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Advance Energy PLC*

18 January 2021

Stock Data

Share Price:	0.26p**
Market cap.:	£4.5m
Shares in issue:	1,718.4m
Fully diluted equity:	1,916.1m

Company Profile

Sector:	Oil & Gas
Exchange:	AIM
Ticker:	ADV

Activities

Advance's strategy is to leverage its management's extensive experience to identify discovered oil and gas assets and unlock hidden value within them through a technical and commercial approach.

Share price performance

Source: LSE

Directors

Mark Rollins:	Non-Exec. Chairman
Leslie Peterkin:	Chief Executive Officer
Stephen West:	Chief Financial Officer
Ross Warner:	Non-Exec. Director

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***Optiva Securities acts as joint broker to Advance Energy PLC**

****Shares currently suspended from trading on AIM since 17 December 2020**

New horizons in Timor Leste

In H1 2020, Advance Energy (ADV) appointed a new and highly experienced management team possessing over 120 years of combined expertise in locating, assessing and acquiring oil and gas assets and unlocking hitherto unrealised value. Since then, the company has pared down its legacy asset portfolio and concluded 2020 with the announcement that it intends to farm-in to the Buffalo PSC in Timor-Leste. In return for funding a US$20m appraisal well on the Buffalo oil field, ADV will earn up to a 50% indirect interest in the asset and its subsequent development, a project which we believe has the potential to generate value amounting to several multiples of ADV's initial investment.

In H1 2020, ADV appointed new CEO, Leslie Peterkin, Chairman Mark Rollins and CFO, Stephen West to a transformed Board of Directors. The management embarked immediately on a root and branch review of the business and a new strategy was formulated with the intention of generating attractive returns to shareholders. Primarily, ADV aims to unlock additional value in discovered oil and gas assets. In particular, the management intends to leverage its expertise using a highly technical yet commercial approach to identify often hidden upside in existing discoveries.

The company has outlined its strategy to acquire non-operated interests by farm-in or acquisition with the preferable involvement of only two parties in a JV company structure where possible. The company is geographically agnostic although investment in politically stable countries with attractive fiscal regimes will be paramount. ADV is also focused on relatively short value realisation time lines so high risk exploration projects have been ruled out specifically at this stage.

In 2020, ADV exited the Betun Selo project in Indonesia and re-classified its modest interests in the UK Wessex Basin as non-core. ADV has retained its interests in the UK SNS licences acquired provisionally during the recent 32nd Licensing Round given that these assets are unlikely to require significant management time or funds in the medium term.

In December 2020, ADV shares were suspended from trading pending the conditional acquisition of an indirect interest of up to 50% in the TL-SO-T 19-14 Production Sharing Contract (the Buffalo PSC) located offshore Timor-Leste. Under the terms of the deal, ADV has agreed to subscribe for up to 50% of the equity in a JV with a subsidiary of ASX-listed Carnarvon Petroleum for a consideration up to US$20m. This subscription will fully fund an appraisal well on the field which is intended to convert 2C contingent resources of 34.3 mmbbls into 2P reserves and instigate a full field development thereafter.

To fund the transaction and also provide working capital, ADV is seeking to conduct a placing of new shares with new and existing investors. In the event that a lower amount is raised between US$10m and US$20m, ADV will be issued equity in the proposed JV on a sliding scale with provisions to increase this interest to 50% at a later date.

On the basis of our projections coupled with information provided by both independent consultant, RISC Advisory and Carnarvon Petroleum, we believe that ADV's 50% net interest in Buffalo could be worth up to US$165m. This is based on a successful appraisal well and subsequent development with first oil commencing in 2024. Although there are several incumbent technical and commercial risk factors which could justify a more aggressively risked outcome, such as only the 1C resources being certified as reserves, an outcome even half the level of our prognosis would deliver a return of almost four times ADV's initial investment.

An introduction to Advance Energy

In less than 12 months, Advance Energy's (ADV's) new management has transformed the company formerly known as Andalas Energy. As part of a wholesale strategic review of the company, ADV appointed a fresh management team in the first half of 2020 and instigated a new strategy to build an exciting international oil and gas business.

New Board of Directors

In February 2020, ADV appointed new CEO, Leslie Peterkin and Non-Executive Chairman Mark Rollins to the Board in order to drive the company's new strategy. In June 2020, the Board of Directors was augmented by Mr Stephen West who joined in the role of CFO. At the same time, Mr Ross Warner stepped down from his previous role as an Executive Director and assumed his current role as a Non-Executive Director of the company. A comprehensive overview of the biographies of ADV's Board of Directors is available in Appendix 1 at the end of this report.

Legacy assets

Simultaneous with the transformation of the management team, ADV also conducted a wholesale review of company's assets in Q1 2020 and made several decisive moves. Primarily, ADV determined that it had fulfilled its obligations in Indonesia under the Betun Selo Services and Option Agreement and concluded that there was insufficient value in the asset to justify further drilling activity at this stage. Consequently, the Agreement was terminated in October 2020 and the carrying value of the asset of approximately US$0.6m will be fully impaired at the next balance sheet reporting date.

At the same time, the company decided that the early stage development status of its existing UK asset portfolio in the Wessex Basin, Dorset implied a material risk profile and the management concluded that these assets are unlikely to compete for capital under ADV's future strategy. Consequently, we expect these licences to be relinquished when the second term expires on 31 January 2021.

The company retains material indirect interests in several UK licences in the Southern North Sea following the provisional award of one whole block and four part-blocks in the recent 32nd Licensing Round and we believe that these assets are more likely to represent longer term upside. In this regard, ADV's focus is currently on growing the business through the instigation of farm-ins to non-operated interests in upstream projects where there is an opportunity to add significant value in the short to medium term.

Company strategy

ADV's strategy is to generate highly attractive returns to investors by unlocking value in discovered oil and gas assets. As highlighted above, the company has established an experienced management team with over 120 years of combined expertise to locate and assess projects which present ADV with an opportunity to acquire non-operated interests in potentially exciting projects.

These opportunities are likely to arise as existing operators face challenges which may be purely technical in nature. Alternatively, operators may have suboptimal partnerships and commercial arrangements in place or face financial constraints. In any one of these situations, or a combination of several, we believe that ADV could unlock major opportunities to add significant value to an appropriate project.

As ADV has established a core strategy to unlock hidden value within discovered assets through a highly technical yet commercial approach, the management has accumulated a distinguished track record of achieving precisely that, generating significant value uplift for operators and investors. Consequently, we believe that it is pertinent to outline two such case studies where an ADV team member (unattributed in these particular cases) has achieved such outcomes. This is outlined further in Appendix 2 at the end of this report.

Business model preferences

ADV seeks to acquire non-operated interests in attractive projects either by acquisition or farm-in. The company has also expressed a preference for joint ventures (JVs) with only two parties in order that ADV has the potential to exert a meaningful degree of influence even as a junior partner.

The company intends to work only with established and recognised operators, which is likely to reduce much of the execution risk for early stage companies such as ADV. ADV has a low overhead business model, typified by both Mr Peterkin and Mr Rollins agreeing to take 50% and 66.7% of their salaries in ordinary shares for the first 12 months of employment.

Not geographically constrained

ADV assesses projects on their individual merits and value potential and has no geographical preferences at this stage. However, the company will target only projects with discovered hydrocarbon resources in countries with stable and attractive fiscal regimes. Value realisation is important and the company has outlined that it will favour projects with a comparatively short 3-5 year line of site from the outset. As a consequence of this strategic pillar, the management has ruled out investment in high risk exploration and projects with long lead and value realisation time lines.

Risk management

As a function of the management team's combined experience, ADV advocates a highly involved one-to-one negotiation strategy for potential new investments. This is facilitated by the company's preference to deal with a single other party in a potential JV.

The focus on driving value in a relatively constrained time scale aligns with the company's desire to mitigate risk. In particular, the company intends to limit its exposure to long term commodity price fluctuations and avoid stranded value in the event that the world's energy mix continues to trend towards cleaner technology.

Summary

ADV plans to keep its strategy clear and simple in order to best apply the combined experience of the current management team. As such, we expect that the team will remain small and the value propositions to invest in new opportunities will be straightforward as we intend to demonstrate in our analysis of the company's maiden acquisition in Timor-Leste outlined in later sections of this report.

