

Listed UK comparable gas developer IOG plc shows the way

We have analysed the historical performance of Independent Oil and Gas (IOG-GB, Not covered), given it is a United Kingdom gas and infrastructure operator that is well advanced in the same strategy that HHR is pursuing. IOG is leveraging existing infrastructure to develop Southern North Sea gas assets with first gas forecast in the 4Q 2021. IOG has seen a six-fold increase in enterprise value over the past four years.

HHR is targeting first gas in late 2024, so IOG is circa three years ahead of where HHR is today.

IOG valuation up 6X as first gas nears

In 2013 IOG owned 50% of the Blythe field. Over the next three years it acquired the remaining 50% of Blythe, was awarded the Elgood license, and acquired the Vulcan Satellite fields.

At the end of 2017, IOG was trading at an enterprise value (EV)/(2P+2C) of less than US\$1/barrel oil equivalent (boe) on its reported 2P reserves plus 2C contingent resources of ~52 million boe (mmboe).

As IOG has developed the Saturn Banks Project (SBP) with forecast first gas from the project in the 4Q 2021, IOG shareholders have seen a steady increase in the EV/(2P+2C) multiple the stock is trading at to its current multiple of ~US\$6.00/boe.

Applying that value multiple on 50% of HHR's current 2C contingent resource for its Phase 1 proposal of 37.4 mmboe (assumes a 50% farmout to fund Phase 1 development) implies a value on the gas retained of over A\$150m at first gas in 2024, compared with HHR's current trading EV of A\$29m.

Operational update for Phase 2

HHR has commenced the Phase 2 subsurface work programme covering the Hodgkin and Lovelace field developments. HHR has received datasets from the previous operator incorporating six separate 3D seismic surveys which will enable the finalisation of a new work programme and budget for the Phase 2 subsurface workstreams, targeting completion in Q2 2022.

The work programme will encompass the construction of a new geological and geophysical database, detailed interpretation of the new 3D seismic data, petrophysical analysis and reservoir engineering to deliver revised in gas in place volumes, recoverable 2C contingent resources and production profiles for both fields.

Valuation

We have a valuation for HHR of A\$0.10. It is based on the blend of our Phase 1 project valuation at first gas (A\$0.10) and a valuation (A\$0.11) based on the mid-point of recent exit multiples achieved for 2C contingent resources and 2P reserves.



Hartshead Resources (HHR) is the 100% owner and operator of Seaward Production License P2607 which is comprised of five blocks in Quads 48 and 49 on the United Kingdom Continental Shelf, in the Southern Gas Basin. The License contains multiple gas fields, some of which have been only partially developed. There are also several exploration prospects.

See our initiation ["A responsible and safe European energy business in the making"](#)

| | |
|------------|---------|
| Stock | HHR.ASX |
| Price | A\$0.02 |
| Market cap | A\$37m |
| Valuation | A\$0.10 |

Company data

| | |
|----------------------|---------------|
| Net cash (Sept 2021) | \$5.7m |
| Shares on issue | 1,849,772,127 |

Next news

| | |
|-----------|--|
| Jan 2022 | 2Q FY22 Appendix 5B |
| 6 months | Development concept identified |
| 6 months | Host for gas transmission and processing identified |
| 12 months | Revised competent persons report and resources for Phase 1 |

HHR Share Price (A\$)



