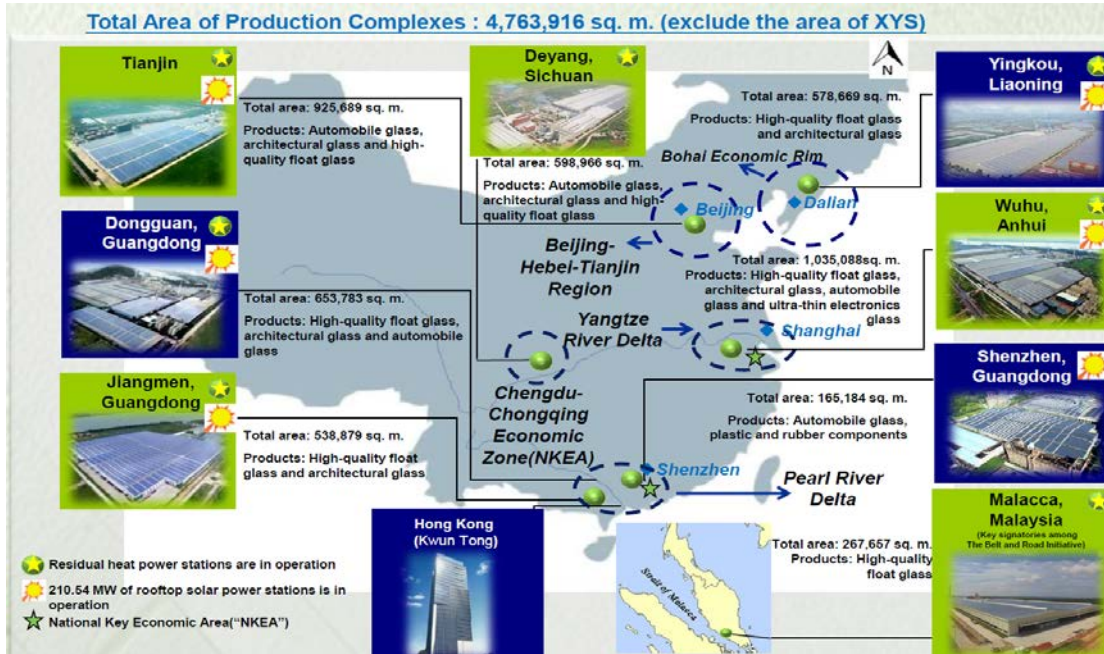
Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 16: Float glass ASP is highest in Guangdong



Source: Company data, BofA Merrill Lynch Global Research estimates

Exhibit 7: Xinyi Glass - Capacity map



Source: Company data

Expanding overseas to leverage export market

XYG has recently started expanding overseas with its first overseas float glass production line in Malacca, Malaysia, commencing operation in 2Q 2017. This Phase 1 line has around 1,200t/d capacity.

XYG plans to increase its total float glass capacity by 50%, from 5.25mnt pa in 2017E to 7.9mnt pa in 2020E. We believe overseas expansion will enable XYG to benefit from the huge demand for float glass in ASEAN, Europe and the US, given its expertise and high product quality.

The preliminary plan is to establish the second phase of the Malacca project (two float glass production lines with total 2,000t/d capacity) with operation commencement in 2H 2018, and Phase 3 and 4 to start in 2019/20E, pushing capacity there to 5,200t/d by 2020E. Gross margin for XYG's 1,200t/d production line in Malaysia is about 10ppt higher than that for domestic production plants, thanks to cheaper gas prices and higher ASP from exports to other Southeast Asia regions (without export tax and antitrust policies). XYG has already shipped some volume from Malaysia back to China for sale.

XYG also plans to establish two lines with total 1,800t/d capacity in Toronto, Canada – has already acquired the land, with construction likely to start in 2018 and operation to commence by 2019E (18 months construction time due to lower outdoor construction efficiency there). XYG can leverage the cheap gas price there (50% lower than China and similar to US gas price). Given contribution to local economy, XYG expects to enjoy low tax and some subsidy from the government. The labor union situation in Canada is also less severe vs. the US, with work culture closer to China. With ASP 30% higher than China, we believe the margin will be relatively decent. XYG targets to sell 50% in Canada domestically while 50% would be sold to the US, mainly targeting the low-e construction and auto ARG markets.

Based on the capex of RMB300mn for domestic production lines with capacity of 1,000t/d, capex for overseas production lines with similar capacity would be around RMB350-400mn, in our view. Therefore, total capex for the 50% float glass capacity expansion should be around HK\$3.5-4.0bn or HK\$1.2-1.3bn/year in the next three years.

We expect XYG is to generate around HK\$5-6bn operating cash flow in 2017-19, so it seems to be fully capable to finance the above-mentioned capacity additions in the coming few years with its internal resources and bank borrowings. Given healthy net debt to equity ratio at about 30-40%, equity financing is unlikely. XYG also has no intention to raise equity financing either in the near future either.

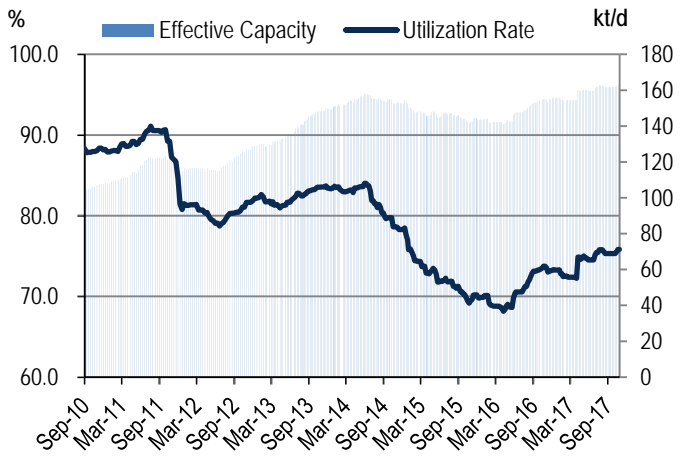
Increasing proportion of high-end float glass products

XYG's float glass is highly competitive not only due to its high yield at over 90% (vs. industry average of 80%) and high quality with superior-grade products accounting for 80% of output, but also its ability to manufacture high-end differentiated products such as ultra-thin, ultra-clear, and tinted glass is also key, which account for 30% of its total sales.

Given their scale, XYG has production lines dedicated for these special types of glass (unlike other smaller players that frequently shift production lines between products), which ensures stable quality and colors, and thus improves customer stickiness. As such, while XYG's domestic float glass market share is c.10%, it has a far more dominant leadership position in the high-end segment with up to 40-50% share, according to management.

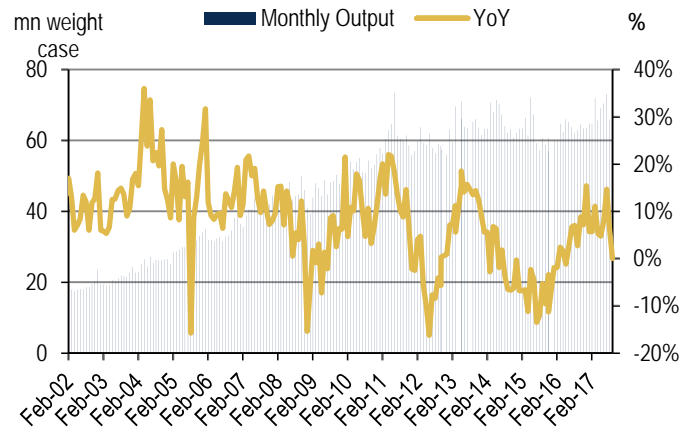
XYG's product quality and large volume endow it with strong pricing power to enjoy a 10-20% ASP premium over industry average for the same type of products. Its exposure to high-end products, which account for around 30% of volume, further lifts its blended ASP – which we estimate is around 50-80% over industry average ASP. Moreover, high-end products also have much better profit margin than regular float glass, where ASP can be more than doubled at less than 10% extra cost.

Chart 17: China float glass capacity utilization rate at around 65-70%



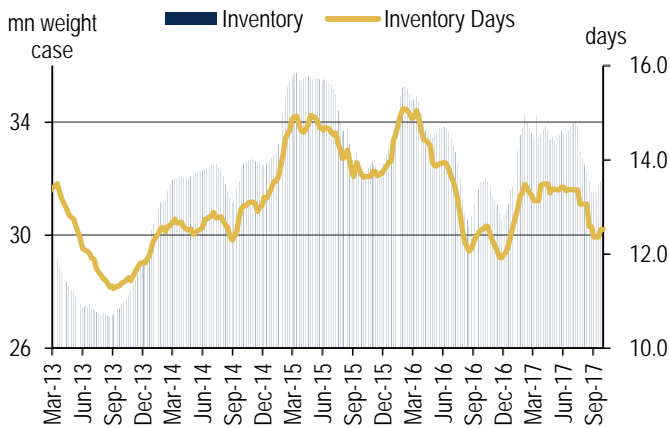
Source: Glassinfo, WIND, SCI99.com, CEIC, NBS, BofA Merrill Lynch Global Research estimates

Chart 18: China float glass apparent demand remaining stop at +6.2% YTD YoY



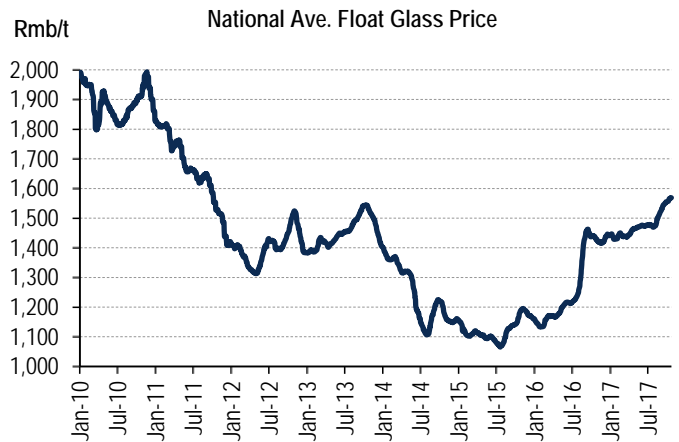
Source: Glassinfo, WIND, SCI99.com, CEIC, NBS, BofA Merrill Lynch Global Research estimates

Chart 19: China float glass inventory remains healthy at 32.1 mn weight case of 12.5 inventory days, below historical average of 13.2 days



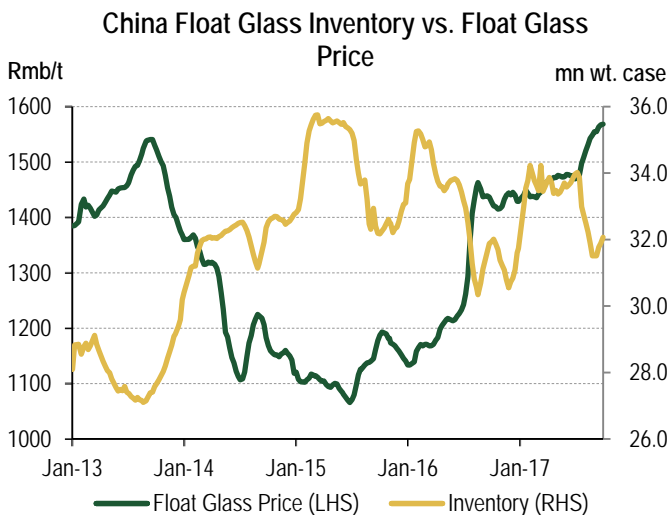
Source: Glassinfo, WIND, SCI99.com, CEIC, NBS, BofA Merrill Lynch Global Research estimates

Chart 20: China national average float glass prices up 9% YTD to around RMB1,570/t yet still 78% below 2011 peak at almost RMB2,000/t



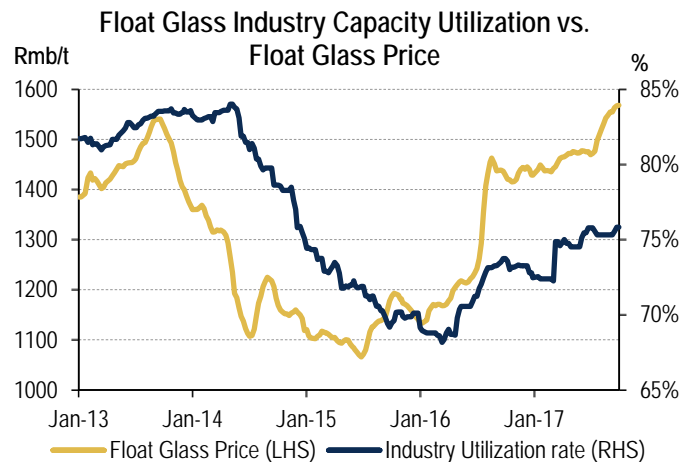
Source: Glassinfo, WIND, SCI99.com, CEIC, NBS, BofA Merrill Lynch Global Research estimates

