



Charles Yonts

charles.yonts@cls.com
(852) 26008539

19 October 2009

Hong Kong Power and Gas

Reuters 3800.HK
Bloomberg 3800 HK

Priced on 16 October 2009

HK HSI @ 21,929.9

12M hi/lo HK\$3.84/0.36

12M price target HK\$2.36
±% potential +19%
Target set on 19 Oct 09

Shares in issue 972.4m
Free float (est.) 59.0%

Market cap US\$3,159m

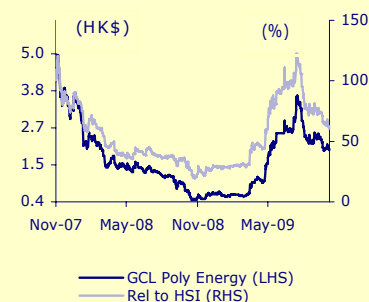
3M average daily volume
HK\$121.6m (US\$15.7m)

Major shareholders

Mr Zhu Gong Shan 41.0%

Stock performance (%)

	1M	3M	12M
Absolute	(20.2)	(33.3)	178.9
Relative	(21.3)	(42.8)	85.1
Abs (US\$)	(20.2)	(33.3)	179.1



Source: Bloomberg

www.cls.com

Ready for battle

With the June acquisition of GCL Silicon, GCL Poly transformed itself from a small Chinese IPP to China's largest polysilicon producer, and a leading player in the country's burgeoning solar industry. GCL is now a top-5 poly producer globally, with a cost structure in-line with global and superior to local peers. With cheaper electricity and improving technical skills, GCL has the potential to bring its costs down below long-standing incumbents. Our target price of HK\$2.36 is based on 0.9x 10CL PB for its power business and 10x 11CL PE for its solar business. O-PF for 19% upside.

Transformed business

With the June acquisition of GCL Silicon, GCL Poly (3800 HK) transformed itself from being a small Chinese independent power producer (IPP) to China's largest polysilicon producer, and a leading player in the country's burgeoning solar industry. With 18K tons capacity, GCL is now a top-5 polysilicon producer globally, and well ahead of domestic competitors.

Ready for battle

GCL is rapidly catching up with leading incumbents for both cost and volume. By mid-2009, the company brought its cost down to US\$36 per kg from US\$66 a year ago. By comparison, the average production cost in China was approximately US\$53 as of July. Whereas GCL got to cut its teeth last year, when spot prices were US\$400 per kg and profit margins still high, new producers are struggling to ramp at spot prices around US\$60 per kg, yielding losses for the first year or more of production.

China market opportunities abound

As the leading economic project in its area, and a well-established IPP in Jiangsu, GCL is very well positioned to win solar power plant projects in its home province. As Beijing clarifies its solar subsidy plan over the next six weeks, we see upside potential from new projects for GCL.

Outperform with 19% upside

We are valuing GCL on a blended basis, using a PE multiple for its solar business and PB multiple for its power business. Our power business target multiple is 0.9x 10CL PB, at the bottom range of the listed IPPs. We are basing the solar business on 10x 11CL PE, in-line with global polysilicon peers. Our target price of HK\$2.36 implies 19% upside, we initiate coverage with an Outperform.

Financials

Year to 31 Dec	07A	08A	09CL	10CL	11CL
Revenue (Rmbm)	1,845	7,215	6,903	10,233	12,866
Net profit (Rmbm)	(107)	1,990	735	1,535	2,421
EPS (fen)	(22.1)	204.7	11.0	12.4	19.6
CL/consensus(4)(EPS%)	-	-	93	62	71
EPS (% YoY)		(1026.8)	(94.6)	12.6	57.6
PEX (@HK\$1.98)	(7.9)	0.9	15.8	14.0	8.9
Dividend yield (%)	-	1.3	-	-	-
FCF yield (%)	15.4	0.4	(28.5)	(3.6)	17.9
ROAE (%)		39.6	7.3	11.8	16.1
Price/book (x)	0.8	0.2	1.8	1.6	1.3
Net gearing (%)	92	96	59	58	26

Source: CLSA Asia-Pacific Markets

For 2008, approximately 49% of pro forma revenue and 84% of pro forma operating profit came from the company's solar business.

From small IPP to large solar

Until June 2009, GCL Poly was primarily a private power producer, with 20 plants and 698 Megawatt (MW) attributable capacity (year-end 08). In June, the focus changed, however, with the company purchasing China's largest producer of polysilicon, the raw material used in most solar panels. GCL Poly acquired 100% of Jiangsu Zhongneng Polysilicon ('GCL Solar') for HK\$26.35bn, paid through a 10.04bn new share issue at HK\$2.20 (share capital expanded by 91%), US\$200m in cash and US\$350m in secured notes that have subsequently been paid off. For 2008, approximately 49% of pro-forma revenue and 84% of pro-forma operating profit came from the company's solar business.

Figure 1

Summary of acquisition, financing

Date	Event	Comment
14-May-09	GCL Poly raises HK\$77.5mn through a 50mn share offer at HK\$1.55	
3-Jun-09	GCL Poly (list-co) acquires 100% of Jiangsu Zhongneng (polysilicon)	
	* GCL Poly issues 10.04bn new shares at HK\$2.2	US\$2.85bn
	* GCL Solar issues US\$350mn secured notes (paid off w/ Aug 3 offer)	US\$350mn
	* US\$200mn cash	US\$200mn
	Total acquisition cost:	US\$3.4bn (HK\$26.4bn)
16-Jul-09	Acquisition approved by board	
31-Jul-09	Acquisition closing	
3-Aug-09	GCL Poly raises HK\$3.679bn in a 1.3bn share offer at HK\$2.83 (vs HK\$2.81-2.98 range)	Pay off new debt acquired in the polysilicon acquisition

Source: Company, CLSA Asia-Pacific Markets

Polysilicon business

Figure 2

Polysilicon – P&L and key operating data

	2007	2008	2009	2010	2011
Polysilicon production (Tons)	154	1,850	7,191	15,134	18,114
Polysilicon sales (tons)	203	1,789	7,144	12,704	11,266
Wafers (MW)	-	-	7.5	407.5	1,200.0
Sales (Rmb mn)	301.8	3521.4	3118.4	6418.7	9101.9
Gross profit (Rmb mn)	220.5	2554.7	1285.6	2337.7	3456.3
Other income	14.1	68.8	0.0	0.0	0.0
Operating profit (Rmb mn)	114.0	2409.8	1119.5	1952.6	2910.2
Finance costs	-37.8	-72.2	-335.3	-327.8	-293.9
Net non-op	-100.0	-74.7	0.0	0.0	0.0
Profit before tax (Rmb mn)	-23.8	2262.9	784.1	1624.8	2616.3
Tax	24.4	29.7	0.0	203.1	327.0
Profit after tax (Rmb mn)	-48.2	2233.2	784.1	1421.7	2289.2
Minority interest	40.9	858.2	178.0	0.0	0.0
Net profit to equity shareholders (Rmb mn)	-89.1	1375.0	606.1	1421.7	2289.2
Sequential growth (%)					
Sales (%)		1067%	-11%	106%	42%
Gross profit (%)		1058%	-50%	82%	48%
Net profit to equity shareholders (%)			-56%	135%	61%
Margin (%)					
Gross margin (%)		73%	41%	36%	38%
Operating margin (%)		68%	36%	30%	32%
Net profit margin (%)		39%	19%	22%	25%
Blended ASP					
Polysilicon (US\$ / KG)	261	291	61	49	45
Wafer (US\$ / Watt)		0.0	0.85	0.73	0.66
Processing cost					
Polysilicon (US\$ / KG)	73.1	67.6	36.1	30.6	27.4
Wafer (US\$ / Watt)			0.34	0.29	0.26

