AJ Lucas Group Limited

CAPITAL RAISING AND CORPORATE UPDATE

November 2019

Preston New Road exploration site, Lancashire

Disclaimer

This Presentation has been prepared by AJ Lucas Group Limited (ACN 060 309 104) (**AJL**).

Summary information

- This Presentation contains summary information about AJL. This information is of a general nature and does not purport to be complete nor does it contain all the information which a prospective investor should consider when making an investment decision or that would be required in a prospectus or product disclosure statement prepared in accordance with the requirements of the Corporations Act. This Presentation should be read in conjunction with AJL's other periodic and continuous disclosure announcements lodged with the Australian Securities Exchange (**ASX**), which are available at www.asx.com.au.

Not an offer

- This Presentation is not a prospectus, product disclosure statement or other offering document under Australian law (and will not be lodged with ASIC) or any other law. This Presentation is for information purposes only and is not an invitation or offer of securities for subscription, purchase or sale in any jurisdiction.

Not investment advice

- This Presentation does not constitute investment or financial product advice nor any recommendation to acquire entitlements or new shares in AJL (**New Shares**). It is not intended to be used as the basis for making a financial decision, nor is it intended to constitute legal, tax, or accounting advice or opinion. Any references to, or explanations of, legislation, regulatory issues, benefits or any other legal commentary (particularly in the "Key risks" section of this Presentation) are indicative only, do not summarise all relevant issues and are not intended to be a full explanation of a particular matter. Recipients should make their own enquiries and investigations regarding any investment, and should seek their own professional advice on the legal, financial, accounting, taxation and other consequences of investing in any securities in AJL.
- This Presentation has been prepared without taking into account your investment objectives, financial situation or particular needs. No reliance may be placed for any purpose whatsoever on the information contained in this Presentation or on its accuracy or completeness. Any reliance on this communication could potentially expose you to a significant risk of losing all of the funds invested by you in AJL or the incurring by you of additional liability.

Investment risk

- An investment in shares is subject to known and unknown risks, some of which are beyond the control of AJL, including possible loss of income and principal invested. AJL does not guarantee any particular rate of return or the performance of AJL, nor does it guarantee the repayment of capital from AJL or any particular tax treatment.
- Investors should have regard to the risk factors outlined in this Presentation when making their investment decision.

Forward looking statements

- This Presentation contains forward looking statements. You should be aware that such statements are only estimates or predictions, which may be based on subjective judgments and assumptions as to future events, which may or may not occur and which are subject to inherent risks and uncertainties, many of which are beyond the control of AJL. Actual events or results may differ materially from the events or results expected or implied in any forward looking statement. No representation or warranty (whether express or implied) is made as to the accuracy or likelihood of fulfilment of any forward looking statement.

Past performance

- Investors should note that past performance, including past share price performance and historical information in this Presentation is given for illustrative purposes only and cannot be relied upon as an indicator of (and provides no guidance as to) future performance including future share price performance. This historical information is not represented as being indicative of AJL's views on its future financial condition and/or performance. The historical information in this Presentation is, or is based upon, information that has been released to ASX.

Disclaimer (cont.)

Disclaimers

- None of AJL's advisers or Canaccord Genuity (Australia) Limited, nor any of their respective affiliates, related bodies corporate, directors, officers, partners, employees, contractors, professional advisers or agents (**Limited Parties**), have authorised, permitted or caused the issue, submission, dispatch or provision of this Presentation and there is no statement in this presentation which is based on any statement by them. None of the Limited Parties take any responsibility for any information in this presentation or any action taken by investors on the basis of such information and, except to the extent referred to in this Presentation, none of them makes or purports to make any statement in this Presentation.
- Not all of the information contained in this Presentation has been subject to independent audit or review. No representation or warranty, express or implied, is made as to the currency, accuracy, fairness, sufficiency, reliability or completeness of the information, projections, opinions or beliefs contained in this Presentation. To the maximum extent permitted by law, no liability (including without limitation, any liability arising out of mistakes, omissions, misstatements, misrepresentations in this Presentation or out of any other fault or negligence) is accepted by AJL, its officers, employees or contractors or the Limited Parties for any loss, cost or damage suffered or incurred as a result of the reliance on such information, projections, opinions or beliefs. The Limited Parties make no recommendations or endorsements as to whether any recipient should participate in the Offer and, to the maximum extent permitted by law, disclaim any fiduciary relationship with any recipient.
- The information in this Presentation remains subject to change without notice. AJL reserves the right to withdraw the Offer and/or vary the timetable for the Offer without notice. AJL, its officers, employees and contractors and the Limited Parties undertake no obligation to provide any recipient with access to any additional information or to notify any recipient or any other person of any matter arising or coming to its notice after the date that this Presentation was issued.
- Investors represent, warrant and agree that they have not relied on any statements made by any of the Limited Parties in relation to the issue of New Shares or the Offer generally.

Financial data

- All dollar values are in Australian dollars (**A$**), unless otherwise stated. Financial data is presented at actual foreign exchange rates, unless otherwise stated. A number of figures, amounts, percentages, estimates, calculations of value and fractions in this Presentation are subject to the effect of rounding. Accordingly, the actual calculations of these figures may differ from figures set out in this Presentation.
- Unless specifically indicated in this Presentation, the financial information contained in this Presentation has not been audited, examined or otherwise reviewed in accordance with Australian Accounting Standards.
- This Presentation presents financial information on both a statutory basis (prepared in accordance with Australian Accounting Standards which comply with International Financial Reporting Standards (**IFRS**) and a non-statutory basis.

Distribution restrictions

- Neither this Presentation, nor any copy of it, may be taken, transmitted into or otherwise made available in the United States or any jurisdiction where their issuance, distribution or transmission are prohibited under the law of that jurisdiction. Any failure to comply with any such restriction may constitute a violation of relevant local securities laws.

Contents

AJ Lucas Introduction

AJ Lucas – at a glance

- Founded in Sydney, Australia in the 1950s, and listed on the ASX in 1999, AJ Lucas Group Limited (**AJ Lucas**, **AJL**, or the **Company**) has two core businesses:
  - **UK Shale Gas Investments** – leveraging a proven track record of investing in the exploration and commercialisation of oil and gas plays in Australia, AJ Lucas has accumulated a significant position for the exploration and appraisal of onshore UK shale gas in the north of England
  - **Lucas Drilling Services (LDS)** – a leading provider of integrated drilling services including exploration drilling and degasification to Australia's coal mining sector

UK Shale Gas Investments

Appraisal and commercialisation of unconventional hydrocarbons in the UK

One of the largest shale gas acreage positions in the UK

Lucas Drilling Services (LDS)

Major drilling services provider to the east coast Australian coal sector for mine degassing and exploration

Delivering intelligent and practical solutions to support the Australian mining sector

Entitlement Offer

Entitlement Offer overview

Offer summary

- Pro-rata 19 for 20 non-renounceable entitlement offer (**Offer**) of new fully paid ordinary shares (**New Shares**)
- New Shares are offered at $0.065 per New Share to Eligible Shareholders[1] to raise up to $46.3 million
- The Offer comprises an accelerated institutional component (**Institutional Entitlement Offer**) and a retail component (**Retail Entitlement Offer**)
- Canaccord Genuity (**Lead Manager**) and Barbon Advisors (**Co-Manager**) have agreed to manage the Offer

Kerogen debt to equity conversion

- Kerogen Investments No.1 (HK) Limited (**Kerogen**) (53.32% stake prior to launch) has agreed to take up its entitlement in full
- Proceeds from Kerogen's participation in the Offer of $24.7 million will be used to reduce Kerogen's subordinated debt facility

Retail overallocation facility

- Eligible Shareholders who take up their entitlements through the Retail Entitlement Offer have the option under an over-allocation facility to apply for additional shares of up to a maximum of 300% of their entitlement under the Offer

Offer size

- Gross proceeds from the Offer are estimated to be between $32.5m and $37.0m based on Kerogen's take-up of its entitlement and assuming c.36% and c.57% take up[2] of the remainder of the Offer respectively (including through the retail over-allocation facility), with a midpoint of $34.8m (**Indicative Offer Size**)
- Net cash proceeds after fees & expenses will be applied to:
  - Meet AJL's share of future commitments to UK investments including to meet costs associated with the ongoing flow test of the second Preston New Road well (PNR-2) and the appraisal of other prospective sites
  - Fund any investment required to grow the Australian drilling business
  - Balance to fund general corporate costs and/or service debt

1. Retail and institutional shareholders with registered addresses in Australia and New Zealand and institutional shareholders in certain other jurisdictions that are on the Company's share register as at 7.00pm (Sydney time) on 11 November 2019 (**Eligible Shareholders**)
2. Based on management expectations including an analysis of historical shareholder take-up in previous capital raisings conducted by AJL

Details of the Offer[1]

Offer description	▪ 19 for 20 pro-rata accelerated non-renounceable entitlement offer (**Offer**) to raise up to $46.3 million ▪ Up to 712.6 million new AJL shares to be issued under the Offer ▪ The Offer is not underwritten ▪ New Shares will rank equally in all respects with existing shares from the date of issue ▪ Record Date for the Offer is 7:00pm (Sydney time) on Monday, 11 November 2019
Offer price	▪ $0.065 per Share: a 27.8% discount to AJL's closing price on the ASX of $0.09 on Wednesday, 6 November 2019
Institutional Entitlement Offer	▪ Institutional Entitlement Offer closes on Friday, 8 November 2019 ▪ New Shares issued in the Institutional Entitlement Offer are expected to settle on Friday, 15 November 2019, with allotment and commencement of normal settlement trading on Monday, 18 November 2019
Retail Entitlement Offer	▪ Retail Entitlement Offer opens on Thursday, 14 November 2019 and closes at 5:00pm (Sydney time) on Wednesday, 27 November 2019 ▪ New Shares issued in the Retail Entitlement Offer are expected to settle on Tuesday, 3 December 2019, with allotment on Wednesday, 4 December, 2019, and commencement of normal settlement trading on Thursday, 5 December 2019
Over-allocation facility	▪ Eligible Shareholders who take up their entitlements through the Retail Entitlement Offer have the option under an over-allocation facility to apply for additional shares of up to a maximum of 300% of their entitlement under the Offer ▪ As an example, if a shareholder's original entitlement would enable them to subscribe for 1,000 shares then they may apply for up to 3,000 additional shares, being up to 4,000 shares in total ▪ Any allotment of New Shares under the over-allocation facility will be limited to the extent that there are sufficient New Shares from Eligible Shareholders who do not take up their full entitlement ▪ Allocations under the over-allocation facility will be determined by AJL in its absolute discretion and are not guaranteed

1. Timetable is indicative and subject to change at the discretion of AJL

Details of the Offer (cont.)

Placement of unsubscribed shares	▪ The Board of AJL reserves the right, subject to the requirements of the Corporations Act and ASX Listing Rules, to place any unsubscribed New Shares within 3 months of the close of the Offer at a price no less than the Offer price ▪ The allocation policy relating to the placement of, and identity of, the allottees of, any unsubscribed New Shares will be determined on a case-by-case basis having regard to various factors (including, without limitation, (a) the methods of raising funds that are available to AJL; (b) the effect of the issue on the control of AJL; (c) the financial situation and solvency of AJL; and (d) advice from corporate, financial and broking advisers (if applicable)) ▪ The allottees of any unsubscribed New Shares have not been determined as at the date of this presentation but may include existing shareholders and/or new investors, and who are not related parties or associates of a related party of AJL
Kerogen's commitment to the Offer	▪ Kerogen (53.32% stake prior to the Offer) has agreed to take up its pro rata entitlement of $24.7 million, which equates to 379.9 million New Shares ▪ Proceeds from Kerogen's participation in the Offer will be used to reduce Kerogen's subordinated debt facility ▪ Kerogen's maximum post-Offer shareholding, assuming that no other shareholders took up their entitlement, would be 69.01%

Debt restructuring update

- In October 2019, AJL refinanced its Senior Loan Note facility (owing to OCP) through two new debt facilities:
  - a 3-year senior-ranking Asset Based Lending facility (**ABL**) of up to A$30 million provided by Investec; and
  - a 3.5-year junior-ranking loan note facility (**Junior facility**) of A$50 million arranged by member of the HSBC Group.
- Both the ABL and Junior facility are Australian dollar denominated which substantially reduces the Company's foreign exchange risk
- The Junior facility will amortise over the life of the loan to A$24 million (payable at maturity) which will result in a gradual deleveraging of AJL's balance sheet
- The two facilities have a weighted-average nominal interest rate of approximately 11% when fully drawn
- The maturity date of the Kerogen subordinated loan facility has been extended to six months after the later of the full repayment of the Junior facility and the maturity date of the ABL
- An initial amount of A$75 million was drawn under the two facilities with net proceeds (after related fees and expenses) used to fully repay the balance of the OCP Senior Loan Notes of ~A$70 million at 25 October 2019; further amounts have subsequently been drawn under the ABL and applied to working capital in the Australian drilling division
- The refinancing has provided incremental funding for the Australian business; AJL still has an obligation to meet funding for its investments in UK shale – this is expected to be met from equity
- As a result of the new debt facilities, there will be an immediate improvement to AJ Lucas's current ratio, a decrease in the company's exposure to foreign currency risk and an initial saving in financing costs over the next twelve months of approximately A$5 million

Balance sheet impact of the Offer and the Debt Restructuring

$m	Financial position at 30 Jun 19	Pro forma adjustments[1]			Pro forma position as at 30 June 19
		Existing Senior Loan Notes[2]	New debt facilities [3,4,5]	Capital Raising[6]	
Current Assets	52.8	(69.5)	71.6	9.6	64.5
Non-Current Assets[7]	213.1	-	-	-	213.1
Total Assets	**266.0**	**(69.5)**	**71.6**	**9.6**	**277.7**
Current Liabilities	105.1	(67.2)	25.8	-	63.7
Non-Current Liabilities	53.3	-	45.8	(24.7)	74.4
Total Liabilities	**158.4**	**(67.2)**	**71.6**	**(24.7)**	**138.1**
Net Assets	**107.5**	**(2.3)**	**-**	**34.2**	**139.4**
Total Equity	**107.5**	**(2.3)**	**-**	**34.2**	**139.4**

Notes to Proforma adjustments

1. Basis of Preparation: the pro forma financial information is provided for illustrative purposes and is prepared on the assumption that the unaudited pro forma adjustments occurred at 30 June 2019.
2. The balance of the Senior Loan Notes at 30 June 2019 of $67.2m was net of $2.3m remaining in unamortised upfront borrowing costs which have been expensed on repayment of the loan notes. Finance and foreign exchange costs incurred between 30 June 2019 and the actual repayment date of 25 October 2019 have not been represented in this pro forma.
3. The classification of the new debt facilities and capitalised borrowing costs as current or non-current has been represented as at 30 June 2019.
4. The amount drawn under the new facilities of $75m is net of $3.4m in associated borrowing costs which have been capitalised.
5. At the time of drawdown a further $5m was available as undrawn capacity under the ABL facility.
6. Assumes the Indicative Offer Size based on Kerogen subscribing for its full entitlement & gross proceeds of $34.8m less estimated fees of $0.6m. Kerogen's subscription of $24.7m has been offset against the balance of its non-current debt.
7. No consideration has been made to the carrying value of the UK investments. A review will be undertaken at the half-year in accordance with the Company's accounting policies.

