

Stock Data

Share Price:	1.45p
Market Cap.:	£8.1m*
Shares in issue:	560.1m*
52 week high/low:	1.95p/0.68p
*Pro forma until 8.3.21 (excluding Broker Option)	

Company Profile

Sector:	Oil & Gas
Ticker:	EOG
Exchange:	AIM

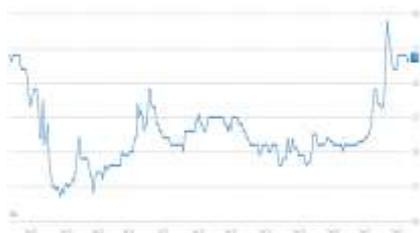
Activities

Europa Oil & Gas plc is an independent oil and gas E&P company with a strategic focus on onshore exploration, appraisal, development and production assets in the UK, in addition to high impact exploration projects in the offshore regions of Ireland and Morocco.

Company website:

<https://www.europaoil.com/index.aspx>

1-year share price performance



Source: LSE

Past performance is not an indication of future performance.

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Europa Oil & Gas (Holdings) plc

Europa has raised £1.5m before expenses through the placing of 115.4 million new shares at 1.3p per share with new and existing investors. These new funds will be used to improve recovery rates from the company's UK onshore oil fields and also to advance Europa's strategy to farm down its high impact exploration interests in Morocco and Ireland. The company has also earmarked cash to identify and evaluate the potential acquisition of a new appraisal/development asset which will provide the opportunity to improve the balance within Europa's overall licence portfolio.

Europa possesses onshore oil production base in the East Midlands Basin in northern England. The company's share of oil output from the Crosby Warren and West Firsby fields (EOG: 100% in both) and the W4 well on the Whisby field (EOG: 65%) is currently c.90 bopd. However, with well clean-up and test production underway to establish stabilised flow rates on the Wressle oil field (EOG: 30%), Wressle output is expected to boost company production by a further 150 bopd. This will provide Europa with meaningful additional cash flow with which to fund a proportion of ongoing working capital.

Since the Irish government announced its decision in September 2019 to phase out domestic oil exploration and focus on gas as a transitional fuel as the country moves towards renewable technologies in the long term, Europa consolidated its strategic position with the acquisition of FEL (Frontier Exploration Licence) 3/19 in June 2020. The company is awaiting final sign off from the Irish authorities. However, this licence, combined with the company's existing FEL 4/19, comprises an exciting hydrocarbon play providing huge potential upside to the existing Corrib gas field, which provides much of Ireland's domestic gas supply.

FEL 3/19 and FEL 4/19 in which Europa holds 100% interests are located in the proven hydrocarbon province of the Slyne Basin offshore northwest Ireland. The drill-ready Inishkea and Edge prospects on FEL 4/19 and FEL 3/19 respectively are lookalike structures to the Corrib field located less than 18 km from both prospects and are estimated to contain combined gross mean prospective resources of 2.7 TCF.

Aside from the compelling geology of these large accumulations, Europa's gas exploration licences represent a very attractive infrastructure play given that there are extensive gas production facilities in the immediate vicinity and the Corrib pipeline passes through FEL 3/19. With regulatory sign off on FEL 3/19, we believe that Europa will be in a strong position to re-launch a farm-out procedure in order to expedite exploration drilling on one or both of the drill ready targets.

In Morocco, Europa holds 75% and operatorship of the large offshore Inezgane Permit. This is an earlier stage exploration asset; however, the company has already identified a working hydrocarbon system in place and a portfolio of 30 leads and prospects with the potential to hold up to 10 billion barrels of unrisked oil resources.

Europa will not enter into a second phase of exploration activity, in which a well is required to be drilled, until December 2022. However, the company has identified the need to attract a farm-in partner which, if successful, could accelerate significantly Europa's aim to unlock an exciting frontier exploration play.

With new funds secured and Wressle now on stream, we believe that Europa is well placed to consolidate its production base in the UK, accelerate farm-out activities in Morocco and Ireland and seek a new asset to augment its portfolio of nearer term development opportunities. We believe that this exciting strategy combined with the opportunity to strengthen the balance sheet in a recovering oil price environment, places Europa in a strong position as 2021 progresses.

Introduction to Europa Oil & Gas

Listed on AIM since 2004, Europa Oil & Gas (Europa) is an independent oil and gas E&P company with conventional exploration, appraisal, development and production assets located in the onshore UK East Midlands Basin. This portfolio of licences is augmented by high impact exploration opportunities in the offshore regions of Ireland and Morocco which have the potential to provide significant longer term potential upside for the company.

Europa's current oil and gas asset portfolio

Country	Licence	Field/Prospect	Status	EOG (%)	Operator	Basin
UK	DL 003	West Firsby	Production	100%	Europa	East Midlands
	DL 001	Crosby Warren	Production	100%	Europa	East Midlands
	PL 199/215	Whisby (W4 well)	Production	65%	BPEL	East Midlands
	PEDL 180	Wressle	Production	30%	Egdon	East Midlands
	PEDL 181	Kiln Lane	Exploration	50%	Europa	East Midlands
	PEDL 182	Broughton North	Exploration	30%	Egdon	East Midlands
	PEDL 299	Hardstoft	Appraisal	25%	Ineos	East Midlands
	PEDL 343	Cloughton	Appraisal	35%	Third Energy	East Midlands
Morocco	Inezgane	Multiple	Exploration	75%	Europa	Agadir
Ireland	FEL 3/19	The Edge	Exploration	100%	Europa	Slyne Basin
	FEL 4/19	Inishkea	Exploration	100%	Europa	Slyne Basin
	FEL 3/13	Beckett/Wilde/Shaw	Exploration	100%	Europa	South Porcupine
	FEL 1/17	Ervine/Edgeworth/Egerton	Exploration	100%	Europa	South Porcupine

[Source: Europa Oil & Gas](#)

Core assets – a balanced portfolio

The company has established oil production from four onshore UK fields, all located in the East Midlands Basin in northern England. These are West Firsby and Crosby Warren, in which Europa holds 100% interests, in addition to a 65% interest in the W4 well on the Whisby field. Overall net production from these assets is approximately 90 bopd. This will be augmented significantly by the Europa's 30% share of stabilised gross production, expected to be c.500 bopd from the already test-producing Wressle field, in the very near future. The company also has several exploration and appraisal opportunities in the UK including the Broughton prospect on PEDL 182 which could provide upside to the Wressle field, a field rejuvenation project represented by the Hardstoft field on PEDL 299 and finally the Cloughton gas discovery on PEDL 343 which could merit further testing operations.

The high impact exploration upside in Europa's portfolio is represented by the company's assets in Ireland and Morocco. In the offshore region of Ireland in particular, Europa holds 100% interests in FEL 3/19 and FEL 4/19 which both contain large prospects that could provide major upside and commercial longevity to the existing Corrib gas field which is sandwiched between these highly promising accumulations.

In Morocco, Europa holds a 75% interest and operatorship of the large offshore Inezgane Permit. Inezgane is a comparatively early stage licence in an under explored frontier exploration area. However, Europa has already mapped an extensive portfolio of 30 leads and prospects which are estimated to contain up to 10 billion barrels of unrisked resources. In the cases for both Ireland and Morocco, Europa is working on further de-risking its prospects portfolio with a view to securing farm-in partners and expediting a new phase of exploration activity.

Fund raising

Europa has raised new funds of £1.5m through a placing of 115,384,616 new shares at 1.3p per share. In addition, the company has issued a Broker Option to Turner Pope Investments to raise up to a further £0.5m through the issue of 38,461,538 new shares at the placing price of 1.3p per share.