Chart 21: Float glass prices and inventory have an inverse relationship



Source: Glassinfo, WIND, SCI99.com, CEIC, NBS, BofA Merrill Lynch Global Research estimates

Chart 22: Industry utilization is a good leading indicator of float glass prices



Source: Glassinfo, WIND, SCI99.com, CEIC, NBS, BofA Merrill Lynch Global Research estimates

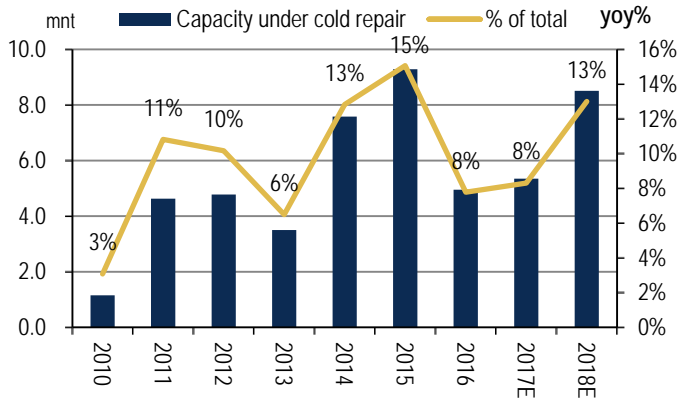
Supply tightness could mean more price upside

We expect the national float glass production capacity to remain at around 45-46mnt pa as the government suspended the approval of new or replacement lines until 2020. Therefore, the production lines will remain closed for companies that went bankrupt, such as Jiangsu Farun Glass in 2015.

We also expect 10% of the total capacity that are coal/ heavy oil based to be phased out in the long term given the government's seriousness about environmental protection and the more polluting nature of these capacities.

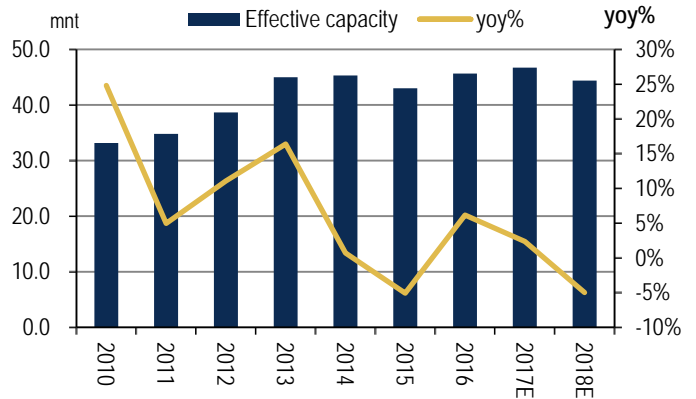
Given the 5-8 year cycle, we estimate 2018 would be a big year for cold-repair given the large wave of new lines added in 2010 – we expect around 13% of the total float glass capacity in China to go into cold-repair during 2018, which could significantly reduce the effective capacity, by around 5%, in the year.

Chart 23: A spike in cold-repair expected in 2018 from furnace lifecycle...



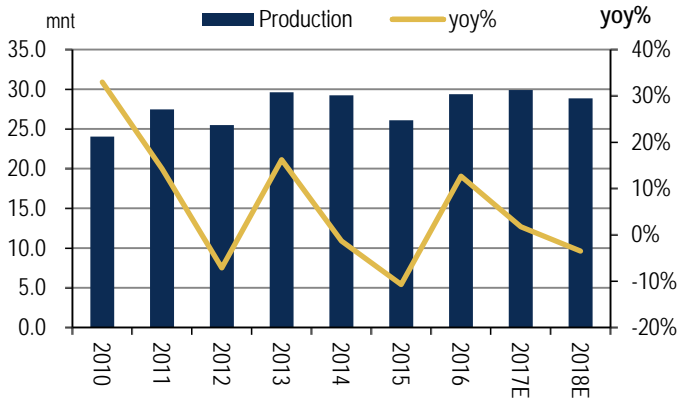
Source: Glassinfo, WIND, SCI99.com, CEIC, NBS, BofA Merrill Lynch Global Research estimates

Chart 24: ...resulting in a drop in effective capacity



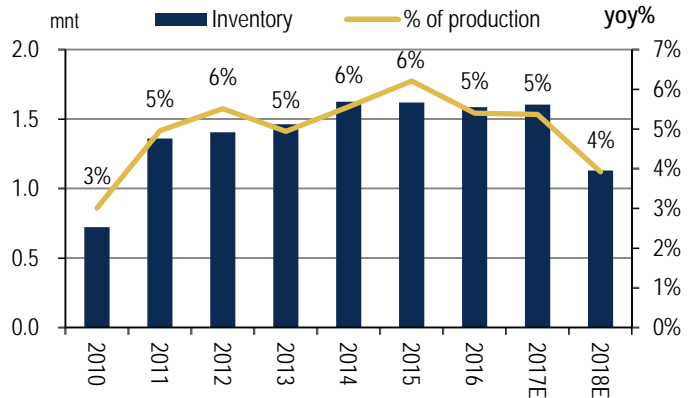
Source: Glassinfo, WIND, SCI99.com, CEIC, NBS, BofA Merrill Lynch Global Research estimates

Chart 25: a decline in production



Source: Glassinfo, WIND, SCI99.com, CEIC, NBS, BofA Merrill Lynch Global Research estimates

Chart 26:and a significant drawdown in inventory



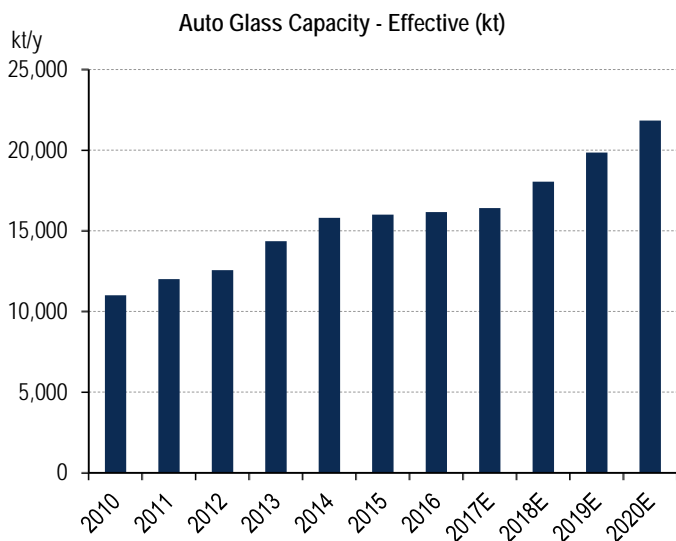
Source: Glassinfo, WIND, SCI99.com, CEIC, NBS, BofA Merrill Lynch Global Research estimates

Auto Glass: Gaining market share in OEMs

Auto glass sales accounted for 30% of XYG's revenue in 2016. Unlike Fuyao which specializes in auto OEM glass, XYG focuses more on ARG, which roughly contributes to 85% of its auto glass sales, according to management, with Pittsburgh Glass Works (PGW) in North America and Belron International in Europe as its major customers.

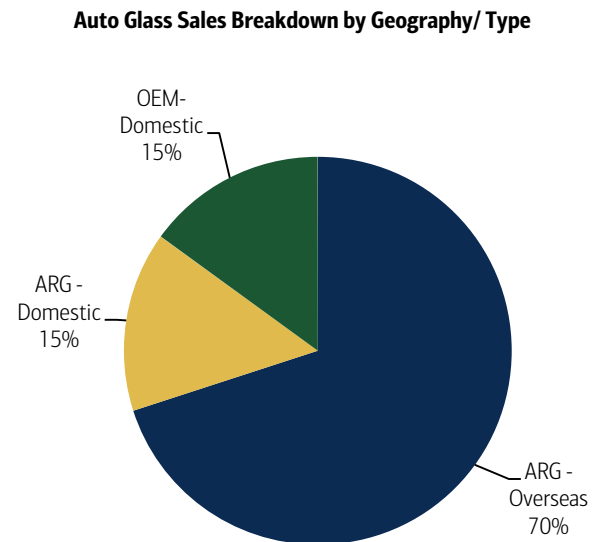
XYG's competitiveness in the overseas ARG market comes from its superior quality, ability in making glass of different specifications (XYG has a database containing nearly 70,000 kinds of ARG glass), and lower price which is roughly at a 20% discount to those produced in North America. As a result of the large portion of auto glass targeting overseas markets, XYG has been the largest glass exporter in China for more than 10 years, with nearly 30% of its revenue from glass export sales. XYG's automobile glass accounts for over 20% of the world's aftermarket automobile glass production and is exported to over 140 countries. According to XYG, it controls over 20-25% of global auto glass ARG market share

Chart 27: We see 8% CAGR in auto glass capacity over 2017-20



Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 28: XYG focuses more on the ARG market



Source: Company data, BofA Merrill Lynch Global Research estimates

XYG targets to increase global auto glass ARG market share to 30% from the current 25% in the next five years; we estimate XYG's auto glass production capacity will witness 8% CAGR over 2017-20, to reach 21mn units by 2020E.

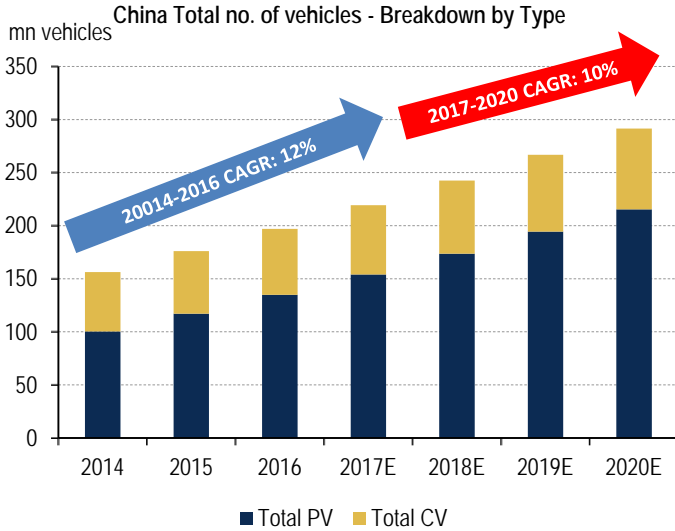
Key competitive advantages of XYG in the auto glass sector include:

- **High production yield.** XYG is the global leader in auto glass, and is the dominant manufacturer for 2mm raw auto glass. Its auto glass products are manufactured under a superior quality management system and are accredited with the US Department of Transportation certification.
- **Established relationship with customers.** XYG has had more than 10 years of business relationships with its major ARG customers PGW and Belron.
- **Economies of scale.** XYG is the largest exporter of auto windshields in China and the world's largest ARG supplier. Its integrated manufacturing across the supply chain enables it to optimize operations and control costs.

Although the global ARG market is just 25% of the OEM auto glass market, it is more resilient given it is more related to the total number of cars on the road, which has been growing at around 3-4% pa in the past five years, and is expected to maintain such high growth in the next few years, according to our Global Auto team's estimate. We also see 4.7% CAGR for the global ARG market over 2017-20.

Apart from ARG, XYG also generates approximately 15% of its auto glass sales via OEMs, mainly serving domestic brands such as BYD, Geely and Yutong; it has a global market share of 1.5-2%. By riding on the rapid developments of domestic brands and aiming to penetrate into the supply chains of other foreign brands through overseas expansion, XYG targets to raise its global market share in the auto glass OEM market to more than 6% by 2020E.