LUCAS

Indicative Offer timetable[1]

Event	Date
Launch of Offer and commencement of trading halt	Thursday, 7 November 2019 (before market open)
Institutional Entitlement Offer closes	Friday, 8 November 2019
AJL shares recommence trading on ASX	Monday, 11 November 2019
Record date for Offer (7:00pm Sydney time)	Monday, 11 November 2019
Retail Entitlement Offer opens, booklets despatched	Thursday, 14 November 2019
Settlement of Institutional Entitlement Offer shares	Friday, 15 November 2019
Institutional Entitlement Offer shares allotted and issued and commence normal settlement trading	Monday, 18 November 2019
Retail Entitlement Offer closes	Wednesday, 27 November 2019
Announce results of Retail Entitlement Offer	Monday, 2 December 2019
Settlement of Retail Entitlement Offer shares[2]	Tuesday, 3 December 2019
Retail Entitlement Offer shares allotted and issued[2]	Wednesday, 4 December 2019
Normal trading of Retail Entitlement Offer shares[2]	Thursday, 5 December 2019
Despatch of holding statements for Retail Entitlement Offer shares[2]	Friday, 6 December 2019

1. Timetable is indicative and subject to change at the discretion of AJL
2. Including New Shares allocated under the retail over-allocation facility

AJ Lucas Corporate Overview

AJ Lucas – a renewed focus

- **Australian Operations**
  - AJ Lucas sold the assets of its Engineering & Construction (**E&C**) division in mid-2018 – LDS remains the backbone of the Company's Australian operations
  - AJL management has taken active steps to restructure LDS's cost base and refocus the division on its core, higher-margin surface-to-inseam (**SIS**) and large diameter (**LD**) drilling service offerings, in which it is now the market leader to the Australian east coast coal market
  - As such, LDS is well positioned to capitalise on the strengthening coal sector, especially metallurgical coal (important in the manufacture of steel) where the market has strong near and long term fundamentals driven by growing infrastructure demand globally
  - In FY2019, LDS generated Underlying EBITDA of $24.4 million from revenues of $143.4 million
  - The start of FY2020 has been positive and management is optimistic that LDS can build on the performance achieved in FY2019

$m	**Q1 FY2019[1]**	**Q1 FY2020[1]**
Revenue	39.0	38.5
Underlying EBITDA	6.8	9.3

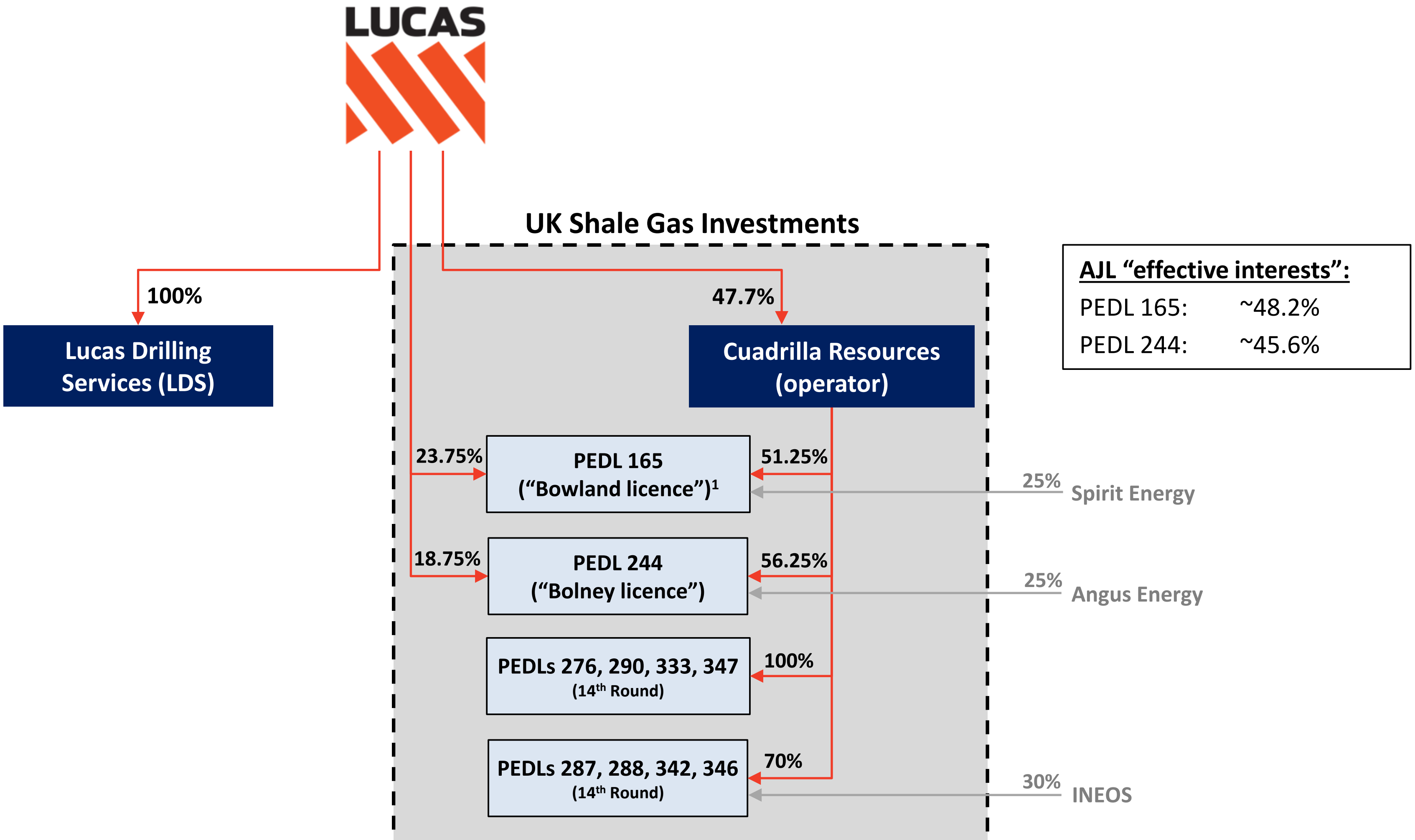
1. Unaudited management accounts

AJ Lucas – a renewed focus (cont.)

- **UK Shale Gas Investments**
  - AJ Lucas has a ~48% shareholding in Cuadrilla Resources and, together with its direct licence holding, a ~48% effective interest in PEDL 165 in Lancashire (**Bowland licence**), which at >1,000 sq. km is the largest shale gas licence in the UK; and, with shales >1km thick in places, highly prospective for shale gas
  - Through its Cuadrilla shareholding and portfolio of direct licence interests, the Company has exposure to a number of additional licences to explore for gas across the UK either in its own right or in partnership with other operators[1]
  - Cuadrilla's recent operations have focused on the Preston New Road (**PNR**) site on the Bowland licence:
    - Hydraulic fracturing of six stages on the PNR-2 well was carried out in August 2019
    - Following a trailing event measuring 2.9ML on 26 August 2019, hydraulic fracturing was temporarily suspended pending a review by the Oil and Gas Authority (**OGA**)
    - On 30 September 2019 a decision was taken to move to well testing the six stages that had been hydraulically fractured
    - Well testing is ongoing and is expected to continue towards the end of the year
  - AJ Lucas is required to fund its share of outstanding costs of the PNR-2 fracturing and flow testing program and for ongoing costs in calendar year 2020, although these are likely to be reduced substantially compared to costs incurred in 2019 as site operations will be scaled back (see slide 30 on the recently imposed hydraulic fracturing moratorium)

1. Appendix 1 outlines the Company's direct and indirect interests in licence areas across the UK and, where applicable, its partners in these licences

AJL corporate structure



1. AJL and Cuadrilla also have interests in EXL 269, which covers an area of ~55 sq. km and is fully surrounded by PEDL 165, of 23.75% and 53.5% respectively (AJL's effective interest = ~49.3%). Spirit Energy holds the remaining interest of 22.75%. PEDL 165 and EXL 269 together constitute the "Bowland licence".

AJ Lucas Group – financial performance & position

Financial year ended 30 June - A$m	FY15A	FY16A	FY17A	FY18A[5]	FY19A
Income statement					
Revenue (Australia)	**145.0**	**125.5**	**122.0**	**124.7**	**143.4**
Revenue (LDS only)	83.5	79.6	73.4	124.7	143.4
Underlying EBITDA (LDS only)	6.2	11.4	2.7	19.7	24.4
Underlying EBITDA (Australia)	**9.4**	**14.6**	**(3.8)**	**14.9**[1]	**20.4**
Balance sheet					
Working capital	15.2	29.0	41.5	39.8	14.2[3]
PP&E	53.2	39.0	37.8	27.7	29.7
UK shale assets	120.5	124.5	125.8	156.5	183.4
Loans & borrowings	(109.4)[2]	(105.7)	(107.3)	(84.8)	(119.7)[4]
Net assets	**79.5**	**86.8**	**97.8**	**139.1**	**107.5**

1. Increase in Australian EBITDA from FY17 to FY18 reflects discontinuation of E&C division and upturn in Australian coal sector increasing demand for drilling services
2. "Loans & borrowings" in FY15 includes $35.8m liability owed to the Australian Taxation Office under a deferred installment arrangement
3. Drop in working capital primarily relates to the unwind and write-off of E&C current assets
4. Increase in loans & borrowings in FY19 was due to drawdown of additional senior facility, accrual of payment-in-kind (PIK) interest and weakening of Australian currency relative to US currency
5. Australian E&C division became a discontinued operation in FY2018; revenue and Underlying EBITDA from FY2018 only includes results from continuing operations

UK Shale Gas

LUCAS

a. Background
b. Operations Update
c. Next Steps

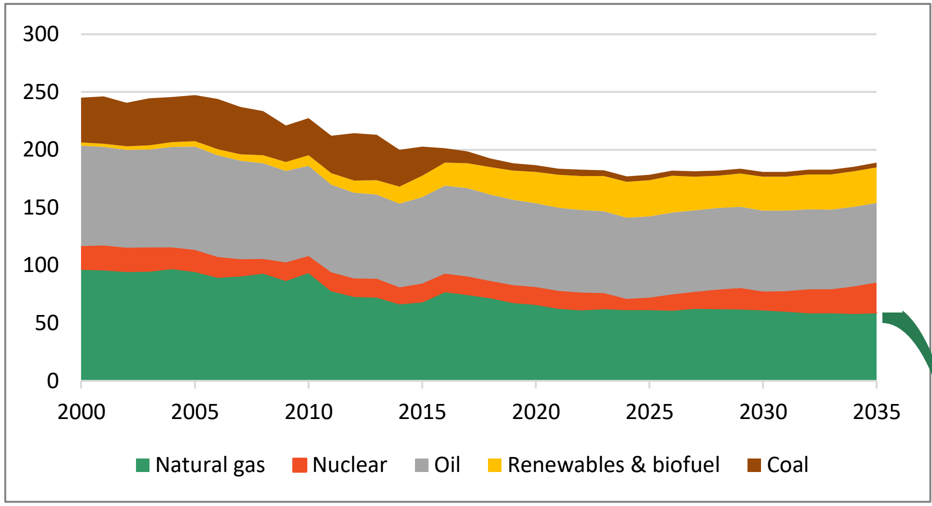
Intro: UK energy challenges & shale gas as a solution

- The UK faces a number of long-term energy challenges, many of which are linked to its recent legislated commitment to a carbon-neutral economy by 2050. In terms of gas:
  - Projections by both the Department for Business, Energy and Industrial Strategy (**BEIS**) and the Committee on Climate Change (**CCC**), an independent environmental advisory group to the UK Government, foresee the UK continuing to consume significant quantities of gas out to 2050 and beyond, even where the UK achieves carbon-neutrality;
  - Domestic gas (and oil) production is in decline which impacts tax revenues and makes the UK increasingly dependent on imports;
  - UK highly vulnerable to interruptions in foreign supply of gas:
    - Gas storage capacity significantly reduced after closure of Rough storage facility in 2017;
    - 2018 "Beast from the East" cold snap served notice of the limitations of the UK's interconnectors to secure impromptu access to continental EU gas supplies;
  - Brexit presents additional uncertainty around the terms under which the UK will continue to have access to Norwegian and EU-piped gas and whether any changes could lead to increased gas prices domestically due to tariffs, fees and other trade barriers;
  - Where the UK imports gas it has no control over the environmental standards under which that gas is produced and transported;
  - Intermittency of solar & wind energy may necessitate additional sources of dispatchable electricity generation, e.g. gas-fired plants;
  - Gas has a number of uses across industrial (including chemical), transportation and building sectors that are difficult to decarbonise as they require process heat at a very high temperature.
- The Bowland Shale is a 'low-hanging' opportunity to overcome many of these challenges:
  - British Geological Survey has estimated, as a P50 case, total gas-in-place in the Bowland shale of 1,329 trillion cubic feet;
  - Recovery of 10% (vs 15-30% US recovery rates) of this gas-in-place could meet UK natural gas demand for a number of decades;
  - UK regulatory framework for onshore shale gas exploration gives considerable weight to environmental considerations through the role of the Environment Agency and other regulators.

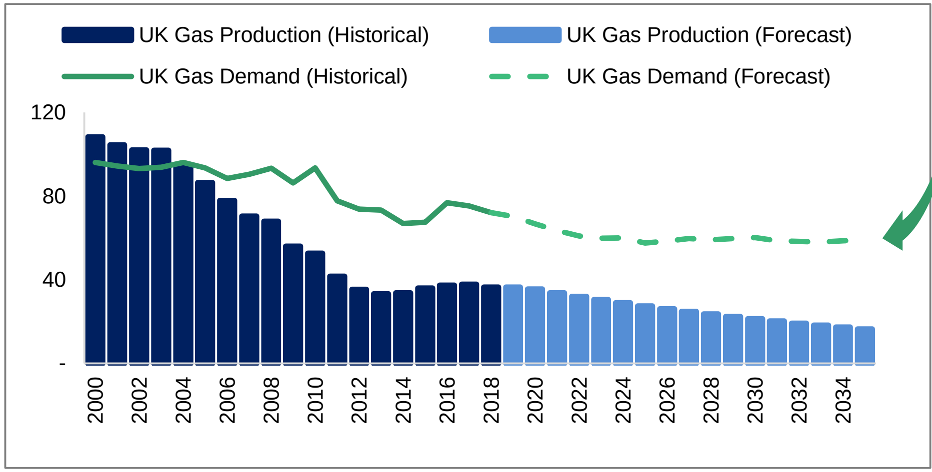
Natural gas is critical to UK energy needs

- Natural gas accounts for over a third of the UK's primary energy demand and ~85% of UK homes are heated by gas[1]
- North Sea gas production is in long-term decline, and in the absence of domestic shale gas, the Oil and Gas Authority (**OGA**) forecasts that net gas imports will rise to ~72% of demand by 2035[3]
- The UK Government acknowledges the importance of gas:
  - BEIS forecasts gas demand of 59 Mtoe in 2035 under its central estimate of future primary energy demand[4]
  - The CCC's recent Net Zero report (a roadmap for emissions neutrality by 2050) recognises that the UK will continue to use significant quantities of gas out to 2050 and beyond; the report forecasts gas demand equating to ~600TWh in 2050[2]
- Recovery of 10% (vs 15-30% US recovery rates) of domestic shale gas resources could meet gas demand for a number of decades
- On 15 August 2019, BEIS stated:
  - *"Shale gas could be an important new domestic energy source reducing the level of gas imports while delivering broad economic benefits, including through the creation of well-paid, quality jobs. It could also support our transition to net zero emissions by 2050."*

UK primary energy consumption 2000-2035 (Mtoe)[4]



Widening UK gas supply gap (bcm)[3,4]



(1) BEIS, "Guidance on fracking: developing shale gas in the UK", updated Mar 2019; (2) CCC "Net Zero Technical report", May 2019; (3) OGA "Projections of UK Oil and Gas Production and Expenditure", Mar 2019; (4) Central projection of UK primary energy demand, BEIS Updated energy and emissions projections 2018

LUCAS

Benefits of UK shale gas - environmental

1. Gas has a clear environmental advantage over coal

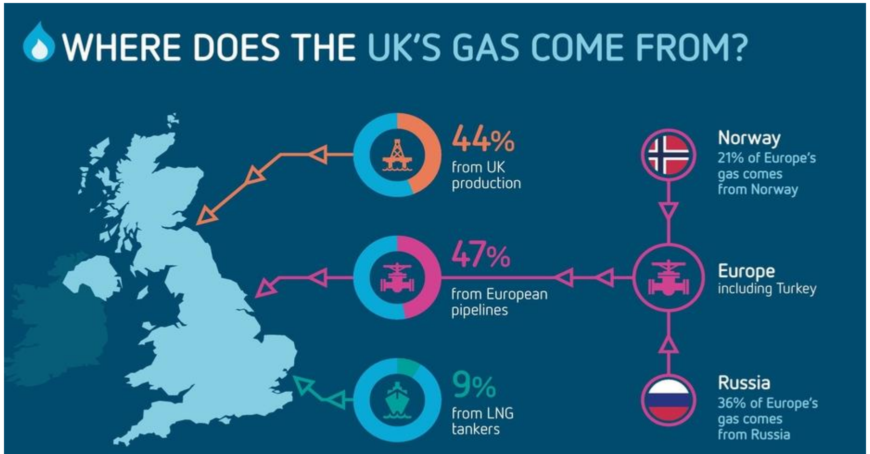
- Natural gas emits ~40% less CO_2 than coal and produces negligible SO_2, mercury, and particulates when combusted[1]
- International Energy Agency (**IEA**): "Since 2010, coal-to-gas switching has saved around 500 million tonnes of CO_2 – an effect equivalent to putting an extra 200 million EVs (electric vehicles) running on zero-carbon electricity on the road over the same period."[2]
- University of Sheffield: in the UK, carbon emissions dropped by 6% in 2016 almost entirely due to coal-to-gas switching[3]

