Australian Oil and Gas: Value Still Here Despite Higher Share Prices

Market underestimating earnings resilience coming via growth projects and earnings stability from domestic gas.

Morningstar Equity Research
10 October 2022

Contents

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Energy Prices Are High and Producer Share Prices Up, but We Still See Upside

Woodside, Santos, and Beach Energy have all benefited from rising oil and gas prices. However, despite share price appreciation, we think value still exists. And if energy prices remain elevated for longer than expected, value may be even greater. That's possible given the energy crisis in Europe. Of the three Australia-based oil and gas producers we cover, Woodside has the greatest exposure to global prices and has benefited the most from international events. For Woodside, only about 20% of production is attributable to domestic gas, where prices are steadier. Beach by contrast has about 60% of production serving the domestic gas market, while Santos sits between those two at about 40%. Domestic gas has a number of positives, with capital intensity lower than for export gas, and pricing under term contracts with consumer price index escalators. But lower margins and shorter field lives mean Beach is potentially more exposed to operating and capital cost inflation with less of the commensurate export pricing upside that Santos and especially Woodside enjoy.

Key Takeaways

- Santos trades at a near-40% discount to our fair value, the market underpricing for Barossa gas and new oil project growth. Realised prices are below those for Woodside, but margins are comparable. Santos has longer field life and stronger production growth than peers and a still comfortable balance sheet. Returns were cruelled by GLNG cost overruns last decade. But new investments under the watch of CEO Kevin Gallagher have generated attractive returns.
- Woodside shares trade at a circa 25% discount to our fair value, insufficient credit being given for Scarborough/Pluto T2. Strong realised prices reflect a favourable product mix and comparatively higher spot exposure. Returns on invested capital are tempered by liquid natural gas capital expenditures, including for Scarborough/Pluto T2. But returns should improve upon T2's start up in 2026.
- Beach is the cheapest of our Australian E&P coverage, the market too harshly discounting for comparatively shorter field life than peers and lesser export pricing exposure. Realised prices are low versus peers though the gap should narrow as internationally traded prices ease and Beach's domestic gas contracts become more important. Short field life dictates material future capital expenditure and risks are somewhat higher in Beach, but the balance sheet is strong with net cash.

Companies Mentioned (Share prices as of 10/10/22)

Name/Ticker	Economic Moat	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Morningstar Rating	Market Cap (Bil)
Woodside Petroleum WDS	None	AUD	43.00	34.60	High	★★★★	66.1
Santos STO	None	AUD	11.30	7.80	High	★★★★	26.4
Beach Energy BPT	None	AUD	2.80	1.60	High	★★★★★	3.65

Australian Oil and Gas Exposures Appear Underpriced and Underappreciated

We think investors are still overlooking and undervaluing Australian oil and gas names. Yes, the share prices of these companies have already risen strongly, but the earnings outlook remains strong and is still not fully credited by the market, in our opinion. And if we end up with a higher for longer commodity price scenario, things could be better still.

Our company fair value estimates assume circa 30% retreat in Brent crude price to a midcycle USD 60 per barrel by 2024, and 80% plus decline in Asia LNG prices to USD 8.40 per mmBtu, also by 2024. This presumably plays on the mind of investors, and we do forecast midcycle earnings retreat from current frothy levels, particularly for Woodside. There has already been considerable commodity price retreat from recent peaks. However, this is from unprecedented highs, launched on soaring spot LNG pricing—prices were never going to be sustainable. And if measured from normalised levels, earnings for Australian companies will remain very strong, bolstered in no small part by production growth stemming from new development projects, many where construction is already well underway.

If instead of our base-case assumptions, we alternatively assume a persistent USD 100 per barrel Brent crude price, USD 14 per mmBtu contract LNG price, and USD 50 per mmBtu spot LNG price, our fair value estimates for Woodside, Santos, and Beach would increase by 105%, 59%, and 57% to AUD 88.00, AUD 18.00, and AUD 4.40, respectively. This scenario is not completely out of the question given Russia could remain ostracised from global trade for many years, and reorganising global energy supply lines could take considerable time. This is not our base case, but a plausible upside scenario worthy of investment consideration. Earnings leverage to global pricing is greatest for Woodside given its exposure to spot LNG prices is highest, with less LNG committed to contracts. But fair value leverage to higher prices is greatest for Beach Energy with its shorter average field life skewing the importance of nearer-term earnings outcomes to the net present value calculation.

The flipside is that Woodside is most exposed to commodity price retreat, because of spot LNG price exposure, but also due to it having the smallest domestic gas business relative to the balance of earnings. Domestic gas prices are less volatile than export prices and/or LNG contracts. They shield earnings in downturns but limit upside in commodity price upturns as now.

Market Underestimates Woodside's Scarborough/Pluto T2 Expansion, Shares Undervalued

Woodside is not being given the credit it deserves for Scarborough/Pluto T2 developments underway. The shares trade at a 20% plus discount to our unchanged AUD 43 fair value estimate,for a 4-star rating. Woodside has unmatched pedigree in the Australian oil and gas space. The Pluto LNG project was built with expansion in mind and Pluto T2 will be considerably more capital-efficient than the current stand-alone single Pluto LNG train. Cost savings can come on the capital side via better utilisation of existing tankage, wharfage, and surrounding infrastructure. Normalised for the production-doubling BHP acquisition in 2022, we project group hydrocarbon growth of 15% by 2027, chiefly on the back of Pluto T2. This may not be as great as production expansions we credit for Santos, for example, but the capital efficiency ensures fair value accretion is just as material. This also largely ignores potential for Browse gas to eventually be brought-in to Woodside's production profile. Browse's 14 trillion cubic feet of gas was the original front-runner to backfill North West Shelf infrastructure prior to the nearer Scarborough field being preferred.

Exhibit 1 Woodside's Earnings Metrics Favourable - Especially Near-Term in 2022 and 2023

	2019A	2020A	2021A	2022E	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F
Market Assumptions													
Brent Crude (USD/bbl)	64.57	42.30	70.44	99.27	79.95	67.43	60.00	61.35	62.73	64.14	65.58	67.06	68.57
JKM (USD/boe)	31.33	27.34	103.90	212.63	271.54	118.48	48.71	49.80	50.92	52.07	53.24	54.44	55.67
Price Achievement													
LNG (USD/boe)	50.18	31.38	57.83	108.67	113.84	69.81	49.44	51.07	52.58	53.77	54.98	56.21	57.48
Other (USD/boe)	51.02	37.19	71.07	73.96	54.20	54.05	48.76	49.29	50.12	50.99	51.90	52.49	53.46
Average All Products (USD/boe)	50.39	32.85	60.84	91.60	80.90	60.91	49.06	50.21	51.52	52.60	53.71	54.71	55.89
Volumes													
LNG (mmboe)	66.8	75.5	69.3	78.6	87.0	87.0	87.0	107.8	128.6	128.6	128.6	128.6	128.6
Other (mmboe)	22.2	25.6	20.4	76.1	107.3	112.9	108.0	101.4	97.5	93.8	90.5	87.4	84.5
Total (mmboe)	89.0	101.1	89.7	154.7	194.2	199.8	194.9	209.2	226.1	222.5	219.1	216.0	213.1
Underlying Financials													
Revenue (USDm)	4,954	3,600	6,962	15,866	17,545	13,379	10,477	11,435	12,598	12,668	12,752	12,821	12,934
EBITDA (USDm)	3,413	2,812	4,107	10,917	11,889	9,057	7,121	7,912	8,780	8,819	8,869	8,906	8,977
EBITDA Margin [1]	*69%*	*78%*	*59%*	*69%*	*68%*	*68%*	*68%*	*69%*	*70%*	*70%*	*70%*	*69%*	*69%*
EBIT (USDm)	1,842	1,086	2,524	8,385	8,938	5,899	3,442	4,050	5,025	5,163	5,250	5,305	5,390
NPAT (USDm)	1,063	447	1,620	5,471	5,736	3,695	1,994	2,475	3,267	3,480	3,574	3,633	3,714
EPS (US cents)	113	47	168	352	302	195	105	130	172	183	188	191	196
DPS (US cents)	91	38	135	263	242	156	84	104	138	147	151	153	156
Payout Ratio	80%	81%	80%	75%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Franking	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PE (Nominal)	21.1	33.7	9.8	6.3	6.9	10.7	19.8	16.0	12.1	11.3	11.0	10.9	10.6
Yield (Nominal)	3.8%	2.4%	8.2%	11.9%	11.6%	7.5%	4.0%	5.0%	6.6%	7.0%	7.2%	7.4%	7.5%
Gearing (ND/ND+E)	8.5%	16.9%	14.5%	6.0%	7.6%	10.0%	5.9%	-3.2%	-14.3%	-27.4%	-43.2%	-62.8%	-87.9%
Net Debt/EBITDA	0.47	0.93	0.59	0.20	0.24	0.44	0.32	-0.14	-0.52	-0.90	-1.27	-1.64	-2.00

