Australian E&P Sector

6 October 2021

The Energy Crisis Handbook

The ASX 200 Energy index is up only 7% over the past six months, despite a 31% rally in Brent oil and a 285% rally in spot LNG over that timeframe. We see this presenting opportunities right throughout the domestic energy complex. The international energy crisis has, to date, only meaningfully impacted ASX large caps via increased spot LNG pricing. We expect flow-on effects to emerge in domestic gas and oil markets. Most leveraged names to this thematic include WPL, SXY, BLU, and HZN.

What's happening in international gas markets?

- Demand from reopening, underinvestment in new supply sources, and a premature transition to renewables have squeezed gas prices (Figure 1-4).
- Asian LNG and European gas prices are between US$30-35/mmbtu representing a 10-fold increase over 12 months (Figure 4). Equivalent domestic gas is ~A$35-40/GJ or ~4x current spot and contract gas pricing.
- Domestic LNG producers can re-direct gas otherwise set for the domestic market toward international markets to achieve favourable pricing; however, GLNG, QCLNG and APLNG are running at 75-95% capacity, indicating a tight market. We expect a tightening east coast spot market as a result.
- LNG spot prices imply energy equivalent oil prices of ~US$180/boe. Developing economies, including Bangladesh and Pakistan, have stopped buying LNG in favour of High Sulphur Fuel Oil (HSFO). This is likely to spread to other developing economies where cost constraints are often of greater importance than ESG considerations.

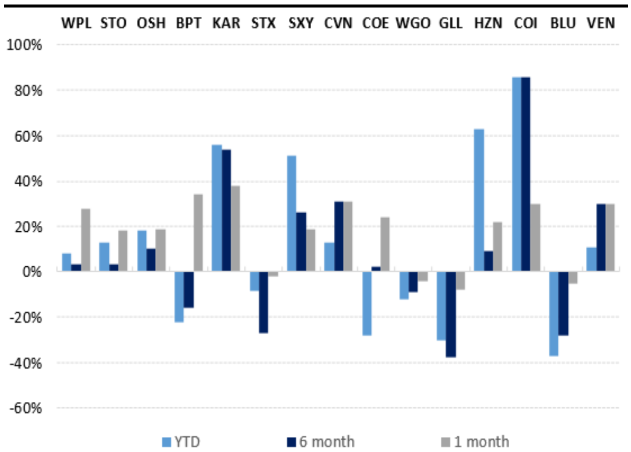
Where to go for ASX exposure

- **WPL –** Most sensitive to rising LNG spot prices – each US$10/mmbtu improvement in spot LNG equates to a 12% EBITDA uplift (Figure 14).
- **SXY –** Consistent performer with low risk growth up to 60PJ/yr. Contract coverage beyond FY25 at 15% (Figure 12) leaving upside to higher price environment. May benefit from future Index rebalancing.
- **BLU –** Large 4,000PJ resource, trading at A$0.40/boe (peers A$4.90/boe). MoU's with Origin (300PJ) and EnergyAustralia (100PJ). Full exposure to higher price regime. Low-risk appraisal program to commence Jun. Q '22. Most leveraged to government involvement in gas market. **BUY A$0.25/sh TP (+339% upside)**.
- **HZN** – Most leveraged to higher oil prices. Cheapest at 1.5x EBITDA vs. peers 5.5x (Figure 7). **BUY A$0.17/sh TP (+73% upside).**

	ASX	Price	Mkt Cap	EV
		A$ps	A$m	A$m
Large caps – >A$2Bn				
Woodside	WPL	25.08	23,880	28,570
Santos	STO	7.26	14,750	18,150
Oil Search	OSH	4.44	9,010	11,100
Beach	BPT	1.43	3,250	3,298
Mid caps – A$200m – A$2Bn				
Karoon	KAR	1.67	927	744
Senex	SXY	3.78	705	679
Strike	STX	0.25	536	471
Carnarvon	CVN	0.34	530	432
Cooper	COE	0.29	449	588
Warrego	WGO	0.21	263	203
Small caps - <$200m Mkt Cap				
Horizon	HZN	0.099	155	155
Galilee	GLL	0.475	139	121
Comet Ridge	COI	0.135	115	112
Blue Energy	BLU	0.055	84	70
Vintage	VEN	0.078	47	40

At market close on 5 October 2021

Share price performance of ASX E&P's (%)



Disclosure and Disclaimer
This report must be read with the disclosure and disclaimer on the final page of this document.

