Tennyson

Europa Oil & Gas (EOG LN)

MARKET DATA

Bloomberg	ticker	EOG LN
Share price	p/shr	2.5
Target	p/shr	7.8
TP upside	%	212%
Shares out	Million	956.5
Fd shares	Million	994.6
Mkt cap	US$m	30.4
EV	US$m	21.4

THE FULL PACKAGE

Europa Oil & Gas (EOG LN) is a diversified full-cycle E&P, with a modest amount of production onshore UK, low risk appraisal both onshore and offshore UK, and high impact exploration in Morocco and Ireland. Having weathered the downcycle in commodity prices, the company is well positioned to benefit from today's strong price environment. High margin production covers G&A costs and organic production growth, with fully funded material near-term drilling catalysts, and potential blue-sky upside, overseen by an experienced, high-quality Board. We initiate coverage with a 7.8p/shr target price.

Production exceeding expectations. Europa has timed the oil cycle well, with the initiation of production at Wressle at rates well above expectations coinciding with the rallying oil prices. The field more than doubled group production, with Europa currently delivering over 300 bopd – now equivalent to over US$1m of monthly sales at today's oil price (US$119/bbl). We expect more to come over the second half of the year, with investment in gas infrastructure allowing for a hike in the currently constrained rates at Wressle. There is further growth expected with the development of the gassier Penistone Flags formation, which we believe could add a further c.250 boepd of net production at peak.

Meanwhile, although as a UK domestic producer Europa is impacted by the new Energy Profits Levy (the windfall profits tax), its effect is substantially offset by an increased investment allowance (raised from 62.5% to 80%) introduced concurrently. This allowance is designed to incentivize investment in the region, rewarding spenders with the ability to immediately save 91p of tax for every £1 invested. Perhaps counter intuitively therefore, the changes mean that Europa's upcoming appraisal well at Serenity, plus development at Wressle will provide significant shelter from tax going forwards.

Near term catalyst. Operator i3 Energy recently announced that it has booked a window for the arrival of the Stena Don semi-sub for the Serenity appraisal well, now confirmed to spud in early September. The highly anticipated well is targeting around 17 mmbbls net to EOG, which at US$15.4/bbl (NPV10), would be transformational in a success case. Given that the well is classified as appraisal, there is no independent geological chance of success, however we expect the well to have a better than one-in-two chance of meeting its objectives. Still, should it fail to prove an extension of the discovery, the c.10 mmbbls already discovered (c.2.5 mmbbls net to EOG) is expected to be commercial as a joint development with the neighbouring Tain field, providing protection on the downside should drilling disappoint.

Exploration assets in an improving market. Meanwhile, exploration assets in Ireland and Morocco are being marketed for farm out. The assets contain large prospects in close proximity to major international oil companies, and therefore we rate EOG's chances of attracting a partner to progress exploration efforts. Timings are inherently hard to predict, but a deal could be transformational for the share price.

Value proposition. At its current share price of 2.5p/shr, Europa's market cap is equivalent to just US$30m. After adjusting for net cash, our US$7.3m EBITDA forecast for FY23 (Jul '22-Jul '23) places the company on an EV/EBITDA multiple of just 2.5x – making the company look highly attractive based on current cash flow metrics alone. We have set our target price at our risked Core NAV of 7.8p/shr, which carries conservative riskings on both undeveloped 2C resources (75% CoS) and Serenity (25% CoS) and leaves plenty of scope for upgrades. Our Total NAV of 22.2p/shr illustrates the potential value within the exploration portfolio which could be unlocked through farm out transactions.

ANALYST

Tim Hurst-Brown
+44 (0) 20 7186 9038
tim.hurst-brown@tennysonsecurities.co.uk

James Midgley
+44 (0) 20 7186 9037
james.midgley@tennysonsecurities.co.uk

SALES

Pav Sanghera
+44 (0) 20 7186 9036
pav.sanghera@tennysonsecurities.co.uk

Jason Woollard
+44 (0) 20 7186 9035
jason.woollard@tennysonsecurities.co.uk

Board and Management

Europa boasts a particularly strong and experienced management and Board. The company is headed by CEO Simon Oddie, who has over 40 years' experience in the industry in both technical and financial roles. Simon is supported by the recently appointed CFO Will Holland, who has some 30 years' experience predominantly in corporate, financial and M&A roles. These include time spent with Macquarie Bank, as well as acting as CFO to a number of publicly listed E&Ps including Echo Energy and Tethys Oil. Brian O'Cathain oversees the board, serving as non-exec Chairman and bringing a wealth of experience, including time spent as CEO for the likes of Afren plc, Petroceltic International and Nephin Energy.

Producing asset overview

Europa has interests in a number of producing assets across the East Midlands, including West Firsby, Crosby Warren, Whisby and Wressle. The four fields contain 0.5 mmbo 2P reserves, with a further 1.23 mmbo 2C resources, and currently produce a combined c.240 bopd, all net to EOG.

