14 October 2014 | 32 pages

Integrated Oils
**Western Europe | United Kingdom**

# BG Group (BG.L)

## De-risking Delivery of Low-Cost Growth

- **Progress towards delivery of low-cost growth** — In an environment of uncertain commodity prices we believe investors should seek shelter in companies with assets that provide low-cost growth. BG looks the stand-out play in the European large-cap group in this regard. 2014 sees the company's core asset base in Brazil, with improving productivity data, reinforce its position as one of the lowest sources of new supply on our proprietary global cost curve, with break-even economics sitting at US$40-45/bbl. Growth from Brazil plus the ramp up of QC LNG should see BG deliver 15% CAGR production growth and 17% CAGR cashflow growth over the 2014-16E period. A poor track record of delivery has left BG trading on c.10x 2016E P/E (a discount of 30% versus the European market) and we see value up to 1400p/share. BG is Buy-rated and is on Citi Focus List Europe.

- **Brazil reinforces its low-cost curve position** — We have increased confidence that capital efficiency is improving in Brazil, and that the flexible, modular nature of the development can deliver on projected timetables. Better well productivity and drilling efficiencies have been the key sources of productivity gains and have helped maintain pre-salt Brazil project break-evens at c. US$40-45/bbl. Local supply chain issues are also being addressed by a willingness to move outside of Brazil to source alternative FPSO capacity. Production is ramping up at FPSOs 2 and 3 while FPSOs 4 and 5 are on budget with first oil planned for 4Q14. The ramp up of these assets underpins c.60% of BG's production growth in 2015.

- **Green light at QC LNG** — The recent collapse in East Coast Australian gas prices is evidence that BG is ramping up production in order to deliver first LNG by late 2014/early 2015. The commissioning phase of the project is moving forwards with the key next step to fire the compressors and refrigeration turbines in October ahead of cooling Train 1 down to deliver first LNG. With other CBM projects looking to ramp up production ahead of first LNG in 2015, we also see a window of opportunity for BG to possibly use some lower-cost third party gas volumes to de-risk the ramp up of its facilities in 2015.

| BG Group (USD) | | | | | |
|---|---|---|---|---|---|
| Year to 31 Dec | 2012A | 2013A | 2014E | 2015E | 2016E |
| Sales ($M) | 18,963.0 | 19,015.0 | 19,367.1 | 22,224.5 | 29,980.4 |
| Profit Before Tax ($M) | 7,922.0 | 7,413.0 | 6,661.6 | 6,696.9 | 9,239.2 |
| Diluted EPS (¢) | 128.7 | 127.9 | 116.8 | 121.3 | 167.3 |
| Diluted EPS (Old) (¢) | 128.7 | 127.9 | 116.7 | 121.3 | 166.2 |
| PE (x) | 13.0 | 13.1 | 14.3 | 13.8 | 10.0 |
| EV/EBITDA (x) | 6.5 | 6.6 | 7.3 | 6.6 | 5.2 |
| DPS (¢) | 26.1 | 28.7 | 31.1 | 33.5 | 38.6 |
| Net Div Yield (%) | 1.6 | 1.7 | 1.9 | 2.0 | 2.3 |

- Estimate Change

| | |
|---|---|
| Buy | 1 |
| Price (13 Oct 14) | £10.40 |
| Target price | £14.00 |
| Expected share price return | 34.6% |
| Expected dividend yield | 1.8% |
| Expected total return | 36.4% |
| Market Cap | £35,499M |
| | US$57,074M |

Price Performance
(RIC: BG.L, BB: BG/ LN)


Click to play
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BG.L: Fiscal year end 31-Dec

Price: £10.40; TP: £14.00; Market Cap: £35,499m; Recomm: Buy

| Profit & Loss (US$m) | 2012 | 2013 | 2014E | 2015E | 2016E |
|---|---|---|---|---|---|
| Sales revenue | 18,963 | 19,015 | 19,367 | 22,225 | 29,980 |
| Cost of sales | -10,919 | -11,405 | -12,527 | -14,981 | -20,078 |
| Gross profit | 8,044 | 7,610 | 6,840 | 7,243 | 9,903 |
| Gross Margin (%) | 42.4 | 40.0 | 35.3 | 32.6 | 33.0 |
| EBITDA (Adj) | 10,643 | 10,570 | 9,728 | 11,016 | 14,269 |
| EBITDA Margin (Adj) (%) | 56.1 | 55.6 | 50.2 | 49.6 | 47.6 |
| Depreciation | -2,593 | -2,954 | -2,894 | -3,792 | -4,387 |
| Amortisation | 0 | 0 | 0 | 0 | 0 |
| EBIT (Adj) | 8,050 | 7,616 | 6,834 | 7,223 | 9,883 |
| EBIT Margin (Adj) (%) | 42.5 | 40.1 | 35.3 | 32.5 | 33.0 |
| Net interest | -128 | -203 | -172 | -526 | -644 |
| Associates | 0 | 0 | 0 | 0 | 0 |
| Non-op/Except | -823 | -2,169 | 108 | 0 | 0 |
| Pre-tax profit | 7,099 | 5,244 | 6,770 | 6,697 | 9,239 |
| Tax | -3,524 | -3,039 | -2,665 | -2,545 | -3,511 |
| Extraord./Min.Int./Pref.div. | 947 | 236 | 8 | 0 | 0 |
| Reported net profit | 4,522 | 2,441 | 4,113 | 4,152 | 5,728 |
| Net Margin (%) | 23.8 | 12.8 | 21.2 | 18.7 | 19.1 |
| Core NPAT | 4,398 | 4,374 | 3,997 | 4,152 | 5,728 |
| **Per share data** | 2012 | 2013 | 2014E | 2015E | 2016E |
| Reported EPS (¢) | 132.4 | 71.4 | 120.2 | 121.3 | 167.3 |
| Core EPS (¢) | 128.7 | 127.9 | 116.8 | 121.3 | 167.3 |
| DPS (¢) | 26.1 | 28.8 | 31.1 | 33.5 | 38.6 |
| CFPS (¢) | 222.6 | 216.5 | 224.6 | 247.0 | 309.2 |
| FCFPS (¢) | -95.0 | -120.6 | -118.3 | -48.3 | 6.1 |
| BVPS (¢) | 972.7 | 939.5 | 1,050.2 | 1,139.7 | 1,273.1 |
| Wtd avg ord shares (m) | 3,397 | 3,402 | 3,407 | 3,407 | 3,407 |
| Wtd avg diluted shares (m) | 3,417 | 3,420 | 3,423 | 3,423 | 3,423 |
| **Growth rates** | 2012 | 2013 | 2014E | 2015E | 2016E |
| Sales revenue (%) | -10.3 | 0.3 | 1.9 | 14.8 | 34.9 |
| EBIT (Adj) (%) | -1.9 | -5.4 | -10.3 | 5.7 | 36.8 |
| Core NPAT (%) | 1.0 | -0.5 | -8.6 | 3.9 | 38.0 |
| Core EPS (%) | 0.8 | -0.6 | -8.7 | 3.9 | 38.0 |
| **Balance Sheet (US$m)** | 2012 | 2013 | 2014E | 2015E | 2016E |
| Cash & cash equiv. | 4,434 | 6,208 | 4,968 | 4,968 | 4,968 |
| Accounts receivables | 6,369 | 6,900 | 6,771 | 6,771 | 6,771 |
| Inventory | 792 | 838 | 898 | 898 | 898 |
| Net fixed & other tangibles | 46,131 | 45,022 | 50,808 | 54,324 | 57,393 |
| Goodwill & intangibles | 4,493 | 3,889 | 4,964 | 6,154 | 7,420 |
| Financial & other assets | 3,028 | 3,117 | 3,926 | 3,926 | 3,926 |
| Total assets | 65,247 | 65,974 | 72,335 | 77,042 | 81,376 |
| Accounts payable | 5,301 | 5,631 | 5,726 | 5,726 | 5,726 |
| Short-term debt | 1,064 | 437 | 60 | 60 | 60 |
| Long-term debt | 14,443 | 16,920 | 18,858 | 20,509 | 20,300 |
| Provisions & other liab | 11,345 | 11,026 | 11,915 | 11,915 | 11,915 |
| Total liabilities | 32,153 | 34,014 | 36,559 | 38,210 | 38,001 |
| Shareholders' equity | 33,037 | 31,960 | 35,776 | 38,831 | 43,375 |
| Minority interests | 57 | 0 | 0 | 0 | 0 |
| Total equity | 33,094 | 31,960 | 35,776 | 38,831 | 43,375 |
| Net debt (Adj) | 11,073 | 11,149 | 13,950 | 15,601 | 15,392 |
| Net debt to equity (Adj) (%) | 33.5 | 34.9 | 39.0 | 40.2 | 35.5 |

| Valuation ratios | 2012 | 2013 | 2014E | 2015E | 2016E |
|---|---|---|---|---|---|
| PE (x) | 13.0 | 13.1 | 14.3 | 13.8 | 10.0 |
| PB (x) | 1.7 | 1.8 | 1.6 | 1.5 | 1.3 |
| EV/EBITDA (x) | 6.5 | 6.6 | 7.3 | 6.6 | 5.2 |
| FCF yield (%) | -5.7 | -7.2 | -7.1 | -2.9 | 0.4 |
| Dividend yield (%) | 1.6 | 1.7 | 1.9 | 2.0 | 2.3 |
| Payout ratio (%) | 20 | 22 | 27 | 28 | 23 |
| ROE (%) | 14.5 | 7.5 | 12.1 | 11.1 | 13.9 |
| **Cashflow (US$m)** | 2012 | 2013 | 2014E | 2015E | 2016E |
| EBITDA | 10,643 | 10,570 | 9,728 | 11,016 | 14,269 |
| Working capital | -176 | -413 | 412 | 0 | 0 |
| Other | -2,862 | -2,753 | -2,451 | -2,561 | -3,686 |
| Operating cashflow | 7,605 | 7,404 | 7,689 | 8,455 | 10,583 |
| Capex | -9,974 | -10,605 | -10,705 | -9,009 | -9,189 |
| Net acq/disposals | 2,939 | 4,601 | 944 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 |
| Investing cashflow | -7,035 | -6,004 | -9,761 | -9,009 | -9,189 |
| Dividends paid | -877 | -923 | -1,033 | -1,097 | -1,185 |
| Financing cashflow | 263 | 374 | 832 | 555 | -1,394 |
| Net change in cash | 833 | 1,774 | -1,240 | 0 | 0 |
| Free cashflow to s/holders | -3,246 | -4,124 | -4,049 | -1,652 | 209 |

For definitions of the items in this table, please click here.

# Contents

# De-risking Delivery of Low-Cost Growth

In an environment of uncertain commodity prices we believe investors should seek shelter in companies with assets that provide low-cost growth. BG looks the stand-out play in the European large-cap group in this regard. 2014 sees the company's core asset base in Brazil, with improving productivity data, reinforce its position as one of the lowest sources of new supply on our proprietary global cost curve, with break-even economics sitting at US$40-45/bbl. Growth from Brazil plus the ramp up of QC LNG should see BG deliver 15% CAGR production growth and 17% CAGR cashflow growth over the 2014-16E period. A longer process to recruit a new CEO and poor track record of delivery has left BG trading on c.10x 2016E P/E (a discount of 30% versus the European market) and we see value up to 1400p/share.

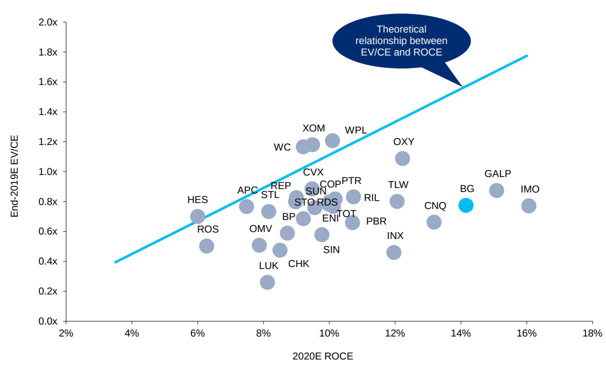
- Brazil reinforces its low-cost curve position – we have increased confidence that capital efficiency is improving in Brazil and that the flexible, modular nature of the development can deliver on projected timetables. Better well productivity and drilling efficiencies have been the key sources of productivity gains and have helped maintain pre-salt Brazil project break-evens at c.US$40-45/bbl. Production is ramping up at FPSOs 2 and 3 while FPSOs 4 and 5 are on budget with first oil planned for 4Q14. The ramp up of these assets underpins c.60% of BG's production growth in 2015.

- Green light at QC LNG – the recent collapse in East Coast Australian gas prices is evidence that BG is ramping up production in order to deliver first LNG by late 2014/early 2015. The commissioning phase of the project is moving forwards with the key next step to fire the compressors and refrigeration turbines in October ahead of cooling Train 1 down to deliver first LNG.

- Sufficient supply in 2015 to fulfil long-term LNG contracts – while we forecast BG to have less flexibility / headroom in its LNG portfolio than in previous years due to limited cargos from Egyptian LNG and the planned shutdown at Equatorial Guinea LNG, we believe BG will have sufficient supply in 2015 to meet its new LNG contracts. Some of these new agreements have phased ramp up periods and we are confident that BG's experienced LNG shipping and marketing team would have taken steps to address any risk of shortages well in advance by securing additional spot cargoes.