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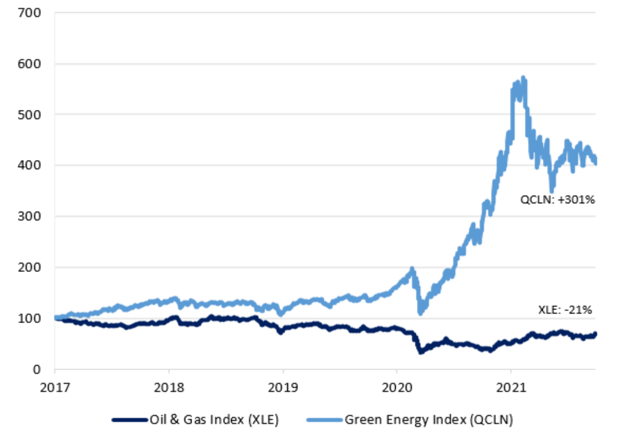
How did we get here?

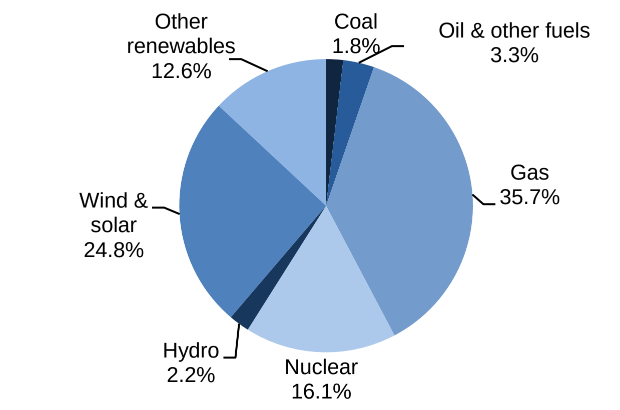
The rise to prominence of ESG related considerations has led to rapid growth in renewables investment at the expense of investment in traditional energy sources (Figure 1). In the UK, for example, wind, solar and hydro make up over 40% of its electricity mix (Figures 2, 3). The move toward renewables, creating structural underinvestment in new fossil fuel supply sources (Figure 3), is creating an energy squeeze (Figure 4).

Figure 1: E&P Index (XLE) vs Green Energy (QCLN)



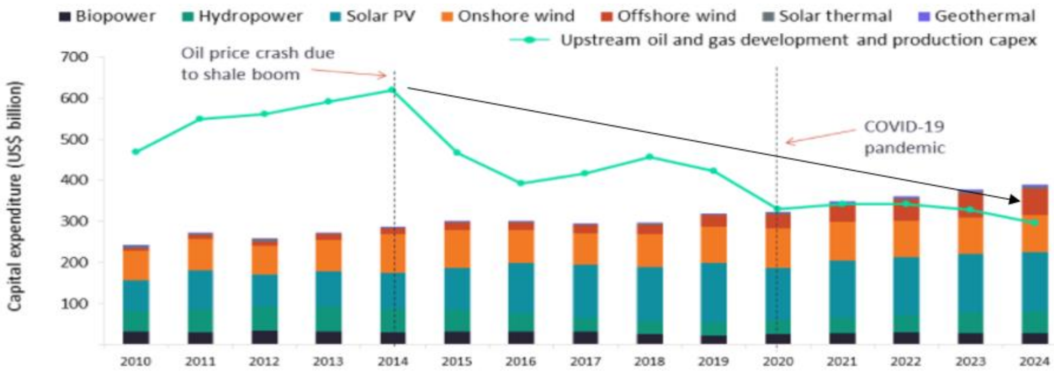
Source: Nasdaq, Bloomberg, Petra Capital

