Asia-Pacific Oil And Gas Companies: Prepared For Price Volatility

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Corporate Ratings

A Sensitivity Review

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S&P Global Ratings

This report does not constitute a rating action

Agenda

- Key takeaways
- Rated entities under study
- Our scenarios
- Q&A

Key Takeaways

- **Most rated producers in Asia-Pacific have maintained conservative financial policies and relatively low leverage amid higher prices.** That, along with flexibility to adjust spending, provides rating buffer against oil price volatility.
- **We expect two-thirds of the 16 rated companies in Asia-Pacific will maintain financial profiles commensurate with the rating levels** even if Brent oil prices fell to US$40 per barrel in 2024 and 2025.
- The stand-alone credit profile (SACP) of the remaining five companies would likely come close to, or breach, their downgrade triggers. **Nonetheless, all five are national oil companies, whose overall creditworthiness benefits from likely government support.**
- **Most upstream operators have moderately leveraged balance sheets** and generally low-cost positions, while operators with a long reserve life also have some spending flexibility. This will moderate fluctuations in leverage in a down cycle.
- **Earnings of producers with downstream products are likely to be somewhat more resilient in a downturn.** But they have less room to adjust their spending, given often larger committed capex.

Rated Oil And Gas Companies In Asia-Pacific

Upstream producers Most or all earnings generated from upstream hydrocarbon operations or production of liquified natural gas (LNG)	**Integrated producers with downstream operations** Earnings are a combination of upstream exploration and production (E&P) and downstream operations such as refinery, marketing and petrochemicals
China National Offshore Oil Corp.	China National Petroleum Corp.
CNOOC Ltd.	China Petrochemical Corp.
Korea National Oil Corp. (KNOC)	China Petroleum & Chemical Corp.
Inpex Corp.	Korea Gas Corp. (Kogas)
Medco Energi Internasional Tbk. PT	Oil and Natural Gas Corp. Ltd.
PTT Exploration and Production PLC	Pertamina (Persero) PT
Santos Ltd.	Petroliam Nasional Bhd.
Woodside Energy Group Ltd.	PTT Public Co. Ltd.

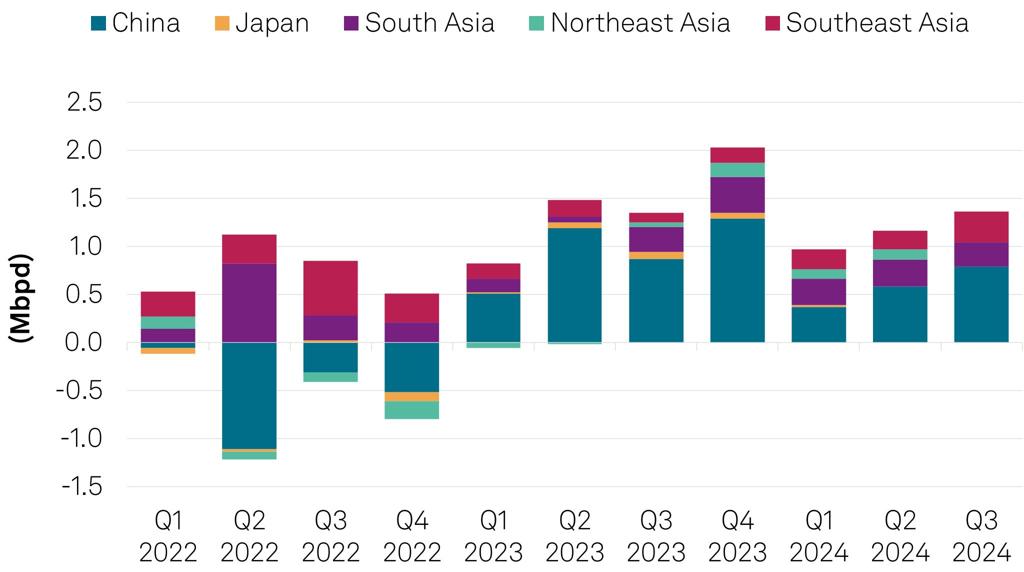
Source: S&P Global Ratings.

Our Base-Case Scenario

Demand | Resilient In 2024

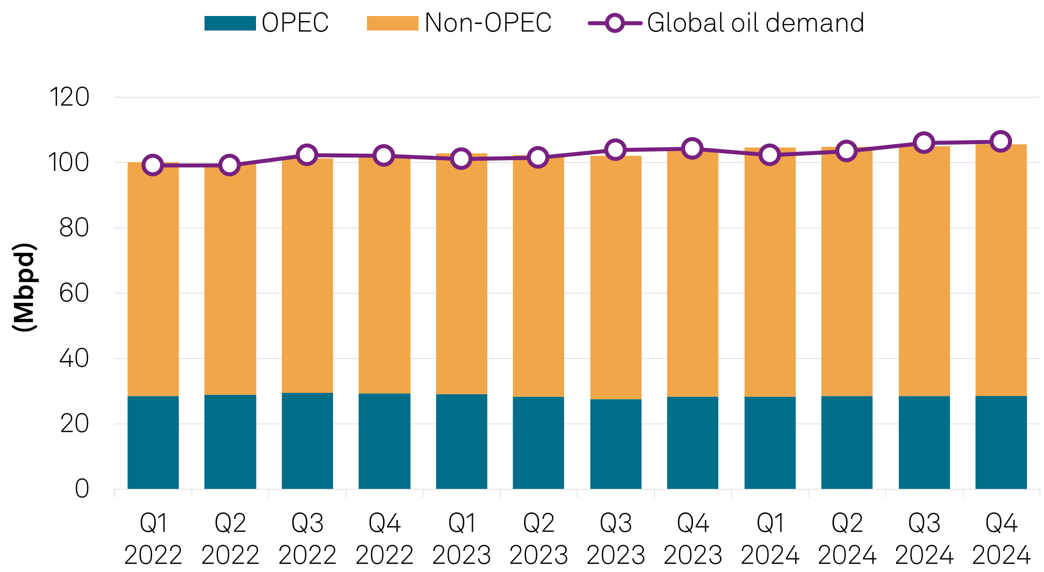
- Asia-Pacific GDP will grow about 4.4% through 2024, surpassing global GDP growth of about 3% (~1.3% in the U.S. and 1%-1.5% in Europe).
- Asia is likely to account for nearly 70% of the global oil demand in 2023, and more than 60% in 2024.
- Asian oil demand will rise 1.4 million barrels per day (mbpd) in 2023 and about 1.1 mbpd in 2024, from a growth of 357,000 bpd in 2022.
- Russian crude supply remains resilient despite an EU import ban. At the same time, U.S. oil output will likely reach 12.8 mbpd in 2023--a record high.

Incremental demand from China and India will hold up in 2024



Mbpd--Million barrels per day. Sources: S&P Global Ratings.

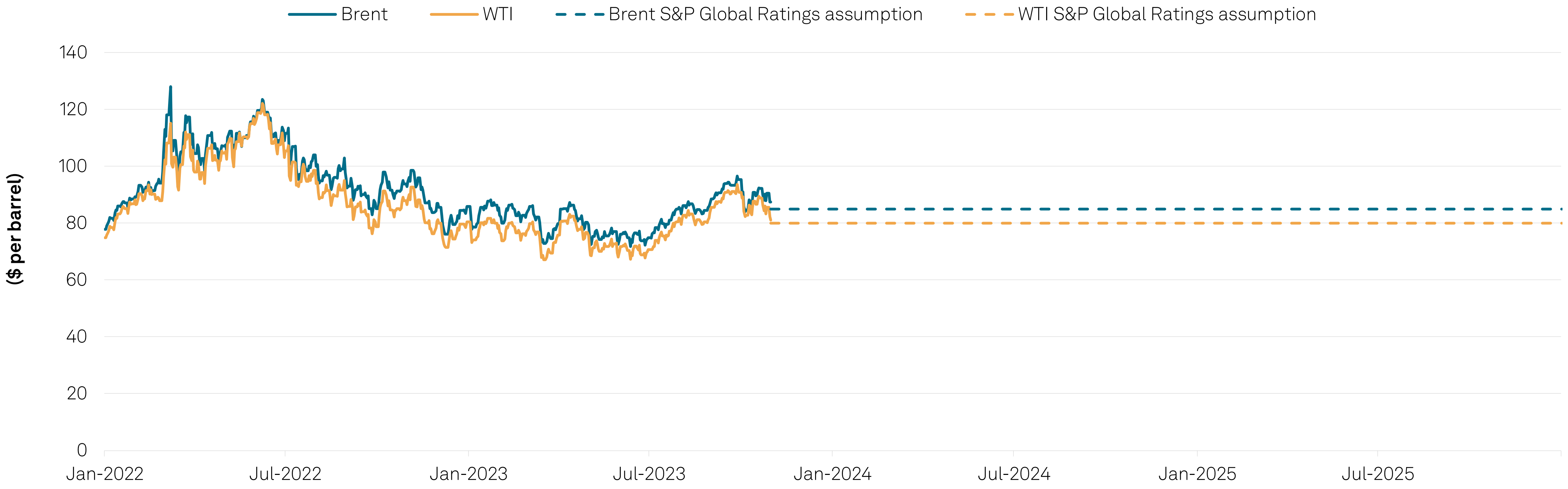
Resilient Russian supply despite OPEC+ production cut



Sources: S&P Global Ratings.