Chart 29: We expect China total vehicles to post 10% CAGR in 2017-20



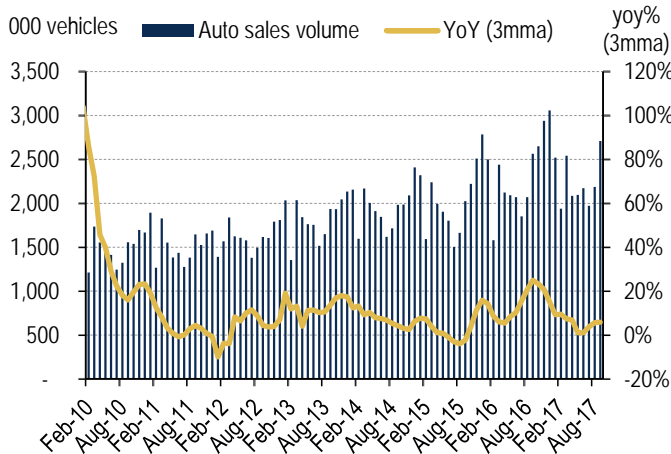
Source: LMCA, JDP, CEIC, WIND, NBS, BofA Merrill Lynch Global Research estimates

Chart 30: We expect China auto glass demand to grow slightly faster than China auto sales on increased use of glass



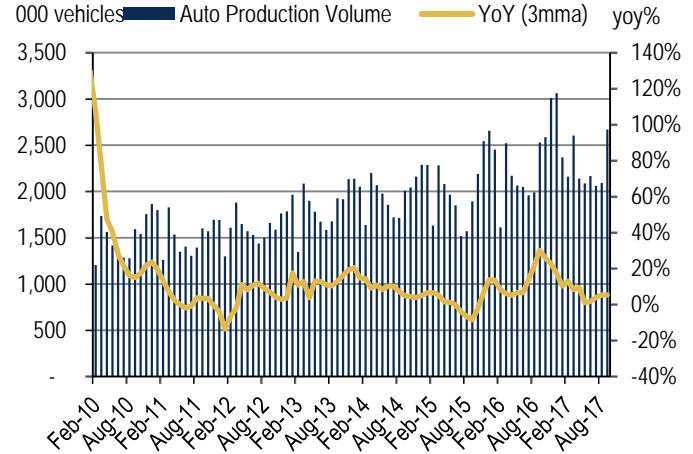
Source: Roland Berger, Company Data, BofA Merrill Lynch Global Research estimates

Chart 31: China auto sales up 4.5% YTD YoY to 20.2mn vehicles



Source: CEIC, WIND, NBS, BofA Merrill Lynch Global Research estimates

Chart 32: China auto production up 4.8% YTD YoY to 20.3mn vehicles



Source: CEIC, WIND, NBS, BofA Merrill Lynch Global Research estimates

Architectural glass – Stable demand

Xinyi Glass is the Top 2 player in low-e architectural glass in China with about 44mn sqm/y production capacity or around 20% market share, following CSG Holdings (000012 CH) with around 25% market share. XYG is strategically focused on energy-saving and high value-added double-glazed and triple-glazed low-e glass products, including high-performance and custom-made offline low-e glass; and there are products that can be applied to both commercial and residential markets as well as buildings of government organizations.

Construction glass sales contributed about 20% of XYG’s revenue in 2016. XYG has a comprehensive product portfolio encompassing low-e glass, insulating glass, laminated glass, tempered glass and curved glass. Its products have been used in several renowned buildings globally, including in the China Pavilion at the World Expo 2010 and the Tokyo Tower in Japan.

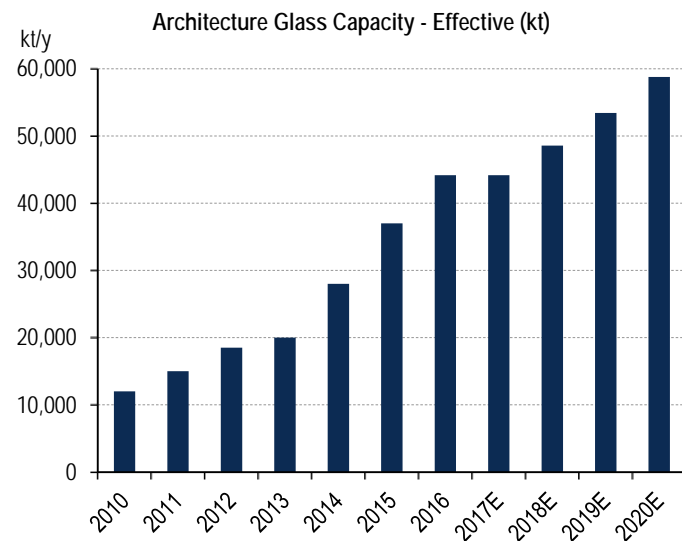
Focus on low-e glass

The Chinese government has announced policies to promote the use of low-e glass. For example, according to the “Energy Development Strategy Action Plan (2014-2020)” announced by the State Council, 50% of new buildings developed in cities and towns have to meet green building codes by 2020. The MIIT has also announced an action plan for promoting the use of green building materials last year, stating that green building materials have to account for 20% of industry revenue in 2018. According to the “Energy Development Strategy Action Plan (2014-2020)”, 50% of new buildings developed in cities and towns will have to meet green building codes by 2020

With >90% of architectural glass being low-e, we believe Xinyi Glass is the best play to leverage the increased use adoption of low-e glass in China.

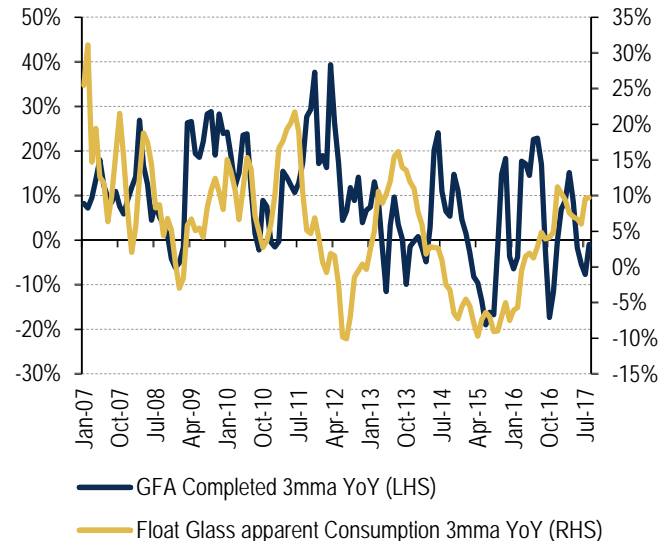
We believe the growth in construction glass usage will outpace the growth in property GFA as there is increasing demand for larger windows in residential, given construction design style as well as increased use of glass decorations/panels instead of gypsum board in the building interiors. There is also increasing use of triple-glazed windows, especially in the colder areas in the north-east vs. the normal double-glazed windows.

Chart 33: Xinyi Glass has around 44mn sqm annual production capacity for architectural glass



Source: Company data, BofA Merrill Lynch Global Research estimates

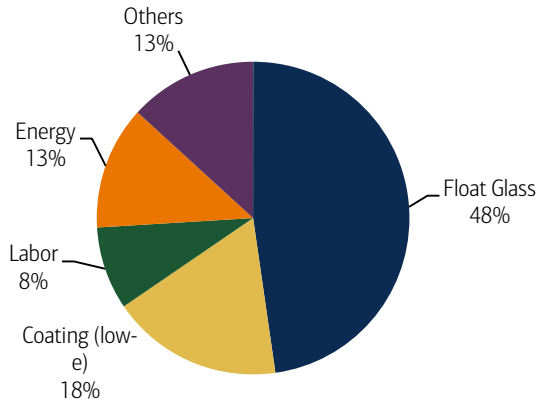
Chart 34: We see the highest correlation of float glass demand vs. GFA completed which lags GFA sales by 12-18 months



Source: CEIC, NBS, BofA Merrill Lynch Global Research estimates

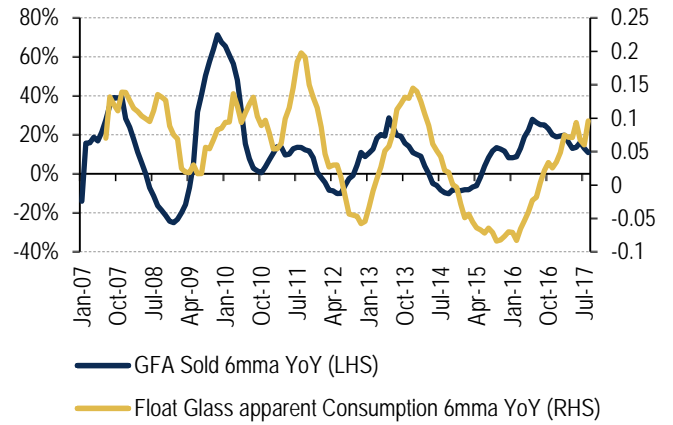
Chart 35: Float glass is the major cost component in architectural glass

XYG Architecture Glass - COGS Breakdown



Source: CEIC, NBS, BofA Merrill Lynch Global Research estimates

Chart 36: Glass demand lacks GFA sold for 18-24 months so we see glass demand to remain strong at least till YE2018 as GFA sold only peaked in 1Q17 while remaining in positive growth YTD

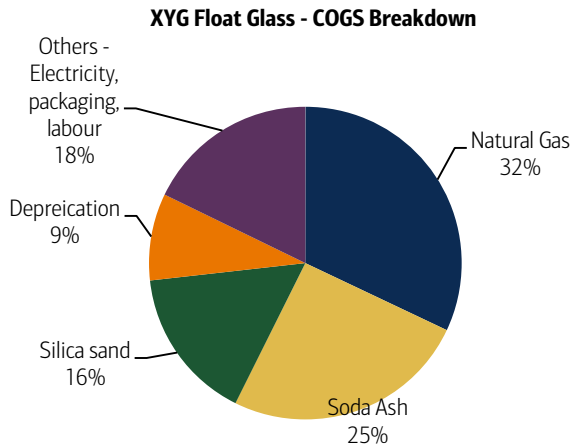


Source: Glassinfo, Sci99.com, WIND, CEIC, NBS, BofA Merrill Lynch Global Research estimates

Costs to ease given downside for soda ash and trending down gas price

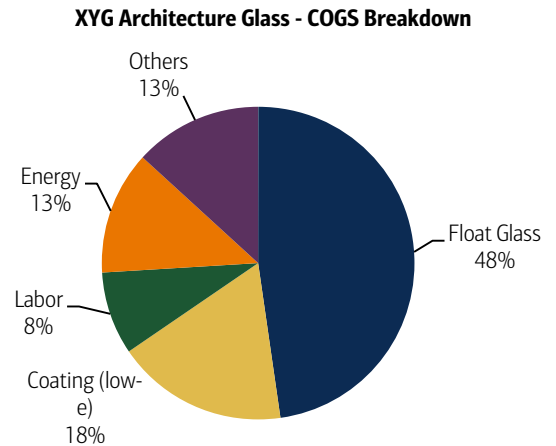
Natural gas and soda ash are the two largest cost components for float glass, accounting for 32% and 25% of XYG' float glass production cost, respectively, in 2017E. The total cost of float glass is passed on to the auto glass and architectural glass segments, accounting for 36% and 48% of their COGS, respectively.