As a geographically agnostic non-operator, ADV is nimble and able to acquire interests in short time frames. The company does not require large in-country teams or offices like an operator and as such, can manage a geographically diverse multi asset portfolio with only a handful of people.

Anticipated fund raising and reverse takeover

ADV's shares were suspended from trading on 17 December 2020 upon the announcement that the company was planning to acquire up to a 50% indirect interest in the Buffalo field offshore Timor-Leste for a consideration of up to US$20m. To fund the transaction and provide working capital for the company, ADV is seeking to conduct a placing of new shares with new and existing investors. Given the size of the placing, this transaction constitutes a reverse takeover under the AIM rules. We note that the directors of Advance Energy will also participate in the placing.

Terms of the transaction

ADV, through its wholly owned subsidiary, Advance Energy TL Limited (**AETL**) entered into a subscription agreement (termed the 'Buffalo Subscription Agreement') with Timor-Leste Petroleum Pty Ltd (**CVNA**), a subsidiary of ASX-listed Carnarvon Petroleum Limited, under which AETL will subscribe for a level up to 50% of Carnarvon Petroleum Timor, Unipessoal Lda, a subsidiary of CVNA incorporated in Timor-Leste ('**JVCo'**) for a consideration of up to US$20m.

The JVCo holds a 100% working interest in the production sharing contract (PSC) in Contract Area TL-SO-T 19-14 offshore Timor Leste originally between Autoridade Nacional do Petroleo e Minerais Timor-Leste (on behalf of the Ministry of Petroleum and Mineral Resources) and the JVCo. The TL-SO-T 19-14 contract area contains the Buffalo oil field.

The Buffalo field is a proven field that has already produced 20.5 mmbbls over five years in the early 2000s. AETL's subscription in the JVCo will be used to fund fully the drilling of the planned B-10 appraisal well in addition to certain PSC related costs. The intention is that the B-10 well will appraise the 2C contingent oil resources of 34.3 mmbbls which have been independently certified by RISC Advisory as part of the reverse takeover (RTO). At this stage, it is expected that drilling will take place in H2 2021.

Sliding scale provides flexibility

Although ADV through its subsidiary AETL is seeking to acquire a maximum indirect interest of 50% in the JVCo, the parties involved have stipulated that provided that ADV raises at least US$10m, a sliding scale of equity interests can be issued to the company as outlined in the table below.

Buffalo transaction subscription agreement terms

AETL subscription amount (US$m)	AETL equity in JVCo (%)
10	25.0%
11	27.5%
12	30.0%
13	32.5%
14	35.0%
15	37.5%
16	40.0%
17	42.5%
18	45.0%
19	47.5%
20	**50.0%**

Source: Advance Energy PLC

In the event that the subscription amount is less than US$20m, CVNA may elect to fund or alternatively, arrange for a third party to fund, the shortfall (balance fund). This election must be made by CVNA within 90 days of completion of the issue of the first tranche of equity to AETL and we note that AETL has the right to match the balance funding with the same period whereupon AETL will be issued with additional equity in JVCo up to 50%.

Funding the transaction

In order to fund the Buffalo transaction, ADV is seeking to place shares with new and existing investors. At this stage prior to the completion of the placing, it is not possible to determine the precise metrics of this element of the transaction. However, our table below provides an illustration of the most likely outcomes.

In our model below, we have made several assumptions. Primarily, we believe that the company will aim to raise up to US$23.0m (equivalent to £16.9m at the current exchange rate) with which to fund the acquisition of the full 50% indirect interest and provide working capital for the wider ongoing operations of the group.

In the first table below, we have illustrated the outcome of the transaction conducted at a range of prices. At the pre-marketing stage, we note that there are innumerable possible outcomes and in a similar vein to the first table, the second table illustrates the results of a range of smaller fund raisings at a set price on the eventual number of shares to be issued.

Potential outcomes to the proposed placing to raise US$23.0m (variable placing price)

		Placing price				
Item		**0.35p**	**0.325p**	**0.30p**	**0.275p**	**0.25p**
New money raised	USD	23.0	23.0	23.0	23.0	23.0
Exchange rate	USD/GBP	1.36	1.36	1.36	1.36	1.36
New money raised	GBP	16.9	16.9	16.9	16.9	16.9
Placing price	(p) per share	0.350	0.325	0.300	0.275	0.250
New shares issued	(m)	4,832	5,204	5,637	6,150	6,765
Current shares in issue	(m)	1,718	1,718	1,718	1,718	1,718
Shares in issue post deal	(m)	6,550	6,922	7,356	7,868	8,483
Implied market cap. post deal	£m	22.9	22.5	22.1	21.6	21.2

Source: Optiva estimates

Potential outcomes to the proposed placing at a placing price of 0.30p (variable funds raised)

Item		**Funds raised**				
New money raised	**USD**	**10.0**	**12.5**	**15.0**	**17.5**	**20.0**
Exchange rate	USD/GBP	1.36	1.36	1.36	1.36	1.36
New money raised	GBP	7.4	9.2	11.0	12.9	14.7
Placing price	(p) per share	0.30	0.30	0.30	0.30	0.30
New shares issued	(m)	2,451	3,064	3,676	4,289	4,902
Current shares in issue	(m)	1,718	1,718	1,718	1,718	1,718
Shares in issue post deal	(m)	4,169	4,782	5,395	6,008	6,620
Implied market cap. post deal	£m	12.5	14.3	16.2	18.0	19.9

Source: Optiva estimates

Information on Timor Leste

Officially known as the Democratic Republic of Timor-Leste, this small and comparatively new country occupies the eastern half of the island of Timor in addition to several smaller neighbouring islands. As the map below suggests, this former Portuguese colony was part of Indonesia until 1999 when Indonesia relinquished control of the territory. Timor-Leste then became the first new sovereign state of the 21st century in May 2002 and simultaneously joined the United Nations. It is one of only two officially Christian countries in South East Asia, the other being the Philippines.

Location of Timor-Leste

Source: Wikipedia

Economic information

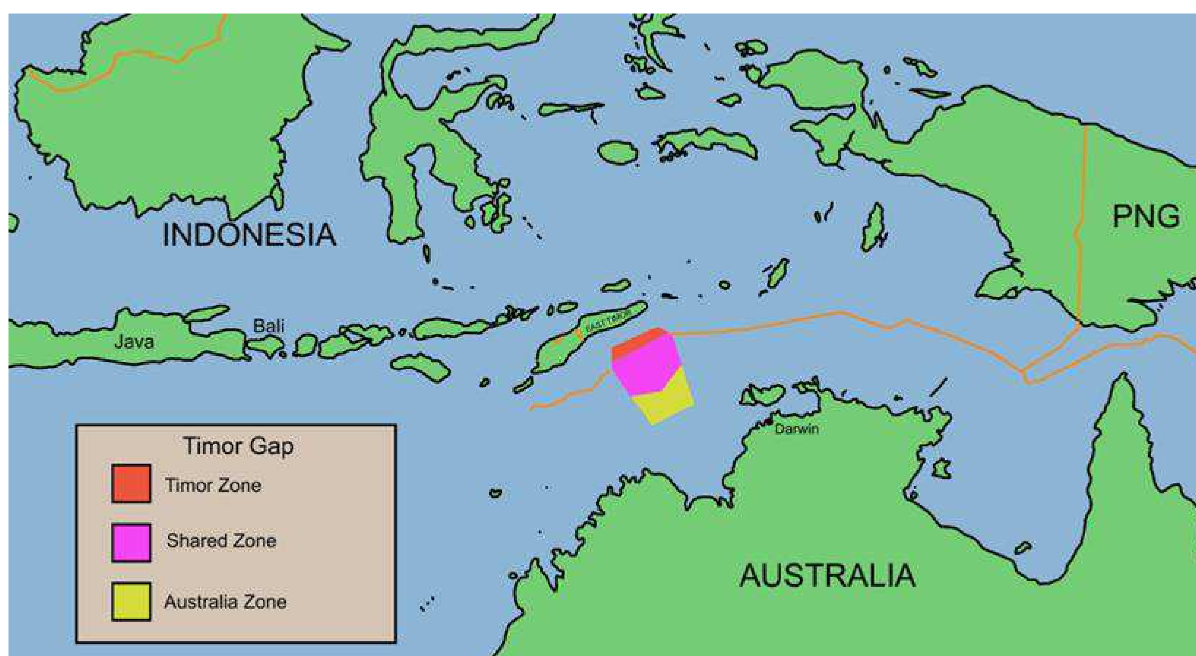
With an estimated population of only 1.3 million and a nominal GDP per capita of approximately US$2,400, Timor Leste is not a rich country compared to the rest of Indonesia and particularly its southern neighbour, Australia. The company has endemic high unemployment and is highly reliant on often volatile commodity export markets such as coffee which comprises over 20% of exports alone.