The placing will take place in two tranches, the first of which, comprising 38,461,538 new shares, is not conditional on shareholder approval. This tranche is expected to be admitted to trading on AIM on 18 February 2021. The second tranche of the placing, comprising an additional 76,923,077 shares, is conditional upon shareholder approval at a General Meeting (GM), expected to be held on 4 March 2021. The Broker Option, comprising 38,461,538 new shares is also conditional on shareholder approval and application for these shares to be admitted to trading on AIM will also be made at the same GM. The commencement of trading on AIM for the second tranche of placing shares and the Broker Options shares is expected to be 8 March 2021.

Seeking a new asset

Europa has an established production base and an exciting high impact exploration portfolio. However, the company notes that its portfolio is relatively light on appraisal/development opportunities on which it has a significant degree of operational control. As such, one of Europa's priorities is to identify a conventional oil and gas asset, likely to be located in the UK onshore or the North Sea, which is either appraised, under development or in production. Ideally the asset would also be close to existing infrastructure. Operatorship is not a priority although the company would be keen to work with a highly reputable operator. In this regard, Europa has budgeted £275,000 towards the process of sourcing and evaluating potential acquisitions.

Proposed use of funds

Item	Region	Amount (£)	Description
New asset	(UK)	275,000	Sourcing, evaluation and due diligence
Wressle field	UK	130,000	Studies: pre-Field Development Plan for Penistone Flags
West Firsby	UK	35,000	Purchase two nearby 3D seismic surveys. Assess infill 3D seismic requirement
West Firsby	UK	105,000	Workover planning for WF9 and WF2 wells, drain-hole jetting
Crosby Warren	UK	50,000	Assess infill 3D seismic requirement. Reprocess existing 2D
Inezgane Permit	Morocco	350,000	Technical analysis and farm-out work
Working capital	Corporate	390,000	
Fees and costs	Corporate	165,000	
Total placement		1,500,000	
West Firsby	UK	500,000	Workover well WF 9 – Drain-hole Jetting
Broker option	Corporate	500,000	
Total fundraising		2,000,000	

Source: Europa Oil & Gas

Targeting key assets in the portfolio

The company has identified areas where targeting modest expenditure could improve oil recovery within the existing production portfolio. In this regard, Europa plans to spend a total of £140,000 acquiring additional 3D seismic data around West Firsby and planning for workover activity on the field's WF9 and WF2 wells. Should the funds from the broker option also become available, Europa expects to expedite this workover activity which will include drain-hole jetting of the well to improve recovery rates.

The company will also spend £50,000 assessing whether an infill 3D seismic requirement would benefit the Crosby Warren field. In addition, Europa has earmarked £130,000 to conduct pre-field development plans (FDP) for the Penistone Flags, an additional reservoir within the Wressle field which is not included in the existing FDP at this stage but is estimated to contain an additional 1.53 mmbbls of oil.

The largest tranche of expenditure is expected to be £350,000 which will be invested in further technical analysis and seismic reprocessing in regard to the Inezgane Permit as Europa strengthens its farm-out proposition. At this stage, no immediate proportion of the funds is required for the company's Irish assets although the company indicates that site surveys are planned for 2022.

Strengthening the balance sheet

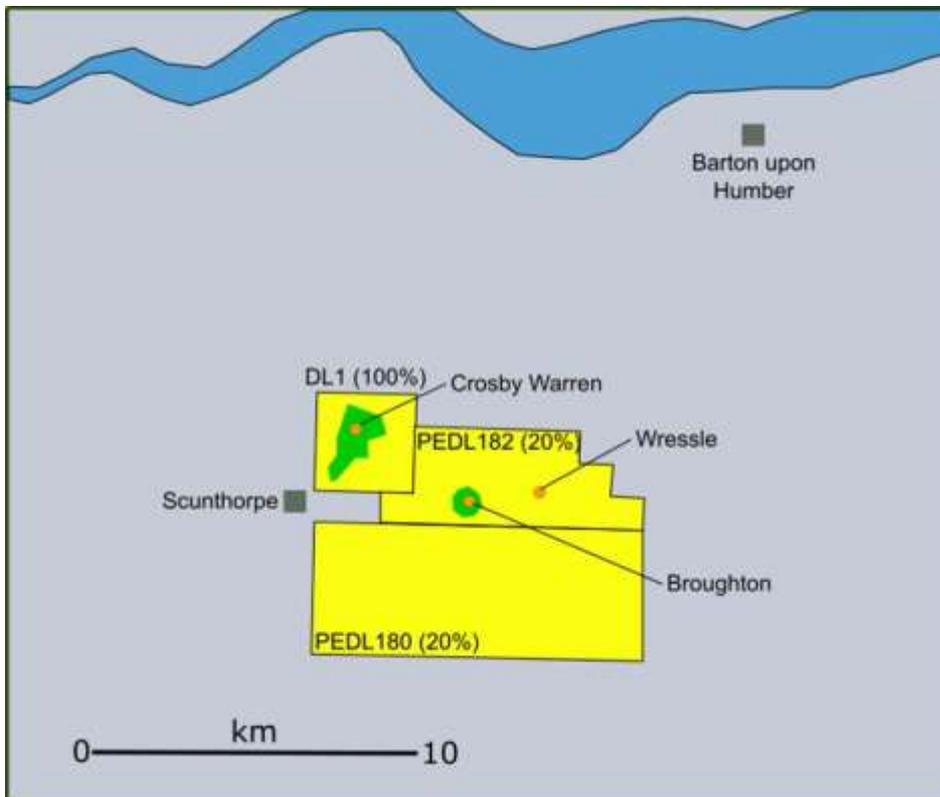
We note that the company now has the capacity to repay a £225,000 director's loan made by Non-Executive Director, William Ahlefeldt, on 20 January 2021. Although this loan has a four month term, Europa may elect to pay the loan off early given that it accrues interest at an annual rate of 12.5%.

UK onshore assets

PEDL 180 and 182 – the Wressle project (Europa: 30%)

Europa holds a 30% interest in UK onshore licences, PEDL180 and PEDL182 which are located on the western margin of the Humber Basin in Lincolnshire. The licences contain the Wressle oil field, which spans both licences, in addition to the Broughton North prospect located on PEDL 182. This licence is adjacent to DL1 to the immediate northwest, where the Crosby Warren field, on trend with Wressle, is located.

Location of PEDL 180 and PEDL 182 in Lincolnshire



Source: [Europa Oil & Gas](#)

The Wressle field

The Wressle-1 exploration well was drilled in 2014 to probe the Wressle prospect which was defined on proprietary 3D seismic data acquired by the operator Egdon Resources in 2012. The well intersected three Upper Carboniferous aged sandstone reservoirs in a structurally favourable position near the crest of the Wressle structure. These were as follows:

- Ashover Grit
- Wingfield Flags
- Penistone Flags

Reserves and resources

Well testing in Q1 2015 confirmed commercial flow rates from all three intervals and a subsequent CPR (Competent Persons Report) by independent consultant, ERCE Equipoise attributed gross 2P reserves to Wressle of 0.62 mmbbls of oil, attributed primarily to the Ashover Grit reservoir.

Volumes identified within the Penistone Flags remain classified as contingent resources at this stage as these resources do not yet have development planning permission and may require additional drilling activity and field facilities. However, as part of the recent fund raising, Europa has earmarked £130,000 of new funds to commence pre-Field Development Plan work on the Penistone Flags which have the potential to significantly enhance Wressle field production. Although further funding and the consent of the local council would be required to expedite such a project, we estimate that a Penistone Flags development could add up to 300 bopd to Europa's net Wressle field production at peak output.