Source: FactSet

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Financial data table

| Hartshead Resources | | | | | | HHR-AU |
|--|----------------|------------------|---------------|---------------|--------------|---------------|
| Year end 30 June | | | | | | |
| MARKET DATA | | | | | | |
| Price | A\$ | | | | | 0.020 |
| 52 week high / low | A\$ | | | | | 0.038 - 0.013 |
| Valuation | A\$ | | | | | 0.104 |
| Market capitalisation | A\$m | | | | | 37.0 |
| Shares on issue (basic) | m | | | | | 1,850 |
| Options & performance shares | m | | | | | 135 |
| Potential diluted shares on issue | m | | | | | 1,984 |
| INVESTMENT FUNDAMENTALS | | | | | | |
| | | FY21 | FY22E | FY23E | FY24E | |
| EPS Underlying | ¢ | (1) | (0.5) | (0.4) | (0.4) | |
| EPS Reported | ¢ | (0.6) | (0.5) | (0.4) | (0.4) | |
| P/E Underlying | x | n/m | n/m | n/m | n/m | |
| P/E Reported | x | n/m | n/m | n/m | n/m | |
| Dividend | A¢ | 0.0 | 0.0 | 0.0 | 0.0 | |
| Payout ratio | % | 0% | 0% | 0% | 0% | |
| Yield (Y/E / spot) | % | 0.0 | 0.0 | 0.0 | 0.0 | |
| Free cash flow | \$m | (1) | (9) | (9) | (10) | |
| Free cash flow per share | ¢ | (0) | (0) | (0) | (0) | |
| Price to free cash flow | x | n/m | n/m | n/m | n/m | |
| FCF Yield | % | n/m | n/m | n/m | n/m | |
| Year end share price / Spot | A\$ | 0.016 | 0.020 | 0.020 | 0.020 | |
| Year end shares | m | 1,850 | 2,135 | 2,330 | 2,330 | |
| Potential Diluted shares | m | 1,850 | 2,264 | 2,459 | 2,459 | |
| Market cap (Y/E / Spot) | \$m | 30 | 43 | 47 | 47 | |
| Net debt /(cash) | \$m | (7) | (8) | (10) | (0) | |
| Enterprise value | \$m | 23 | 35 | 36 | 46 | |
| EV/EBITDAX | x | n/m | n/m | n/m | n/m | |
| Net debt / Enterprise Value | x | (0.3) | (0.2) | (0.3) | (0.0) | |
| Reserves and Resources (Bcf) | | | | | | |
| Phase 1 | License | 1C | 2C | 3C | | |
| Anning | 49/17b | 84 | 125 | 177 | | |
| Somerville | 49/17b | 62 | 90 | 124 | | |
| Combined | 49/17b | 161 | 217 | 285 | | |
| Phase 2 | License | 1C | 2C | 3C | | |
| Lovelace | 49/6c, 49/11 | 14 | 39 | 70 | | |
| Hodgkin | 48/15c | 35 | 100 | 387 | | |
| Combined | | | 139 | | | |
| Phase 3 | License | P90 | P50 | P10 | | |
| Garrod | 49/17b | 29 | 56 | 94 | | |
| Ayrton | 49/17b | 43 | 85 | 102 | | |
| Valuation based on North Sea recent M&A transaction multiples | | | | | | |
| | | Base case | | | | |
| Transaction multiple (US\$/boe) | | 4.00 | 5.00 | 6.00 | | |
| 2C resources (MMboe) | | 37.4 | 37.4 | 37.4 | | |
| Exit value (US\$m) (FY24) | | 150 | 187 | 224 | | |
| A\$m | | 206 | 258 | 309 | | |
| A\$ per share | | \$0.09 | \$0.11 | \$0.13 | | |
| Valuation based on Phase 1 project (First Gas in FY25) | | | | | | |
| Cash flows (Project Value) (£m) | | | | 510 | | |
| Less project net debt (£m) | | | | (185) | | |
| Project equity value FY24 (£m) | | | | 325 | | |
| Sell down | | | | 50% | | |
| HHR share of project equity post farm-out (£m) | | | | 163 | | |
| Equity value per share FY24 (£) | | | | 0.07 | | |
| Equity value per share FY24 (A\$) | | | | 0.12 | | |
| Cost of equity (Ke) | | | | 10% | | |
| Discounted back to today (A\$) | | | | \$0.10 | | |
| 12 month relative performance versus S&P/ASX 200 Energy Index | | | | | | |
| | | | | | | |
| PROFIT AND LOSS (A\$m) | | | | | | |
| | | FY21 | FY22E | FY23E | FY24E | |
| Sales | \$m | 0 | 0 | 0 | 0 | |
| Operating costs | \$m | (5) | (5) | (5) | (6) | |
| EBITDAX | \$m | (5) | (5) | (5) | (6) | |
| Exploration & development | \$m | (1) | (4) | (4) | (5) | |
| EBITDA | \$m | (6) | (9) | (10) | (10) | |
| Depreciation & amortisation | \$m | (0) | (0) | (0) | (0) | |
| EBIT | \$m | (6) | (9) | (10) | (10) | |
| Net interest | \$m | 0 | 0 | 0 | 0 | |
| PBT pre impairments / unusual | \$m | (6) | (9) | (10) | (10) | |
| Impairments | \$m | 0 | 0 | 0 | 0 | |
| Pretax Profit | \$m | (6) | (9) | (10) | (10) | |
| Tax expense | \$m | 0 | 0 | 0 | 0 | |
| NPAT | \$m | (6) | (9) | (10) | (10) | |
| Minority interests | \$m | 0 | 0 | 0 | 0 | |
| Reported NPAT | \$m | (6) | (9) | (10) | (10) | |
| BALANCE SHEET(A\$m) | | | | | | |
| | | FY21 | FY22E | FY23E | FY24E | |
| Cash | \$m | 7 | 8 | 10 | 0 | |
| Receivables | \$m | 0 | 0 | 0 | 0 | |
| Other | \$m | 0 | 0 | 0 | 0 | |
| Current assets | \$m | 7 | 8 | 10 | 0 | |
| Plant and equipment | \$m | 0 | 0 | 0 | 0 | |
| Exploration and evaluation assets | \$m | 0 | 0 | 0 | 0 | |
| Associates | \$m | 0 | 0 | 0 | 0 | |
| Other | \$m | 0 | 0 | 0 | 0 | |
| Non current assets | \$m | 1 | 0 | 0 | 0 | |
| Total Assets | \$m | 8 | 8 | 11 | 1 | |
| Payables | \$m | 1 | 1 | 1 | 1 | |
| Borrowings | \$m | 0 | 0 | 0 | 0 | |
| Other | \$m | 0 | 0 | 0 | 0 | |
| Current liabilities | \$m | 1 | 1 | 1 | 1 | |
| Borrowings | \$m | 0 | 0 | 0 | 0 | |
| Other | \$m | 0 | 0 | 0 | 0 | |
| Non current liabilities | \$m | 0 | 0 | 0 | 0 | |
| Total Liabilities | \$m | 1 | 1 | 1 | 1 | |
| Equity | \$m | 55 | 70 | 83 | 83 | |
| Retained earnings | \$m | (58) | (67) | (77) | (87) | |
| Reserves / Other | \$m | 5 | 4 | 4 | 4 | |
| Shareholder's equity | \$m | 2 | 7 | 10 | (0) | |
| CASH FLOW (A\$m) | | | | | | |
| | | FY21 | FY22E | FY23E | FY24E | |
| OCF - pre interest & tax | \$m | (1) | (9) | (9) | (10) | |
| Net corporate interest | \$m | 0 | 0 | 0 | 0 | |
| Tax Paid | \$m | 0 | 0 | 0 | 0 | |
| Other | \$m | (1) | 0 | 0 | 0 | |
| Operating cash flow | \$m | (1) | (9) | (9) | (10) | |
| PPE | \$m | (0) | 0 | 0 | 0 | |
| Development capex | \$m | 0 | 0 | 0 | 0 | |
| Investments / Divestments | \$m | 0 | 0 | 0 | 0 | |
| Other investing cash flow | \$m | 0 | 0 | 0 | 0 | |
| Net investing | \$m | 1 | 0 | 0 | 0 | |
| Net movement in Equity | \$m | 8 | 10 | 13 | 0 | |
| Cash dividends Paid | \$m | 0 | 0 | 0 | 0 | |
| Net debt movement | \$m | 0 | 0 | 0 | 0 | |
| Other | \$m | (0) | (1) | (1) | 0 | |
| Net Financing | \$m | 8 | 10 | 12 | 0 | |
| Change in cash | \$m | 7 | 1 | 3 | (10) | |

