EDISON

Hurricane Energy

Interim CEO to reset activity programme

Operational update

Oil & gas

Hurricane has announced the resignation of Dr Robert Trice as CEO. Beverley Smith has been appointed as interim CEO and will oversee a thorough review of all available data, which will inform the future activity programme to increase production while maintaining capital discipline. Production from the Lancaster early production system (EPS) is relying on the deliverability of the 205/21a-6 well following Hurricane's unexpected shut-in of 205/21a-7z in May 2020. Full-year guidance has been suspended, with the 205/21a-6 well presently producing at c 12,000bod. Production from 205/21a-6 will be increased over the coming weeks and months, although the optimal rate will be heavily dependent on the ongoing response of the reservoir. Our risked valuation has decreased to 37.1p/share from 70.4p/share (-47%) as we adjust our Lancaster EPS production profile and timing and capex allocation of future developments. Our core NAV now stands at 13.6p/share (-38%).

Year end	Revenue ($m)	EBITDA ($m)	Operating cash flow ($m)	Capex* ($m)	Net debt/ (cash) ($m)
12/18	0.0	(12.6)	(4.4)	(209.9)	99.5
12/19	170.3	(11.7)	112.2	(55.4)	38.2
12/20e	156.1	47.7	62.8	(17.0)	(10.6)
12/21e	171.0	65.3	51.1	(91.9)	30.2

Note: *Capex is net of carried investment by Spirit Energy.

205/21a-6: Cautious opening up to higher rate

Unless and until a remedial option can be achieved at 205/21a-7z, production from Lancaster is entirely dependent on the 205/21a-6 well continuing to deliver. Hurricane has opened up the well to c 12,000bod, but any further increase will be dependent on the reservoir response. The well has excellent productivity and a water cut of c 8% but has not been tested much beyond 14,000bod. We are currently modelling production at 12,000bod as the company assesses single well production performance and reservoir behaviour.

Technical review to drive forward programme

Beyond establishing the optimal rate for 205/21a-6, the forward activity programme will depend on the outcome of a review of all available information, which will re-examine all possible geological and reservoir models. This will include a review of the water production model, given that the wells have exhibited higher water cuts than originally expected.

Valuation: Core NAV at 13.6p/share

Our risked valuation decreases by 47% to 37.1p/share, or 13.6p/share excluding any value beyond Lancaster EPS. We have updated our Lancaster EPS production profile following the 205/21a-7z well shut-in, announced two days after we published our latest outlook note. Hurricane suspended previous 2020 production guidance and we now assume an average of 12,800kbod for the year. In this note we also adjust the timing of Hurricane's future developments as a consequence of the 205/21a-7z well shut-in and the postponement of commitments to drill and plug & abandon (P&A) in the Greater Warwick Area (GWA).

16 June 2020

Price	**6.9p**
Market cap	**£138m**
	US$1.28/£
Net debt ($m) at 31 December 2019	38.2
Shares in issue	1,991.9m
Free float	81%
Code	HUR
Primary exchange	AIM
Secondary exchange	N/A

Share price performance

%	1m	3m	12m
Abs	(39.1)	(29.8)	(87.7)
Rel (local)	(42.2)	(37.5)	(85.3)
52-week high/low		56.4p	6.6p

Business description

Hurricane Energy is an E&P focused on fractured basement exploration and development in the West of Shetland region. The company's 100%-owned Lancaster oil discovery (523mmbbl 2P reserves + 2C resources) achieved first oil on target in H119.

Next events

Lancaster CPR	Early 2021
Lincoln Crestal P&A	Up to Q221
Lancaster commitment well	Up to 2021
Lincoln commitment well	Up to Q222

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Lancaster EPS reset: Technical review to establish activity programme

In this update, we look at our expectations for production at the Lancaster EPS over the coming months in light of Hurricane's decision to shut-in the 205/21a-7z well and the resulting decrease in the production rate from the field. Together with the appointment of Beverly Smith as interim CEO, this will lead to a reset of the forward activity programme, based on a thorough review of all available data, which could see changes to the existing geological and reservoir models. In particular, given the water production from the Lancaster wells to date, the possibility of a shallower oil water contact (OWC) will be reviewed.