Chart 37: Natural gas is the largest cost component for float glass, followed by soda ash



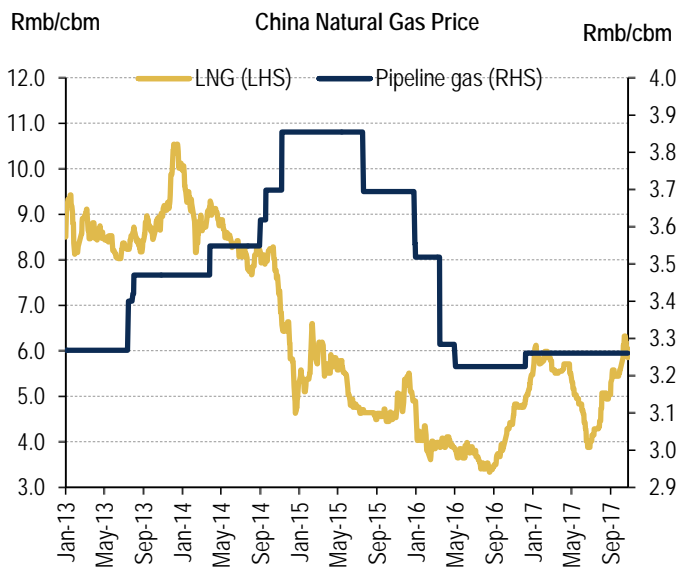
Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 38: Float glass accounts for 48% of total COGS for architectural glass



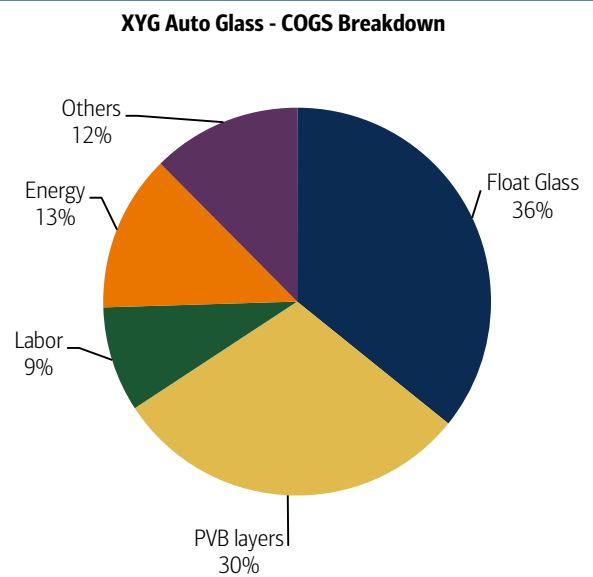
Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 39: LNG prices rebounded this year following crude oil prices



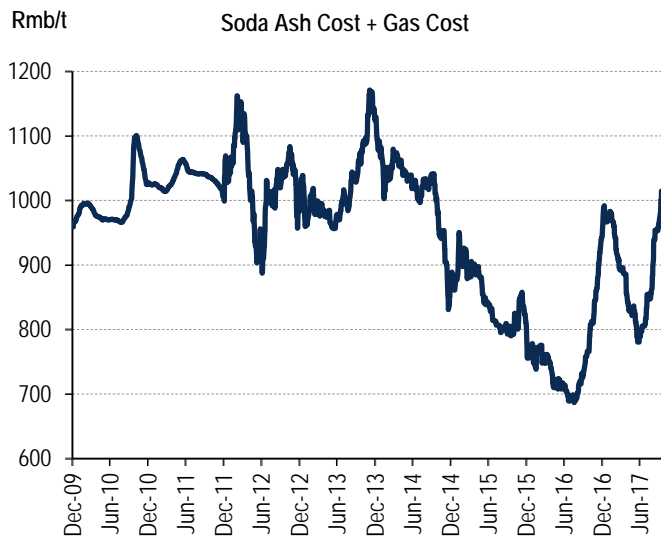
Source: Glassinfo, WIND, SCI99.com, CEIC, NBS, BofA Merrill Lynch Global Research estimates

Chart 40: Auto glass accounts for 48% of total COGS for architectural glass



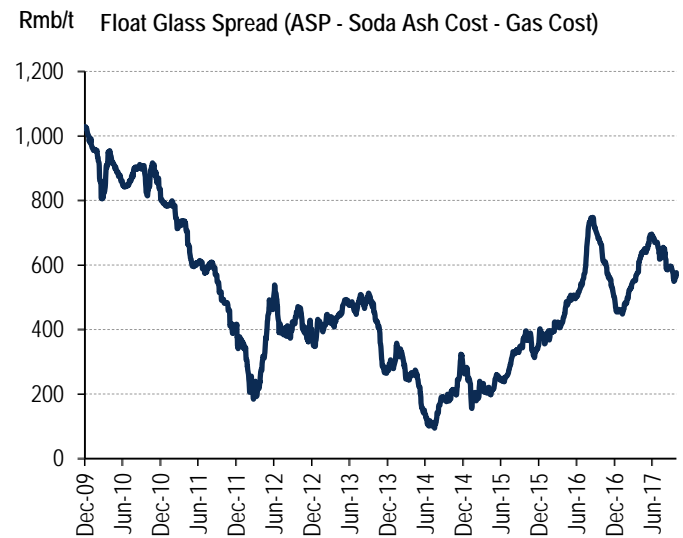
Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 41: Soda ash and natural gas costs have peaked at RMB1,000/t



Source: Glassinfo, WIND, Sci99.com, Bloomberg, CEIC, Company data, BofA Merrill Lynch Global Research estimates

Chart 42: Float glass spread started rebounding in recent weeks



Source: Glassinfo, WIND, Sci99.com, Bloomberg, CEIC, Company data, BofA Merrill Lynch Global Research estimates

Natural gas – Largely stable given direct gas sales

XYG uses natural gas as its major fuel source in making float glass, and uses some LNG from CNOOC at its production plant in Guangdong Province. Given its high volume usage, XYG has been able to purchase natural gas directly from upstream suppliers using Direct Gas Sales (DGS) (eg, Sinopec in Sichuan, CNOOC in Yingkou, PetroChina in Anhui and Tianjin); thus, generally at a discount to benchmark non-residential gas prices and sees less fluctuations. Based on XYG's feedback, only the Tianjin plant (15% of total) is subjected to the 20% winter gas price increase from PetroChina. In the long term, we believe the government's target to encourage gas usage will mean more downside to gas prices, which would relieve the cost pressure for XYG.

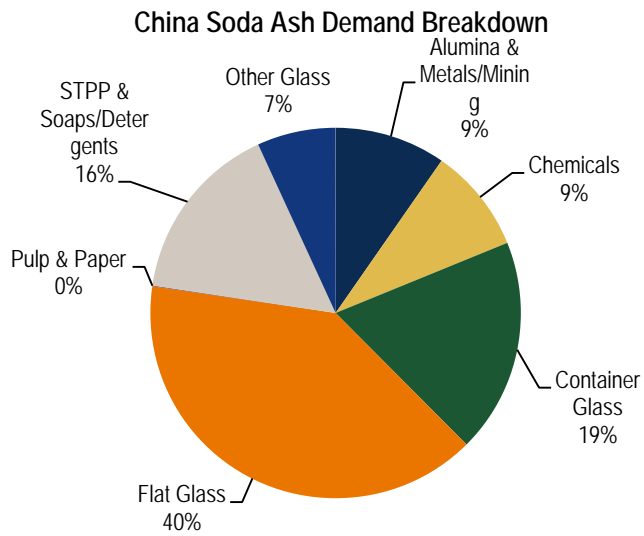
We estimate each 1% increase in natural gas price would impact 2018E EPS by -0.3%; alternatively, each RMB0.1/cbm hike in natural gas price would result in RMB25/t increase in float glass unit cost and impact 2018E EPS by -2.4%.

Soda ash prices to ease; some 2018 volume locked at low prices vs spot

Soda ash price has been very volatile, with a surge in late-2016 and since July 2017, driven by supply shortage due to environmental restrictions and supply disruption at some production facilities. Given likely slowing demand in the upcoming winter on production cuts as well as more glass lines going into cold-repair, we expect soda ash price to gradually ease. Besides, XYG has imported 640kt of soda ash with prices locked in at 1H17 average level of RMB1,700-1,800/t vs. current spot price of RMB2,300/t. We estimate each 1% increase in soda ash price would impact 2018E EPS by -0.3%; alternatively, each RMB100/t hike in soda ash price would result in RMB20/t increase in float glass unit cost and impact 2018E EPS by -2.2%.

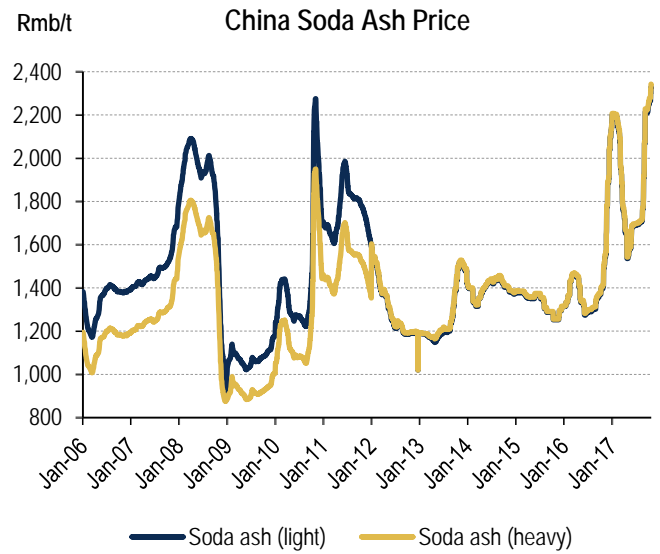
Overall, 1% increase in float glass production cost would impact 2018E EPS by 1.6%.

Chart 43: Flat glass is the largest user of soda ash in China – constituting 40% of total soda ash demand



Source: IHS, Glassinfo, WIND, SCI99.com, CEIC, NBS, BofA Merrill Lynch Global Research estimates

Chart 44: China soda ash prices reached a historical high this year



Source: IHS, Glassinfo, WIND, SCI99.com, CEIC, NBS, BofA Merrill Lynch Global Research estimates

Xinyi Solar spin-off as associate

XYG first started the solar glass business in 2006 and spun off the solar glass division Xinyi Solar Holdings Limited (968-HK, XYS) for separate listing on the main board of the Hong Kong Stock Exchange (HKEx) on 12 December 2013. XYG is still the single-largest shareholder of Xinyi Solar with 29.53% stake as of June'17, and profit from XYS is consolidated as income from associate in XYG's statements.

XYS is the largest solar glass manufacturer in China and the world. It is expanding into the solar farm segment rapidly in China. As of June 2017, it had installed capacity of 6,300t/d ultra-clear PV Raw Glass. The company has 26% share of the solar glass market in China, which accounts for about 90% of the global capacity. It has also started its solar farm business in 2014 – XYS has installed total capacity of 1,584MW, mainly in the Anhui, Fujian, Tianjin, Henan and Hubei provinces.

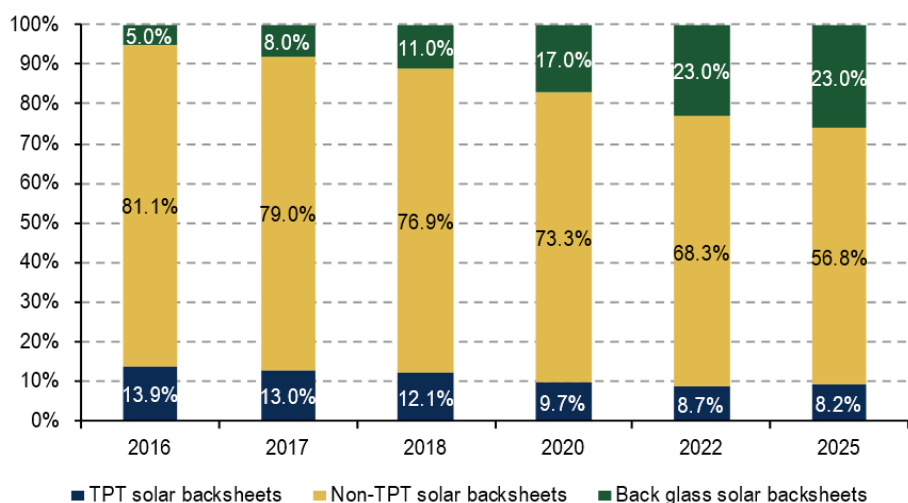
Our Utilities Analyst Angello Chan covers XYS with a Buy rating, mainly on its rapid expansion in solar farm development. The current feed-in tariff (FiT) and subsidy regime in China are in favor of strong returns for solar farms, an area where XYS can earn fixed tariff for 20 years. Moreover, XYS can leverage its expertise in solar glass for expansion into solar farm to ensure better system quality and lower degradation risk. For details, see Chan's report: [Xinyi Solar: 17% RoIC, 6-7x EV/EBITDA, 10% EPS CAGR; Gas sector reform beneficiary; Buy.](#)

Double-glass PV panels to drive float glass demand

In recent years, XYG/XYS have been promoting the use of a glass backing panel for solar modules rather than plastic panel – this is called the double-glass PV panels. The share of double-glass PV panel of the total PV panel market is only around 5% currently, even though this technology can extend the life of PV panels by 5-10 years and improve the energy conversion efficiency by 3%. However, reconfiguration of production line to produce double-glass solar panels should take some time for XYS. We expect market share of double-glass is likely to increase from 5% in 2016 to 23% in 2025E.

As the backing glass panel of the double-glass solar panel is made with float glass rather than solar glass, and is supplied by XYG to XYS, we believe growth in market share of double-glass solar panel will drive float glass demand for XYG.