Wressle field reserves

Licence	Field	Gross oil mmbbls			Interest	Net oil mmbbls		
		1P	2P	3P		1P	2P	3P
PEDL180/182	Wressle Ashover	0.26	0.54	1.12	30%	0.08	0.16	0.34
PEDL180/182	Wressle Wingfield	0.03	0.08	0.17	30%	0.01	0.02	0.05
Total		0.29	0.62	1.29		0.09	0.19	0.39

Wressle field contingent resources

Licence	Field	Gross oil mmbbls			Interest	Net oil mmbbls		
		1C	2C	3C		1C	2C	3C
PEDL180/182	Wressle Penistone	0.68	1.53	2.76	30%	0.20	0.46	0.83

[Source: Reproduced from ERCE](#)

Gas reserves and resources

Gas resources at Wressle are modest and ERCE has allocated gross reserves of only 0.2 BCF as justified for development from the Ashover and Wingfield intervals. ERCE has attributed gross contingent gas resources of 2.0 BCF to the Penistone reservoir which we would expect to be produced in the event that this interval was developed.

We expect that the gas reserves from the Ashover Grit and Wingfield Flags will be produced and monetised on site via small scale power generation and the electricity subsequently sold into the national grid. A project such as this could easily be scaled up for the larger gas resources ascribed to the Penistone Flags interval should development of this interval commence.

PEDL182- Broughton North

There is additional upside to the Wressle field in the form of the Broughton North discovery on PEDL 182 to which ERCE has attributed mean gross prospective resources of 0.51 mmbbls of oil in addition to approximately 0.5 BCF of gas. Broughton North is an adjacent fault block to the Wressle discovery and the same intervals that Wressle-1 intersected are expected to be present within the Broughton North structure. Although no timing has been determined for an exploration/appraisal well on Broughton North, ERCE has attributed a comparatively high Geological Chance of Success (GCoS) of between 40% and 49% to future drilling on the prospect.

Wressle production commenced in January 2021

Oil production from the Ashover Grit reservoir in the Wressle field commenced at the end of January 2021. The well is currently in the normal clean-up phase and has been placed on continuous 24-hour test production in order to assess flow rates over the coming weeks. Early indications are very positive and initial oil production is free flowing requiring no pumping or artificial stimulation.

The Wressle Joint Venture partnership, which in addition to Europa also includes the operator, Egdon Resources (30%) and Union Jack Oil (40%) is expected to provide further operational updates when flow rates have stabilised on completion of the well clean-up phase. Production from Wressle is being transported by road from the well site to Phillips 66 Humber refinery and sold under Egdon's existing sales contract.

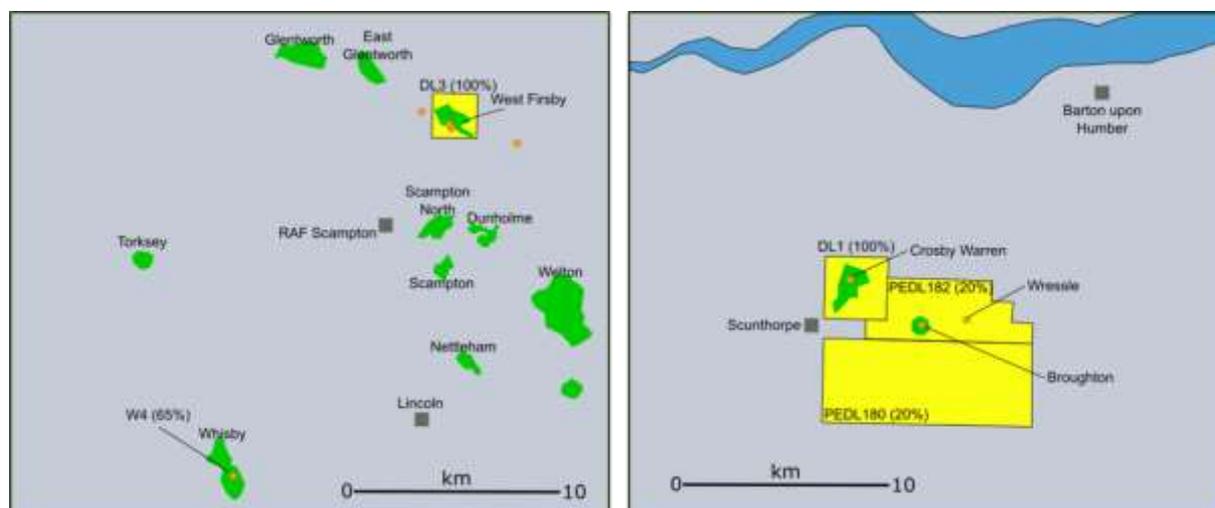
At this stage, prior to the results of test production, we expect that the Ashover Grit will produce at a constrained gross rate of approximately 500 bopd when flow rates have stabilised. As such, Europa's share of output will be c.150 bopd when Wressle is on stable production during H1 2021. With oil prices now exceeding US\$55 per barrel, we believe that the timing of initial production is highly favourable for Europa. On the basis of the Brent oil price averaging US\$55/bbl in 2021, we estimate that the company could generate up to US\$3.0m of revenue within the first 12 months of steady production.

We note also that Wressle is a low operating cost development and we anticipate that production will generate a very attractive EBITDA enabling the company to fund group administration costs and a proportion of ongoing working capital.

Established production assets

Production from the mature West Firsby field on the DL3 licence (Europa: 100%), in the central region of the East Midlands Basin, commenced in 1991. Current production of c.25 bopd is derived from two wells. These volumes are augmented by output from the Crosby Warren field on DL1 (Europa: 100%). This field started production in 1987 and two production wells located on the site of the Scunthorpe steelworks is around 30 bopd. Finally, the company holds a 65% interest in the single W4 well on the Whisby oil field drilled by Europa in 2003. This well contributes a further c.35 bopd of net production to the company's current output which totals approximately 90 bopd, excluding Wressle at this stage.

Location of Europa's UK onshore production assets



Source: Europa Oil & Gas

Near term activity

These three fields have remaining net 2P reserves of over 300,000 barrels of oil and improved well recovery rates are essential in order to maintain volumes and monetise these reserves in the short to medium term. The company plans to invest a total of £190,000 in the West Firsby and Crosby Warren fields primarily purchasing new 3D seismic, assessing infill 3D seismic requirements and reprocessing existing seismic on both fields in addition to planning for workover activity on the WF9 well on West Firsby. This workover activity is likely to be expedited in the event that the broker option, issued with the recent fund raising, is exercised.