Prices | Brent At $85 Per Barrel Through 2025 In Our Base Case

- We assume Brent oil price at $85 per barrel and WTI prices at $80 per barrel through 2025.
- Base-case prices are underpinned by steady demand coupled with production cuts.
- The main risk remains the sustainability of the global demand outlook.



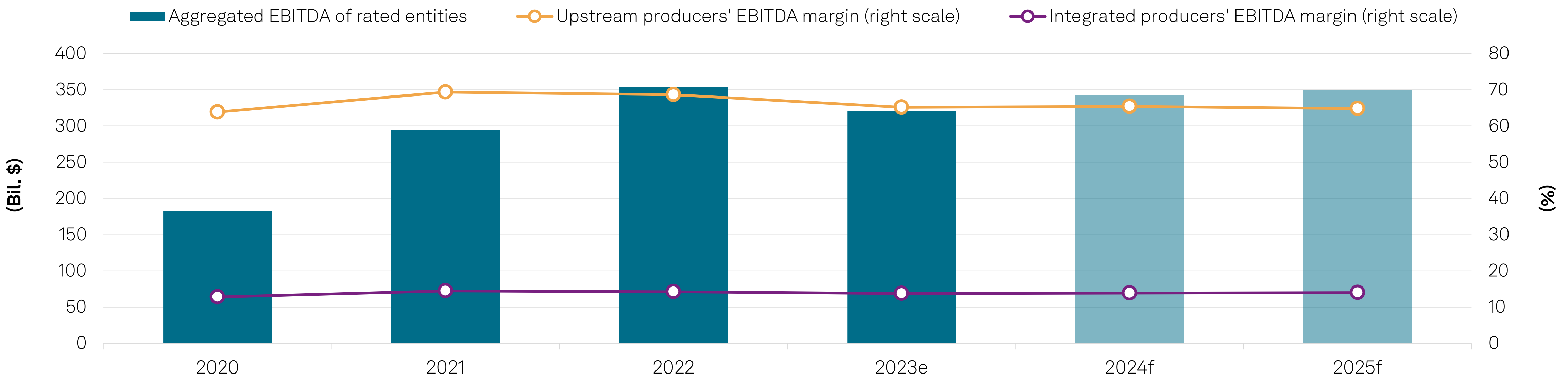
Sources: S&P Global Ratings.

S&P Global Ratings

Base Case | Earnings To Remain Resilient With Brent At $85 Per Barrel

- Median EBITDA margins will be about 37% in 2023-2025 for the 16 companies we rate, versus 38% in 2022.
- On an aggregated basis, we forecast EBITDA margins will be 16%-17% in 2023-2024 compared with 17.5% in 2022.
- Rated entities with higher exposure to upstream operations will continue to enjoy high, albeit more volatile, margins. Margins of producers with downstream operations are likely to average 15% through 2025.

Earnings will slightly retreat from the peak in 2022 but remain resilient

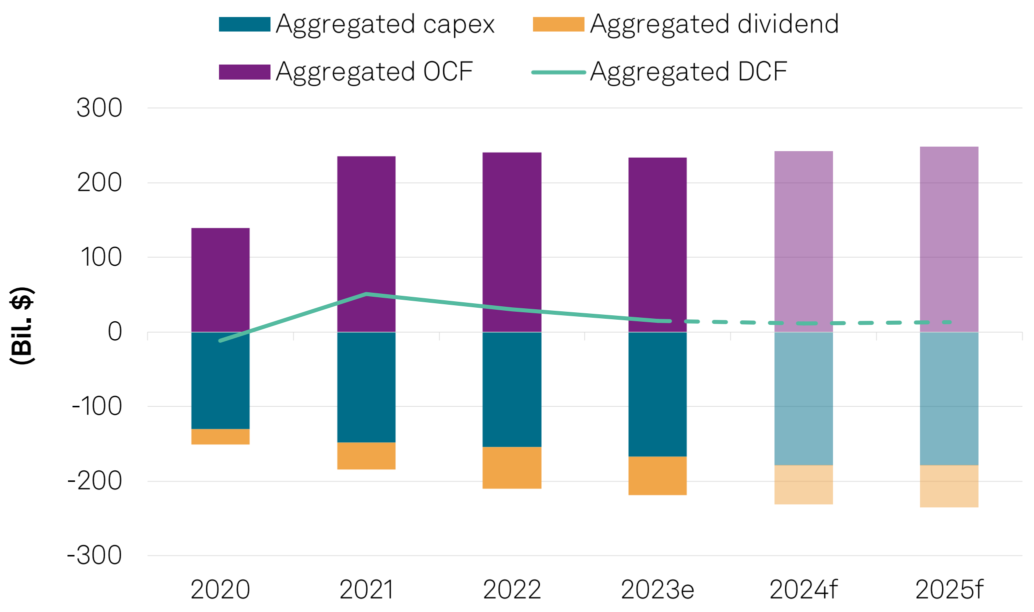


Upstream producers include China National Offshore Oil Corp., CNOCC, KNOC, Inpex, Medco, PTTEP, Santos, and Woodside. Integrated producers with downstream operations include China National Petroleum Corp., China Petrochemical Corp., China Petroleum & Chemical Corp., Kogas, ONGC, Pertamina, Petronas, and PTT. See page 4 for a list of rated entities and their full names. Sources: Company disclosures, S&P Global Ratings.

Base Case | Spending To Edge Up Amid Solid Operating Cash Flows

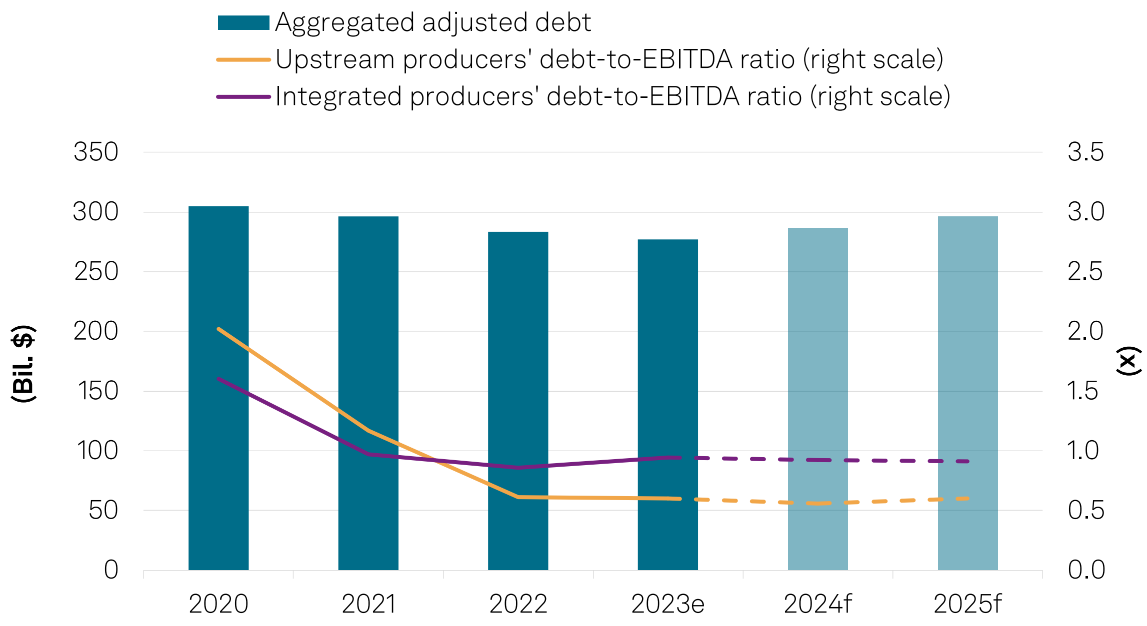
- Solid operating cash flows from 2021 and 2022's windfall earnings will support spending through 2025.
- Most rated entities are likely to direct spending into reserve replenishment, downstream projects, and energy transition.
- Net debt growth is moderate through 2025 in our base case, keeping leverage among Asia-Pacific upstream and integrated producers at about 1.0x.