Exhibit 8: Different solar back sheets market share in 2016-25E



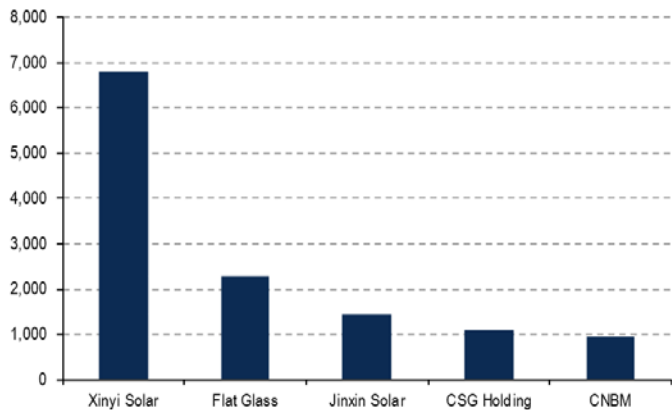
Source: Company data, BofA Merrill Lynch Global Research estimates

Further spin-off of solar farm business

XYS plans to further spin-off its platform for management and operation of its solar farm business as Xinyi Energy Holdings Limited (XYE) on HKEx to allow flexibility as a separate fund-raising vehicle for future growth and to unlock value of its solar farm business for shareholders.

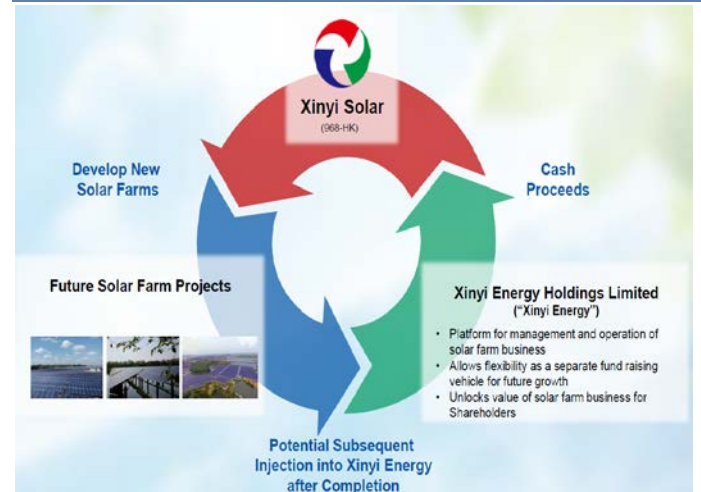
XYS plans to build solar farms, which it may inject into XYE. XYE currently owns 100% of the 974MW solar power capacity and another 50% of 100MW solar power JV. XYS had indicated in October 2015 it aims to hold 60% or more stake in XYE, and plans to invite strategic investors before the spin-off. Combined with the spin-off, we believe successful implementation of the spinoff will improve XYS' balance sheet and reduce equity funding needs, assisted by high RoIC from earnings growth from glass and solar power sales. Latest updates from management show the timeline of the spin-off will likely be in early 2018.

Exhibit 9: Top 5 solar glass producers in China (tonnes/day) - XYS has the highest solar glass production capacity



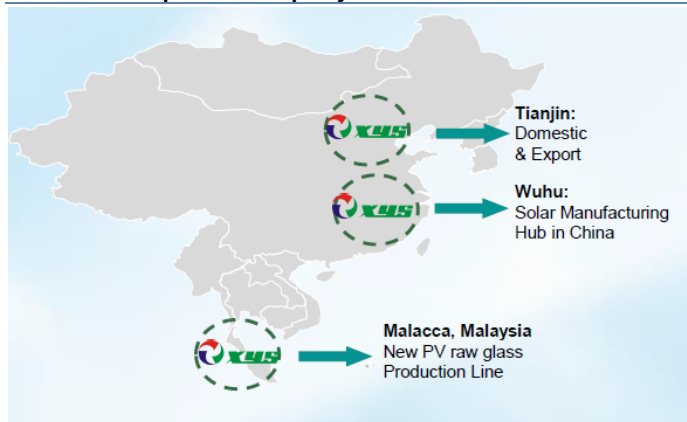
Source: Company data, BofA Merrill Lynch Global Research estimates

Exhibit 10: XYS: Future development – new platform for solar farm business



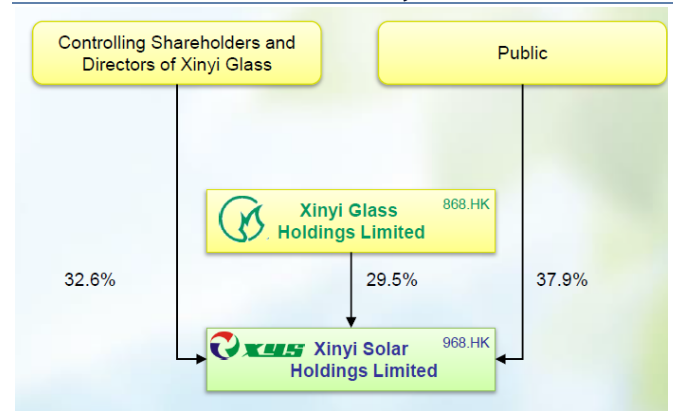
Source: Company data, BofA Merrill Lynch Global Research estimates

Exhibit 11: XYS' production capacity in China



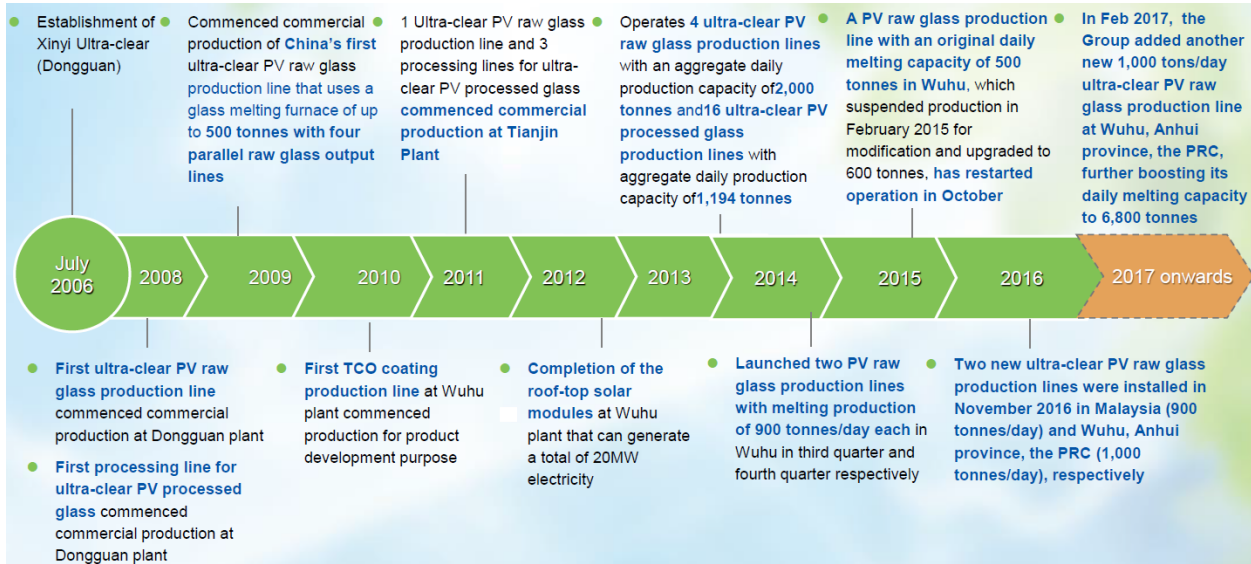
Source: Company data, BofA Merrill Lynch Global Research estimates

Exhibit 12: XYG holds 29.5% of XYS as of June 2017



Source: Company data, BofA Merrill Lynch Global Research estimates

Exhibit 13: XYS – Development timeline



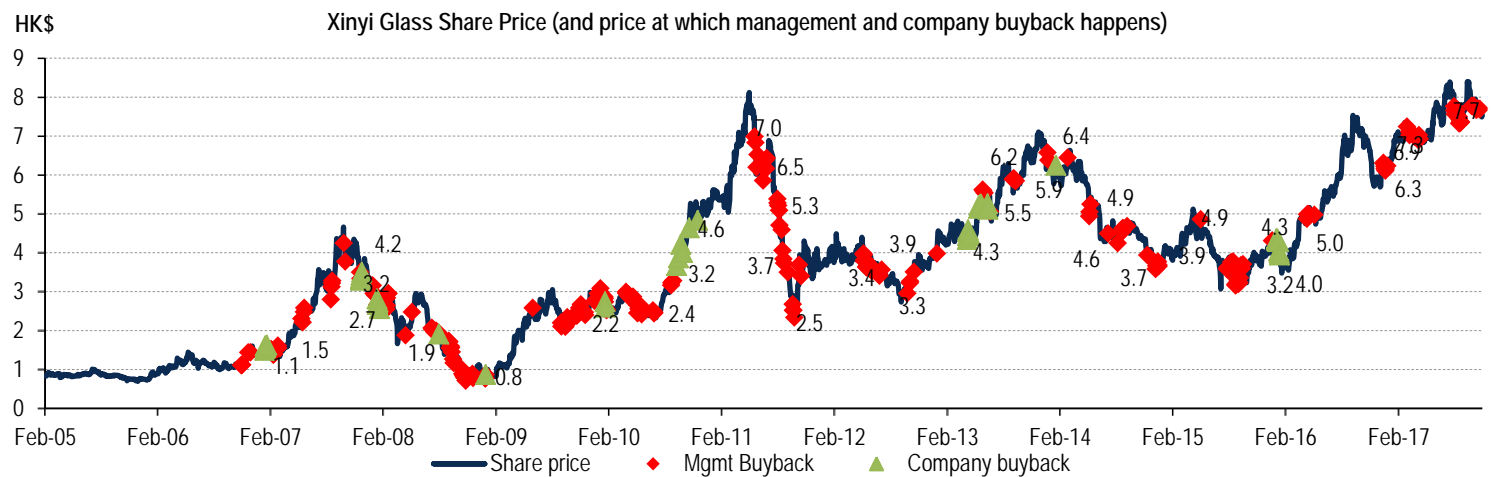
Source: Company data, BofA Merrill Lynch Global Research estimates

Management Buyback provide share price support

Xinyi Glass management and the company itself often buyback their own shares – we estimate that management have bought back around 1% of total shares outstanding YTD at an average price of HK\$7.4/sh.

We believe this signals top management's confidence in the company and could provide downside support to share prices

Chart 45: Xinyi Glass Share price and price at which there are buybacks



Source: Company data, BofA Merrill Lynch Global Research estimates

Exhibit 14: Xinyi Glass Share Buyback by Company and Management - analysis

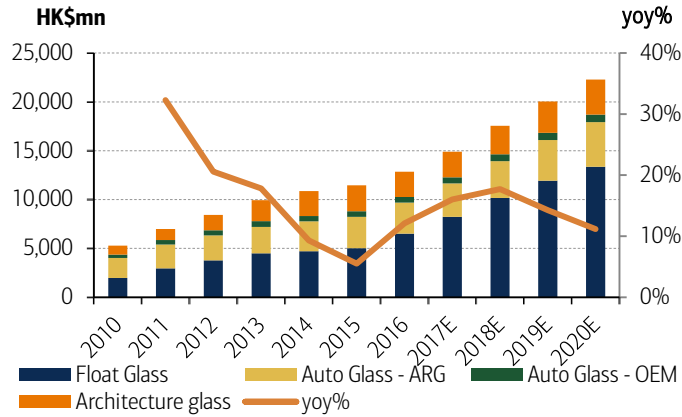
	Total Buyback					Management Buyback					Company Buyback				
	No. of shares bought back (mn)	% bought back	Total consideration (HK\$m)	Bought back sh px (HK\$)	Average share price	No. of shares bought back (mn)	% bought back	Total consideration (HK\$m)	Bought back sh px (HK\$)	Average share price	No. of shares bought back (mn)	% bought back	Total consideration (HK\$m)	Bought back sh px (HK\$)	Average share price
YTD 2017	40.6	1.0%	300.7	7.4	7.4	40.6	1.0%	300.7	7.4	7.4	0.0	0.00%	0.0	na	7.4
2016	82.8	2.1%	380.8	4.6	5.5	22.9	0.6%	131.6	5.8	5.5	60.0	1.50%	249.2	4.2	5.5
2015	76.5	2.0%	273.7	3.6	4.0	76.5	2.0%	273.7	3.6	4.0	0.0	0.00%	0.0	na	4.0
2014	85.0	2.2%	380.4	4.5	5.0	83.7	2.1%	372.2	4.4	5.0	1.3	0.03%	8.1	6.2	5.0
2013	50.5	1.3%	272.1	5.4	5.5	27.9	0.7%	159.5	5.7	5.5	22.6	0.57%	112.6	5.0	5.5
2012	13.6	0.4%	50.2	3.7	3.7	13.6	0.4%	50.2	3.7	3.7	0.0	0.00%	0.0	na	3.7
2011	87.3	2.4%	357.5	4.1	5.2	87.3	2.4%	357.5	4.1	5.2	0.0	0.00%	0.0	na	5.2
2010	88.3	2.4%	283.7	3.2	3.4	55.6	1.6%	156.1	2.8	3.4	32.7	0.84%	127.6	3.9	3.4
2009	19.6	0.6%	49.2	2.5	2.1	19.6	0.6%	49.2	2.5	2.1	0.0	0.00%	0.0	na	2.1
2008	80.1	2.2%	156.2	2.0	1.9	50.2	1.5%	86.9	1.7	1.9	29.9	0.77%	69.3	2.3	1.9