At present, production from 205/21a-6 has been increased to c 12,000bod. However, the EPS is now entirely dependent on the continuing performance of the well and we expect the company will exercise caution as it looks to optimise a sustainable rate. In addition, there are a number of remedial options available for 205/21a-7z that will be reviewed based on the ongoing performance of the reservoir.

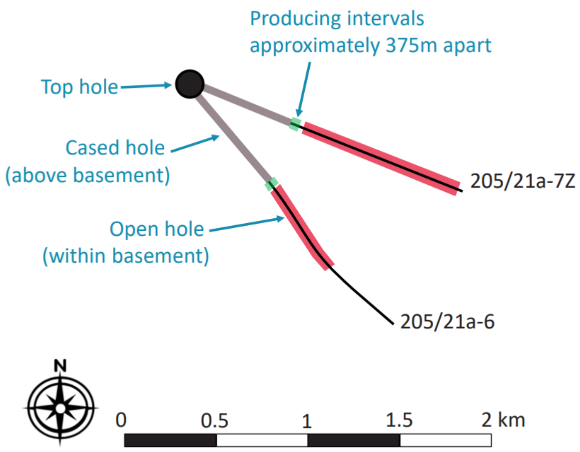
In the GWA, the Oil and Gas Authority (OGA) has extended the deadlines for the Lincoln commitment well to 30 June 2022 and the P&A of the Lincoln Crestal well to 30 June 2021. A response from the OGA for approval of field determination over the Lincoln structural closure is expected by the end of June 2020. If approved, and subject to further consents, it may not be necessary to P&A Lincoln Crestal, which could then be tied-back as a producer to the Aoka Mizu.

205/21a-7z shut-in: Significantly reduced EPS production

The EPS had been cautiously ramping up production to a combined target rate from the two Lancaster wells of up to 20,000bod (excluding downtime) and performance was sufficiently encouraging for Hurricane to have provided a forward production guidance of net 18,000bod at the company's capital market day in April 2020.

During May 2020, however, the 205/21a-6 well was opened up further as part of the next stage in increasing production from the field. This resulted in flow instability in the 205/21a-7z well to an extent that the company decided to shut-in the 205/21a-7z and to only produce from 205/21a-6 for the time being. The producing intervals in the two wells are located approximately 375m apart, and this, together with the high productivity from the producing fracture zone (located at the heel of each well) has resulted in the two wells interfering with each other instantaneously.

Exhibit 1: Lancaster interference between wells



Source: Hurricane Energy

Based on the available information, we suggest the increased drawdown experienced in the 205/21a-6 well is likely to have also been seen at the 205/21a-7z location and that this, combined with the high water-cut in the well (46% reported for April 2020), resulted in the flow instability. Because electrical submersible pumps (ESPs) have been installed in both wells, it would be possible to continue to produce from 205/21a-7z once these have been commissioned (currently scheduled for H220), however any decision on this will be dependent on the ongoing data gathering and technical review.

Technical review to revisit reservoir interpretation, including water production mechanism

Interim CEO Beverley Smith has extensive subsurface and development experience and will oversee a review of all available data, which will inform the future activity programme that focuses on the need to increase production while maintaining capital discipline. The programme will be formulated based on a review of all available data to be carried out by the Technical Committee of the board, and which will re-examine all possible geological and reservoir models. This will include acknowledging that the water cuts experienced in the Lancaster production wells have been higher than expected. The perched water interpretation will be revisited and the possibility of a shallower OWC investigated. Any revised interpretations will be factored into the updated CPR due to be released by the end of Q121.