Steady cash flows will enable sustained spending



S&P Global Ratings-adjusted figures. Capex--Capital expenditure. DCF--Discretionary cash flow. OCF--Operating cash flow. Source: S&P Global Ratings.

Leverage level will likely remain modest through 2025



S&P Global Ratings-adjusted figures. Source: S&P Global Ratings.

A Downside Scenario

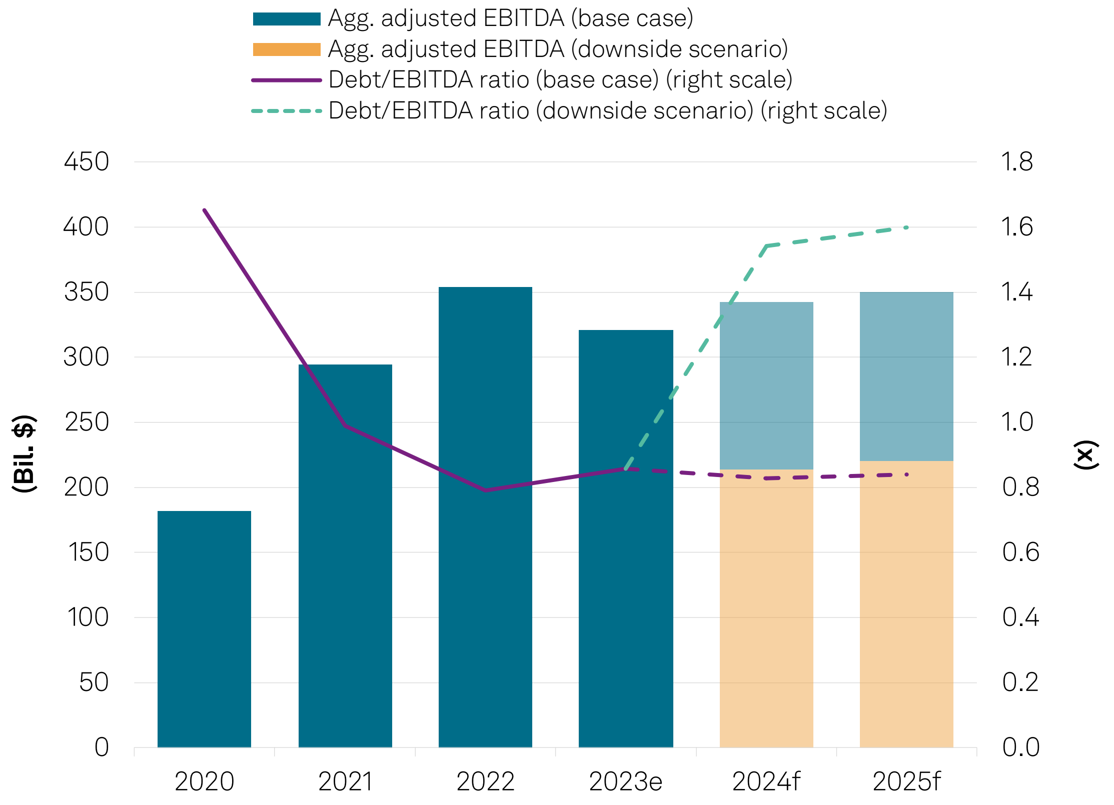
Downside Scenario | Brent Prices At US$40 Per Barrel In 2024 And 2025

Key downside scenario assumptions

- Brent oil prices at $40 per barrel in 2024 and 2025.
- Steady production volumes given most rated companies in the region are national oil companies (NOCs), with an important role in ensuring energy security in their respective countries.
- Some flexibility to reduce 15%-20% of outflows (capex and dividends) amid weaker earnings.

Outcomes

- Aggregated adjusted EBITDA of the 16 rated companies would decline by about 40% from the base case.
- One-fifth of producers would incur negative cash flow from operation versus none in our base case.
- Debt-to-EBITDA ratios could creep up to about 1.6x when aggregating companies' debt and EBITDA amounts if Brent oil prices stayed close to $40 per barrel through 2025.

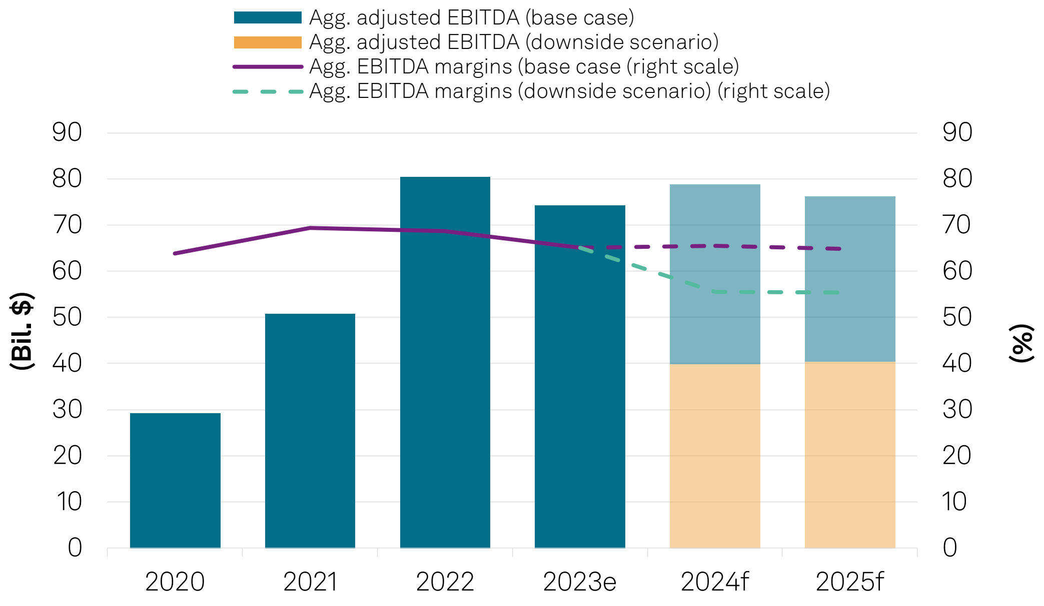


Agg.--Aggregated. Source: S&P Global Ratings.

Downside Scenario | Solid Financial Buffers Could Shield Upstream Producers

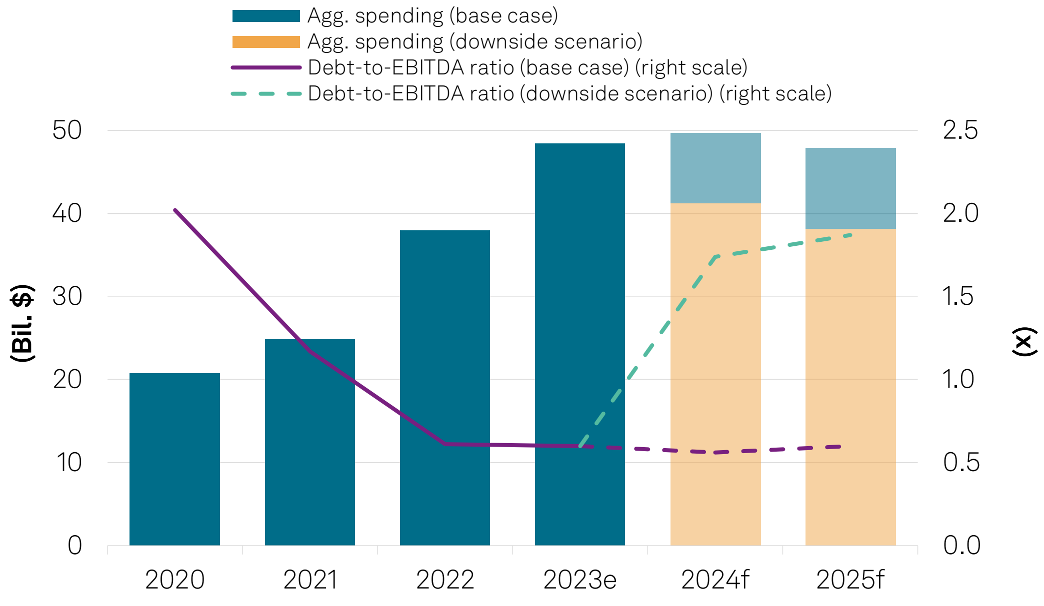
- Upstream producers would experience more earnings volatility, with aggregated EBITDA declining by half in our downside scenario.
- Proven reserve life of about nine years (on average) gives some flexibility to defer or reduce capex by an average of 15%.
- Upstream producers would likely reduce their dividend payments by about 40% in 2024, and about 50% if low oil prices persist in 2025 versus our base case.
- Debt-to-EBITDA to creep up to about 1.9x, about three times the leverage in our base case.