However, Timor Leste operates a market economy and has a well-developed oil and gas export sector which represents by far the largest segment of the economy. The country established a Timor-Leste Petroleum Development Fund in 2005 soon after independence which funds the country's annual budget. In 2018, the Petroleum Fund Annual Report indicated that the fund had a balance of US$15.8 billion with which to finance most of the country's expenditure.

The oil and gas sector

Timor-Leste's Petroleum Development Fund derives most of its income from its share of hydrocarbon production, primarily located in the Joint Petroleum Development Area (JPDP), also termed the Shared Zone in the Timor Gap. This is a maritime region located between Australia and Timor-Leste depicted on the map below.

Location of the Timor Gap



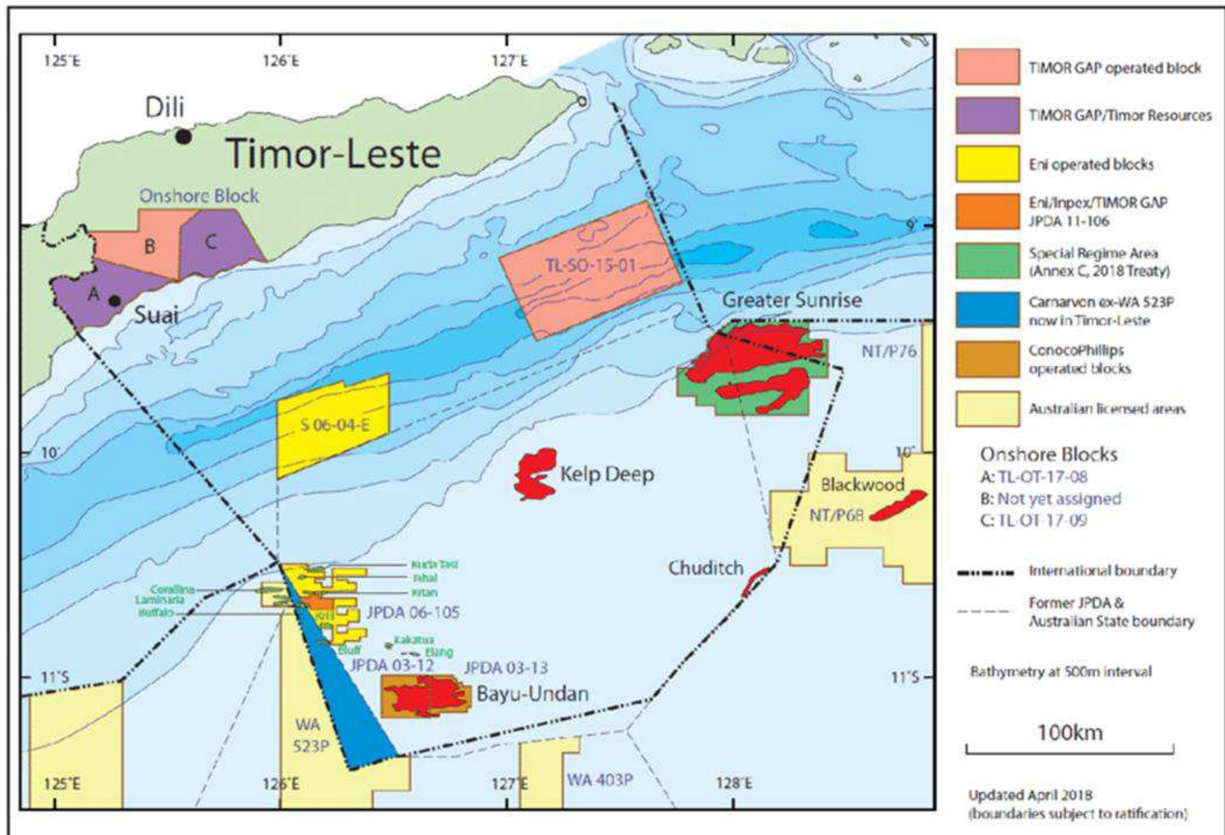
Source: Wikipedia

Clarity within the sector

This area has been subject to disagreement over maritime borders since the 1970s, complicated significantly when Timor-Leste won independence from Indonesia in 1999. However, Timor-Leste signed the Timor Sea Treaty with Australia after winning independence in 2002 guaranteeing a ratio of revenue distribution in the JPDP of 90:10 in Timor-Leste's favour. Although the status of the Greater Sunrise gas development was disputed at the time, the 2018 Maritime Boundaries Treaty later apportioned a considerably greater share of the accumulation to Timor-Leste. This is outlined clearly on the highly informative map below showing that the result of the renegotiated maritime border.

This particular treaty was also instrumental in apportioning the Carnarvon Petroleum acreage (now termed contract area TL-SO-T 19-14, the Buffalo PSC), depicted in blue on the map below, from Australia to Timor-Leste. We believe that the ratification of the Maritime Boundaries Treaty in 2019 has provided both clarity and a solid legal foundation for the re-development of the Buffalo field to proceed in the early part of the current decade.

Timor-Leste licenced blocks



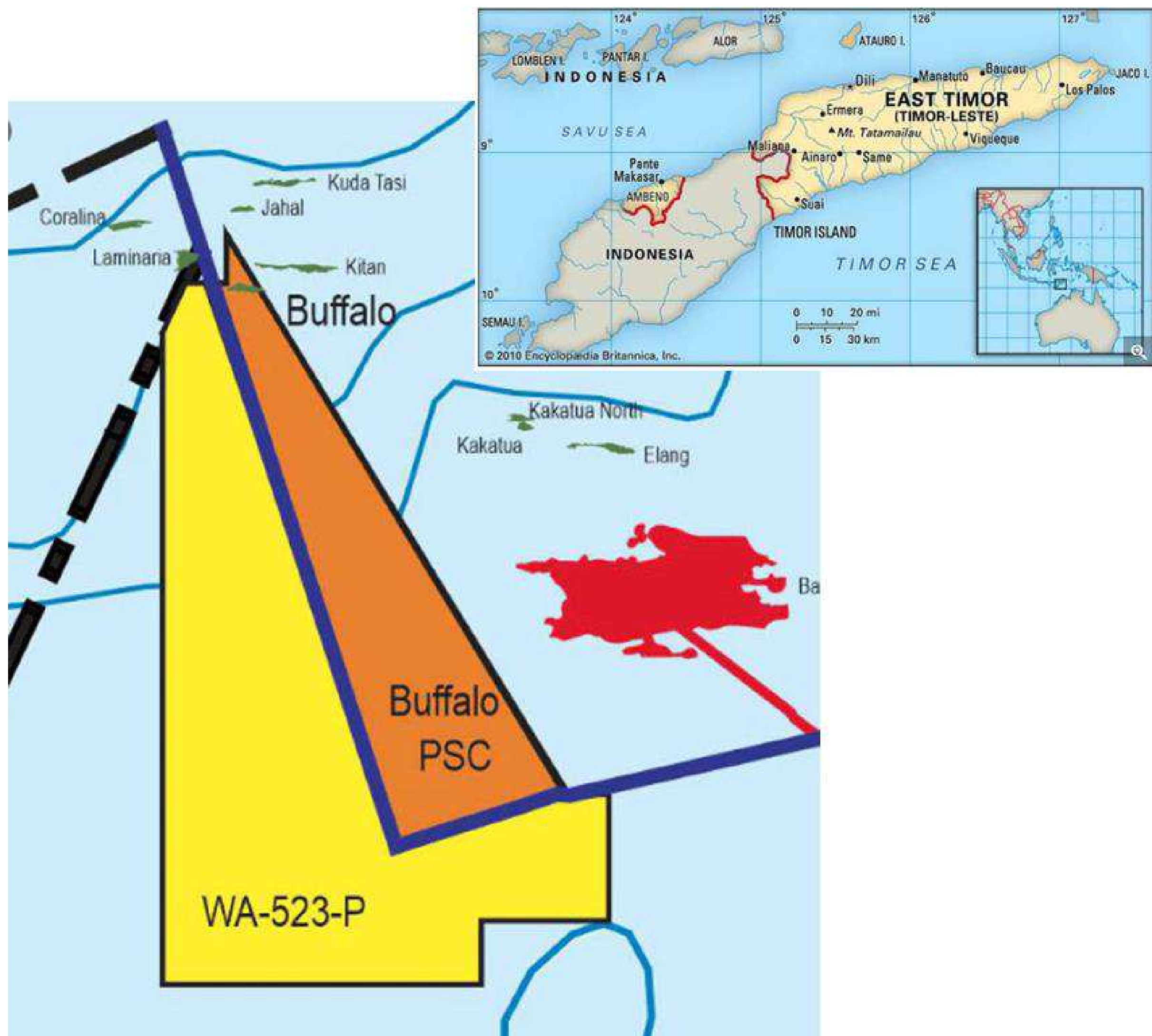
Source: ResearchGate (uploaded by Mr Tim Charlton)