1. EBITDA Margin including third party sales

Source: Company Filings/Morningstar

Our fair value estimate equates to a nononerous 2027 EV/EBITDA of 7.7, excluding the USD 3.7 billion lump sum we credit for undeveloped prospects. The latter equates to 6% of our fair value and includes 2C resources at Greater Browse, Greater Sunrise, Senegal, and Myanmar. Our assumptions assume negative five-year EPS growth to AUD 2.65 by 2027 versus an assumed AUD 5.12 in 2022. However, the decline is only due to extraordinary price achievement for 2022, largely already locked-in given the one quarter-lagged LNG price reference to crude. But assumed six-year EPS CAGR to 2027 versus 2021, a more representative year, is positive 2.6%.

We forecast a five-year group EBITDA CAGR of negative 4.3% to USD 8.8 billion. Again, negative due to our expectation for pullback in energy prices to our unchanged USD 60 per barrel midcycle Brent assumption and pullback in the Japan Korea Marker to our unchanged USD 8.40/mmBtu midcycle forecast versus the current USD 40.00/mmBtu plus. Our 2022 and 2023 EBITDA forecasts of USD 10.9 billion and USD 11.9 billion, respectively, are considerably higher than our USD 8.8 billion 2027 forecast. We include the Pluto T2/Scarborough LNG expansion already underway.

Woodside has an enviably underleveraged balance sheet with net debt of just USD 765 million at the end of June 2022. We forecast strong net operating cash flow to help keep net debt at conservative levels despite major capital expenditure including on Pluto T2/Scarborough developments, and higher dividend payments. We project net debt/EBITDA to remain below 1.0 throughout major capital programs to 2025, impressive given the quantum of planned expenditures ahead, including more than USD 8 billion for Woodside's share of Pluto T2/Scarborough. This assumes no further selldown in Scarborough equity despite a selldown process being afoot. Success in the latter would reduce capital requirements even further.

Market Doesn't Sufficiently Credit Undervalued Santos' Barossa Gas and New Oil Developments

We don't think Santos is being sufficiently credited for new oil and gas developments underway. The shares trade at a near 40% discount to our unchanged AUD 11.30 fair value estimate, equating to a 4-star rating.

Normalised for the 15% production jump from the Oil Search merger in 2022, we forecast group hydrocarbon growth of around 50% by 2027, chiefly from the Pikka oil field development in Alaska, and reinvigoration of Darwin LNG's output due to new feed from the Barossa gas field development. However, if expansion LNG trains are ever built at Gladstone, returns could improve further—Santos could theoretically expand Gladstone from two LNG trains to four, which would allow it to drive greater capital efficiency. We assume this is unlikely and our fair value makes no allowance for such at this stage. Santos does not yet have the gas and new gas resources would need to be proved up at a minimum—this is a considerable hurdle including political sensitivity around reserving gas for domestic supply.

Santos shares trade at a material discount to our unchanged AUD 11.30 Santos fair value estimate. Our fair value equates to a fair 2027 EV/EBITDA of 7.4, excluding the USD 2.7 billion lump sum we credit for undeveloped PNG gas and Alaska North Slope prospects. Our assumptions assume flat EPS to AUD 1.10 by 2027, but only because of extraordinary price achievement for 2022, largely already locked-in given the one-quarter lagged LNG price reference to crude. However, our assumed six-year EPS CAGR to 2027 versus 2021, a more representative year, is a very positive 11%.

Exhibit 2 Santos' Earnings Metrics Favourable - Especially Near-Term in 2022 and 2023

	2019A	2020A	2021A	2022E	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F
Market Assumptions													
Brent Crude (USD/bbl)	64.57	42.30	70.44	99.27	79.95	67.43	60.00	61.35	62.73	64.14	65.58	67.06	68.57
JKM (USD/boe)	31.33	27.34	103.90	212.63	271.54	118.48	48.71	49.80	50.92	52.07	53.24	54.44	55.67
Price Achievement													
LNG (USD/boe)	56.54	38.81	54.58	96.70	97.83	64.32	48.72	49.82	50.94	52.09	53.26	54.46	55.68
Other (USD/boe)	36.89	26.91	39.17	43.67	32.50	34.45	40.84	44.70	45.07	45.49	46.15	46.87	47.65
Average All Products (USD/boe)	42.63	31.68	45.29	68.02	60.96	48.30	44.25	46.87	47.77	48.73	49.70	50.71	51.77
Volumes													
LNG (mmboe)	27.4	45.7	40.1	53.1	49.9	56.7	64.2	71.7	81.1	90.4	90.4	90.4	90.4
Other (mmboe)	66.5	68.2	60.8	62.5	64.6	65.6	84.2	97.6	95.5	93.6	90.8	88.3	86.0
Total (mmboe)	93.9	113.9	100.9	115.6	114.4	122.3	148.5	169.4	176.6	184.1	181.3	178.7	176.4
Underlying Financials													
Revenue (USDm)	4,034	3,386	4,713	8,130	7,227	6,134	6,789	8,163	8,710	9,299	9,345	9,408	9,485
EBITDA (USDm)	2,262	1,582	2,686	5,301	4,543	3,699	4,185	5,188	5,576	5,994	6,009	6,036	6,072
EBITDA Margin [1]	*56%*	*47%*	*57%*	*65%*	*63%*	*60%*	*62%*	*64%*	*64%*	*64%*	*64%*	*64%*	*64%*
EBIT (USDm)	1,352	673	1,581	3,883	3,109	2,310	2,793	3,557	3,710	4,048	3,984	4,003	4,029
NPAT (USDm)	739	287	946	2,583	2,021	1,507	1,789	2,292	2,416	2,721	2,768	2,802	2,842
EPS (US cents)	35	14	44	76	60	45	53	68	71	80	82	83	84
DPS (US cents)	11	7	14	19	19	10	15	20	23	25	26	27	27
Payout Ratio	31%	52%	32%	25%	32%	23%	28%	30%	32%	32%	32%	32%	32%
Franking	100%	100%	82%	75%	60%	60%	60%	60%	60%	60%	60%	60%	60%
PE (Nominal)	16.0	31.5	10.7	6.3	7.6	10.2	8.6	6.7	6.4	5.7	5.6	5.5	5.4
Yield (Nominal)	1.9%	1.6%	3.0%	4.0%	4.1%	2.2%	3.2%	4.4%	5.0%	5.6%	5.8%	5.9%	6.0%
Gearing (ND/ND+E)	27.6%	30.8%	23.6%	16.3%	7.5%	13.4%	15.5%	12.9%	5.3%	-6.7%	-20.7%	-36.7%	-55.4%
Net Debt/EBITDA	1.29	2.04	1.56	0.55	0.28	0.70	0.77	0.54	0.20	-0.23	-0.65	-1.08	-1.50

1. EBITDA Margin including third party sales

Source: Company Filings/Morningstar

We forecast modest five-year group EBITDA CAGR of 1.0% to USD 5.6 billion in 2027 versus 2022. Again, this is weak growth, but from an already very high earnings base. Flat earnings reflect our expectation for a pullback in energy prices to our unchanged USD 60 per barrel midcycle Brent assumption and pullback in the contract LNG price in kind to our unchanged USD 8.40/mmBtu midcycle forecast versus the current USD 12.90/mmBtu. We include the Barossa to Darwin LNG tie-in and new oil production.