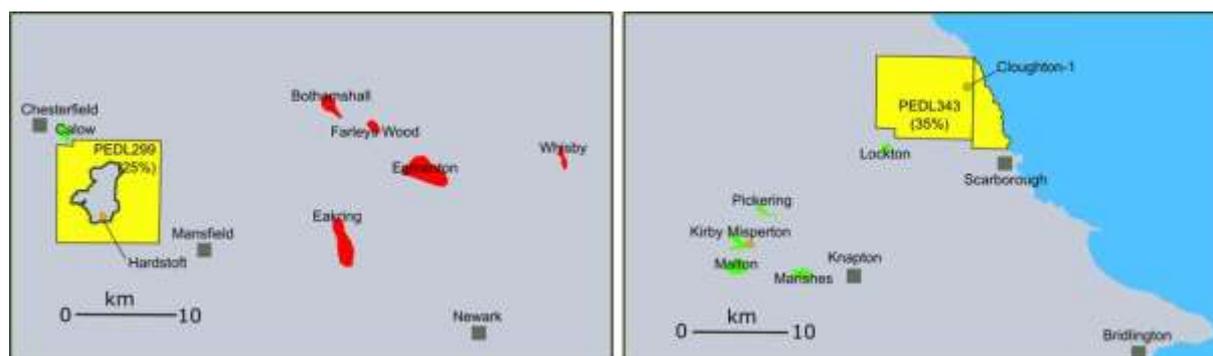
Other UK onshore assets

Activity with regards to Europa's non-producing assets in the UK is likely to be steady over the next two years as management focuses increasing amounts of time and resources on the higher upside potential of Morocco and Ireland. However, Europa possesses a 25% interest in the Ineos-operated PEDL 299 which contains the Hardstoft field. Hardstoft was discovered by the UK's first ever exploration well in 1919 and produced over 26,000 barrels of oil from a Carboniferous limestone reservoir at the time.

Hardstoft represents a field rejuvenation opportunity and requires further appraisal drilling in order to assess whether the 3.1 mmbbls of 2C contingent resources identified in a CPR commissioned by equity partner, Upland Resources (with an interest of 25%), can be developed commercially.

Europa also holds a 35% interest in PEDL 343 (pictured below right). This licence contains the Cloughton gas discovery, made by Bow Exploration in 1986, which flowed a small amount of gas to surface on production testing of the Carboniferous sandstone reservoirs. Cloughton remains an appraisal opportunity although the challenge will be to achieve commercial gas flow rates in the future if activity is resumed.

Locations of PEDL 299 and PEDL 343



Source: Europa Oil & Gas

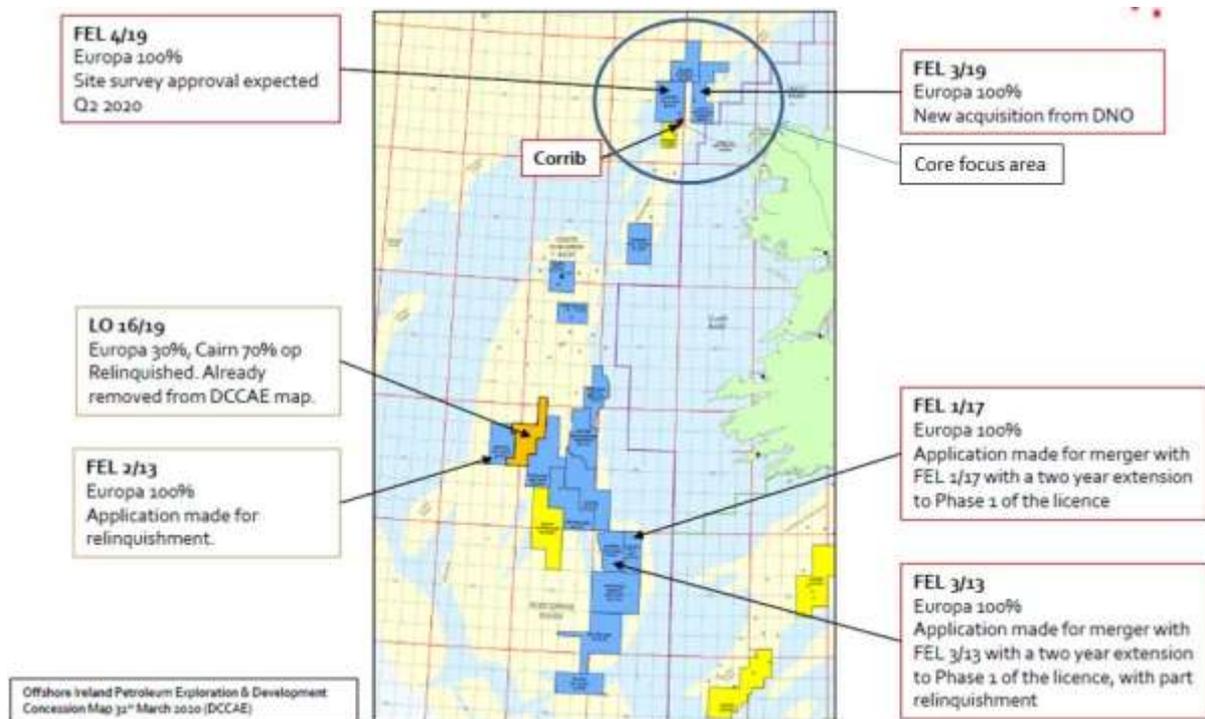
PEDL 181

Europa also holds a 50% operated interest in PEDL 181. Phase one obligations were fulfilled in 2015 with the drilling of the Kiln Lane well and the company has now entered the second phase of the licence. Although we do not anticipate the company to perform any major work on this licence in the near future, Europa notes that the area of the licence retained (160 km²) after the drilling of Kiln Lane has technical synergies with the adjacent licence PEDL 334, operated by Edgon Resources (also a 25% partner in PEDL 181).

Ireland – focus on gas exploration

In September 2019, The Irish government announced plans to phase out oil exploration in Irish waters. However, the then Taoiseach, Leo Varadkar, emphasised that gas exploration would continue as a vital transitional fuel, as the country moves further towards renewable technologies in the longer term. Prior to this announcement, Europa was already focusing on its key gas exploration licences within its Irish exploration portfolio, identifying Frontier Exploration Licence (FEL) 4/19 as its flagship licence. The company then consolidated this strategic position with the acquisition of FEL 3/19 from DNO in June 2020, providing the company with two licences both adjacent to the Corrib gas field, Ireland's primary supply of domestic gas production.

Europa's Irish asset portfolio



Source: [Europa Oil & Gas](#)

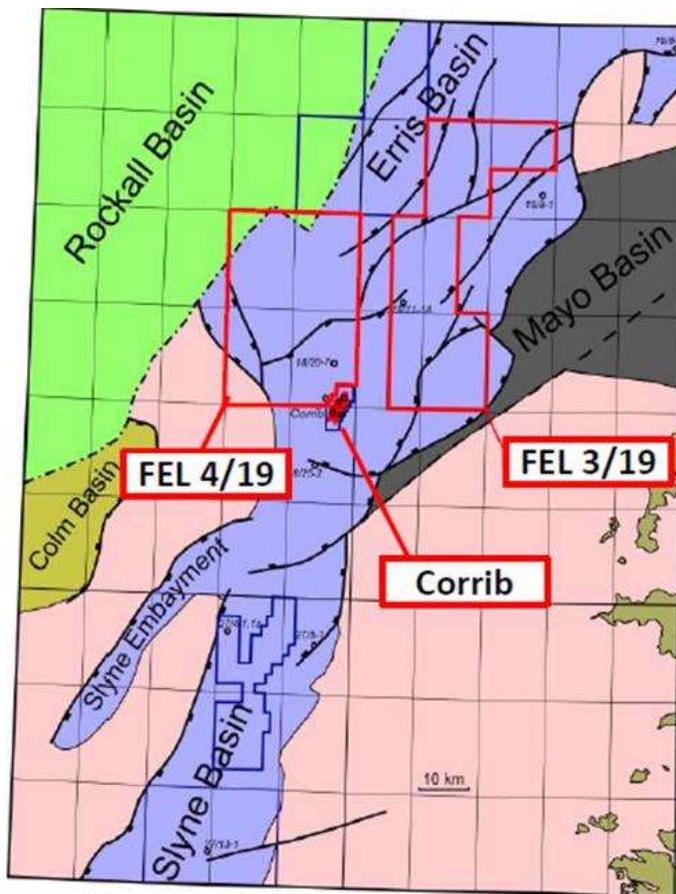
Oil exploration licences

Europa also holds 100% interests in three additional licences located in the Porcupine Basin to the southwest of Ireland, namely FEL 2/13, FEL 1/17 and FEL 3/13. The company has formally stated that it has elected to relinquish all exploration licences that had previously targeted oil rather than gas. In this regard, the company has already applied to relinquish FEL 3/13 which contains three large oil prospects termed 'Wilde', 'Beckett' and 'Shaw' and collectively believed to contain mean unrisks gross prospective oil resources of more than 2.9 billion bbls of oil. Also deemed non-core now are FEL 2/13, where an application to relinquish has already been submitted and FEL 1/17, which contains three significant prospects estimated to hold 929 mmbbls of oil collectively. (Note that these resource estimates in-house estimates dating from 2017 and predominantly 2018).