2. Shale gas is less carbon-intensive than long-distance pipeline and LNG imports

- 2013 UK Government commissioned report estimated UK shale gas could offer a 50% pre-combustion emission saving compared to Liquefied Natural Gas (**LNG**) and long distance pipeline supplies[4]
- In March 2019, the United Kingdom Onshore Oil and Gas (**UKOOG**) industry group estimated that a national roll-out of 100 shale gas production pads (40 wells each) would reduce CO_2 emissions by over 80 million tonnes by 2035 versus importing the same gas as LNG[5]

3. Methane emissions from UK shale gas to be highly regulated

- Gas's environmental advantage over other fossil fuels can be negated by methane emissions along the value chain, e.g. from venting, flaring or accidental leaks (fugitive emissions)
- In July 2016, the UK Government confirmed its position that shale gas production will require "a range of technologies and techniques to limit methane emissions" [6]; the CCC has estimated that deploying low-cost mitigation technologies could limit emissions to 0.3-0.9% of throughput[7]
- UK gas imports may be sourced from areas of the world where there are less stringent regulations to mitigate methane emissions – e.g., fugitive emissions in Russia alone have been estimated at 5-7% of throughput[8]



Source: BEIS

(1) IEA "World Energy Outlook 2017"; (2) IEA "The Role of Gas in Today's Energy Transitions" Jul 2019; (3) University of Sheffield research paper "Rapid fuel switching from coal to natural gas through effective carbon pricing"; (4) DECC "Potential Greenhouse Gas Emissions Associated with Shale Gas Extraction and Use", Sep 2013; (5) UKOOG "Updated shale gas production scenarios", Mar 2019; (6) DECC, "Onshore petroleum: the compatibility of UK onshore petroleum with meeting the UK's carbon budgets (Government Response to the Committee on Climate Change Report)", Jul 2016; (7) CCC "Onshore petroleum: the compatibility of UK onshore petroleum with meeting the UK's carbon budgets, Mar 2016; (8) Environmental Science & Technology journal, article titled "Life Cycle Greenhouse Gas Emissions From U.S. Liquefied Natural Gas Exports: Implications for End Uses", Feb 2015

Benefits of UK shale gas – macroeconomic

Balance of payments

- UK North Sea oil & gas production continues to decline – approximately half of the UK's current gas demand is imported[1]
- In 2018 the UK imported an estimated £7 billion of gas[2]
- UKOOG: central development case of 100 well pads with 40 wells would improve the balance of payments by £8bn a year by early 2030s[2]

Tax revenue

- In FY19 tax revenue from the oil and gas industry totalled £1.2bn vs £12.4bn ten years ago as a result of declining domestic oil & gas production[3]
- UK shale gas could redress some of the above

Job creation

- EY estimated at the end of 2014 that the UK O&G industry supported 375,000 jobs[4] which is likely to have fallen with North Sea production
- The Institute of Directors has estimated that the first 100 shale gas sites could generate 74,000 jobs and that a shale gas industry could safeguard up to 100,000 jobs in the petrochemicals industry[5]

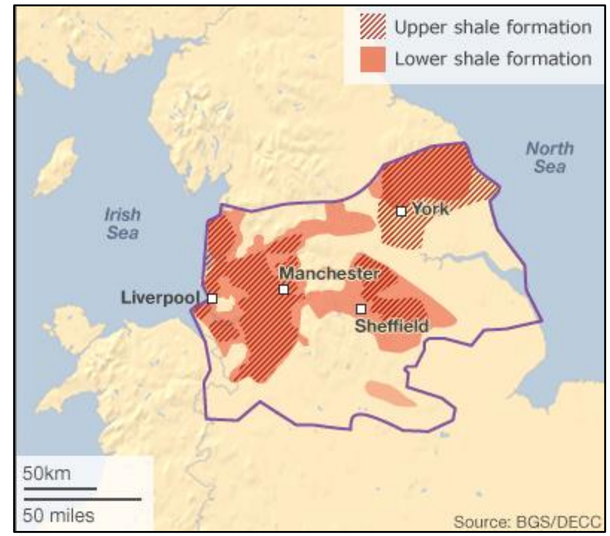
Community & supply chain benefits

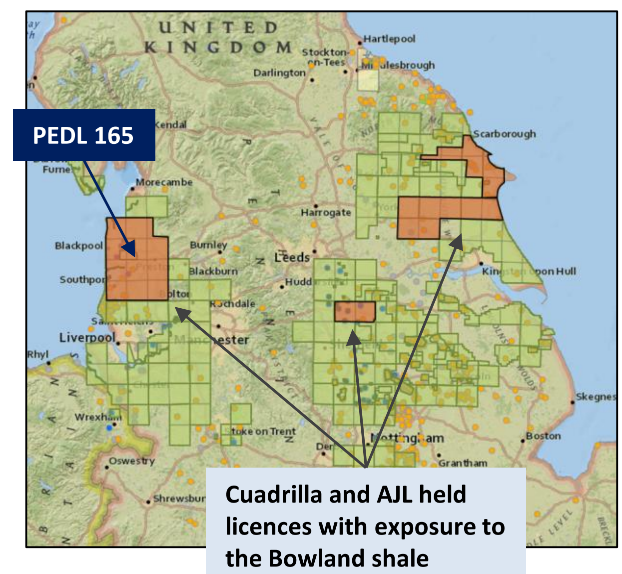
- UKOOG estimates that its central development case of 100 well pads would provide £1.8bn in community & local benefits by 2035[2]
- 2014 EY report forecast that drilling 4,000 lateral wells over 18 years would contribute £33bn towards local supply chains[6]

1. OGA "Projections of UK Oil and Gas Production and Expenditure", Mar 2019
2. UKOOG "Updated shale gas production scenarios" Mar 2019 – Appendix 2 provides UKOOG infographic showing projected economic benefits of 100 well pad case
3. HMRC "Statistics of Government revenues from UK Oil and Gas production", Jul 2019
4. EY "Fuelling the next generation", Dec 2014
5. Institute of Directors "Getting shale gas working", May 2013
6. EY "Getting ready for UK shale gas", Apr 2014

AJ Lucas has a significant position in UK shale gas

- The British Geological Survey (**BGS**) estimates that the Bowland shale, stretching across the north of England, contains gas-in-place of between 822 Tcf and 2,281 Tcf with a central estimate of 1,329 Tcf[1]
- AJ Lucas has interests in a number of licences with exposure to the Bowland shale, through both its ~48% shareholding in Cuadrilla Resources and direct licence holdings[2]
  – AJ Lucas has direct and indirect interests in licences over the Bowland shale totalling ~1,050 sq. km
- PEDL 165, which contains the PNR site and in which AJ Lucas has a ~48% effective interest, covers >1,000 sq. km and is currently the focus of Cuadrilla's operations
- PNR is located near existing gas pipelines, which would enable cost-effective delivery of gas into the UK's extensive gas distribution network
- In August and December 2015, Cuadrilla was awarded eight additional exploration licences in the Government's 14th Round for onshore oil & gas licences across the Cleveland Basin in East Yorkshire and the Gainsborough Trough in South Yorkshire





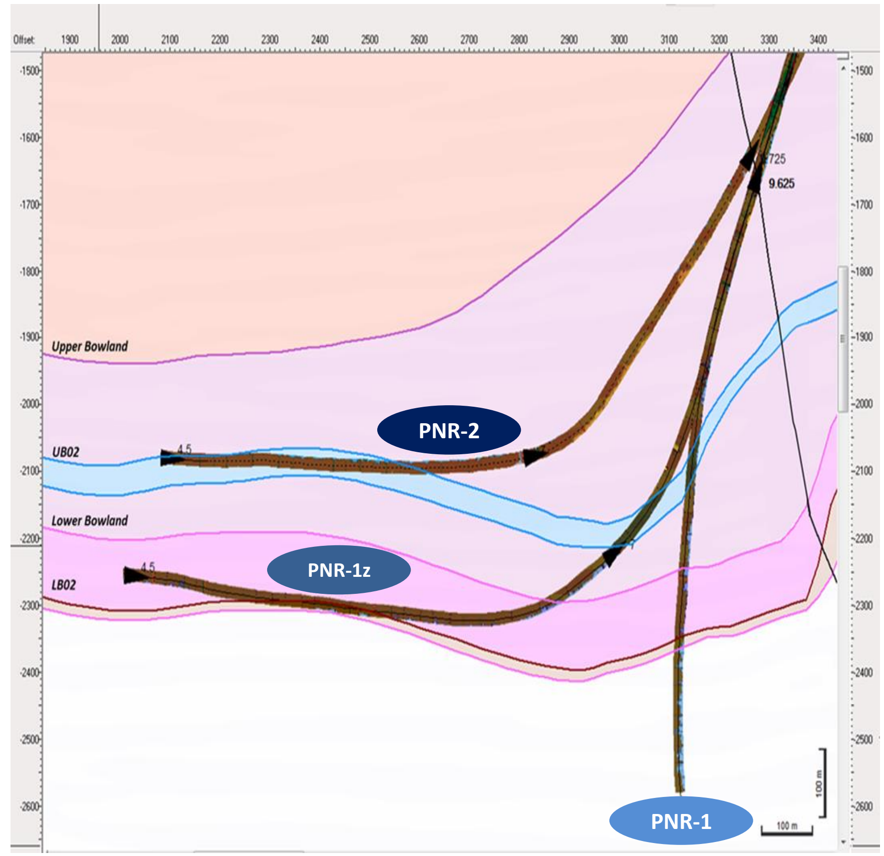
1. BGS/DECC Bowland Shale gas study, 2013
2. Appendix 1 outlines the Company's direct and indirect interests in licence areas across the UK and, where applicable, its partners in these licences

Preston New Road initial drilling campaign

- Drilling of the first vertical well at Preston New Road completed in January 2018 to a depth of ~2,700m through the Upper and Lower Bowland shales
- Extensive core samples recovered and analysed
- Top six prospective production zones selected, three in the Upper Bowland and there in the Lower Bowland
- First horizontal well (PNR-1z) drilled for ~800m in Lower Bowland at a depth of ~2,300m – completed in April 2018
- Second horizontal well (PNR-2) drilled for ~750m in Upper Bowland at a depth of ~2,100m – completed in July 2018

<u>Preston New Road site</u>

<u>One pilot well and two horizontal wells drilled through the Bowland shale</u>



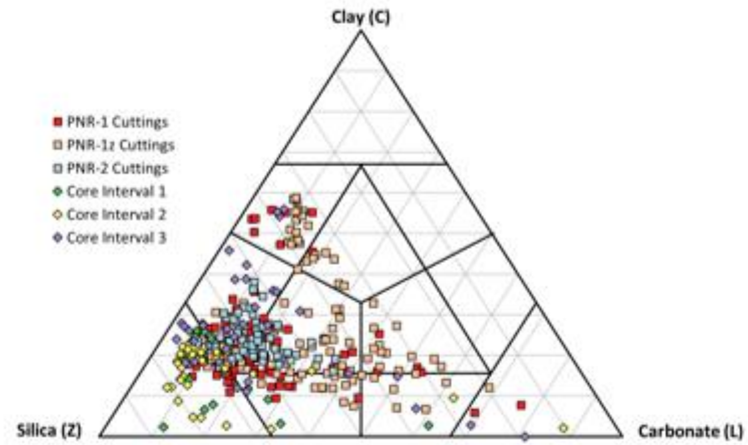
Bowland shale's promising characteristics

- The Bowland shale at >1,000m thick in places is thicker than comparable US shale formations (see following slide)
- Core samples have been subjected to detailed lab analysis:
  - Total organic content (**TOC**) of 1-7% with an average of 2.65%
  - Organic maturity dry gas in Lower Bowland
  - Quartz-rich, brittle rock – excellent properties for fracturing
  - Consistently low overall clay content and non-reactive clays
  - Highly naturally-fractured shale
  - Gas content and composition of PNR-1z comparable to Preese Hall exploration well (**PH-1**) at 40 scf/tonne and 96% methane
  - Minimal gas processing required – no H_2S, low CO_2
  - Shale is believed to be significantly over pressured (0.69 psi/ft)

Preston New Road vs Preese Hall
• PH-1, located 3.9km north of PNR-1z, was spudded in August 2010 and drilled to a depth of ~2.8km with the top of the Bowland Shale encountered at a depth of ~1.9km • Cores and wireline image logs taken from the PNR-1 vertical pilot well have been compared and analysed against those taken from PH-1 • Shale properties (bulk density, porosity, water saturation, gas content, clay/quartz/calcite composition) and gas quality (methane content, impurities) found to be highly comparable • PH-1 was hydraulically fractured in six vertical stages – a flow rate of 300mcf/d achieved primarily from two stages in the Upper Bowland

Shale core from Preston New Road

Ternary Plot - Preston New Road



Source: Cuadrilla management

Comparison of UK and US shale gas metrics

	UK Bowland Shale		United States shale gas producing basins[3]					
	PNR site[1]	Springs Road site – Lower Bowland[2]	Eagle Ford	Barnett	Fayetteville	Woodford	Haynesville	Marcellus
Depth *(m)*	**1,300 - 3,300**	**2,300 – 2,600**	2,100 - 3,700	2,000 - 2,600	300 - 2,100	1,500 - 2,900	3,200 - 4,100	1,200 - 2,600
Gross thickness *(m)*	**>1,000**	**300**	30 - 145	30 - 180	5 - 60	5 - 80	60 - 90	15 - 60
Total organic content *(%)*	**1 - 7%**	**0 - 6.6%**	4 - 8%	4 - 5%	4 - 9.8%	4 - 8%	0.5 - 4%	2 - 8%
Thermal maturity *(R_o %)*	**1 - 1.8%**	**1.3%**	0.7 - 1.8%	1.3 - 2.1%	1.5 – 4%	1.2 - 2.8%	1.7 - 2.8%	1.3 - 2.4%
Porosity *(%)*	**2 - 7%**	**1 - 9%**	4 - 10%	4 - 8%	4 - 5%	5 - 6%	7 - 10+%	4 - 8%
Pressure *(psi / ft.)*	**0.5 - 0.7**	***Not given***	0.5 - 0.75	0.43 - 0.45	0.38 - 0.45	0.5 - 0.55	0.7 - 0.9	0.6 - 0.7

1. Cuadrilla management
2. IGas press release “Unaudited Half-year results for the six months ended 30 June 2019”, Sep 2019 (some figures rounded)
3. Anderson Thompson “Upper Bowland Shale Probabilistic Forecast Study” (NB: feet converted to metres and rounded)

The Bowland shale – a summary

BGS estimates (P50 case) the Bowland shale holds 1,300Tcf gas in place

Shale located several thousand feet below aquifers

Shale thickness (>1 km) in places enables multiple horizontal wells at different levels