Figure 2: UK electricity mix



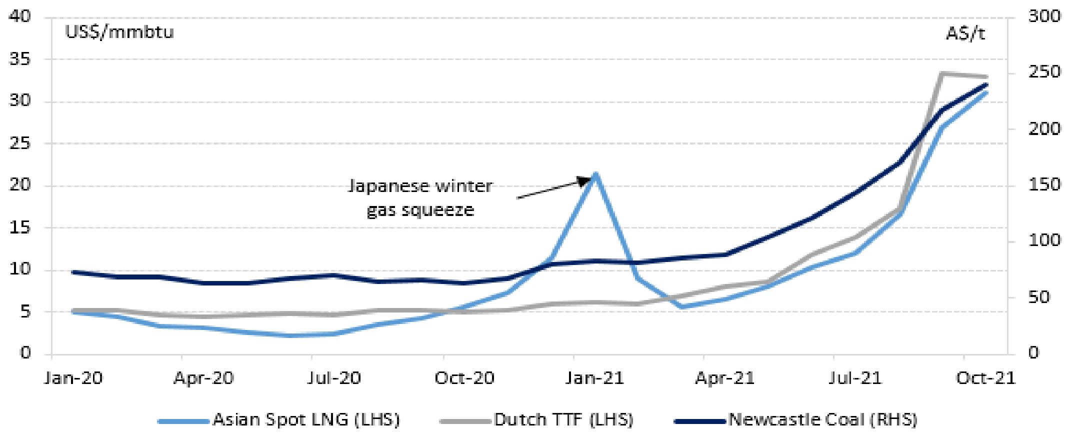
Source: Department for Business, Energy & Industrial Strategy

Figure 3: Investment in upstream oil & gas vs. renewables



Source: GlobalData

Figure 4: Asian Spot LNG & Dutch TTF (LHS); Newcastle Coal (RHS)



Source: IRESS, Petra Capital

Will this persist?

We believe the recent rally in international gas prices will continue for the foreseeable future. As shown in Figure 5 below, European gas inventories are marginally above 70% capacity, compared to a 10-year average of 90% for this time of year. Additional demand from a northern hemisphere winter may render current inventory levels insufficient to cater for heating requirements. Historically, European inventories typically peak in November and bottom out in March. For reference, the 10-year average for European gas inventories in November is ~92%, compared to ~30% in March. Ahead of peak demand season, prices will need to be elevated enough to create demand destruction to allow a buffer on inventories to be maintained during winter.

Unlike other temporary gas price spikes (e.g. Asia in Mar. Q '21), mass substitution is unlikely to take place this time around, as coal prices are also at all-time highs (Figure 4) and indications of a lack of coal feedstock are emerging in China and India. As such, rather than substitution acting as a headwind to gas prices, we expect tailwinds to emerge from coal to gas switching. Nevertheless, we do believe a switch to high sulphur fuel oil (HSFO) and diesel for electricity generation will take place, particularly in developing economies that favour cost economics over ESG considerations. We see this boosting refining margins and in turn improving crude oil demand.

In late September, Bloomberg reported that the Chinese central authority demanded its state-owned entities to acquire energy supplies at any cost to avoid blackouts. This is likely to spur additional demand for LNG in Asia and drag additional cargoes away from Europe, resulting in higher prices. Last week, China's Sinopec purchased several spot LNG cargoes at wide premiums to the European benchmark, indicating China's desire to acquire LNG.

Figure 5: European inventory levels by country - as at 30 September 2021

GAS DAY STARTED ON 30/09/2021 - 06:00:00 CET	GAS IN STORAGE TWh	FULL %
Europe	825.3304	74.63
Austria	50.8287	53.23
Belgium	7.7871	86.51
Bulgaria	4.4005	70.18
Croatia	4.7346	90.76
Czech Republic	30.6196	85.07
Denmark	7.3554	81.01
France	115.1213	89.61
Germany	155.7145	67.60
Hungary	56.4011	83.31
Ireland	-	-
Italy	169.1438	85.54
Latvia	17.4552	80.07
Netherlands	83.9693	58.39
Poland	34.4605	96.29
Portugal	1.7784	49.82
Romania	23.8150	72.19
Slovakia	27.3030	70.46
Spain	25.0200	73.06
Sweden	0.0069	66.42
United Kingdom	9.4155	97.78
Non-EU	145.1564	45.61

Source: GIE AGSI

Where to from here?

Concurrent with elevated Asian LNG and European gas prices, we anticipate flow-on effects across the domestic gas and oil markets.

1) Domestic Gas

Based on current prices, and an average 11% slope to Brent/JCC, LNG contract prices are ~US$8/mmbtu compared to an Asian LNG spot price of ~US$30-35/mmbtu. We view these elevated spot prices as incentive for east coast LNG producers to ramp up production in order to supply international markets where more beneficial pricing can be achieved. This, however, is not as easy as it sounds. The 3 Gladstone facilities – GLNG, APLNG, and QCLNG – are each running at between 75-95% of capacity, indicating an already tight market.

We expect east coast spot and contract prices to rise as domestic gas is prioritised for delivery into international markets. We view companies with large degrees of longer term uncontracted gas exposure as most leveraged to this thematic, discussed in further detail later in this report.