Our 2022 and 2023 EBITDA forecasts of USD 5.3 billion and USD 4.5 billion, respectively, are almost as high as our 2027 forecast of USD 5.6 billion. We project group production to increase by nearly

60% to around 160 million barrels of oil equivalent, or mmboe, by 2027. But anticipated commodity price retreat counters the EBITDA uplift.

Santos has the most leveraged balance sheet of the three companies covered here, though to still conservative net debt of USD 2.9 billion at the end of June 2022. We expect strong cash flows to help keep net debt/EBITDA to remain below 1.0 through 2025 despite major capital expenditure including on Barossa and Pikka developments.

Market Discounts Too Severely for Beach's Lesser Field Life

We forecast strong EPS growth for Beach, but the market may be penalising it for lesser field life. While some life discount may be warranted, we think the current level is likely too harsh. Woodside and Santos have large offshore conventional hydrocarbon fields that lend themselves to being drilled-out in advance of major up-front capital outlays. Beach has no such incentive in the Cooper Basin and is in fact it may be wise to defer unnecessary nearer-term expenditures to maximise cash flows.

Exhibit 3 Beach's Earnings Metrics Favourable

	2019A	2020A	2021A	2022A	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F
Market Assumptions													
Brent Crude (USD/bbl)	68.61	51.62	54.11	91.07	87.48	76.24	60.00	61.50	63.04	64.61	66.23	67.88	69.58
JKM (USD/boe)	45.97	23.14	45.91	162.37	262.40	231.30	48.72	48.72	48.72	48.72	48.72	48.72	48.72
Price Achievement													
LNG (USD/boe)	-	-	-	-	-	-	-	-	-	-	-	-	-
Other (USD/boe)	43.93	40.05	43.74	56.29	59.10	54.55	45.95	43.76	45.86	47.15	48.48	49.85	51.26
Average All Products (USD/boe)	43.93	40.05	43.74	56.29	59.10	54.55	45.95	43.76	45.86	47.15	48.48	49.85	51.26
Volumes													
LNG (mmboe)	-	-	-	-	-	-	-	-	-	-	-	-	-
Other (mmboe)	31.2	27.7	26.0	22.4	22.5	30.0	43.4	45.8	47.8	47.8	47.8	47.8	47.8
Total (mmboe)	31.2	27.7	26.0	22.4	22.5	30.0	43.4	45.8	47.8	47.8	47.8	47.8	47.8
Underlying Financials													
Revenue (USDm)	1,373	1,109	1,137	1,261	1,330	1,639	1,996	2,006	2,192	2,254	2,317	2,382	2,450
EBITDA (USDm)	972	785	730	825	719	902	1,114	1,118	1,227	1,262	1,298	1,335	1,373
EBITDA Margin [1]	*71%*	*71%*	*64%*	*65%*	*54%*	*55%*	*56%*	*56%*	*56%*	*56%*	*56%*	*56%*	*56%*
EBIT (USDm)	596	484	418	561	424	532	734	598	689	696	727	759	792
NPAT (USDm)	395	309	271	362	282	360	512	431	502	517	549	582	616
EPS (US cents)	17	13	12	16	12	16	22	19	22	23	24	25	27
DPS (US cents)	1	1	2	1	1	1	1	1	1	1	1	1	1
Payout Ratio	8.2%	10.1%	12.8%	9.1%	10.6%	8.3%	5.8%	6.9%	5.9%	5.8%	5.4%	5.1%	4.8%
Franking	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PE (Nominal)	8.2	7.6	7.9	7.9	7.8	6.0	4.2	5.0	4.3	4.2	3.9	3.7	3.5
Yield (Nominal)	1.0%	1.3%	1.6%	1.2%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
Gearing (ND/ND+E)	-7.8%	-1.9%	1.5%	-5.0%	-4.7%	-15.2%	-41.2%	-69.2%	-117.4%	-190.1%	-306.6%	-519.7%	-1025.6%
Net Debt/EBITDA	-0.13	-0.04	0.05	-0.14	-0.17	-0.43	-0.88	-1.35	-1.80	-2.33	-2.86	-3.39	-3.91

1. EBITDA Margin including third party sales

Source: Company Filings/Morningstar

The current share price sits at a 40%-plus discount to our unchanged AUD 2.80 fair value estimate, for a 5-star rating. This equates to a nononerous 2027 EV/EBITDA of 3.7, excluding the USD 300 million lump sum we credit for undeveloped conventional gas resources. Our assumptions assume 9.0% five-year EPS CAGR to AUD 0.34 by 2027. The positive CAGR against negative to flat projections for peers is reflective of Beach's higher domestic gas exposure which keeps launch year earnings far more tempered and from which there is likely upside to come as contracts mature and reprice.

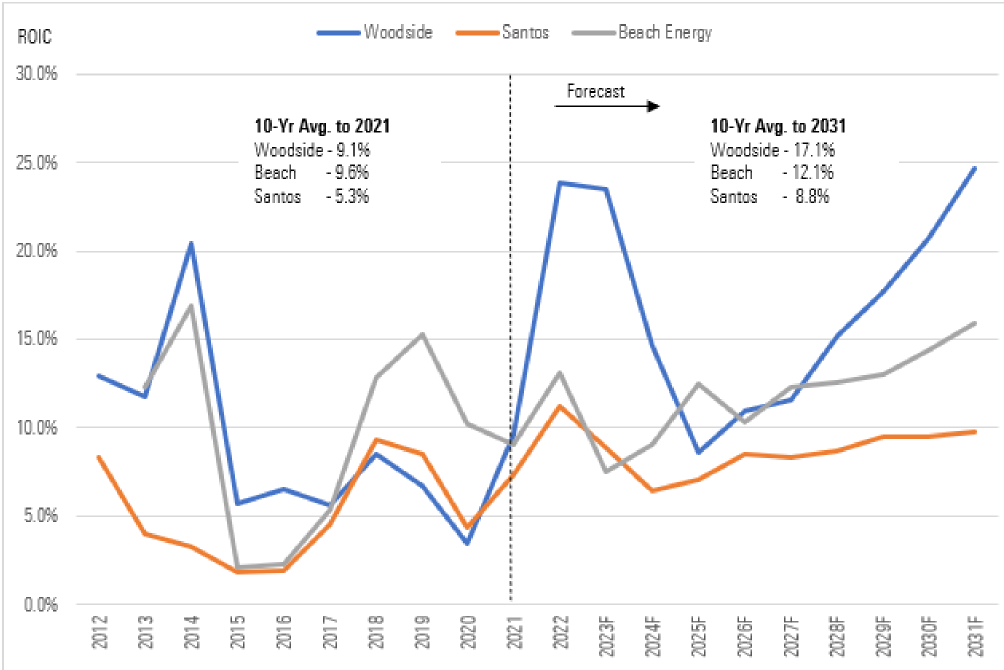
We forecast healthy five-year group EBITDA CAGR of 8.3% to USD 1.2 billion in fiscal 2027 versus fiscal 2022. This despite our expectation for pullback in energy prices to our unchanged USD 60 per barrel midcycle Brent assumption. Again, Beach's comparatively high proportion of domestic gas production blunts the impact from anticipated decline from export commodity prices. Our fiscal 2023 and fiscal 2024 EBITDA forecasts are USD 720 million and USD 900 million. We project group production to double to over 40 million barrels of oil equivalent, or mmboe, by 2027. We include Waitsia Stage 2's new gas production. Waitsia Stage 2 is in execution phase following a financial investment decision being reached February 2021.

Beach has the healthiest balance sheet of the three companies covered here, with net cash of USD 58 million at the end of June 2022. We anticipate the balance sheet to remain in a growing net cash position, all else equal.