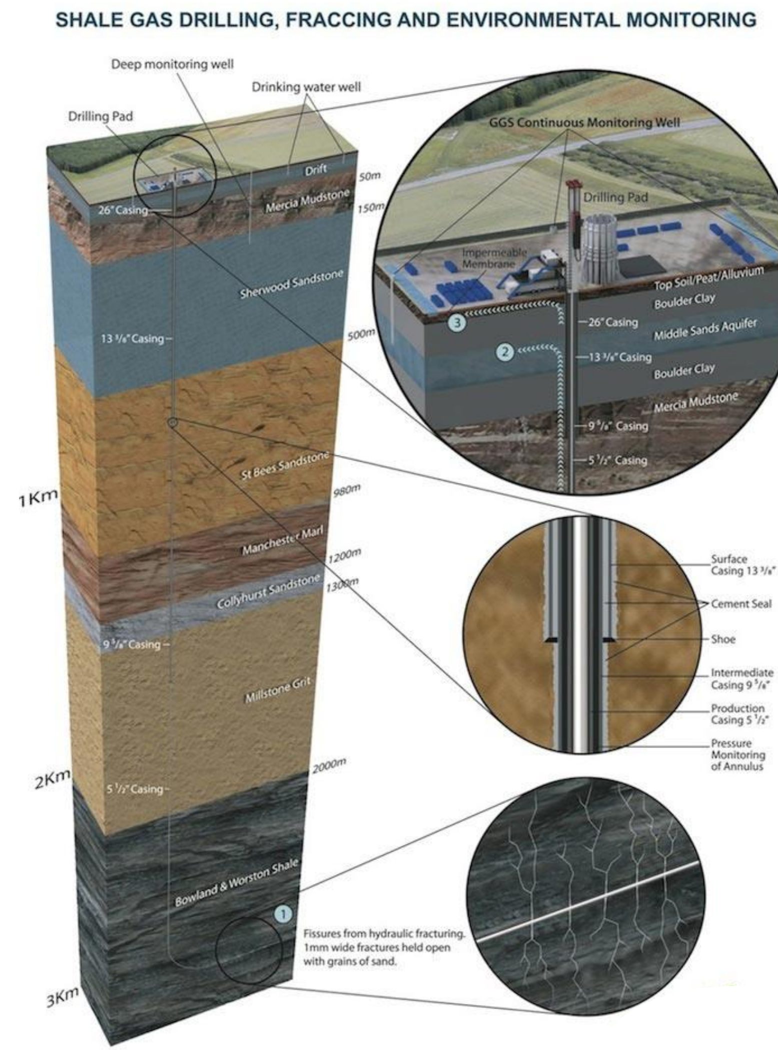
Excellent gas quality with high methane content and few impurities

Bowland shale characteristics suitable to hydraulic fracturing

Complex network of fractures created & excellent sand retention

Geological characteristics comparable to US producing shale gas metrics

Close proximity to local and national gas pipeline infrastructure



Source: Ground Gas Solutions

Announcement of moratorium

- On 2 November 2019, the UK Government announced a moratorium on hydraulic fracturing on the basis of an interim OGA report on fracturing induced seismicity[1]
- The OGA's report[2] details the findings of four studies commissioned in February 2019 into seismicity during PNR-1z operations, which examine the causes of seismic events, the ability to model and predict them, and their potential impact on well integrity and surface-level infrastructure. OGA:
  - *"The results of these studies could be used to develop or refine the methods already adopted to avoid or reduce the chance of inducing significant seismicity during future operations"*
  - *"PNR2 data should now be used to test and improve all four studies with work on maximum magnitude prediction given high priority"*
  - *"The OGA believes that further detailed geomechanical analysis would be needed before we could evaluate with confidence whether hydraulic fracturing could resume in the Fylde, or elsewhere, consistent with the government's policy aims."*
- In its announcement, the Government stated that consent would be withheld for further hydraulic fracturing operations "until compelling new evidence is provided which addresses the concerns around the prediction and management of induced seismicity"
- In a Written Ministerial Statement released subsequently on 4 November 2019[3], Business Secretary Andrew Leadsom re-affirmed that the Government "continues to recognise the importance of natural gas as a source of secure and affordable energy" in line with reaching net zero emissions by 2050, and stated that the OGA "are unlikely to approve future Hydraulic Fracture Plans unless new evidence is presented" that fracturing "will not cause unacceptable levels of seismicity"
- Cuadrilla will continue to work constructively with the OGA, including supplying data from PNR-2 operations, to address its concerns on seismicity so that the moratorium can be lifted and an operational framework can be established for shale gas extraction that is safe and practical

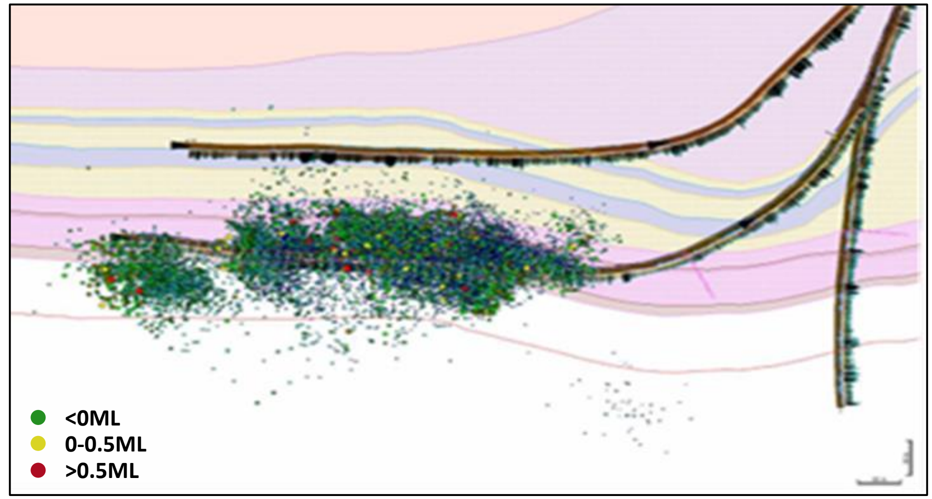
1. https://www.gov.uk/government/news/government-ends-support-for-fracking
2. OGA "Interim report of the scientific analysis of data gathered from Cuadrilla's operations at Preston New Road, Nov 2019
3. https://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2019-11-04/HCWS68/

a. Background
b. Operations Update
c. Next Steps

PNR-1z fracturing confirms recoverable gas – operations limited by the Traffic Light System

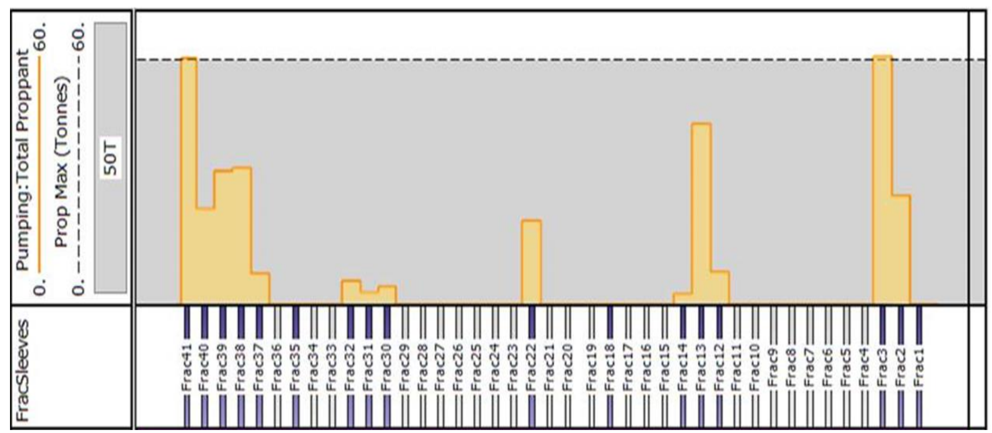
- PNR-1z was completed with 41 separate sliding sleeves
- Cuadrilla had planned to fracture each sleeve with 400m^3 of fracturing fluid and 50 tonnes of proppant (sand)
- Operations were limited by the 0.5ML (local magnitude) threshold prescribed under the Traffic Light System (**TLS**), intended to regulate induced seismicity caused by hydraulic fracturing (see Appendix 4)
- During PNR-1z operations Cuadrilla collected over 38,000 micro-seismic data points; a total of six red-light readings (>0.5ML) were reported to regulators the largest of which was 1.5ML
- Three of the six red-light readings occurred during pumping, and four resulted in the premature termination of the associated fracturing operation
- During operations, Cuadrilla also experienced mechanical issues with closing sleeves in two of the fracturing stages
- Hence:
  - Only 17 sleeves were hydraulically fractured
  - Proppant, ranging from 2 to 51 tonnes, was embedded in 15 sleeves
  - Only 2 sleeves were successfully embedded with targeted 50 tonnes of proppant (see diagram on right)
  - As a result only ~14% of the intended proppant was embedded in the formation, a total of 278 tonnes

~38,000 microseismic readings recorded during PNR-1z frac



Source: Cuadrilla management

Only two sleeves embedded with targeted 50 tonnes of proppant



Source: Cuadrilla management

PNR-1z fracturing confirms recoverable gas – operations limited by the Traffic Light System (cont.)

- There were several key positive takeaways from PNR-1z fracturing operations
- During fracturing operations complex fracture networks were generated and sand injected in the fractures stayed in place during flowback
- Natural gas flowed to the surface from the limited number of fractured sleeves, reaching a peak production rate of more than 200,000 standard cubic feet per day (**scfd**) and a stable rate of over 100,000 scfd
- Gas produced had a very high methane content and very few impurities
- Pressure characteristics during fracturing were analogous to US shale gas metrics (see Appendix 3 "Depiction of successful fracturing of Sleeve 3")

Estimated gas flow rate for a 2.5km well

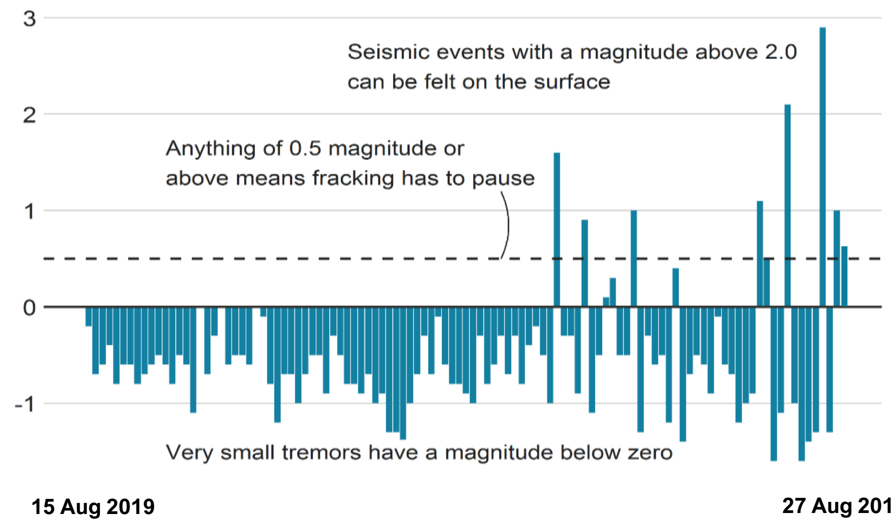
- Anderson Thompson, a North American reservoir engineering firm and part of NCS Multistage, analysed the cores at PNR and assessed likely gas recovery volumes for horizontal wells that could be drilled in the Lancashire Bowland shale
- Anderson Thompson's analysis estimates that, over a 30 year period, a volume of 6.5 billion cubic feet (**Bcf**) of gas could be produced from a 2.5km horizontal well in the Bowland shale[1]
- Subsequent to the flows achieved at PNR-1z, UKOOG updated their estimates of flow for a typical horizontal Bowland shale well – UKOOG estimates an initial flow range of between 3 and 8 million scfd of gas for an equivalent 2.5km lateral section, with a central estimate of 5.5 Bcf[2]

1. Anderson Thompson "Upper Bowland Shale Probabilistic Forecast Study"
2. UKOOG "Updated shale gas production scenarios" Mar 2019

PNR-2 operations – 6 stages hydraulically fractured each with >30 tonnes of proppant

- Hydraulic fracturing at PNR-2 commenced on 15 August 2019
- Encouraging results from the initial five (of 45 total) sleeves:
  - Textbook fractures with targeted proppant volumes of 30 tonnes for Sleeve 1 and 50 tonnes for Sleeves 2-5 achieved
  - Extremely minimal seismic activity – no readings >0.1ML by BGS
- However, following the fracturing of Sleeves 6 and 7 several trailing events >0.5ML were recorded, the largest of which was 2.9ML
  - Cuadrilla's Hydraulic Fracture Plan approved by the OGA noted an upper bound estimate for induced seismicity of 3.1ML
  - Ground vibrations from seismic tremors induced by Cuadrilla's fracturing operations have typically lasted for less than a few seconds at a time; and vibration levels have occurred at levels that according to British Standards are unlikely to cause more than cosmetic damage to buildings
  - UK micro-seismicity limit of 0.5ML is orders of magnitude lower than comparable Traffic Light System thresholds in the US (Ohio: 1.0; California: 2.7; Illinois: 4.0; Colorado: 4.5) and Canada (British Columbia: 4.0; Alberta: 4.0)[3]
- Following the 2.9ML event a number of claims for damage to property were made by local residents:
  - A number of these were withdrawn; others were found to be spurious
  - However, as a goodwill gesture, Cuadrilla has made a number of small payments to residents primarily in respect of purported minor cracks in plasterwork

102 micro-seismic readings to date – 9 red-light readings[1]



9 red-light readings in context[2]

Date	Magnitude (ML)	Ground movement (mm/s)	Date	Magnitude (ML)	Ground movement (mm/s)
21 Aug	1.55	0.489	24 Aug	2.1	1.460
21 Aug	0.87	0.119	26 Aug	2.9	5.40
22 Aug	1.03	0.164	26 Aug	1.0	0.123
23 Aug	1.05	0.176	27 Aug	0.6	0.055
24 Aug	0.53	0.055			

(1) Graph from BBC article dated 1 Sep 2019 based on data from the BGS; (2) Data taken from BGS website; (3) UK National Audit Office analysis

LUCAS

a. Background
b. Operations Update
c. Next Steps

LUCAS

PNR-2 flow test & next steps

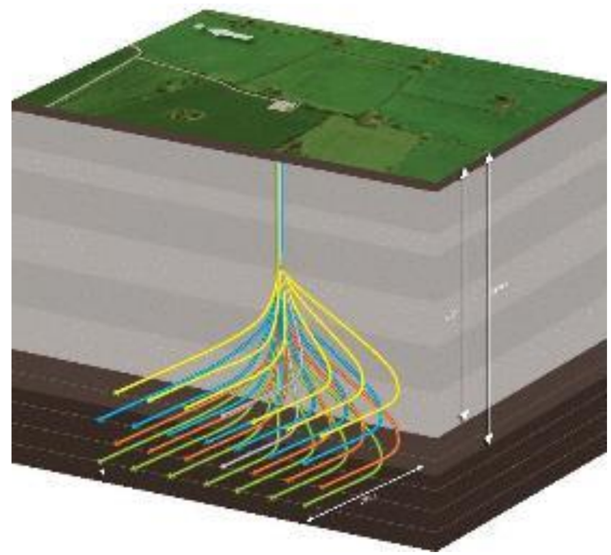
- Cuadrilla is currently conducting a flow test of the six fractured sleeves of PNR-2, five of which were embedded with the targeted volume of proppant during fracturing operations
- Early data from the PNR-2 flow test has been very encouraging
    - The gas at PNR-2 is high quality containing approximately 89% methane, 6% ethane and 2% propane and is virtually free from impurities
    - Once separated at surface from accompanying water the gas could with limited treatment flow directly into the local gas network
    - Further time will be required to complete the ongoing flow test, including analysing the results over a sustained period of gas flow
- In conjunction with its ongoing engagement with the OGA, Cuadrilla will draw on its extensive dataset compiled from its recent operations to assess how it can best mitigate and manage seismicity in any potential future operations
- Although its FY2020 work program will be significantly reduced, Cuadrilla will continue to review and assess the prospectivity of other sites on its extensive acreage

Bowland licence development concept

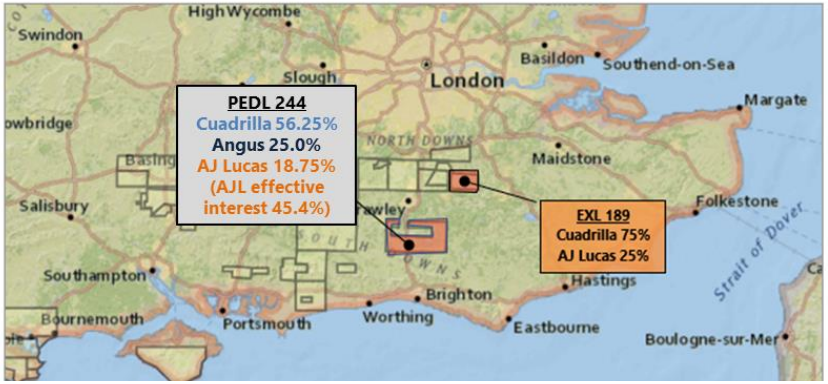
- The thickness of the Bowland shale in PEDL 165 which measures over 1km in places with multiple production zones lends itself to a stacked lateral well configuration; potentially:
  - 6 zones could be intersected by wells drilled at vertical intervals of 200m;
  - In each horizontal zone, up to 12 lateral wells could be drilled, each up to 2.5km in length;
  - Under this scenario, up to 72 lateral wells could be drilled over time from a single well pad, i.e. 12 lateral wells in each of 6 production zones.
- J-shaped well design allows wells to be drilled and completed in close proximity on a single ~2 hectare well pad
- The use of multi-well production pads would significantly reduce surface infrastructure requirements and make production management more efficient – this is attractive both economically and environmentally