Source: Company data, MST Access

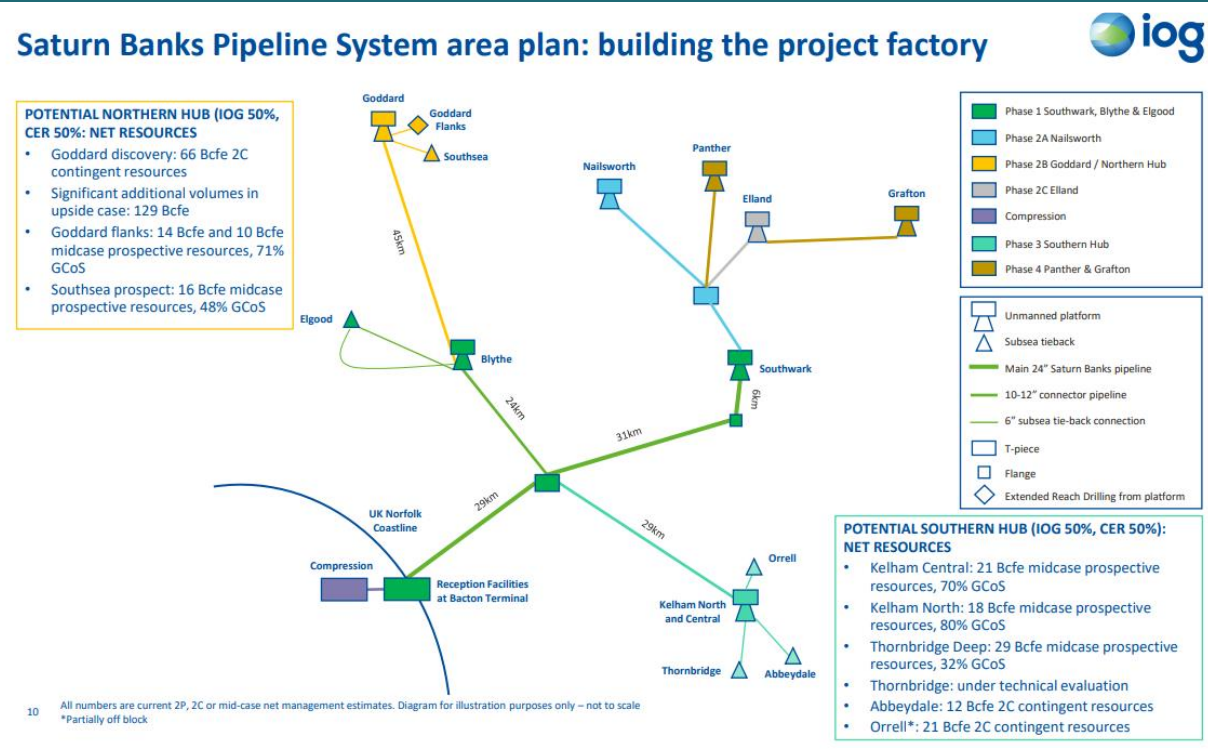
IOG plc enterprise value has lifted over 6x in the last four years – HHR is following a similar roadmap and we forecast similar returns

We have analysed the historical performance of IOG, given it is a United Kingdom gas and infrastructure operator that is well advanced in the same strategy that HHR is pursuing. It demonstrates the opportunity for HHR value accretion.

IOG is leveraging existing infrastructure to develop Southern North Sea gas assets with first gas forecast in the 4Q 2021. HHR is targeting first gas in late 2024, so IOG is circa three years ahead of where HHR is today.

IOG is 50% owner and operator of the Saturn Banks Project (SBP) – Phase 1, which entails the development of three fields, Blythe, Elgood and Southwark, in the UK Southern North Sea. IOG is also 50% owner and operator of three fields in the UK Southern North Sea, Nailsworth, Elland and Goddard, which collectively will form Phase 2 of IOG's Core Development. The remaining 50% interests are held by CalEnergy Resources (UK) Limited (CER).

Figure 1 – IOG Saturn Banks Project Phase 1 development



Source: IOG

In 2013 IOG owned 50% of the Blythe field.

Over the next three years it acquired the remaining 50% of Blythe, was awarded the Elgood license, and acquired the Vulcan Satellite fields. At the end of 2016, IOG had ~377 billion cubic feet (BCF) of P50 Resource at the Blythe, Elgood and Vulcan satellites (Nailsworth, Southwark & Elland fields) that are the basis for IOG's Phase 1 and 2 projects.