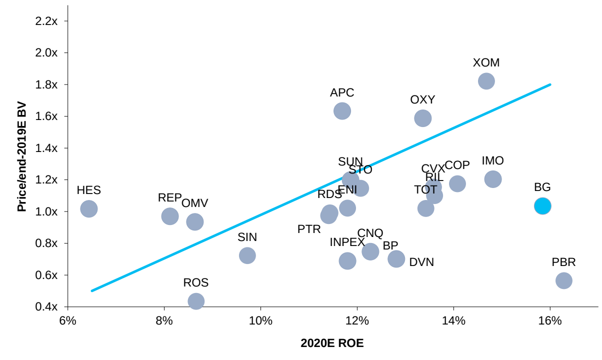
- Portfolio monetisation plans remain a priority – BG management have indicated a planned acceleration in portfolio monetisation to focus the portfolio around 10-15 core assets and could narrow the wide valuation disconnect (c. 60%) relative to our NAV of 1725p/share. We see it likely that BG will focus on divesting of infrastructure-type assets in both the upstream and midstream, as evidenced by the recent sale of BG's stake in the CATS pipeline system in the UK.

Figure 1. BG's Returns look to be discounted versus peers




Source: Company reports, Citi Research, DataCentral

Figure 2. Delivery of growth/profitability uplift looks discounted




Source: Company reports, Citi Research, DataCentral

## Valuation – BG in Context

Figure 3. BG delivers strong earnings growth to 2020E...

| PE | '12 | '13 | '14E | '15E | '16E | '17E | '18E | '19E | '20E |
|---|---|---|---|---|---|---|---|---|---|
| Anadarko | 24.7x | 21.3x | 17.2x | 18.8x | 18.0x | 11.8x | 11.9x | 10.6x | 9.5x |
| BG | 13.0x | 13.1x | 14.3x | 13.8x | 10.0x | 7.3x | 6.2x | 5.8x | 5.2x |
| BP | 7.6x | 9.8x | 9.9x | 10.1x | 8.7x | 7.3x | 6.9x | 6.1x | 5.6x |
| Chevron | 9.4x | 10.3x | 11.2x | 12.0x | 11.6x | 9.3x | 8.4x | 7.5x | 6.8x |
| Conoco | 13.0x | 12.3x | 11.3x | 12.2x | 11.2x | 8.9x | 7.8x | 7.4x | 7.0x |
| ENI | 9.1x | 13.6x | 14.8x | 12.8x | 12.4x | 9.8x | 8.1x | 7.6x | 7.3x |
| Exxon | 11.3x | 12.8x | 13.1x | 12.9x | 12.0x | 11.0x | 10.5x | 10.0x | 9.7x |
| GALP | 26.8x | 31.1x | 33.1x | 24.5x | 18.4x | 13.2x | 9.4x | 7.5x | 6.3x |
| Hess | 13.6x | 14.5x | 15.6x | 13.8x | 12.3x | 10.7x | 9.5x | 9.5x | 10.2x |
| Occidental | 12.6x | 13.0x | 11.6x | 13.6x | 11.3x | 10.4x | 9.4x | 8.7x | 8.1x |
| OMV | 5.1x | 7.1x | 6.8x | 6.6x | 6.6x | 6.0x | 5.9x | 5.7x | 5.4x |
| Petrobras (Ord) | 10.0x | 9.9x | 9.3x | 7.5x | 7.1x | 6.9x | 4.5x | 3.5x | 3.1x |
| RD Shell (A) | 8.7x | 11.4x | 8.9x | 10.0x | 9.4x | 8.0x | 7.6x | 7.3x | 7.3x |
| Repsol | 11.0x | 17.9x | 13.6x | 13.8x | 12.0x | 10.3x | 9.8x | 9.0x | 8.6x |
| Statoil | 9.7x | 11.2x | 11.0x | 11.0x | 11.4x | 9.7x | 8.8x | 8.3x | 7.9x |
| Total | 8.3x | 9.6x | 10.6x | 9.9x | 8.7x | 7.1x | 6.9x | 6.5x | 6.4x |
| Tullow | 17.1x | 55.8x | 32.8x | 18.7x | 13.3x | 8.5x | 8.3x | 6.3x | 4.4x |
| Woodside | 12.7x | 14.6x | 10.2x | 10.3x | 11.8x | 12.0x | 10.6x | 10.8x | 11.8x |
| Group | 11.2x | 12.9x | 11.4x | 12.5x | 11.5x | 9.5x | 8.3x | 7.5x | 7.1x |

Source: Company Reports, Citi Research, DataCentral

Figure 4. ...while BG's cash multiples also compress more than peers to 2020E

| EV/DACF | '12 | '13 | '14E | '15E | '16E | '17E | '18E | '19E | '20E |
|---|---|---|---|---|---|---|---|---|---|
| Anadarko | 8.3x | 10.0x | 9.8x | 6.4x | 6.2x | 5.0x | 4.9x | 4.4x | 4.0x |
| BG | 8.9x | 8.8x | 9.6x | 8.3x | 6.7x | 5.2x | 4.5x | 4.0x | 3.3x |
| BP | 7.2x | 5.8x | 5.2x | 5.5x | 5.1x | 5.0x | 5.0x | 4.8x | 4.4x |
| Chevron | 5.5x | 5.9x | 6.6x | 6.8x | 6.5x | 5.7x | 5.4x | 4.8x | 4.3x |
| Conoco | 4.9x | 4.9x | 4.4x | 4.8x | 4.6x | 4.0x | 3.6x | 3.3x | 3.1x |
| ENI | 4.8x | 7.9x | 6.1x | 6.0x | 5.7x | 5.0x | 4.8x | 4.5x | 4.2x |
| Exxon | 6.6x | 7.4x | 7.7x | 7.7x | 7.3x | 6.8x | 6.5x | 6.4x | 6.3x |
| GALP | 15.0x | 14.9x | 13.1x | 11.0x | 9.7x | 7.7x | 5.9x | 4.8x | 3.9x |
| Hess | 5.7x | 5.6x | 5.6x | 4.9x | 4.5x | 4.2x | 3.9x | 3.8x | 3.7x |
| Occidental | 6.0x | 6.0x | 6.2x | 6.8x | 6.4x | 6.1x | 5.6x | 5.1x | 4.7x |
| OMV | 4.0x | 4.0x | 3.8x | 3.9x | 3.9x | 3.7x | 3.6x | 3.4x | 3.2x |
| Petrobras (Ord) | 5.1x | 5.8x | 6.3x | 6.2x | 6.2x | 6.1x | 4.7x | 3.9x | 3.5x |
| RD Shell (A) | 6.1x | 6.8x | 5.3x | 5.7x | 5.5x | 5.0x | 4.8x | 4.5x | 4.4x |
| Repsol | 15.9x | 5.9x | 7.2x | 6.2x | 5.8x | 5.3x | 5.0x | 4.6x | 4.3x |
| Statoil | 4.3x | 6.1x | 5.2x | 5.2x | 5.2x | 4.8x | 4.5x | 4.2x | 4.0x |
| Total | 5.9x | 6.5x | 6.7x | 6.1x | 5.5x | 4.8x | 4.6x | 4.2x | 4.0x |
| Tullow | 6.7x | 5.9x | 7.2x | 8.1x | 8.0x | 6.1x | 5.9x | 4.7x | 3.2x |
| Woodside | 7.4x | 10.0x | 6.6x | 6.4x | 6.7x | 6.7x | 7.1x | 7.3x | 7.2x |
| Group | 6.0x | 6.1x | 6.4x | 6.2x | 6.0x | 5.1x | 4.8x | 4.5x | 4.0x |

Source: Company Reports, Citi Research, DataCentral

Figure 5. The delivery of QC LNG helps drive a strong cashflow inflexion from 2016E onwards...

| FCF Yield | '12 | '13 | '14E | '15E | '16E | '17E | '18E | '19E | '20E |
|---|---|---|---|---|---|---|---|---|---|
| Anadarko | -2.1% | -5.6% | -2.7% | -2.7% | -3.1% | 0.4% | -0.7% | 0.4% | 1.3% |
| BG | -4.2% | -5.6% | -5.3% | -1.0% | 2.4% | 7.1% | 10.3% | 12.0% | 15.3% |
| BP | -2.7% | -3.0% | 4.8% | 2.1% | 3.8% | 4.9% | 5.2% | 7.0% | 8.7% |
| Chevron | 4.0% | -0.4% | -1.4% | -0.6% | 0.5% | 4.3% | 6.7% | 9.1% | 11.0% |
| Conoco | -1.0% | -0.1% | 0.5% | 0.5% | 3.2% | 6.7% | 9.2% | 10.0% | 11.2% |
| ENI | 5.7% | 0.4% | 1.7% | 2.2% | 1.5% | 4.1% | 5.7% | 8.6% | 10.8% |
| Exxon | 4.7% | 1.9% | 3.0% | 3.7% | 4.6% | 6.1% | 6.9% | 7.5% | 7.9% |
| GALP | -6.7% | -2.5% | -4.7% | -4.9% | -3.0% | 0.5% | 8.0% | 13.7% | 19.6% |
| Hess | -8.5% | -8.8% | -16.4% | -2.5% | -2.0% | -0.2% | 1.3% | 2.4% | 2.9% |
| Occidental | 1.5% | 5.5% | 1.2% | 4.6% | 5.0% | 5.0% | 6.7% | 7.2% | 7.9% |
| OMV | 21.7% | 12.0% | -0.4% | 0.6% | 3.5% | 6.4% | 7.5% | 9.7% | 12.0% |
| Petrobras (Ord) | -11.3% | -16.7% | -13.9% | -7.4% | -5.3% | -2.8% | 7.1% | 14.5% | 20.9% |
| RD Shell (A) | 6.3% | 0.5% | 5.4% | 4.7% | 5.2% | 8.0% | 9.1% | 10.0% | 10.2% |
| Repsol | 2.9% | 5.3% | -0.2% | 3.0% | 4.3% | 5.7% | 6.8% | 8.0% | 8.6% |
| Statoil | 3.4% | -2.6% | 1.4% | 2.6% | 2.4% | 4.8% | 7.0% | 9.1% | 10.4% |
| Total | 2.4% | -1.1% | -0.7% | 3.0% | 5.5% | 9.7% | 10.3% | 11.3% | 11.4% |
| Tullow | -5.6% | -4.3% | -10.5% | -8.2% | -10.0% | -5.7% | -2.5% | 9.9% | 26.7% |
| Woodside | 9.4% | 8.9% | 12.5% | 11.9% | 10.0% | 5.4% | -3.0% | -5.8% | 2.3% |
| Group | 2.0% | -0.7% | -0.3% | 1.3% | 2.8% | 5.0% | 6.8% | 9.1% | 10.6% |

Source: Company Reports, Citi Research, DataCentral

Figure 6. ...high FCF yields should offer greater capacity for dividend growth versus peers

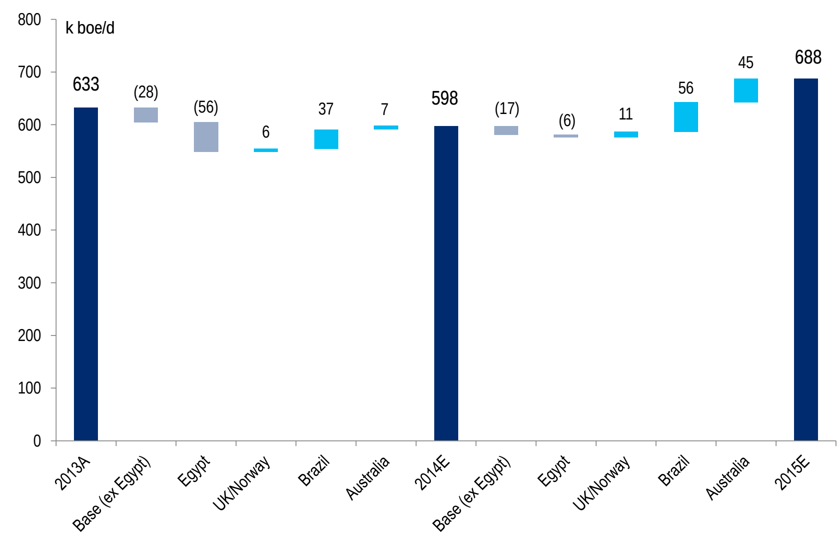
| Div Yield | '12 | '13 | '14E | '15E | '16E | '17E | '18E | '19E | '20E |
|---|---|---|---|---|---|---|---|---|---|
| Anadarko | 0.4% | 0.4% | 1.1% | 1.2% | 1.2% | 1.2% | 1.2% | 1.2% | 1.2% |
| BG | 1.6% | 1.7% | 1.9% | 2.0% | 2.3% | 2.7% | 3.1% | 3.5% | 4.0% |
| BP | 4.9% | 5.3% | 5.6% | 5.8% | 5.9% | 6.0% | 6.2% | 6.3% | 6.5% |
| Chevron | 3.1% | 3.4% | 3.7% | 3.8% | 4.0% | 4.2% | 4.4% | 4.5% | 4.7% |
| Conoco | 3.8% | 3.9% | 3.9% | 4.1% | 4.3% | 4.6% | 4.9% | 5.1% | 5.4% |
| ENI | 6.5% | 6.6% | 6.7% | 6.8% | 7.0% | 7.1% | 7.3% | 7.4% | 7.6% |
| Exxon | 2.4% | 2.7% | 2.9% | 3.1% | 3.2% | 3.3% | 3.4% | 3.6% | 3.8% |
| GALP | 2.1% | 2.5% | 2.8% | 3.3% | 3.8% | 4.3% | 5.0% | 5.7% | 6.6% |
| Hess | 0.5% | 0.9% | 1.2% | 1.2% | 1.2% | 1.2% | 1.2% | 1.2% | 1.2% |
| Occidental | 2.9% | 2.1% | 3.2% | 3.3% | 3.5% | 3.6% | 3.8% | 3.9% | 4.0% |
| OMV | 4.9% | 5.2% | 5.4% | 5.6% | 5.8% | 5.9% | 6.0% | 6.1% | 6.2% |
| Petrobras (Ord) | 2.9% | 3.0% | 3.2% | 3.9% | 4.2% | 4.3% | 6.6% | 8.4% | 9.5% |
| RD Shell (A) | 4.9% | 5.1% | 5.3% | 5.3% | 5.4% | 5.6% | 5.7% | 5.8% | 5.9% |
| Repsol | 5.6% | 5.5% | 5.5% | 5.7% | 5.8% | 5.9% | 6.0% | 6.1% | 6.2% |
| Statoil | 4.2% | 4.4% | 4.5% | 4.7% | 4.8% | 5.0% | 5.1% | 5.3% | 5.4% |
| Total | 5.2% | 5.3% | 5.4% | 5.5% | 5.6% | 5.7% | 5.8% | 5.9% | 6.0% |
| Tullow | 2.2% | 2.2% | 2.3% | 2.4% | 2.5% | 2.5% | 2.6% | 2.6% | 2.7% |
| Woodside | 3.9% | 7.4% | 7.8% | 7.8% | 6.8% | 6.7% | 7.6% | 7.4% | 6.8% |
| Group | 3.4% | 3.6% | 3.8% | 4.0% | 4.2% | 4.5% | 5.1% | 5.5% | 5.7% |