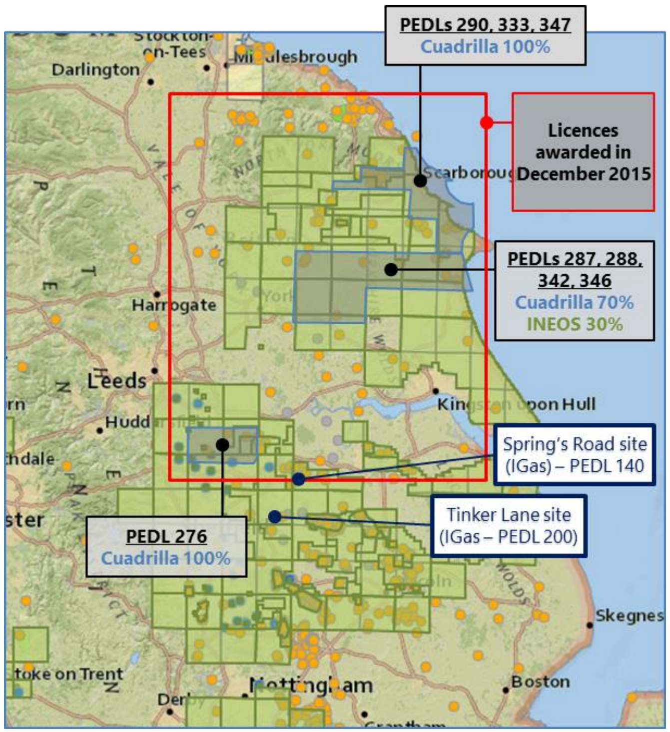
Minimal surface footprint

Vertically stacked and horizontally spread wells



Other licence activity





Source: UK Oil and Gas Authority, Cuadrilla management

Balcombe licence (PEDL 244) farm-out

- Angus Energy plc (Angus) assumed operatorship of PEDL 244 under a farm-out arrangement agreed in January 2018
- Under the terms of the farm-out, Angus funded and completed a 7-day well test of an existing horizontal well (Balcombe-2z) which flowed at 853 barrels of oil per day (**bopd**) and 1,587 bopd over a short time interval
- Angus believes that continuous oil with a low water ratio can be produced from Balcombe-2Z under normal pumped production conditions
- On 2 October 2019, Angus announced that it had submitted a planning application to West Sussex County Council for an extended well test at the Balcombe site

East coast Bowland Basin licences

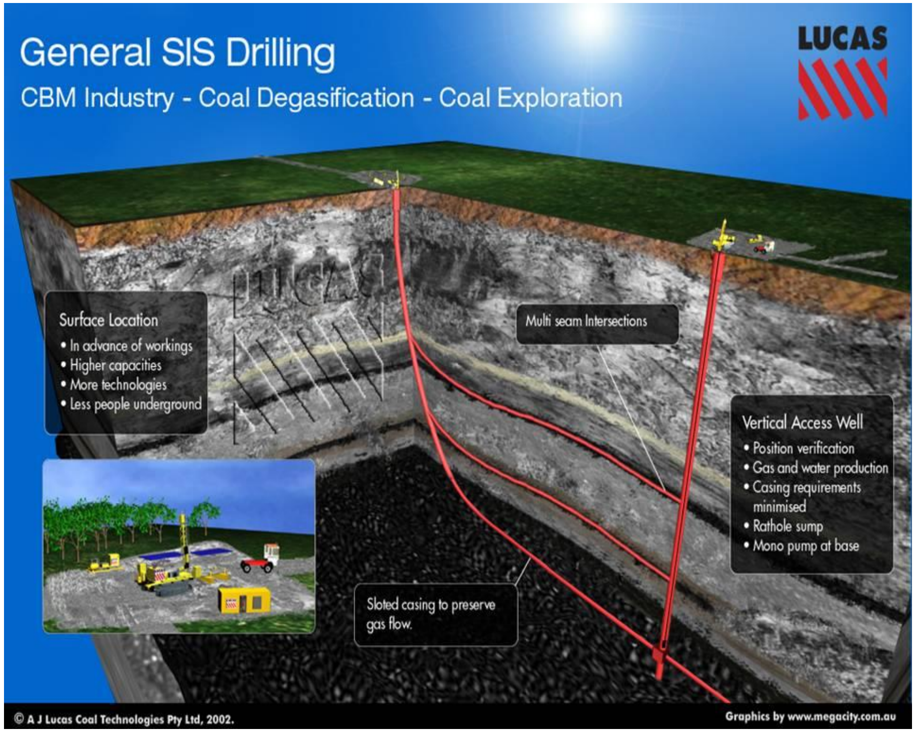
- Cuadrilla and other operators awarded east coast licences in 2015, which target the same Bowland shale formation as PEDL 165
- Earlier this year IGas completed the first of a two well drilling program at Springs Road in PEDL 140, near Cuadrilla's PEDL 276, using a Cuadrilla-owned rig
- In September 2019, IGas released results of its analysis of 147m of Bowland shale core
  - *"The key characteristics of the Bowland Shale … compare favourably to commercial shale operations observed in North America such as the Permian and Marcellus … The core results indicate a mature, organic rich source rock with good porosity confirming favourable gas resource density."*

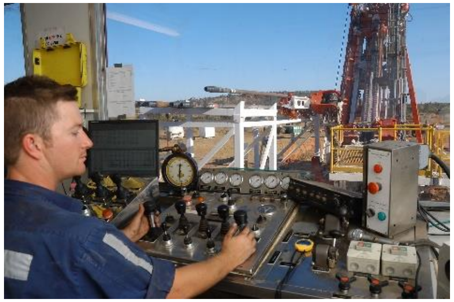
Lucas Drilling Services

a. Overview & Performance
b. Macro Coal Environment

Lucas Drilling overview

- LDS is a leading integrated provider of drilling services to Australia’s coal mining sector, offering a suite of specialised services:
  - **Exploration drilling:** resource delineation through chipping and coring services at brownfield and greenfield sites
  - **Directional drilling:** technical/innovative services providing efficient and flexible lateral (SIS) gas drainage solutions
  - **Large diameter drilling:** drainage of coal mine gas to support long-life underground metallurgical coal mining operations
  - **Other services:** provision of engineering services (well planning, steering, feasibility studies) and well services (installation of well infrastructure and well workovers)
- Primary commodity exposure is metallurgical coal which has strong near and long term fundamentals driven by growing infrastructure spending globally (met. coal is required for steel production), especially in India
- Headquartered in Brisbane, the business has operations in the major coal producing basins of Australia’s east coast, including the Bowen basin in Queensland, and the Gunnedah basin and southern coalfields in New South Wales
- Fully integrated operating platform that is difficult to replicate and sets the business apart from competitors
- 39 active drill rigs designed specifically for the coal market, supported by over 350 employees

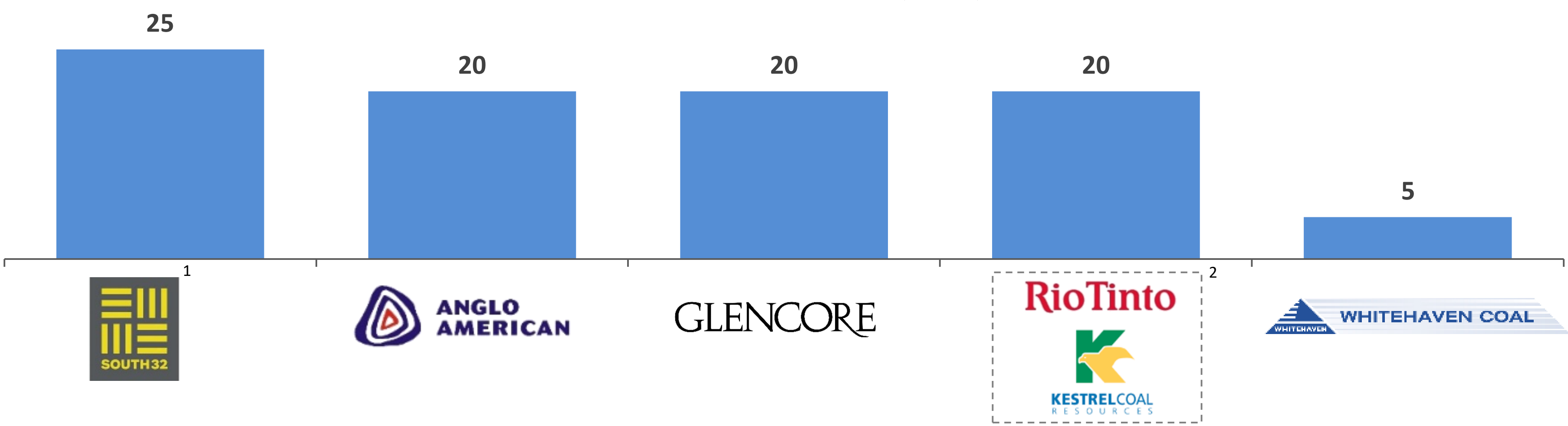




Long-term blue chip customers

- LDS provides drilling services to some of the world's largest miners and energy companies
- Relationships with certain customers have lasted for 20+ years
- LDS possesses a strong incumbency advantage as its processes, managers and rig operators are well integrated into each mine site, with significant financial and time costs for the customer when changing drilling provider
- As such, LDS is often able to renegotiate existing contracts and avoid formal re-tendering processes
- LDS customers are in low and defensive positions on the cost curve making demand for product from these mines more stable

Length of relationship (years)

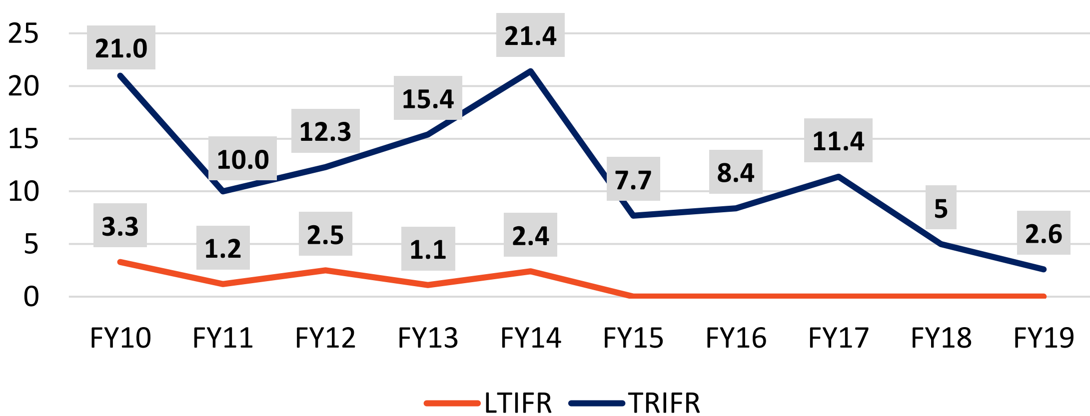


1. Includes period where relationship was maintained with BHP Billiton, which demerged a number of mining assets into South 32 in May 2015
2. AJ Lucas has a 20+ relationship with Rio Tinto, which sold the Kestrel mine to an investing consortium in 2018 – the majority of mine personnel on the mine site have not changed

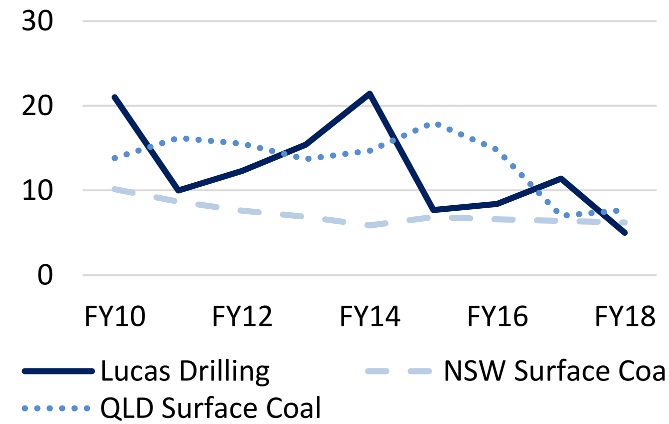
Exemplary safety record

- Given its prominence in the Australian economy, the coal industry is highly regulated with stringent environmental and safety rules to protect mine workers from accidents, especially those caused by gas combustion
- Mine owners are highly focused on safety, and companies that provide mine degasification services like AJ Lucas are therefore integral to the industry
- LDS has established a strong safety record, supported by comprehensive management systems delivering the highest standards in safety & environmental performance
- LDS ensures operational quality and safety through regularly audited systems certified by professional standards bodies
- Exemplary safety record places LDS in a strong position when tendering with increasingly HSEQ (Health, Safety, Environment & Quality) focused customers

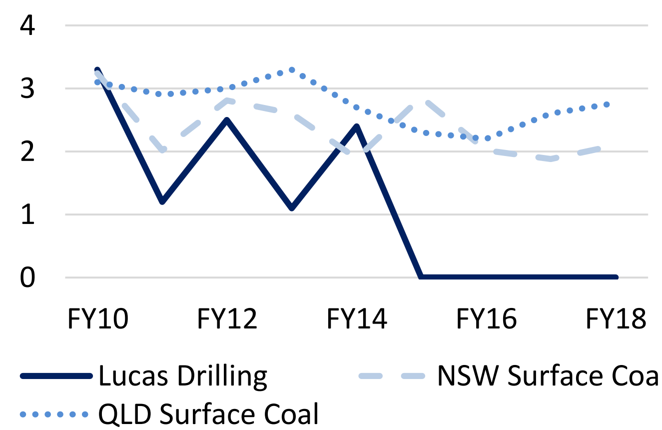
LDS - Total Recordable Injury Frequency Rate and Lost Time Injury Frequency Rate[1]



Total Recordable Injury Frequency Rate
Lucas Drilling vs industry peers[2]



Lost Time Injury Frequency Rate
Lucas Drilling vs industry peers[2]



1. TRIFR are LTIFR calculated per million hours worked
2. Industry peer data obtained from New South Wales and Queensland regulatory agencies

Lucas Drilling evolution

Financials metrics (financial year ended 30 June - $m)	2014A	2015A	2016A	2017A	2018A	**2019A**
Revenue	94.2	83.5	79.6	73.4	124.7	**143.4**
Underlying EBITDA	10.8	6.2	11.4	2.7	19.7	**24.4**

Business evolution

- LDS emerged from the coal market downturn (2013-2017) as a leaner and more focused organisation with a renewed focus on its three core drilling competencies: exploration, directional & large diameter drilling
- At the same time, the downturn led many of its competitors to cease operations; a significant share of drilling services businesses tendering for work in 2015 were not operating in 2019; many of those remaining have a limited coal footprint and/or only provide exploration drilling services
- LDS is currently the leading drilling services provider performing SIS operations
- LDS is embedded in many of its companies' operations, having been involved in customers' mine planning processes (SIS drilling takes place prior to underground production and thus influences customers' mine plans)

Financial performance and recent contractual activity

- FY20 revenue and Underlying EBITDA expected to build on positive FY18 and FY19 results – positive first quarter results
- LDS financials are supported by recent strong contractual activity
- In August 2018, LDS extended its relationship with Anglo American, its largest customer, signing a a 3-year contract (with a 2-year extension option) for SIS and large diameter drilling services
- In August 2019, LDS renewed its multi-services contract with Kestrel Coal Resources, its second largest customer, for 3 years (with a 2-year extension option)
- 5-year exploration contract (with 2-year extension option) signed with an existing customer in December 2018
- Contracts signed with two major mining operators in last six months for lateral gas drainage solutions