2) Oil market

We expect some countries, in particular those developing nations that prioritise cost economics over ESG considerations, to transition from coal and gas into high sulphur fuel oil (HSFO) and diesel electricity generation. In this scenario, crack spreads and refining margins would rise, incentivising increased refining throughput, and therefore additional crude oil demand.

Sustained higher oil prices inevitably leads to higher realised LNG pricing for domestic majors. This is a result of the formula applied to determining contract LNG prices. In most cases, pricing is determined by applying a 10-13% slope on 2-5 month lagged crude oil prices (Brent or JCC).

Where to invest?

Large caps

Woodside (WPL). WPL is most exposed to Asian spot LNG prices; company guidance is for spot LNG sales of 10-15%. That compares to Oil Search (4%) and Origin Energy (~5-10%). Santos (15%) is larger than WPL, however its more diversified portfolio mutes the impact of spot LNG sales on its EBITDA. We estimate a US$10/mmbtu improvement in spot LNG price equates to a 12% improvement in WPL's EBITDA compared to 7% for Santos.

Mid caps

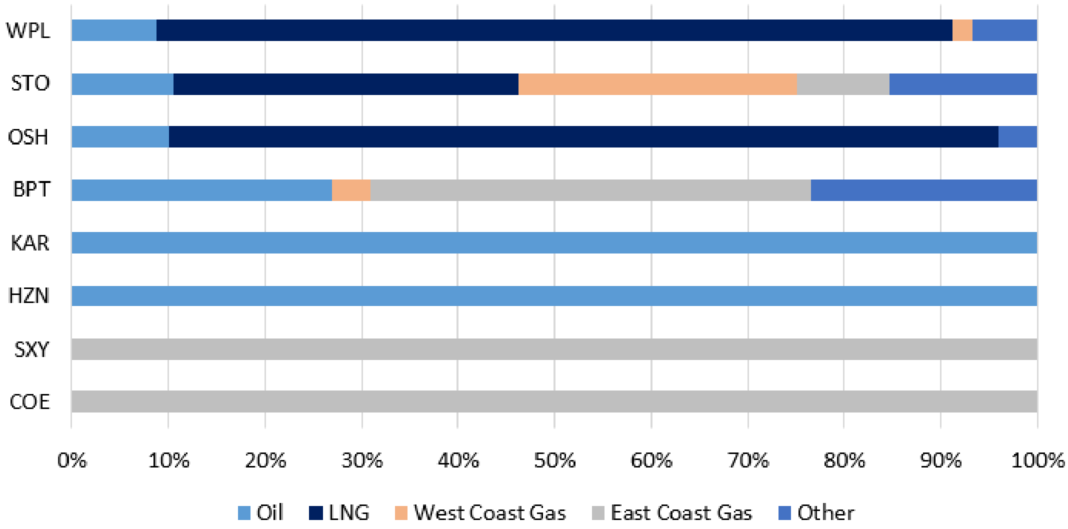
Senex (SXY). SXY has a long history of delivering against guidance, particularly in comparison to its mid cap peers Beach Energy (BPT) and Cooper Energy (COE). SXY has ~15% contracted volumes from FY25, meaning it retains a large degree of longer term uncontracted east coast gas exposure with upside to new pricing terms. SXY is FCF positive (FY22 FCF guidance $50-60m) with a 20-30% FCF payout ratio implying a dividend yield of 2% and a net cash balance providing future dividend flexibility.

Small caps

Blue Energy (BLU). BLU's 3C Resource is over 4,000PJ. It will undergo a relatively low-risk appraisal campaign in Jun. Q'22, designed to transition 3C Resource into 2P Reserve to move its MoU's with Origin Energy (300PJ) and EnergyAustralia (100PJ) into binding agreements. We expect these binding contracts to underpin pipeline development, opening up the North Bowen basin to the east coast market. Its strategic nature, particularly in the context of an international gas crisis, is likely to accelerate pipeline development, by public or private means. Our BLU valuation rises by 25% for each A$1/GJ improvement in our long-term contract price. BUY with TP A$0.25/sh.