Source: Company Reports, Citi Research, DataCentral

## Reaching a Growth Inflexion Point

There remains uncertainty on 2015 production targets with BG stepping away from its previous 2015 production guidance of 710-750k boe/d following the resignation of the CEO in April 2014 and we do not expect the company to provide updated guidance until its FY14 results in February 2015. However, we believe BG is close to a growth inflexion point with good progress from both Brazil and Australia and that the market already reflects a more conservative outlook on the legacy base business following recent challenges in the UK, US and Egypt. We see market consensus closer to 690-700k boe/d, which compares to our current 2015 production estimate of 688k boe/d – this implies 15% growth YoY.

Figure 7. Growth from Brazil and Australia offsets continued decline in BG's base production




Source: Company data, Citi Research estimates

### Assessing 2015 production potential of the Base Business

The base business has significantly underperformed versus our and market expectations. The challenge is whether we are now through the worst, or whether BG's growth projects are built on a faster declining base business that would suggest growth will continue to disappoint relative to expectations. We believe that the base business is, despite the continued challenges, better understood by the market, and expectations are now low enough that we could see some positive surprises, for example greater operational efficiency in the UK and delivery of smaller projects to arrest decline rates in legacy areas (Starfish in Trinidad, West Franklin 2 in the UK and Knarr in Norway). We forecast the base business (ex. Australia and Brazil) to deliver production of 478k boe/d in 2015 down 2% from our 2014 forecast of 490k boe/d.

- **UK** – the underlying decline in the UK production base will be partially offset by the start-up of West Franklin 2 development, which aims to produce c. 85m boe of reserves. The development will be tied back to the Elgin/Franklin facilities and is due onstream in 4Q14 and could deliver c. 5-6k boe/d net to BG of incremental production. While we reflect in our estimates the impact of the planned maintenance work at BG's operated Everest/Lomond (which produces c. 22k boe/d, a positive upside could be continued improvement in overall production efficiency across BG's UK portfolio.

- **Norway** – BG is close to completing the Knarr development offshore Norway with the Knarr FPSO due to be hooked up in late 4Q14. However, the FPSO was still in the Aibel yard at the beginning of October. We think there is a real risk that BG will miss the weather-window to complete the mooring and well connection activities on this vessel and the start-date slips into 2Q15. We already reflect the later start date in our 2015 production estimates. Once on production, the Knarr development will produce c. 15-20k boe/d net to BG.

- **Egypt** – there was a significant decline in Egypt volumes in 2014 following the failure of the Phase 7 compression project on the West Delta Deep concession. We expect natural decline to continue, but slowed down in 2015 following the completion of Phase 9a development project on the WDDP concession in July 2014.

- **Trinidad** – BG is targeting first gas at the Starfish field on ECMA in 4Q14, which along with the delivery of the NCMA 4a compression project in June 2014 should offset the impact of lower entitlement share from BG's Trinidad contracts, in our view.

- **Kazakhstan** – BG now has a lower stake in Karachaganak (29.25% down from 32.5%) following the settlement agreement signed in June 2012 with the Kazakhstan Government. In addition, BG will receive lower entitlement share of production as the contract has moved through the cost recovery phase of the project. We assume production contribution from Karachaganak declines by 11% to 78k boe/d in 2015.

- **Thailand** – there has been investment in further phases at both Bongkot North and Bongkot South fields over the last 12-18 months with Phase 3L at Bongkot North coming onstream in June 2014, while Phase 3M expected onstream in 2015 and should maintain gross production plateau at c. 600mmcf/d (c. 130mmcf/d net to BG). In addition, phase 4B at Bongkot South came onstream in early 2014 with Phase 4C is underway, which should both extend the field plateau of c. 63k boe/d (c. 14k boe/d net to BG).

- **US** – with low US gas prices, we expect limited ongoing investment in BG's Haynesville and Marcellus unconventional gas positions into 2015. We expect production from the US to continue to decline in 2015 and forecast volumes of 30k boe/d versus 38k boe/d in 2014.

Figure 8. BG "Base" Business Production Profile 2012-20E

| | 2012A | 2013A | 2014E | 2015E | 2016E | 2017E | 2018E | 2019E | 2020E |
|---|---|---|---|---|---|---|---|---|---|
| UK/Norway | 100 | 103 | 108 | 120 | 123 | 113 | 104 | 96 | 88 |
| Bolivia | 28 | 36 | 48 | 48 | 45 | 43 | 41 | 39 | 37 |
| Egypt | 132 | 111 | 55 | 49 | 46 | 43 | 41 | 38 | 36 |
| India | 25 | 20 | 18 | 19 | 18 | 17 | 17 | 16 | 15 |
| Kazakhstan | 99 | 91 | 88 | 78 | 73 | 70 | 68 | 65 | 63 |
| Thailand | 36 | 41 | 38 | 38 | 34 | 31 | 28 | 26 | 24 |
| Trinidad & Tobago | 74 | 71 | 63 | 64 | 64 | 62 | 59 | 56 | 53 |
| Tunisia | 37 | 38 | 33 | 33 | 30 | 27 | 25 | 23 | 21 |
| US | 79 | 58 | 38 | 30 | 29 | 27 | 26 | 25 | 24 |
| Total | 606 | 568 | 490 | 478 | 462 | 435 | 408 | 383 | 359 |
| Decline YoY % | | -6% | -14% | -2% | -3% | -6% | -6% | -6% | -6% |

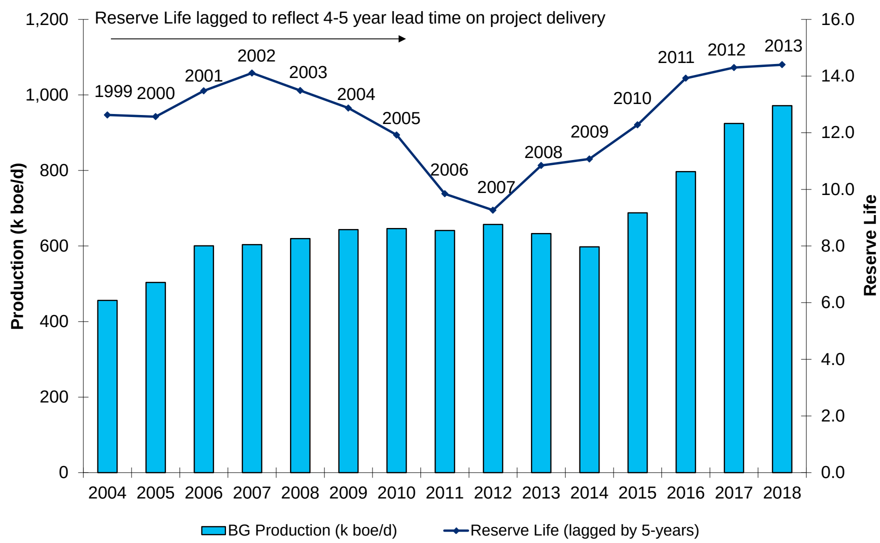
Source: Company data, Citi Research estimates

## De-risking Growth with progress in Brazil and Australia

We have revisited our assessment of BG's portfolio pipeline and the way in which this translates into cashflow, earnings and capex forecasts for the company through to 2020. We draw on Citi's proprietary Global Oil Vision database, which holds detailed asset models for over 300 oil and gas fields that the industry is currently or planning to invest in to 2020.

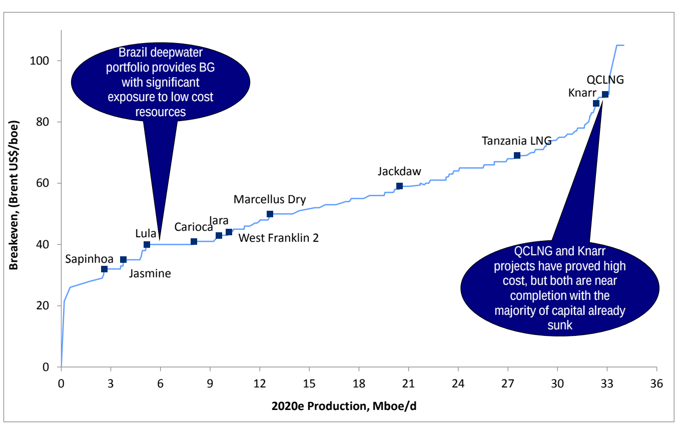
Following a period of missed production targets, we understand the market scepticism on whether BG can deliver more than double-digit growth rates from 2015 onwards. While the industry has struggled to deliver this type of growth levels historically, we would point to the fact that this growth comes essentially from two assets, Brazil and Australia. While concentrated, we think our analysis of both projects suggests that the risks around delivery are mitigated.

Figure 9. Reserve life growth since 2008 looks to underpin growth outlook over next few years



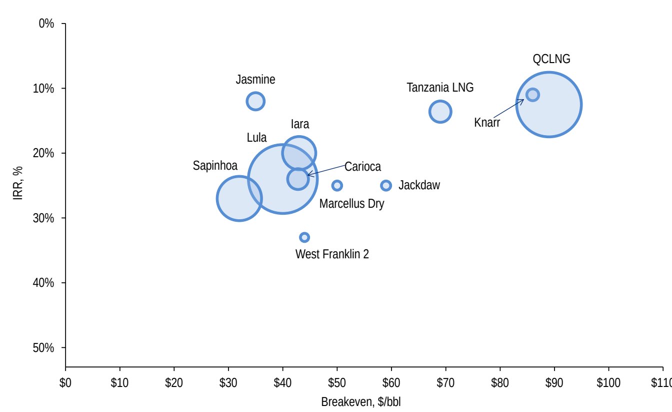

Source: Company data, Citi Research estimates (from 2014)

Figure 10. BG upstream pipeline versus the industry cost-curve




Source: Citi Research estimates

Figure 11. BG upstream project pipeline (2013-20 start ups)