Upstream producers could see their earnings halve...



Upstream producers include China National Offshore Oil Corp., CNOCC, KNOC, Inpex, Medco, PTTEP, Santos, and Woodside. Agg.--Aggregated. Source: S&P Global Ratings estimates.

...but with some buffer to keep leverage below 2.0x



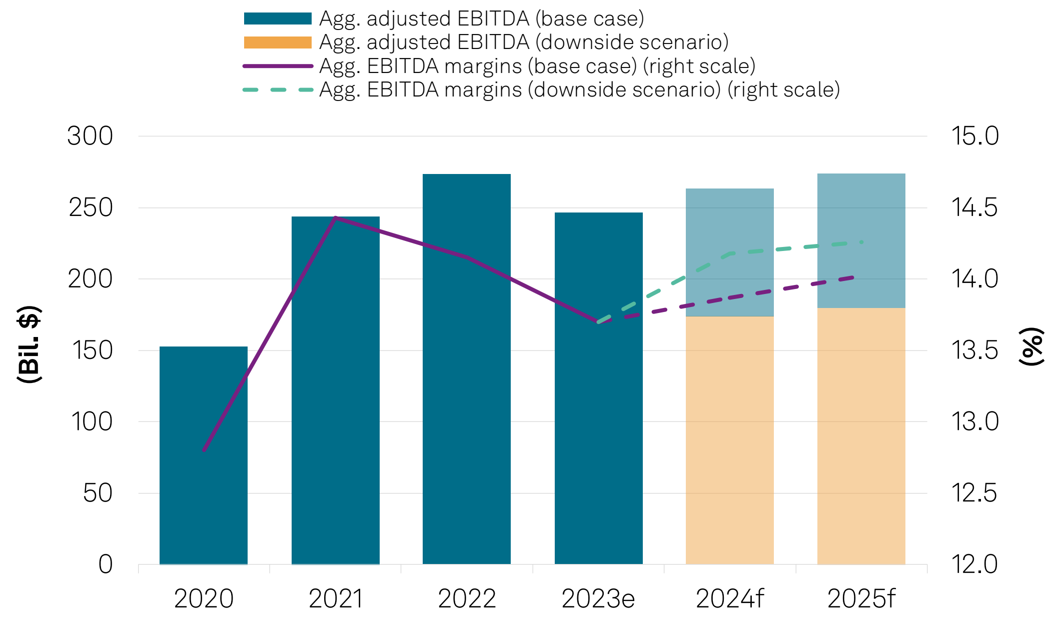
Agg.--Aggregated. Spending--Capex and dividend. Source: S&P Global Ratings estimates.

S&P Global Ratings

Downside Scenario | Downstream Operations Have Less Capex Flexibility

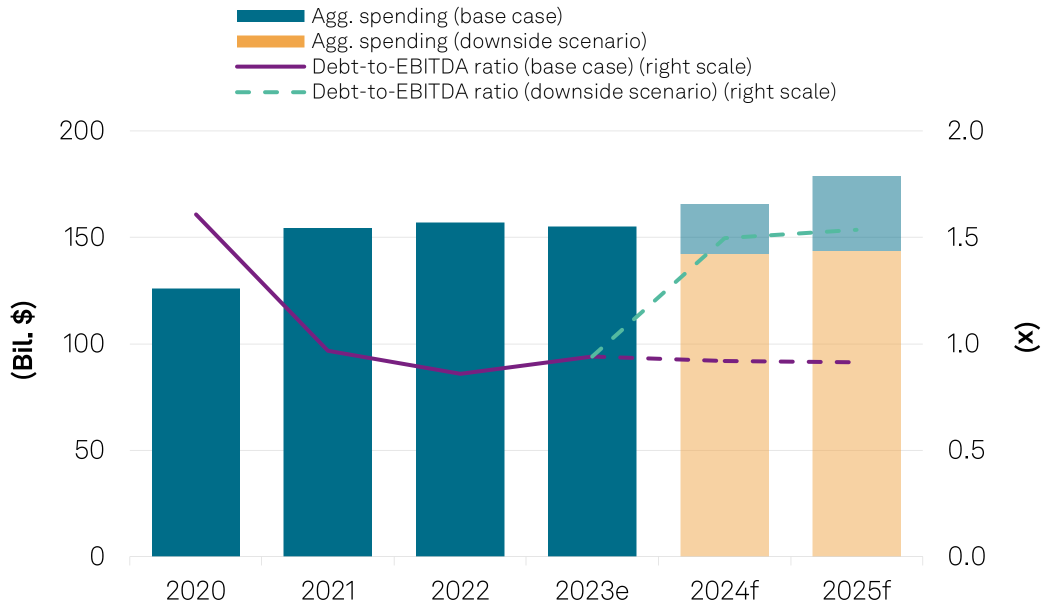
- Producers with sizable downstream operations would likely benefit from lower feedstock costs during the crude price down cycle, limiting the drop in consolidated earnings to about 30%.
- Ongoing committed projects would limit their capex flexibility. Spending would decline by up to 10% from our base case.
- Producers would likely cut dividend payouts by 30% on average in 2024, and up to 50% in 2025 versus our base case.

Downstream integration would limit earnings downside...



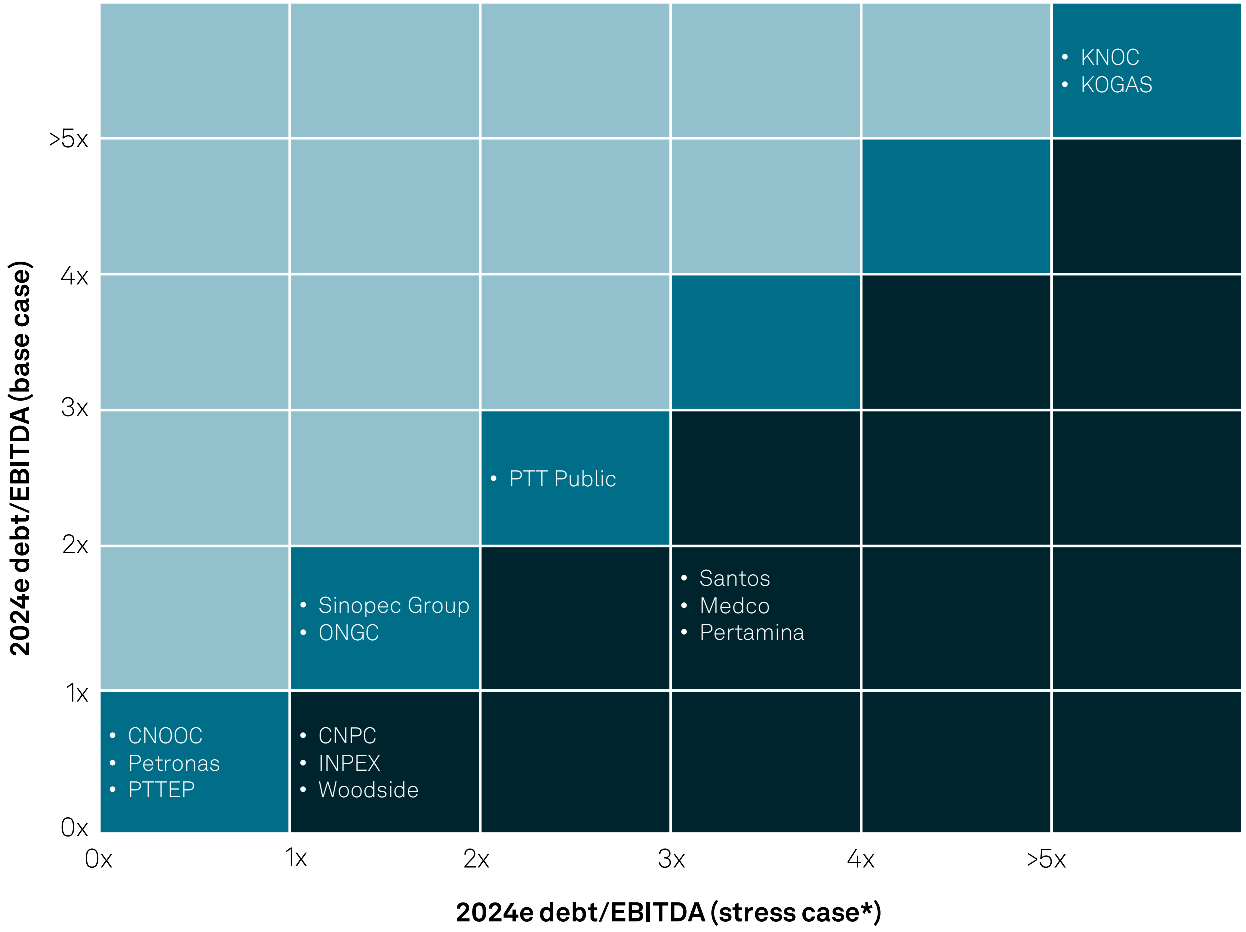
Producers with downstream operations include China National Petroleum Corp., China Petrochemical Corp., China Petroleum & Chemical Corp., KOGAS, ONGC, Petronas, Pertamina, and PTT Public. Agg.--Aggregated. Source: S&P Global Ratings estimates.