We Think Woodside the Most Compelling Company and Forecast ROIC to Outshine Peers
Despite greater volatility, Woodside achieved healthy average ROICs over the past 10 years of 9.1%, in line with our assessed 9.1% weighted average cost of capital, or WACC. But if just the first half of 2022's high returns is captured, Woodside's historical average returns outpace all peers—periods of high prices are essential to a strategy where international and spot pricing form a greater share of revenue. We expect Woodside's returns to retreat in the near future as high energy prices normalise and as expenditure on Scarborough/Pluto Train 2 ramps-up. But this should just be a forerunner to an even sharper recovery in returns from 2026 when Pluto T2 commissions. We expect Woodside's ROICs then to march through 20%, outshining peers as capital-efficient expansion of the Pluto LNG infrastructure comes online. Capital efficiency of the second liquefaction train will benefit from spare capacity in key elements of existing infrastructure, latency which contributed somewhat to the lower than otherwise ROICs last decade.

As a tangible example, the recently completed Pluto-Karratha Gas Plant Interconnector pipeline accelerated uncontracted Pluto gas sales into the high-priced LNG market, meaning Interconnector investment capital was paid back within just three months. This is a small and extreme example, but considerably more capital-efficient expansion potential remains on the table for Woodside.

Exhibit 4 Woodside's ROICs to Materially Exceed Peers' After Capital-Efficient Pluto T2 Expansion



Note: Our ROIC calc adds impairments back to the capital base

Source: Company Filings/Morningstar

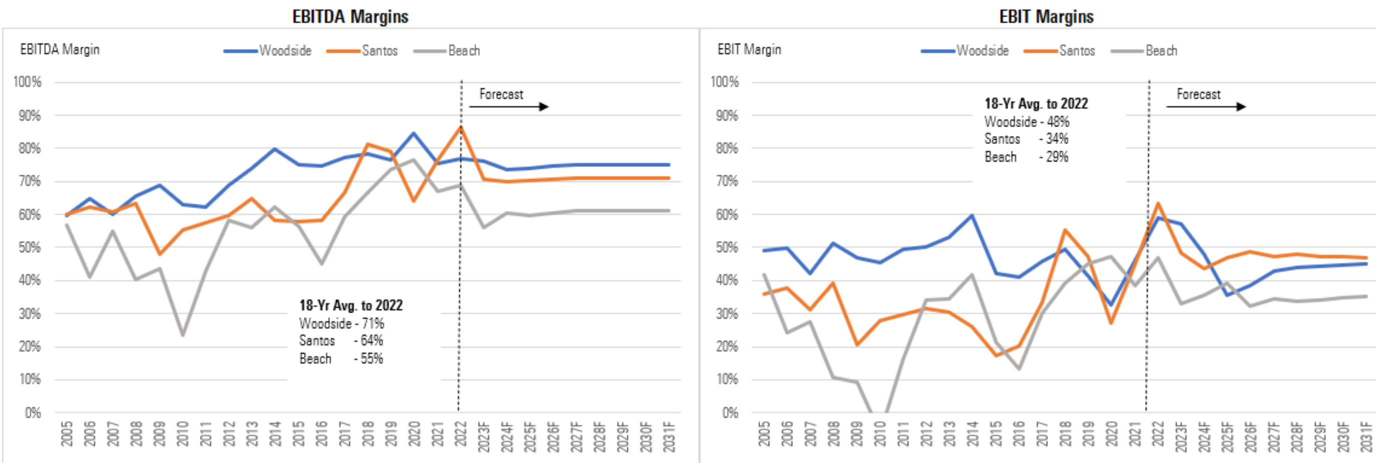
Beach's 10-year historical average ROICs at 9.6% sit just ahead of Woodside, but below our assessed 10.7% WACC. We apply a higher WACC for Beach given lower margins and the ongoing requirement for capital expenditure, dictated by shorter field lives. Santos has achieved lowest average 10-year historical ROIC of just above 5%, after adding back impairments. The company suffered material Gladstone LNG cost overruns mid-last decade which still crimp returns today. But things are improving—returns on new invested capital have been excellent, driving average ROIC advancement. This is not just the price cycle, rather the investments are better. And the trend is what matters given the temptation to overcapitalise is an ever-persistent threat. We expect Santos' ROICs to approximate 10% by decade's end as Barossa gas and capital-efficient PNG LNG expansions hit their mark. This is nearing our assessed 10.4% WACC, the cost of capital higher than for Woodside due to inclusion of a PNG sovereign risk premium.

Our forecasts credit Beach's returns remaining higher than Santos in the next decade, but this has to be weighed against Beach's lower field life and higher assessed WACC. The rate Santos more highly than Beach given the latter's higher risks.

Strong Margins Are Also Core to Returns Exceeding Capital Costs

Strong margins are as key as capital efficiency to superior ROIC. We expect Woodside to continue to generate the strongest EBITDA margins of peers, though Santos has all but closed the gap. Woodside has achieved the highest average percentage margins historically due to higher average product pricing and low unit cash operating costs from economies of scale. It has also enjoyed lower volatility in those percentage margins. This is counter-intuitive given greater exposure to more volatile international pricing, but petroleum resources rent taxes, or PRRTs, are a material component of operating costs for export projects—PRRT moves up and down in lock-step with pricing.

Exhibit 5 Historical Average EBITDA and EBIT Margins Highest for Woodside Though Santos Has Caught Up as LNG Contribution Has Grown



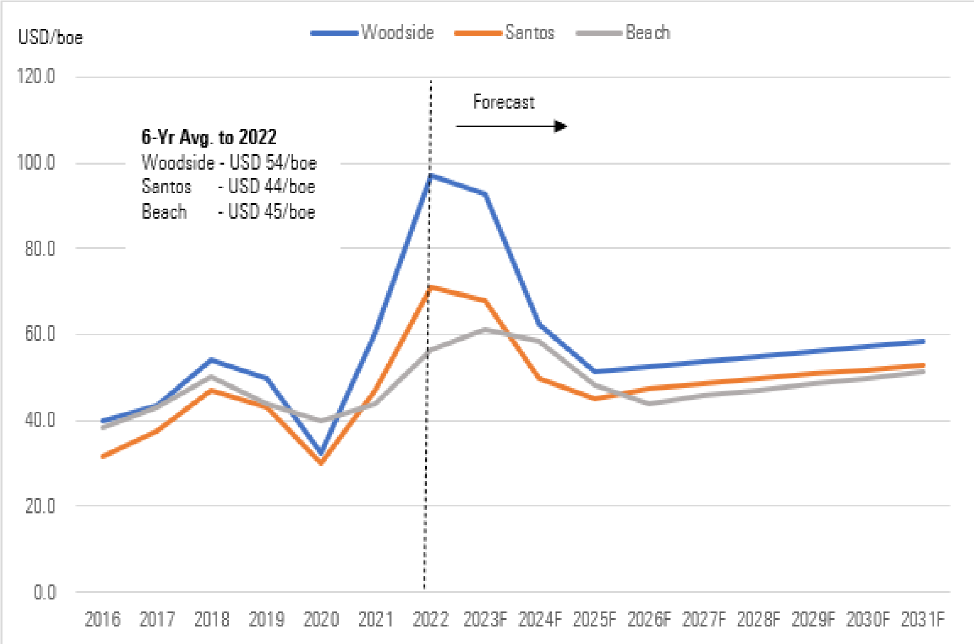
Note: Our EBITDA assumption deducts operating lease depreciation as an operating cost

Source: Company Filings/Morningstar

But Santos has closed the margin gap as LNG production has grown as a percentage of total due to commissioning of Gladstone, and then as equity in the PNG LNG project grew with the Oil Search merger. These increase exposure to export pricing and the economies of scale afforded large projects. Santos has also had a laser-like focus on operating costs more generally under the watch of CEO Kevin Gallagher. Beach is a higher cost producer given development-intensive operations, smaller fields, and the requirement sometimes to truck product.

Woodside is enjoying a strong premium in realised prices relative to peers. While we expect that premium to contract in future, we think the company will continue to realise comparatively higher prices given exposure to global LNG and oil. Woodside's larger export LNG businesses is the key driver of higher prices. Santos has until more recently lagged even Beach's price achievement due to lower West Coast domestic gas prices and its considerable exposure to that market. But the rise of LNG pricing and increased LNG exposure post-merger with Oil Search now sees Santos' price achievement approximately midway between Beach and Woodside.