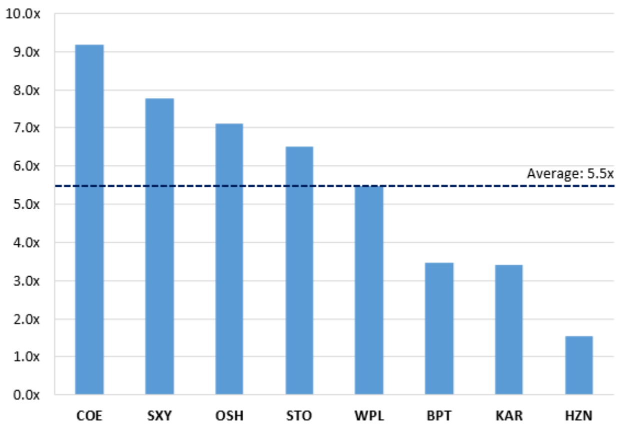
Horizon Oil (HZN). HZN represents pure oil exposure. Trades on 1.5x EBITDA vs. 5.5x peers. Most leveraged to rising oil prices with a US$10/bbl improvement in oil prices equating to an 27% improvement in our NAV/sh. BUY with TP A$0.17/sh.

Figure 6: Sales mix of ASX E&P Producers



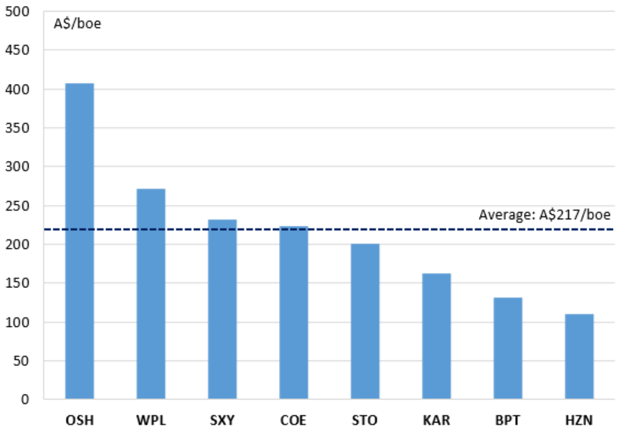
Source: Company Announcements, Petra Capital

Figure 7: EV / FY22 EBITDA (x)



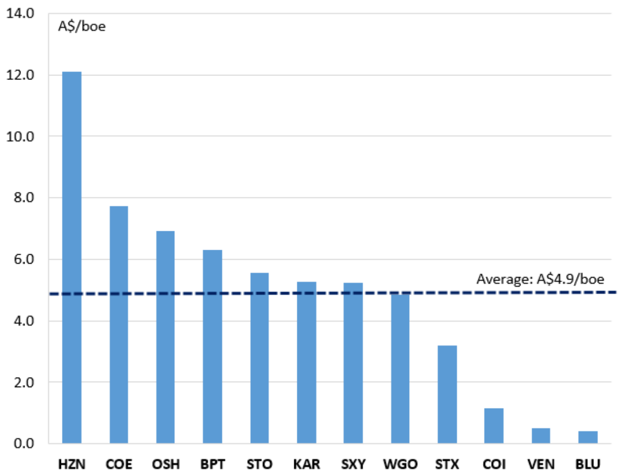
Source: Petra Capital, Iress

Figure 8: EV / Annual Production (x)



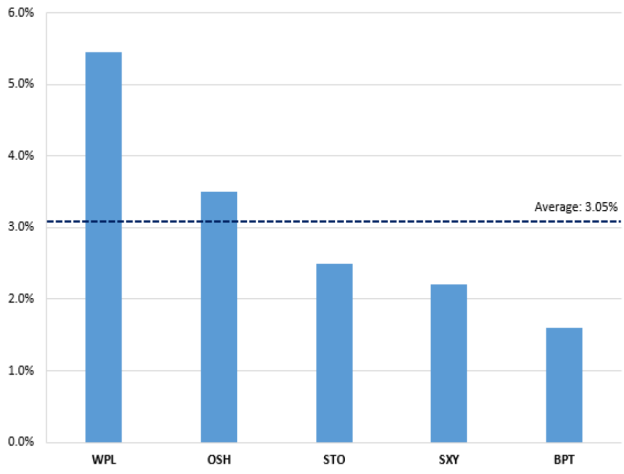
Source: Petra Capital, Iress

Figure 9: EV / 2P+2C (A$/boe)