Next step at 205/21a-6: Find optimal sustainable rate

Production from Lancaster is now dependant on the continuing performance of 205/21a-6 and Hurricane will proceed cautiously to establish an optimal sustainable rate from the well. The well had been producing with a water cut of c 8% and at c 10,300bod while the reservoir was allowed to rebalance following the flow instability and subsequent shut-in at 205/21a-7z. On 5 June 2020, 205/21a-6 was opened up further to a production rate of c 12,000bod, and the resulting reservoir response will be monitored closely and for as long as deemed necessary before progressing further. The well has not previously been tested much beyond 14,000bod at a stable rate, although it was initially tested at 16,500bod during the EPS start-up phase. Given the imperative of securing ongoing production from this well, we take a cautious estimate for near term production, and assume a base rate of 12,000bod.

The flowing bottom hole pressure (BHP) to date has been lower than modelled pre-start up and by increasing the drawdown in the well to achieve this higher rate it is possible that the bottom hole pressure (BHP) could approach bubble point (the last reported BHP was 150psi above bubble point). Should this occur, Hurricane believes that the resulting liberated gas will move to a gas cap given the high angled nature of the fractures.

Next steps at 205/21a-7z: Range of remedial options

The company's focus is on prudently increasing production in the 205/21a-6 well. However, there are a number of options that could be considered to potentially bring the 205/21a-7z well back into production. We caution that a decision to proceed with any of these options is dependent on the outcome of any revised geological and reservoir models that emerge from the technical review.

- Re-start production through ESP.
- Re-complete the well with water producing fracture isolated.
- Side-track the well.
- Drill an entirely new well.

ESP commissioning is already planned for H220. A recompletion would allow for the fracture zones to be isolated with a slotted liner and swell packers, so that the water production from the heel could be sealed off. We note that the toe of the well sits c 79m deeper than the heel, so that this option would be less attractive in the event of a shallower OWC model. We estimate that such a recompletion could be carried out for c $35m.

A side-track or a new well would each have the benefit of moving the producing reservoir interval further away from the 205/21a-6 well than at present and thereby minimising or removing the interference between the two wells, while allowing for a shallower horizontal section if required. If a new well is drilled, it would effectively remove the need for the potential Lancaster-8 well which we previously estimated to come onstream in Q122.

GWA: Awaiting Lincoln field determination approval

The GWA joint venture (JV) has applied to the OGA for approval of field determination over the Lincoln structural closure, an area that may be able to be used for tie-back of the Lincoln Crestal well or an alternative shallower producer. These would be subject to further consents and require additional applications. If the application is successful, the Lincoln Crestal P&A would not be necessary. If, however, this option is not approved, the JV would consider an alternative horizontal producer for tie-back. Hurricane expects a response from the OGA by the end of June 2020.

The OGA demonstrated its flexibility recently when it did allow the extension of the deadline for the P&A of Lincoln Crestal to 30 June 2021 and for the Lincoln commitment well to 30 June 2022, due to the implications of COVID-19 on operations.

Valuation

We value Hurricane's asset base using a conventional risked net asset value (NAV) approach, based on a risked valuation for proven reserves, and contingent and prospective resources. Key assumptions include estimates of production profiles, asset development costs and operational costs, in addition to realised commodity prices.

Ongoing production from single 205/21a-6 well

We have updated our forecasts and NAV to reflect Hurricane's current production setting. As announced by the company on 22 May 2020, year-to-date production stood at 15,500bod. Given that production from the 205/21a-7z well is shut-in for the time being and that the company is evaluating different solutions to increase the Lancaster EPS production, we assume as a base case scenario, until further guidance, that the 205/21a-7z well remains shut-in. We assume a conservative production from the 205/21a-6 well at 12,000bod. We maintain our conservative estimate of an uptime of 90%, although operating uptime averaged 96% since start-up. This would lead to a 2020 average daily production of c 12,800bod and an average production of 10,800bod going forward. Hurricane is studying different approaches to bring production to bring Lancaster EPS to 20,000bod and once we have a confirmation on the next steps, we will update our valuation accordingly.