Source: CLSA Asia-Pacific Markets

Volumes and sales going up with volume ramp

Gross margins coming back up in 2011 as wafer shipments grow and ASP declines ease a bit

China's leading polysilicon producer

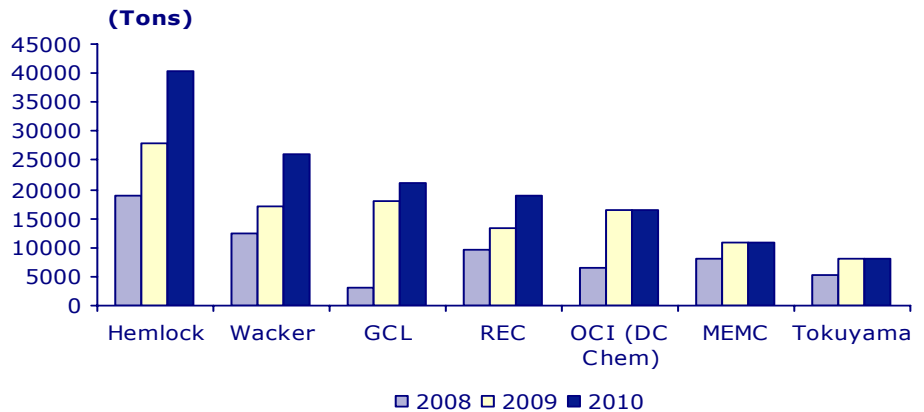
Company basics – Capacity

GCL Solar is easily China's largest polysilicon producer, with 8k tons production capacity as of Jun09, and it will be the largest in Asia by year-end 2009, with 18k tons capacity. Capacity targets need to be taken with a grain of salt - most Chinese producers have struggled to achieve any meaningful production despite very aggressive stated capacities, but GCL has proven it can produce at volume, with 2.3k tons production in 1H09, and a 7.5k ton full-year target. GCL boasts a very low cost structure of US\$36 / KG (Jun-09), versus a national average of around US\$50. Customers include most major Chinese solar cell producers, including Suntech, Trina, JA Solar, Solarfun.

Jiangsu Zhongneng, the polysilicon producer that GCL Poly acquired in June, was founded in March, 2006, and began producing polysilicon by late 2007. Its first phase of 1500 metric ton capacity was fully ramped in March, 2008, and the second phase - also 1500 tons - reached full capacity by December, 2008. The third phase is being ramped up in three 5000 ton parts, with the last one expected to be fully ramped by year-end 2009, bringing the company's total capacity to 18,000 tons and a top-5 spot globally. Next year, the company plans to increase that to 21,000 tons through process improvements that speed up throughput.

Figure 3

Polysilicon – Year-end capacity



Source: CLSA Asia-Pacific Markets, Cheuvreux (REC and Wacker)

It takes roughly 14-18 months to ramp from initiation to mechanical completion, another one to two months for initial start-up and five to six months from there to full utilisation.

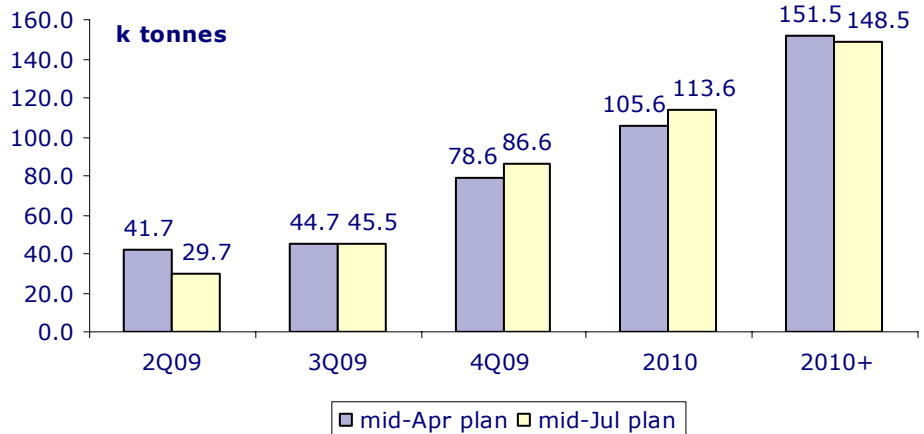
Over 180 companies have tried their hand at polysilicon production since 2006, but GCL has become only the third (following DC Chemical, now OCI (010060 KS) in Korea and M Setek (unlisted) in Japan) to come close to the long-term incumbents' capacity levels.

The most likely new competition will come from China. As we discuss below, however, new entrants face much greater hurdles than GCL faced in 2007 and 2008, when spot polysilicon prices were over US\$400 per kg vs US\$60-80 now.

The most likely new competition will come from China

Figure 4

Targeted cumulative polysilicon capacity of 28 aspiring producers



Source: CLSA Asia-Pacific Markets

Moving downstream

GCL is moving downstream with the purchase of ingot and wafering equipment. The company aims to reach 1 GW capacity by Jun-09 and 1.6 GW by Dec-09. The company is working with both established US (GT Solar (SOLR US - NR)) and newer Chinese equipment suppliers. Entry barriers for solar wafering are nowhere near as high as they are for polysilicon, but moving downstream does allow the company to capture more value.

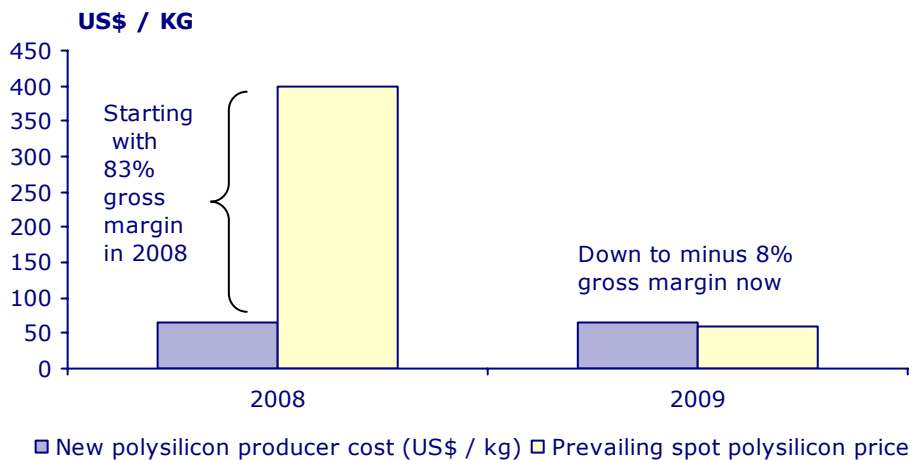
GCL brought costs down to US\$36 per kg from US\$66 a year ago

Costs now in-line with incumbents

Like most polysilicon producers (MEMC being the main exception), GCL is using a modified version of the 'Siemens Process'. The technology is not new, and the core patents are expired, but most companies have struggled to ramp up this complex chemical process. Even those that do ramp up, start out at a marked cost disadvantage to incumbents, with new producers starting out at a cost of US\$60-80 per kilogram versus US\$20-35 per kilogram for incumbents. By mid-2009, GCL had brought its cost down to US\$36 per kg from US\$66 a year ago. By comparison, the average production cost in China was approximately US\$53 as of July.