Core gas exploration licences

Europa holds a 100% interests in FEL 4/19 and FEL 3/19 which are located in the proven hydrocarbon province of the Slyne Basin offshore northwest Ireland adjacent to the producing Corrib gas field and its associated production facilities. Corrib was discovered in 1996 and began producing gas in 2015. The 1 TCF field has the potential to produce for a further 14-15 years and produced up to 60% of Ireland's total gas consumption at peak production in 2018. However, the field is on decline and with all production infrastructure already in place, the rationale to commercialise additional gas resources in the immediate area is very compelling.

Location of FEL 4/19 and FEL 3/19 offshore Ireland



Source: [Europa Oil & Gas](#)

A well understood region

Corrib is a Triassic gas play and is proven to work in the northern region of the Slyne Basin. As such, Europa considers further exploration in this area de-risked to a considerable degree. In 2019, the company published updated mean prospective resource estimates of 1.5 TCF for its Inishkea prospect on FEL 4/19 with a high case estimate of over 3.6 TCF of gas. Europa has previously applied a geological chance of success of 1 in 3 to this prospect following the completion of a work programme to analyse the existing 3D seismic data over the licence.

Prospective gas resources attributed to FEL 4/19

Licence	Prospect	Play	Gross gas	BCF	High	Mean
			Low	Best		
FEL 4/19	Inishkea	Triassic gas	244	969	3,606	1,528

[Source: Europa Oil & Gas](#)

In-house estimates

FEL 4/19 - the Inishkea prospect

Inishkea is structurally similar to Corrib in that the reservoir is a Triassic sandstone sourced from the underlying Carboniferous rocks with trap provided by a combination of Triassic Uilleann Halite top seal and fault seal. The prospect is only 11 km from Corrib at its nearest point and gas infrastructure already in place could imply a fast track development in the event that commercial hydrocarbons are discovered.

The water depths in FEL 4/19 are 400-600 metres and do not require harsh environment drill ships. The last drill cost estimate for an exploration well on Inishkea that Europa quoted was £37m including mobilisation and de-mobilisation of the rig. However, we believe that this could now be lower given the recent reduction in activity across the oil and gas sector over the last 12 months.

The last round of farm-out discussions with an oil major in regard to FEL 4/19 concluded without a deal in January 2020. However, we believe that the more recent acquisition of the FEL 3/19 licence immediately to the east of FEL 4/19 provides Europa with a rejuvenated proposition, in the form of two highly complementary licences, and critical mass in this highly prospective area. As such, we expect the company to re-launch farm-out negotiations once it has received formal regulatory sign off in regard to FEL 3/19.

FEL 3/19 – the Edge prospect

In June 2020, Europa successfully acquired 100% interest in FEL 3/19 from DNO for a nominal upfront fee and a 5% Net Profits Interest (NPI) of future production from any discovery on the licence. All work commitments on the licence to date have been fulfilled and the licence, through which the Corrib pipeline passes, is located only 18 km from the Corrib field.

FEL 3/19 contains 'the Edge' prospect which is estimated to contain mean prospective resources almost 1.2 TCF with a high estimate of 2.8 TCF. As with the Inishkea prospect and Corrib itself, the Edge is a proven Triassic sandstone reservoir play with Carboniferous source rocks and mudstone top seal. The prospect is a large rotated fault block located in shallower water depths of c.275 metres. The structure is entirely mapped by 3D seismic which was recently reprocessed confirming the information outlined above. Europa considers the Edge drill ready with a GCoS a little less than Inishkea.

Prospective gas resources attributed to FEL 3/19

Licence	Prospect	Play	Gross gas	BCF	High	Mean
			Low	Best		
FEL 3-19	The Edge	Triassic gas	39	330	2,807	1,185

[Source: Europa Oil & Gas](#)

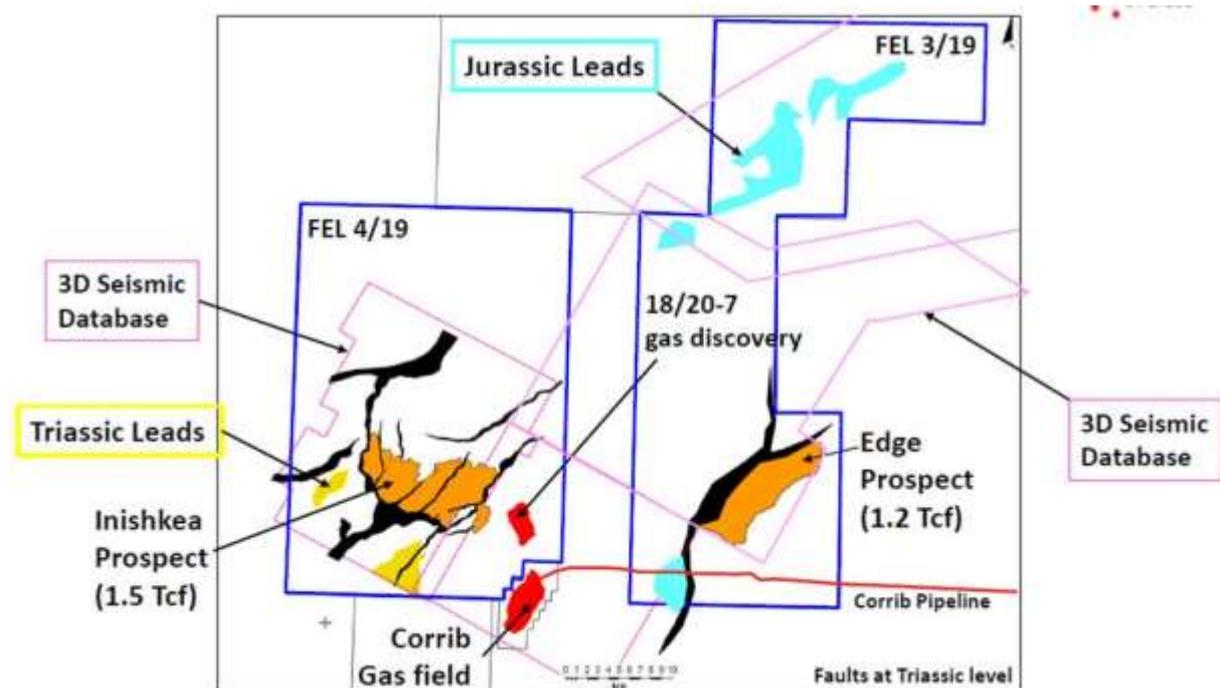
An infrastructure play

Aside from the compelling geology, Europa's gas exploration assets also represent an attractive infrastructure play. We believe that there is clearly a rationale to create a 'Corrib hub' through tying in additional discoveries to the existing infrastructure in the area. The distances between the accumulations are insignificant and the Corrib pipeline traverses FEL 3/19 east to west as gas is piped to shore at the Bellanaboy Gas Terminal in County Mayo.