As a consequence of the issues experienced at 205/21a-7z and its subsequent shut-in, we decrease our chance of success for Lancaster Full Field Development (FFD) from 81% to 30% with a geological chance of success of 60% and a commercial chance of success of 50%. We also move our estimated date of first oil to 2028. Hurricane has yet to decide on how to potentially bring the 205/21a-7z well back into production and would then need to gather and analyse data from the new approved solution before taking any decision on a Lancaster FFD. The company also is considering whether to drill Lancaster-8 to provide more data ahead of Lancaster FFD final investment decision (FID). We now estimate Lancaster-8 being drilled in 2022 with first oil in 2023.

As we estimate Lancaster FFD to be sanctioned only once Lancaster-8 data gathering and analysis is completed, and the farm-down process concluded, we believe first oil date would not be achieved before 2028. We continue to assume that the farm-in partner would buy-in and carry Hurricane at a 20% IRR, however, given our updated estimate on first oil and capex allocation timing and mid-case pricing assumptions of $50/bbl in 2020 escalated at 2.5%, we expect Hurricane's working interest to decrease to 30% versus our previous estimate of 46% for Lancaster FFD. This would stand at c 40% working interest in our high-case scenario. We expect to have further details on Lancaster volumetric review including a CPR in early 2021, reporting reserves and resources at 31 December 2020.

In the GWA, with the OGA allowing the drilling of the commitment well until 30 June 2022, we do not expect first oil on a GWA FFD before 2028 given an FID on the development would most likely be pushed to 2025. We also decrease our chance of success for GWA FFD from 42% to 36% with a geological chance of success of 55% and a commercial chance of success of 65%.

We also revise our valuation to reflect our updated short-term Brent assumptions change from $34.1/bbl to $38.0/bbl in FY20, and from $47.8/bbl to $47.9/bbl in FY21, based on EIA forecasts as published on 9 June 2020. Our long-term oil price assumptions remain in line with our last note, in which we presented three different scenarios:

- Low case scenario with Brent in 2022 at $42.0/bbl, calculated from a 2020 Brent price of $40.0/bbl escalated at 2.5% per year.
- Mid-case scenario with Brent in 2022 of $52.5/bbl, calculated from a 2020 Brent price of $50.0/bbl escalated at 2.5% per year.
- High case scenario with Brent in 2022 of $63.0/bbl, calculated from a 2020 Brent price of $60.0/bbl escalated at 2.5% per year.

Given the current oil price volatility, we will continue to monitor market conditions closely and may revisit these assumptions in due course.

Exhibit 2: Changes to the short-term oil and top-line forecasts

	Actual	New		Old		Change	
	2019	2020	2021	2020	2021	2020	2021
Production (kbd)	7.6	12.8	10.8	17.0	17.0	-25%	-36%
Brent ($/bbl)	64.36	38.02	47.88	34.13	47.81	11%	0%
Revenue ($m)	170.3	156.1	171.0	183.9	268.7	-15%	-36%

Source: Edison Investment Research

Our mid-case risked valuation has decreased from 70.4p/share, or 21.9p/share excluding any value beyond Lancaster EPS, to 37.1p/share and 13.6p/share respectively. The NAV table below provides a breakdown of our current valuation by asset.

Exhibit 3: Edison breakdown of Hurricane NAV

				Recoverable reserves				Low case ($40/bbl)	Mid case ($50/bbl)	High case ($60/bbl)
Asset	**Country**	**Diluted WI**	**CCoS**	**Gross**	**Net**	**NPV/boe**	**Net risked value**	**Net risked value per share**		
		%	%	mmboe	mmboe	$/boe	$m	p/share	p/share	p/share
Net debt at 31 December 2019							(38)	(1.5)	(1.5)	(1.5)
SG&A (3 years)							(24)	(0.9)	(0.9)	(0.9)
E&A commitment wells							(65)	(2.5)	(2.5)	(2.5)
Lancaster EPS - 10years	UK	100%	100%	36	36	13.1	474	12.4	18.6	24.6
Core NAV				**36**	**36**		**347**	**7.5**	**13.6**	**19.7**
Lancaster early tie-back	UK	100%	30%	22	22	7.9	52	1.3	2.0	2.8
Lancaster FFD*	UK	30%	30%	425	127	5.6	212	6.2	8.3	10.4
GWA FFD (part carried)	UK	50%	36%	499	250	3.8	338	8.3	13.2	18.2
Total inc exploration RENAV				**536**	**286**		**949**	**23.2**	**37.1**	**51.2**