Figure 5

Then and now: New entrants had room to breathe last year. Not so now.



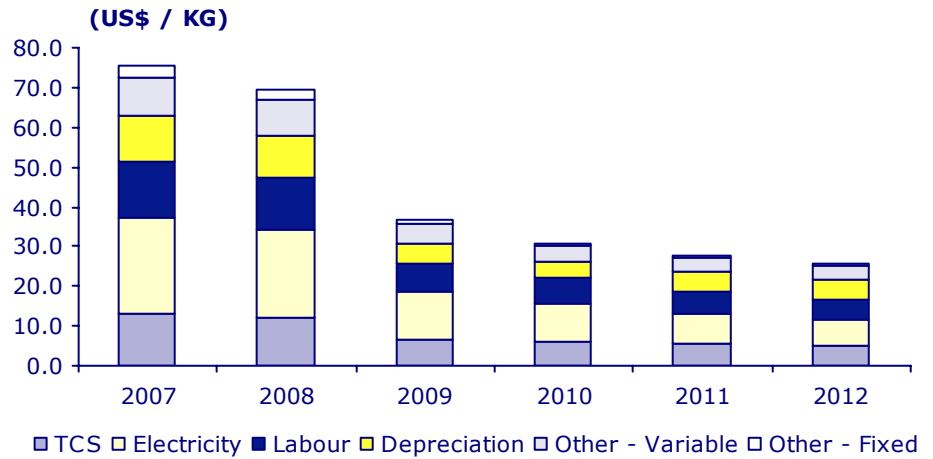
Source: CLSA Asia-Pacific Markets

Cost drivers.

The key cost drivers for GCL are Tetrachlorosilane (TCS) gas, energy and depreciation.

Figure 6

GCL Poly – production cost and cost reduction forecast



Source: CLSA Asia-Pacific Markets

Cost reduction strategy

GCL has managed to both ramp capacity and reduce costs much more quickly than most (including us) expected. The company's success with reducing costs and future cost reduction strategy hinges upon: Improved recycling ability, in-house procurement, improved energy efficiency and better electricity prices.

Improve recycling.

Improve recycling. Only around 15% of the TCS used to make polysilicon actually reacts on its first run through the reactor, with the remainder becoming STC. This is important first because the waste gas using Siemens process polysilicon production, Tetrachloride (STC), is highly toxic. Early last year, CLSA picked up on local press reporting that new polysilicon producers were illegally dumping STC in nearby fields. The Washington Post later picked up on it, singling out **Luoyang Zhonggui** as an offender.

Fortunately, from an environmental standpoint, it is no longer economically tenable not to recycle waste gas from polysilicon production, regardless of the regulations. Whilst there was plenty of leeway when polysilicon was US\$400 per kilogram, there is no longer room at US\$60-80 to be inefficient with the key feedstock. Established producers, and GCL, have managed to integrate a 'closed loop' process into production, in which all of the waste gas is effectively recycled into TCS again and re-used. Our surveys of new polysilicon producers across China over the past two years have consistently shown waste gas recycling to be the most difficult part of the process. Like the polysilicon production process overall, there are no easy explanations as to why recycling waste gas is so difficult, but producers across the board have been very consistent in their claims.

Not all forms of recycling are created equal. Unlike most global and all other Chinese polysilicon producers, GCL has opted to recycle by using a hydrochlorination rather than the more common hydrogenation process. In so doing, they joined Korea's **OCI** (010060 KS - formerly called DC Chemical). The company has filed for 17 patents in China based around this technology, and received 10 thus far.

17 patents in China based around this technology, and received 10 thus far.

Move TCS production in-house.

From 300 kWh per kg to 50

We are currently factoring in the reduced tariff from 1H11, though it could be in effect as soon as December, 2009.

GCL has approximately 15.4 GW in long-term wafer contracts

Move TCS production in-house. Recycling has been the main driver for reducing TCS costs, but moving production in house has also been key. GCL has increased its share of internally produced TCS from 21% in 2008 to 80% by June, 2009.

Improve cycle time and energy efficiency. Polysilicon is a power hog, and even with relatively cheap electricity, it accounts for anywhere from 20-40% of total costs. Early polysilicon plants, and many of the smaller plants operating in China, need nearly 300 kWh per kg of production. The standard Siemens system is designed to as low as 50 kWh per kg, and we estimate that GCL is in the 180 kWh per KG. We are looking for gradual improvements going forward.

Buy electricity directly from the grid. GCL's electricity costs are already relatively low. The company is currently paying approximately Rmb0.69 per Kwh for electricity. However, they have filed with the government to buy directly from the power plant, with the potential to reduce costs to Rmb0.49 per Kwh.

Given that there have been a number of direct purchase agreements for major industrial power users in China, and that GCL is the second largest power consumer in Jiangsu province (as well as the Xuzhou region's largest economic project), we see this arrangement as very likely, though timing is uncertain. We are currently factoring in the reduced tariff from 1H11, though it could be in effect as soon as December, 2009.

Risks. On September 8, long-established polysilicon producer MEMC announced a disruption in production at its polysilicon facility in Pasadena requiring a large portion of the facility to be shut-down. This has not been the only disruption in the past year, and MEMC is not alone - delays are not common for incumbents, but they are also far from unheard of. This highlights how particular and tricky polysilicon is to deal with, even after companies *get* the recipe down (as most in China have not yet managed).

Customers and contracts

GCL counts most of China's leading solar cell and module makers as customers. Major customers include: Suntech (STP US), Trina (TSL US), Canadian Solar (CSIQ US), JA Solar (JASO US) and Solarfun (SOLF US). The company is currently adding clients in Taiwan and Japan.

What's in a contract? In all, GCL has approximately 15.4 GW in long-term wafer contracts and 33k tons of long-term polysilicon contracts from 2008-2015. When these contacts were originally signed, mostly in 2007 and 2008, polysilicon was in a severe shortage. This was reflected in the contract terms, which clearly favor polysilicon producers.