We note also the location of the 18/20-7 gas discovery, otherwise termed Corrib North, that was made by Shell in 2010. Engineering studies have yet to confirm whether it is possible to upgrade best estimate gas in place of 41 BCF to a contingent resource as the reservoir is thought to be relatively tight. However, the establishment of a production hub in the area could feasibly bring more modest accumulations into play as nearby infrastructure renders smaller fields commercial.

With the Irish government's clear position on gas representing a key transitional fuel, Europa intends to re-launch its farm-out procedure for both blocks as a combined proposition once final regulatory sign-off is received for FEL 3/19.

The Inishkea and Edge prospects



Source: [Europa Oil & Gas](#)

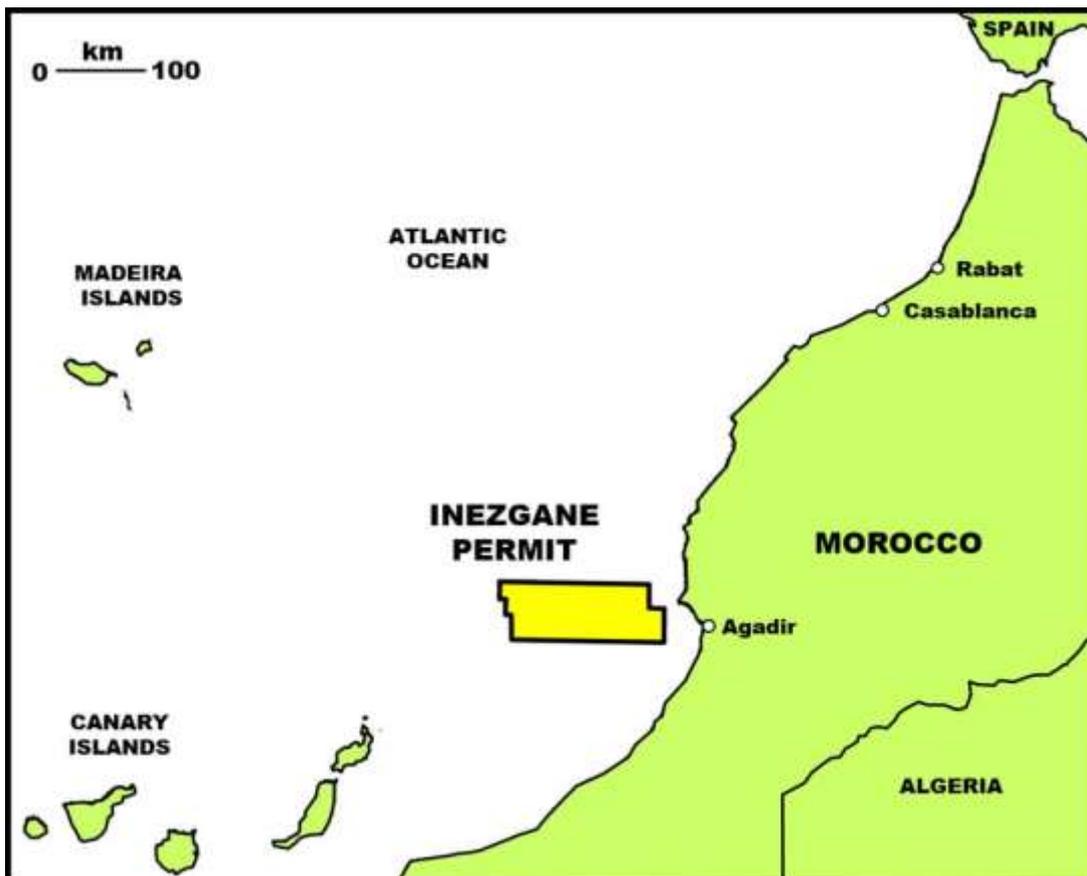
Morocco – The Inezgane Permit

Europa was awarded the large 11,228 km² Inezgane Permit in November 2019. The company is the operator of the licence with a 75% interest, the balance of 25% being held by the Moroccan state oil company, ONHYM. Inezgane is located in the Agadir Basin in water depths ranging from 600 metres close to the shore to over 2,000 metres further west into the Atlantic.

Within this major licence area, the company has identified large stacked prospects with prospective resource potential in excess 250 mmbbls each. At this relatively early stage, the company has targeted the identification of several drillable prospects over the next two years with a view to attracting farm-inees to drill in 2022 or 2023.

Of specific interest to the company is the Lower Cretaceous play which to date, has not been adequately tested in this region. The company believes that if this play can be unlocked with exploration success and the management's experience of similar plays in Ireland, the Inezgane Permit could prove to be highly prospective.

Location of the Inezgane Permit offshore Morocco



Source: [Europa Oil & Gas](#)

Exploration drilling history in Morocco

Morocco is one of the last frontier exploration regions located close to Europe. Only 10 wells have been drilled offshore to date and no commercial discoveries have been made so far. The company notes that the CB-1 well drilled by Kosmos Energy in Southern Morocco in 2015 did encounter 14 metres of gas condensate in Albian aged sandstones. However, this was deemed to be a sub-commercial accumulation and the well was plugged and abandoned.

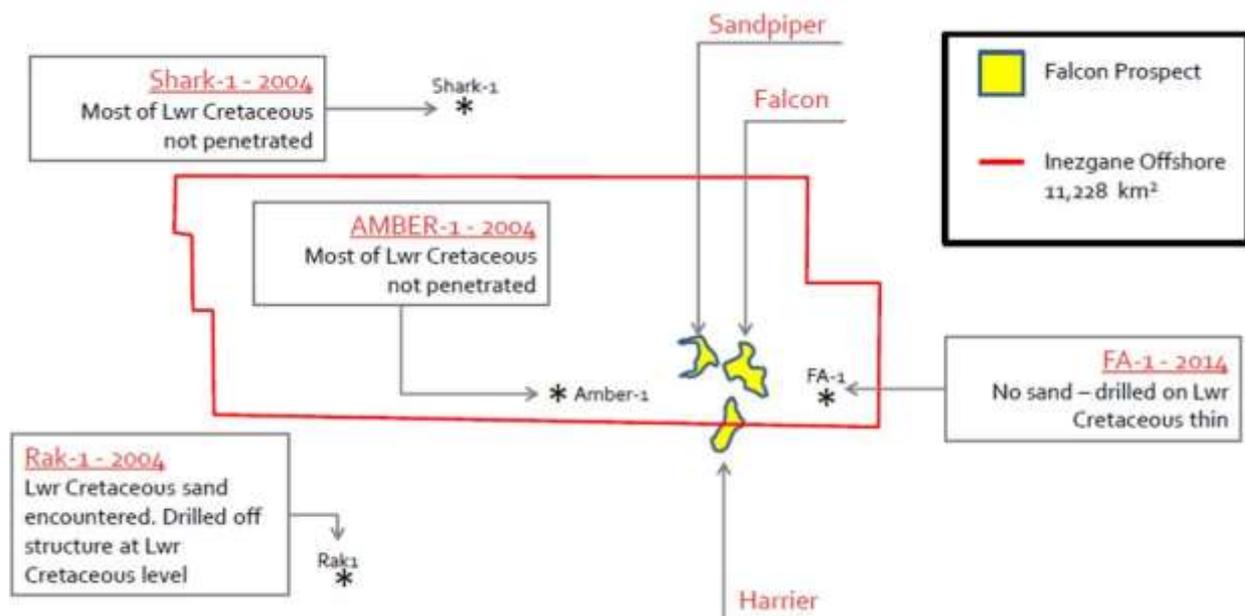
Europa has stated that eight of the 10 wells drilled to date have targeted clastic reservoirs, especially turbidite sands, while two have probed Jurassic carbonates. Of the eight wells targeting turbidites, only three were drilled below the Base Cretaceous, suggesting that the Lower Cretaceous intervals are virtually unexplored.