West Firsby, Crosby Warren and Whisby are relatively mature fields, and therefore produce at relatively low, but highly predictable rates. Wressle on the other hand is a new development, with only a single well on the field to date, on production since August last year. Having out-performed initial expectations, the field has the potential to significantly move the needle for EOG through further development.

Figure 1: UK and Ireland assets

Source: Europa Oil & Gas

Wressle (EOG 30% working interest)

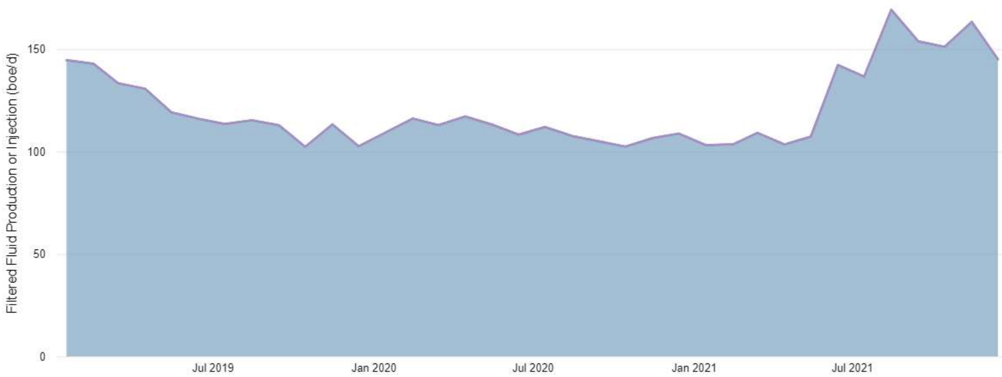
Wressle is situated just c.5km from Europa's Crosby Warren field and was discovered in 2014 by a consortium including Europa, and licence operator Egdon Resources. The well encountered several potential oil-bearing horizons, with the discovery confirmed the following year on completion of an extended well test programme. The test suggested potential flow rates of around 710 boepd (gross), and a field development plan was lodged in 2016.

The field was developed from mid-2020, with first production in January 2021. The well targeted only one of the three main reservoir formations (the Ashover Grit), yet exceeded production expectations, averaging well in excess of 750 bopd and peaking at rates over 1,000 bopd (constrained by flaring limits imposed by the environmental permit). In light of this performance a revised field development plan was lodged in April this year, in preparation for additional gas infrastructure to be installed in the coming months. The additional facilities, including a short gas export pipeline, should allow for oil production from a second reservoir horizon (the Wingfield Flags), increasing oil production to the 1,200-1,500 bopd region, and facilitating first gas sales in time for the winter season. In the medium term, the infrastructure will allow for the migration of a substantial portion of 2C reserves into the 2P category, and allow for the development of the gassier Penistone Flags horizon (1.5 mmbo plus 2 bcf, gross).

West Firsby, Crosby Warren (100% working interest) and Whisby (65% working interest)

Europa wholly owns the West Firsby and Crosby fields, and holds a 65% non-operated interest in Whisby W4. West Firby and Crosby have been producing for over 30 years, with the Whisby W4 well almost a decade old. Accordingly, as illustrated in Figure 2, below, production is in the tail of the curve, at relatively stable rates in the region of 100-150 bopd across the three fields (gross). Fixed production costs at these fields are low (in the order of a couple of hundred thousand pounds per field, per year), meaning that at current oil prices the fields provide useful levels of cash flow despite the modest production levels.

Figure 2: West Firsby, Crosby & Whisby field production 2019-date



Source: North Sea Transition Authority

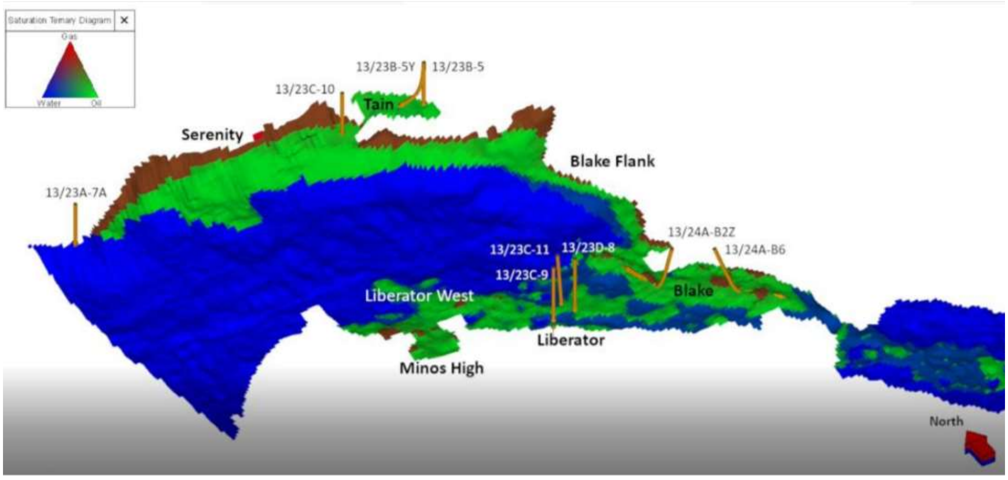
Appraisal assets – Serenity (EOG 25% working interest)