...while leverage would creep up on committed spending



Agg.--Aggregated. Spending--Capex and dividend. Source: S&P Global Ratings estimates.

Upstream And Integrated Oil And Gas Companies In Asia-Pacific



Higher headroom for SACP†

- China National Offshore Oil Corp. (A+/Stable/--)§
- INPEX Corp (A-/Positive/A-2)§
- Korea Gas (AA/Stable/A-1+)§
- PTT Exploration and Production Public Co. Ltd. (BBB+/Stable/--)
- Medco Energi Internasional Tbk.PT (B+/Stable/--)
- Petroliam Nasional Bhd. (A-/Stable/--)§
- Pertamina (Persero) PT (BBB/Stable/--)§
- Santos Ltd. (BBB-/Stable/A-3)
- Woodside Energy Group Ltd. (BBB+/Stable/--)

Lower headroom for SACP†

- China National Petroleum Corp. (A+/Stable/--)§
- China Petrochemical Corp. (Sinopec Group; A+/Stable/A-1)§
- Korea National Oil Corp. (AA/Stable/--)§
- Oil and Natural Gas Corp. (BBB-/Stable/--)§
- PTT Public Co. Ltd. (BBB+/Stable/--) §

*Our stress case incorporates 2024 Brent oil price at $40 per barrel. †Long-term foreign currency ratings as of Nov. 20, 2023. Headroom refers to their stand-alone credit profiles (SACP). §Companies with an issuer credit rating linked to their respective sovereign ratings. e--Estimate. E&P--Exploration and production.

An Upside Scenario

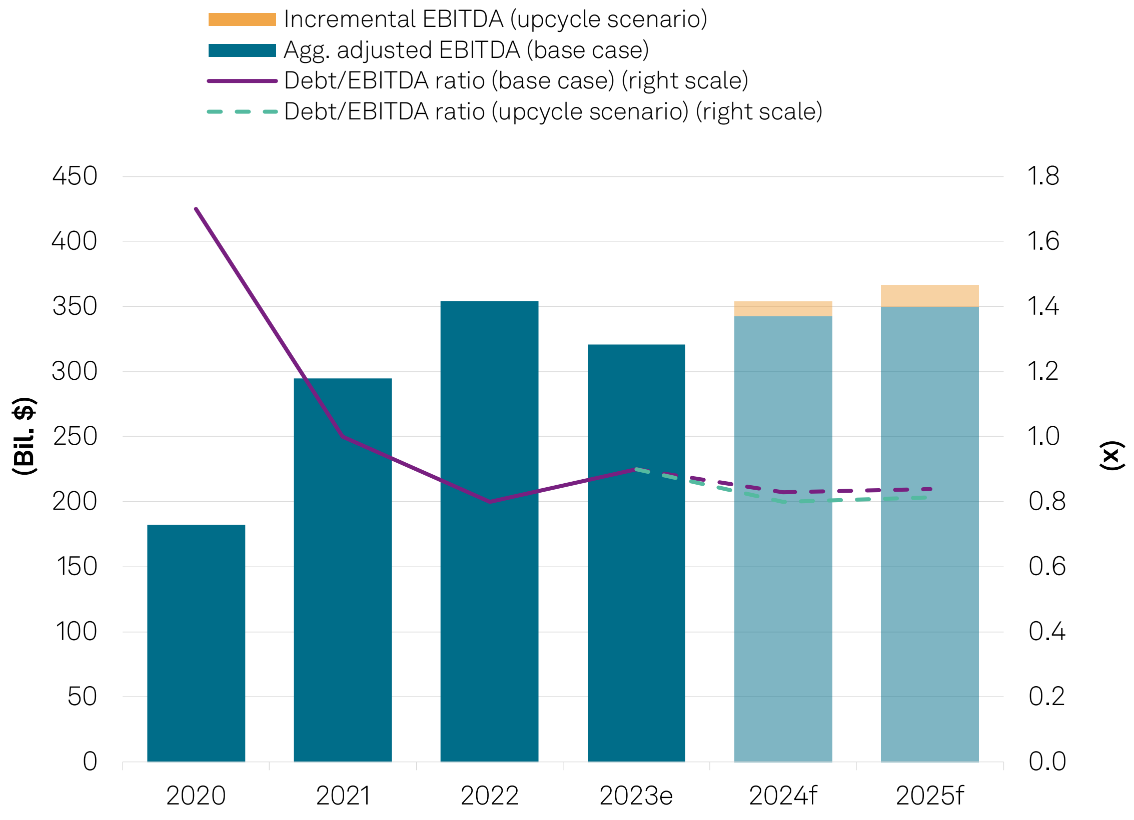
Upside Scenario | Brent Prices At US$95 Per Barrel In 2024 And 2025

Key upside scenario assumptions

- Brent prices averaging $95 per barrel in 2024 and 2025.
- A spike in oil prices if geopolitical tensions intensify, production cuts continue, or there is a severe supply disruption.
- A 25% increase (on average) in outflows more likely driven by higher dividends than higher capital expenditures.

Outcomes

- Sustained high oil prices would directly translate into windfall earnings for upstream producers.
- Earnings upside would be more limited for integrated producers, which would face margins squeeze in downstream.

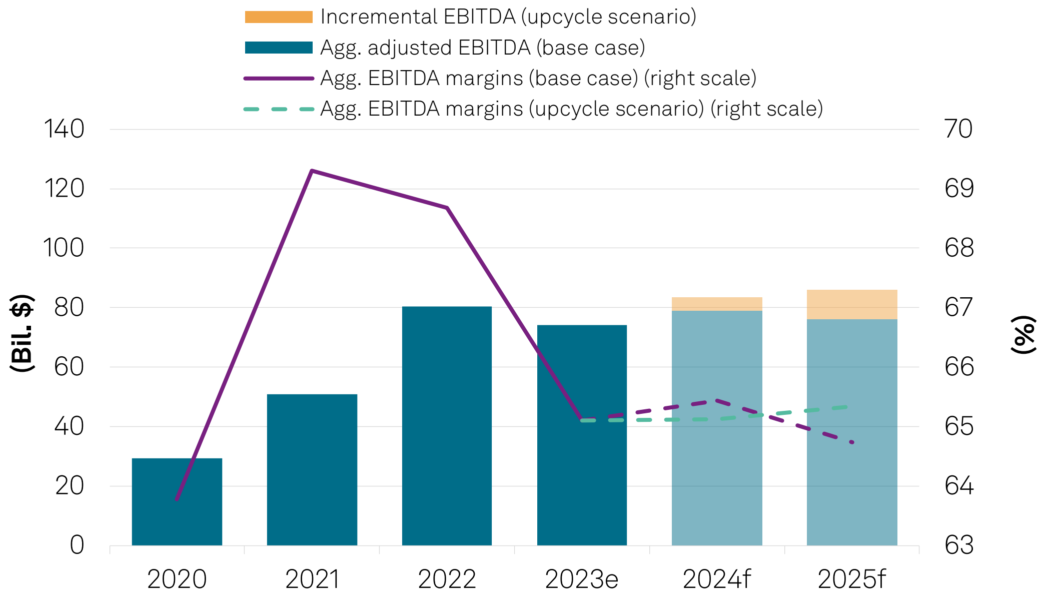


Agg.--Aggregated. Source: S&P Global Ratings estimates.

