Green Dragon Gas

GCZ ODP submission

ODP submission: Green shoots

Oil & gas

2017 is likely to be a critical year for Green Dragon Gas (GDG) as management works to deliver on several milestones that will enable a step-up in activity levels. We were encouraged by the CNPC approval and submission of the GCZ CBM Block overall development plan (ODP) in April. Execution of supplementary agreements and GSS ODP submission would provide an incremental reserve base for GDG to leverage in order to refinance outstanding bonds and fund further drilling activity. With regard to funding GDG states that it has multiple term sheets for mezzanine and RBL funding on hand. Our base case valuation of 227p/share rises to 237p/share assuming GSS ODP approval this year and GCZ developed in-line with ODP, this is offset by a delay in GSS development relative to previous forecasts.

Year end	Revenue* ($m)	EBITDA ($m)	PBT** ($m)	Debt ($m)	Net cash/ (debt) ($m)	Capex ($m)
12/15	37.7	20.1	(0.1)	(135.2)	(108.3)	(47.8)
12/16	29.1	10.5	(12.3)	(144.1)	(127.9)	(14.4)
12/17e	31.9	16.1	(4.6)	(164.3)	(145.5)	(7.5)
12/18e	51.3	35.1	7.3	(216.5)	(202.6)	(36.5)

Note: *Including subsidy income. **PBT is normalised, excluding intangible amortisation, exceptional items and share-based payments. The step-up in revenues is contingent on ODP approvals in 2017, access to RBL debt and a significant step-up in GSS drilling activity.

GCZ ODP submission

On 18 April 2017, GDG announced the approval of GCZ ODP by partner, Consultation Centre of China National Petroleum Corporation (CNPC). for submission to the National Development and Reform Commission (NDRC). To date, 114 wells have been drilled on GCZ and the submitted development plan includes the drilling of an additional 147 production wells over the next two years. Alternatively, GDG may look to finance GCZ capital expenditure through a CNPC cost-carry under the existing PSC.

Potential catalysts for 2017

Notable potential catalysts for GDG in 2017 include approval of the 2014 supplementary agreements for GSS/ODP submission; redemption/refinancing of the company's Nordic bond ($88m) and consideration of Hong Kong listing. We note that both GCZ and GSS are explicitly mentioned in China's 13th five-year plan which has potential to facilitate ODP approvals and open up access to domestic RMB-denominated debt.

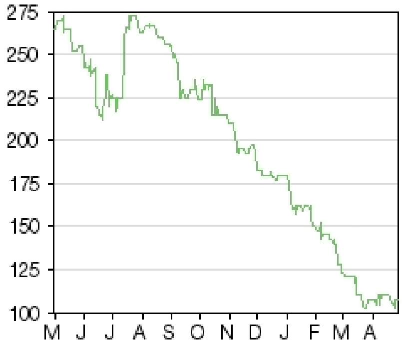
Valuation: Base case contingent on GSS ODP

Edison published a detailed note on GDG's valuation on 20 February 2017 outlining three valuation scenarios. In our base case, we derived a core $NPV_{12.5}$ net of liabilities of 237p/share assuming GSS/GCZ ODP submission in 2017 and access to RBL in order to fund a step-up in LiFaBriC drilling activity. GDG's ability to attract capital is an important investment consideration and in the absence of funding and ability to reinvest in the company's asset base, our minimal capex case, GDG would not be able to extract full value from its deep reserve and resource base.

28 April 2017

Price	**105p**
Market cap	**£164m**
	US$1.3/£
Net debt ($m) at 30 Dec 2016	127.9
Shares in issue	156.1m
Free float	20.4%
Code	GDG
Primary exchange	LSE
Secondary exchange	N/A

Share price performance



%	1m	3m	12m
Abs	4.4	(31.0)	(58.7)
Rel (local)	4.2	(33.0)	(64.4)
52-week high/low		273.0p	102.5p

Business description

Green Dragon Gas is one of the largest independent companies involved in the production and sale of coal bed methane (CBM) gas in China.

Next events

Sale of downstream	2017
Progress Hong Kong Listing	2017
Refinancing USD debt with RMB debt	2017

Analysts

Sanjeev Bahl +44 (0)20 3077 5742

oilandgas@edisongroup.com

Edison profile page

Green Dragon Gas is a research client of Edison Investment Research Limited

2016 results review

Management describes 2016 as a year of stabilisation and expects more in terms of conclusions and monetisation in 2017. Monetisation of the company's downstream business has taken longer than envisaged and has remained a drag on earnings in 2016, as regulated gas prices fell and deregulation of the downstream led to increased competition. Underlying upstream net profit stood at $16.5m (2015: $18.6m) generating a net margin of 57%. The year-on-year decrease was largely driven by FX impacts with a 7% decline in the RMB/USD exchange rate year-on-year.