Serenity is situated at the northern edge of Block 13/23c. The discovery was made with operator i3 Energy's well 13/23c-10 in October 2019, with light oil encountered, as expected, within high quality Captain sandstones. A full suite of logs were taken, and pressure data suggests that the structure is a westerly extension of Repsol Sinopec's Tain field (as in Figure 3 below). According to the subsurface model Tain forms an attic of Serenity, and is indeed further connected (or at least was once connected) to the large producing Blake field, to the south-east.

The discovered resource is already believed to be in the order of 10 mmbbls, gross recoverable, however the partners believe that there could be significantly greater volumes based on a thickening of sands to the west (as evidenced by a water-wet well, 13/23A-7A, drilled by Talisman in 2005). An appraisal well is planned to test the extension of the field, with in-place volumes in this case estimated at 197 mmbbls. Recovery factors are estimated at 35%, implying some 69 mmbbls gross recoverable, however we note that local analogous Captain sand developments have proven factors well in excess of 50%, and as such this may ultimately prove conservative.

Europa farmed into the licence earlier this year, to part finance this appraisal well. Europa will pay 46.25% of drilling costs of one well (expected gross cost is £13.9m with the carry capped at gross well costs of £15m), in return for a 25% equity interest in the field.

Figure 3: Block 13/23d subsurface model



Source: i3 Energy

Meanwhile Repsol recently commenced a field development plan approval process for the neighbouring Tain discovery as a tie-back to the Blake field. The Tain partners, which also includes London-listed E&P RockRose, have submitted the environmental statement for the project, which is designed to drain 10 mmbbls with a peak production rate of c.8,000 bopd. Under the current proposal, modifications to the Bleo Holm FPSO in order to handle Tain crude are due to be undertaken later this year, with development drilling following thereafter.

During the field development approval process for Tain, field boundaries and unitisation will naturally be considered. It is at this point we expect a discussion between the neighbouring companies regarding how best to proceed. The resources already discovered at Serenity are expected to be commercial as a joint development with Tain, and therefore should the upcoming appraisal well fail to prove a westerly extension of the field, we would expect the c.10 mmbbls at Serenity to be integrated into the plans for Tain (note the FDP can be modified post submission). A successful appraisal result however would certainly be commercial on a stand-alone basis, and we would expect i3 and Europa to press ahead with the project independent to Repsol's plans at Tain.

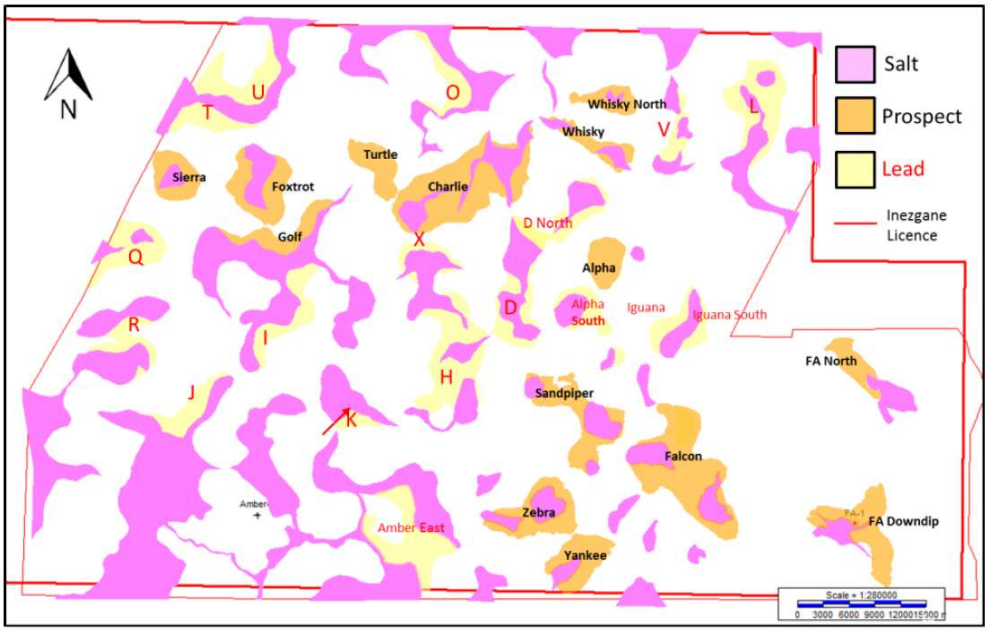
Operator i3 recently announced that it has awarded the well engineering contract for Serenity to Petrofac. Stena Drilling has been contracted to provide the Stena Don semi sub, with spudding anticipated for early September and preliminary results likely in early October.