Exhibit 6 Price Achievement Highest for Woodside

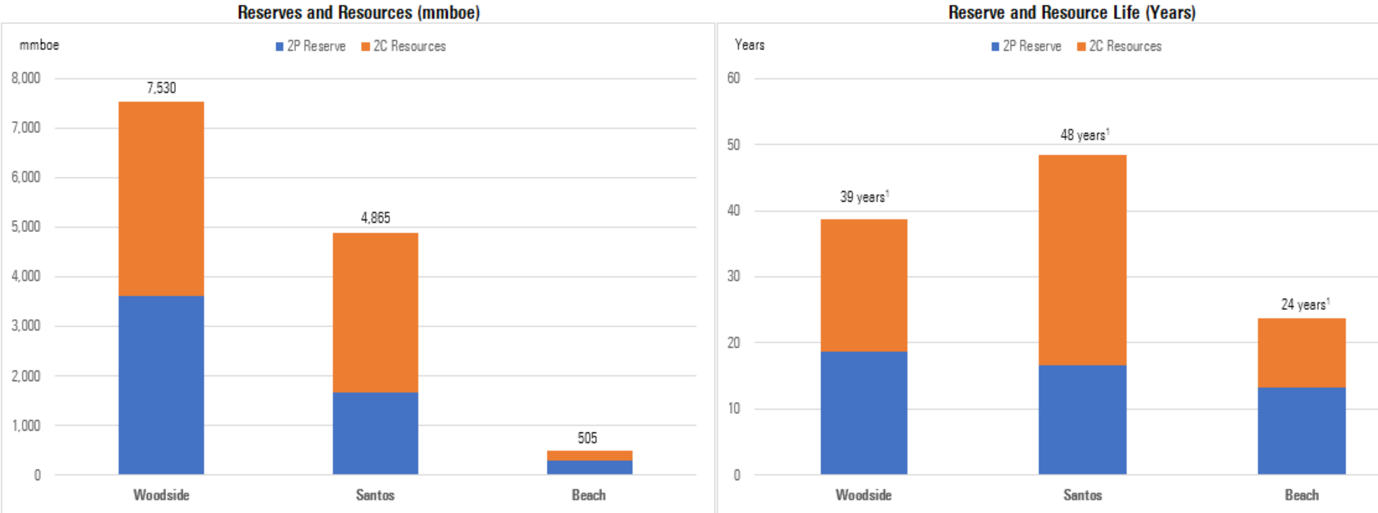


Source: Company Filings/Morningstar

Less Uncertainty for Investors Given a Strong Resource Base

For investors, there is less uncertainty production will continue longer-term if there is a stronger reserve and resource base. Santos and Woodside notionally have longer field life than Beach at circa 40 years or higher, based on resources and next full year's production, versus Beach's 24 years. This lowers their risk relative to Beach, which is more likely to encounter exploration risk, reflected in our higher WACC for Beach than for the others.

Exhibit 7 Santos and Woodside Have Longer Field Life Than Beach Based on Reserve and Resource Positions.



1. Life based on next full year's production forecast.
Source: Company Filings/Morningstar

However, Beach does in part look superficially worse on reserve and resource life, due to the nature of its reservoirs. Woodside and Santos have large offshore conventional hydrocarbon fields which lend themselves to being drilled out in advance of major up-front capital outlays - much of these resources appear on the ledger from the start. But Beach's Cooper basin resources form a large share of its total and on these there is little point drilling out onshore gas fields years in advance of production, particularly while capital expenditure outlays are not so up-front in nature. Note Beach's proven and probable or 2P reserve life of 13 years is lower but not so dissimilar to Woodside's 19 years or Santos' 17 years.

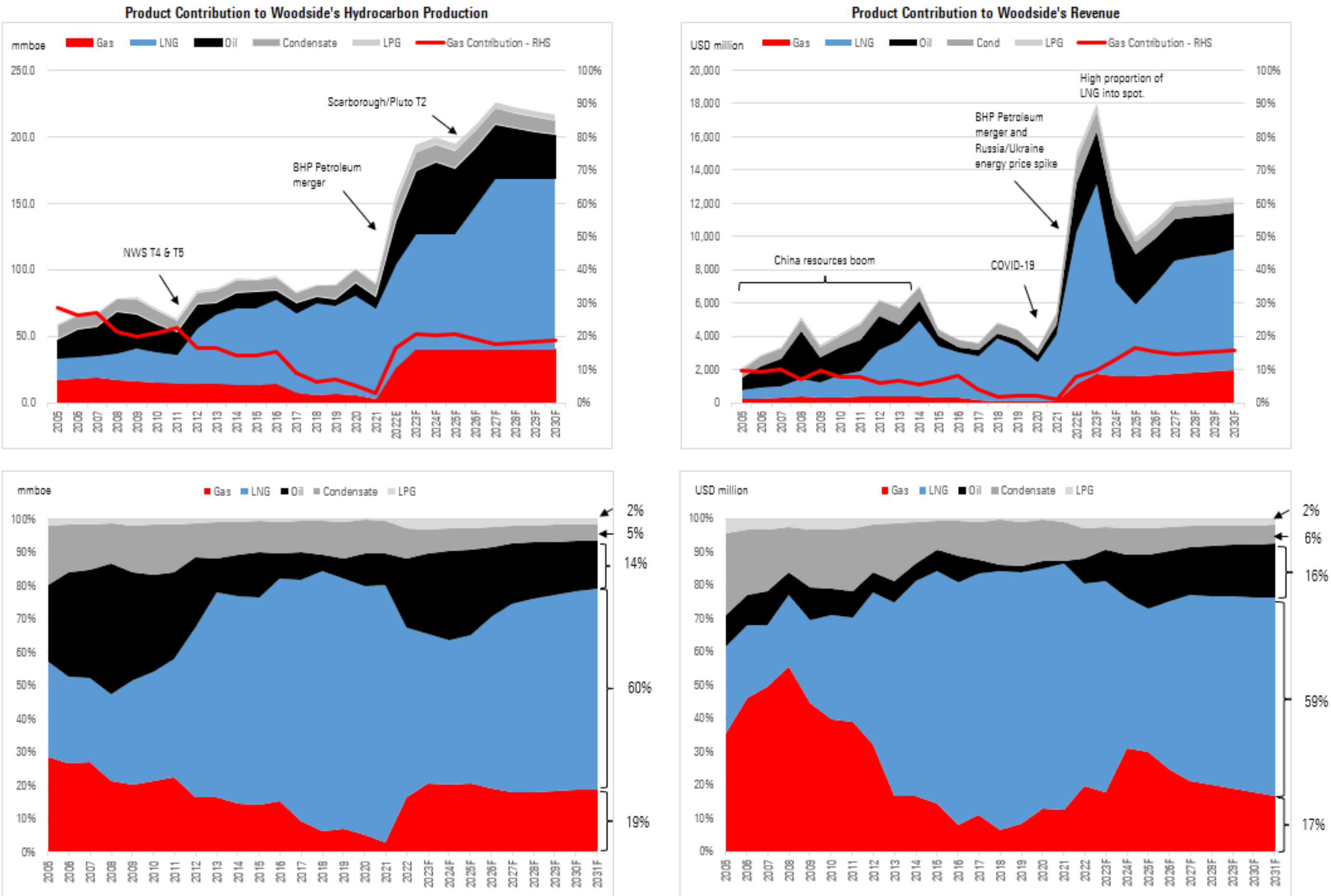
Product Mix Key to Capital Intensity and EBITDA Margins

Woodside's superior return on invested capital outlook rests in no small part on its greater exposure to global oil and gas prices. Of the Australian E&P firms, it is currently enjoying very strong profitability and returns given energy shortages globally, and particularly for gas in Europe. But putting aside volatility in prices and lumpy capital expenditures, for investors bullish on future energy prices, Woodside has the most exposure to international pricing (including more spot price exposure). LNG exposure declined from around 75% of its production to nearer 45% with this year's merger with BHP Petroleum. But this is still high and we forecast it to increase again to near 60% upon the startup of a second Pluto LNG train from 2026.

Woodside's domestic gas exposure is relatively small. Output from the North West Shelf is now immaterial after entitlements under the joint venture were met in mid-2017. The merger with BHP Petroleum added domestic gas production from Bass Strait and the Northern Hemisphere, bringing the total to about 20% of overall production. But this is still low overall versus Beach's 60% and even Santos at circa 40% domestic gas contribution.