Source: Company data, Bloomberg, BofA Merrill Lynch Global Research estimates

Financial analysis

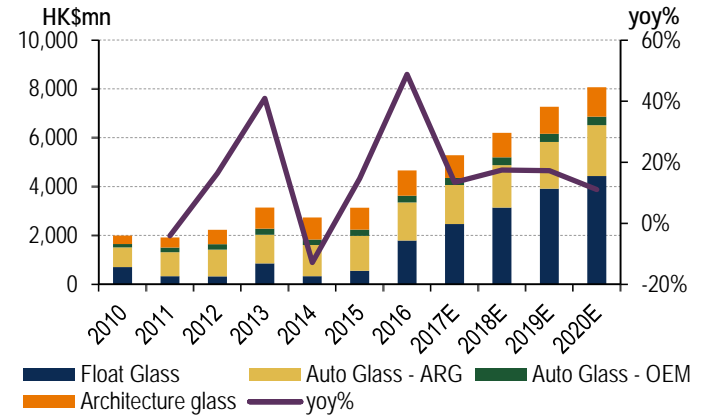
We expect XYG revenue to witness a CAGR of 8% over 2017-20, driven by 11% CAGR in float glass and 5% CAGR in auto and architectural glass, respectively.

Chart 46: Revenue by segment



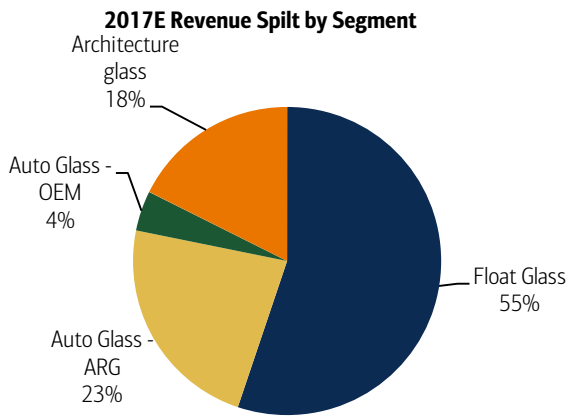
Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 47: Gross profit by segment



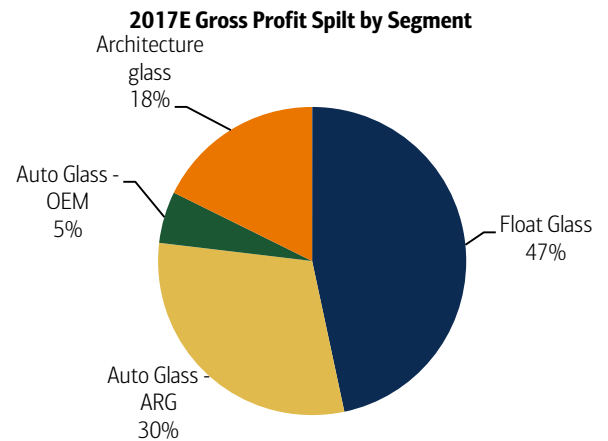
Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 48: 2017E revenue by segment



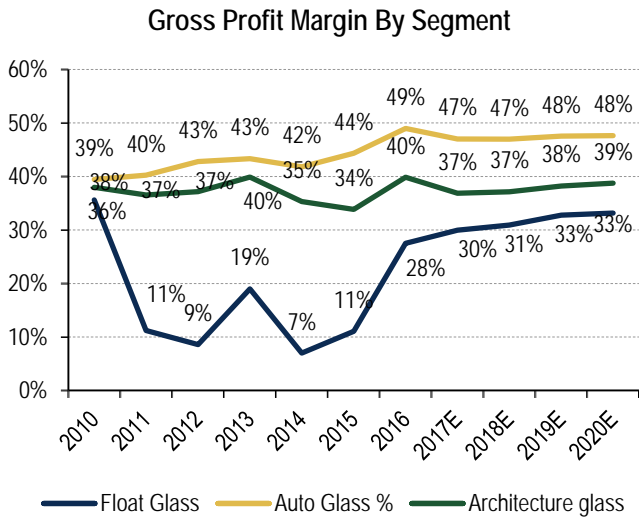
Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 49: 2017E gross profit by segment



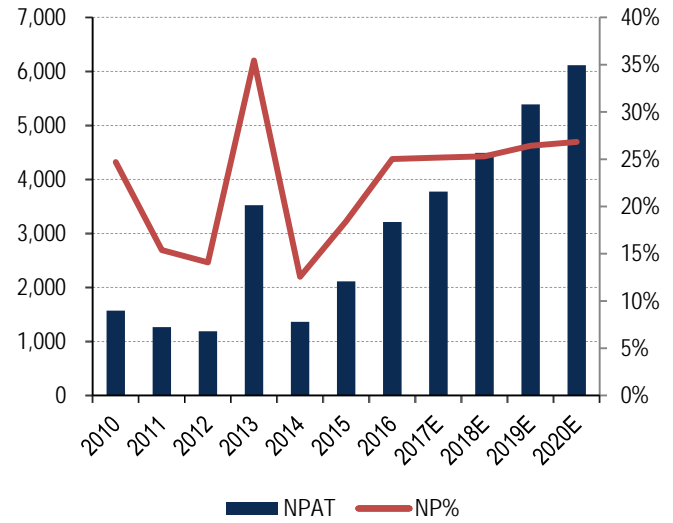
Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 50: Gross profit margin by segment



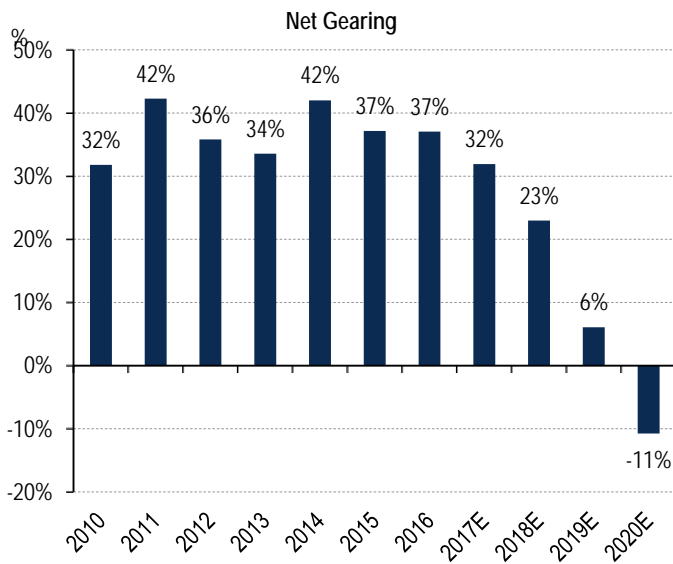
Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 51: Net profit margin trending up



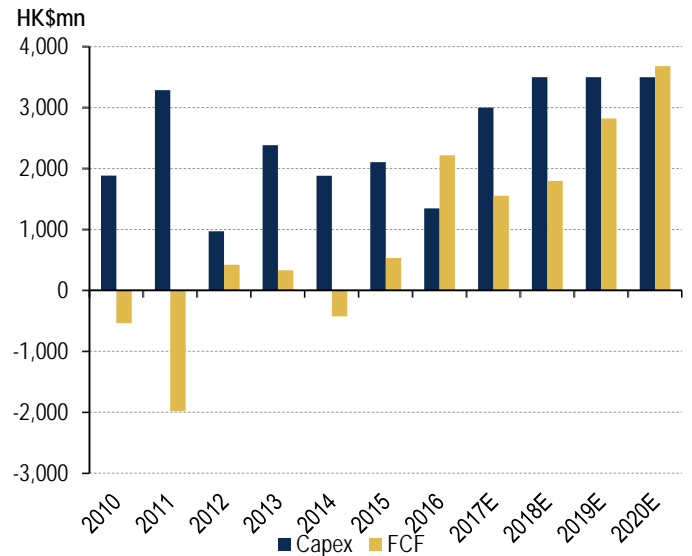
Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 52: Net gearing trending down



Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 53: Healthy Free Cash Flow



Source: Company data, BofA Merrill Lynch Global Research estimates

Company profile

Xinyi Glass (XYG) is the largest float glass manufacturer in China with about 5.3mnt of capacity as of 2017E. It also produces and distributes a wide range of glass products, including automobile glass, energy-saving construction glass, and other glass products. It is the largest automobile glass exporter in China in the aftermarket sector (20% global market share) and one of the top two leaders in architectural low-e glass in China. In addition, XYG also produces automobile rubber and plastic components.

XYG has seven large industrial parks, strategically located in major economic zones in China at Shenzhen, Dongguan and Jiangmen (in Guangdong Province), Wuhu (in Anhui Province), Tianjin, Yingkou (in Liaoning Province), and Deyang (in Sichuan Province); and also in Malacca, Malaysia, with a total gross floor area of approximately 4,763,916 sqm. XYG had 11,691 employees as of 30 June 2017.

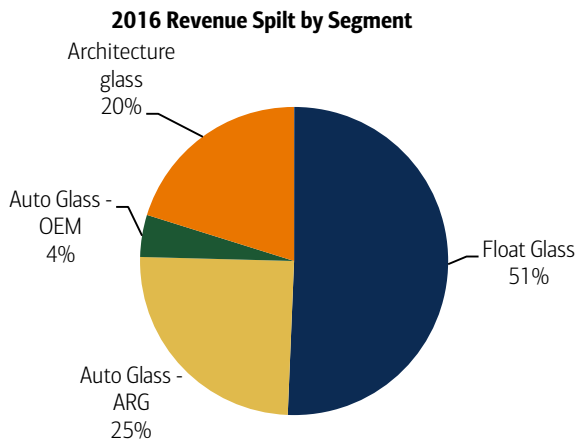
XYG's glass products are sold to customers in around 130 countries and territories, including the PRC, Hong Kong, the US, Canada, Australia, New Zealand and countries in Asia, the Middle East, Europe, Africa, and Central and South America. Its customers include companies in the business of automobile glass manufacturing, wholesale and distribution, automobile repair, motor vehicle manufacturing, curtain wall engineering and installing, construction and furniture glass manufacturing, and float glass wholesale and distribution.

On 12 December 2013, XYG completed the spin-off of the solar glass and related business for separate listing on the main board of HKEx. The solar glass and related business is currently operated and owned by Xinyi Solar Holdings Limited (Xinyi Solar, XYS, 00968-HK). The Group continues to hold 29.53% as of June'17 and is the largest single shareholder. Following the completion of the spin-off, the Group no longer produces solar glass products as part of its product portfolio.

On 11 July 2016, XYG completed a spin-off and separate listing of Xinyi Automobile Glass Hong Kong Enterprises Limited ("Xinyi HK") by way of introduction on the Growth Enterprise Market of the Stock Exchange of Hong Kong Limited, through distribution in specie of 100% of the issued share capital of Xinyi HK to XYG's shareholders. Xinyi Glass no longer holds any shares in Xinyi HK.

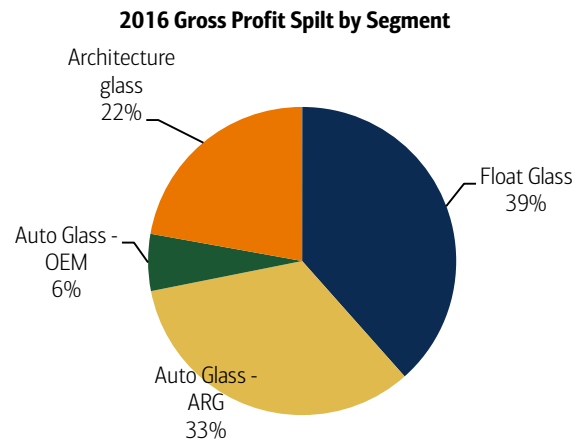
Xinyi Glass was listed on the main board of the HKEx at an IPO price of HK\$2.0 per share on 3 February 2005.