Exploration assets – Morocco (EOG operated, 75% working interest)

Europa holds a 75% interest in the Inezgane permit, a large 11,228 km^2 block offshore Morocco equivalent to 50 UKCS North Sea blocks, in water depths of between 350 and 2,500 meters. Morocco is relatively unexplored, with only a handful of wells to have tested the offshore, however gas and condensate discoveries have already been made, including the commercial Anchois discovery, made by fellow AIM-listed explorer, Chariot.

Two wells were drilled on the permit prior to Europa's awarded in November 2019. These include Shell's Amber-1 well, which encountered world class Cenomanian source rocks, and BP/Kosmos' FA-1 well, which encountered oil shows (proving a working hydrocarbon system), albeit without an effective reservoir. The block has modern 3D coverage, from which Europa has identified some 14 individual prospects and 16 leads, with in excess of 1 bn bbls of unrisked prospective resource. Europa singles out the 827 mmboe Falcon prospect and the 204 mmboe Turtle prospect as particularly exciting, with in-house geological chances of success in the region of 20-35%.

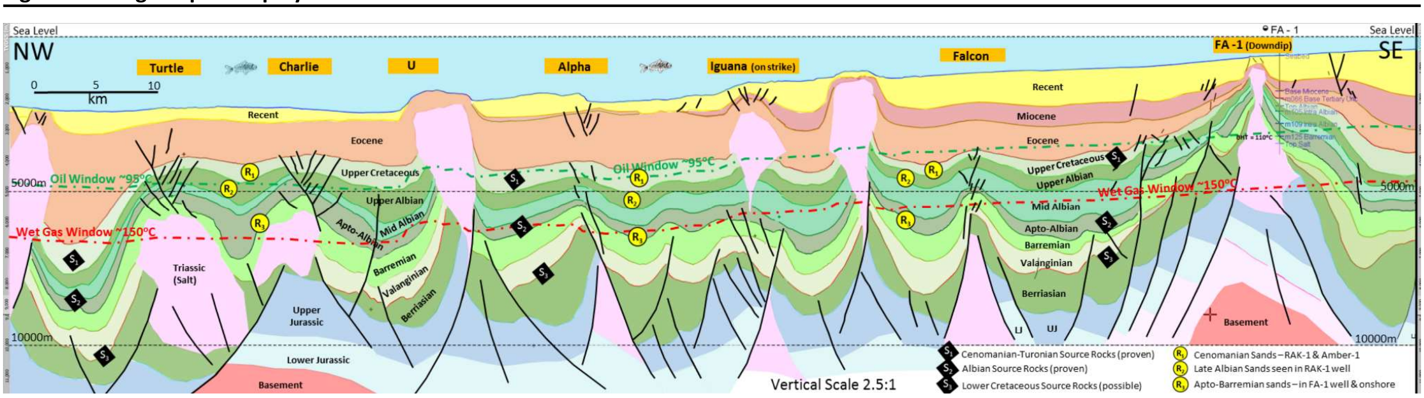
Figure 4: Inezgane permit prospect map



Source: Europa Oil & Gas

A farm out programme was launched last year, with a view to bringing in a partner to provide funding to further work up the prospects and drill an exploration well. Large international E&Ps are active in the region and could be candidates for farm in, including the likes of Shell, ENI, Repsol, Hunt and Genel. We are beginning to see an uptick in exploration activities prompted by the strength in commodity prices, and accordingly, we believe that Europa has a strong chance in securing a partner in due course.