Figure 7

GCL - Major customer contracts

Date	Customer	Wafer volume (GW)	Poly volume (tons)
Apr-08	Trina Solar	2.2	16926
Apr-08	JA Solar	6	
Jun-08	Solarfun	1.2	
Aug-08	Suntech Power	1.1	
Aug-08	Suntech Power		9420
Sep-08	Canadian Solar		510
Sep-08	Canadian Solar	1.8	

Source: CLSA Asia-Pacific Markets, Company press releases

Before the crisis. Before the financial crisis struck in 4Q08, contracts were nearly all 'take or pay' in nature and involved prepayments by the customer. The 'take or pay' clause set terms so that, if a client fails to accept delivery according to schedule, the supplier could cancel the contract and keep prepayments as a penalty. A standard contract signed also involved a pre-payment based on the total value of the contract. Pre-payments climbed as high as 20% in late 2007 when the supply shortage had no clear end in sight, and falling to the mid-single-digits (mid-2008). There are no meaningful pre-payments for new contracts signed.

The new deal. From 2006 to mid-2008, the price for delivery in 2009 from long-term contracts climbed from US\$60 per kg to as high as US\$180 per kg, while spot prices rose from US\$200 per kilogram to over US\$400. As spot polysilicon (and downstream wafer, cell and module prices) collapsed below contract prices, contracts quickly fell apart, despite the protection mechanisms built in.

In 4Q08 and 1Q09, polysilicon contracts worldwide, and especially in China, were ripped up and renegotiated (barring those that remain below spot price, primarily in Europe). The new contracts allow for periodic renegotiations if spot prices move outside a pre-determined band (generally around +/- 10%). Total volumes have been adjusted upwards (and sometimes stretched out) to maintain the total original contract values.

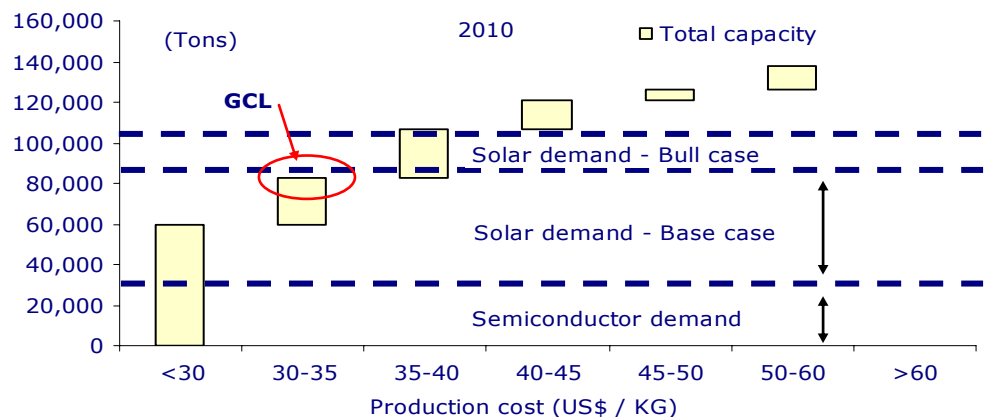
How much polysilicon can the market support?

The market clearly cannot support production from all polysilicon capacity over the next two years. Based on our demand forecast, the solar market will be able to support around 55k tons of polysilicon supply. We are assuming that: (1) low-cost, thin-film producer **First Solar** (FSLR US - NR) gets first dispatch for its capacity (as the lowest cost producer); (2) Semiconductor demand will eat up approximately 30k tons of polysilicon, up from 22k this year.

We do not believe that polysilicon prices will crash down to operating costs for leading incumbents. However, companies with lower cost structures will be under less pressure to idle capacity (or shut down). Lining up producers from lowest to highest cost gives some idea of who will fare best both in terms of margins and ability to hit shipment targets. For both 2010 and 2011, GCL's cost structure puts it in a strong position to ship all product if demand is strong enough to fulfil our base-case scenario.

Figure 8

Polysilicon production in 2010 - By cost



Source: CLSA Asia-Pacific Markets

In 4Q08 and 1Q09, polysilicon contracts were ripped up and renegotiated

We do not believe that polysilicon prices will crash

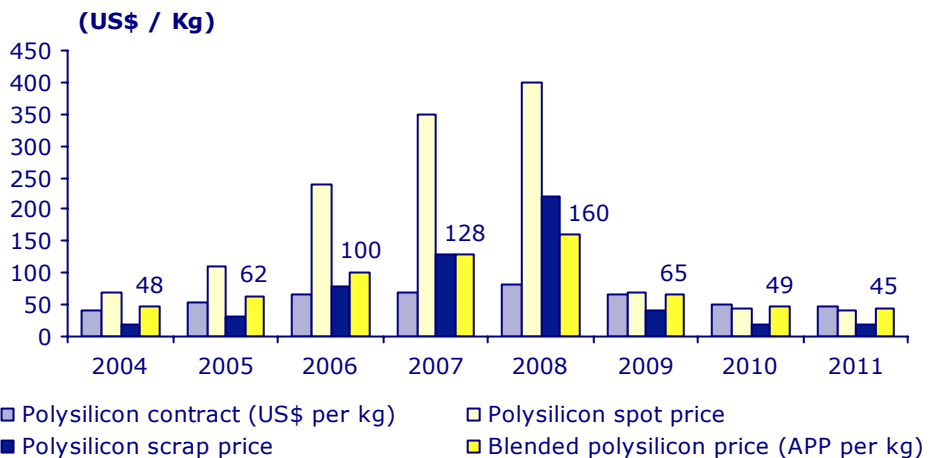
Over the past couple of months, prices have stabilised

Pricing assumptions and sensitivity

Until recently, polysilicon was the deciding factor in overall solar costs, especially for Chinese and Taiwanese solar companies, as they had to pay anywhere from two to three times as much as European and US competitors. Looking at average polysilicon-to-module costs in China, polysilicon as a share of total costs is falling from over 60% at peak poly prices in 2008 to under 20% next year. The average monthly polysilicon spot price in leading solar industry bases in Jiangsu sank 27.9% MoM in March to US\$106/kg, according to CRR's monthly polysilicon price survey. By mid-August the spot price had fallen further to US\$71.2/kg, but as the chart below illustrates, prices have been relatively stable for the past five months.

Figure 9

Polysilicon price outlook



Source: CLSA Asia-Pacific Markets

We hold a relatively bearish view on pricing

We hold a relatively bearish view on pricing. Whilst we believe this is well founded in the demand-supply dynamics of the sector, it is impossible to achieve complete confidence with these numbers given the lack of fixed pricing in contracts. Based on recent pricing and demand signals, we believe there is more upside risk to our assumptions than downside.

Figure 10

EPS under different pricing scenarios (HK\$)

	2009	2010	2011
EPS - Bear scenario pricing	0.07	0.10	0.16
EPS - Base	0.07	0.14	0.22
EPS - Bull scenario pricing	0.07	0.20	0.34

Source: CLSA Asia-Pacific Markets

Bull case. Our bull-case scenario assumes a much slower decline in polysilicon and wafer prices (assumptions in table below).