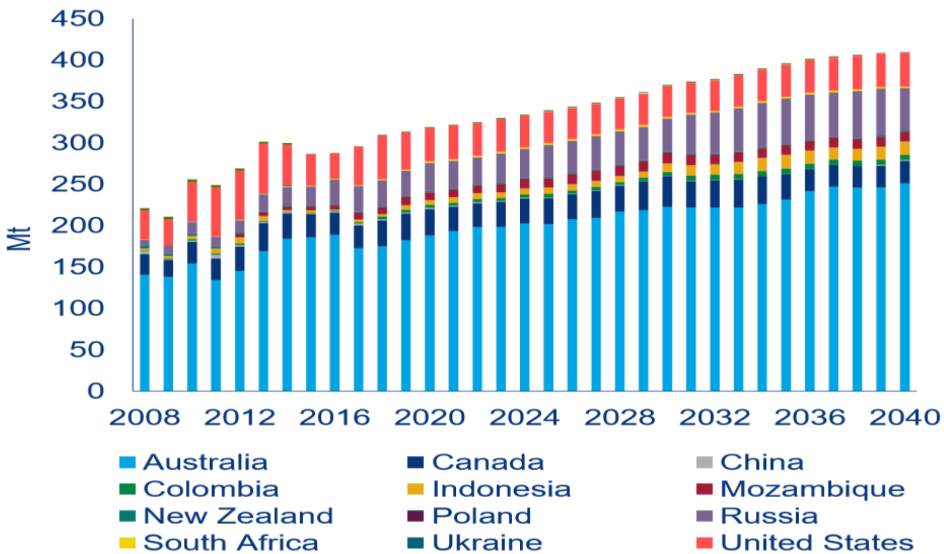
a. Overview & Performance

b. Macro Coal Environment

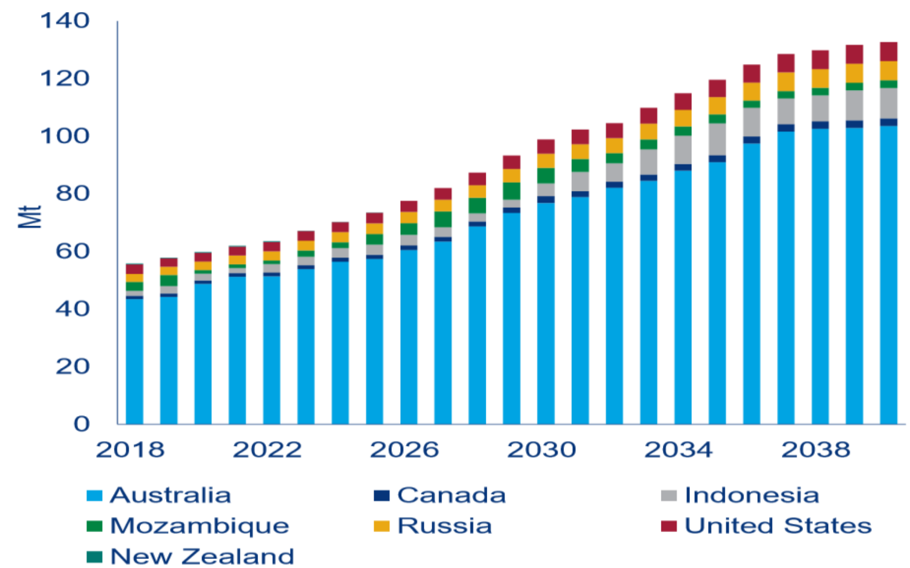
Strong outlook for Australian met. coal exports

- Australia is the world's largest exporter of metallurgical (met.) coal (~58% market share in 2017) and investment continues to be made in the industry; this underpins growth in demand for the various drilling services that LDS provides
- Australia produces approximately 110Mt of hard coking coal annually, 58% of which was in the lower half of the cost curve in 2018, and is strongly positioned to capture the majority of the 100Mtpa growth in global met. coal demand from 2018 to 2040, largely driven by demand growth from India which requires met. coal for steel and infrastructure needs
- Australian exports are expected to reach 287Mtpa by 2040
- Australia is also expected to meet most of the near term growth in global met. coal demand of 15Mtpa by 2021

Global met. coal seaborne exports (Mt)



Indian met. coal imports (Mt)

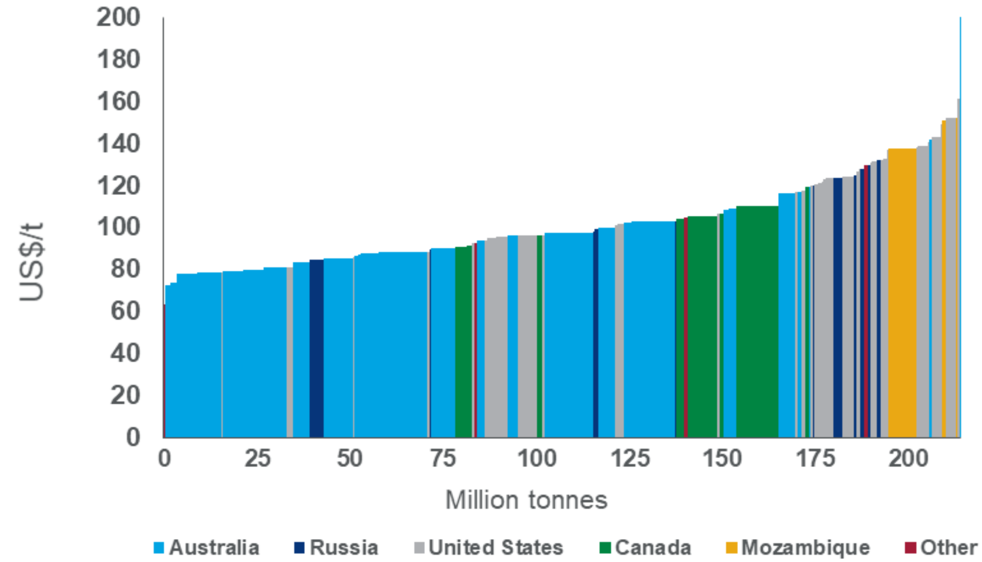


Source: Wood Mackenzie Coal Market Service

Australian met. coal producers low on cost curve

- LDS provides degasification and exploration services to blue-chip metallurgical (coking) coal operators; these customers are currently incentivised to maintain and expand coal production due to their low cash costs per tonne and robust operating cash margins
- Mine operators are incentivised to produce as long as the price of coal per tonne exceeds variable cost per tonne, i.e. cash cost < price
- Wood Mackenzie near-term forecast of the price of Queensland Hard Coking Coal in US$/tonne (FOB):
  - 2020: $176
  - 2021 $167
  - 2022: $158
- LDS's customers are low on the cash cost curve – all are expected to produce coal at <US$100/tonne for the next several years – making demand for product from these mines more stable

Global 2019 Hard Coking Coal cash cost curve (US$/t)



Source: Wood Mackenzie, Dataset May 2019

Source: Wood Mackenzie Coal Market Service

Key Risks

Key risks

Introduction

- As with all businesses, there are a number of risk factors, both specific to AJL and of a general nature, that may have a material impact on AJL's future operating and financial performance. This section describes certain specific areas that are believed to be risks associated with AJL and that may impact an investment in the New Shares.
- Each of the risks described in this section could, if they were to eventuate, have a material impact on AJL's operating and financial performance and on the market price of AJL shares. These risk factors are not exhaustive. Whilst some of the risks identified can be mitigated by the use of safeguards and appropriate systems and actions, many of these risks are outside the control of AJL, its Directors and its senior executives.
- Risks have been outlined in four categories:
  A. UK investments of AJL including Cuadrilla;
  B. Lucas Drilling Services and the markets in which it operates;
  C. Other operational, financial and business risks; and
  D. Risks relating to investing in the New Shares.

Key risks (continued)

A. UK investments of AJL including Cuadrilla

UK political & regulatory risk	a) AJL has an interest in a number of assets that are located in the United Kingdom. Such assets are subject to changes in UK laws, regulations, practices and policies including those concerning overseas investments. b) In particular, there may be considerable resistance from the public or legislators or both in the UK or in parts of the UK to certain exploration and development activities, particularly drilling and hydraulic fracturing, arising in connection with, for example, environmental sensitivities and concerns about pollution, concerns about the potential effects of fracturing on aquifers and seismic activity, and concerns about the impact of large scale drilling operations on landscapes, which may result in the suspension of activities, increased regulations imposed on the activities and/or a complete ban on certain operations including hydraulic fracturing. c) On 2 November 2019, the UK Government announced a moratorium on hydraulic fracturing and indicated that it would remain in place until new evidence was provided that addressed concerns around the prediction and management of induced seismicity. Cuadrilla will continue to undertake studies, and support the OGA in related parallel studies, to assess the ability of operators to reduce and manage seismicity risk. However, regardless of the outcome of those studies, or any other technological developments, it should not be assumed that the Government will lift the moratorium, in the near term or at any time, and allow hydraulic fracturing operations to re-commence. d) Several of the major political parties in the UK, including the Labour Party and the Liberal Democrats, have expressed their opposition to hydraulic fracturing in principle, and may implement policies to that effect should they be elected to power following the next general election, called for 12 December 2019. e) Exploration for onshore shale gas in the UK is highly regulated and a number of regulatory approvals are required before exploration activities can take place. These include Environment Agency approval regarding groundwater, surface water, air quality and safe storage of waste; planning permission from local authorities who seek views of the local community; Oil and Gas Authority (OGA) approval regarding management of induced seismic activity; and Hydraulic Fracturing Consent from the UK Department of Business, Energy & Industry Strategy (BEIS). While there have been a number of statements made by the current UK Government in support of shale gas exploration, there is no guarantee that the approvals required to undertake future shale gas exploration programs in the UK will be able to be obtained. f) Assuming the exploration and appraisal programmes at the PNR site or elsewhere prove commerciality, additional regulatory approvals will be required to further develop AJL's licences in the Bowland shale on a commercial scale. As there are no existing shale gas development projects in the UK, there is uncertainty as to the processes, timeframe and costs involved in obtaining such regulatory approvals, as well as the form such approvals could take. g) Oil and gas tenements are issued by the UK government for a certain period of time on terms and conditions set out in a licensing agreement. If the tenement holder fails to meet or fulfil the terms and/or conditions under its licence it risks forfeiting the tenement.

Key risks (continued)

A. UK investments of AJL including Cuadrilla (continued)

Extent of, and ability to recover unconventional hydrocarbons	a) Cuadrilla's ability to develop its concessions for unconventional hydrocarbons depends upon the presence of significant in-place resources and the ability of Cuadrilla to recover those resources in a commercially viable manner. It is not certain that Cuadrilla will be able to recover hydrocarbons in its concession areas in the quantities or at a cost that makes production commercially feasible. b) There has been, as yet, no commercial production of unconventional hydrocarbons in the UK, whether by Cuadrilla or any other party. The data provided by the initial seismic appraisals, drilling and testing of vertical and horizontal wells (which has not been carried out so as to generate a continuous flow of gas over an extended period of time) including drilling and partial fracturing of the two horizontal wells at PNR, and other exploration activities undertaken to date, are insufficient at this stage to conclusively evaluate the likelihood of commercial recovery of unconventional hydrocarbons. c) There is a risk that unconventional hydrocarbon extraction and recovery may not be feasible at all in Cuadrilla's concessions with existing technology due to technical complications arising from factors such as rock properties including existing known and unknown fault structures which may be prone to seismic activity as a result of hydraulic fracturing, reservoir pressure, fracture complexity and conductivity, and other factors specific to the shale formations within Cuadrilla's concession areas. d) If recovery of hydrocarbons is technically feasible in Cuadrilla's concessions, there is a risk that it may not be commercially viable due to the costs of the technology, drilling, equipment and other resources needed to extract the hydrocarbons from the reservoirs, all of which are dependent to a significant extent on the specific conditions of each particular reservoir. e) Commercial extraction of hydrocarbons will also depend on installation of infrastructure which will require Cuadrilla to obtain additional regulatory approvals. f) The commercial viability of any particular unconventional reservoir will be largely a function of the prevailing prices for oil and natural gas compared to the costs of extracting hydrocarbons from that reservoir. A higher cost base for a particular reservoir, whether due to its particular geophysical qualities or otherwise (including installation of gathering pipelines and related investments necessary to install any required supply infrastructure) could make profitable extraction from such reservoir impossible. g) If Cuadrilla is unable to recover hydrocarbons from its concessions at all, due to geological factors or technical infeasibility, or if it is able to recover hydrocarbons only at a cost which makes production commercially unviable, this may have a material adverse effect on the value of AJL's investment in Cuadrilla and the value of AJL's direct interests in those licences operated by Cuadrilla.

Key risks (continued)

A. UK investments of AJL including Cuadrilla (continued)

Impact of induced seismicity	Where seismic events induced by hydraulic fracturing operations exceed the 0.5ML threshold prescribed under the current Traffic Light System, Cuadrilla must suspend its operations for 18 hours while it carries out certain activities, such as well flushing and integrity checks. Such activities create time and financial costs, which are contingent in nature and cannot therefore be reliably estimated or predicted. Furthermore, seismic events of a certain strength can produce ground-level vibration and cause damage to buildings and other structures located in the vicinity of the fracturing operations. Following the 2.9ML event on 26 August 2019, Cuadrilla received approximately 100 claims relating to property damage, a number of which may have been spurious and a number of which were dropped on investigation. Residual claims were for superficial damage only, and while it was unclear that the damage was not pre-existing, Cuadrilla took the decision to make nominal ex gratia payments to these claimants. Some local residents have rejected Cuadrilla's offer of payment and have indicated their intention to seek legal recourse for recompense. If, following future hydraulic fracturing, further seismic events were to be felt at ground level, it is possible that Cuadrilla may see further claims sought for damages (whether real or spurious). This may result in additional resources taken to clear such claims, and if any real damages were validated, compensation may be made. While Cuadrilla has third party insurance in place under which it can seek relief to valid claims, it is possible that a claim or claims could exceed limits under these policies.
Projections of macroeconomic benefits from shale gas operations	Forecasts and projections of potential economic benefits deriving from a domestic shale gas industry, including those relating to balance of payments, tax revenues, job creation and local & community benefits, are, by their nature, subject to significant uncertainties, risks and assumptions and there is no guarantee that any of these benefits, or any other economic benefits, will eventuate regardless of the scale of shale gas operations. Furthermore, no assumption should be made that the UK Government will review, consider or rely upon any of these forecasts or projections in developing and implementing policies relating to shale gas exploration and development in the UK.
Industry sources	Certain reports containing forecasts and projections of potential economic and environmental benefits deriving from shale gas projects in the UK have been produced or commissioned by organisations or entities that have an interest in the development of a UK shale gas industry. Reports produced by UKOOG, in particular, including any figures, estimates, projections and statements contained therein, are intended to promote the UK oil & gas industry.

Key risks (continued)

A. UK investments of AJL including Cuadrilla (continued)

Inability to meet exploration licence funding obligations - AJL direct interests	Cuadrilla is the operator of the PEDL 165, and under the joint operating agreements between the owners of the licences Cuadrilla prepares the budget for exploration of these areas which is then approved by the joint operating committee. If AJL fails to make its required contributions to project expenditures in a timely manner, it is exposed to the risk that it may lose its direct interests in these licences by way of the forfeiture provisions under the joint operating agreements that govern the joint ventures.
AJL's inability to meet funding obligations - AJL *indirect* interests	Under the Cuadrilla Shareholders Agreement, AJL may be called upon to make further capital contributions to Cuadrilla. If AJL is not able to meet its equity funding obligations in Cuadrilla, it is likely that its ownership in Cuadrilla would be diluted, affecting the value of its shareholding in Cuadrilla.
Funding risk – Cuadrilla and Cuadrilla operated licences	In the event that Cuadrilla is unable to raise funding, as required, from its shareholders (AJL, Riverstone and Cuadrilla management) or from the partners in licences that it operates, Cuadrilla may not be able to execute its development plans for its assets (notably, the Bowland licence), either in part or at all, unless funding is obtained through other sources.
Centrica farm-out agreement	Under the terms of the June 2013 farm-in agreement with Centrica plc (Centrica) and subsequent amendments to it, Centrica agreed to fund a contingent carry amount of £46.7 million (in addition to an initial carry amount of £60 million which has been fully utilised) to be applied against various appraisal and development activities on the Bowland licence, subject to certain operational milestones being met by Cuadrilla. Under the agreement, Centrica also holds a put option to sell back its equity interest in the Bowland licence to Cuadrilla and AJL for a nominal consideration. In the event that Centrica exercises the put option, the contingent carry amount would be forfeited.