The Buffalo oil field

The PSC in contract area TL-SO-T 19-14 (the Buffalo PSC) is located entirely within the offshore region southwest of Timor-Leste in the northern Bonaparte Basin in the Timor Sea. As outlined previously, until a Maritime Boundaries Treaty between the Australian and Timor-Leste governments was ratified in August 2019, the Buffalo field sat in Australian territorial waters which now border the Buffalo PSC to the south and west. We believe that this landmark event mitigated significantly a period of uncertainty over the future of the Buffalo field that had prevailed in the years prior to the ratification.

As the map below shows, the Buffalo field is located in close proximity to other oil fields including Laminara, Jahal and Kitan, the latter two of which are also located in East-Timorese territorial waters.

Location of the Buffalo field offshore Timor-Leste



Source: Carnarvon Petroleum Ltd, Encyclopaedia Britannica

Development history of the Buffalo field

The Buffalo field was discovered through the drilling of the Buffalo-1 exploration well by the operator BHP in 1996. A further appraisal well was drilled before a decision was taken by BHP to develop the field with a WHP (Well Head Platform) and two producing wells tied back to an FPSO (Floating Production, Storage and Offtake vessel) in 1999. Nexen Petroleum Australia subsequently assumed operatorship in 2002 and drilled a further two infill wells in that year before production ceased in 2004 due to a water cut of c.89% and all infrastructure was removed in 2005.

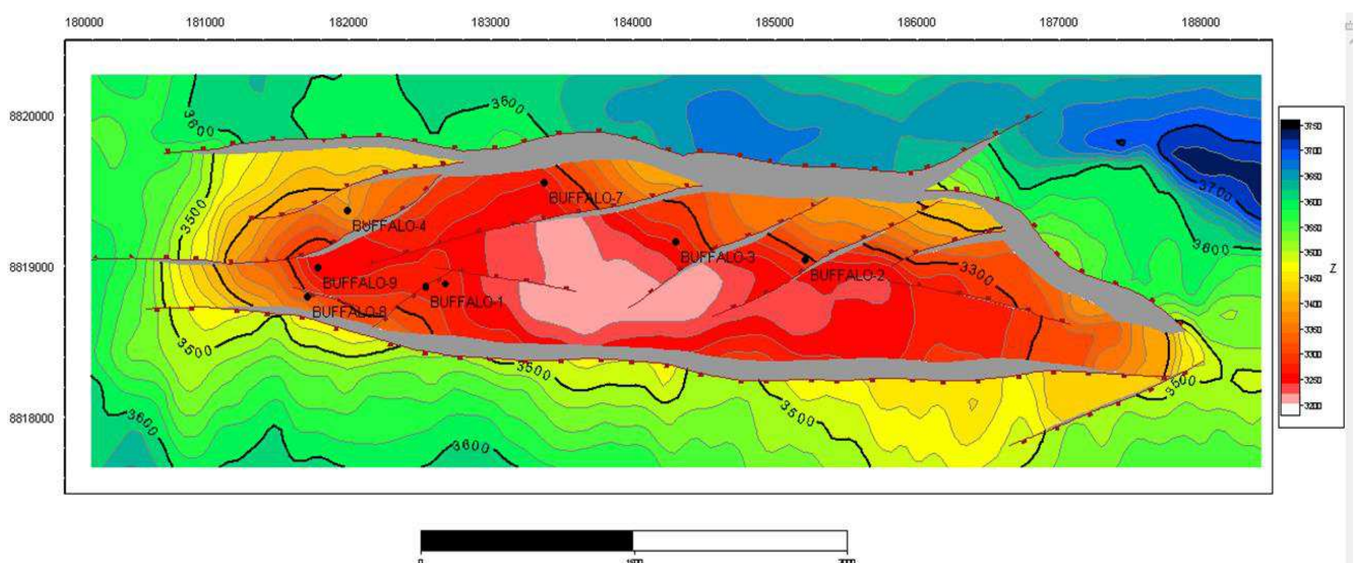
Over this five year production period, a total of eight wells were drilled in the field and peak production reached 50,000 bopd from only two of these wells during the period in which the field was on production. These particular two wells were the best producers on the asset delivering approximately 8 mmbbls of oil each.

In total, four producing wells delivered 20.5 mmbbls of oil before production was shut-in. ADV notes that the last well drilled on Buffalo in mid-2002 showed only 50 psi pressure depletion, confirming the infinite aquifer acting on the oil column. We understand that the field was still producing approximately 4,000 bopd at the time it was shut-in in 2004.

The company reports that Buffalo crude is very light oil with a gravity of 53° API. For comparison, Brent crude, also classified as a light oil, is typically in the 35-40° range. We note that liquids with a gravity in excess of 45° API are typically considered extra-light crude or condensates and may attract a premium pricing from customers in this region of SE Asia.

The map below depicts the Buffalo field structure and the eight wells that were drilled on it two decades ago. It is noticeable that the crest of the structure (in light pink) has not been probed by wells drilled in the early 2000s and it is this area of the reservoir that is expected to be targeted by the planned B-10 well later this year.

Structure map of Buffalo with well locations



Source: Carnarvon Petroleum

Initial assessment of Buffalo potential

While still an Australian licence, the 4,200 km^2 Exploration Permit WA-253-P which included the Buffalo field was acquired by Carnarvon Petroleum in May 2016. Carnarvon undertook a detailed work programme on Buffalo and determined that re-development of the field was possible and in 2017, engaged RISC Advisory Pty Ltd to undertake an independent assessment of the resources on Buffalo. The results of this work are summarised in the table below. We note that in September 2017, Carnarvon believed that the Buffalo field re-development would be economic on a standalone basis based on the 1C resources and a US$50/bbl oil price.

Contingent resources estimate for the Buffalo field (August 2017)

Contingent resources*	1C	2C	3C
mmbbls	15.3	31.1	47.8

Source: RISC Advisory Pty Ltd (2017) *Within the PSC area

All historical and future obligations recognised by Timor-Leste

Following the ratification of the Maritime Boundaries Treaty between the Australian and Timor-Leste part of WA-253-P became located in Timor-Leste waters and this portion of the original licence was converted to a new PSC called TL-SO-T 19-14 (the Buffalo PSC). As part of the smooth transition, security of title was confirmed for Carnarvon and the work programme for the years prior to the handover was recognised by Timor-Leste. The remaining commitments, which primarily include a well to be drilled in the 12 month period after 27 May 2021, have been duly acknowledged by the Timor-Leste authorities.