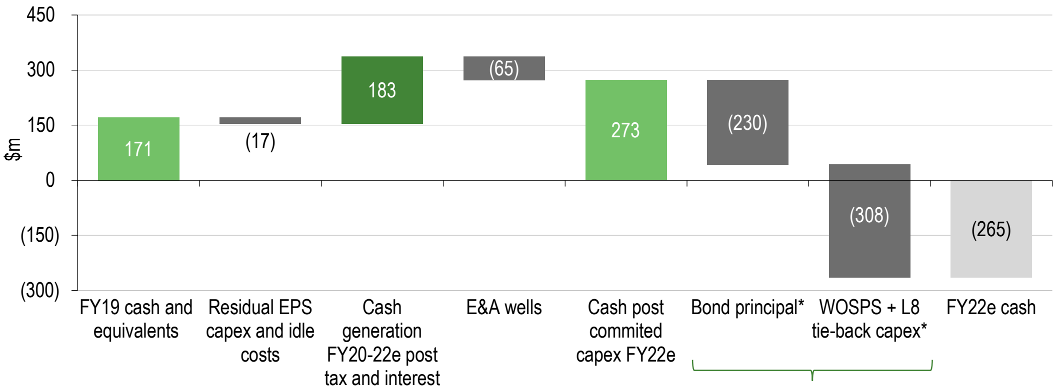
Source: Edison Investment Research. Note: Number of shares = 1,991.9m. *Assumes farm-down and carry, 20% IRR.

Our valuation now assumes 1,991.9m shares instead of the 2,434.2m used in our previous note, which had assumed conversion of the $230m convertible bond due in 2022. However, based on the current share price and our current valuation, and with a conversion price of $0.52/share this would be out of the money.

Financials

In this note we stress tested Hurricane's cash flow generation to FY22 and the company's ability to cover the Lancaster EPS residual capex, exploration & appraisal (E&A) commitment wells, convertible bond principal repayment and possibly Hurricane proceeding with the West of Shetland Pipeline System (WOSPS) installation on a sole basis and the Lancaster-8 well drilling and tie-back costs. At our current production and price estimates, the above-mentioned costs would not be all covered.

Exhibit 4: End FY19 to end FY22e cash flow bridge



Source: Edison Investment Research. Note: *There is room for renegotiation/timing allocation for these costs

We estimate Hurricane's cash position at the end of FY22 before WOSPS, Lancaster-8 development or debt repayment will be c $273m. The company has two years to renegotiate its bond and decide whether to proceed with the WOSPS on a sole basis ($120m) followed by Lancaster-8 development ($187.5m). If Hurricane is not able to renegotiate its debt and repays the $230m principal in 2022, the company would have to either postpone the WOSPS and Lancaster-8 tie-back (a combined cost of $308m) or find another solution to raise the necessary funds for these developments. The net cash position by year-end FY22, assuming debt repayment and Lancaster-8 development postponement would be c $43m under these assumptions. Under our low case commodity price scenario, the company would just about cover the bond repayment, post licence commitment costs. We calculate a break-even average price of $42.28/bbl from FY20 to FY22 for Hurricane to be able to cover residual EPS costs, E&A wells and the bond principal.

We highlight that short-term financial forecasts will be driven by the performance of the Lancaster EPS and the Brent price. Consequently, there is significant uncertainty in precise forecasts of revenue and cash flows. However, we expect Lancaster EPS cash flows to provide enough cash for licence commitments and appraisal of the short-term portfolio.