Figure 5: Inezgane permit plays



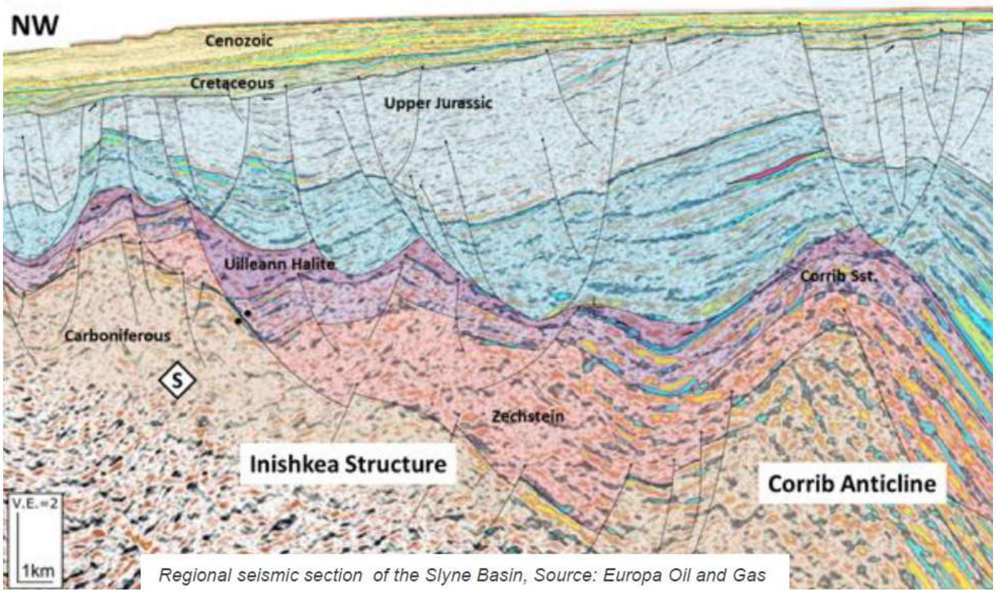
Source: Europa Oil & Gas

Exploration assets – Ireland (EOG 100% working interest)

Europa holds a 100% stake in the FEL 4/19 permit off the west coast of Ireland. The block neighbours Ireland's largest gas field – Corrib – and contains a drill-ready, lookalike prospect.

The primary prospect is Inishkea, a 1.5 Tcf (Pmean) fault bounded Triassic structure situated approximately 10km to the northwest of Corrib. The prospect is covered by two 3D seismic databases, which have recently been merged and reprocessed by Europa. Europa has mapped a structure downdip of Corrib, containing the same Sherwood Sandstone reservoir units, which show brightly on seismic. Internally, Europa estimates recoverable resources in the region of 244 - 3,606 bcf, with a best case of just under 1 Tcf. Chances of success are estimated at just over one-in-four.

Figure 6: Inishkea and Corrib structure cross section



Source: Europa Oil & Gas

Cash flow forecasts

We have modelled Europa's discovered reserve and resource base (2P+2C), including full financial forecasts through to the end of 2027. We have based our oil price assumptions on the current forward strip over the next 3 years (US$110.2/bbl FYE Jul 2023, US$95.8/bbl 2024, and US$86.0/bbl 2025) with a long-term price of US$65/bbl from mid-2025.

We have forecast production at 250 boepd for FY23, rising to 282 boepd in FY24 with new drilling at Wressle. This generates sales of around US$10.1m in 2023 and US$10.2m in 2024. EBITDA margins are in the region of 70%, resulting in US$7.3m and US$7.4m EBITDA for FY23 and FY24, respectively. The key capex item for this year is the drilling of the appraisal well at Serenity, which is expected to cost up to £7m (US$9.5m), net to Europa. We have included investment at Wressle in 2023 and 2024, with around US$0.5m spent next year (net to EOG's 30%) and a more substantial US$4m spent in 2024.

With this underlying field cash flow, and the c.US$9m (net) equity placing earlier this year, Europa is well funded for our modelled work programme. Indeed we have cash building strongly on the balance sheet (above US$20m by July 2025) which will likely be reinvested in new opportunities – be that accelerated ramp up and monetization of assets already in the portfolio, or inorganic opportunities.

DCF-based valuation – Target price 7.8p/shr

In addition to our 2P+2C onshore model, we have built a DCF model for a development at Serenity, modelling a 69 mmbbls (gross) stand-alone development (based on 197 mmbbls oil initially in place and a conservative 35% ultimate recovery factor). Using oil price assumptions outlined above, and based on a discount rate of 10%, we value the onshore 2P+2C reserve/resource base at US$14.4/bbl on a unit basis and the offshore barrels at Serenity at US$15.8/bbl.

Our Core NAV includes value for the developed 2P reserves (0.6p/shr), as well as the undeveloped onshore 2C resources, risked at 75% (1.1p/shr), and Serenity, risked at a more conservative 25% (5.4p/shr). It also includes value for cash, plus other corporate items (0.8p/shr) taking our risked Core NAV to 7.8p/shr.

Our Total NAV includes value for the prospective resources onshore the UK, risked at 25%, as well as the 297 mmbbls (gross) Falcon prospect in Morocco, risked at 5%, and the 266 mmboe Inishkea prospect in Ireland, risked at 7.5%. These riskings account for both geological and commercial chances of success, and in the case of Inishkea and Falcon, include provision for the likely levels of dilution required to monetise the prospects. Combined, the three assets add some 14p/shr to our NAV, taking our Total risked NAV to 22.2p/shr.

Given the fact that external finance will be needed to fund the exploration assets, and there is uncertainty on the timing of drilling, we set our target price at Core NAV, leaving substantial upside in the event that a farm out is delivered. Nevertheless, our target price of 7.8p/shr still offers over 200% upside from today's share price. Furthermore, carrying a risking of 25% on Serenity, we see considerable scope for further upgrades in the event of drilling success with the upcoming appraisal well (for reference we value Serenity unrisked at 21.6p/shr net to EOG). Our full NAV table is provided on the following page, in Figure 7.