What could substantially stall pricing declines?

How? Despite excess capacity, polysilicon prices have remained stable for the past four months, with a slight uptick in October. We don't think that a flat (let alone upward) trend in polysilicon prices is really possible, but (1) any sort of major delays in project ramps from the incumbents or (2) a surprisingly strong pick-up in the US or China (two key markets to watch in 2010) could stall pricing declines substantially.

Figure 11

Sales and margins under bull-case pricing

	2007	2008	2009	2010	2011
Sales (Rmb mn)	301.8	3521.4	3118.4	7153.1	10527.4
Margin (%)					
Gross margin (%)		73%	41%	43%	46%
Operating margin (%)		68%	36%	37%	40%
Net profit margin (%)		39%	19%	28%	33%
Blended ASP					
Polysilicon (US\$ / KG)	261	291	61	55	53
Wafer (US\$ / Watt)		0.0	0.85	0.78	0.76

Source: CLSA Asia-Pacific Markets

Polysilicon enters a full-blown pricing war

Bear case. Under our bear-case scenario, polysilicon enters a full-blown pricing war, with incumbents tearing up long-term contracts to drive out new competitors (who would be deeply loss-making at these levels).

How? Looking at this from the supply-side, low-US\$40 per kg pricing by 2H10 could be facilitated by aggressive pricing policies from the incumbents. It has happened before, with Wacker trying to freeze out Hemlock and, subsequently, Hemlock trying to freeze out MEMC. However, we don't see this happening unless these companies – especially Hemlock, Wacker and MEMC - have contracts (believed to be in the US\$50-60 per kg range) dissolved.

Figure 12

Sales and margins under bear-case pricing

	2007	2008	2009	2010	2011
Sales (Rmb mn)	301.8	3521.4	3118.4	5941.0	8329.6
Margin (%)					
Gross margin (%)		73%	41%	31%	32%
Operating margin (%)		68%	36%	25%	26%
Net profit margin (%)		39%	19%	17%	20%
Blended ASP					
Polysilicon (US\$ / KG)	261	291	61	45	41
Wafer (US\$ / Watt)		0.0	0.85	0.68	0.61

Source: CLSA Asia-Pacific Markets

GCL operates 20 power plants and 698 Megawatt (MW) attributable capacity

The power plant business

GCL operates 20 power plants and 698 Megawatt (MW) attributable capacity (year-end 08), mostly in Jiangsu and Zhejiang. Most of the capacity is co-generation, with coal burned to both produce electricity and steam. Cogeneration, also known as combined heat and power (CHP), is a relatively efficient way to produce heat and power, with thermal efficiencies in the 45-90% range, versus 30-40% for traditional coal-fire power plants. The company also operates several gas-powered thermal power plants, several biomass plants and one waste-to-energy plant. In August, GCL just connected a 49 MW wind project to the grid in Inner Mongolia. We are not projecting any new capacity build-out or asset injections.

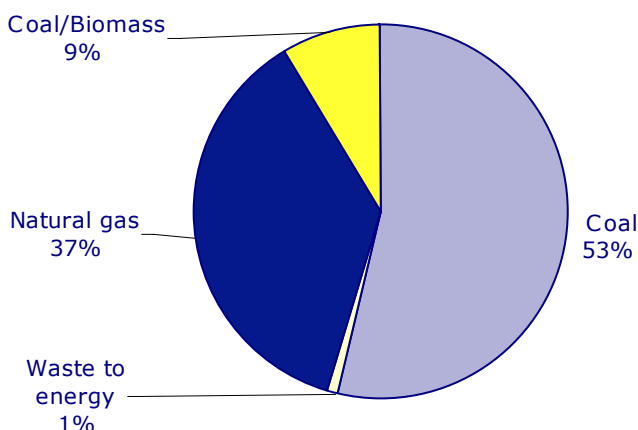
Power business – P&L and key operating data

	2007	2008	2009	2010	2011	2012
Sales	1844.7	3693.3	2969.1	3185.9	3023.3	3119.4
COGS	1482.2	3196.0	2431.7	2629.5	2511.5	2623.6
Gross profit	362.4	497.3	537.3	556.4	511.8	495.9
Other income	109.2	168.5	166.1	181.9	198.4	218.2
Administrative and other expenses	209.2	244.9	271.2	291.1	276.2	285.0
Operating profit	262.5	420.9	432.2	447.2	434.0	429.1
Finance costs	161.5	258.7	218.7	203.7	160.7	93.5
Net non-op	-316.8	44.7	44.7	44.7	44.7	44.7
Profit before tax	-215.8	206.9	258.2	288.2	318.0	380.3
Tax	4.0	-27.1	-33.6	-37.5	-41.3	-49.4
Profit after tax	-211.8	179.7	224.6	250.7	276.7	330.9
Minority interest	54.9	48.4	38.9	41.8	39.6	40.9
Net profit to equity shareholders	-266.7	131.3	185.7	209.0	237.0	290.0
Margins (%)						
Gross margin	20%	13%	18%	17%	17%	16%
Operating margin	14%	11%	15%	14%	14%	14%
Net profit margin	-14%	4%	6%	7%	8%	9%
Key assumptions						
Electricity sales (MWh)	3,434,629	4,526,793	4,483,817	4,734,105	4,546,389	4,633,084
Steam sales (tons)	3,357,987	6,223,615	4,912,894	5,568,255	5,076,734	5,445,375
Avg on-grid tariff (Rmb / MWh - VAT included)	500	558	558	558	558	558
Steam ASP (Rmb / ton. VAT included)	137	174	174	174	174	174
Coal cost for electricity (Rmb / MWh)	256	334	328	334	334	341

Source: CLSA Asia-Pacific Markets

Figure 13

GCL Poly – Generation breakdown



Source: Company, CLSA Asia-Pacific Markets

Valuation and recommendation

We are valuing GCL on a blended basis, using a PE multiple for its solar business and PB multiple for its power business. Our power business target multiple is 0.9x 10CL PB, at the bottom range of the listed IPPs. We are basing the solar business on 10x 11CL PE, in-line with global polysilicon peers. Our target price of HK\$2.36 implies 19% upside, we initiate coverage with an Outperform.

Figure 14

GCL Poly – Valuation

			Solar business - 11CL PE (x)				
			8	10	12	14	16
			1.69	2.11	2.53	2.95	3.37
Power business -	0.8	0.22	1.91	2.33	2.75	3.17	3.59
10CL PB (x)	0.9	0.25	1.93	2.36	2.78	3.20	3.62
	1	0.28	1.96	2.38	2.81	3.23	3.65

Source: CLSA Asia-Pacific Markets

Our target price of HK\$2.36 implies 19% upside

Polysilicon price assumptions the biggest risk

The biggest risk to our projections is primarily in polysilicon price assumptions. We detail our BULL and BEAR assumptions above. The

Targets under our Bull case scenario...

corresponding target prices would be HK\$3.50 (+76% upside) under the BULL scenario and US\$1.75 (-13% downside) under the BEAR scenario.