Over 2017, IOG submitted the Blythe, Elgood and Vulcan Satellites field development plans (FDPs). In 2018, it sourced its route to market with the acquisition of the Thames pipeline (announced prior year).

In 2019, IOG completed a 50% farmout to CER that agreed to pay £40m cash up front and a £125m development carry for Phase 1 (up to £60m) and Phase 2 (up to £65m) which at the time represented ~80% of the project costs.

As part of the agreement IOG will pay CER a ~20% royalty (up to £91m) on the projects Phase 1 revenues and a £0.50/thousand cubic feet (MCF) royalty (up to £9.75m) on Goddard production above 70 BCF.

Excluding the Goddard royalty, ignoring time value of money and assuming all the Phase 1 royalty is paid, IOG effectively received ~£74m or ~US\$100m for the sell down, equating to ~US\$2.75/boe (~36.4 mmboe 2P plus 2C at the time - see Figure 2) at the time of the deal.

Figure 2 – IOG Resource development over last five years

| | FY17 AR | FY18 AR | FY19 AR | FY20 AR |
|---|-------------|-------------|-------------|-------------|
| Reserves (BCF) | 2P | 2P | 2P | 2P |
| Vulcan (Nailsworth, Southwark & Elland) | 249 | 249 | 124 | 124 |
| Blythe | 33 | 33 | 17 | 21 |
| Elgood | 22 | 22 | 11 | 14 |
| Total 2P | 303 | 303 | 152 | 159 |
| Oil equivalent mmboe | 52 | 52 | 26 | 27 |
| Resources (BCF) | 2C | 2C | 2C | 2C |
| Goddard | | 108 | 54 | 66 |
| Total 2C | 0 | 108 | 54 | 66 |
| 2P plus 2C | 303 | 411 | 206 | 225 |
| Total SBP 2P plus 2C mmboe | 52.2 | 70.8 | 35.4 | 38.7 |
| Other Phase 3 & 4 (BCF) | 2C | 2C | 2C | 2C |
| Abbeyle | | 11 | 6 | 12 |
| Sub total Other 2C | 0 | 11 | 6 | 12 |
| Total IOG 2P plus 2C | 303 | 422 | 212 | 236 |
| Total IOG 2P plus 2C mmboe | 52.2 | 72.7 | 36.4 | 40.7 |

Source: IOG

Notes: IOG has additional contingent and prospective resources associated with Phases 3 and 4 that were not sold down to CER.

When the farmout occurred, IOG had secured its export route to market but had not had its FDPs approved.

We expect HHR to be at a similar point with its Phase 1 development in mid CY 2022.

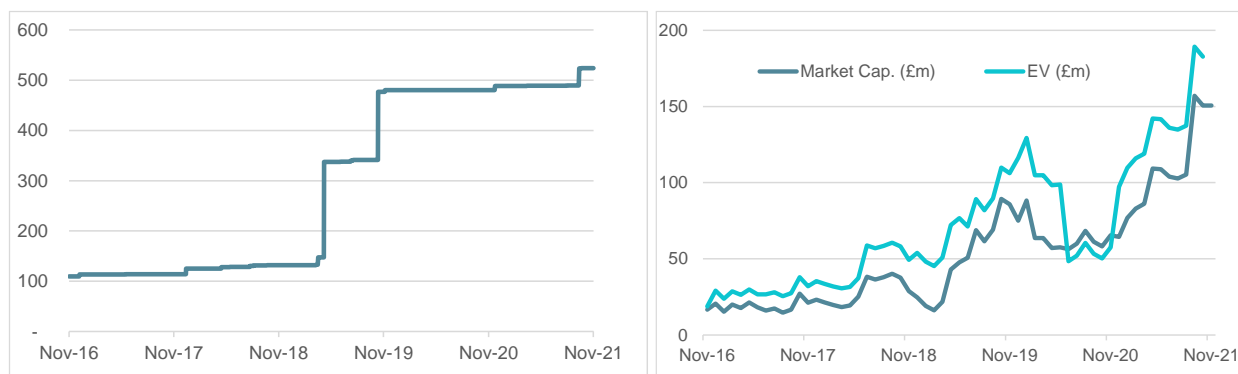
On the same basis, if HHR sold down 50% of Phase 1, the retaining 2P+2C resources (18.7 mmboe) would be worth A\$75m and HHR would have Phase 1 largely funded.

IOG value journey

At the end of 2016, IOG had an EV of ~£20m.

Over the last five years, IOG has issued ~415m new shares (See Figure 3).

Figure 3 – IOG shares (m) on issue, market capitalisation and Enterprise Value (£m) over last five years



Source: FactSet

The major issues were to new shareholders in April 2019 and debt holders on the conversion of a convertible note in October 2019.