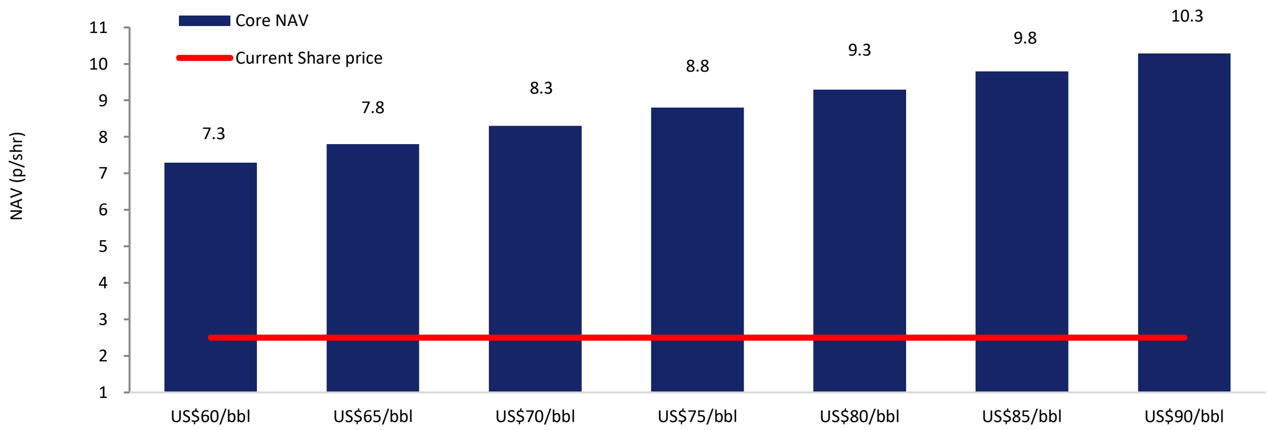
Figure 7: Valuation summary table

NET ASSET VALUE

Asset	Gross		Net		Unrisked			Risked	
	mmboe	Interest	mmboe	US$/boe	US$m	p/shr	CoS	US$m	p/shr
Onshore 2P	1.00	52%	0.52	14.4	7	0.6	100%	7	0.6
Onshore 2C	4.63	27%	1.23	14.4	18	1.4	75%	13	1.1
Serenity	69.0	25%	17.2	15.8	273	21.6	25%	68	5.4
Add: net cash					9	0.7		9	0.7
Add: corporate items					0.5	0.0		1	0.0
Core NAV			**19.0**		**308**	**24.3**		**99**	**7.8**
Onshore P50	34.5	33%	11.4	10.79	123	9.7	25%	31	2.4
Falcon (Morocco)	297	75%	223.0	10.00	2,230	176.5	5%	112	8.8
Inishkea (Ireland)	266	100%	266.2	2.00	532	42.1	8%	40	3.2
Total NAV			**519.6**		**3,193**	**252.8**		**281**	**22.2**

Valuation assumptions:
Brent price: US$110.2/bbl YE Jul 2023, US$95.8/bbl 2024, US$86.0/bbl 2025, US$65.0 flat thereafter.
Discount rate 10%.
1.27 US dollar / sterling.
956.5m ordinary shares outstanding. 38.17m options and warrants outstanding with exercise prices 1.23p-8.9p/shr.

Oil price sensitivity – Core NAV at various flat Brent prices (2025 onwards):



Source: Tennyson Securities.