Updated contingent resources

Following an updated Competent Persons Report (CPR) to be published in January 2021, RISC Advisory reassessed the Buffalo resources to encompass the eastern extent of the field that extends into currently unlicensed acreage and it is noticeable that the upper end of the 1C to 3C range has been extended. We anticipate that the increased certainty provided by a successful appraisal result could serve to tighten this range and the contingent resources can be re-classified as a reserve when a FDP is approved.

Contingent resources estimate for the Buffalo field (January 2021)

Contingent resources		1C	2C	3C
Gross (100% of field)	mmbbls	16.0	34.3	62.8
Contractor net PSC entitlement*	mmbbls	12.2	25.0	44.4
Net attributable to ADV**	mmbbls	6.1	12.5	22.2

Source: RISC Advisory Pty Ltd *100% contractor interest **Assumes 50% ADV interest

Drilling and development plans

Appraisal drilling

The JVCo currently plans to drill the vertical B-10 appraisal well in late 2021 and will target the crest of the Buffalo structure which to date has not been drilled. This is expected to establish the remaining oil column in the field, which could be up to 60 metres or more. Following drilling and subsequent logging operations and if successful, the well will be suspended for future completion as a development well. As noted previously, the current estimated cost of the well is expected to be approximately US$20m.

The Timor Sea is fairly shallow with average water depths in the 300-400 metre range. However, the Buffalo field lies beneath a carbonate shoal where the water depth is considerably less at only 25-30 metres. As such, a simple and cost effective jack up rig is likely to be used to drill the B-10 appraisal well. We understand that the top of the Buffalo reservoir is located at a depth of approximately 3,200 metres and we estimate that a well would take around 25 days to drill and complete. With B-10 expected to be suspended as a future producer, we expect that two further wells would then be drilled to provide a total of three production wells for the re-development.

Development expenditure

If B-10 is successful and the JVCo partners agree a field development plan (FDP), AETL will be obliged to arrange funding for the re-development of the Buffalo field, a project that is estimated to incur development capital expenditure (capex) of a further US$125m additional to the B-10 well according to RISC. This translates to capex of <US$4.00/bbl for the 2C resource case which we believe is an excellent project metric.

At this comparatively early stage, ADV expects that around 70% of capex will debt funded through a loan to the JVCo from a third party lender and the balance will be funded by a loan from AETL or another member of its group. We note that the latest date for sourcing and arranging such funding as described is 180 days after the FDP is agreed for the Buffalo field.

Development options

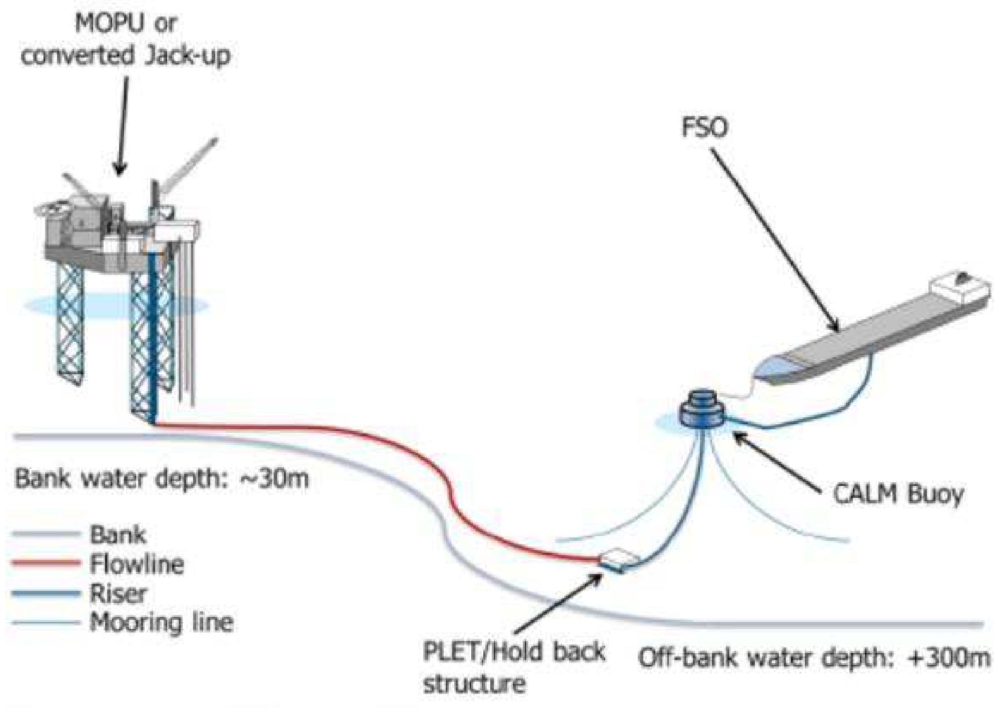
Carnarvon Petroleum has provided substantial information on potential development options for Buffalo since 2018 and this work has been updated in the recent CPR published by RISC.

In particular, Carnarvon is considering two development options. The first consists of a Mobile Offshore Production Unit (MOPU) connected to a Floating Storage and Offloading (FSO) unit as outlined in the illustration below. (A MOPU is a portable structure that can be reused in offshore well production although structures such as a jack-up rigs and FPSOs are also commonly referred to as MOPUs). The second option is a fixed WHP and FPSO option which we believe was the basis for the initial development plan.

Both plans consist of three wells, two of which are expected to be deviated so they can be drilled from the same location as B-10. In the event that appraisal drilling demonstrates a lower resource case (1C outcome), we believe that a third well would be dropped from the plan.

As production is likely to demonstrate an increasing water cut, artificial lift will be required and the wells will be equipped with electric submersible pumps (ESPs). In addition, this development option is also expected to have a liquid processing facility with capacity for 75,000 bpd of liquids in order to manage water production. Investors should note that Buffalo is effectively a water flooded field given that it is connected to an infinite aquifer and an increasing water cut is to be anticipated over the life of the field. We expect that a 75,000 bpd capacity liquid processing facility will be more than sufficient to manage the anticipated volumes of all liquids and RISC notes that produced water can be treated and discharged overboard.

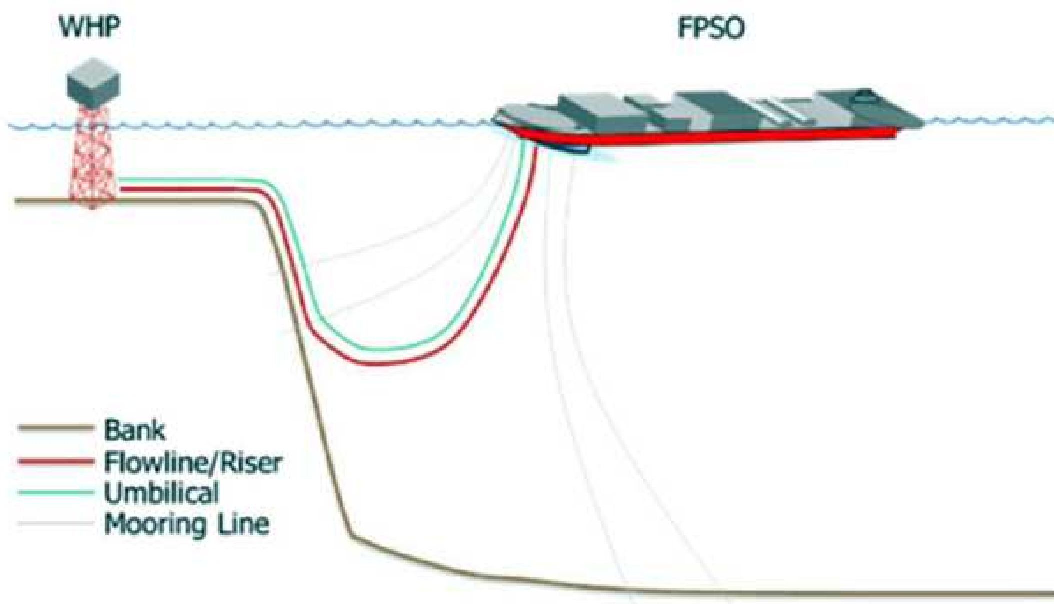
MOPU and FSO linked to a CALM buoy – primary development concept



Source: RISC Advisory

Following Carnarvon's initial development plan which RISC also outlined in its latest CPR, we believe that a small WHP unit such as the one illustrated below connected to an FPSO vessel would also be an appropriate solution for the Buffalo project.