Woodside's volume contribution from oil more than doubled to around 25% with the BHP Petroleum merger, slightly below Beach's at 30% and similar to Santos.

Exhibit 8 Domestic Gas and Oil Contribution to Woodside Is Lowest Among Peers at a Combined 35% in Deference to LNG



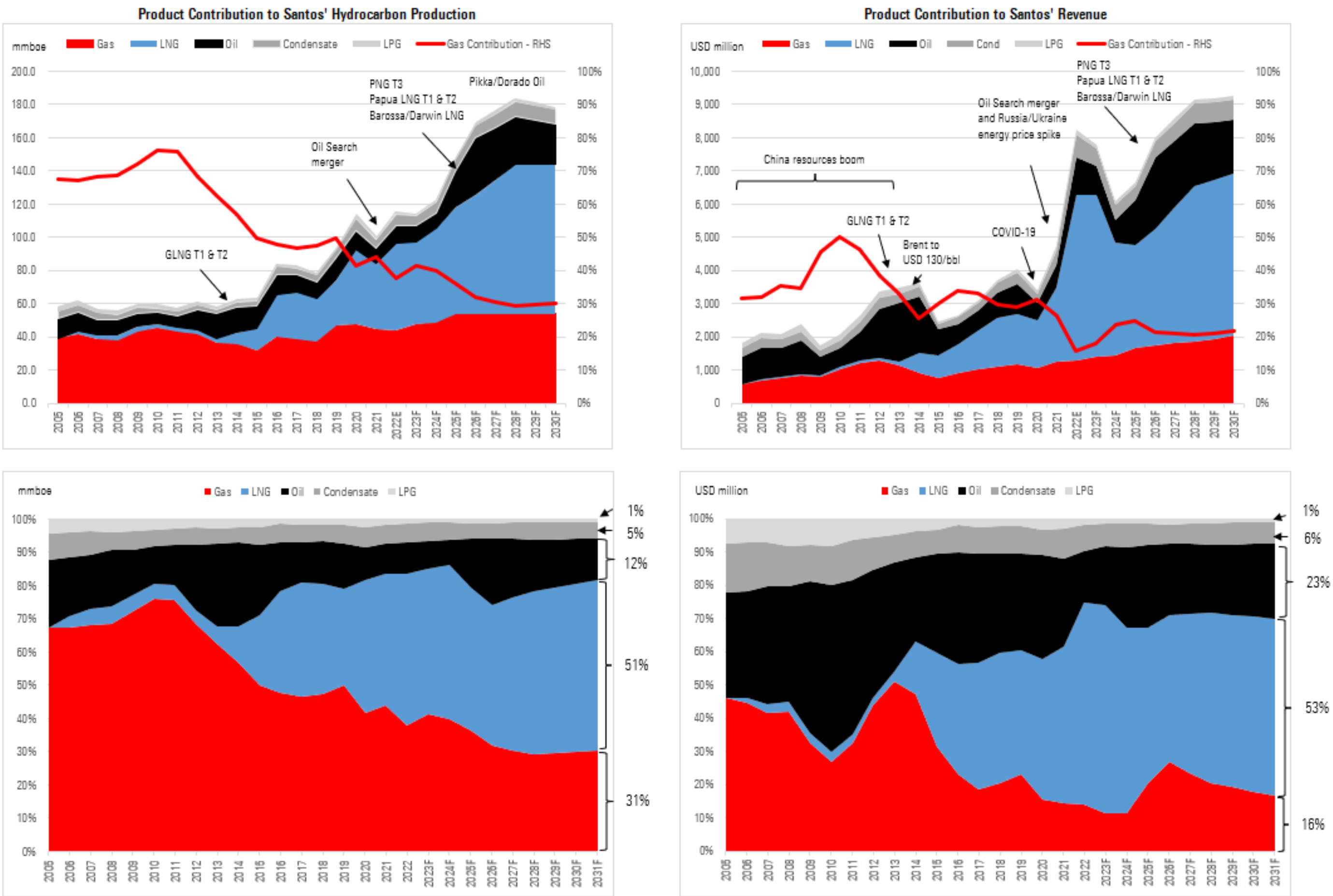
Source: Company Filings/Morningstar

Santos' Production and Revenue Sits Between Woodside's and Beach's

Santos offers more stable revenue than Woodside, given meaningful domestic gas exposure, while also retaining meaningful exposure to international pricing. From a production and revenue mix perspective, Santos sits between Beach and Woodside. It has some of the relative revenue stability enjoyed by Beach with domestic gas production share at around 40% of total. It also has material LNG exposure affording reasonable exposure to currently attractive international prices.

Santos' LNG production is similar to Woodside's 45% share, stronger after the Oil Search merger. We expect it to increase to over 50% share with Barossa to Darwin LNG and ultimate expansions of PNG LNG and new Papua LNG production.

Exhibit 9 Domestic Gas and Oil Contribution to Santos is Second Highest Among Peers



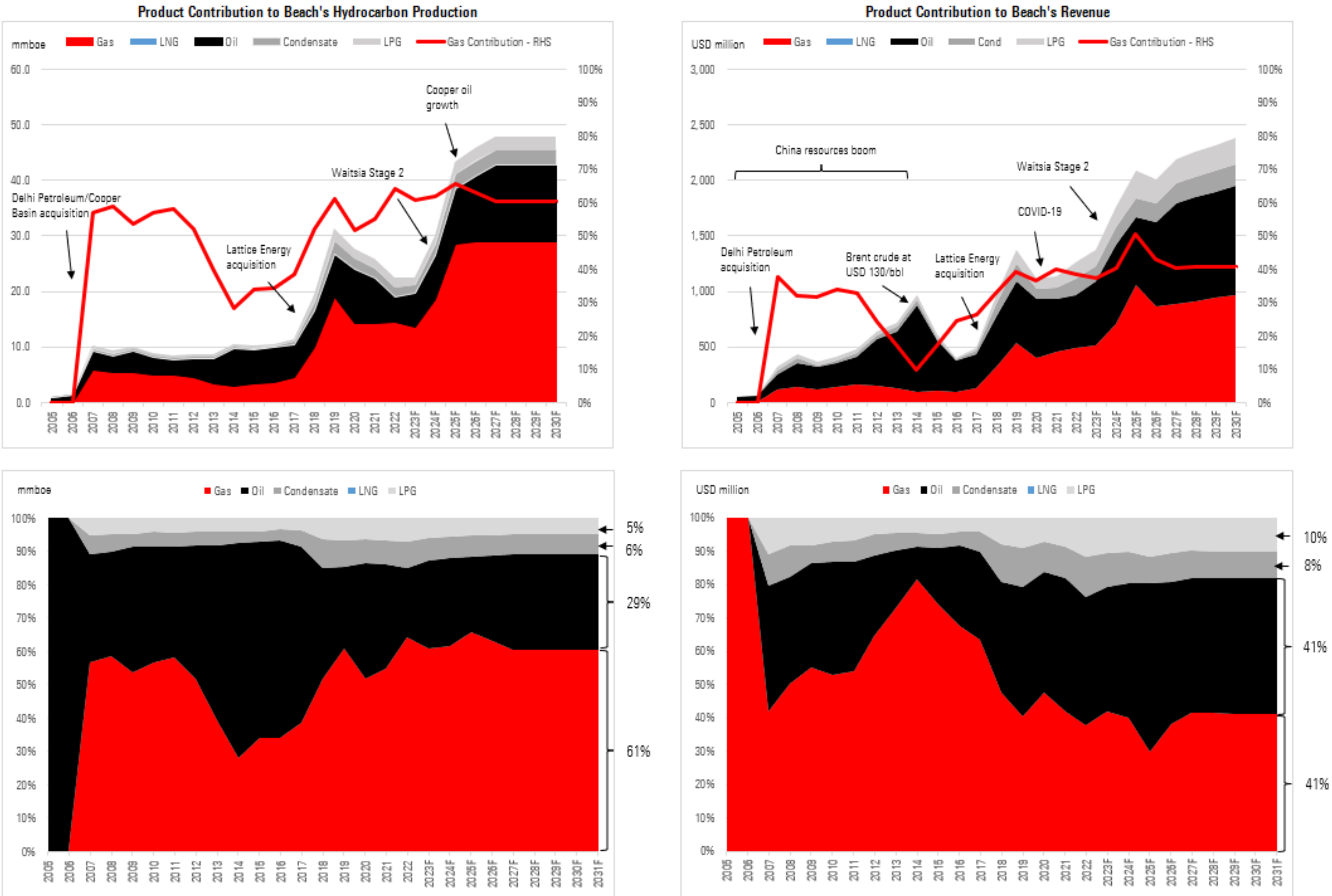
Source: Company Filings/Morningstar

High Domestic Market Exposure Not All Bad for Beach

Beach provides the greatest domestic market exposure of the Australian listed E&P producers we cover. While not attracting the same pricing, domestic revenue is much more predictable, less subject to the vagaries of international pricing, and capital expenditure is steadier in contrast to Woodside and Santos where LNG developments tend to require large and irregular capital outlays. There are also future uplifts likely as contracts roll.