Upside Scenario | Buffer Would Likely Grow Further For Upstream Producers

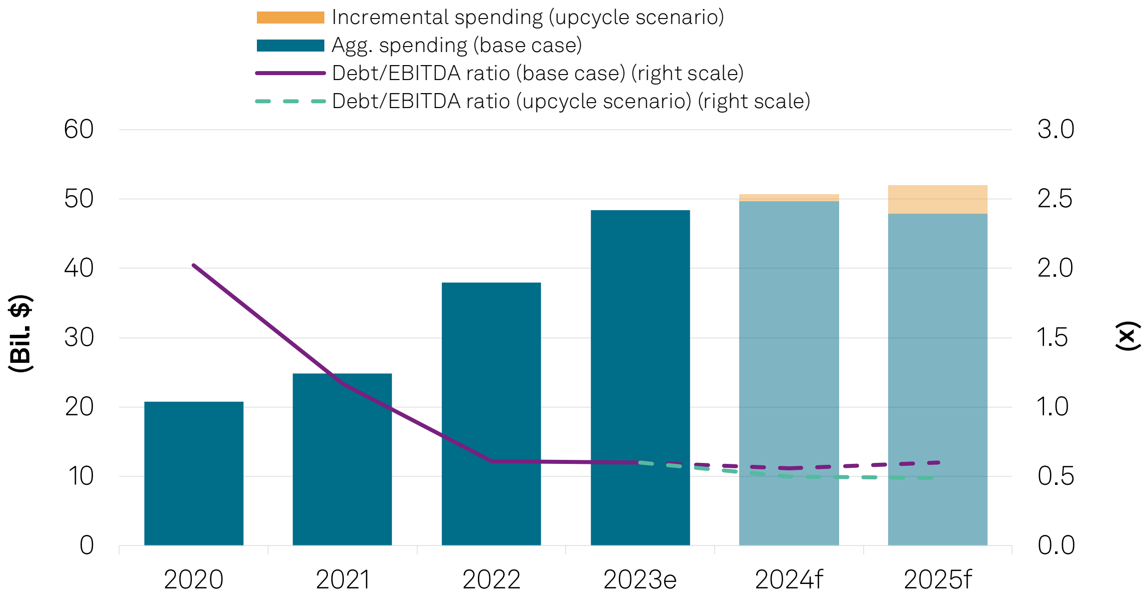
- With Brent oil prices at $95 per barrel, earnings would increase by up to 10% from the base case of $85 per barrel.
- Most Asia-Pacific upstream producers will maintain conservative financial policies, and we don't expect they would immediately increase investment budgets in response to high crude oil prices.
- Regulatory risks could increase amid sustained higher oil prices. Such risks would predominantly affect integrated producers because governments are more inclined to curb refined product prices for end-consumers.

Earnings would revert to 2022 levels



Agg.--Aggregated. Source: S&P Global Ratings estimates.

Higher dividends not more capex would drive outflows

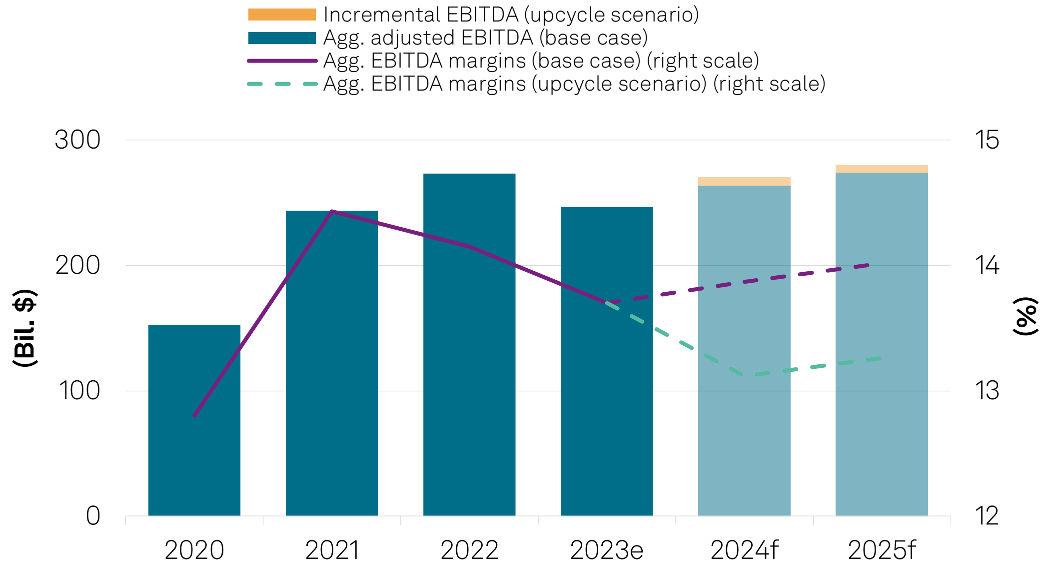


Agg.--Aggregated. Spending--Capex and dividend. Source: S&P Global Ratings estimates.

Upside Scenario | Spending Discipline At Producers With Downstream Assets

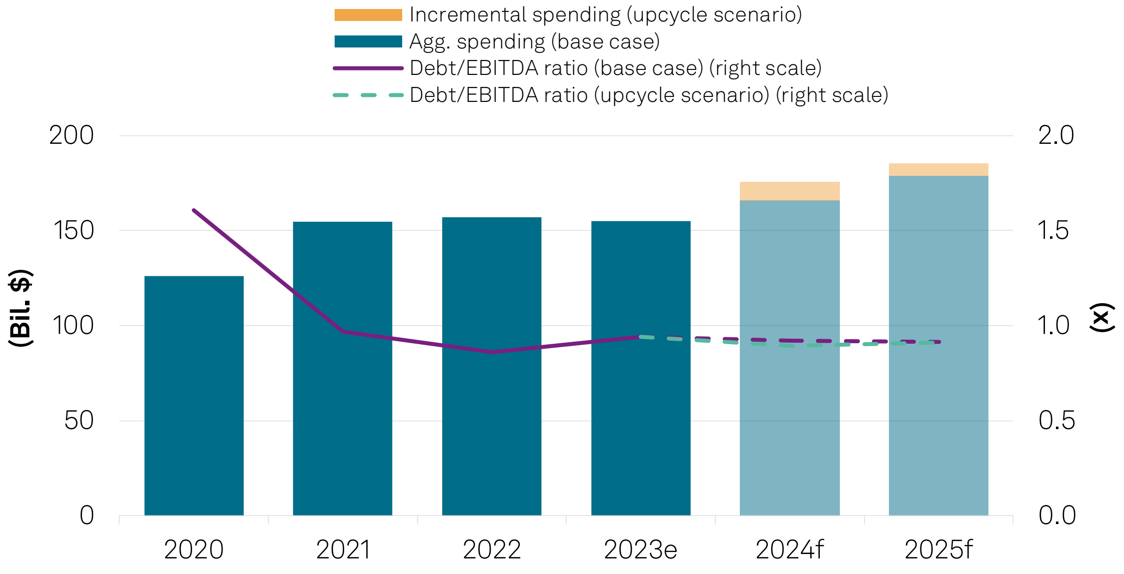
- Earnings would edge up only marginally for most integrated producers, owing to margin compression in the downstream business.
- Given our base-case expectation of sizable committed investments, we believe integrated producers would not significantly increase their capital expenditures even if oil prices stayed high through 2025.

Earnings to revert to 2022 levels



Agg.--Aggregated. Source: S&P Global Ratings estimates.