Figure 8: Financial summary – P&L, cash flow and balance sheet

FYE 31ST JUN		2021	2022E	2023E	2024E	2025E
Net oil & gas production	**boepd**	93	**254**	**250**	**283**	**345**
Average realised price	US$/boe	57	90.2	111.0	99.1	86.2
Net gas volumes	mmscf/d	-	-	0.0	0.3	0.3
Gas revenue	**US$m**	**-**	**-**	**0.3**	**2.3**	**1.8**
Net oil volumes	bopd	93	254	245	228	290
Oil revenue	**US$m**	**1.9**	**8.4**	**9.9**	**8.0**	**9.1**
Revenue	**US$m**	1.9	**8.4**	**10.1**	**10.2**	**10.9**
Operating costs	US$m	(1.6)	(1.8)	(1.8)	(1.9)	(1.9)
Unit	*US$/boe*	*(46.3)*	*(19.7)*	*(19.9)*	*(18.0)*	*(15.4)*
G&A costs	US$m	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)
Unit	*US$/boe*	*(29.1)*	*(10.6)*	*(10.8)*	*(9.6)*	*(7.8)*
EBITDA	**US$m**	(0.6)	**5.5**	**7.3**	**7.4**	**7.9**
EBITDA margin	*US$/boe*	*(33.1%)*	*66.4%*	*72.3%*	*72.1%*	*73.0%*
DD&A	US$m	(0.1)	(0.1)	(0.1)	(0.2)	(0.2)
Finance and other expenses	US$m	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)
Profit before tax	**US$m**	**(1.1)**	**5.1**	**6.9**	**6.9**	**7.4**
Income tax	US$m	0.2	(2.2)	-	-	-
Net income	**US$m**	(0.9)	**2.9**	**6.9**	**6.9**	**7.4**
Adjusted EPS (fully diluted)	c/shr	*(0.1)*	*0.3*	*0.7*	*0.7*	*0.7*
Profit before tax	**US$m**	(1.1)	**5.1**	**6.9**	**6.9**	**7.4**
Cash flow reconciliation	US$m	0.4	0.5	0.5	0.5	0.6
Working capital movements	US$m	(0.3)	-	-	-	-
Interest, net	US$m	0.0	-	-	-	-
Tax paid	US$m	-	(2.2)	-	-	-
Net operating cash flow	**US$m**	(1.0)	**3.4**	**7.4**	**7.4**	**8.0**
Cash flow margin	*US$/boe*	*(30.4)*	*36.4*	*80.8*	*72.0*	*63.4*
Capex	US$m	(1.4)	(1.2)	(9.9)	(3.7)	-
Free cash flow	**US$m**	(2.4)	**2.1**	**(2.5)**	**3.7**	**8.0**
Acquisitions/divestments	US$m	-	-	-	-	-
Debt movement, other	US$m	-	-	-	-	-
Share issuance	US$m	2.0	9.2	-	-	-
Net increase (decrease) in cash	**US$m**	(0.4)	**11.3**	**(2.5)**	**3.7**	**8.0**
Cash	US$m	1.2	12.3	9.8	13.5	21.5
Other current assets	US$m	0.7	0.7	0.7	0.7	0.7
O&G assets	US$m	9.4	10.4	20.2	23.8	23.6
Total assets	**US$m**	11.3	**23.5**	**30.7**	**38.0**	**45.8**
Debt	US$m	0.1	0.1	0.1	0.1	0.1
Other liabilities & decommissioning	US$m	6.8	7.1	7.5	7.8	8.1
Shareholder equity	US$m	4.5	16.6	23.5	30.4	37.9
Total equity & liabilities	**US$m**	11.4	**23.8**	**31.0**	**38.2**	**46.0**
P/E - adjusted, fd	*x*	-	*10.6x*	*4.4x*	*4.4x*	*4.1x*
EV/EBITDAX	*x*	-	*3.9x*	*2.5x*	*2.8x*	*2.1x*
FCF yield	*%*	-	*7.1%*	*(8.4%)*	*12.2%*	*26.3%*

Source: Tennyson Securities.

DISCLAIMER

RECOMMENDATIONS HISTORY

Market index: AIM ALL SHARE ENERGY

Date	Market Index level	Share Price (p)	Target Price (p)	Opinion
09 Jun 2022	1462.2	2.5	7.8	BUY

RATINGS, CERTIFICATION AND DISCLOSURE

RATINGS SYSTEM

BUY: The stock is expected to generate absolute positive price performance of over 10% during the next 12 months.

HOLD: The stock is expected to generate absolute price performance of between negative 10% and positive 10% during the next 12 months.

SELL: The stock is expected to generate absolute negative price performance of over 10% during the next 12 months.

INVESTMENT ANALYST CERTIFICATION

All research is issued under the regulatory oversight of Tennyson Securities, a trading name of Shard Capital Partners LLP ("Shard Capital").

Each Investment Analyst of Tennyson Securities whose name appears as the Author of this Investment Research hereby certifies that the recommendations and opinions expressed in the Investment Research accurately reflect the Investment Analyst's personal, independent and objective views about any and all of the Designated Investments or relevant issuers discussed herein that are within such Investment Analyst's coverage universe.

INVESTMENT RESEARCH DISCLOSURES 1,2,3,4,10,11,12

The following disclosures relate to this document:

1. This is a commissioned or a non-independent research note/comment.
2. In the past 12 months Tennyson Securities or its affiliates have had corporate finance mandates or managed or co-managed a public offering of the relevant Issuer's securities or received compensation for corporate finance services from the relevant Issuer, excluding acting as a corporate broker, on a retained basis, for the relevant issuer.
3. Tennyson Securities expect to receive or intend to seek compensation for corporate finance services from this company in the next 6 months, excluding acting as a corporate broker, on a retained basis, for the relevant issuer.
4. The Investment Analyst or a member of the Investment Analyst's household has a long position in the shares or derivatives of the relevant issuer.
5. The Investment Analyst or a member of the Investment Analyst's household has a short position in the shares or derivatives of the relevant issuer.
6. At the date of production Tennyson Securities or its affiliates have a net long position exceeding 0.5% of the issued share capital of the relevant issuer.
7. At the date of production Tennyson Securities or its affiliates have a net short position exceeding 0.5% of the issued share capital of the relevant issuer.
8. As of the month end immediately preceding the date of publication of this report, or the prior month end if publication is within 10 days following a month end, Tennyson Securities and/or its affiliates beneficially owned 5% or more of any class of common equity securities of the relevant issuer.
9. A senior executive or director of Tennyson Securities, or a member of his / her household, is an officer, director, advisor, or board member of the relevant issuer and/or one of its subsidiaries.
10. Tennyson Securities acts as corporate broker, on a retained basis, for the relevant issuer.
11. This research note has been seen by the relevant issuer to review factual content only prior to publication.
12. Factual changes have been made by the relevant issuer prior to the distribution of this note/comment.