FPSO linked to a WHP - alternative development concept



Source: Carnarvon Petroleum, RISC Advisory

Capex projections

Following the expenditure on the B-10 well, the major tranches of capex for a development will be development drilling, the MOPU and FSO assuming that RISC primary development option is selected. Development drilling is expected to consist of two wells and these costs would include mobilisation and demobilisation of the drilling rig and the completion of the B-10 well. As such, we anticipate a combined development drilling cost of approximately US$49m, representing the large portion of expenditure.

The company has noted that there is the attractive option to lease many of the production units such as the FSO and MOPU which would reduce capex and increase opex. This is a desirable given that operating costs are generally recoverable in the year they were incurred under the terms of the PSC and the lease costs in a relatively moribund market are currently attractive.

Additional capex of US$17m and US$20m for the MOPU and FSO apply to modifications, installation, hook up and commissioning of these units. The balance of capex is likely to be a pipeline budgeted to cost US$8.25m and a further US$31m in project management and contingency costs.

We expect that the B-10 appraisal well will be the only major capex item in 2021 and the balance of the capex budget will be spent in 2022 with a peak in 2023. At this stage, first oil is expected in January 2024 although the company does believe this could be achieved more quickly given that the actual time to first oil in the original Buffalo development under BHP was 15 months.

Operating expenditure (opex) estimates

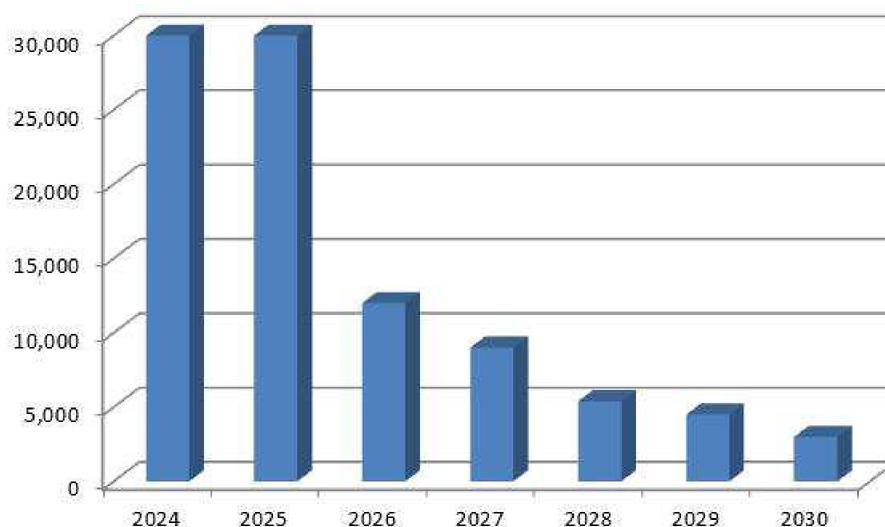
RISC has estimated that opex costs for the Buffalo project will be approximately US$60m per annum over the peak productive years of the field. Most of this expenditure relates to the leasing cost of the MOPU and FSO in addition to the operation and maintenance of the vessels.

Estimated production profile

On the basis that the original development of Buffalo produced for only a five year period but in that time delivered peak production of 45,000 bopd from only two wells and a total of 20.5 mmbbls from four producing wells, we believe that a three well project is capable of delivering 40,000 bopd at peak production over a six year production profile.

Following plateau production in the first two years, we expect that well decline rates will be aggressive and the water cut will increase substantially post plateau due to a strong aquifer drive. We believe that the production profile outlined below will recover the 2C resources currently identified in the field in a relatively short time period. We ascertain that this time frame is consistent with ADV's strategic preference as outlined earlier in this report.

Estimated production profile for the Buffalo field (bopd gross)



Source: Optiva estimates

Potential value of the Buffalo field

In order to derive an indicative valuation for ADV's indirect interest in the Buffalo field, we have attempted to ascribe a unit NPV per barrel to a potential development project for the Buffalo field. Within our calculations, we have assumed the following:

- An oilfield development producing 100% of the 2C contingent resources of 34.3 mmbbls
- Production to commence in 2024
- Peak production of 30,000 bopd in the first two years declining aggressively thereafter
- Current resources depleted after seven years of production
- Assumed oil price of US$55.00 per barrel flat over life of field (Brent currently US$56.42 as at 15 January 2021)
- One appraisal well (B-10) drilled in late 2021 at a cost of US$20m and subsequently used as a development well
- Full development budgeted at US$145m (including appraisal costs) comprising two further development wells, gathering and offtake facilities
- Total drilling and development capex of only US$4.24 per barrel
- Annual opex of c. US$60m p.a. equivalent to less than US$12.00 per barrel over productive field life

Fiscal terms assumptions

We understand that fiscal terms in Timor Leste are good, particularly compared to Indonesia. We have applied a 5% royalty to production and 100% of remaining net revenue is available for contractors' cost recovery with no annual limit. After cost recovery, we note from that CPR that profit oil is split 65% for the contractor and 35% for the government. We have also applied a 30% corporate tax rate to the contractor share of profit oil although no modest Supplementary Petroleum Tax (SPT) is applied at this stage..

Valuation assumptions

Using an industry standard discount rate of 10% we arrive at a notional unit NPV of oil produced of US$9.60 per barrel for the Buffalo development. If we apply this to the mean 2C contingent resources estimates as certified by RISC, we arrive at a gross project NPV of US$329m. This equates to an initial valuation of approximately US$165m for ADV's indirect 50% interest. As noted previously, we concur that the economics for the 1C also look robust and the high case of 62.8 mmbbls indicates that the establishment of an enhanced resource number would be attractive for a potentially larger project.

Indicative valuation for ADV's indirect interest in Buffalo

Item		Mean	Low	High
Recoverable contingent resources	mmbbls	34.3	16.0	62.8
ADV indirect Interest*	%	50%	50%	50%
Net unrisked contingent resources	mmbbls	17.2	8.0	31.4
GCoS	%	100%	100%	100%
Risked contingent resources	mmbbls	17.2	8.0	31.4
NPV per bbl	USD	9.60	9.60	9.60
Risked NPV (US$m)	**US$m**	**164.6**	**76.8**	**301.4**

Source: Optiva estimates, RISC Advisory Pty Ltd

*Note that ADV's ultimate indirect interest is assumed to be 50% ad could be subject to revision

Risked profiles

It is prudent to note that all appraisal drilling, development schedules and technical and commercial agreements are incumbent with an element of risk despite the relative certainties associated with the Buffalo field and in particular, the data generated from previous work on the field and ADV's management experience. As such, we have endeavoured to demonstrate a more aggressively risked valuation for ADV's anticipated interest in Buffalo with the application of risk on an increasing scale for illustration. Rather than resources risk which we believe is covered in the table above, this exercise is designed to account for non-technical risks including delays, unforeseen cost increases or commercial disagreements.

As is evident, even with a more aggressive risk profile, we believe that the indicative valuation case for ADV's indirect interest in Buffalo remains compelling in the context of the original investment.