Exhibit 5: Financial summary

$m	2017	2018	2019	2020e	2021e
Year-end: 31 December	**IFRS**	**IFRS**	**IFRS**	**IFRS**	**IFRS**
PROFIT & LOSS					
Revenue	0.0	0.0	170.3	156.1	171.0
Operating Expenses	(14.6)	(12.7)	(118.9)	(190.6)	(173.8)
EBITDA	(14.6)	(12.6)	(11.7)	47.7	65.3
Operating Profit (before amort. and except.)	(14.6)	(12.7)	51.4	(44.5)	(12.8)
Exploration expenses	(10.4)	0.0	(66.5)	0.0	0.0
Exceptionals	10.4	(42.4)	34.7	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0
Operating Profit	(14.6)	(55.0)	19.7	(44.5)	(12.8)
Net Interest	7.6	(5.9)	(21.5)	(14.2)	(14.2)
Profit Before Tax (norm)	(7.0)	(18.5)	30.0	(58.7)	(27.0)
Profit Before Tax (FRS 3)	(7.0)	(60.9)	(1.8)	(58.7)	(27.0)
Tax	0.0	0.0	60.5	0.0	0.0
Profit After Tax (norm)	(7.0)	(18.5)	90.5	(58.7)	(27.0)
Profit After Tax (FRS 3)	(7.0)	(60.9)	58.7	(58.7)	(27.0)
Average Number of Shares Outstanding (m)	1,583.8	1,959.6	1,978.5	1,991.9	1,991.9
EPS - normalised (c)	(0.4)	(2.2)	(2.5)	12.9	13.9
EPS - normalised and fully diluted (c)	(0.4)	(2.2)	0.3	7.7	3.5
EPS - (IFRS) (c)	(0.4)	(3.1)	3.0	(2.9)	(1.4)
Dividend per share (p)	0.0	0.0	0.0	0.0	0.0
Gross Margin (%)	NA	NA	30.2	-22.1	-1.6
EBITDA Margin (%)	NA	NA	-6.9	30.6	38.2
Operating Margin (before GW and except.) (%)	NA	NA	30.2	-28.5	-7.5
BALANCE SHEET					
Fixed Assets	587.9	884.2	932.5	803.0	816.8
Intangible Assets	126.4	131.5	75.9	76.6	76.6
Tangible Assets	445.3	728.2	796.2	720.3	734.1
Investments	16.3	24.5	60.5	6.1	6.1
Current Assets	350.1	106.0	228.7	277.6	236.8
Stocks	1.4	4.6	9.9	9.9	9.9
Debtors	4.7	2.6	50.4	50.4	50.4
Cash	343.9	98.9	168.4	217.2	176.4
Other	0.0	0.0	0.0	0.0	0.0
Current Liabilities	(28.8)	(55.1)	(94.4)	(72.4)	(72.4)
Creditors	(28.8)	(55.1)	(94.4)	(72.4)	(72.4)
Short term borrowings	0.0	0.0	0.0	0.0	0.0
Long Term Liabilities	(226.7)	(307.0)	(375.8)	(375.8)	(375.8)
Long term borrowings	(191.1)	(198.4)	(206.6)	(206.6)	(206.6)
Other long term liabilities	(35.6)	(108.7)	(169.2)	(169.2)	(169.2)
Net Assets	682.5	628.1	691.1	632.4	605.4
CASH FLOW					
Operating Cash Flow	(8.1)	(4.4)	112.2	62.8	51.1
Cash tax paid	0.0	0.0	0.0	0.0	0.0
Capex	(265.7)	(209.9)	(55.4)	(17.0)	(91.9)
Acquisitions/disposals	0.0	0.0	0.0	0.0	0.0
Financing	322.3	163.4	13.1	0.0	0.0
Dividends	0.0	0.0	0.0	0.0	0.0
Net Cash Flow	48.5	(50.9)	69.8	45.8	(40.8)
Opening net debt/(cash)	(98.6)	(152.8)	99.5	38.2	(10.6)
HP finance leases initiated	0.0	0.0	0.0	0.0	0.0
Other	5.7	(201.4)	(8.6)	3.1	0.0
Closing net debt/(cash)	(152.8)	99.5	38.2	(10.6)	30.2

Source: Hurricane Energy, Edison Investment Research

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