Cash generated from operations was down from $20.1m to $10.5m (company definition) largely driven by lower downstream earnings. GDG ended the year with $7.3m cash, a €50m convertible with maturity extended to 2020 and $88m Nordic bond due in November 2017, which the company is looking to refinance.

Importantly, GDG points towards several catalysts in 2017 that should help shore up the company's balance sheet and pursue monetisation of gas resource. Management mentions that it has several term sheets on hand for a variety of financing options including mezzanine debt and RBL, which are being considered at board level. This would enable refinancing or early redemption of the company's Nordic bond and enable capital to be injected in to drilling activity.

As per our 20 February note on GDG, we outlined three valuation scenarios – a minimal capex scenario, which stands at 20p/share and a 237p/share base case valuation contingent on a debt or equity capital injection. Our base case is outlined below.

Our financial forecasts are to a large extent driven by the timing of drilling activity, which is notoriously difficult to forecast. We have pushed back a ramp-up in GSS drilling activity from 2017 to 2018, hence a shift in the point at which revenues start to ramp up. This is reflected in a material reduction in 2017 revenue and profit forecasts; this would be expected for an E&P with a development project that incurs a delay and is a generic sector risk when investing in small/mid-cap E&P.

Base case 237p – contingent on debt access

Valuation – base case

In our base case valuation, we assume GDG receives GSS ODP approval in 2017, opening up access to the RBL debt market. We assume attained RBL debt capacity is in addition to the company's existing $50m convert (due 2020) and $88m corporate bond due in November 2017, for which we assume a maturity extension. As we discussed in our note (20 February 2017), in the absence of funding and under our minimal capex case, our valuation would be significantly lower than our base case (minimal capex case including GCZ ODP work programme 20p/share). However, if funding was completely unconstrained, drilling ramped up aggressively and 2P and 3P resource recovery was maximised before licence expiry, GDG could be worth significantly in excess of our base case. GDG's ability to attract funding remains a key investment consideration.

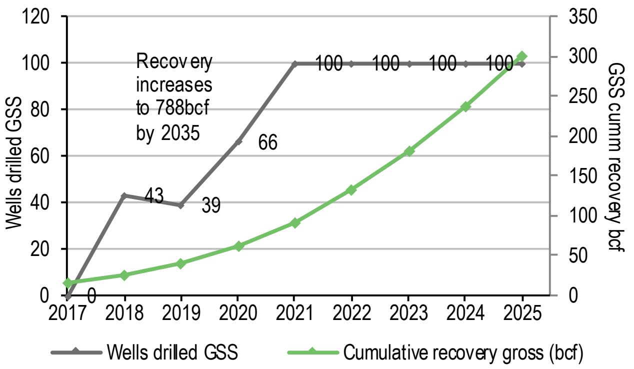
We feel that it is reasonable to assume that GDG will be able to access the RBL debt market for the producing GSS asset post submission of ODP and its 47% interest in GCZ (the bulk of debt capacity resides with GSS). The availability of RBL for Chinese CBM has been demonstrated by AAG Energy receiving a $250m RBL loan for development funding from a consortium of banks including: HSBC, Bank of Communications, Standard Chartered Bank, Société Générale and Credit Agricole in 2015. We see uncertainty around the exact timing of GSS ODP approval but note that there is precedent for Sino-foreign co-operative CBM projects being approved in China – the first such project was AAG's Panzhuang CBM concession, which was approved for development in 2011 with AAG Energy and CUCBM each holding a 50% stake.

In order to calculate the RBL debt capacity of GDG's GSS block, we make a number of assumptions in order to determine the borrowing base. Our key assumptions are:

- RBL pricing assumptions (8% discount rate, $7/mcf rising to $9.0/mcf by 2020 and then rising to LNG parity).
- Based on 2P reserves profile but only including GSS and GCZ.
- RBL available after ODP approval – assumed in 2017.
- Borrowing base is redetermined annually.
- Existing convertible and bond facility available in addition to RBL.
- Borrowing base is the minimum amount that satisfies the field life and loan life coverage ratios (we use conventional RBL coverage ratios).