Exploration on the Inezgane Permit

To date, only two exploration wells have been drilled on the Inezgane Permit. These are Amber-1 in 2004 and FA-1 in 2014. In the case of Amber-1, most of the Lower Cretaceous was not penetrated and with regards to FA-1, the Lower Cretaceous sands were deemed too thin. Additional wells outside the permit to the north and south were also drilled in 2004. These were Shark-1, where most of the Lower Cretaceous was not penetrated and Rak-1, which did encounter this interval but the well was drilled off structure at the Lower Cretaceous level.

Previous operators of licences established prior to Inezgane shot 3D seismic data over much of the eastern half of the permit. In particular, the partially overlapping 5,475 km² merger of the Rimella and Assaka surveys in 2014 and the Kosmos 4,294 km² survey in the same year identified the Falcon, Sandpiper and Harrier prospects which are depicted on the map below.

Inezgane well data base



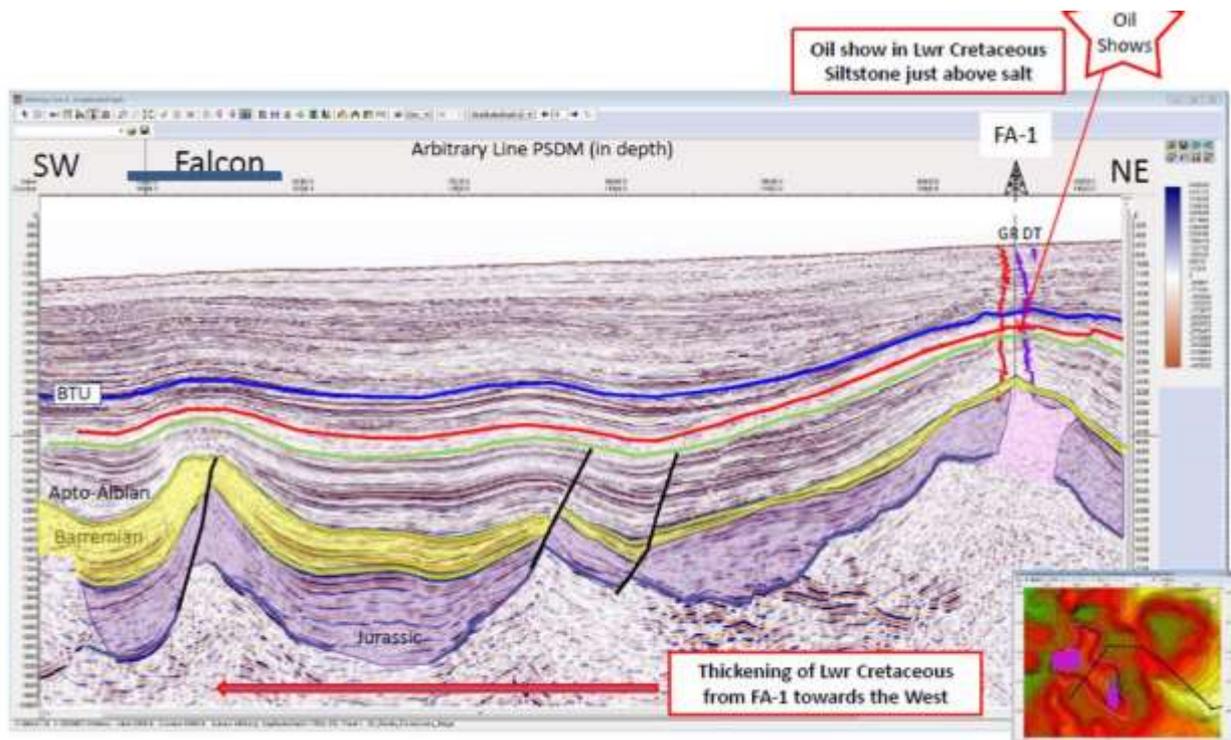
Source: Europa Oil & Gas

A working hydrocarbon system in place

Europa has identified the key elements of a working hydrocarbon system: namely reservoir, seal and source, within the Inezgane Permit, particularly in the Lower Cretaceous play concept.

The company has built a hydrocarbon model positing that Lower Cretaceous sediment in the form of deep-water fans emanating from the onshore Atlas Mountains has the potential to constitute sandstone reservoirs. Although thick turbidite targets deposited in deep ocean troughs have been elusive to exploration drilling so far, the company believes that these wells targeted salt-related structures where the Lower Cretaceous has thinned, seismic interpretation is more difficult and reservoir risk is therefore higher. In this regard, Europa has identified some alternative structural traps where the Lower Cretaceous interval remains thick, thereby reducing reservoir risk. In this regard, the company believes that the play thickens considerably in a westerly direction from the existing FA-1 exploration well as demonstrated on the illustration below.

Evidence of the thickening of the Lower Cretaceous interval to the west of FA-1



Source: [Europa Oil & Gas](#)

Seal and source rocks in evidence

Europa's work has also identified that salt domes and also thick marine shales offer high quality impermeable seal potential for Lower Cretaceous reservoir rocks and the source rocks providing the appropriate conditions of temperature and pressure for the generation of hydrocarbons are represented by several candidates. These include Lower Cretaceous aged Albian-Aptian, Cenomanian-Turonian or Barremian sections or the deeper, older Upper Jurassic aged rocks as seen above. These conclusions were derived from historical well cuttings, oil typing and outcropping of land based rock formations.