Source: Citi Research estimates

Figure 12. Operating Cash Flow, Capex and Production Reconciliation (Projects in Bold have been sanctioned)

| *CASH FLOW (US$bn)* | Start-up | BG Stake | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lula & Cernambi | 2010 | 25.0% | 0.5 | 0.7 | 1.0 | 1.3 | 2.5 | 3.3 | 3.9 | 4.2 |
| Sapinhoa | 2013 | 30.0% | 0.2 | 0.6 | 0.9 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 |
| Jasmine | 2013 | 30.5% | 0.1 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 |
| West Franklin 2 | 2014 | 14.1% | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| Starfish | 2014 | 50.0% | - | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| QCLNG | 2014 | 74.0% | - | 0.0 | 0.6 | 2.6 | 2.9 | 3.0 | 3.1 | 3.2 |
| Knarr | 2015 | 45.0% | - | - | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 |
| Carioca | 2016 | 30.0% | - | - | - | 0.1 | 0.3 | 0.5 | 0.5 | 0.5 |
| Jackdaw | 2017 | 40.0% | - | - | - | - | 0.2 | 0.3 | 0.3 | 0.2 |
| Iara | 2018 | 25.0% | - | - | - | - | - | 0.1 | 0.6 | 0.8 |
| Tanzania LNG | 2020 | 30.0% | - | - | - | - | - | - | - | 0.1 |
| Aggregate new project cash flow (US$bn) | | | 0.8 | 1.7 | 3.3 | 5.5 | 7.5 | 8.7 | 9.8 | 10.4 |
| Cash flow/boe of new production | | | | 32.9 | 31.7 | 37.6 | 37.6 | 37.7 | 38.1 | 38.3 |
| BG Targets | | | 0.8 | 1.7 | 3.3 | 5.5 | 7.3 | 8.5 | 9.6 | 10.2 |
| Aggregate new project cash flow | | | 0.8 | 1.7 | 3.3 | 5.5 | 7.5 | 8.7 | 9.8 | 10.4 |
| 2013 Upstream cash flow - Base Business | | | 5.2 | | | | | | | |
| Base cash flow (assuming 14% decline in 2014, 5% decline long-term) | | | | 4.4 | 4.2 | 4.0 | 3.8 | 3.6 | 3.4 | 3.3 |
| Theoretical Upstream cash flow | | | 5.9 | 6.1 | 7.5 | 9.5 | 11.3 | 12.3 | 13.2 | 13.7 |
| LNG | | | 2.0 | 1.9 | 1.7 | 2.1 | 2.2 | 2.4 | 2.6 | 2.8 |
| Corporate, financing, other | | | (0.1) | (0.2) | (0.5) | (0.7) | (0.2) | 0.1 | 0.5 | 1.0 |
| Theoretical BG cash flow | | | 7.8 | 7.8 | 8.7 | 10.8 | 13.3 | 14.9 | 16.4 | 17.5 |
| Citi forecast | | | 7.8 | 7.3 | 8.5 | 10.6 | 13.4 | 15.0 | 15.8 | 17.4 |

| *CAPEX (US$bn)* | Start-up | BG Stake | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lula & Cernambi | 2010 | 25.0% | 1.3 | 1.3 | 1.5 | 2.7 | 3.0 | 2.2 | 1.0 | 0.3 |
| Sapinhoa | 2013 | 30.0% | 0.8 | 0.4 | 0.1 | 0.0 | 0.6 | 0.7 | 0.4 | 0.2 |
| Jasmine | 2013 | 30.5% | 0.1 | 0.0 | - | - | - | - | 0.0 | - |
| West Franklin 2 | 2014 | 14.1% | 0.1 | 0.0 | - | - | - | - | 0.0 | - |
| Starfish | 2014 | 50.0% | 0.0 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| QCLNG | 2014 | 74.0% | 3.1 | 3.3 | 1.7 | 0.7 | 0.8 | 0.9 | 0.9 | 0.9 |
| Knarr | 2015 | 45.0% | 0.4 | 0.4 | 0.2 | - | - | - | - | - |
| Carioca | 2016 | 30.0% | - | 0.4 | 0.5 | 0.4 | 0.1 | 0.0 | 0.0 | 0.1 |
| Jackdaw | 2017 | 40.0% | - | 0.2 | 0.2 | 0.2 | 0.1 | - | 0.0 | - |
| Iara | 2018 | 25.0% | 0.6 | 0.8 | 0.5 | 0.2 | 0.4 | 0.6 | 0.3 | 0.1 |
| Tanzania LNG | 2020 | 30.0% | - | - | - | - | - | - | - | - |
| New project aggregate capex (US$bn) | | | 6.4 | 7.0 | 4.9 | 4.2 | 5.0 | 4.4 | 2.6 | 1.8 |
| New project aggregate capex | | | 6.4 | 7.0 | 4.9 | 4.2 | 5.0 | 4.4 | 2.6 | 1.8 |
| Organic capex | | | 9.5 | | | | | | | |
| Capex map based on projects | | | | 10.1 | 8.0 | 7.3 | 8.1 | 7.6 | 5.7 | 4.9 |
| Theoretical E&P development capex | | | 9.5 | 10.1 | 8.0 | 7.3 | 8.1 | 7.6 | 5.7 | 4.9 |
| Exploration | | | 1.7 | 1.5 | 1.7 | 1.7 | 1.8 | 1.7 | 1.7 | 1.6 |
| Other | | | - | - | - | - | - | - | - | - |
| Total capex | | | 11.2 | 11.7 | 9.7 | 9.1 | 9.9 | 9.3 | 7.4 | 6.6 |
| Citi forecast | | | 11.2 | 10.7 | 9.0 | 9.2 | 9.4 | 9.1 | 8.9 | 8.7 |
| BG targets | | | | <11.2 | 8.0-10.0 | 8.0-10.0 | | | | |

| *PRODUCTION (kboepd)* | Start-up | BG Stake | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lula & Cernambi | 2010 | 25.0% | 32 | 47 | 82 | 115 | 215 | 278 | 331 | 348 |
| Sapinhoa | 2013 | 30.0% | 8 | 31 | 63 | 77 | 78 | 80 | 81 | 79 |
| Jasmine | 2013 | 30.5% | - | 24 | 26 | 18 | 18 | 16 | 11 | 8 |
| West Franklin 2 | 2014 | 14.1% | - | 6 | 6 | 6 | 5 | 3 | 3 | 2 |
| Starfish | 2014 | 50.0% | - | 2 | 17 | 17 | 17 | 17 | 17 | 17 |
| QC LNG (incl. Australian domestic production) | 2014 | 74.0% | 25 | 31 | 74 | 149 | 173 | 173 | 173 | 173 |
| Knarr | 2015 | 45.0% | - | - | 17 | 15 | 13 | 12 | 11 | 10 |
| Carioca | 2016 | 30.0% | - | - | - | 3 | 15 | 29 | 29 | 30 |
| Jackdaw | 2017 | 40.0% | - | - | - | - | 11 | 19 | 15 | 13 |
| Iara | 2018 | 25.0% | - | - | - | - | - | 6 | 33 | 56 |
| Tanzania LNG | 2020 | 30.0% | - | - | - | - | - | - | - | 9 |
| New production contribution | | | 65 | 141 | 284 | 399 | 546 | 632 | 705 | 744 |
| 2013 production - Base Business (kboe/d) | | | 568 | | | | | | | |
| 2013 Production Base (assume 14% decline in 2014, 5% decline long-term) | | | | 457 | 434 | 412 | 392 | 372 | 354 | 336 |
| Theoretical production | | | | 598 | 718 | 811 | 938 | 1,005 | 1,058 | 1,080 |
| Citi Forecast - Group (k boe/d) | | | 633 | 598 | 688 | 797 | 925 | 972 | 1,004 | 1,052 |
| BG Target | | | | 590-630 | | | | | | |

Source: Company data, Citi Research estimates (from 2014)

## Brazil Offers Potential For Capital Efficiency

In 2014, Brazil has reinforced its low-cost curve position. We have increased confidence that capital efficiency is improving in Brazil and that the flexible, modular nature of the development can deliver on projected timetables. Better well productivity and drilling efficiencies have been the key sources of productivity gains and have helped maintain pre-salt Brazil project break-evens at US$40-45/bbl. We are also encouraged that local supply chain issues are being addressed by a willingness of Petrobras to move outside of Brazil to source alternative FPSO capacity to ensure projects are delivered on schedule.

- Near-term production growth significantly de-risked – Production from BM-S-11 and BM-S-9 in the Santos Basin continues to ramp up with FPSOs 2 and 3 reaching plateau in 4Q14 and two new FPSOs (4 and 5) on budget and on track for first oil by the end of 2014. The production ramp up from FPSOs 4 and 5 represents c. 60% of BG's production growth in 2015 and has been significantly de-risked with the pre-drilling of development and injection wells for these new units. While the availability of sufficient PLSV capacity remains a bottleneck, the strong well productivity seen across the Santos Basin could see less development wells needed initially to reach FPSO production capacity and accelerate the ramp up period for each vessel towards 12 months (rather than the 18 month guidance).

- Supply chain issues are being addressed – we are encouraged that Petrobras has looked to address issues in the local supply chain by sourcing alternative FPSO capacity in the international market. Arguably, the addition of two leased vessels to the BM-S-11 and BM-S-9 developments de-risks the project timetable with the development of BG's assets less reliant on the local supply chain than it was previously. Out of the 15 FPSOs planned for BM-S-11 and BM-S-9, only 6 vessels are now likely to be locally-built units.

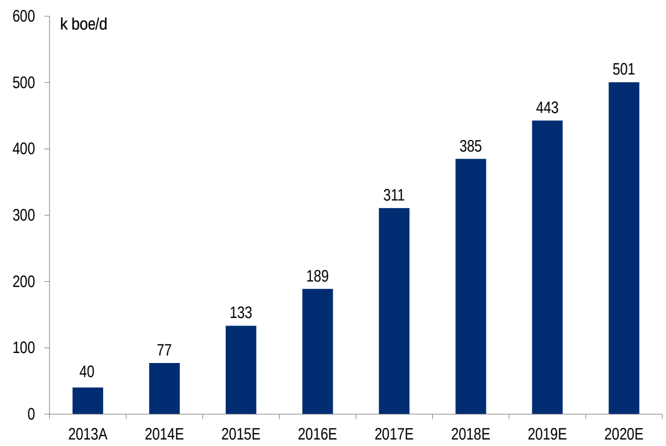
- Long-term potential still to be fully appreciated – Brazil remains a key contributor of BG's growth to 2020 with Brazil representing 60% of BG's 2020 upstream cashflows (from c. 20% currently). We believe there is additional growth potential from the delivery of longer plateau periods (with the use of enhanced recovery techniques) or possibly additional FPSO capacity as we head into next decade.

Figure 13. Pre-Salt Brazil – FPSO schedule for BM-S-11 (BG 25% stake) and BM-S-9 (BG 30% stake)

| Number | Licence | Name: Cidade de | Location | Chartered/ Owned | Start-up | Capacity – Oil (kbopd) | Capacity – Gas (mmscfd) | Wells drilled – producers/injectors* | Main riser system |
|---|---|---|---|---|---|---|---|---|---|
| 1 | BM-S-11 | Angra dos Reis | Lula | Chartered | 2010 | 100 | 177 | 5 / 3 | Flexible |
| 2 | BM-S-9 | São Paulo | Sapinhoá South | Chartered | 2013 | 120 | 177 | 7 / 2 | BSR |
| 3 | BM-S-11 | Paraty | Lula North-East | Chartered | 2013 | 120 | 177 | 6 / 5 | BSR |
| 4 | BM-S-9 | Ilhabela | Sapinhoá North | Chartered | 4Q 14 | 150 | 212 | 6 / 3 | SLWR |
| 5 | BM-S-11 | Mangaratiba | Iracema South | Chartered | 4Q 14 | 150 | 283 | 5 / 6 | Flexible |
| 6 | BM-S-11 | Itaguai | Iracema North | Chartered | 2015 | 150 | 283 | 3 / 0 | Flexible |
| 7 | BM-S-11 | Maricá | Lula Alto | Chartered | 2016 | 150 | 212 | 1 /1 | Flexible |
| 8 | BM-S-11 | Saquarema | Lula Central | Chartered | 2016 | 150 | 212 | 1 / 0 | Flexible |
| 9 | BM-S-9 | Caraguatatuba | Lapa (Carioca) | Chartered | 2016 | 100 | 177 | 1 /1 | Flexible |
| 10 | BM-S-11 | P66 | Lula South | Owned | 2016 | 150 | 212 | 1 / 0 | Flexible |
| 11 | BM-S-11 | P67 | Lula North | Owned | 2016 | 150 | 212 | 2 / 1 | Flexible |
| 12 | BM-S-11 | P68 | Lula Ext. South | Owned | 2017 | 150 | 212 | 1 /1 | Flexible |
| 13 | BM-S-11 | P69 | Lula West | Owned | 2017 | 150 | 212 | 2 / 1 | TBC |
| 14 | BM-S-11 | P70 | Iara Horst | Owned | 2017 | 150 | 212 | 0 / 0 | TBC |
| 15 | BM-S-11 | P71 | Iara North-West | Owned | 2018 | 150 | 212 | 0 / 0 | TBC |

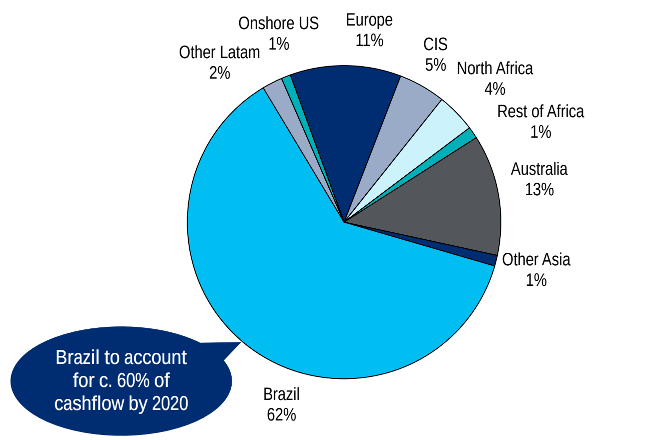
Source: Company data, Citi Research

Figure 14. BG's Pre-Salt Brazil production to 2020




Source: Company data, Citi Research estimates

Figure 15. Brazil represents c. 60% of BG's upstream cashflows in 2020

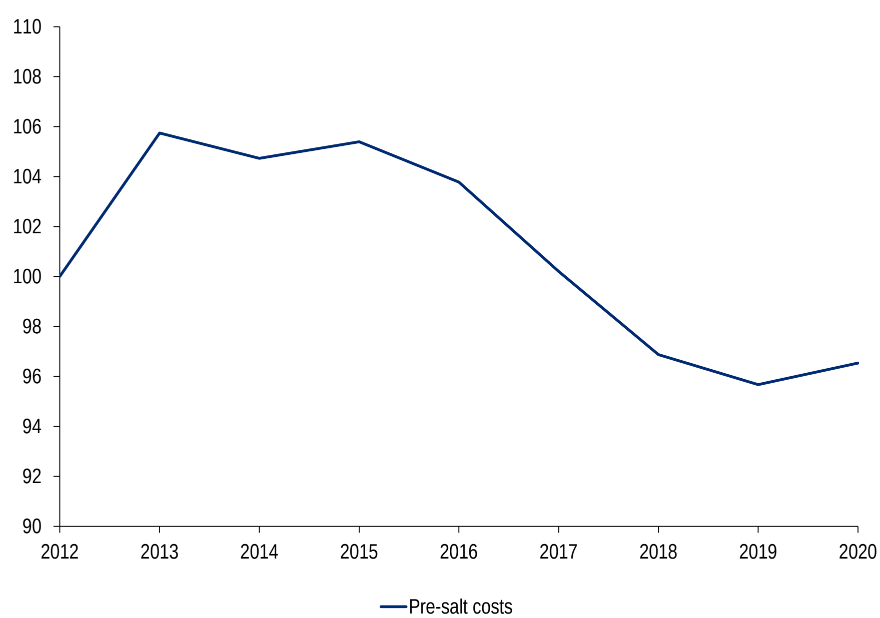



Source: Citi Research estimates

## Pre-Salt Brazil offering productivity potential

In direct contrast to the inflationary trend seen in many deepwater basins, we see the potential for 5-10% cost **deflation** in the Brazilian pre-salt by 2018. This advantaged cost position is largely related to increased drilling efficiency, recent advancements in subsea technology (i.e. deepwater pre-salt flexible risers), and greater standardisation.