What we've learnt from the IOG plc study

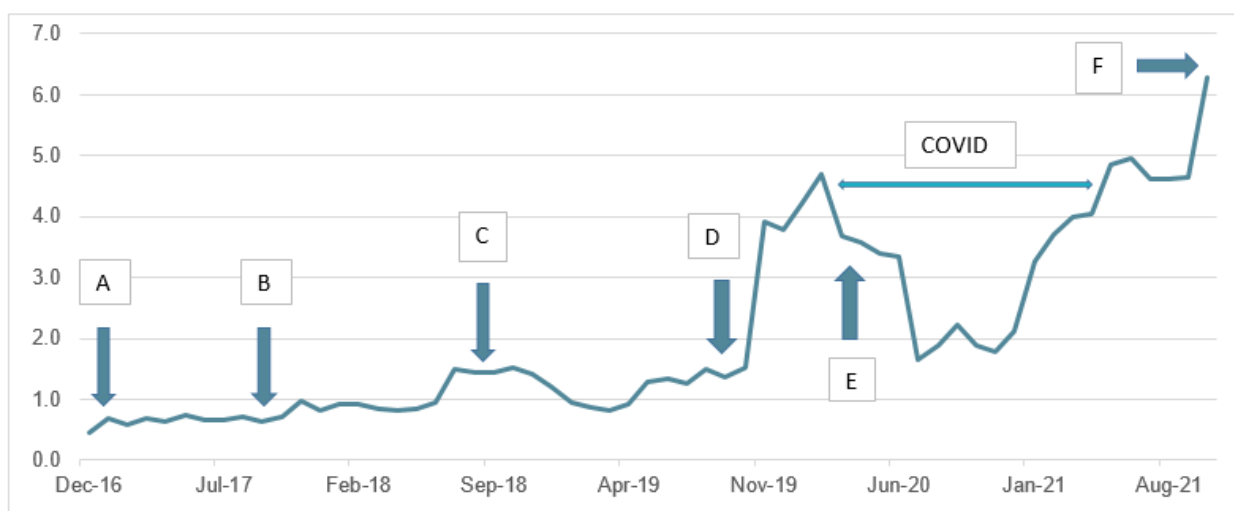
Return equity holders have made from last major capital raising

IOG raised ~£19m in April 2019 at ~£0.09. At the current spot price of £0.30, investors who participated in that raising have made a return of over 200% and an annualised return of over 55% per annum.

IOG EV/(2P+2C) progression

As noted previously, IOG's EV/(2P+2C) has lifted from <US\$1/boe to ~US\$6.00/boe today.

Figure 4 – IOG - Enterprise Value / (2P+2C) over last five years (US\$/boe)



Source: MST, FactSet

Key time points for IOG's growth in EV/(2P plus 2C) above are:

- A - Year end 2016 - IOG puts together portfolio of assets.
- B - July & October 2017 - Concept select and field development plans (FDP) submitted.
- C - September 2018 - Secured export route.
- D - October 2019 - Farm out with CalEnergy and final investment decision (FID) made.
- E - April 2020 - FDP approved by the UK Government.
- F - Now - First gas forecast for 4Q 2021.

HHR is post timeline point A and is currently identifying the optimum development concept and a host for gas transportation (timeline Points B and C) which it plans on completing by Q2 2022.

Hartshead Resources Investment Thesis - Supply gas into the UK market that is short gas

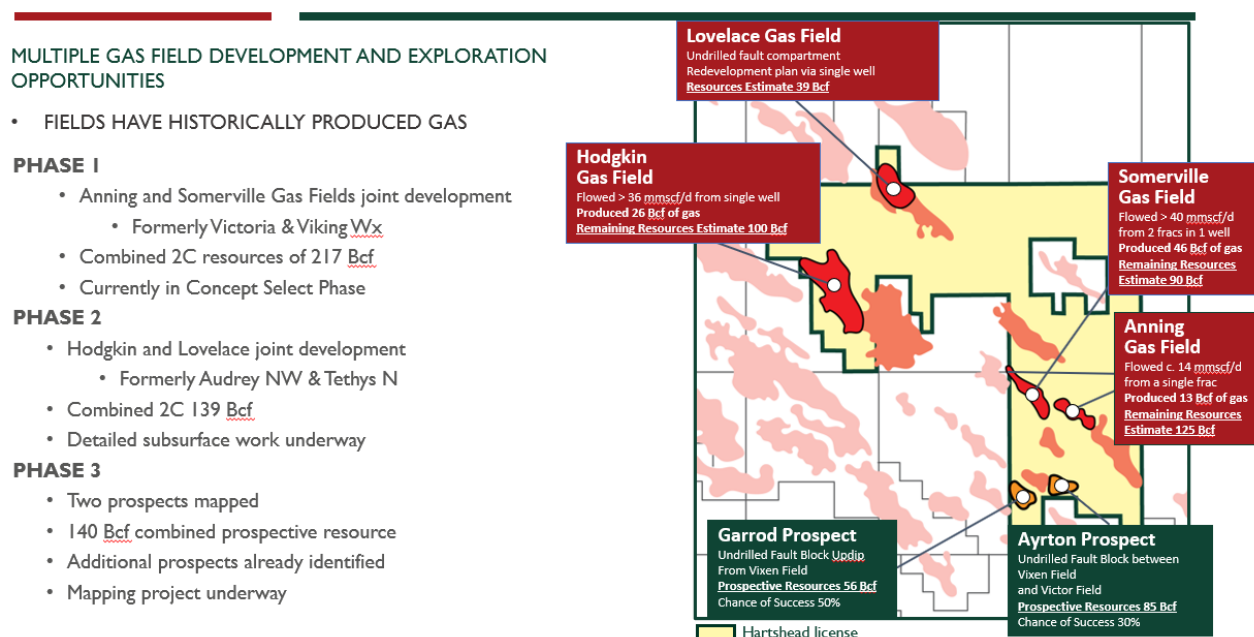
HHR is a new entrant in the Southern Gas Basin (SGB) of the North Sea. Its small gas pools aggregation strategy aims to enable the multi-phased development of resources in a market which is short of gas.