Figure 15

Valuation and target price under Bull scenario

			Solar business - 11CL PE (x)				
			8	10	12	14	16
Power	0.8	0.22	2.60	3.25	3.90	4.55	5.20
business -	0.9	0.25	2.82	3.47	4.12	4.78	5.43
10CL PB (x)	1	0.28	2.85	3.50	4.15	4.80	5.45
			2.88	3.53	4.18	4.83	5.48

Source: CLSA Asia-Pacific Markets

Figure 16

Valuation and target price under Bear scenario

			Solar business - 11CL PE (x)				
			8	10	12	14	16
Power	0.8	0.22	1.20	1.50	1.80	2.10	2.40
business -	0.9	0.25	1.42	1.72	2.02	2.32	2.62
10CL PB (x)	1	0.28	1.45	1.75	2.05	2.35	2.65
			1.48	1.78	2.08	2.38	2.68

Source: CLSA Asia-Pacific Markets

... and Bear case scenario

Rising market share and improving competitive position

Solar business

We are basing our valuation of GCL's solar business on 2011 earnings to reflect GCL's growth – already locked-in – for the next year. Capacity is already there for polysilicon, and wafer ramp up is relatively easy to predict (entry barriers much lower). Our target multiple of 10X 11CL PE would put GCL at the high-end of valuations for consensus numbers on other polysilicon producers. We believe this is merited by GCL's rising market share and improving competitive position (the opposite of most competitors).

Figure 17

Solar comp table

Name	Code	Last Price	Mkt cap (US\$m)	PE (x)			PB (x)		ROE		Sales Growth	
				2009E	2010E	2011E	2009E	2010E	2009E	2010E	2009E	2010E
Silicon												
REC	REC NO	44.0	5,190	47.1	14.7	9.4	1.4	1.3	2.8	9.8	12.1	54.8
Tokuyama	4043 JP	609.0	2,370	-	18.6	13.8	0.8	0.9	0.8	4.6	(3.0)	(4.7)
MEMC	WFR US	16.4	3,675	231.5	16.5	11.0	1.7	1.6	0.9	9.4	(42.3)	37.2
Wacker	WCH GR	110.1	8,488	43.2	14.8	11.2	2.6	2.3	6.4	17.0	(12.6)	12.0
OCI (DC Chemical)	10060 KS	239,500	4,266	9.1	7.8	7.8	2.4	2.4	27.7	30.0	0.5	26.5
GCL	3800 HK	2.1	3,350	16.5	14.6	9.3	1.9	1.6	7.3	11.8	(4.3)	48.2
Average			4,557	68.0	13.2	10.0	1.7	1.6	7.9	14.4	5.8	33.7
Ingots/ Wafers												
Sino-American	5483 TT	78.0	647	36.3	16.5	11.5	2.6	2.0	0.7	14.2	9.0	31.6
PV Crystalox	PVCS LN	76.6	504	9.7	10.1	9.0	1.3	1.2	13.4	15.4	(13.5)	7.0
Waferworks	! TT Equity	52.9	420	56.6	18.1	-	2.2	1.9	3.5	13.8	(52.0)	130.6
Solargiga	757 HK	2.0	445	-	23.7	18.2	2.5	2.2	0.4	9.0	(22.9)	58.4
Renesola	SOLA LN	157.0	428	-	10.0	4.2	n.a.	1.0	n.a.	n.a.	(25.6)	50.3
Green Energy	3519 TT	77.7	388	-	235.5	32.4	n.a.	-	n.a.	n.a.	(11.7)	11.7
LDK Solar	LDK US	8.4	956	21.3	-	9.5	1.3	1.6	9.3	6.4	213.7	(32.0)
Average			541	31.0	44.8	14.1	1.8	1.6	4.4	10.7	13.8	36.8
Cells and Modules												
Q-Cells	QCE GR	13.5	2,260	n.a.	29.9	18.0	1.3	1.3	(40.8)	2.9	(22.2)	27.5
Suntech	STP US	15.8	2,464	30.9	20.2	18.6	2.8	1.8	9.0	8.5	42.7	(20.0)
Motech	6244 TT	92.9	866	34.9	19.8	16.2	1.6	1.8	17.0	4.7	46.7	(32.0)
Eton	3452 TT	69.1	438	10.1	9.4	11.6	1.3	1.2	26.5	13.7	127.5	(11.2)
Gintech	3514 TT	50.5	395	14.3	13.9	11.9	1.1	1.2	30.8	8.0	137.1	(11.0)
Sunpower	SPWR US	32.8	2,970	29.7	18.3	n.a.	2.3	n.a.	9.2	14.3	0.0	42.3
Solarworld	SWV GR	16.6	2,732	16.8	14.8	11.9	2.0	1.8	12.4	12.2	11.2	29.0
Trina	TSL US	35.2	1,041	30.5	21.3	14.5	1.8	1.7	15.3	6.7	175.6	(11.7)
Solarfun	SOLF US	5.7	360	n.a.	14.5	n.a.	n.a.	n.a.	n.a.	n.a.	(29.3)	19.7
Canadian Solar	CSIQ US	18.0	643	13.4	11.8	12.9	1.7	1.6	n.a.	13.2	(21.8)	36.7
JA Solar	JASO US	4.2	702	n.a.	20.1	23.9	1.0	1.0	(6.1)	3.9	(50.2)	59.4
China Sunergy	CSUN US	4.4	195	-	n.a.	n.a.	n.a.	n.a.	(9.0)	n.a.	(30.8)	22.7
Yingli Green Energy	YGE US	13.6	2,018	79.5	17.8	18.5	2.1	1.8	2.5	11.9	(10.1)	25.7
Evergreen Solar	ESLR US	1.8	379	n.a.	n.a.	9.2	0.6	0.7	(13.6)	(3.2)	143.7	42.6
Solaria	SLR SM	3.2	472	15.7	17.9	19.4	1.1	1.1	9.3	6.5	(30.6)	(7.4)
Average			1,225	29.2	17.5	15.5	1.6	1.4	4.8	7.9	32.6	14.2

Source: Bloomberg, CLSA Asia-Pacific Markets

In-line with the two smallest IPPs – CPI and Huadian

Power business – We are valuing the power generation business on a price-to-book basis, in keeping with our (China power analyst Dave Dai's) Chinese IPP valuations. GCL's capacity is much smaller than the listed IPPs, and ROE is at the bottom of the range. In its favour, GCL enjoys fixed prices for coal contracts with much higher fulfilment ratios than the IPPs, so earnings visibility is better. Our target for GCL puts the company's power business on 0.9X 10 PB, in-line with the two smallest IPPs – CPI and Huadian.