The application of additional risk factors for the Buffalo field

Item	Variable	80%	65%	50%
Net resources	mmbbls	34.3	34.3	34.3
Interest	%	50%	50%	50%
Net unrisked contingent resources	mmbbls	17.2	17.2	17.2
Risk factor	**%**	**80%**	**65%**	**50%**
Risked contingent resources	mmbbls	13.7	11.1	8.6
NPV per bbl	USD	9.60	9.60	9.60
Risked NPV (US$m)	**US$m**	**131.7**	**107.0**	**82.3**

Source: Optiva estimates, RISC Advisory Pty Ltd

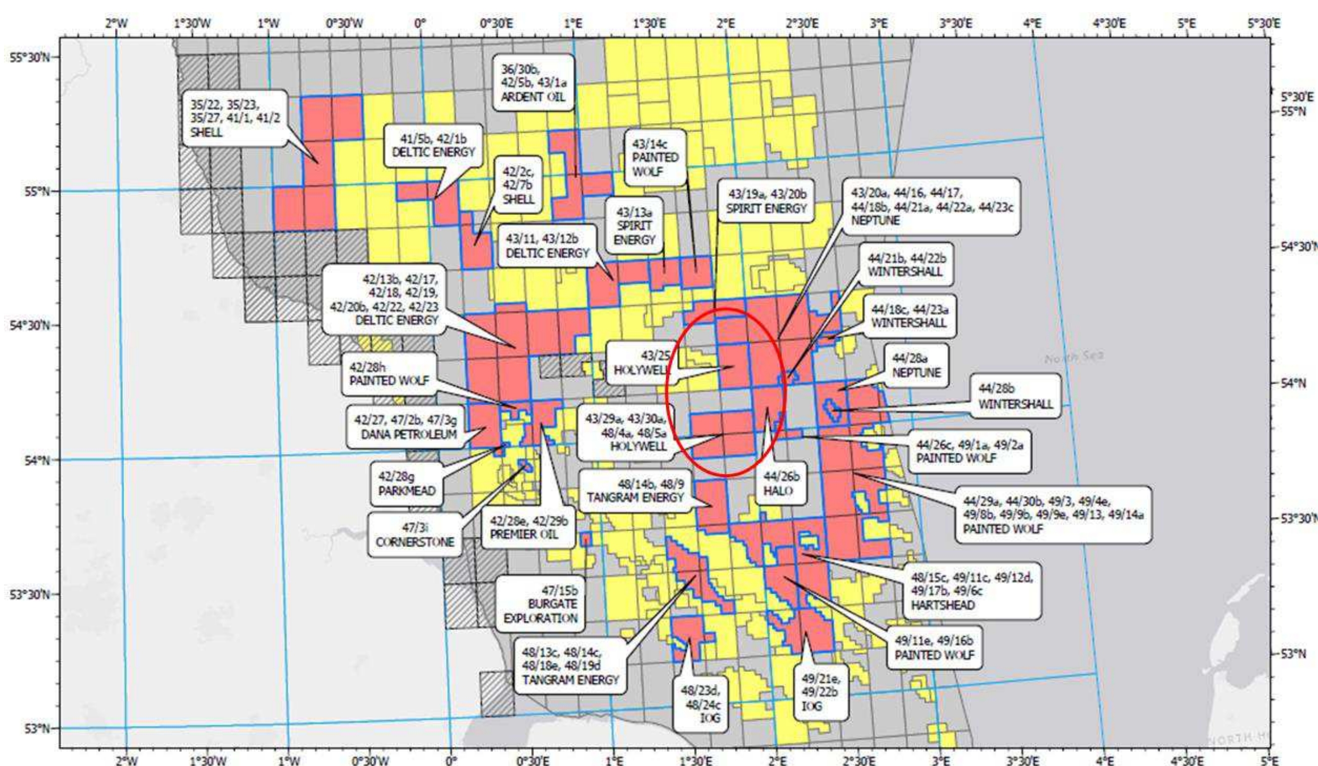
*Note that ADV's ultimate indirect interest is assumed to be 50% ad could be subject to revision

UK asset portfolio

Interest in Eagle Gas Limited

In September 2020, ADV's wholly owned subsidiary, Resolute Oil & Gas (UK) Limited and Holywell Resources Limited (Holywell), a company in which ADV has a 25% interest, were awarded, subject to documentation and regulatory approval, a 50% working interest in Block 43/25 and part-blocks 43/29, 43/30, 48/4 and 48/5 as part of the UK Oil & Gas Authority's (OGA) 32nd Offshore Licensing Round. These blocks are located in the UK Southern North Sea. As a function of its cross shareholdings, ADV will hold a non-operated indirect 62.5% interest in the blocks upon formal approval. The blocks are highlighted on the map below in the context of the all the provisional awards in the 32nd Round in this region of the North Sea.

Location of ADV's Southern North Sea interests



Source: UK OGA

Obligations

The short term work obligations for Block 43/25 for Holywell and ADV (through Resolute) are modest with only 3D seismic reprocessing and associated studies required before a decision to shoot new 3D seismic, drill or drop is required. For the part blocks, the OGA has stipulated the completion of a gas to wire feasibility study (the concept of burning gas offshore with the electricity transmitted to shore via a subsea cable) prior to the obligation to acquire 3D seismic data, drill or drop.

Prospectivity

Block 43/25 contains part of the Opal gas discovery which has an estimated 2C contingent resource of approximately 100 BCF. In addition, the part-blocks 43/29, 43/30, 48/4 and 48/5 contain the undrilled Badger gas prospect which is likely to be the focus of future studies. Although exploration activity in regard to these licences is at a very preliminary stage, the partners are analysing the acreage whilst waiting for the formal documentation from the OGA to confirm the award of the licence interests. ADV will continue to review the technical information available on the blocks and seek to agree the next steps with Holywell upon confirmation of regulatory approval.

Non-core assets - Wessex Basin

Offshore licence P1918 – Colter and Colter South

Through a wholly owned subsidiary, Resolute Oil & Gas, ADV holds an 8% interest in Dorset licences P1918 Colter and the adjacent Colter South PEDLs 330 and 345. These are shown on the map below and are located south of Wytch Farm, the UK's largest onshore oil field.

Although it is believed that the modest Colter discovery could hold up to 15 mmbbls (of which 11.0 mmbbls is still in the prospective resources classification), it is likely that additional drilling activity would be necessary to prove up these resources. Following an evaluation of the P1918 licence by the operator in September 2020, Corallian Energy recommended to its joint venture partners that the licence not be renewed when the second term expires on 31 January 2021. This is based on Corallian's conclusion that the Colter discovery cannot be developed commercially. Advance Energy has declared that it agrees with this decision.

ADV already carried the value of P1918 as nil on its balance sheet after writing off historical expenditure in its last set of report and accounts for the year ended April 2020.