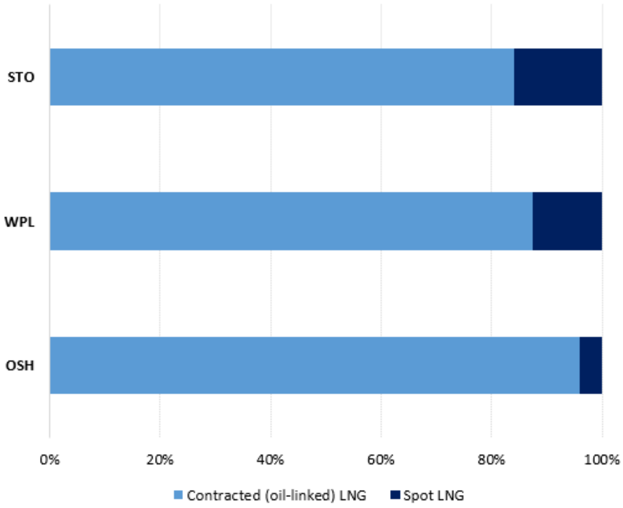
Source: Petra Capital, Iress

Figure 10: FY22 Dividend Yield (%)



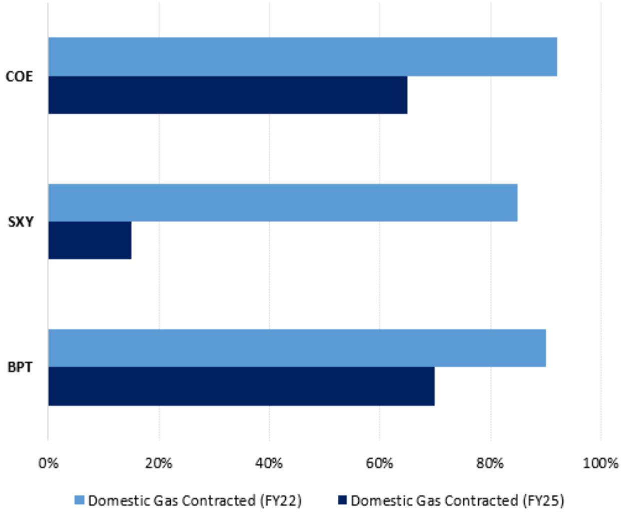
Source: Petra Capital, Iress

Figure 11: Contracted vs Spot LNG sales (%)



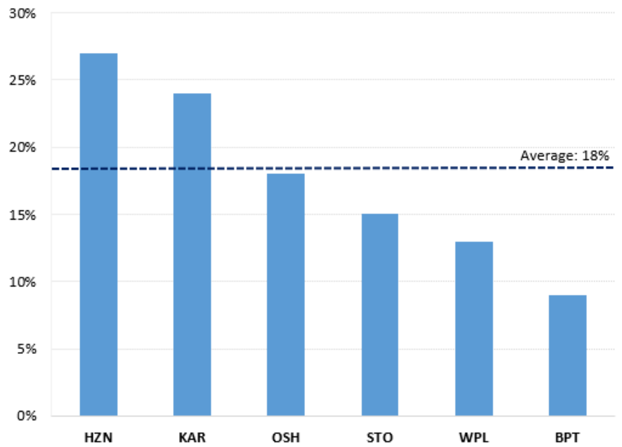
Source: Company Announcements, Petra Capital

Figure 12: East coast gas % FY22/25 contracted



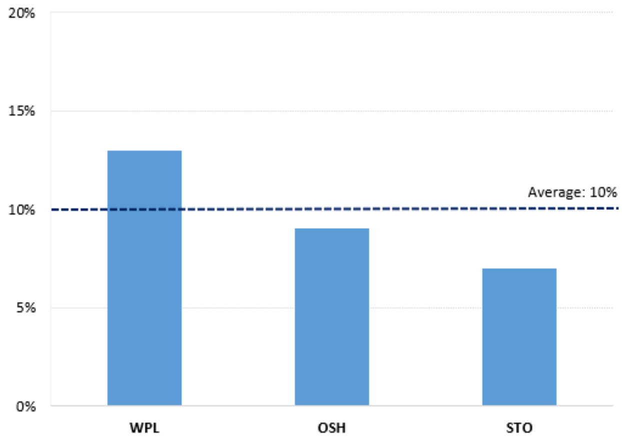
Source: Company Announcements, Petra Capital. Note: BPT FY25 balance is approximated.

Figure 13: EBITDA sensitivity to +US$10/bbl move in Brent oil price (%)



Source: Iress, Company Announcements, Petra Capital

Figure 14: EBITDA sensitivity to +US$10/mmbtu move in spot LNG price (%)



Source: Iress, Company Announcements, Petra Capital

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