Figure 18

IPP valuation metrics

Company	Code	Rec	Mkt cap (US\$m)	PE(X)			PB(X)			ROE(%)		
				09CL	10CL	11CL	09CL	10CL	11CL	09CL	10CL	11CL
CPI	2380 HK	O-PF	1,028	14.0	10.6	8.1	0.7	0.8	0.7	5.6	7.8	9.6
CRP	836 HK	BUY	10,536	17.8	14.9	12.7	2.1	2.0	1.8	13.8	14.3	15.2
Datang	991 HK	U-PF	12,593	23.2	15.9	13.5	1.4	1.4	1.3	6.8	9.0	10.2
Huadian	1071 HK	O-PF	3,838	14.1	11.5	9.8	0.9	1.0	0.9	7.7	8.2	9.5
Huaneng	902 HK	O-PF	11,573	17.3	11.4	10.6	1.4	1.3	1.2	8.5	12.1	11.9
Average				17.3	12.9	10.9	1.3	1.3	1.2	8.5	10.3	11.3

Source: CLSA Asia-Pacific Markets, Bloomberg

Figure 19

GCL Poly – Summary financials

Profit And Loss	FY07A	FY08A	FY09CL	FY10CL	FY11CL
Sales Revenue	1,845	7,215	6,903	10,233	12,866
COGS	-1,482	-4,151	-5,037	-7,334	-8,858
Gross Profit	362	3,064	1,866	2,899	4,009
... <i>GP Margin</i>	19.6%	42.5%	27.0%	28.3%	31.2%
Operating Expenses	-397	-116	-431	-652	-810
... <i>Opex Margin</i>	21.5%	1.6%	6.2%	6.4%	6.3%
EBITDA	-35	2,948	1,952	3,048	4,414
... <i>EBITDA Margin</i>	-1.9%	40.9%	28.3%	29.8%	34.3%
Depreciation	-159	-342	-517	-801	-1,215
EBITA	-194	2,606	1,435	2,247	3,199
... <i>EBITA Margin</i>	-10.5%	36.1%	20.8%	22.0%	24.9%
Amortisation - Intangibles	-0.05	-1	-1	-1	-1
Total EBIT	-194	2,605	1,434	2,246	3,199
Other Revenue	109	271	60	60	60
Net Interest Expense	-151	-848	-552	-541	-482
Share of Associate Profit (loss)	20	45	45	45	45
Share of JCE Profit (loss)	0	0	0	0	0
Pre-Tax Profit	-216	2,073	987	1,810	2,821
Tax Expense	4	-129	-26	-227	-353
Minority Interest	-55	-297	-228	-50	-49
Net Profit After Tax	-267	1,647	734	1,533	2,419
Significant Items (After Tax)	0	0	0	0	0
Net Profit	-267	1,647	734	1,533	2,419
... <i>Net Profit Margin</i>	-14.5%	22.8%	10.6%	15.0%	18.8%
Net Profit, Adjusted*	-267	1,647	734	1,534	2,420
... <i>Net Profit Margin (Adjusted)*</i>	-14.5%	22.8%	10.6%	15.0%	18.8%

* Before Amortisation and Significant Items

** Before Amortisation and Significant Items, Fully diluted

Per Share (cents)	FY07A	FY08A	FY09CL	FY10CL	FY11CL
EPS, Adjusted, FD**	-54.8	169.4	5.9	12.4	19.6
EPS, Basic	-54.8	169.3	71.6	12.4	19.6
EPS, Diluted	-54.8	169.3	5.9	12.4	19.6
DPS	0.0	2.3	0.0	0.0	0.0
Payout Ratio (on Basic EPS)	0%	1%	0%	0%	0%
Net Tangible Asset per Share	\$4.42	\$1.03	\$0.44	\$0.57	\$0.76

Profitability & Ratios	FY07A	FY08A	FY09CL	FY10CL	FY11CL
ROCE	-4%	17%	7%	10%	16%
ROE	-21%	33%	7%	12%	16%
ROA	-3%	11%	6%	8%	11%
Net Interest Cover (EBITA)	-1.3x	3.1x	2.6x	4.2x	6.6x
Working Capital / Sales	2%	-11%	-12%	-12%	-12%
Debtor Days	112	29	26	25	25
Inventory Days	25	16	16	15	15
Creditor Days	131	85	85	85	84
Operating Cash Cycle	6	-40	-43	-45	-44
Capex / Depreciation	1.1x	14.8x	8.2x	5.0x	0.2x
Capex / Sales	13%	71%	60%	40%	2%
Effective Tax Rate	2%	6%	3%	13%	13%
Net Debt (Cash), HK\$m	2,434	7,894	7,450	8,228	4,373
Net Debt / Total Equity	107%	101%	61%	60%	27%
Market Capitalisation, US\$m	1,061	2,391	22,411	22,411	22,411
Enterprise Value, US\$m	3,163	7,941	30,491	30,658	29,120
Capital Employed, US\$m	4,707	15,682	19,728	22,040	20,604
Net Cash to Market Cap	-229%	-330%	-33%	-37%	-20%
PE ex-cash	-4.0x	1.5x	30.5x	14.6x	9.3x
Adjusted ROE (remove cash)	-22%	34%	8%	12%	17%

Cashflow Summary	FY07A	FY08A	FY09CL	FY10CL	FY11CL
EBITDA	-35	2,948	1,952	3,048	4,414
Change in Working Capital	329	2,736	-434	957	534
Other (Minority, JCE, Assoc etc)	74	75	-123	55	55
Gross Cash Flow	368	5,759	1,395	4,059	5,003
Tax Paid	-3	-50	-26	-227	-353
Net Interest Expense	-151	-848	-552	-541	-482
Net Operating Cash Flow	214	4,862	817	3,292	4,168
Dividends	0	0	0	0	0
Capex	-242	-5,142	-4,130	-4,070	-313
Acquisitions	-22	-1,193	0	0	0
Divestments	1	4	0	0	0
Other	677	0	0	0	0
Share Issues	0	0	3,757	0	0
Net Cash Flow	628	-1,469	444	-778	3,855

Balance Sheet	FY07A	FY08A	FY09CL	FY10CL	FY11CL
Cash	1,046	2,833	1,035	1,944	2,445
Trade Receivables	567	570	496	701	881
Inventories	126	326	297	419	527
Investments - Securities	0	0	0	0	0
Investments - Associates & JCEs	85	657	657	657	657
Net PPE	4,658	10,001	13,614	16,884	15,983
Goodwill / Intangible Assets	131	6,864	6,864	6,863	6,862
Other	254	2,150	2,150	2,150	2,150
Total Assets	6,867	23,402	25,114	29,618	29,505
Trade Payables	661	1,686	1,613	2,391	2,947
Borrowings	3,480	10,726	8,486	10,173	6,818
Tax Liabilities and Other	89	2,794	2,329	2,835	3,101
Total Liabilities	4,230	15,206	12,428	15,399	12,866
Share Capital	93	973	4,730	4,730	4,730
Reserves	2,180	6,814	7,548	9,082	11,501
Total Equity	2,273	7,788	12,278	13,812	16,231
Minority Interest	364	408	408	408	408