Figure 16. Pre-salt Brazil production cost index

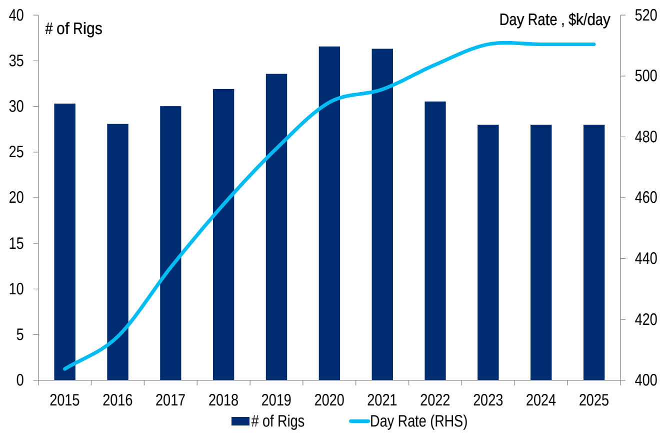



Source: Company data, Citi Research estimates (from 2014)

## Cost-drivers

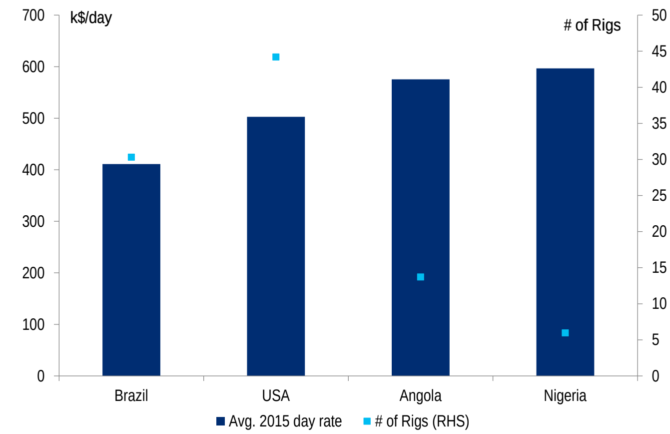
**Drilling efficiency:** At present, drilling represents >50% of pre-salt development capex and where we see the greatest scope for reductions. Pre-salt drilling costs have fallen 40% over the past five years, reflecting faster drilling times, better-than-expected flow rates and improvements in well design and equipment. Going forward, as more homogenous development wells become an increasing proportion of wells drilled, and as technology continues to improve, we see scope for continued reduction in drilling times and a 20% further cost decline by 2020.

Figure 17. Petrobras contracted DW drilling rigs




Source: Company data, Citi Research

Figure 18. 2015 contracted deepwater capacity




Source: Company data, Citi Research

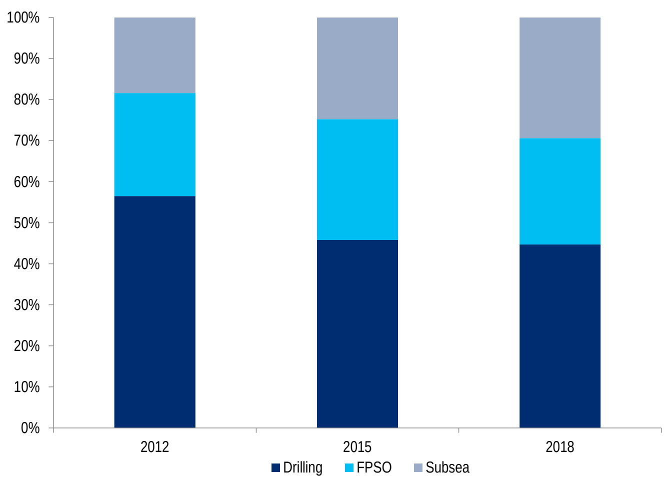
**Subsea equipment/Flexible pipe risers:** Framework agreements covering equipment and the recent approval of flexible risers look to limit the inflationary pressures currently prevalent in the subsea industry. In equipment, potential off-take from Cameron, Aker or GE, largely under frame agreements signed during the 2009-11 cyclical downturn, look adequate for current development plans. In SURF, whilst we expect prices rise relative to Guara-Lula given Subsea 7's aggressive bid on that project (i.e. the wrong price), the availability of flexible risers as a development concept should limit this inflation. Flexibles are a technology with which Petrobras is already familiar from the build-out of Campos Basin infrastructure and where the local supply chain is already mature. Flexibles offer quicker installation times and should also reduce the potential impact of weather on project timetables. In our view, the charter by Petrobras of 16 newbuild vessels for flexible pipe installation (vs. our original expectation of 12) speaks to their confidence in the greater use of flexibles on future developments.

**Greater standardisation.** We expect the Santos pre-salt to benefit from a learning curve effect throughout the supply chain. This should manifest in increased standardisation, from FPSO and well design through to installation. Specifically on FPSOs, while there is risk of further delays to the delivery date (currently late 2016/early 2017) on the domestic newbuild FPSOs currently under construction with Engevix, standardisation has allowed Petrobras to seek alternative solutions through the charter of leased FPSOs with hull conversion outside Brazil. Based on recent units leased from SBM for Lula Alto and Lula Central (2016 start-up), we would estimate additional unit costs of +10% relative to domestic newbuilds, although in part mitigated by greater balance sheet flexibility.  Overall, now that the resource and concept has been materially de-risked, we would expect a more gradual introduction of new technologies going forward, with associated increased predictability of outcome.

The visibility on its long-term supply needs given the significant resource backlog (which will increase with a stake in the Libra field) and modular nature of the pre-salt developments enables Petrobras to maintain flexibility in its development timetable. We believe this flexibility and lower local content requirements from the early pre-salt fields will see Petrobras continuing to react to bottlenecks in the local supply chain by accessing the international services market. In addition, the Brazilian oil and gas regulator, ANP, has been willing to accommodate changes to development plans to avoid delays in the ramp-up of pre-salt oil production.

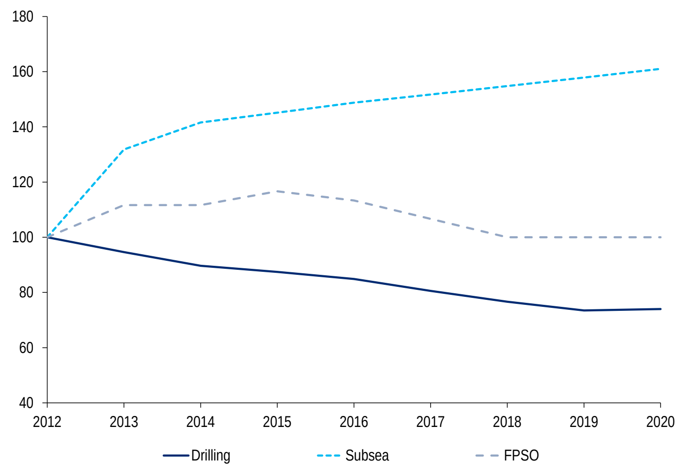
R&D also looks to offer potential efficiency gains going forward. Led by Petrobras and commitments from the industry, pre-salt R&D investment looks to hold significant potential to further lower production costs. Recent spend has in part been responsible for improvements ranging from flexible pipe to drilling bits. By the time of the Libra development, planned for 2019/20, we expect further progress on subsea equipment and FPSO design, production seismic, and drilling techniques. Additionally, enhanced recovery techniques such as water-alternating gas or CO2 injection should help increase the ultimate resource recovery per FPSO module. We believe these initiatives can be rolled out across the modular development and achieve further efficiencies.

Figure 19. Pre-Salt Brazil - Development costs breakdown




Source: Company data, Citi Research estimates (from 2014)

Figure 20. Pre-Salt Brazil - Supply-chain costs over time




Source: Company data, Citi Research estimates (from 2014)

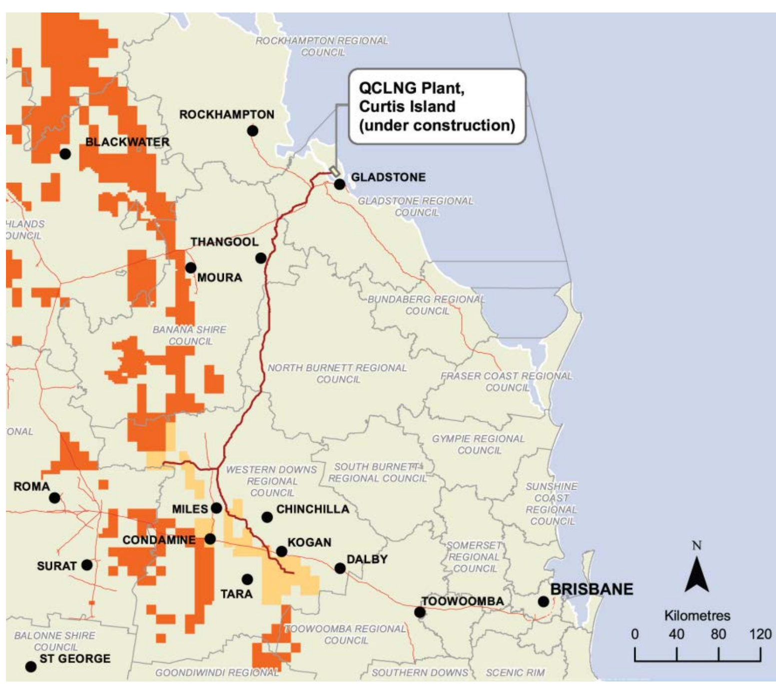
## Australia - Positive steps towards project delivery

While Brazil continues to remain the key contributor to BG's long-term growth plans, it is the delivery of its QC LNG project in Australia that is the main driver of the inflexion in BG's near-term cashflows. The effect of higher post-tax operating cashflow and lower capex from this project sees BG deliver a substantial rise in free cashflow by 2016. We estimate the swing in free cashflow from rising post-tax operating cashflow and lower capex at QC LNG to be around US$4bn between 2013 and 2016, which represents the majority (c.90%) of our forecast uplift in BG group free cashflow over this period.

BG has made significant progress with the commissioning of its QC LNG project over the last 6 months, which gives us increasing confidence around the timing of first LNG at the end of 2014/early 2015:

- **Key infrastructure completed by the end of 2Q14** – in the Ruby Jo upstream development area, which is a major supply source in the southern area of the Surat Basin for Train 1, all six field compression stations (FCSs), along with the central processing plant (CPP) they supply, are now operational. The CPP at the Bellevue development area in the central Surat Basin is mechanically complete and work is being finalised on the three FCSs and gas gathering lines. Drilling and installation of upstream infrastructure ahead of Train 2 start-up in 2015 advances at Woleebee Creek in the north of the Surat Basin. This includes one CPP, five FCSs and a water treatment plant.
- **Plant commissioning moving forwards** – we believe BG is over half way through the plant commissioning process with gas into plant confirming pipeline integrity and the 3 gas turbine generators now up and running providing power to the plant. The next steps will be to fire the gas compressors and refrigeration turbines in order to cool the plant down ready for first LNG.

Figure 21. QC LNG Project - Overview




Source: BG Presentation

- **Production ramp up highlighted by weak East Coast gas prices** – the recent collapse in East Coast Australian gas prices provides evidence that BG is ramping up gas production at the fields that will supply gas to Train 1. BG has made very good progress in the upstream having drilled 2,150 wells at the end of 2Q14 with around 1,100 wells available for production or de-watering. In addition, BG's current run-rate of c. 50 wells per month will likely provide additional well capacity to meet the ramp up needs for both Train 1 and Train 2.