In order to maximise economic recovery, these gas pools must be aggregated and coupled together with a thorough interpretation of the existing subsurface dataset. This creates a compelling investment case for a single owner/operator that can execute against a carefully designed development plan that is phased to fully exploit the resources through a single offtake route.

HHR has put together an experienced management team with over 250 years combined industry experience and UK SGB specific knowledge. The team has a seasoned skill set including subsurface, engineering, commercial, and health, safety, environment and quality (HSEQ) experience that has successfully managed a number of SGB projects.

HHR is the 100% owner and operator of License P2607 which is comprised of five blocks in Quads 48 and 49 on the United Kingdom Continental Shelf, in the SGB which it won in the UK 32nd Offshore Licensing Round. The license awarded covers four existing discoveries and two drill-ready prospects in five contiguous blocks. We note HHR's fields and prospects have recently been renamed (see figure 1) to celebrate exceptional British and Irish women in science, technology, engineering and medicine.

Figure 5 – HHR's portfolio well positioned for UK gas market



Source: Company

HHR management estimate 354 Bcf (61 MMboe) of 2C contingent resources are contained in the existing discoveries and 141 Bcf (24 MMboe) in the prospective resources. All existing discoveries have multiple wells, flow tests and historical production. A competent person's report (CPR) recently completed on the Phase 1 development fields estimate 217 Bcf (37.4 MMboe) of 2C contingent resources.

It is currently progressing the Phase 1 assets (Anning and Somerville fields) through to a field development plan (FDP) and the conversion of the 2C contingent resource base to certified 2P reserves.

The Phase 1 asset development is targeting preliminary FDP in 2Q 2022 with first gas in 2024.

Where are gas prices now and where are they going?

The pandemic caused gas demand in the UK to lower in spring 2020, resulting in low gas prices (see Figure 2), reduced UK production and delayed maintenance work and investment along global supply chains.

Globally, in 2021, a cold winter in Asia prompted a dramatic spike in LNG spot prices. A hot summer followed, increasing electricity demand for cooling. Resulting high LNG prices limited deliveries to Europe, but lockdowns were lifting and economies recovering. Energy demand started to recover.

Traditionally, Europe uses the summer, when gas prices are lower due to limited heating demand, to fill reserves for the winter. Following the closure of the Rough¹ storage facility due to safety concerns in the UK in 2017, a depleted gas field in the North Sea, the UK now has no long-term storage.

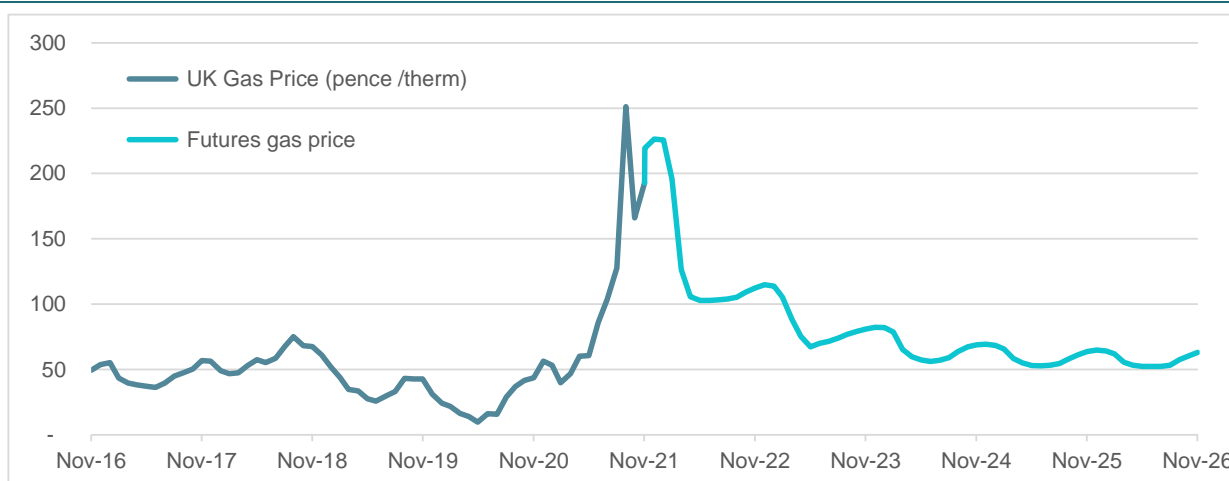
Wind power generation has been lower than average during summer 2021 due to mild weather conditions. High carbon prices in the EU have reportedly reduced the level of coal-fired power generation so more gas than usual has been used to generate electricity, leaving less gas to go into storage.

Given the Nordstream 2 (NS2) pipeline linking Russia to Germany via the Baltic has been delayed due to the certification process (currently suspended), an increase in gas imports from Russia to relieve the situation is unlikely to occur in CY 2021. Additionally, higher prices in Asia have attracted gas exports from the US.

More recently, the lasting impact of the pandemic on shale production has been complicated by damage from Hurricane Ida. US domestic gas prices are also high and LNG exports have fallen.

Given all of the above, the UK is experiencing abnormally high gas prices (Figure 2) reflecting all the supply and demand issues noted.