Domestic gas comprises over 60% of Beach's hydrocarbon production and more than 40% of its revenue. Domestic gas has a more stable price profile and lower capital intensity than for LNG. Further, crude oil comprises an additional 30% of Beach's production and circa 40% of revenue. Oil projects generally have lower capital intensity than LNG and a front-loaded production profile so that pay-back on capital is faster. Combined, oil and domestic gas comprise around 90% of Beach's production and 80% of revenue, with condensate and LPG making up the balance.

Exhibit 10 Domestic Gas and Oil Contribution to Beach Is Highest Among Peers at a Combined 90% and Beneficial to ROICs



Source: Company Filings/Morningstar

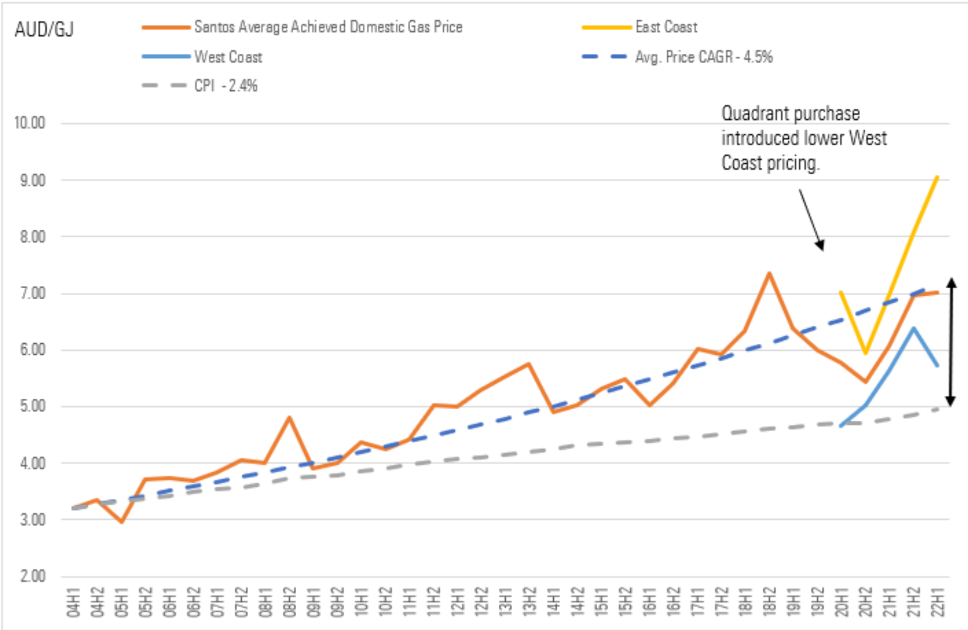
Beach has lower EBITDA and EBIT margins than Santos and Woodside, but all-else-equal should suffer less margin/return erosion as prices normalise from elevated levels, given the steadier domestic gas contracts. Beach's revenue profile has historically been more stable than for Santos and Woodside. We expect this will continue to be the case.

Domestic Gas Businesses Can Be Comparatively Stable and Predictable Earners

Domestic gas businesses can be comparatively stable earners given conventional domestic gas assets are generally backed by medium- to long-term CPI-linked offtake contracts. In times of weaker energy prices, the segment can act as a dampener to earnings downside, albeit the reverse can be said in times like now when higher domestic exposure has held back profitability.

We see upside on the domestic gas pricing side—and perhaps that's underappreciated and not factored into the shares. While domestic gas contracts are often CPI-linked, this doesn't mean price growth is capped at CPI. For example, Santos' annual domestic gas price growth over the last decade plus has exceeded CPI by more than 200 basis points—and that includes 2018's USD 2.15 billion Quadrant Energy acquisition which introduced lower pegged Western Australian domestic gas contracts. In first-half 2022, Santos achieved an average price of USD 6.50/GJ for its east coast domestic gas but a lesser USD 4.10/GJ from the West Coast—around 37% less.

Exhibit 11 Santos' Domestic Gas Price Achievement has Exceeded CPI



Source: Company Filings/Morningstar

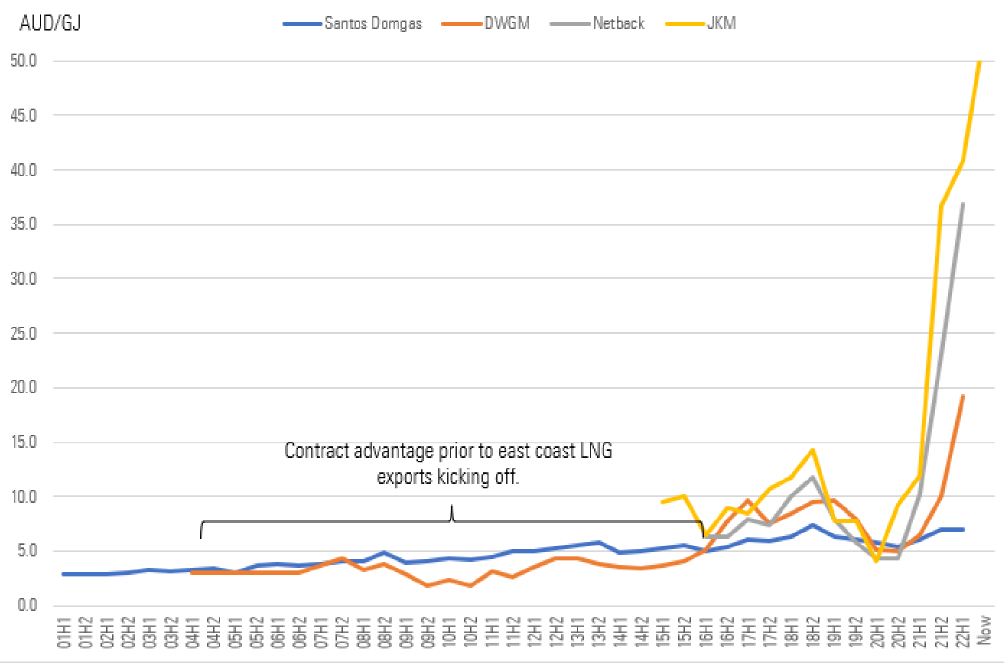
Santos sells negligible volumes into the domestic spot market and consequently won't benefit from current very high domestic spot prices. Spot domestic prices are informed by international spot LNG prices, less a nominal spread which largely reflects the LNG processing and transport costs to Asia. The so-called LNG netback is a measure of an export parity price that a gas supplier can expect to receive for exporting its gas. The average Japan Korea Marker or Asia spot LNG price was USD 36.65/mmBtu in second-half 2021 and USD 40.85/mmBtu in first-half 2022, skyrocketing on Russia's invasion of Ukraine.