- **First LNG in late 4Q14/early 1Q15 looks achievable** – Given the significant progress so far in 2014, we see a strong likelihood of QC LNG achieving first LNG production by the end of 2014/early 2015. We expect the first train will ramp up within 6 months, unconstrained by gas volumes. We also think the second train will ramp up over 6 months with plateau production possibly achieved by mid-2016. Our confidence is based on stable flow rates from the wells drilled so far and given the recent 3rd party gas supply agreements that have been put in place to de-risk the ramp-up phase of the second train.

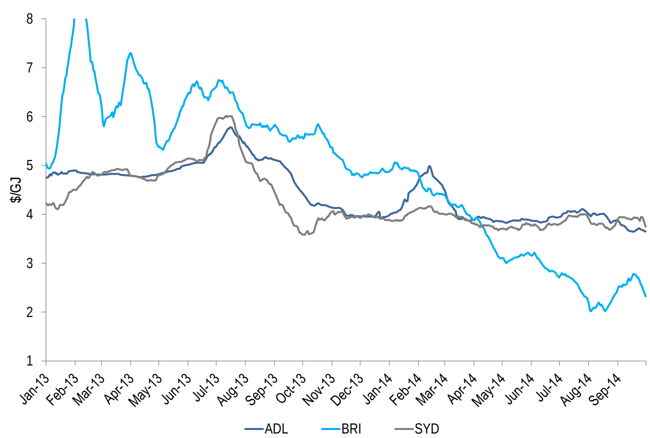
### Ramp up de-risked by third-party agreements and Santos deal

With significant progress made with the delivery of the QC LNG plant and associated infrastructure, the key focus is the ramp up of the 2-train LNG project. BG has taken a number of steps to de-risk this phase of the project, which gives us confidence that the ramp up will be delivered by mid-2016:

1. Well performance has been in line with expectations – the flow rates from the wells drilled to date have been in line with expectations. While there has been a range in well performance across BG's acreage this has been broadly as expected and BG remains confident that the wells will deliver the planned ramp-up profile.

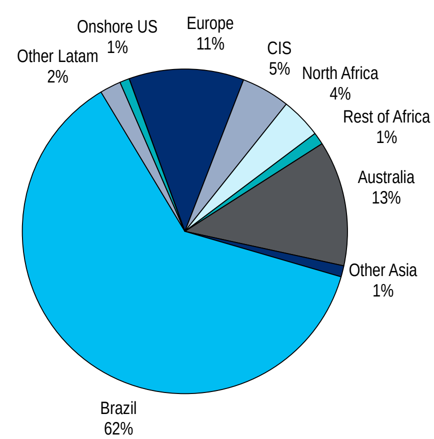
2. Early de-watering of wells – The original plan was that de-watering of many of the wells would not commence until the gas processing facilities were in place. However, BG has looked to dewater some of the CSG wells early by producing and flaring the gas, which is permitted in Australia. We believe this has allowed BG to obtain greater clarity regarding the delivery of the ramp-up phase of the project.

Figure 22. Recent weakness in East Coast Australian gas prices highlights the effect of QC LNG ramp gas hitting the domestic market




Source: AEMO, Citi Research

Figure 23. QC LNG ramp-up should see Australia represent c. 13% of group upstream cashflows in 2020 (up from 3% in 2014)




Source: Citi Research estimates

3. Use of third-party gas – BG has signed a third-party gas sales agreement with AP LNG under which BG can buy up to 190PJ of gas over an initial period of around 2 years reducing thereafter to 25 PJ per annum. Additionally to help manage the ramp up BG has entered into an agreement with AGL Energy to use a depleted field in the Surat Basin to store gas that can be drawn down during the ramp up phase. BG expects third-party gas will represent around 10-20% of the initial gas volumes as they ramp up Train 1 at QC LNG falling to around 5% over the medium-term.

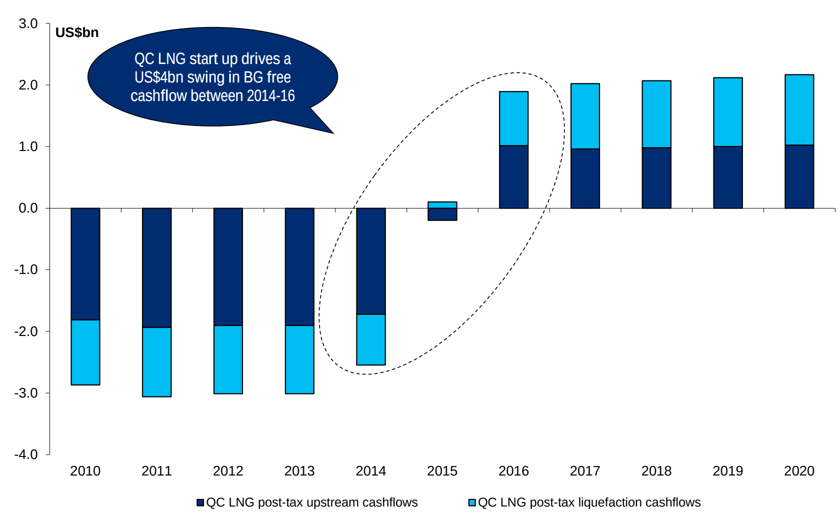
4. Collaboration with GLNG – BG has also signed a collaboration agreement with Santos' GLNG project, which links the major pipelines for QC LNG and GLNG in two places – one on the western side of the Narrows Crossing and one on Curtis Island. The two interconnection points will enable gas to flow from one project to the other when necessary, for example to allow for LNG plant downtime and planned maintenance without interrupting either project; gas field operations. It will also enable both companies to buy, sell and swap gas during the ramp up phases of both projects.

## Delivery of QC LNG drives a significant uplift in BG group cashflows

The delivery and ramp up of QC LNG drives a significant uplift in BG's group cashflows with the effect of higher post-tax operating cashflow and lower capex from this project. We estimate the swing in free cashflow (net to BG) will be around US$4bn between 2014 and 2016, which represents the majority (c. 90%) of the uplift in BG group cashflows that we forecast over the 2014-16 period.

The changes made to the Australian fiscal regime means that Petroleum Resource Rent Tax (PRRT) is now levied on coal-bed methane LNG projects at a rate of 40%. This comes in addition to the standard petroleum royalty in Queensland (c. 8% after deductions) and corporate tax of 30%. However, BG will be able to reduce its PRRT tax liability for a number of years by deducting the large amount of capital allowances that have been compounded through the investment phase of the project. These capital allowances also include the cost to acquire QGC and Pure Energy (c. AUS$7bn), which established its Australian business in 2009. Given these allowances, we do not forecast PRRT to be payable until late next decade.

Figure 24. QC LNG start-up in late 2014 to drive a significant US$4bn swing in free cashflow




Source: Company data, Citi Research estimates (from 2014)

# LNG Portfolio – growth in volumes in 2015

With the planned increase in LNG supply over the next few years (QC LNG and Sabine Pass), BG has signed additional long-term LNG sales agreements. A number of these new agreements commence in 2015 at a time of limited LNG cargoes expected from Egyptian LNG and the planned shutdown for c.3 months at Equatorial Guinea. While we expect BG to have less flexibility / headroom in its LNG supply portfolio than in previous years, we remain comfortable that BG has sufficient capacity given the phased ramp up of a number of new supply contracts and confidence that BG's experienced LNG shipping and marketing team will have taken steps to address any risk of shortages versus contracted supply well in advance by securing additional spot cargoes. We expect BG's LNG supply to grow to 13.4mpta in 2015 (from 10.4mpta in 2014) and rise to 24.1mpta by 2018 following the ramp up of QC LNG and start-up of LNG exports from Sabine Pass in the US.

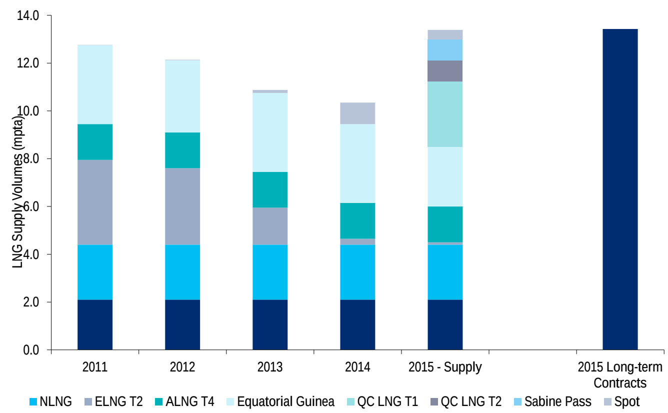
Over the medium-term, we believe the challenges of bringing capital productivity to LNG is likely to see a delay to high-cost LNG projects (e.g West Canada LNG, Gorgon T4) that require oil-parity pricing to breakeven as the industry favours lower-cost LNG developments, such as Gulf of Mexico, Mozambique and brownfield expansion. The potential delay of high-cost LNG projects could see the planned increase in LNG supply by the end of the decade disappoint versus expectations and leave a tighter LNG market for incumbent players, such as BG.

In terms of long-term options, BG has an LNG portfolio that has some higher cost projects (such as Prince Rupert LNG in Canada). However, BG also has lower cost LNG growth options that could still add material increases to its existing LNG portfolio, in addition to de-bottlenecking plans for QC LNG (c. 0.5mpta):

- Lake Charles LNG (up to 15mpta) – BG would not finance the LNG export facility, but take up to 15mpta of LNG supply from the US. The partners await FERC approval in 1H15 with FID expected by late 2015/early 2016 ahead of first LNG in 2019/20. We currently do not include Lake Charles in our medium-term forecasts.

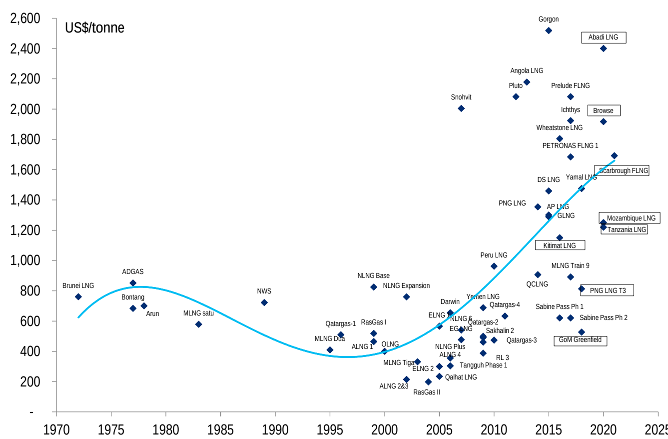
- Tanzania LNG (c. 3mpta net to BG) – Tanzania LNG economics do not look as robust as Mozambique LNG, in our view, but the recent increase in resource estimates suggest that the partners now have sufficient volumes to underpin a 2-train LNG facility. We see BG farming down its 60% stake before FID in 2016.

Figure 25. BG sees increasing supply commitments in 2015




Source: Company data, Citi Research estimates

Figure 26. High Cost LNG likely to be delayed by the industry




Source: Data prior to 2010 is Wood Mackenzie; post 2010 Citi Research estimates

# Portfolio Monetisation Plans

BG management have indicated a planned acceleration in portfolio monetisation over the next 12 months, with the company looking to focus the portfolio around 10-15 core assets. However, we believe it could take time to sell non-core assets given the weaker macro environment and the higher divestment activity of other companies in areas like the UK North Sea. We see it likely that BG will focus on divesting of infrastructure-type assets in both the upstream and midstream, as evidenced by the recent sale of BG's stake in the CATS pipeline system in the UK. BG has sold US$9.5bn of assets over 2012-14 period, which include the QCLNG selldown to CNOOC (Australia), Gujarat Gas (India), TGGT (US), Quintero LNG (Chile) and the CATS pipeline (UK). However, we see a number of areas that BG might look to divest over the next 12 months:

- **Infrastructure assets in Australia** – we see the potential for BG to unlock value in the infrastructure assets that relate to the QC LNG development (such as water treatment plants and pipelines). These assets could be attractive to infrastructure funds when the project is onstream. We estimate the value of these assets to be c. US$1.5-2.5bn. In addition, BG retains a c. 74% stake in the broader QC LNG project and we think BG could look to sell down further as the project is de-risked and brought onstream.

- **Midstream assets remaining in the portfolio** – BG has sold the majority of its midstream assets over the last few years with the most recent deal to sell BG’s 62.78% stake in the CATS pipeline in the UK North Sea for US$954m. However, the company still holds a 7.86% in the SEAL gas export pipeline and 15.98% stake in the SILK pipeline that links the SEAL pipeline to the UK-Continent Interconnector pipe as well as a 50% equity stake in Dragon LNG in the UK. In Asia, BG has other distribution assets as well as stakes in pipeline assets in Uruguay/Argentina could be sold. We believe these infrastructure assets could possibly realise up to US$1bn.

- **Non-core upstream assets** – with BG’s commitment to focus the business around 10-15 core assets. We believe the company will look to sell assets that are more infrastructure-focused assets within the portfolio. These would include BG’s operated-business in the UK North Sea (which produces about c. 35-40k boe/d – or c. 5% of BG’s current production) and possibly its Tunisian assets (which also produce c. 35-40k boe/d – or c. 5% of BG’s current production).

**Divestment in Brazil might take longer than the market expects**

Brazil remains the key source of growth for the company and will represent around 60% of group cashflows by 2020. We believe BG will look to monetise some of its Brazil assets over the medium-term, but this process could take longer than the market anticipates given what seems to be a limited list of buyers in the market currently, and if BG wants to gain the maximum value for its Brazil resource base.