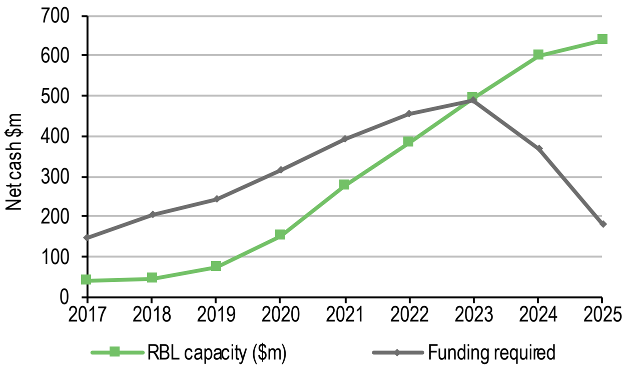
After imposing a maximum drilling rate cap of 100 LiFaBriC wells per year in our analysis, our RBL-funded drilling schedule for GSS is as shown in Exhibit 1. Under this scenario, GDG recovers 100% of its GSS gross 2P reserve base of 788bcf. Our analysis suggests that GDG may require a capital injection in 2017 in order to fund G&A and a limited LiFaBriC well programme ahead of GSS ODP submission and RBL debt access – we understand that the company is in negotiations with a number of lenders with regard to the terms of a bridging facility. In the immediate term, we expect the company to pursue the development of GCZ under the terms of the existing PSC which allows GDG's share of capex for the ODP work programme for be carried by CNPC.

Exhibit 1: Base case LiFaBriC drilling assumptions



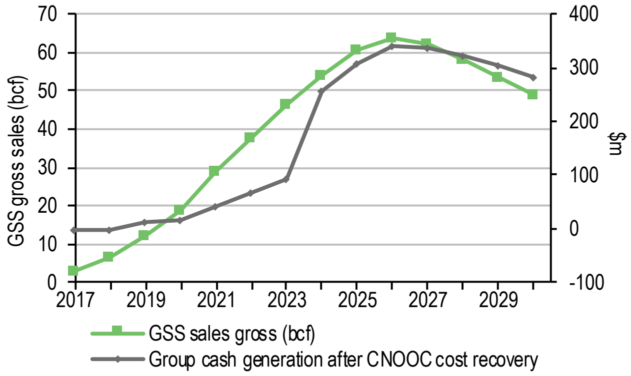
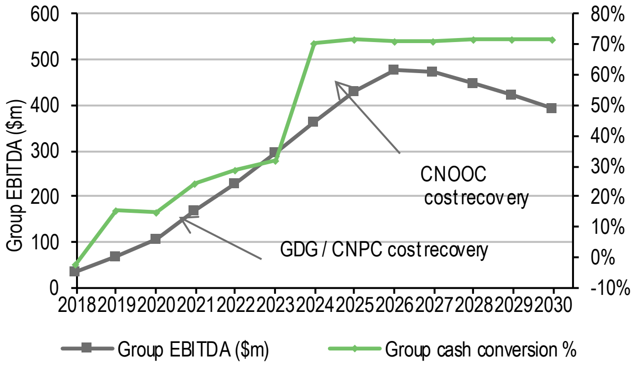
Source: Edison Investment Research

Exhibit 2: Base case funding requirements vs RBL debt capacity



Source: Edison Investment Research

In our base case, we see gross GSS sales rising to 60bcf by 2024, with material cash flow (post cost recovery) net to GDG. Cash conversion rises rapidly from 2023, as GDG benefits from a larger LiFaBriC well-stock from which it receives its full 60% of net cash flow and CNOOC fully recovers legacy costs.

Exhibit 3: Growth in GSS gross sales gas and net cash generation post CNOOC cost recovery	Exhibit 4: Group EBITDA and cash conversion
	
Source: Edison Investment Research	Source: Edison Investment Research

Net cash flow increases rapidly (cash conversion moves towards 75%) once CNOOC has fully recovered its cost balance; we currently forecast that this will occur in 2024 in our base case.

Exhibit 5: Base case core valuation (assumes minimal GCZ/GSN activity with funds deployed on GSS)

Asset	Country	Diluted WI	Catalyst	CoS	Recoverable reserves/resources			Net risked value		Sensitivity to discount rate		
		%		%	Gross	Net	NPV/mcf	@12.5% DR		£/share		
					bcf	bcf	$/mcf	$m	£/share	10.0%	15.0%	17.5%
Net (debt)/cash June 2016								-136.7	-0.67	-0.67	-0.67	-0.67
SG&A								-26.7	-0.13	-0.13	-0.13	-0.13
GSS 2P	China	60%*		80%	788.1	472.9	1.5	583.9	2.88	3.79	2.20	1.70
GCZ 2P	China	47%		80%	61.8	29.0	2.6	61.4	0.30	0.36	0.26	0.22
GSN 2P	China	50%		80%	36.0	18.0	0.0	0.0	0.00	0.00	0.00	0.00
Core NAV					**885.9**	**519.9**		**481.9**	**2.37**	**3.34**	**1.66**	**1.12**