Chart 54: Float glass accounts for >50% of revenue



Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 55: Float glass and auto glass each account for about 40% of GP



Source: Company data, BofA Merrill Lynch Global Research estimates

Appendix

Exhibit 15: XYG - Key milestones

1988	Shenzhen Xinyi Autoglass Co., Ltd., the predecessor of Xinyi Glass, was founded in Shenzhen
1989	- Founded in Hong Kong - Started automobile glass business
1998	Started architectural glass business
2005	- Listed on the Main Board of Hong Kong Stock Exchange (868-HK) on 5 February 2015 - Started low-emissivity (Low-E) coated glass business
2006	Vertical integration into upstream float glass production
2008	Started production of ultra clear photovoltaic ("PV") glass, which is used in solar power systems, in Jan 2008
2013	- The first ultra-thin electronic glass production line started the trial run in May 2013 - Spun-off its solar glass division Xinyi Solar Holdings Limited (00968.hk) for separate listing by way of introduction on the Main Board of Hong Kong Stock Exchange on 12 Dec 2013
2014	- Signed a wind farm project investment framework agreement with The People's Government of Jinzhai County of Lu'An City of Anhui Province in Oct 2014 to start development in wind power industry - Entered into a land acquisition agreement with Perbadanan Kemajuan Negeri Melaka to acquire a land parcel for the construction of a glass production plant in Malacca, Malaysia in Nov 2014
2016	Spun-off its Xinyi Automobile Glass Hong Kong Enterprises Limited(08328.hk) for separate listing on the Growth Enterprise Market of Hong Kong Stock Exchange on 11 Jul 2016
2017	First overseas high quality float glass production line in Malacca, Malaysia has commenced operation in 2Q 2017

Source: Company data

Chart 56: A typical production process flow chart for XYG's supply chain



Source: Company data, BofA Merrill Lynch Global Research estimates

Table 1: Key management profile

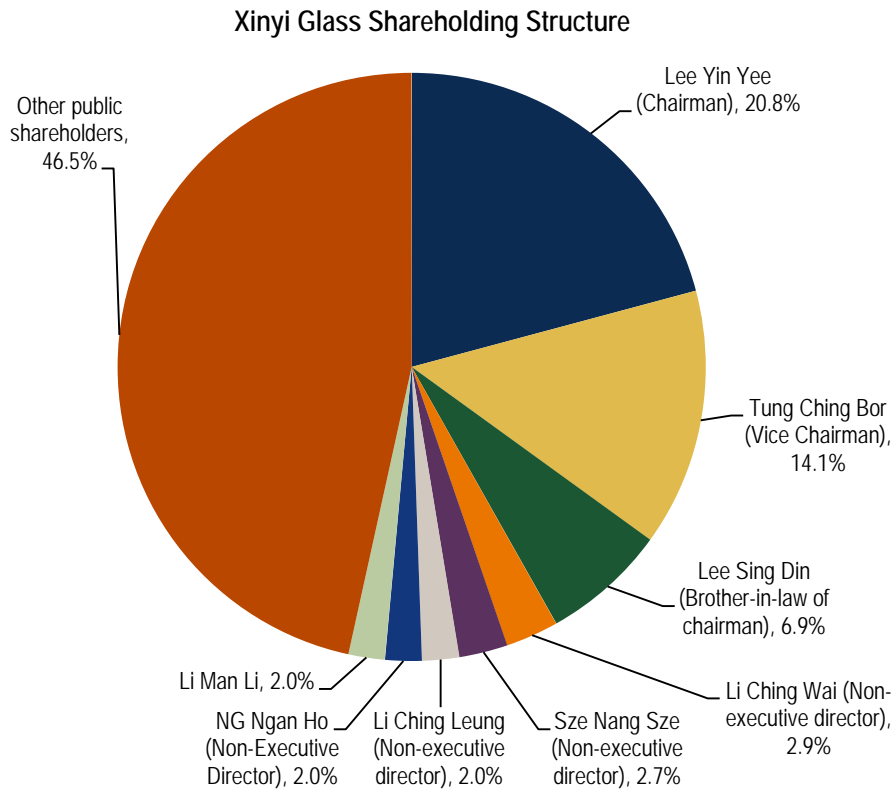
Name	Age	Position	Bio
Datuk LEE Yin Yee, B.B.S. (李賢義)	64	Chairman and founder	Mr Lee is responsible for XYG's business strategy. He has more than 28 years' experience in the automobile glass industry. Prior to establishing XYG, he was involved in the trading of automobile parts. Mr Yee is a national committee member of the Twelfth Chinese People's Political Consultative Conference and an honorary citizen of Shenzhen in the PRC. He was appointed in December 2003 as the first chairman of Shenzhen Fujian Corporate Association. He is also the Life Honorary Chairman of the Hong Kong Quanzhou Clans United Association and the Fukienese Association Limited in Hong Kong. Mr Yee is the father of Executive Director Mr LEE Shing Kan and the brother-in-law of both Datuk TUNG Ching Bor, vice-chairman and executive director, and of Datuk TUNG Ching Sai, chief executive officer and executive director. Datuk LEE Yin Yee was appointed as executive director on 25 June 2004. He is the chairman and non-executive director of Xinyi Solar Holdings Limited ("Xinyi Solar") a company listed on the main board of the HKEx.
TUNG Ching Bor (董清波)	54	Vice-chairman and chief purchasing officer	Mr Tung is responsible for managing daily operations and overseeing purchasing functions. Prior to joining XYG in January 2000, he had over 14 years' experience in automobile parts purchase. He is a member of the Tenth Chinese People's Political Consultative Conference of Anhui Province since 1 January 2011 and also a member of Nanping Committee of Fujian Province. He is the brother-in-law of Datuk LEE Yin Yee, brother of Datuk TUNG Ching Sai, chief executive officer and executive director, and uncle of Mr. LEE Shing Kan, executive director. Mr. TUNG Ching Bor was appointed as XYG's executive director on 25 June 2004.
Datuk TUNG Ching Sai (董清世)	51	CEO and Executive Director	Datuk TUNG Ching Sai has been with XYG for over 28 years since its inception in November 1988 and is responsible for overseeing daily operations. He is a committee member of the Chinese People's Political Consultative Conference of Fujian Province, vice-chairman of the China Architectural and Industrial Glass Association, the chairman of the fourth and fifth Shenzhen Federation of Young Entrepreneurs, the Third Shenzhen Municipal 10 Outstanding Young Entrepreneurs in September 2001, and was awarded the "Young Industrialist Awards of Hong Kong 2006". He graduated from the Sun Yat-Sen University with an executive master's degree in Business Administration in 2007. Datuk TUNG Ching Sai is the brother-in-law of Mr Datuk LEE Yin Yee, brother of Mr TUNG Ching Bor, and uncle of Mr LEE Shing Kan, executive director. Datuk TUNG Ching Sai was appointed as XYG's executive director on 25 June 2004. In November 2015, Datuk TUNG Ching Sai was appointed as the chairman and non-executive director of Xinyi Enterprises. In July 2016, Xinyi Enterprise was spun off from XYG and got separately listed on the Growth Enterprise Market of the Stock Exchange. Datuk TUNG Ching Sai is the vice-chairman and executive director of Xinyi Solar, a company listed on the main board of the HKEx.
LAU Sik Yuen (劉錫源)	50	VFO	Prior to joining the Group in April 2003, Mr. LAU Sik Yuen had over 13 years' experience in the auditing and financial accounting industry. He is responsible for the Group's finance, management and cost accounting, taxation, treasury and investor relations strategy and operations. He had previously worked for PricewaterhouseCoopers for over five years, and

Table 1: Key management profile

Name	Age	Position	Bio
LEE Shing Kan (李聖根)	37	Executive Director	had been the financial controller of a subsidiary of a company listed on the main board of the HKEx for over three years. He is a fellow member of the Hong Kong Institute of Certified Public Accountants and a member of the American Institute of Certified Public Accountants. Mr Lee is responsible for overseeing the overseas automobile glass operation and the general manager of Xinyi Automobile Glass (Shenzhen) Company Limited. He joined the company in January 2005. He holds a bachelor's degree in Commerce from the University of Melbourne, Australia, and a master's degree in Applied Finance from the Monash University, Australia. He is the member of the Fujian Province Committee of Chinese People's Political Consultative Conference. Mr. LEE Shing Kan was the director (2012/2014) of Tung Wah Group of Hospitals. He is the son of Mr Datuk LEE Yin Yee, nephew of Mr TUNG Ching Bor and Mr Datuk TUNG Ching Sai. Mr. LEE Shing Kan was appointed as XYG's executive director on 15 October 2008.
LI Ching Wai (李清懷)	59	Non-executive Director	Has been with XYG since April 2001. Prior to joining XYG, Mr. LI Ching Wai had worked in the trading of automobile parts industry. He was appointed as XYG's non-executive director on 25 June 2004.
LI Ching Wai (李清懷)	59	Non-executive Director	Has been with XYG since April 2001. Prior to joining XYG, Mr. LI Ching Wai had worked in the trading of automobile parts industry. Mr. LI Ching Wai was appointed as XYG's non-executive director on 25 June 2004.
SZE Nang Sze (施能獅)	59	Non-executive Director	Has been with XYG since April 2001. Prior to joining XYG, Mr. SZE Nang Sze had worked in the trading of automobile parts industry. He was appointed as XYG's non-executive director on 25 June 2004. Joined XYG in August 2004. Mr. LI Ching Leung was the assistant general manager of XYG's Wuhu production complex.
LI Ching Leung (李清涼)	60	Non-executive Director	Prior to joining XYG, he had worked in the trading of automobile parts industry, manufacturing of plastic products and mold industry, and manufacturing of leather products industry. Mr. LI Ching Leung was appointed as XYG's executive director on 25 August 2004 and was re-designated as non-executive director on 14 September 2005.
NG Ngan Ho (吳銀河)	52	Non-executive Director	Joined XYG in August 2003. Mr. NG Ngan Ho was responsible for overseeing the financial and purchasing matters of XYG's Dongguan production complex. He was appointed as XYG's executive director on 25 June 2004 and was re-designated as non-executive director on 1 July 2007.

Source: Company data, BofA Merrill Lynch Global Research estimates

Chart 57: XYG: Shareholding structure as of 30 October 2017



Source: Bloomberg, Company data, BofA Merrill Lynch Global Research estimates

Exhibit 16: Xinyi Glass – Income Statement

HKD mn unless specified	2013	2014	2015	2016	2017E	2018E	2019E	2020E
Income statement								
Turnover	9,936	10,861	11,460	12,848	15,016	17,908	20,552	22,957
Cost of sales	-6,799	-8,128	-8,328	-8,189	-9,622	-11,440	-12,877	-14,316
Gross profit	3,137	2,733	3,133	4,659	5,393	6,468	7,674	8,641
Other income - adj	1,779	398	594	501	585	698	801	895
Selling and distribution expenses	-478	-608	-680	-620	-736	-895	-1,028	-1,148
General and administrative expenses	-772	-1,030	-935	-1,202	-1,351	-1,612	-1,850	-2,066
EBIT	3,665	1,494	2,113	3,338	3,892	4,659	5,598	6,322
<i>EBIT margin</i>	<i>37%</i>	<i>14%</i>	<i>18%</i>	<i>26%</i>	<i>26%</i>	<i>26%</i>	<i>27%</i>	<i>28%</i>
Finance costs - net	-60	-38	-50	-77	-30	-7	19	89
Share of profits of associates	21	138	317	563	645	736	841	915
Profit before taxation	3,627	1,593	2,380	3,823	4,506	5,387	6,458	7,326
Taxation	-381	-228	-266	-607	-716	-856	-1,026	-1,164
<i>Effective tax rate %</i>	<i>-11%</i>	<i>-14%</i>	<i>-11%</i>	<i>-16%</i>	<i>-16%</i>	<i>-16%</i>	<i>-16%</i>	<i>-16%</i>
Profit for the year/period from continuing operat	3,245	1,365	2,114	3,216	3,791	4,531	5,433	6,162
Profit for the year/period	3,522	1,365	2,114	3,216	3,791	4,531	5,433	6,162
MI	0	-1	0	-3	-3	-4	-5	-5
Net Profit attributable to shareholders	3,522	1,364	2,113	3,213	3,787	4,528	5,428	6,157
<i>NP margin %</i>	<i>35%</i>	<i>13%</i>	<i>18%</i>	<i>25%</i>	<i>25%</i>	<i>25%</i>	<i>26%</i>	<i>27%</i>
Interest expense on convertible bonds (net of tax)	31	31	27	29	0	0	0	0
Net Profit attributable to shareholders (for dilute	3,553	1,394	2,141	3,242	3,787	4,528	5,428	6,157
Diluted EPS	0.89	0.35	0.53	0.81	0.95	1.13	1.36	1.54