Key risks (continued)

B. Lucas Drilling Services and the markets in which it operates

<table>
<tr><td>Commercial, financial and operational risks</td><td>a) As a business operating in the drilling industry, AJL faces general commercial risks, including the loss of major customers, competition and other causes of business interruption, each of which may have a material adverse effect on AJL. The development of new technologies which compete with AJL’s operations may also have a material adverse effect on AJL.
b) AJL is subject to, and seeks to manage, a number of contractual risks which include the following:
• AJL enjoys a number of contracts with long-term customers. In FY2019 two major customers accounted for approximately 75% of AJL’s gross consolidated revenue. A number of AJL’s drilling contracts contain a right for customers to terminate the contract at their convenience by providing notice to AJL. Under such arrangement customers are not required to state a reason for such termination nor are they required to attribute termination to any breach on the part of AJL. If any key customers reduce exploration or production or terminate the relationship, or if potential contracts are not awarded, this may have an adverse effect on the financial performance and/or financial position of AJL;
• contracts in the sectors in which AJL operates often contain penalty clauses and contractual disputes can potentially have a material adverse effect on AJL; and
• some projects depend on contractual rights to access sites owned or controlled by others and contractual disputes and other incidents affecting such access can cause disruption to AJL’s operations.</td></tr>
<tr><td>Resources sector risks</td><td>AJL’s Australian drilling division provides services to customers who extract and transport natural resources for sale, principally coking and thermal coal. The demand for these resources may be adversely affected by downturns in economic activity, competition from alternative sources of energy, technological developments in energy efficiency, changes in consumer behaviour, policy shifts towards lower carbon emissions and other environmental concerns, changes to competition policy and a large number of other factors outside the control of AJL. A fall in demand for the products of AJL's customers may reduce or delay levels of production, exploration and construction activity which may potentially have a material adverse effect on the levels of work that contractors such as AJL are able to win and may lead to existing contracts being reduced in scope. This may adversely affect the profitability, financial performance and prospects of AJL.</td></tr>
<tr><td>Counterparty (client) payment risk</td><td>In the ordinary course of business, AJL extends credit terms and relies on its clients for payments. Should a client enter financial distress or become insolvent, AJL may not be paid for work completed. Should a project cease mid-construction, AJL may find itself with an unexpected under-employed workforce to manage. Preliminary works on some projects are commenced prior to formal contracts being signed.</td></tr>
</table>

Key risks (continued)

B. Lucas Drilling Services and the markets in which it operates (continued)

Project delays	a) Delays to the commencement or completion of work on projects have occurred from time to time and may occur in the future due to a variety of reasons, including general market down-turns, reductions in commodity prices, commercial factors/client delays, changes in the scope of work, government restrictions, legal issues, supply of labour, scarcity of quality materials and equipment, lower than expected productivity levels, accidents, natural disasters, inclement weather conditions, land contamination, regulatory intervention, delays in necessary approvals, difficult site access and industrial relations issues. b) Delays may lead to cost increases, some or all of which may not be recoverable by AJL, and may also result in an obligation by AJL to pay compensation for late completion, often in the form of liquidated damages. Delays in the execution of projects may result in projects not achieving their forecast level of profitability.
Cost variation	a) AJL regularly enters into contracts for construction and services projects following a competitive tendering process. Certain services provided by AJL may be provided on a fixed price basis with limited entitlements to price adjustments. The amount AJL is entitled to as compensation for performing drilling services may be fixed for a particular activity, for example per meter drilled or per mobilisation to a new site, or may be fixed for delivery of a certain project. Failure by AJL to properly assess and manage project risks may result in cost overruns which could cause the project to be less profitable than expected or loss making. If any of the above were to occur, there may be an adverse impact on AJL's future financial performance and financial position. b) Further, in some contracts, AJL assumes the risk that sub-contractors do not perform to their contracts. Although replacement sub-contractors can generally be appointed quickly, there is no assurance that their price will be the same as or lower than the original sub-contractor.
Unapproved contract variation	a) In the ordinary course of business, AJL may submit a variation claim in relation to ongoing or completed projects in support of work that is out of scope from the original contract. Such a variation claim may involve negotiations with contractual counterparties. b) To the extent that AJL recovers less than expected on the variations, its financial performance may be materially adversely impacted.

Key risks (continued)

B. Lucas Drilling Services and the markets in which it operates (continued)

Natural disasters and seasonal weather conditions	Some of the areas in which AJL has operations, particularly its drilling operations in Queensland, may be adversely affected by seasonal weather conditions. AJL is seeking to incorporate, and in some cases has incorporated wet weather standby payments to mitigate risks associated with wet weather events, thereby underpinning the revenue stream. The impact (directly or indirectly) of events beyond AJL's control may adversely impact AJL's operational and financial performance.
Availability of skilled employees, equipment and resources	AJL operates in sectors which are technically demanding and utilises a range of specialised equipment. To operate effectively, the business needs to continue to source and commission new equipment as well as recruit, train and retain skilled employees to operate the specialised equipment. The availability or supply of skilled personnel and the necessary equipment can be relevant to AJL's future financial performance and growth. The drilling industry in which AJL operates is capital intensive. The operating and financial performance of that division is partly reliant on adequate capital investment. AJL's capital expenditure requirements may impact the cash flow available to service financing obligations and pay dividends. Incurred capital expenditure may or may not deliver the expected operational benefits and may have a material adverse effect on AJL.
Reputation and goodwill	There is significant goodwill vested in the company which may be adversely affected in a number of circumstances, including major breaches of workplace safety, litigation or accidents. Where such circumstances become known in its markets, there is a risk that AJL's goodwill may be damaged, including goodwill arising from AJL's reputation as a reliable and safe service provider. In addition, as with any listed company, AJL's share price may be affected by market sentiment.
Labour disputes	If any material disputes were to arise between AJL and its employees or sub-contractors, there would be potential for disruption to the operations of AJL. Any disruption may increase labour costs and availability and adversely impact revenue and profitability.
Occupational health and safety	AJL's operations are subject to a wide variety of stringent and complex laws, regulations and permit requirements, many of which relate to the protection of human health, safety and the environment. The laws and regulations exist at the local, state, national and supranational levels. AJL manages risks associated with the occupational health and safety of its employees, sub-contractors and others. It is possible for incidents resulting in injuries to occur which may result in expenses which are not covered by insurance or which are in excess of the amount insured or provided for, with a resultant impact on AJL's earnings.

Key risks (continued)

C. Other operational, financial and business risks

Debt facilities	a) The terms of the AJL's borrowing facilities include a number of events of default, including non-payment of any amount due under the facility and breach of financial covenants, which, if triggered, could require AJL to cure the event of default. If no cure is undertaken by AJL, AJL could be required to repay the outstanding commitments under the facility on demand from the lenders. b) If AJL is unable to repay or refinance its debt facilities upon maturity or in the event of a breach of covenant, AJL may have to seek further equity, dispose of assets or enter into new debt facilities on less favourable terms. These factors could materially adversely affect AJL's ability to operate its business and to fund capital expenditure and could materially adversely affect the financial performance of AJL. In such circumstances there is no guarantee that AJL will be able to refinance AJL's debt or obtain terms consistent with its current debt facilities.
Additional funding requirements and financing risk	a) The Company's ability to service its debt will continue to depend on its future performance, which may be affected by many factors, some of which may be beyond AJL's control and that of the Directors. Any inability of AJL to service its debt may have a material adverse effect on AJL. b) The inability to obtain additional finance from capital markets, if required, could have a material adverse effect on AJL's operations and its financial condition and performance.
Environmental	a) Environmental laws and regulations in Australia and abroad can affect the operations of businesses, including AJL and entities in which it has an interest. These regulations provide penalties and other remedies for any violation of laws and regulations and, in certain circumstances, impose obligations to undertake remedial action. In common with other businesses in the energy and resources sectors, there is a risk that significant damages or penalties might be imposed on AJL or an entity in which it has an interest, including for certain discharges into the environment, effects on employees, sub-contractors and customers or as clean up costs. b) Private entities, including the owners of properties upon which AJL's wells (or the operations of an entity in which AJL has an interest) are drilled and facilities where AJL's waste materials are taken for reclamation or disposal, may have the right to pursue legal actions to enforce compliance as well as to seek damages for non-compliance with environmental laws and regulations or for personal injury or property damage. In addition, the risk of accidental spills or releases of gas or hazardous materials could expose AJL to significant liabilities. Any significant increase in the costs of compliance with, or the liabilities and costs associated with any failure to comply with, environmental and operational safety laws and regulations could have a material adverse effect on AJL's business, prospects, and financial condition.
Currency risk	A substantial proportion of AJL's sales revenue, expenditures and cash flows are generated in Australian dollars. However, AJL is exposed to foreign currencies through its funding obligations to Cuadrilla and the Bowland licence joint venture which are expressed in both USD and GBP. In addition, its subordinated debt facility is denominated in USD. Any adverse exchange rate fluctuations or volatility in such foreign currencies could have an adverse effect on AJL's commitment to fund its financial obligations to Cuadrilla and the Bowland joint venture and/or repay its debt which could adversely impact its future financial performance and position.

Key risks (continued)

C. Other operational, financial and business risks (continued)

Reliance on Key Personnel	Like other companies, AJL's performance is dependent on the ability of its senior executives and key personnel to manage and grow its business and respond to customers' needs. The loss of the services of its senior executives or key personnel, or a loss of the ability to continue to attract and retain qualified and competent employees, could have a material adverse effect on AJL's operations and financial results. Continuity and retention of staff is important for customer retention and ongoing customer negotiations. A change of staff or resourcing issues could affect ongoing relationships with various parties connected to AJL.
Litigation and legal risks	Litigation risks to AJL include, but are not limited to, claims from various parties, including employees, suppliers, customers and other contractual counterparties, government and special interest groups, as well as claims in relation to environmental matters, accidents and other commercial matters. To the extent that such risks are not covered by insurance, then any of an adverse outcome in litigation, the cost of responding to potential, threatened or actual litigation, or the disruptive effect of disputes may have a material adverse impact on the financial performance of AJL.
Carrying value of investments in Cuadrilla and UK licences	AJ Lucas's indirect investments are held through the Group's interest in its equity accounted investee, Cuadrilla, and its direct investments in UK licences are held through the Group's explorations assets. AJ Lucas has an accounting and impairment policy of reviewing non-financial assets at a minimum at each balance date (half year and full year) to determine whether there is any indication of impairment and if any such indication exists, the estimate of the asset's recoverable amount. These reviews are undertaken using the relevant accounting standards, applying AASB 128 Investments in Associates and Joint Ventures, AASB6 Exploration for and Evaluation of Mineral Resources and AASB 136 Impairment of Assets for the respective assets. The next review will be finalised as part of the 31 December 2019 half year financial close.

Key risks (continued)

D. Risks relating to investing in the New Shares

Market conditions	The market price of shares can fall, as well as rise, and may be subject to varied and unpredictable influences. Neither AJL nor the Directors warrant the future performance of either the New Shares, AJL or any return on an investment in AJL.
Liquidity	a) There can be no guarantee that an active market in AJL's shares on ASX will exist at all times. There may be relatively few or many potential buyers or sellers of AJL's shares on the ASX at any given time. This may increase the volatility of the market price. It may also affect the market price at which shareholders are able to sell their shares. This may result in shareholders receiving a market price for shares that is less or more than the Offer Price for New Shares. b) Liquidity in AJL shares has typically been low and there can be no assurance that liquidity will improve.
Future issue of securities of AJL	It is possible that AJL may require further financing in addition to the amounts raised under the Offer. Any additional equity financing may dilute shareholdings, and any debt financing, if available, may involve restrictions on financing and operating activities. Any inability to obtain additional finance, if required, could have a material adverse effect on AJL's operations and its financial condition and performance.
Dilution risk	Investors who do not participate in the Offer, or who do not take up all of their entitlement under the Offer, will have their investment in AJL diluted and receive no value for their entitlement.

Selling Restrictions

Selling restrictions

International Offer Restrictions

This document does not constitute an offer of New Shares in any jurisdiction in which it would be unlawful. In particular, this document may not be distributed to any person, and the New Shares may not be offered or sold, in any country outside Australia except to the extent permitted below.

Cayman Islands

No offer or invitation to subscribe for New Shares may be made to the public in the Cayman Islands.

Hong Kong

WARNING: This document has not been, and will not be, registered as a prospectus under the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong, nor has it been authorised by the Securities and Futures Commission in Hong Kong pursuant to the Securities and Futures Ordinance (Cap. 571) of the Laws of Hong Kong (the "SFO"). No action has been taken in Hong Kong to authorise or register this document or to permit the distribution of this document or any documents issued in connection with it. Accordingly, the New Shares have not been and will not be offered or sold in Hong Kong other than to "professional investors" (as defined in the SFO and any rules made under that ordinance).

No advertisement, invitation or document relating to the New Shares has been or will be issued, or has been or will be in the possession of any person for the purpose of issue, in Hong Kong or elsewhere that is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to New Shares that are or are intended to be disposed of only to persons outside Hong Kong or only to professional investors. No person allotted New Shares may sell, or offer to sell, such securities in circumstances that amount to an offer to the public in Hong Kong within six months following the date of issue of such securities.

The contents of this document have not been reviewed by any Hong Kong regulatory authority. You are advised to exercise caution in relation to the offer if you are in doubt about any contents of this document.

Selling restrictions (cont.)

New Zealand

This document has not been registered, filed with or approved by any New Zealand regulatory authority under the Financial Markets Conduct Act 2013 (the "FMC Act").

The New Shares are not being offered to the public within New Zealand other than to existing shareholders of the Company with registered addresses in New Zealand to whom the offer of these securities is being made in reliance on the FMC Act and the Financial Markets Conduct (Incidental Offers) Exemption Notice 2016.

Other than in the entitlement offer, the New Shares may only be offered or sold in New Zealand (or allotted with a view to being offered for sale in New Zealand) to a person who:

- is an investment business within the meaning of clause 37 of Schedule 1 of the FMC Act;
- meets the investment activity criteria specified in clause 38 of Schedule 1 of the FMC Act;
- is large within the meaning of clause 39 of Schedule 1 of the FMC Act;
- is a government agency within the meaning of clause 40 of Schedule 1 of the FMC Act; or
- is an eligible investor within the meaning of clause 41 of Schedule 1 of the FMC Act.

Singapore

This document and any other materials relating to the New Shares have not been, and will not be, lodged or registered as a prospectus in Singapore with the Monetary Authority of Singapore. Accordingly, this document and any other document or materials in connection with the offer or sale, or invitation for subscription or purchase, of New Shares, may not be issued, circulated or distributed, nor may the New Shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore except pursuant to and in accordance with exemptions in Subdivision (4) Division 1, Part XIII of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA"), or as otherwise pursuant to, and in accordance with the conditions of any other applicable provisions of the SFA.

This document has been given to you on the basis that you are (i) an existing holder of the Company's shares, (ii) an "institutional investor" (as defined in the SFA) or (iii) an "accredited investor" (as defined in the SFA). In the event that you are not an investor falling within any of the categories set out above, please return this document immediately. You may not forward or circulate this document to any other person in Singapore.

Any offer is not made to you with a view to the New Shares being subsequently offered for sale to any other party. There are on-sale restrictions in Singapore that may be applicable to investors who acquire New Shares. As such, investors are advised to acquaint themselves with the SFA provisions relating to resale restrictions in Singapore and comply accordingly.

Selling restrictions (cont.)