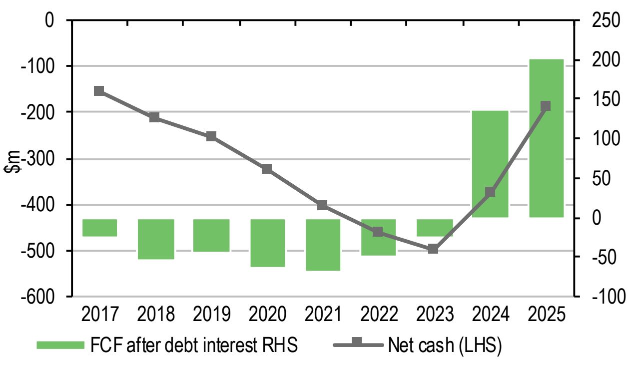
Source: Edison Investment Research. Note: *Option to increase GSS WI to 70%.

Key assumptions that we make in our base valuation are as below:

- GDG is able to drill LiFaBriC wells in line with RBL borrowing base at a cost of $1.3m gross per well.
- GDG is able to refinance its existing corporate bond in 2017 on similar terms, bridging the gap to rising RBL borrowing capacity.
- IP rates for new LiFaBriC wells average 250mcfd with a 24m plateau and 10% decline rate.
- GDG receives ODP approval for GSS/GCZ in 2017 providing RBL debt access. We assume RBL debt capacity is incremental to GDG's convertible bond and senior secured Nordic bond.
- We assume all available capital is deployed on GSS.
- GDG receives a two-year licence extension for GSS to 2035 as per 2014 framework agreement.
- Life of field opex costs average $1/mcf.
- Gas sales as a percentage of actual gross production (not production capacity) rise to 95%; gas sales to production capacity will be lower in percentage terms.
- CNOOC/CUCBM retains cost recovery rights over legacy wells and infrastructure capex spend.
- We define sales gas as working interest production volume after utilisation losses, which include gas lost to production, transmission, gathering, compression, power and processing processes.

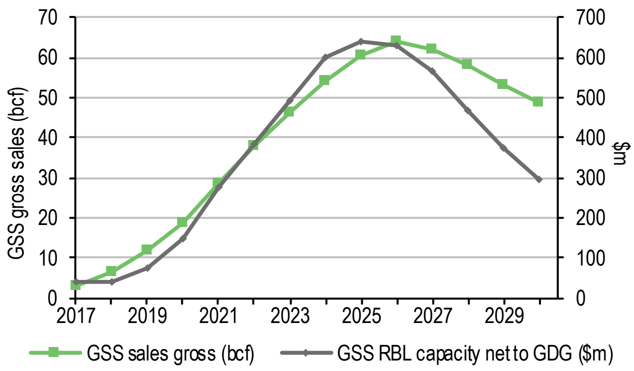
As can be seen in Exhibit 5 above, our base case $NPV_{12.5}$ valuation is 237p/share (net of liabilities). Our 12.5% cost of capital is based on the assumption that GDG utilises a combination of high-yield debt (current coupon 10% on convertible), RBL debt, equity and farm-out. We believe 12.5% is a reasonable assumption for through-cycle cost of capital, but we provide a sensitivity to the discount rate in our valuation tables. GDG may be able to access lower-cost domestic debt now that GSS and GCZ are included in the government's five-year plan and we intend to revise our cost of capital assumptions once GDG has secured additional funds.

Exhibit 6: Base case FCF (post-financing) and net cash evolution



Source: Edison Investment Research

Exhibit 7: GSS gross gas sales and GSS RBL capacity



Source: Edison Investment Research

Exhibit 8: Financial summary (base case assumes GSS/GCZ ODP approval in 2017 and access to RBL debt)