Figure 6 – UK NBP gas prices – CY 2026 forward curve average 58 pence/therm – Spot gas price ~220 pence/therm



Source: FactSet , CME Group

The UK NBP gas futures for prior settlements for gas prices out to FY26 (Figure 2) are implying the markets believe this is likely to be short-term in nature with the current 2021/22 winter pricing north of 200 pence/therm before reducing back down to summer pricing of 50 pence/therm and winter pricing of ~60 pence/therm in 2026.

We note though that what is currently occurring will provide long term gas users the impetus to lock in offtake agreements which potentially is very timely for HHR as it progresses through to first gas in late 2024.

¹ Rough is the largest gas storage facility in Great Britain, that used to be used by market participants to store gas in the summer and deliver that gas to meet peak demand in the winter.

Near-term activities, news flow and share price catalysts

Development on License P2607 has a phased approach, initially with the development of 217 Bcf of gas to support construction of a production hub, pipeline to host facilities and host facilities modified to receive HHR sales gas.

This hub will then enable the satellite development of smaller pools, such as those at Tethys North, or indeed from successful exploration drilling, where these gas pools would have been stranded without access to the Phase 1 infrastructure.

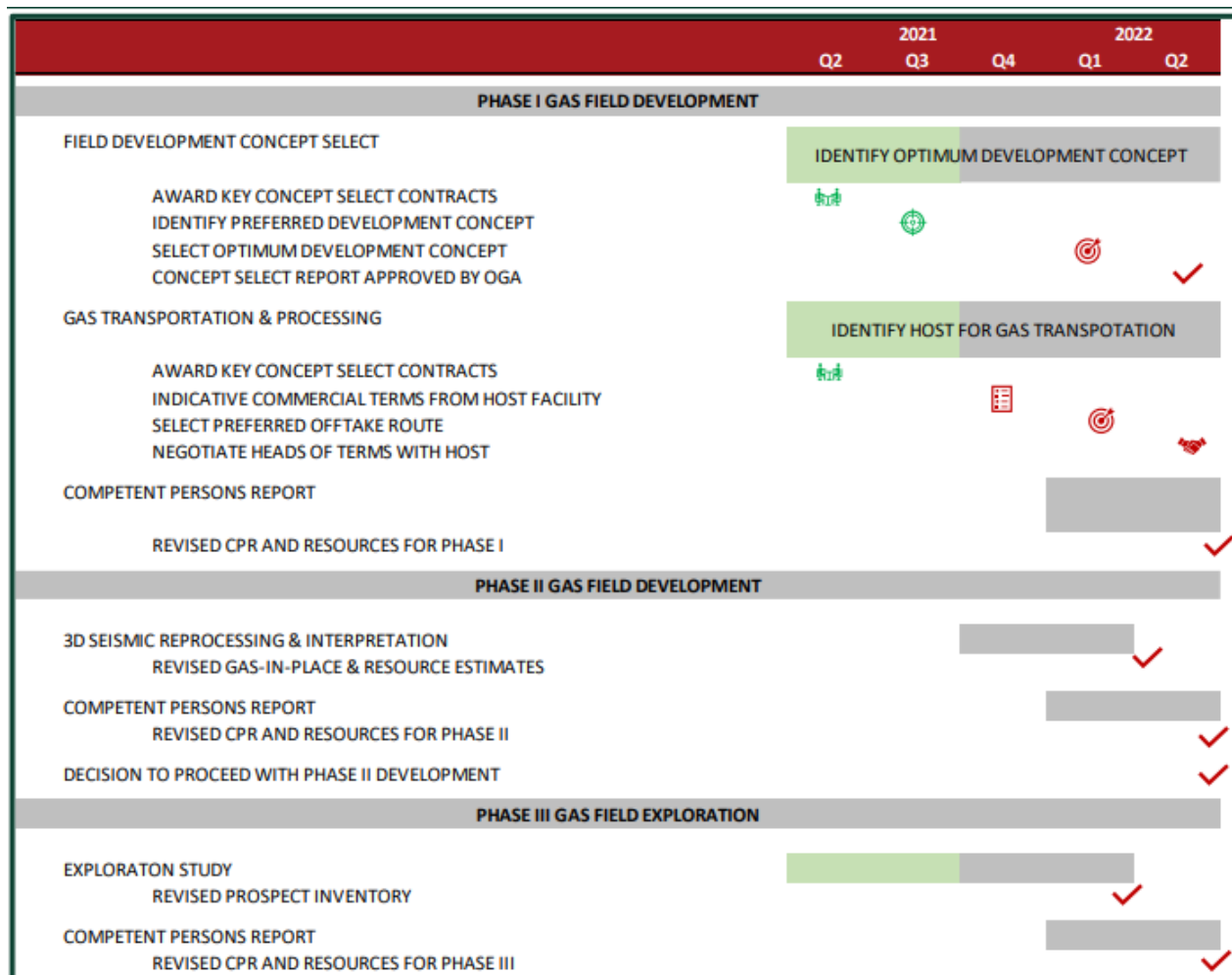
The first part of the development planning will be thorough subsurface analysis and modelling to assist with detailed well placement and design, production forecasting and selecting the optimal development concept.

Following this, the Phase 1 development will be ready to commence engineering design prior to taking a final investment decision on the development of the two gas fields.

As HHR progresses through each material milestone of the Phase 1, 2 and 3 work programs the assets will, in our view, increase in value and become increasingly attractive to potential acquirers.

We see a number of key valuation accretion points including achieving an independent CPR audit, preliminary FDP/FEED, final FDP approval, and the conversion of 2C contingent resources to 2P reserves.