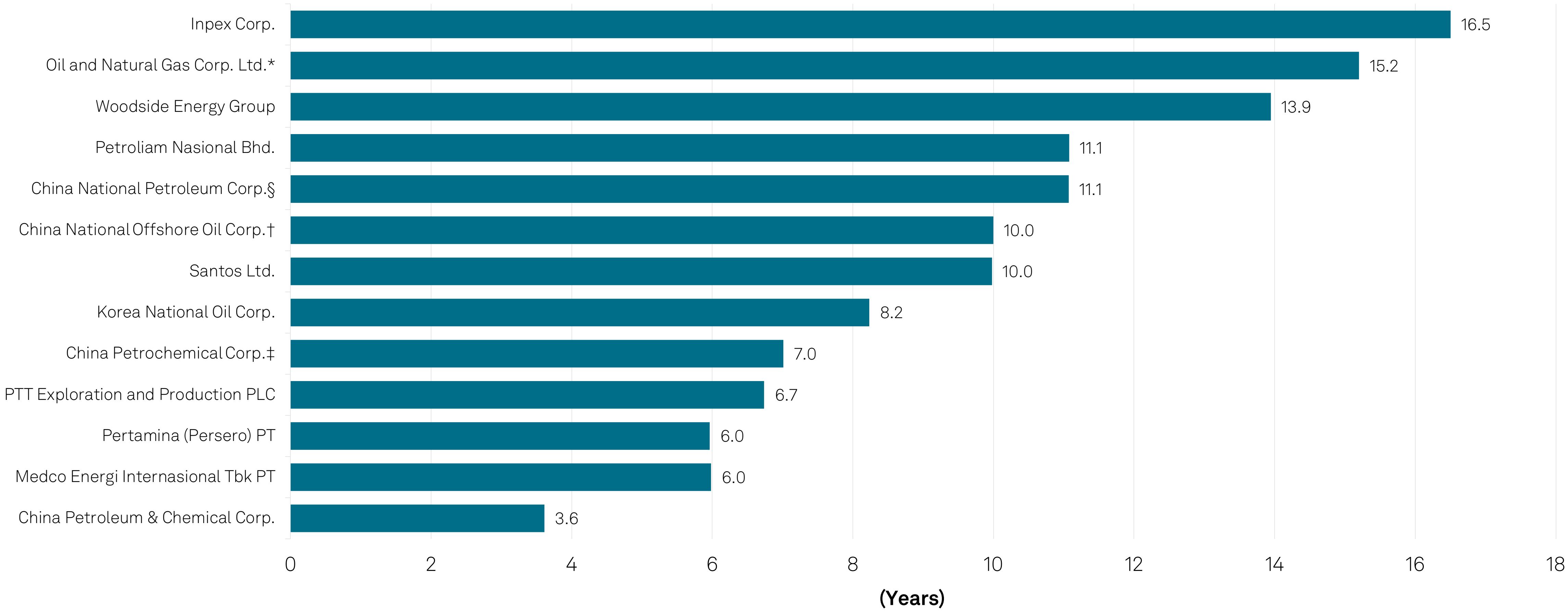
Material increase in spending from the base case is unlikely



Agg.--Aggregated. Spending--Capex and dividend. Source: S&P Global Ratings

Appendix

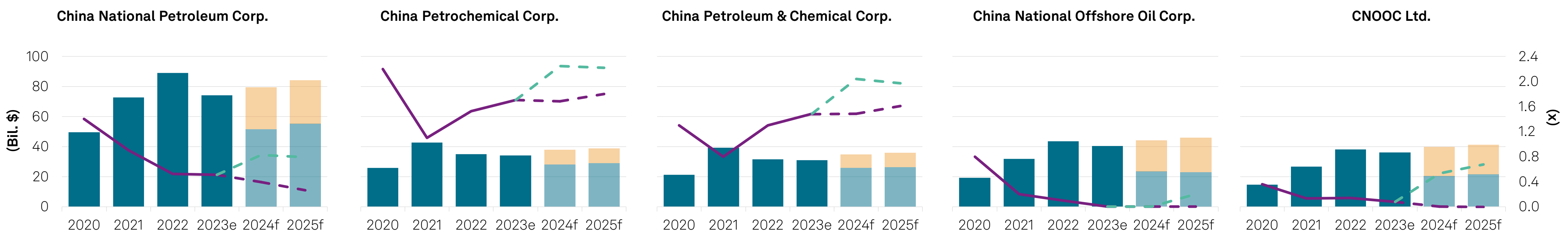
Appendix 1: Rated Entities' Proven Reserves (P1) Profile



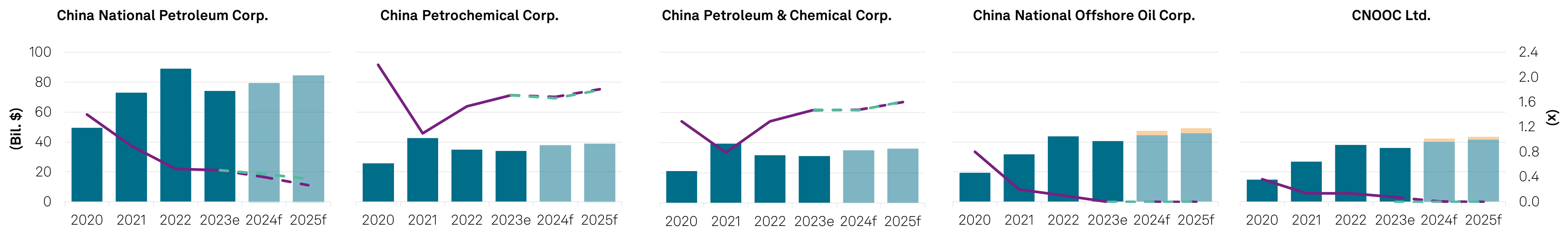
*As of fiscal year ending March 31, 2023. §Based on the disclosure of the listed subsidiary, PetroChina Ltd . †Based on the disclosure of the listed subsidiary, CNOOC Ltd. ‡Based on the disclosure of the listed subsidiary, China Petroleum Chemical Corp. MMBoe--Million barrels of oil equivalent. Source: S&P Global Ratings.

Appendix 2 | Rated Chinese Entities

Downside scenario



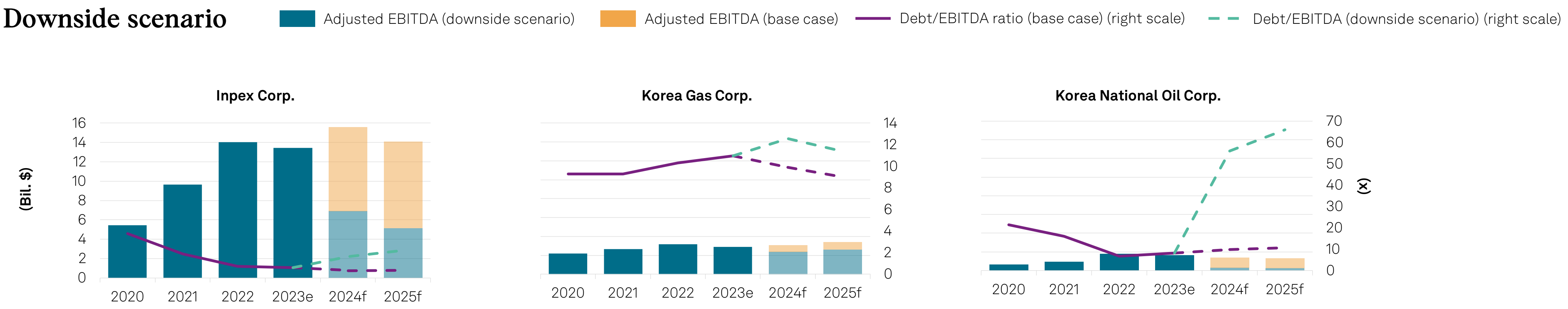
Upside scenario



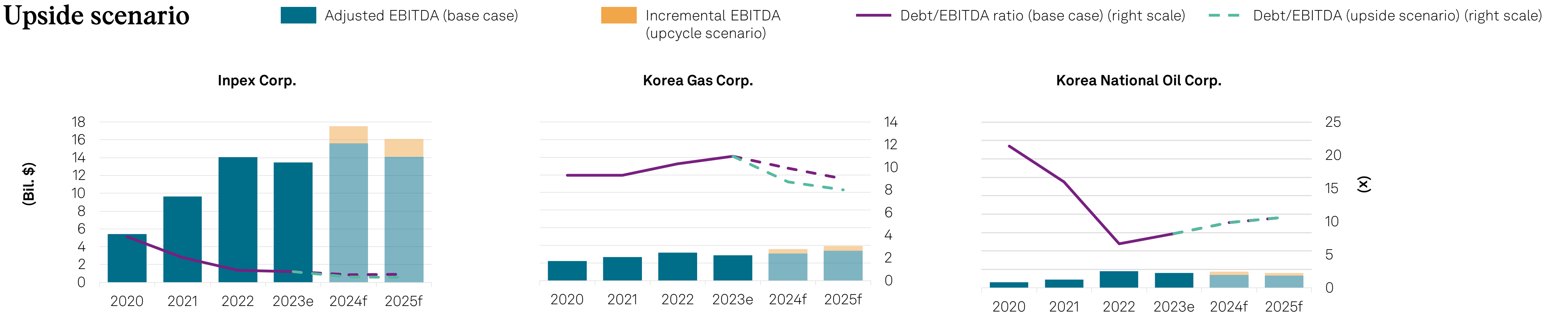
e--Estimate. f--Forecast. Source: S&P Global Ratings.