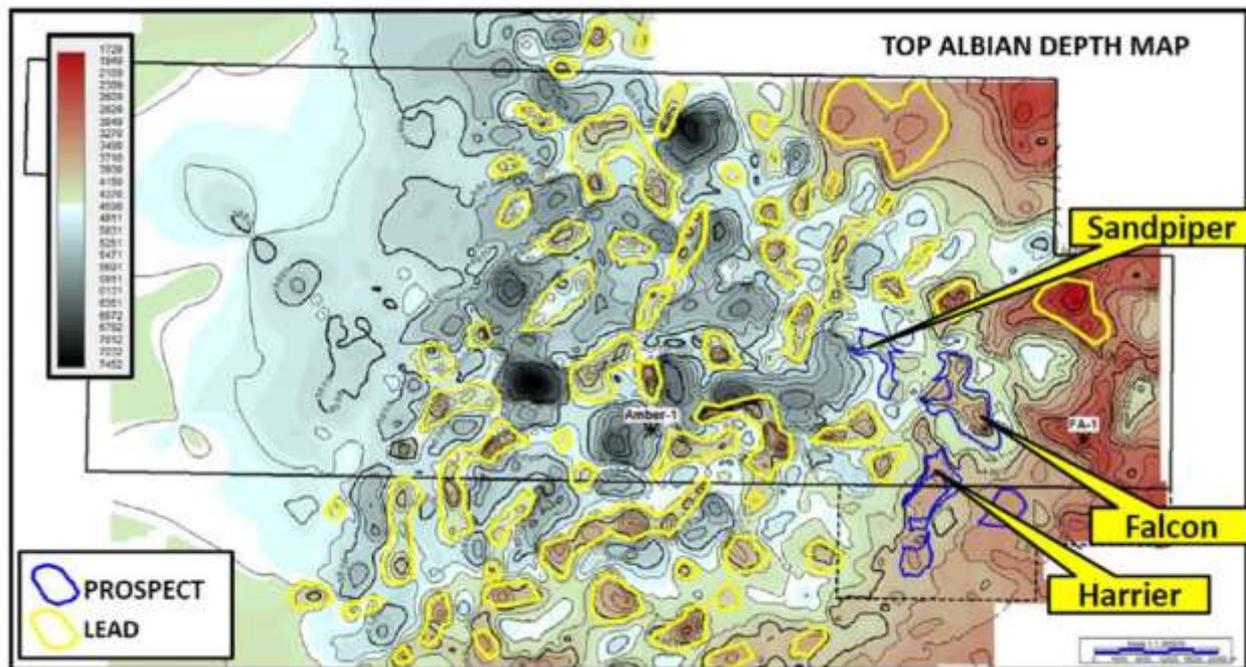
Prospects and leads

Seismic interpretation and reprocessing to date has outlined a significant portfolio of leads and prospects on the Inezgane Permit. In July 2020, the company announced that it had mapped 14 prospects and a further 16 leads which could hold up to 10 billion barrels of unrisks oil resources. The prospects alone have mean resources of up to 150 mmboe each with total resources estimated to be in excess of 5 billion barrels of oil equivalent.

As noted previously, the prospects have stacked reservoir potential and a wide range of structural styles including 4-way dip closures in the case of the primary Falcon and Turtle prospects which are estimated to contain 827 mmboe and 204 mmboe respectively. At this stage, Europa has assigned a geological chance of success of 20-35% to these prospects.

The map below depicts the array and distribution of potential leads and prospects on the Inezgane Permit. We acknowledge that this illustration is from September 2019 and Europa has since converted a larger proportion of the leads into more solid prospects. However, the location of the key Falcon prospect in particular is depicted clearly below.

Key prospects and leads on the Inezgane Permit



Source: [Europa Oil & Gas](#)

Morocco – Terms and conditions

The original Inezgane Permit was a Petroleum Licence constituting three phases over eight years*. These phases are:

- First phase: Seismic reprocessing and geological studies
- Second phase: One exploration well
- Third phase: Further exploration wells and seismic reprocessing

There is the option to relinquish the licence at the end of each phase if the work programme has been completed and in the event of a commercial discovery and subsequent development project, Morocco offers production licences for 25 years.

We believe that Moroccan fiscal terms are attractive. ONHYM possesses a carried 25% interest during the exploration phase although the state oil company pays its equity share of costs of development and production costs. Royalties are low at 0% on oil production for the first 2.5 mmbbls and 10% thereafter. Gas royalties are also 0% on the first 10 BCF of production with a rate of 5% applying thereafter. Corporate tax is not applied for the first 10 years and is applied at a rate of 30% thereafter.

Licence extension

*In October 2021, ONYHM granted Europa a 12 months extension to the initial phase of the Inezgane Permit to allow for substantial amounts of time lost due to the restrictions imposed by the current Covid-19 pandemic. As such, phase one will now expire on November 2022 enabling Europa to complete its phase one technical work. The original duration of the Inezgane Permit was eight years. However, this has now been extended to nine years.

With Europa currently in phase one of the Inezgane Petroleum Licence, the company has been able to keep expenditure modest as it works up its prospect inventory. Given the appreciable cost of an exploration well in relatively deep water, Europa has identified the need to attract a farm-in partner(s) to carry the company through the cost of a maiden well in phase two which now commences in December 2022. If the company can achieve this aim and drill a successful well, we believe that a new play could be unlocked in Morocco implying major upside within the rest of the Inezgane Permit.

Europa states that ongoing work is focused on further de-risking the prospects and leads that it has already identified and the company is in the process of compiling a robust prospect inventory with which to lead a farm-out process at the end of the phase one technical programme. The company has been in dialogue with three companies to this end and we note that several major oil and gas companies are currently operational in the same region of Morocco, including Shell, ENI, Genel and Repsol.

The company has earmarked approximately £350,000 from the recent fund raise on 11 February 2021 with which to continue its seismic reprocessing and advance farm-out activities.

Appendix – Board of Directors

Brian O’Cathain – Non-Executive Chairman

Brian has worked as a geologist and petroleum engineer in the oil and gas sector since 1984. He began his career with Shell International and worked at Enterprise Oil and Tullow Oil in senior roles. He served as CEO of Afren plc to 2007, and as CEO of Petroceltic International plc, until 2016. He is a non-executive director of Eland Oil and Gas, an AIM listed company producing over 20,000 bopd in Nigeria and of Nephin Energy, a private gas producing company which is the largest equity holder in the Corrib Gas Field in Ireland. Nephin Energy is a 100% subsidiary of Canadian Pension Plan Investment Board, one of the world’s largest Sovereign Wealth Funds.

Brian’s skills include market understanding, fund-raising, and the technical, legal and financial aspects of running a publicly listed Oil and Gas company. He led and negotiated the agreed nil-premium merger of Petroceltic and Melrose Resources in 2012. He holds a BSc (First Class) in Geology from the University of Bristol.

Simon Oddie – Chief Executive Officer

Simon has over 40 years of relevant experience as a petroleum engineer, technical consultant, manager and investment adviser in upstream oil and gas. He has worked with Schlumberger, ERC Energy Resource Consultants, Enterprise Oil and Gemini Oil and Gas Advisors LLP and gained extensive experience in technical, senior management and finance functions. He was CEO of Enterprise Italy during its first operated exploration drilling both on and offshore and was responsible for significant growth in the business. Simon recently was the architect of the Gemini Oil and Gas royalty funds where he established a solid track record in fundraising, investor relations, and execution of oil and gas deals. He has completed the Advanced Management Program at Harvard Business School, holds an MSc. in Petroleum Engineering from Imperial College and a BSc (First Class) in Electronics from Manchester University.

Stephen Williams – Non-Executive Director

Since October 2017, Mr Williams has held the position of Co-CEO of Reabold Resources, an AIM traded, upstream oil & gas company focused on investing in late stage upstream opportunities. At Reabold, Stephen plays a leading role in raising capital, building a diversified portfolio of investments in the UK, Romania and the US and, since August 2018, the company’s participation in nine wells, eight of which have resulted in discoveries. Prior to Reabold, Mr Williams held various positions within both the energy and financial sectors including as a fund manager at Guinness Asset Management and, between 2010 and 2016, as an investment analyst at M&G focused on energy and resources. Between 2005 and 2010, Mr Williams worked as an energy investment analyst for Simmons & Company International and from 2003 to 2005 as an analyst at ExxonMobil.

William Ahlefeldt – Non-Executive Director

William helped take Europa onto AIM and remains its largest shareholder. He started his career at Maersk as a petroleum engineer in 1982, followed, in 1987, by IPEC, a London based consultancy, where he was responsible for field reserves estimations. In 1990, he became an independent consultant, undertaking field and portfolio evaluations for acquisitions and field development work on a range of projects in the North Sea, former Soviet Union and Middle East. He was also, in 1991, a founder and non-exec director of IFX Inforex Ltd which was successfully sold in 2000. William has continued to work as an independent consultant petroleum engineer, latest in 2013-2016 for a client in Norway.

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