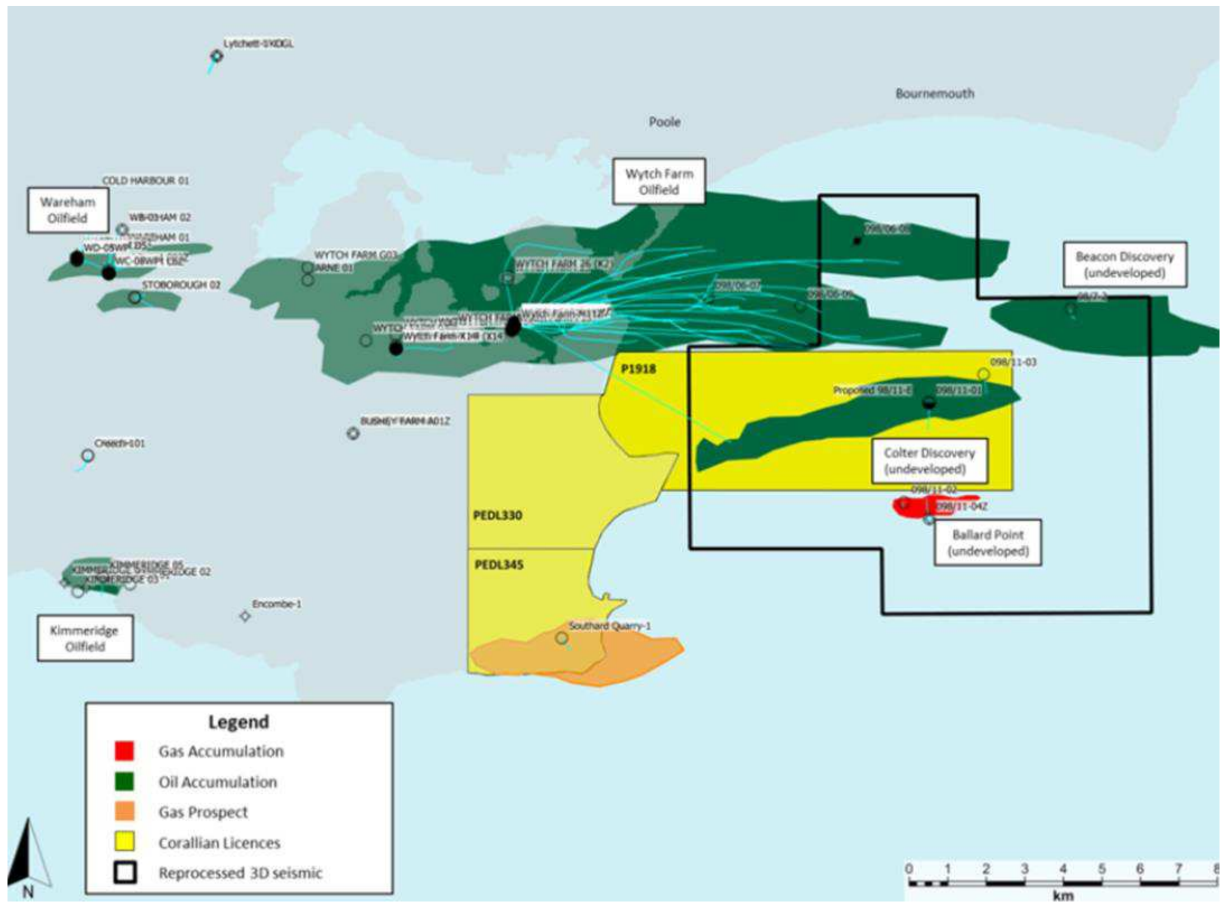
Onshore PEDLs 330 and 334

ADV through Resolute also holds an 8% non-operated interest in the PEDL 330 and PEDL 345 licences. In September 2020, the operator, reported that it is awaiting receipt of third party 3D in order to assist with the evaluation of the prospectivity of the acreage. Unless the joint venture partners commit to drilling a well before 20 July 2021, we understand that the first term of the licences will expire. At this stage, we believe that a well commitment is unlikely and the partners will allow the PEDLs to expire.

Licences 98/11b and 98/12

We hold a similar view regarding ADV's 8% interest in licences 98/11b and 98/12 which are contiguous with the Colter acreage to the east and south of the existing Colter discovery offshore Dorset. Although the 98/11b licence contains the Ballard Point discovery located to the south of Colter, we do not believe that these assets will compete for capital given the prognosis that Colter will be uncommercial. As such, they are unlikely to comprise part of ADV's ongoing strategy.

Location of the undeveloped Colter prospect on licence P1918 (southern UK)



Source: Corallian Energy Limited

Appendix 1: Directors and management

Mark Rollins – Non-Executive Chairman

Until recently, Mark was Chairman and CEO of Ukrnafta, a publicly-listed company with over 20,000 employees responsible for a significant proportion of oil production in Ukraine. Between 2008 and 2015, he was a senior executive at BG Group plc, the former international E&P company. His final positions included Senior VP within the COO's office in addition to managing BG's interests in Kazakhstan. His other experiences have included senior leadership positions across international E&P, midstream and downstream oil and gas, and deregulated utility sectors. Mark began his career as a Petroleum Engineer with Shell International and he holds a doctorate in Engineering Science from Oxford University in addition to a Masters in Mathematics from Cambridge University.

Leslie Peterkin – Chief Executive Officer

Leslie has served the E&P sector during the past two decades as a senior Interim Manager and Advisor, initially in Australasia and more recently covering Europe, MENA, Central Asia and Africa from his base in Geneva. His key roles were Woodside's Director Browse LNG Development and MOL's SVP Operations & Development. Leslie entered the oil sector joining Shell International's Petroleum Engineering stream in the early 1980s with a variety of international postings. A decade with international independent oil companies followed and exposed him to both General Management and M&A, of which the latter has formed an important aspect of his ongoing E&P activities. Leslie's career has been defined by the ability to transform development assets and their values. He studied Physics at the University of St Andrews, where he gained a 1st Class Honours degree followed by a PhD.

Ross Warner – Non-executive Director

Ross is a lawyer and experienced company director of both private and public resource companies listed on AIM and the Australian Securities Exchange. He has also held senior corporate roles with Mallesons Stephen Jaques in Australia and Clifford Chance in the UK. He is currently and Executive Director of Zarmadan Gold Ltd and has previously been chairman of Uranium Resources plc and Northcote. Ross holds a Bachelor of Laws from University of Western Australia, and Master of Laws, University of Melbourne.

Stephen West – Chief Financial Officer

Stephen holds a Bachelor of Commerce (Accounting and Business Law) and is a highly experienced Fellow Chartered Accountant (CA ANZ) and CA (ICAEW) with over 26 years of financial and corporate experience gained in public practice, oil and gas, mining and investment banking. He has held several senior positions in oil and gas, and mining companies including most recently at PetroNor E&P Limited (OSE: PNOR) where he was Executive Director and CFO until his resignation in February 2020 after being instrumental in the successful US$100m merger of African Petroleum Corporation Ltd and PetroNor E&P Limited in August 2019 and the subsequent integration of the two companies. He was also previously a Non-Executive Director of Apollo Consolidated Limited (ASX: AOP). He is also co-founder and current Non-Executive Chairman of Zeta Petroleum plc and was previously Non-Executive Chairman of TomCo Energy plc (AIM: TOM). Prior to 2002, Stephen worked in the banking sector including Barclays Capital London where he managed Global Finance Projects.

John Battrick – Technical Manager

John is a geoscientist with strong experience in the hydrocarbon exploration and production sector. He also possesses significant technical, business development and general management expertise. He acquired his portfolio of experience in a wide range of petroleum basins across South East Asia, Western Europe and Africa.

Appendix 2: Case studies

Hovea oil field – Onshore Western Australia

Arc Energy, the operator (50% interest) discovered the Hovea oil field in 2001 with the Hovea-1 well and drilled an appraisal well, Hovea-3 in 2002. With estimated oil in place of 15 mmbbls and associated gas, Arc asked an ADV member to review Arc's development plan which was being finalised for an early production system (EPS) comprising the two existing wells ahead of a permanent production facility planned for 2003.

Upon close examination of the development plan, the ADV member recommended an alternative plan whereby the Hovea-1 discovery well be converted to a water injector given that the reservoir was pressure depleted and would likely benefit from a waterflood. The ADV member also recommended the drilling of several horizontal development wells along the crest of the Hovea structure. As a consequence, Arc resubmitted the development plan to the authorities to reflect these fundamental changes and the ADV member collaborated with the operator for the next 12 months as the plan was implemented.

The result of these changes was that the peak production reached more than 10,000 bopd with a prolonged low water cut and the recovery factor was almost 50% before the field was closed in in 2006. The net revenue generated from production to Arc was calculated to be approximately US$150m in just four years representing an attractive return on the operator's investment in the project.

Yetagun gas field – offshore Myanmar

In the late 1990s, Texaco was selling its interest in the large Yetagun gas field in the Andaman Sea, Myanmar to AGIP. This followed a recently taken Final Investment Decision (FID) with a capex budget of some US$2bn. No further appraisal drilling was planned on the field until a member of ADV undertook a detailed review of the field shortly after joining Premier Oil, a non-operating partner in the asset. Prior to joining Premier, the ADV member was a senior advisor with Petronas Carigali in Vietnam.

With four wells already drilled in close proximity to the central area of the field and earmarked as producers, the ADV member noted that there was significant undrilled potential to the south and east of the structure. If appraised, this had the potential to increase 2P reserves from 1.8 TCF to 2.9 TCF which also was the volume needed to maximise plateau production of 400 mmcfpd as allowed under the gas sales agreement. Such an increase in reserves would also serve to double the value of the field.

Given that Premier had the option to pre-empt the sale of Texaco's interest to AGIP, the ADV member contacted Carigali which, in tandem with Premier acquired Texaco's interest with Premier taking a small percentage of this stake and assuming operatorship of the field.

Consequently, further drilling of Yetagun was expedited and field reserves were re-certified at 3.2 TCF in 1999 enabling gas sales to be increased at 400 MMscf/d, the maximum allowable under the Gas Sales Agreement, and thereby doubling the value of the asset (as predicted by the ADV member) to meet contractual obligations. The value multiple on the two unplanned appraisal wells was more than 20x. We note also that Premier divested its ultimate 27% in Yetagun for a consideration of US$1.5bn in 2003.

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