**Spin-off of the LNG business offers little commercial sense**

We value BG’s LNG shipping and marketing business at c. US$20bn, but believe it is unlikely that the group will look to spin this asset off given the strategic need to have the link between the equity gas positions in the upstream to enable BG to have the flexibility to take positions in its LNG shipping and marketing business. We believe the separation of these two businesses would make it more difficult for BG to react to changes in the LNG market and therefore reduce the value of this business over the medium term.

## Housekeeping – Small changes to estimates

We make minor changes <1% on average to our 2014-16 estimates to reflect small tweaks to production/costs for BG over that period.

Figure 27. BG – 2014-16 estimate changes

| Year to 31 Dec | 2012A | 2013A | 2014E | 2015E | 2016E |
|---|---|---|---|---|---|
| Diluted EPS (¢) | 128.7 | 127.9 | 116.8 | 121.3 | 167.3 |
| Diluted EPS (Old) (¢) | 128.7 | 127.9 | 116.7 | 121.3 | 166.2 |
| % Change | 0.0% | 0.0% | 0.1% | 0.0% | 0.7% |

Source: Citi Research

Figure 28. BG – Summary Model

| US$B, unless stated | '07 | '08 | '09 | '10 | '11 | '12 | '13 | '14E | '15E | '16E | '17E | '18E | '19E | '20E | CAGR 14-17 | CAGR 14-20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Key assumptions: | | | | | | | | | | | | | | | | |
| Brent oil (US$/bbl) | 72.7 | 97.4 | 62.3 | 80.3 | 110.8 | 111.9 | 108.8 | 105.0 | 97.5 | 95.0 | 102.0 | 105.0 | 109.0 | 112.0 | -1% | 1% |
| US$/GBP rate | 2.00 | 1.85 | 1.56 | 1.54 | 1.60 | 1.58 | 1.56 | 1.66 | 1.65 | 1.65 | 1.65 | 1.65 | 1.65 | 1.65 | | |
| LNG volumes (mpta) | 12.4 | 12.8 | 12.8 | 13.0 | 12.8 | 12.1 | 10.9 | 10.3 | 13.4 | 21.8 | 23.1 | 24.1 | 24.1 | 26.1 | | |
| E&P volumes (kboepd) | 604 | 620 | 644 | 646 | 641 | 657 | 633 | 598 | 688 | 797 | 925 | 972 | 1,004 | 1,052 | 16% | 10% |
| YoY growth | 0.5% | 2.6% | 3.9% | 0.4% | -0.7% | 2.5% | -3.7% | -5.5% | 15.0% | 15.9% | 16.0% | 5.1% | 3.4% | 4.7% | | |
| % oil | 13% | 14% | 13% | 12% | 11% | 12% | 15% | 23% | 29% | 32% | 39% | 43% | 47% | 49% | | |
| E&P cash margins (US$/boe) | 20.2 | 24.8 | 18.1 | 20.6 | 22.5 | 23.4 | 25.7 | 25.8 | 29.1 | 31.7 | 33.8 | 35.2 | 34.5 | 35.5 | 9% | 5% |
| Per share data: | | | | | | | | | | | | | | | | |
| Adjusted EPS (US$) | 1.06 | 1.70 | 0.93 | 1.19 | 1.28 | 1.29 | 1.28 | 1.17 | 1.21 | 1.67 | 2.29 | 2.68 | 2.86 | 3.23 | 25% | 18% |
| Adjusted EPS (GBP) | 0.53 | 0.92 | 0.60 | 0.77 | 0.80 | 0.81 | 0.82 | 0.70 | 0.74 | 1.01 | 1.39 | 1.63 | 1.73 | 1.96 | 25% | 19% |
| DPS (US$) | 0.19 | 0.21 | 0.20 | 0.22 | 0.24 | 0.26 | 0.29 | 0.31 | 0.34 | 0.39 | 0.44 | 0.51 | 0.59 | 0.67 | 13% | 14% |
| DPS (GBP) | 0.09 | 0.11 | 0.12 | 0.14 | 0.15 | 0.16 | 0.18 | 0.19 | 0.20 | 0.23 | 0.27 | 0.31 | 0.36 | 0.41 | 13% | 14% |
| Valuation ratios: | | | | | | | | | | | | | | | | |
| P/E | 7.6x | 11.9x | 17.7x | 14.8x | 13.3x | 13.2x | 13.2x | 14.5x | 14.0x | 10.1x | 7.4x | 6.3x | 5.9x | 5.2x | | |
| EV/DACF | 4.3x | 8.1x | 9.4x | 9.2x | 8.6x | 8.9x | 8.8x | 9.6x | 8.3x | 6.7x | 5.2x | 4.5x | 4.0x | 3.3x | | |
| Dividend yield | 1.9% | 1.0% | 1.1% | 1.1% | 1.3% | 1.6% | 1.7% | 1.9% | 2.0% | 2.3% | 2.7% | 3.1% | 3.5% | 4.0% | | |
| Free cash yield | 7.5% | 5.0% | -2.1% | -1.7% | -5.8% | -4.2% | -5.6% | -5.3% | -1.0% | 2.4% | 7.1% | 10.3% | 12.0% | 15.3% | | |
| Cash flow: | | | | | | | | | | | | | | | | |
| Upstream | 4.4 | 5.6 | 4.24 | 4.9 | 5.3 | 5.6 | 5.9 | 5.6 | 7.3 | 9.2 | 11.4 | 12.5 | 12.6 | 13.6 | 27% | 16% |
| LNG Shipping & Marketing | 0.8 | 2.1 | 1.5 | 1.8 | 2.0 | 2.0 | 2.0 | 1.9 | 1.7 | 2.1 | 2.2 | 2.4 | 2.6 | 2.8 | 6% | 7% |
| Other (T&D, Corporate, financing) | 0.5 | 0.7 | 0.5 | 0.5 | 0.3 | 0.2 | (0.1) | (0.2) | (0.5) | (0.7) | (0.2) | 0.1 | 0.5 | 1.0 | | |
| Sources of funds | 5.8 | 8.4 | 6.3 | 7.1 | 7.5 | 7.8 | 7.8 | 7.3 | 8.5 | 10.6 | 13.4 | 15.0 | 15.8 | 17.4 | 23% | 16% |
| Changes in working capital | (0.3) | 0.1 | (0.7) | (0.8) | (0.6) | (0.2) | (0.4) | 0.4 | - | - | - | - | - | - | | |
| Cash flow from operations | 5.5 | 8.5 | 5.6 | 6.4 | 6.9 | 7.6 | 7.4 | 7.7 | 8.5 | 10.6 | 13.4 | 15.0 | 15.8 | 17.4 | 20% | 15% |
| Capex | (3.4) | (5.1) | (6.8) | (7.4) | (10.3) | (10.0) | (10.6) | (10.7) | (9.0) | (9.2) | (9.4) | (9.1) | (8.9) | (8.7) | -4% | -3% |
| Free cash flow | 2.1 | 3.4 | (1.2) | (1.1) | (3.4) | (2.4) | (3.2) | (3.0) | (0.6) | 1.4 | 4.0 | 5.9 | 6.9 | 8.7 | | |
| Ordinary dividends | (0.5) | (0.7) | (0.6) | (0.7) | (0.8) | (0.9) | (0.9) | (1.0) | (1.1) | (1.2) | (1.4) | (1.6) | (1.9) | (2.1) | | |
| as % of operating c/flow | 10% | 8% | 11% | 11% | 11% | 11% | 12% | 13% | 13% | 11% | 10% | 11% | 12% | 12% | | |
| Minority dividend | (0.1) | (0.1) | (0.1) | (0.1) | (0.1) | (0.0) | - | - | - | - | - | - | - | - | | |
| Discretionary free cash flow | 1.5 | 2.7 | (1.9) | (1.8) | (4.3) | (3.2) | (4.1) | (4.0) | (1.7) | 0.2 | 2.6 | 4.3 | 5.0 | 6.6 | | |
| Disposals | 0.9 | 0.0 | 0.0 | 0.9 | 0.2 | 2.9 | 4.6 | 0.9 | - | - | - | - | - | - | | |
| Acquisitions | (1.2) | (3.5) | (2.0) | (1.5) | (0.5) | - | - | - | - | - | - | - | - | - | | |
| Equity change | (1.0) | (0.4) | 0.1 | 0.1 | 0.0 | 0.0 | (0.0) | 0.0 | - | - | - | - | - | - | | |
| Surplus (deficit) | 0.2 | (1.2) | (3.7) | (2.4) | (4.5) | (0.3) | 0.5 | (3.1) | (1.7) | 0.2 | 2.6 | 4.3 | 5.0 | 6.6 | | |
| Balance sheet: | | | | | | | | | | | | | | | | |
| Net debt | (0.1) | 1.8 | 4.8 | 7.0 | 11.3 | 10.6 | 10.6 | 12.9 | 14.6 | 14.4 | 11.7 | 7.5 | 2.5 | (4.1) | | |
| Net debt/EBITDA | (0.0) | 0.2x | 0.6x | 0.8x | 1.1x | 1.0x | 1.0x | 1.3x | 1.3x | 1.0x | 0.6x | 0.4x | 0.1x | (0.2) | | |
| Cash interest cover | nm | nm | 28.7x | 41.9x | 34.3x | 60.8x | 38.5x | 42.2x | 16.1x | 16.4x | 22.0x | 29.3x | 42.2x | nm | | |
| Net debt/equity | 0% | 10% | 21% | 26% | 38% | 32% | 33% | 36% | 38% | 33% | 24% | 13% | 4% | -6% | | |
| Capital employed: | | | | | | | | | | | | | | | | |
| Upstream | 8.6 | 13.2 | 19.8 | 25.6 | 33.7 | 41.1 | 45.2 | 52.3 | 57.1 | 61.6 | 65.5 | 68.9 | 72.0 | 74.4 | 8% | 6% |
| LNG | 3.4 | 3.9 | 4.8 | 6.1 | 6.2 | 10.2 | 10.0 | 9.9 | 9.8 | 9.6 | 9.5 | 9.4 | 9.2 | 9.1 | -1% | -1% |
| % Upstream | 44% | 52% | 58% | 64% | 68% | 77% | 87% | 88% | 89% | 90% | 91% | 91% | 92% | 92% | | |
| Return on capital employed: | | | | | | | | | | | | | | | | |
| Upstream | 30.2% | 29.5% | 9.8% | 8.5% | 8.1% | 6.1% | 5.1% | 3.9% | 3.5% | 4.3% | 6.3% | 7.2% | 6.9% | 7.4% | | |
| LNG | 18.8% | 45.9% | 26.3% | 27.6% | 23.1% | 17.5% | 15.5% | 14.7% | 13.8% | 17.5% | 19.2% | 21.3% | 23.3% | 25.9% | | |
| Aggregate group | 20.7% | 25.5% | 12.9% | 11.8% | 10.4% | 8.7% | 8.7% | 7.5% | 7.6% | 9.6% | 12.0% | 13.1% | 13.2% | 14.2% | | |

Source: Company data, Citi Research estimates

Figure 29. BG – Summary NAV

| | Developed Reserves (mmboe) | % Split | Co. Estimated Reserves (mm boe) | Citi Risk Factor % | Citi Risked Reserves (mmboe) | $/boe | Enterprise value (US$ million) | Enterprise value (£ million) | per share (GBP) |
|---|---|---|---|---|---|---|---|---|---|
| UK | **305** | 18% | 561 | | | | | | |
| Atlantic Basin | **447** | 26% | 823 | | | | | | |
| Asia and Middle East | **669** | 39% | 1,233 | | | | | | |
| RoW | **279** | 16% | 514 | | | | | | |
| **Core assets ex Brazil & Australia** | **1,699** | | **3,131** | 100% | **3,131** | 6.3 | **19,570** | **12,231** | **3.58** |