Figure 7 – HHR key activities and milestones over next nine months



Source: Company

Valuation

We have a valuation of \$0.10, that is a blend of:

- a spot valuation (A\$0.10) of HHR assuming Phase 1 is developed (includes no value for Phase 2 and the exploration portfolio), and
- a value implied from the mid-point of recent exit multiples for transactions in the North Sea (A\$0.11).

We note if we run our Phase 1 base case valuation at a higher assumed gas price (60 pence/therm up from 50 pence/therm), our Phase 1 base case valuation lifts from A\$0.10 to A\$0.13.

Merger and acquisition activity has been high

The liquid nature of North Sea Oil and Gas projects in terms of both asset and corporate transactions has been key to attracting new entrants and capital into the area. Since 2019 there has been more than 55 UK North Sea M&A transactions at an asset and corporate level. The exit multiples for blended 2C and 2P contingent resources have ranged from US\$2.70 to US\$5.50 per boe (average of US\$3.50/boe).

Figure 8 – Exit multiples for a number of UK gas transactions

| Vendor | Acquirer | Asset(s) | Consideration (US\$) | Net 2P + 2C Reserves & Resources | EV/(2P+2C) (US\$/boe) |
|--------------|-------------|---------------------------------|----------------------|----------------------------------|-----------------------|
| IOG | CalEnergy | 50% of UK SNS Assets | 94.0 | 35.3 | 2.7 |
| Tulip Oil NV | Kistos | Q-10A, Q10-B, Q11-B and M10/M11 | 262.6 | 90.2 | 2.9 |
| E.On | Premier Oil | UK Gas Portfolio | 120 | 38 | 3.2 |
| SSE | Viaro | UK Portfolio | 164 | 30 | 5.5 |
| Average | | | | | 3.5 |

Source: Company

If the range of exit multiples is applied to HHR's Phase I assets (2P plus 2C of 37.4 MMboe) we can imply an exit valuation of ~US\$100m to ~US\$205m (A\$0.075 to A\$0.15 per share).

Upside valuation risk

We also note the recent 43% in the volume of gas initially contained within the Somerville field that lifts the Phase 1 2C contingent resource from 217 Bcf to 276 Bcf. If HHR is able to progress the development planning and have its Phase 2 contingent resource of 139 Bcf upgraded to audited contingent resources with an independent competent persons report (CPR), total 2C contingent resources could lift to 415 Bcf or 71.6 MMboe.

Using the same US\$2.70/boe-US\$5.50/boe transaction multiple range results in implied values for the HHR resources of A\$0.14 to A\$0.29 per share.

Risks to our valuation and forecasts

The key risks to our financial forecasts and valuation include:

- UK gas pricing particularly if HHR are unable to sign long term offtake contracts,
- quantum of capital expenditure and forecast over runs,
- access to gas distribution infrastructure,
- project timing,
- reserve and resource estimates,
- operational risks including equipment failure,
- regulatory changes,
- governmental responses to climate change and the impact on gas demand,
- and the ability to find partners and or source capital to complete the first project.

Comparative company multiples

All of the companies below have a variety of different assets at various levels of development.

Of particular interest is IOG noted above that is progressing its Core Project and Thames infrastructure with first gas forecast for Q4 2021.

We see IOG as the closest comparative to HHR. We note below that IOG is trading at an EV/(2P + 2C) multiple of ~US\$6.00/boe.

Figure 9 – EV / (2P + 2C) multiples for a number of UK listed North Sea comparable companies

| Company | Ticker | Share price (LC) | Enterprise Value (LCm) | Market Cap. (US\$m) | Net debt / (Cash) (US\$m) | Enterprise Value (US\$m) | 2P Reserves (mm boe) | 2C Resources (mm boe) | EV/(2P+2C) (US\$/boe) |
|-------------------------------|----------------|---------------------|------------------------------|------------------------|---------------------------------|--------------------------------|-------------------------|-----------------------------|--------------------------|
| EnQuest PLC | ENQ-LON | 0.19 | 1,662 | 480 | 1,747 | 2,227 | 189 | 279 | 4.8 |
| IOG PLC | IOG-LON | 0.29 | 181 | 200 | 43 | 243 | 27 | 13 | 6.0 |
| Kistos PLC | KIST-LON | 3.75 | 386 | 276 | 85 | 361 | 20 | 99 | 3.0 |
| Serica Energy PLC | SQZ-LON | 1.99 | 444 | 718 | (123) | 594 | 61 | 0 | 9.7 |
| Hartshead Resources NL | HHR-ASX | 0.019 | 29 | 25 | (4) | 21 | 0.0 | 37.4 | 0.6 |

Source: MST Access, FactSet, Company releases. Priced at 22 November 2021.

If we apply the same multiple for HHR's existing 2C resource as IOG's current multiple, we get an enterprise value for the Phase 1 asset alone of ~US\$225m versus HHR's current EV of US\$21m.

As noted in our initiation, we forecast HHR will require \$22.5m of equity funding in FY22 and FY23 to get to this stage.

Risks to our forecasts and valuation

The key risks to our financial forecasts and valuation include:

- UK gas pricing particularly if HHR are unable to sign long term offtake contracts,
- quantum of capital expenditure and forecast over runs,
- access to gas distribution infrastructure,
- project timing,
- reserve and resource estimates,
- operational risks including equipment failure,
- regulatory changes,
- governmental responses to climate change and the impact on gas demand, and
- the ability to find partners and or source capital to complete the first project.

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