The Investment Analysts who are responsible for the preparation of this Investment Research are employed by Tennyson Securities, a trading name of Shard Capital Partners LLP ("Shard Capital"), a securities broker-dealer. The Investment Analysts who are responsible for the preparation of this Investment Research have received (or will receive) compensation linked to the general profits of Tennyson Securities. A copy of Shard Capital's Conflicts of Interest Policy can be obtained from the Compliance Department by emailing compliance@shardcapital.com

For the valuation methodology and investment risks, please contact the primary analyst directly.

IMPORTANT INFORMATION

ISSUED BY TENNYSON SECURITIES, A TRADING NAME OF SHARD CAPITAL PARTNERS LLP, WHICH IS AUTHORISED AND REGULATED BY THE FINANCIAL CONDUCT AUTHORITY (FRN: 538762). A MEMBER OF THE LONDON STOCK EXCHANGE

 This document has been prepared and issued by Tennyson Securities or its associated companies and has been approved for publication in the United Kingdom by Tennyson Securities, a trading name of Shard Capital, which is authorised and regulated by the Financial Conduct Authority (FRN: 538762). Neither the information nor the opinions expressed in this document constitute or intend to be an offer, or a solicitation of an offer, to buy or sell relevant securities (i.e. securities mentioned herein and options, warrants, or rights to or interests in any such securities). The information and opinions contained in this document have been compiled from and based upon generally available information which Tennyson Securities believes to be reliable but the accuracy or completeness of which cannot be guaranteed. All comments and estimates given are statements of Tennyson Securities or an associated company's opinion only and no express or implied representation or warranty is given or to be implied therefrom. All opinions expressed herein are subject to change without notice. This document does not take into account the specific investment objectives, financial status, attitude to risk or any other specific matters relevant to any person who receives this document and should therefore not be used in substitution for the exercise of judgment by such person. Tennyson Securities nor any associated company accepts any liability whatsoever for any direct or consequential loss arising from the use of its research publications save where such loss arises as a direct result of Tennyson Securities or an associated company's negligence. The value of the securities and the income from them may fluctuate. It should be remembered that past performance is not a guarantee of future performance. Investments may go down in value as well as up and you may not get back the full amount invested. Research publications are issued by Tennyson Securities or an associated company for private circulation to eligible counterparties, professional clients and professional advisers, ("its clients"), and specifically not to private or retail clients. Moreover, this document is not directed at persons in any jurisdictions in which Shard Capital is prohibited or restricted by any legislation or regulation in those jurisdictions from making it available. Persons into whose possession this document comes should inform themselves about, and observe, any such restrictions. They may not be reproduced, distributed or published by you for any purpose except with Tennyson Securities' express written permission. Tennyson Securities, an associated company, or their employees and officers may have a holding (long or short) in an investment which it knows will be the subject of a published research.

Recommendation to clients. It may also have a consulting relationship with a company being reported on. Tennyson Securities or an associated company may also act as agent of its clients and may have or have undertaken transactions in investments covered by this document prior to your receipt of it. Additional information on the contents of this report is available on request. Tennyson Securities and its affiliates may collect and use personal data that they receive by any means. Tennyson Securities will only use such data in accordance with the Data Protection Policy, a copy of which can be found at www.shardcapital.com

IN THE UNITED STATES

Tennyson Securities, a trading name of Shard Capital, is not a registered broker-dealer in the United States and, therefore, is not subject to U.S. rules regarding the preparation of research reports and the independence of research analysts. This report is provided for distribution to major U.S. institutional investors ONLY in reliance on the exemption from registration provided by Rule 15a-6 of the US Securities Exchange Act of 1934, as amended (the "Exchange Act") and interpretations thereof by the U.S. Securities and Exchange Commission ("SEC").

MAJOR U.S. INSTITUTIONAL INVESTORS

The Information being furnished is for distribution to "Major U.S. Institutional Investors" within the meaning of Rule 15a-6 of the U.S. Securities and Exchange Commission under the U.S. Securities Exchange Act of 1934.

By accepting this document, the recipient agrees to the foregoing disclaimer and to be bound by its limitations and restrictions.