| Sanctioned Growth Projects | BG % Interest | Gross Reserves (mm boe) | Co. Estimated Reserves (mm boe) | Citi Risk Factor % | Citi Risked Reserves (mmboe) | $/boe | Enterprise value (US$ million) | Enterprise value (£ million) | per share (GBP) |
|---|---|---|---|---|---|---|---|---|---|
| Lula (BM-S-11) | **25%** | 7,770 | 1,943 | 100% | 1,943 | 7.7 | 14,977 | 9,360 | 2.74 |
| Cernambi (BM-S-11) | **25%** | 2,030 | 508 | 100% | 508 | 7.7 | 3,908 | 2,442 | 0.71 |
| Sapinhoa (BM-S-9) | **30%** | 3,975 | 1,193 | 100% | 1,193 | 10.3 | 12,283 | 7,677 | 2.24 |
| QC LNG | **74%** | 1,667 | 1,230 | 100% | 1,230 | 11.7 | 14,437 | 9,023 | 2.64 |
| Jasmine | **31%** | 170 | 52 | 100% | 52 | 22.3 | 1,153 | 721 | 0.21 |
| Knarr | **45%** | 80 | 36 | 100% | 36 | 12.1 | 436 | 272 | 0.08 |
| West Franklin Phase 2 | **14%** | 85 | 12 | 100% | 12 | 22.5 | 270 | 169 | 0.05 |
| Egypt (WDDM) ph 9 | **50%** | 191 | 96 | 100% | 96 | 2.5 | 239 | 150 | 0.04 |
| Trinidad (NCMA) - Phase 4a | **46%** | 115 | 53 | 100% | 53 | 4.0 | 209 | 130 | 0.04 |
| Trinidad (ECMA) - Starfish & Manatee | **50%** | 333 | 167 | 100% | 167 | 3.3 | 550 | 344 | 0.10 |
| Haynesville & Marcellus Shale | **Var** | | 275 | 100% | 275 | 2.0 | 550 | 344 | 0.10 |
| Lapa (Carioca) (BM-S-9) | **30%** | 1,320 | 396 | 90% | 356 | 9.4 | 3,350 | 2,094 | 0.61 |
| Iara (BM-S-11) | **25%** | 4,005 | 1,001 | 75% | 751 | 6.7 | 5,039 | 3,149 | 0.92 |
| **Sanctioned growth projects** | | | **6,959** | | **6,670** | **8.6** | **57,399** | **35,874** | **10.49** |
| Jackdaw | **41%** | 100 | 41 | 75% | 31 | 7.3 | 224 | 140 | 0.04 |
| Tanzania LNG | **30%** | 3,103 | 931 | 66% | 614 | 2.3 | 1,413 | 883 | 0.26 |
| Karachaganak phase III | **29%** | 1,457 | 426 | 50% | 213 | 1.8 | 384 | 240 | 0.07 |
| QC LNG Train 3 + Debottlenecking | **74%** | 2,090 | 1,542 | 33% | 509 | 1.4 | 713 | 445 | 0.13 |
| **Unsanctioned growth projects** | | | **2,940** | | **1,367** | **2.0** | **2,733** | **1,708** | **0.50** |
| **Reserves & Resources** | | | **13,031** | | **11,168** | | **79,702** | **49,814** | **14.57** |

| Exploration | | % Split | Co. Reported Reserves (mm boe) | Citi Risk Factor % | Citi Risked Reserves (mmboe) | $/boe | Enterprise value (US$ million) | Enterprise value (£ million) | per share (GBP) |
|---|---|---|---|---|---|---|---|---|---|
| Brazil | | 5% | 240 | 20% | 48 | 4.0 | 192 | 120 | 0.04 |
| Other | | 95% | 4,500 | 20% | 900 | 4.0 | 3,600 | 2,250 | 0.66 |
| **Total Exploration** | | | **4,740** | | **948** | | **3,792** | **2,370** | **0.69** |
| **Upstream Valuation** | | | **17,771** | | **12,116** | | **83,494** | **52,184** | **15.26** |

| | 2014e EBIT ($m) | 2014e EBITDA ($m) | EV/EBITDA Multiple | EV (US$m) | EV (£m) | per share (GBP) |
|---|---|---|---|---|---|---|
| **LNG** | | | | | | |
| Liquefaction (ex-Australia) | 376 | 487 | 7.1 | 3,466 | 2,166 | |
| Shipping & Marketing | 2,545 | 2,593 | 6.8 | 17,753 | 11,096 | |
| Other | -109 | -109 | 10.0 | (1,090) | (681) | |
| **LNG** | **2,812** | **2,970** | **6.8** | **20,129** | **12,581** | **3.68** |
| **T&D** | | | | | | |
| CATS Pipeline | | | | 954 | 596 | 0.17 |
| Other Distribution Assets | | | | 400 | 250 | 0.07 |
| **LNG** | | | | **1,354** | **846** | **0.25** |
| EV | | | | 104,977 | 65,611 | 19.19 |
| Net debt (2013) | | | | (10,617) | (6,636) | (1.94) |
| Minorities (2013) | | | | - | - | - |
| **Shareholder value** | | | | **94,360** | **58,975** | **17.25** |

Source: Citi Research

## Companies Mentioned

Figure 30. Other Companies Mentioned

| Ticker | Company | Rec | Price 13-Oct-14 | TP (Local) | DY(%) 2014E | %Chg (US$-basis) 1D | 1W | 1M | 3M | 12M | YTD | 12M Rel* | Mkt Cap US$ bn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| APC.N | Anadarko | Buy | 88.4 | 115.0 | 1% | -1 | -10 | -17 | -17 | -8.5 | 10 | 27 | 44 |
| BP.L | BP | Buy | 4.3 | 5.1 | 6% | 1 | -3 | -9 | -20 | -1 | -14 | 3 | 127 |
| CNQ.TO | Canadian Natural | Buy | 38.48 | 50.00 | 2% | 0 | -8 | -16 | -22 | 6.8 | 1.6 | 24 | 37 |
| CVE.TO | Cenovus | Buy | 27.3 | 37.0 | 4% | 0 | -7 | -19 | -22 | -19 | -15 | 0 | 18 |
| CVX.N | Chevron | Buy | 113.89 | 141.00 | 4% | -0 | -4 | -7 | -11 | -3.3 | -9 | 17 | 216 |
| CHK.N | Chesapeake | Buy | 19.0 | 32.0 | 2% | -1 | -12 | -25 | -33 | -25 | -27 | 0 | 12 |
| 0883.HK | CNOOC | Buy | 12.92 | 18.00 | 4% | 0 | -3 | -10 | -4 | -18 | -10 | 31 | 74 |
| COP.N | ConocoPhillips | Buy | 70.4 | 100.0 | 4% | -1 | -7 | -11 | -17 | -2.5 | -1 | 28 | 86 |
| EC.N | Ecopetrol | Neutral | 28.60 | 35.00 | 8% | -1 | -7 | -16 | -18 | -39 | -25 | 0 | 59 |
| ENI.MI | Eni | Neutral | 16.6 | 18.5 | 7% | 0 | -6 | -13 | -20 | -11 | -12 | 1 | 77 |
| XOM.N | Exxon Mobil Corp | Neutral | 91.60 | 102.00 | 3% | 0 | -3 | -4 | -10 | 5.5 | -9.3 | 28 | 391 |
| GALP.LS | Galp Energia | Buy | 11.6 | 14.6 | 3% | 0 | -5 | -16 | -15 | -13 | -10 | 1 | 11 |
| HES.N | Hess Corp | Neutral | 82.54 | 88.00 | 1% | -1 | -9 | -16 | -17 | 0.6 | -1.7 | 28 | 25 |
| IMO.TO | Imperial Oil | Buy | 49.9 | 60.0 | 1% | 0 | -5 | -11 | -16 | 2.1 | 0.5 | 28 | 38 |
| 1605.T | Inpex | Buy | 1343.50 | 1770.00 | 1% | 0 | -7 | -9 | -17 | 6.5 | -2.5 | 26 | 18 |
| LKOH.MM | Lukoil | Buy | 1925.1 | 76.3 | 6% | 3 | -5 | -14 | -20 | -25 | -21 | 7 | 38 |
| OXY.N | Occidental | Buy | 91.56 | 111.00 | 3% | -1 | -6 | -7 | -10 | -4.9 | -4.5 | 21 | 71 |
| OMVV.VI | OMV | Neutral | 24.3 | 35.0 | 5% | -0 | -6 | -16 | -28 | -36 | -36 | 0 | 10 |
| PETR3.SA | Petrobras | Neutral | 18.87 | 17.00 | 3% | 7 | 5.3 | 2 | 9 | 6.7 | 23 | 61 | 113 |
| 0857.HK | PetroChina | Sell | 9.7 | 9.3 | 4% | -1 | -5 | -9 | -4 | 7.4 | 13 | 52 | 226 |
| RDSa.L | Royal Dutch Shell | Neutral | 21.91 | 25.50 | 5% | 0 | -4 | -9 | -14 | 9.5 | -1.6 | 31 | 227 |
| RELI.BO | Reliance | Neutral | 961.0 | 1119.0 | 1% | -0 | 3.8 | -7 | -3 | 10 | 8 | 43 | 51 |
| REP.MC | Repsol | Buy | 17.42 | 23.00 | 6% | 1 | -5 | -9 | -13 | -12 | -12 | 2 | 30 |
| ROSN.MM | Rosneft | Neutral | 222.3 | 9.3 | 3% | 1 | -4 | -9 | -22 | -32 | -27 | 3 | 59 |
| STO.AX | Santos Ltd | Buy | 12.59 | 16.95 | 3% | -1 | -7 | -18 | -17 | -22 | -17 | 0 | 11 |
| 0386.HK | Sinopec | Neutral | 6.7 | 7.6 | 4% | 0 | -1 | -16 | -7 | 7.5 | 5.3 | 38 | 100 |
| STL.OL | Statoil | Neutral | 158.30 | 180.00 | 5% | 2 | -4 | -11 | -18 | 9.7 | 2 | 23 | 79 |
| SU.TO | Suncor Energy Inc | Buy | 36.7 | 48.0 | 3% | 0 | -8 | -15 | -21 | -7.9 | -6.6 | 10 | 48 |
| TOTF.PA | Total | Buy | 44.60 | 57.00 | 5% | 1 | -7 | -12 | -17 | -3.4 | -6.8 | 4 | 136 |
| TLW.L | Tullow Oil | Neutral | 5.3 | 9.4 | 2% | 1 | -13 | -26 | -37 | -46 | -40 | 1 | 8 |
| WPL.AX | Woodside | Buy | 38.70 | 46.44 | 8% | 0 | -6 | -12 | -14 | -6.5 | -3.1 | 11 | 28 |

Source: Powered by dataCentral

# BG Group

## Company description

BG is an integrated gas company, which looks to connect equity and third-party gas to higher-value gas markets primarily through its global LNG business. In addition, recent material exploration success in the Brazilian pre-salt provides BG with growing exposure to deepwater oil.

## Investment strategy

Investor confidence in BG's long-term growth ambitions has been dented after repeated production downgrades. However, we continue to believe BG has a portfolio that can deliver high margin growth to the back-end of the decade, supported by five years of strong reserve replacement (backlog growth) and provides options for new management, through portfolio management, to look to defend high returns on equity. We have a Buy rating.

## Valuation

Our 1,400p price target is based on our DCF valuation. This is modelled in USD and set using a 1.60 spot GBP/USD exchange rate. Our DCF is calculated using a 10-year explicit forecast period and Citi's Commodities Team's price outlook of US$105/bbl in 2014, US$98/bbl in 2015, US$95/bbl in 2016 and then long-term US$90/bbl (real, 2013 money). We also assume a 0% terminal growth rate and a discount rate of 7.7% (based on CAPM). Our DCF is supported by our sum-of-the-parts valuation of 1,725p/share. Our sum-of-the-parts valuation is based on a DCF of BG's E&P resource base and the non-E&P divisions are valued on a combination of multiples, divisional DCFs or market valuations (for listed associates).

## Risks

Our investment rating on BG considers several company-specific and industry risks:

- Commodity prices - BG's earnings are sensitive to changes in oil and natural gas prices, which can fluctuate significantly as a function of economic and geopolitical forces. We calculate a US$1/bbl move in oil prices (vs Citi's Commodities Team's 2014 forecast of US$109/bbl) would affect EPS by c. 0.9%.

- Currency - BG's principal earnings and costs are in US$ meaning that GBP/US$ currency moves are largely translational (ie close to a 1:1 impact on EPS).

- Political - Changing political forces can affect BG's legal ownership, fiscal take and pace of development activity in any country in which it operates. Note that Brazil represents c.30% of BG's resource base, while Australia represents 20%. BG also has a key position in Kazakhstan through its stake in the Karachaganak oil and gas development, which accounts for c.10% of its resource base.

- Natural and man-made disasters - BG's operating activities can be severely disrupted by the effects of natural disasters or industrial accidents. Accidents may bear the burden of additional costs for remediation, fines and from restrictions on future business activities.

These risks might impede the share price from reaching our target price.

# Appendix A-1

## Analyst Certification

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## IMPORTANT DISCLOSURES

**BG Group (BG.L)**
**Ratings and Target Price History**
**Fundamental Research**
Analyst: Michael J Alsford


| | Date | Rating | Target Price | Closing Price |
|---|---|---|---|---|
| 1 | 7-Oct-11 | Stock rating system changed | | |
| 2 | 12-Dec-11 | 1 | *16.20 | 13.25 |
| 3 | 12-Mar-12 | 1 | *17.40 | 15.04 |
| 4 | 1-Jun-12 | 1 | *16.00 | 12.01 |
| 5 | 26-Jun-12 | 1 | *15.30 | 12.10 |
| 6 | 1-Nov-12 | 1 | *13.80 | 11.02 |
| 7 | 15-May-13 | 1 | *14.20 | 12.23 |
| 8 | 9-Dec-13 | 1 | *15.10 | 12.38 |
| 9 | 28-Jan-14 | 1 | *14.00 | 10.54 |

* Indicates change

Rating/target price changes above reflect Eastern Standard Time

**BG Group (BG.L)**
**Ratings and Target Price History**
**Best Ideas Research**
**Relative Call (3 Month)**
Analyst: Michael J Alsford


| | Date | Rating | Target Price | Closing Price |
|---|---|---|---|---|
| 1 | 10-Nov-11 | *ADD MP | - | 13.80 |
| 2 | 7-Feb-12 | *REM MP | - | 14.65 |
| 3 | 11-Mar-13 | *ADD MP | - | 11.74 |
| 4 | 11-Feb-14 | *REM MP | - | 10.67 |

* Indicates change

Rating/target price changes above reflect Eastern Standard Time

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Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Anadarko Petroleum Corp

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|---|---|---|---|---|---|---|
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