Appendix 3 | Rated Japanese And Korean Entities

Downside scenario



Upside scenario

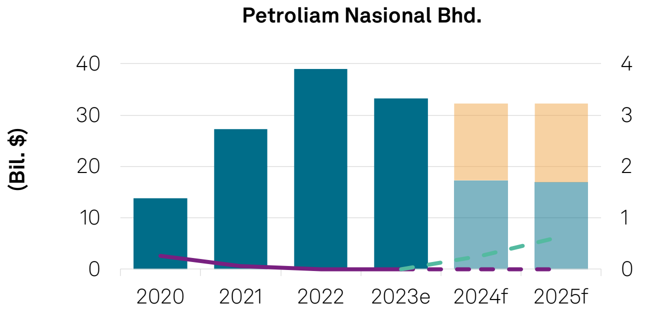


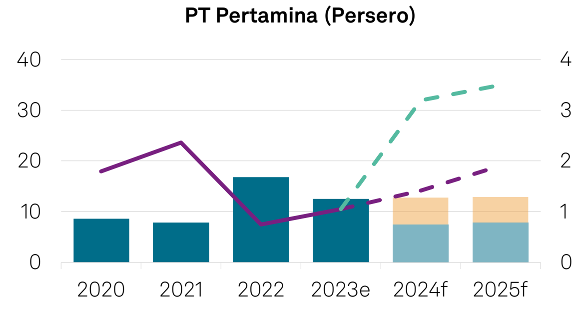
e--Estimate. f--Forecast. Source: S&P Global Ratings.

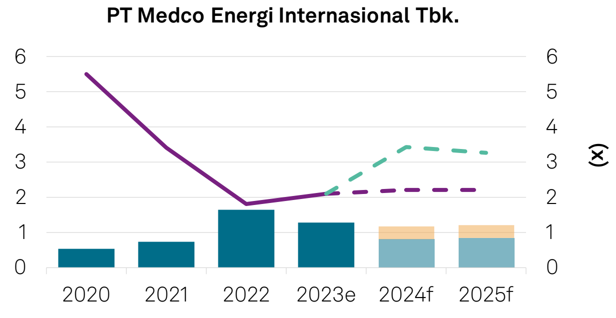
Appendix 4 | Rated Malaysian and Indonesian Entities

Downside scenario

Adjusted EBITDA (downside scenario) | Adjusted EBITDA (base case) | Debt/EBITDA ratio (base case) (right scale) | Debt/EBITDA (downside scenario) (right scale)

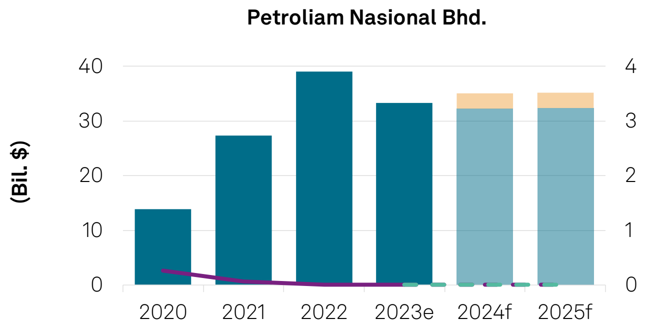


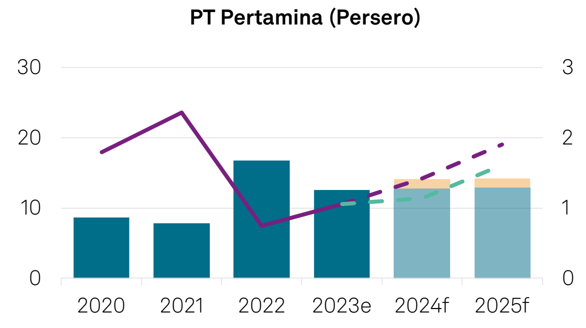


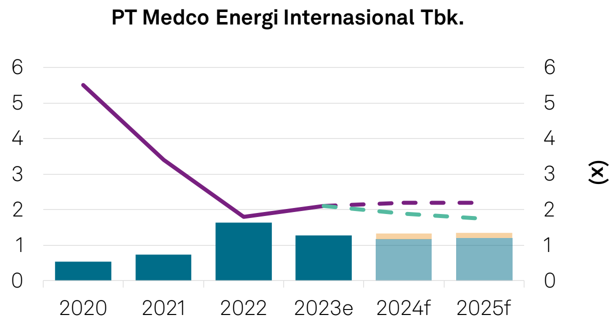


Upside scenario

Adjusted EBITDA (base case) | Incremental EBITDA (upcycle scenario) | Debt/EBITDA ratio (base case) (right scale) | Debt/EBITDA (upside scenario) (right scale)







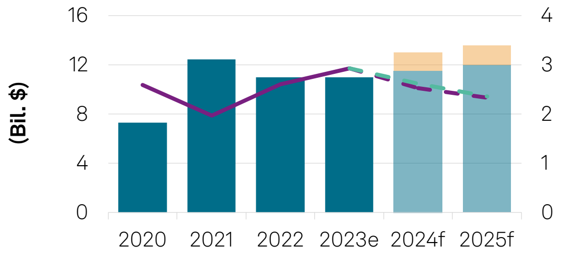
e--Estimate. f--Forecast. Source: S&P Global Ratings.

Appendix 5 | Rated Thai and Indian Entities

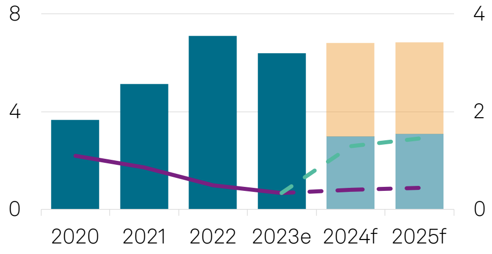
Downside scenario

Adjusted EBITDA (downside scenario) | Adjusted EBITDA (base case) | Debt/EBITDA ratio (base case) (right scale) | Debt/EBITDA (downside scenario) (right scale)

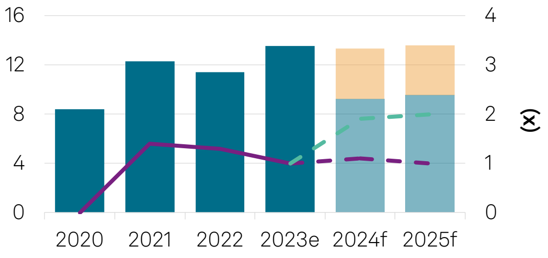
PTT Public Co. Ltd.



PTT Exploration and Production Public Co. Ltd.



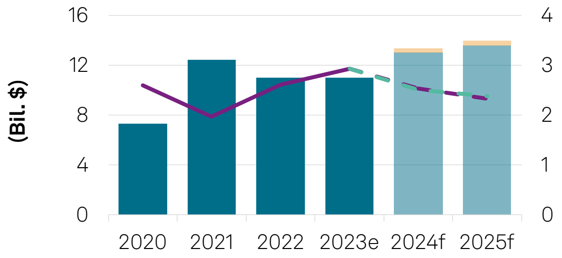
Oil and Natural Gas Corp. Ltd.



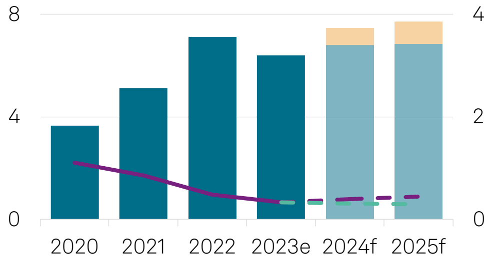
Upside scenario

Adjusted EBITDA (base case) | Incremental EBITDA (upcycle scenario) | Debt/EBITDA ratio (base case) (right scale) | Debt/EBITDA (upside scenario) (right scale)

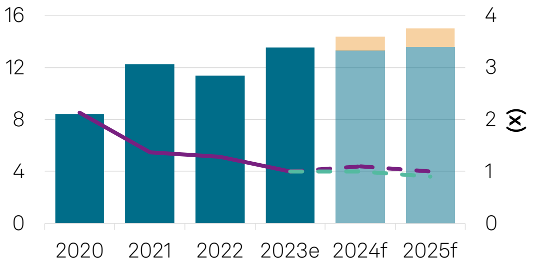
PTT Public Co. Ltd.



PTT Exploration and Production Public Co. Ltd.



Oil and Natural Gas Corp. Ltd.



e--Estimate. f--Forecast. Source: S&P Global Ratings

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