Momentum (y/y chg)	FY07A	FY08A	FY09CL	FY10CL	FY11CL
Sales YoY chg	103%	291%	-4%	48%	26%
EBITDA YoY chg	-117%	-8615%	-34%	56%	45%
EBITA YoY chg	-274%	-1445%	-45%	57%	42%
Net Profit (Reported, pre-sign.) YoY chg	-558%	-717%	-55%	109%	58%
Net Profit, Adjusted, YoY chg	-557%	-718%	-55%	109%	58%
EPS, Adj YoY chg	-101%	-409%	-96%	109%	58%

Value	FY07A	FY08A	FY09CL	FY10CL	FY11CL
Adj PE (Pre-Sign, Fully Diluted)	-4.0x	1.5x	30.5x	14.6x	9.3x
EV / EBITDA	-91.4x	2.7x	15.6x	10.1x	6.6x
EV / EBITA	-16.3x	3.0x	21.3x	13.6x	9.1x
EV / Invested Capital	0.7x	0.5x	1.5x	1.4x	1.4x
FCF Yield	-ve	-ve	####	-3.5%	17.2%
Dividend Yield	0.0%	0.9%	0.0%	0.0%	0.0%
Price / Net Tangible Assets	0.5x	2.4x	4.1x	3.2x	2.4x
No of Shares - Year End, m	972	972	12,363	12,363	12,363
No of Shares - Weighted Avg, m	487	972	1,024	12,363	12,363
No of Shares - Weighted Avg (Fully Diluted), m	487	972	12,363	12,363	12,363
Share Price in Local Currency, RMB)	\$2.18	\$2.46	\$1.81	\$1.81	\$1.81
Share Price (in Exchange Currency, HK\$)*	\$2.48	\$2.79	\$2.06	\$2.06	\$2.06

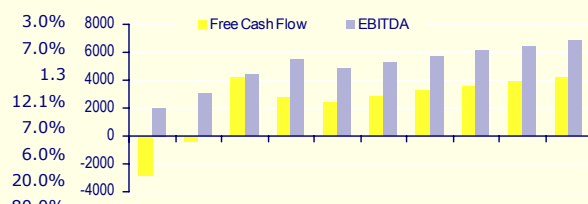
Source: CLSA Asia-Pacific Markets

Figure 20

GCL Poly – DCF

RMB m	31-Dec-08	31-Dec-09	31-Dec-10	31-Dec-11	31-Dec-12	31-Dec-13	31-Dec-14	31-Dec-15	31-Dec-16	31-Dec-17	31-Dec-18
Sales	7,215	6,903	10,233	12,866	14,276	16,417	18,762	21,315	24,077	27,048	30,227
... Growth		-4.3%	48.2%	25.7%	11.0%	15.0%	14.3%	13.6%	13.0%	12.3%	11.8%
EBITDA	2,948	1,952	3,048	4,414	5,475	4,833	5,243	5,656	6,066	6,472	6,870
... Margin	40.9%	28.3%	29.8%	34.3%	38.4%	29.4%	27.9%	26.5%	25.2%	23.9%	22.7%
Less: Tax on EBITA	-166	-39	-288	-406	-519	-562	-643	-731	-827	-931	-1,042
Tax Rate	6.4%	2.7%	12.8%	12.7%	12.6%	13.3%	13.9%	14.6%	15.3%	16.1%	16.9%
Less: Minority Interests	-297	-228	-50	-49	-50	-57	-66	-74	-84	-94	-106
Less: Working Capital	2,736	-434	957	534	165	598	655	713	772	830	888
Less: Capex	-5,142	-4,130	-4,070	-313	-2,350	-2,350	-2,350	-2,350	-2,350	-2,350	-2,350
... Capex:Depreciation	15.0x	8.0x	5.1x	0.3x	1.7x	3.9x	3.7x	3.6x	3.5x	3.4x	3.3x
Less: Acquisitions / Invest	-1,193	0	0	0	0	0	0	0	0	0	0
Free Cash Flow	-1,113	-2,879	-404	4,179	2,721	2,462	2,841	3,213	3,577	3,927	4,260
... FCF Growth		158.6%	-86.0%	-1135.3%	-34.9%	-9.5%	15.4%	13.1%	11.3%	9.8%	8.5%
PV of FCF		-2,815	-356	3,324	1,952	1,593	1,657	1,690	1,697	1,680	1,644

WACC:		DCF Valuation	
Risk Free Rate	3.0%	Sum of PV of FCF	12,064
Market Risk Premium	7.0%	PV of Terminal Value	21,463
Equity Beta	1.3	Other investments (book value)	412
Cost of Equity	12.1%	Investment in Assoc. & JCEs (book value)	245
Cost of Debt (Pre-tax)	7.0%	Enterprise Value	34,185
Cost of Debt (After tax)	6.0%	Add: Net Cash (Net Debt)	-3,843
Target Debt weight	20.0%	Equity Value	30,342
Target Equity weight	80.0%	No. of Ord shares (m), fully diluted	12,363
Tax Rate	13.7%	Value per Share in Local Currency, RMB)	2.45
WACC	10.9%	Terminal Growth	3.0%
		Share Price (in Exchange Currency, HK\$)	\$2.79



Source: CLSA Asia-Pacific Markets

Recommendation history - GCL Poly Energy Holdings 3800 HK

Date	Rec level	Closing price	Target
19 October 2009	O-PF	1.98	2.36

Source: CLSA Asia-Pacific Markets

Key to CLSA investment rankings: BUY = Expected to outperform the local market by >10%; O-PF = Expected to outperform the local market by 0-10%; U-PF = Expected to underperform the local market by 0-10%; SELL = Expected to underperform the local market by >10%. Performance is defined as 12-month total return (including dividends).

©2009 CLSA Asia-Pacific Markets ("CLSA").

Note: In the interests of timeliness, this document has not been edited.

The analyst/s who compiled this publication/communication hereby state/s and confirm/s that the contents hereof truly reflect his/her/their views and opinions on the subject matter and that the analyst/s has/have not been placed under any undue influence, intervention or pressure by any person/s in compiling such publication/ communication.

The CLSA Group, CLSA's analysts and/or their associates do and from time to time seek to establish business or financial relationships with companies covered in their research reports. As a result, investors should be aware that CLSA and/or such individuals may have one or more conflicts of interests that could affect the objectivity of this report. The Hong Kong Securities and Futures Commission requires disclosure of certain relationships and interests with respect to companies covered in CLSA's research reports and the securities of which are listed on The Stock Exchange of Hong Kong Limited and such details are available at www.clsa.com/member/research_disclosures/. Disclosures therein include the position of the CLSA Group only and do not reflect those of Calyon and/or its affiliates. If investors have any difficulty accessing this website, please contact webadmin@clsa.com or (852) 2600 8111. If you require disclosure information on previous dates, please contact compliance_hk@clsa.com

IMPORTANT: The content of this report is subject to CLSA's Legal and Regulatory Notices as set out at www.clsa.com/disclaimer.html, a hard copy of which may be obtained on request from CLSA Publications or CLSA Compliance Group, 18/F, One Pacific Place, 88 Queensway, Hong Kong, telephone (852) 2600 8888. 05/03/2009