Source: Company data, BofA Merrill Lynch Global Research estimates

Exhibit 17: Xinyi Glass – Balance Sheet

Balance Sheet	2013	2014	2015E	2016E	2017E	2018E	2019E	2020E
Non current assets	15,114	16,229	16,426	17,486	19,124	20,237	19,827	18,877
Fixed assets	10,459	11,293	11,971	11,831	13,416	14,473	14,005	12,993
Leasehold land and land use rights	1,390	1,287	1,206	1,121	1,177	1,236	1,298	1,363
Investment properties	498	550	437	547	547	547	547	547
Intangible assets	82	79	75	72	69	66	62	59
Investments in associates	2,071	2,243	2,535	3,258	3,258	3,258	3,258	3,258
Prepayments for PPE & Land use rights	527	624	172	608	608	608	608	608
Loan to associate	34	34	29	49	49	49	49	49
Deferred tax assets	0	0	0	0	0	0	0	0
Long term receivables	0	0	0	0	0	0	0	0
Current assets	4,537	4,805	4,995	6,537	7,131	8,764	12,415	16,927
Inventories	1,232	1,478	1,223	1,321	1,514	1,789	2,089	2,364
Trade and other receivables	2,255	2,487	2,381	2,377	2,725	3,219	3,761	4,254
Loan to associates	6	8	8	33	33	33	33	33
Taxation recoverable	0	0	0	0	0	0	0	0
Pledged bank deposits	1	1	1	5	5	5	5	5
Cash and bank balances	1,042	831	1,298	2,763	2,855	3,718	6,528	10,271
	4,537	4,805	4,995	6,537	7,131	8,764	12,415	16,927
Total Assets	19,651	21,034	21,422	24,022	26,255	29,001	32,243	35,803
Current liabilities	4,079	4,801	4,959	6,000	6,336	6,814	7,337	7,814
Trade and other payables	1,744	1,978	2,112	2,297	2,633	3,111	3,634	4,111
Current income tax liabilities	219	294	333	538	538	538	538	538
Bank loans - amount due w ithin one year	2,116	2,529	2,514	3,165	3,165	3,165	3,165	3,165
	4,079	4,801	4,959	6,000	6,336	6,814	7,337	7,814
Non-current liabilities	3,364	3,898	3,737	4,775	4,775	4,775	4,775	4,775
Bank loans - amount due after one year	3,024	3,483	3,514	4,509	4,509	4,509	4,509	4,509
Deferred income tax liabilities	160	159	159	218	218	218	218	218
Other payable	180	255	63	48	48	48	48	48
Total liability	7,442	8,699	8,696	10,775	11,111	11,589	12,113	12,590
Equity	12,209	12,335	12,726	13,247	15,144	17,411	20,130	23,214
Share capital	392	392	392	389	389	389	389	389
Share Premium	4,335	3,432	2,825	1,361	1,361	1,361	1,361	1,361
Retained earnings	5,108	6,393	8,441	11,462	12,409	13,541	14,898	16,437
Other reserve	2,373	2,116	1,061	-31	916	2,048	3,405	4,944
Equity attributable to equity holders of the Comp	12,208	12,333	12,718	13,181	15,075	17,338	20,052	23,131
Minority interests	1	2	7	66	69	73	78	83

Source: Company data, BofA Merrill Lynch Global Research estimates

Exhibit 18: Xinyi Glass – Cashflow statement

Cash Flow	2013	2014	2015	2016	2017	2018	2019	2020
Operating CF								
Net profit	3,522	1,364	2,113	3,213	3,787	4,528	5,428	6,157
Adj for:								
D&A	687	646	753	822	911	1,078	1,257	1,437
Associate, JV and MI	0	1	0	3	3	4	5	5
Deffered tax	58	0	0	59	0	0	0	0
Net financing expense	60	38	50	77	30	7	-19	-89
Change in inventory	-28	-246	256	-98	-193	-275	-301	-274
Change in receivables	-48	-232	106	4	-348	-495	-541	-494
Change in payables	275	310	-57	169	336	478	523	477
Change in other working capitals	116	75	-45	252	38	0	0	0
Operating CF	2,712	1,455	2,637	3,565	4,565	5,325	6,352	7,219
Investing CF								
Purchase of PP&E, net	-2,383	-1,882	-2,105	-1,346	-3,000	-3,500	-3,500	-3,500
Interest income	23	53	40	51	69	71	93	163
M&A and other investment	-451	-16	317	-44	-55	-59	-62	-65
Other investing CF	2,022	536	67	219	0	0	0	0
Investing CF	-3,121	-1,578	-1,520	-2,280	-2,986	-3,487	-3,469	-3,402
Financing CF								
Equity financing	828	-903	-607	-1,467	0	0	0	0
Debt financing	874	873	16	1,646	0	0	0	0
Div paid	-411	-2,404	-902	-608	-1,387	-895	0	0
Interest expense	-83	-91	-90	-128	-99	-79	-74	-74
Financing CF	770	-72	-625	225	-1,486	-974	-74	-74
Beginning CF	680	1,042	831	1,298	2,763	2,855	3,718	6,528
Movement	361	-195	492	1,510	92	863	2,809	3,743
Exchange gain/loss	1	-17	-25	-45	0	0	0	0
Closing CF	1,042	831	1,298	2,763	2,855	3,718	6,528	10,271

Source: Company data, BofA Merrill Lynch Global Research estimates

Price objective basis & risk

Xinyi Glass (XYIGF)

Our PO of HK\$10 is based on a SOTP (sum-of-the-parts) approach and uses (1) 10x one-year forward P/E multiple for XYG's core operations, similar to its historical mid-range of 8-11x, and (2) attributable interest of market cap of Xinyi Solar, based on BofAML's Xinyi Solar valuation of HK\$4.4. We apply a 15% conglomerate discount to arrive at our PO of HK\$10/sh, implying 8.8x 2018E P/E, within the historical mid-range of 8-11x.

Downside risks: 1) weaker than expected property demand, 2) more than expected industry capacity addition, 3) delay in overseas expansion, 4) large hike in soda ash/ gas price, 5) large currency fluctuations, 6) equity dilution

Upside risks: 1) better than expected demand, 2) more than expected industry capacity closure/ cold repair, 3) lower than expected gas/ soda ash prices, 4) higher than expected ASP

Analyst Certification

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APR - Metals, Mining & Steel Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	Angang Steel	ANGGF	347 HK	Matty Zhao
	Anhui Conch	AHCHF	914 HK	Matty Zhao
	Anhui Conch -A	AHCAF	600585 CH	Matty Zhao
	Banpu Pcl	XBUPF	BANPU TB	Komsun Suksumrun
	Baosteel	BAOSF	600019 CH	Matty Zhao
	BBMG	BMBGF	2009 HK	Matty Zhao
	BBMG -A	XMRHF	601992 CH	Matty Zhao
	China Coal	CCOZF	1898 HK	Matty Zhao
	China Shenhua	CUAEF	1088 HK	Matty Zhao
	Conch Venture	XIUSF	586 HK	David Ching, CFA
	CR Cement	CJRCF	1313 HK	Matty Zhao
	Eagle Cement Corporation	XEESF	EAGLE PM	Caroline Vergara, CFA
	Hyundai Steel	XHDUF	004020 KS	Andy Euisup Lee, CFA
	Indocement	PITPF	INTP IJ	Andi Hadiwidjojo
	Jiangxi Copper	JIAXF	358 HK	Hefei Deng
	Jidong Cement	XDXOF	000401 CH	David Ching, CFA
	JSW Steel	XWWDF	JSTL IN	Anuj Singla
	Lee & Man Paper	LMPMF	2314 HK	Matty Zhao
	Nine Dragons Paper	NDGPF	2689 HK	Matty Zhao
	POSCO	PKXFF	005490 KS	Andy Euisup Lee, CFA
	POSCO -A	PKX	PKX US	Andy Euisup Lee, CFA
	Semen Indonesia	PSGTF	SMGR IJ	Andi Hadiwidjojo
	Tata Steel	XTLLF	TATA IN	Anuj Singla
	Xinyi Glass	XYIGF	868 HK	David Ching, CFA
	Zijin Mining	ZIJMF	2899 HK	Hefei Deng
NEUTRAL				
	Angang Steel -A	AGGSF	000898 CH	Matty Zhao
	CEMEX Holdings Philippines, Inc.	XCHXF	CHP PM	Caroline Vergara, CFA
	Chalco	ALMMF	2600 HK	Hefei Deng
	China Coal	XAWLF	601898 CH	Matty Zhao
	CNBM	CBUMF	3323 HK	Matty Zhao
	Jiangxi Copper	JGXCF	600362 CH	Hefei Deng
	NMDC	XWDDF	NMDC IN	Anuj Singla
	Siam Cement	SCVQF	SCC TB	Jiraporn Linmaneechote
	Siam Cement -F	SCVPF	SCC/F TB	Jiraporn Linmaneechote
	Yanzhou Coal	YZCHF	1171 HK	Matty Zhao
	Zijin Mining	XZNMF	601899 CH	Hefei Deng
UNDERPERFORM				
	Atlas Consolidated Mining	ATMZF	AT PM	Philip Albert Felix
	Chalco -A	XAMTF	601600 CH	Hefei Deng
	Maanshan Iron & Steel	MAANF	323 HK	Matty Zhao
	Maanshan Iron & Steel -A	MISIF	600808 CH	Matty Zhao
	Nickel Asia Corporation	XXUYF	NIKL PM	Philip Albert Felix
	SAIL	SLAUF	SAIL IN	Anuj Singla
	Semirara Mining Corporation	SRCCF	SCC PM	Ping Javier, CFA
	Yanzhou Coal	YZCIF	600188 CH	Matty Zhao
RVW				
	China Hongqiao	CHHOF	1378 HK	Hefei Deng
	China Shenhua	XCUAF	601088 CH	Matty Zhao

iQ^{method} SM Measures Definitions

Business Performance	Numerator	Denominator
Return On Capital Employed	NOPAT = (EBIT + Interest Income) * (1 - Tax Rate) + Goodwill Amortization	Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill Amortization
Return On Equity	Net Income	Shareholders' Equity
Operating Margin	Operating Profit	Sales
Earnings Growth	Expected 5-Year CAGR From Latest Actual	N/A
Free Cash Flow	Cash Flow From Operations – Total Capex	N/A
Quality of Earnings		
Cash Realization Ratio	Cash Flow From Operations	Net Income
Asset Replacement Ratio	Capex	Depreciation
Tax Rate	Tax Charge	Pre-Tax Income
Net Debt-To-Equity Ratio	Net Debt = Total Debt, Less Cash & Equivalents	Total Equity
Interest Cover	EBIT	Interest Expense
Valuation Toolkit		
Price / Earnings Ratio	Current Share Price	Diluted Earnings Per Share (Basis As Specified)
Price / Book Value	Current Share Price	Shareholders' Equity / Current Basic Shares
Dividend Yield	Annualised Declared Cash Dividend	Current Share Price
Free Cash Flow Yield	Cash Flow From Operations – Total Capex	Market Cap. = Current Share Price * Current Basic Shares
Enterprise Value / Sales	EV = Current Share Price * Current Shares + Minority Equity + Net Debt + Other LT Liabilities	Sales
EV / EBITDA	Enterprise Value	Basic EBIT + Depreciation + Amortization

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Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	39	50.00%	Buy	22	56.41%
Hold	21	26.92%	Hold	12	57.14%
Sell	18	23.08%	Sell	8	44.44%

Equity Investment Rating Distribution: Global Group (as of 30 Sep 2017)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	1513	51.82%	Buy	956	63.19%
Hold	646	22.12%	Hold	396	61.30%
Sell	761	26.06%	Sell	359	47.17%

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster*
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

* Ratings dispersions may vary from time to time where BofA Merrill Lynch Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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