The ACCC reported respective netbacks in each of those periods of AUD 23/mmBtu and AUD 36.85/mmBtu. Australian domestic spot gas prices responded accordingly, Victoria's Declared Wholesale Gas Market, or DWGM, for example racking up respective second-half 2021 and first-half 2022 price averages of AUD 10.05/GJ and AUD 19.20/GJ. Despite this, Santos in those periods reported comparatively pedestrian domestic gas prices of just AUD 6.97/GJ and AUD 7.01/GJ, respectively, its longer-dated contracts of three to five years relatively immune to spot's machinations.

The JKM recently sat teasingly at over USD 50/mmBtu or AUD 70/mmBtu and if this were to flow through to domestic gas prices, the profits of Beach and Santos in particular would rise by multiples. But there is little point in Santos or peers attempting to milk the netback-like pricing available in the domestic spot markets—regulators are willing to clamp down and punish those who dare try, including AGL Energy recently.

Best to think about the benefits of reliable pricing that medium-term and long-term contracts bring. And there's no doubt that times like the present are what assist Santos to handsomely exceed CPI-like price increases on its domestic contracts. When contracts roll over and the spot market is in excess of AUD 20/GJ, base-line price increases around AUD 10.00/GJ are more easily justified.

Exhibit 12 Spot Currently Dwarfs Santos' Domestic Gas Price Achievement



Source: Source: Company Filings/ACCC/Investing.com/Morningstar

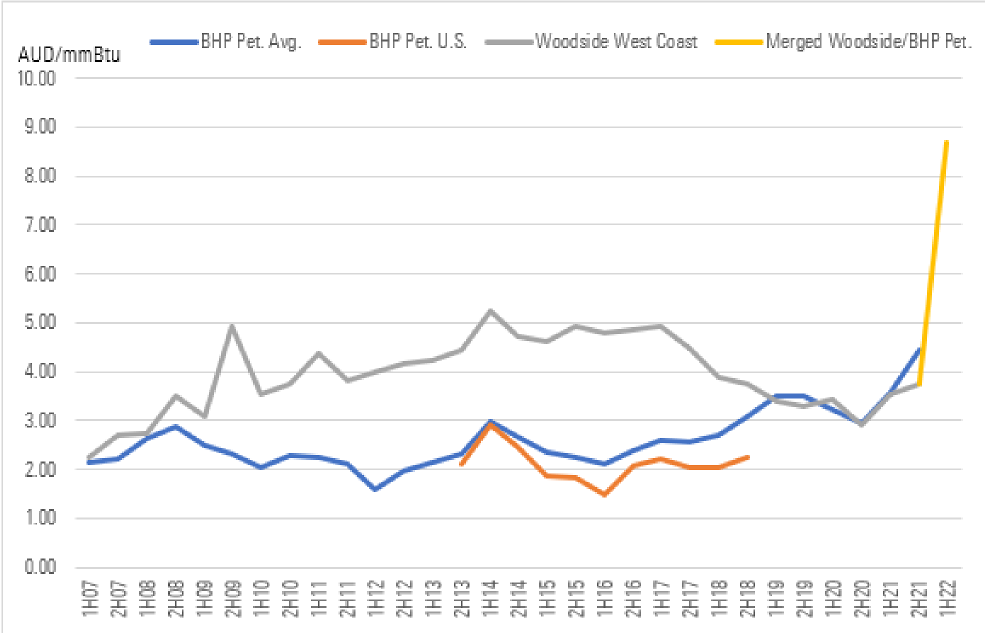
The sensitivity of Santos' fair value estimate to changes in domestic gas prices is pretty low. We assume an average 4% CAGR in Santos' domestic gas price achievement to AUD 10.00/mmBtu by 2030, slightly weaker growth than the average 4.5% for the last two decades. For reference, if we were to instead assume just 2% CAGR to AUD 8.50/GJ by 2030, our Santos fair value would fall 5% to AUD 10.75 per share. But if we were to adopt a more bullish 10% CAGR in Santos' domestic gas price to AUD 15.00/mmBtu by 2030, our fair value would increase 8% to AUD 12.20, all else equal.

Woodside's fair value sensitivity to changes in domestic gas prices is even lower than for Santos. Changing the CAGR in Woodside's domestic gas price achievement to 2% bear or 10% bull levels, rather than the base-case 4% assumption, results in immaterial changes to fair value. But it's a slightly different story for Beach Energy, where 2% bear or 10% bull CAGR levels in domestic gas price achievement lead to a 7.5% decline in fair value to AUD 2.60 per share or 25% increase in fair value to AUD 3.50 per share, respectively.

Santos has achieved lower average domestic gas pricing than Beach in part due to greater west coast market contribution and longer held customers. That difference is likely to persist. Santos' average price achievement fell from 2019 with the acquisition of Quadrant and its west coast gas business—the company has reported price achievement for its west and east coast gas markets since 2020. First-half 2022 east average east coast price achievement of AUD 8.60/mmBtu was only slightly behind Beach's AUD 9.05/mmBtu. Santos' average price achievement has increased by more than 50% since the second half of 2020. That in contrast to a circa 20% increase for Beach, albeit from an already higher level.

Woodside's domestic gas price achievement has historically been comparatively modest reflecting west coast pricing from the North West Shelf JV. But the merger with BHP Petroleum moved the domestic gas needle for Woodside, both in terms of volume and price. US gas prices have now risen sharply given the Russia/Ukraine conflict, up more than three-fold since 2020 lows to over USD 9.00/mmBtu. And in conjunction with soaring prices for the Victorian benchmark, the natural home for BHP Petroleum's Bass Strait gas, Woodside's domestic gas price achievement pressed AUD 9.00/mmBtu for first-half 2022, more than doubling, despite only one month's contribution from BHP Petroleum.

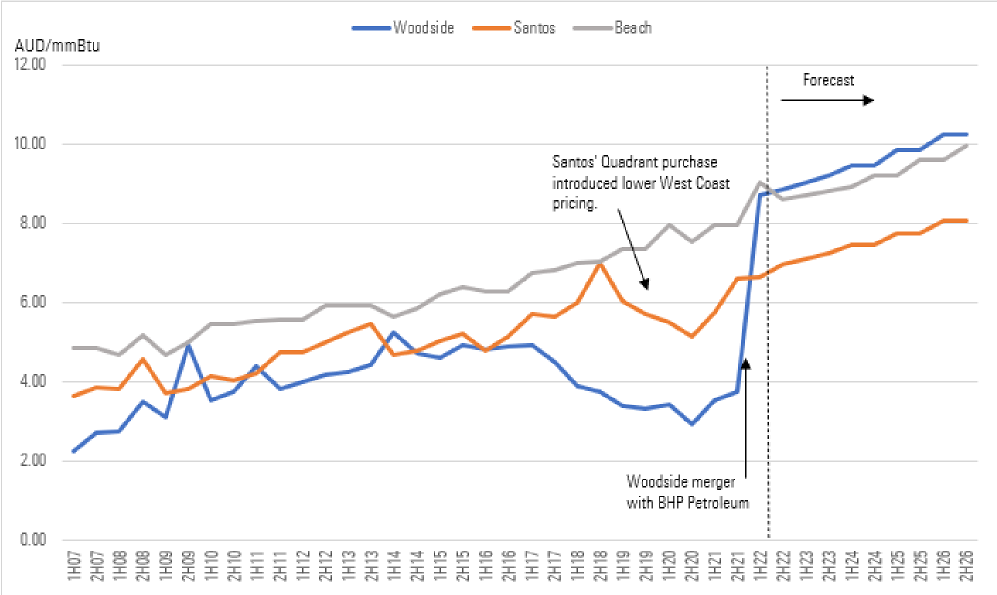
Exhibit 13 Woodside's Achieved Pipeline/Domestic Gas Price Comparatively Weak Until Last Quarter's Spike



Source: Source: Company Filings/Morningstar

However, the sustainability of this pricing will come down meaningfully to U.S. gas prices. Morningstar's midcycle U.S. gas price forecast sits at just USD 3.30/mmBtu from mid-2024. Further high Victorian domestic spot gas prices, recently near AUD 30/GJ, are not likely to be realistically available to Woodside in the longer run as they are unsustainable and unlikely to be tolerated by regulators indefinitely.

Exhibit 14 Beach Has Achieved Consistently Highest Average Domestic Gas Price



Source: Source: Company Filings/Morningstar

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