US$m	2015	2016	2017e	2018e	2019e
December	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS					
Revenue*	37.7	29.1	31.9	51.3	88.7
Cost of Sales	(15.5)	(16.4)	(13.8)	(19.3)	(29.2)
Gross Profit	22.2	12.8	18.1	32.0	59.5
EBITDA	20.1	10.5	16.1	35.1	68.5
Operating Profit (before amort. and except.)	15.0	4.6	9.6	23.9	9.6
Intangible Amortisation	0.0	0.0	0.0	0.0	0.0
Exceptionals	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0
Operating Profit	15.0	4.6	9.6	23.9	51.6
Net Interest	(15.1)	(16.9)	(14.2)	(16.6)	(20.6)
Profit Before Tax (norm)	(0.1)	(12.3)	(4.6)	7.3	31.0
Profit Before Tax (FRS 3)	(0.1)	(12.3)	(4.6)	7.3	31.0
Tax	0.2	0.2	(3.7)	(8.0)	(14.9)
Profit After Tax (norm)	0.1	(12.1)	(8.2)	(0.7)	16.1
Profit After Tax (FRS 3)	(41.9)	(53.0)	(8.2)	(0.7)	16.1
Average Number of Shares Outstanding (m)	156.1	156.1	156.1	156.1	156.1
EPS - normalised (c)	0.0	(0.0)	(0.0)	(0.0)	0.0
EPS - normalised and fully diluted (c)	0.1	(7.7)	(5.3)	(0.5)	10.3
EPS - (IFRS) (c)	(0.0)	(0.0)	(0.0)	(0.0)	0.0
Dividend per share (p)	0.0	0.0	0.0	0.0	0.0
Gross Margin (%)	59%	44%	57%	62%	67%
EBITDA Margin (%)	53%	36%	50%	69%	77%
Operating Margin (before GW and except.) (%)	40%	16%	30%	47%	58%
BALANCE SHEET					
Fixed Assets	1,321.2	1,311.2	1,312.2	1,337.4	1,354.0
Intangible Assets	3.0	2.2	2.2	2.2	2.2
Tangible Assets	1,315.9	1,306.7	1,307.7	1,333.0	1,349.5
Investments	2.4	2.3	2.3	2.3	2.3
Current Assets	51.5	32.3	22.6	21.1	29.0
Stocks	0.1	0.2	0.2	0.2	0.3
Debtors	22.5	22.9	10.4	13.9	21.7
Cash	26.9	7.3	10.0	5.0	5.0
Other	2.0	2.0	2.0	2.0	2.0
Current Liabilities	(15.4)	(150.0)	(138.1)	(138.3)	(148.2)
Creditors	(15.4)	(13.9)	(2.2)	(2.2)	(12.0)
Short term borrowings	0.0	(136.1)	(136.1)	(136.1)	(136.1)
Long Term Liabilities	(659.8)	(554.5)	(560.1)	(584.4)	(582.9)
Bonds	(86.8)	0.0	0.0	0.0	0.0
Long term debt (RBL or eq.)	0.0	(7.9)	(28.2)	(80.3)	(121.8)
Convertible debt	(48.4)	0.0	0.0	0.0	0.0
Deferred Tax Liabilities	(154.4)	(144.8)	(144.8)	(144.8)	(144.8)
Other long term liabilities	(370.2)	(401.7)	(387.0)	(359.2)	(316.3)
Net Assets	697.4	639.0	636.6	635.9	652.0
CASH FLOW					
Operating Cash Flow	12.4	8.5	18.8	23.8	55.5
Net Interest	(12.3)	(12.3)	(14.2)	(16.6)	(20.6)
Capex	(47.8)	(14.4)	(7.5)	(36.5)	(33.4)
Acquisitions/disposals	0.2	0.0	0.0	0.0	0.0
Equity financing and convertible debt	0.0	0.0	0.0	0.0	0.0
Dividends	0.0	0.0	0.0	0.0	0.0
Other	0.1	0.0	(14.7)	(27.8)	(43.0)
Net Cash Flow	(47.3)	(18.2)	(17.6)	(57.2)	(41.4)
Opening net debt/(cash)	52.3	108.3	127.9	145.5	202.6
Fx	(5.8)	0.0	0.0	0.0	0.0
Other	(2.9)	0.0	0.0	0.0	0.0
Closing net debt/(cash)	108.3	127.9	145.5	202.6	244.1

Source: Company accounts, Edison Investment Research. Note: *Revenues including subsidy income.

EDISON

Frankfurt +49 (0)69 78 8076 960
Schumannstrasse 34b
60325 Frankfurt
Germany

London +44 (0)20 3077 5700
280 High Holborn
London, WC1V 7EE
United Kingdom

New York +1 646 653 7026
245 Park Avenue, 39th Floor
10167, New York
US

Sydney +61 (0)2 8249 8342
Level 12, Office 1205
95 Pitt Street, Sydney
NSW 2000, Australia