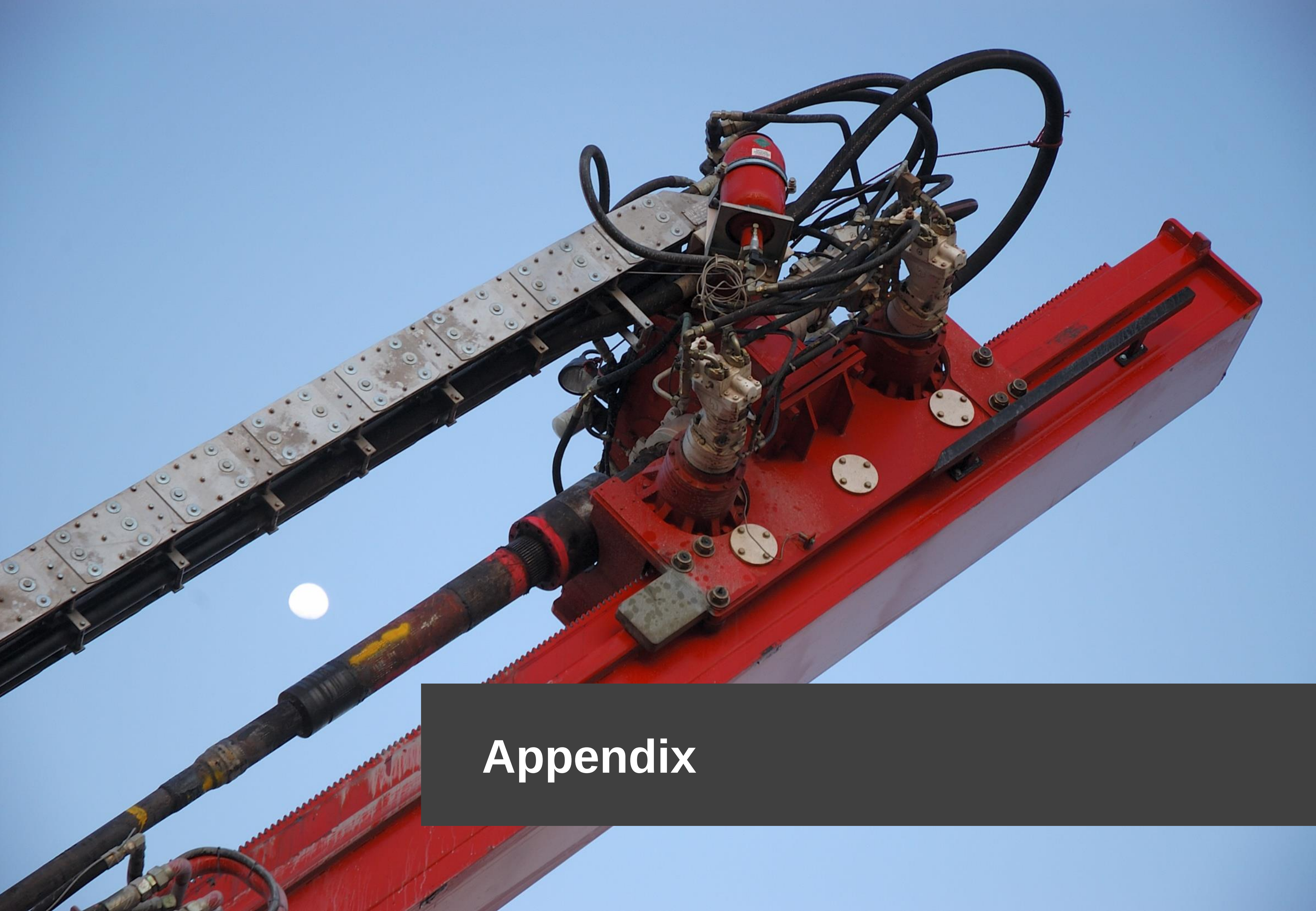
United Kingdom

Neither this document nor any other document relating to the offer has been delivered for approval to the Financial Conduct Authority in the United Kingdom and no prospectus (within the meaning of section 85 of the Financial Services and Markets Act 2000, as amended ("FSMA")) has been published or is intended to be published in respect of the New Shares.

This document is issued on a confidential basis to "qualified investors" (within the meaning of section 86(7) of the FSMA) in the United Kingdom, and the New Shares may not be offered or sold in the United Kingdom by means of this document, any accompanying letter or any other document, except in circumstances which do not require the publication of a prospectus pursuant to section 86(1) of the FSMA. This document should not be distributed, published or reproduced, in whole or in part, nor may its contents be disclosed by recipients to any other person in the United Kingdom.

Any invitation or inducement to engage in investment activity (within the meaning of section 21 of the FSMA) received in connection with the issue or sale of the New Shares has only been communicated or caused to be communicated and will only be communicated or caused to be communicated in the United Kingdom in circumstances in which section 21(1) of the FSMA does not apply to the Company.

In the United Kingdom, this document is being distributed only to, and is directed at, persons (i) who have professional experience in matters relating to investments falling within Article 19(5) (investment professionals) of the Financial Services and Markets Act 2000 (Financial Promotions) Order 2005 ("FPO"), (ii) who fall within the categories of persons referred to in Article 49(2)(a) to (d) (high net worth companies, unincorporated associations, etc.) of the FPO or (iii) to whom it may otherwise be lawfully communicated (together "relevant persons"). The investments to which this document relates are available only to, and any offer or agreement to purchase will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this document or any of its contents.



Appendix

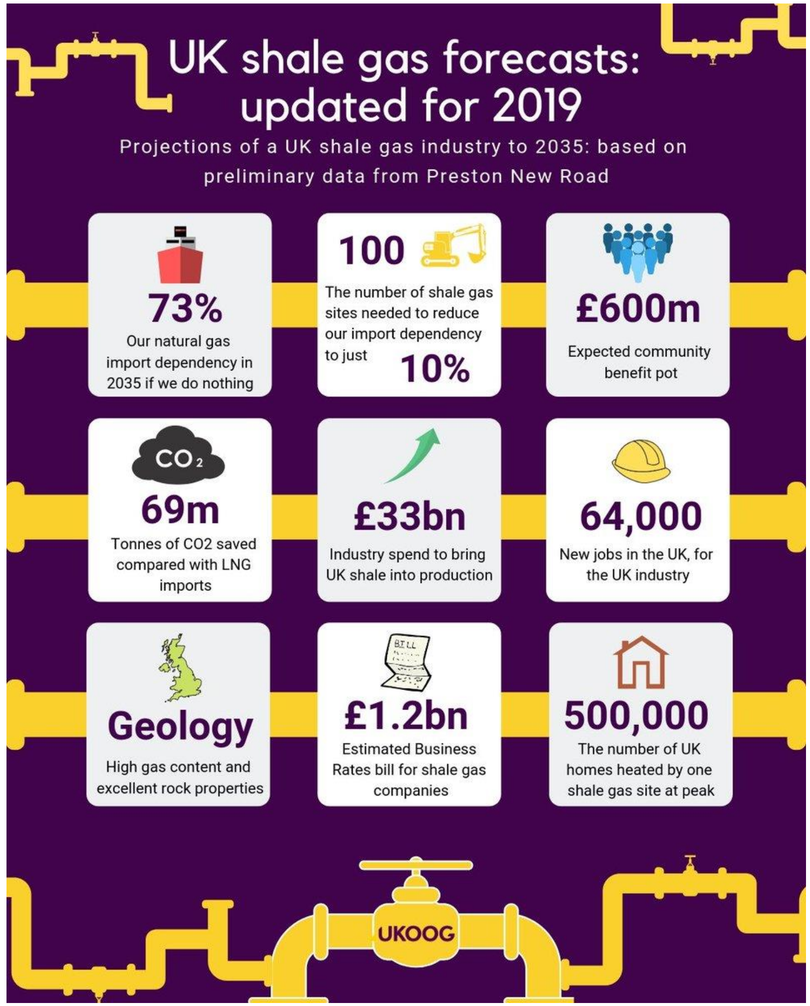
1. AJ Lucas direct and indirect licence interests

Licence	Sq. km	Cuadrilla interest	AJL interest	Other licence holder interests		Cuadrilla net licence area (sq. km)	AJL effective licence area (sq. km)
Bowland - Lancashire region							
PEDL 165	1,065	51.25%	23.75%	Spirit Energy	25%	546	513
EXL 269	55	53.5%	23.75%	Spirit Energy	22.75%	29	27
Bowland - Yorkshire region							
PEDL 276	192	100%	-			192	92
PEDL 287	200	70%	-	INEOS	30%	140	67
PEDL 288	200	70%	-	INEOS	30%	140	67
PEDL 290	88	100%	-			88	42
PEDL 333	152	100%	-			152	73
PEDL 342	100	70%	-	INEOS	30%	70	33
PEDL 346	185	70%	-	INEOS	30%	130	62
PEDL 347	156	100%	-			156	74
Total Bowland	**2,391**					**1643**	**1050**
South of England							
PEDL 244	154	56.25%	18.75%	Angus Energy	25%	87	70
EXL 189	45	96%	-	Altwood Petroleum	4%	43	21
Total non-Bowland	**199**					**130**	**91**
Total licences	**2,590**					**1,773**	**1,140**

Note: Total AJL effective licence area of 1,140 sq. km includes 295 sq. km attributable to AJL direct stakes in PEDL 165, EXL 269 and PEDL 244; remaining 846 sq. km attributable to AJL's 47.7% holding in Cuadrilla

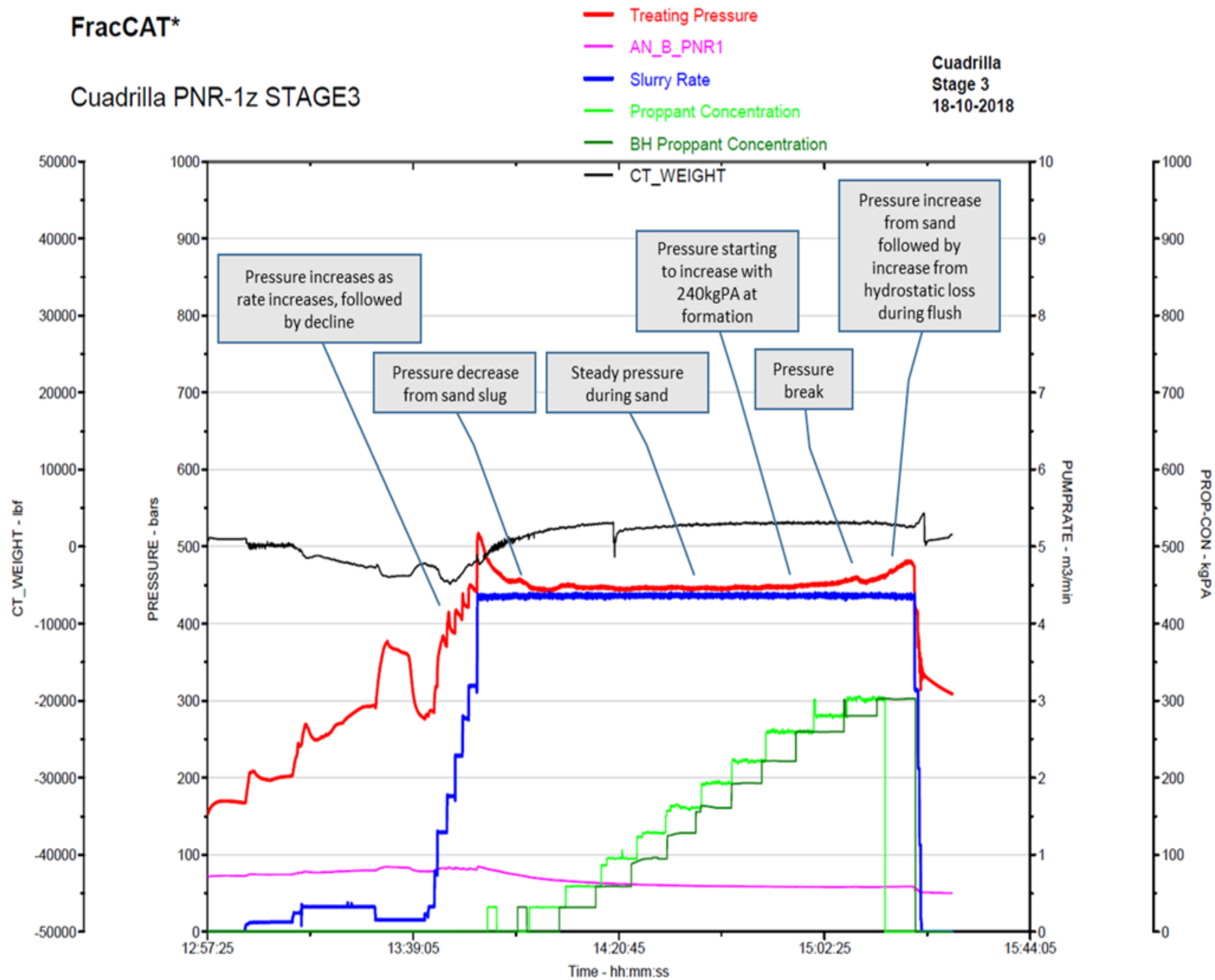
Source: OGA

2. Benefits of UK shale gas - economic



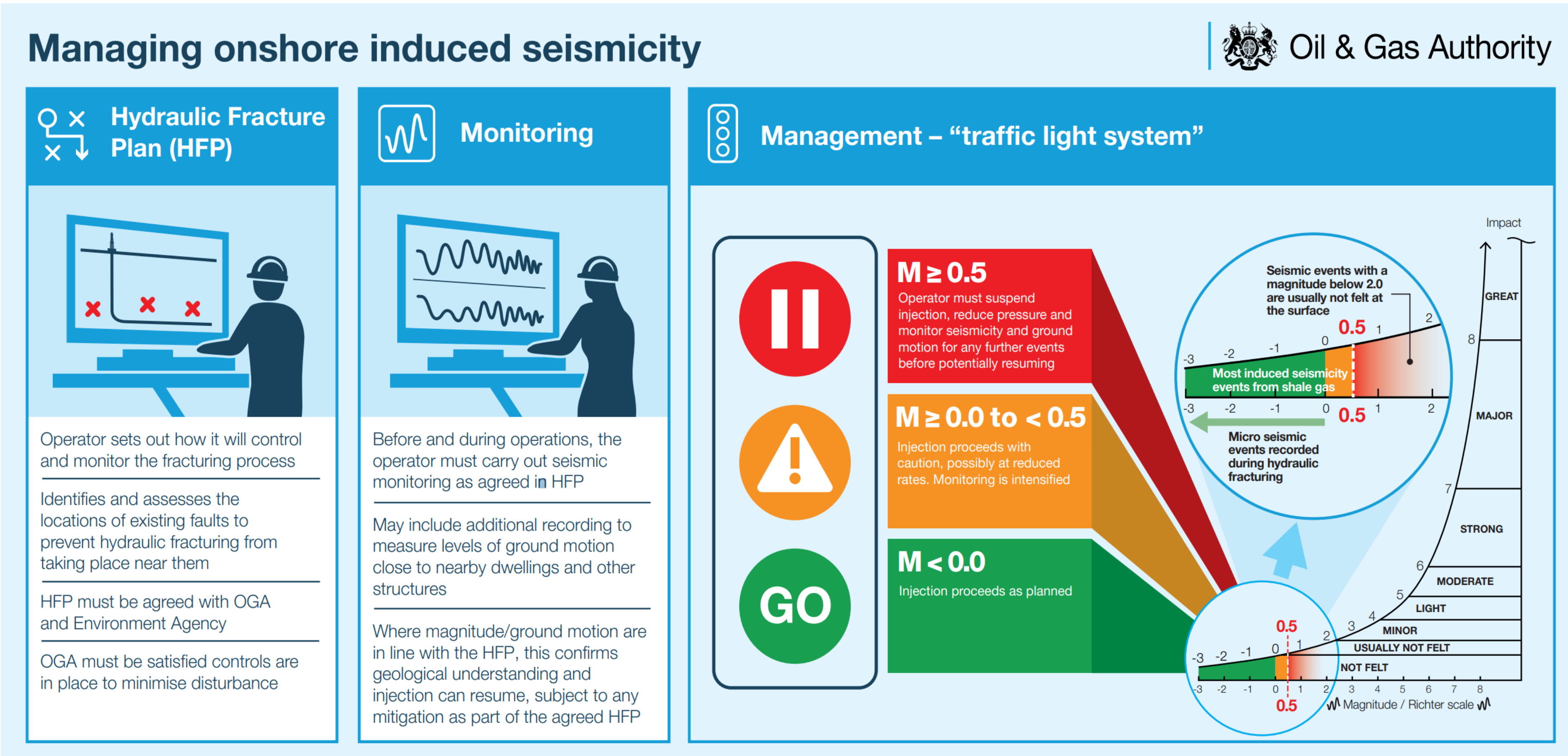
Source: UKOOG

3. Depiction of successful fracturing of Sleeve 3



Source: Cuadrilla management

4. Traffic Light System



Source: OGA