Ensuring adequate financing to sustain O&G developments

9th Joint IEA-IEF-OPEC Workshop

Erik Mielke | 27 April 2023

Wood Mackenzie

Inspiring Decisions

woodmac.com

Corporate capital allocation

Thematic agenda

- Corporate capital allocation in the oil and gas sector
- Balancing the needs of investment in traditional oil and gas businesses and low-carbon solutions
- How ESG has changed the landscape
- Changing risk-rewards

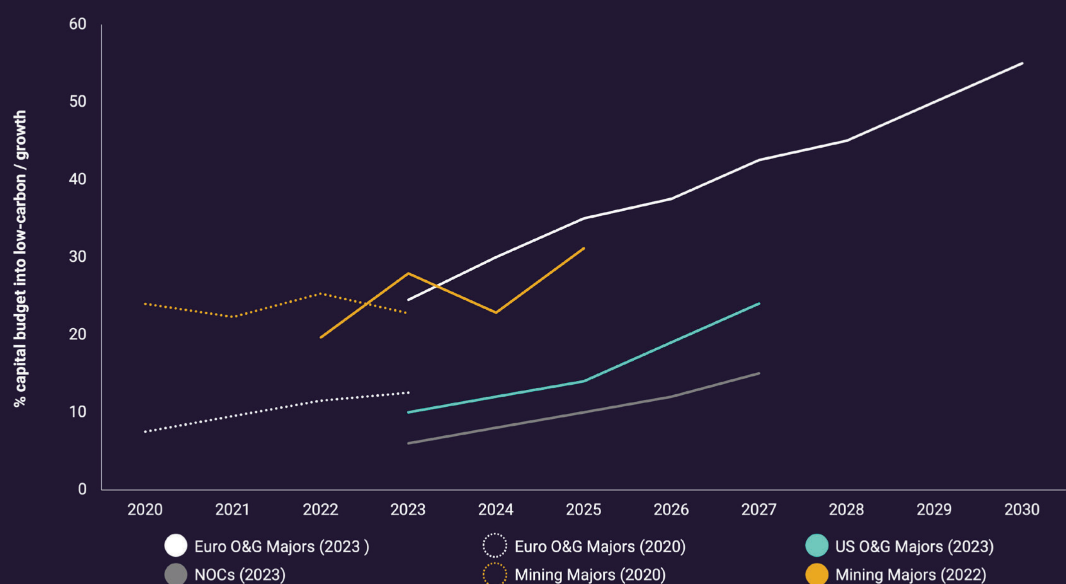
Key themes

- **Greater strategic convergence as war has forced recalibration**
  » Energy transition leaders forced to course correct
  » But decarbonisation spend still rising across the board
- **ESG message on oil and gas is becoming more nuanced, less dogmatic**
- **Capital discipline is a much, much bigger factor than ESG**
  » Reinvestment rates at historic lows
- **Shifting risk and rewards**
  » Rising cost of capital partly reflects transition risk
  » Tending to legacy cash cows while shifting to a transition growth mindset

Source: Wood Mackenzie Corporate Service. See also *How the war is shaping Big Oil's transition strategy*

Companies still increasing the proportion of capital allocated to low carbon

Guidance for low-carbon investment as proportion of total capital expenditure*

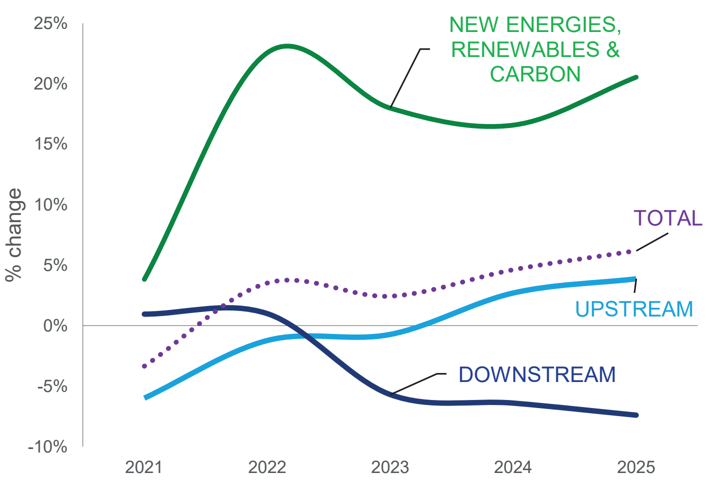


Source: Wood Mackenzie Corporate Service; * based on mid-point guidance.
From *Fuelling change: how oil and mining companies can finance the energy transition*

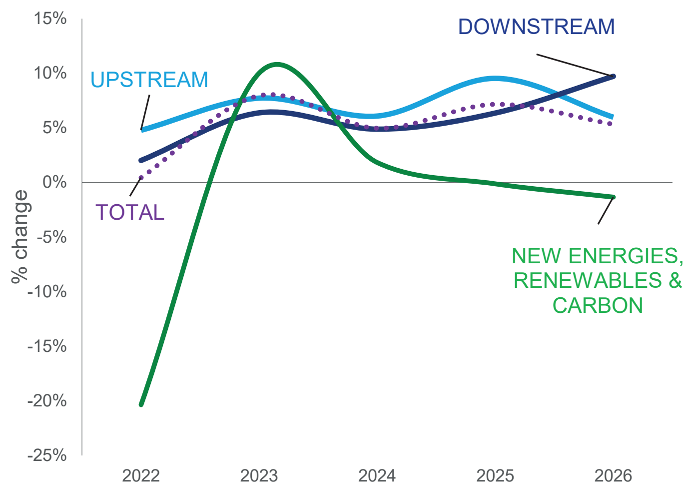
But significant spend recalibration compared to last year

For largest integrated players, capital allocation has swung back in favour of oil and gas

Rate of change: outlook at the start of 2022



Rate of change: outlook at the start of 2023

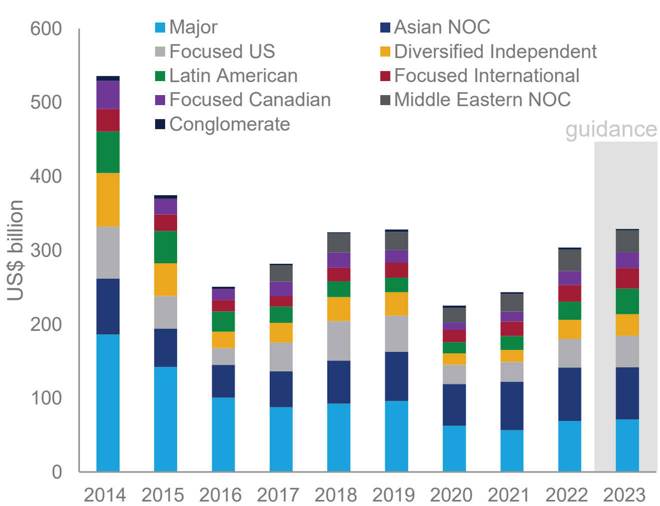


Note: the charts show the change in guidance for following four years compared to previous guidance, and most recent actuals vs previous guidance. .
Source: Wood Mackenzie Corporate Service, company reports. Analysis includes 22 large integrated companies (IOCs and NOCs).

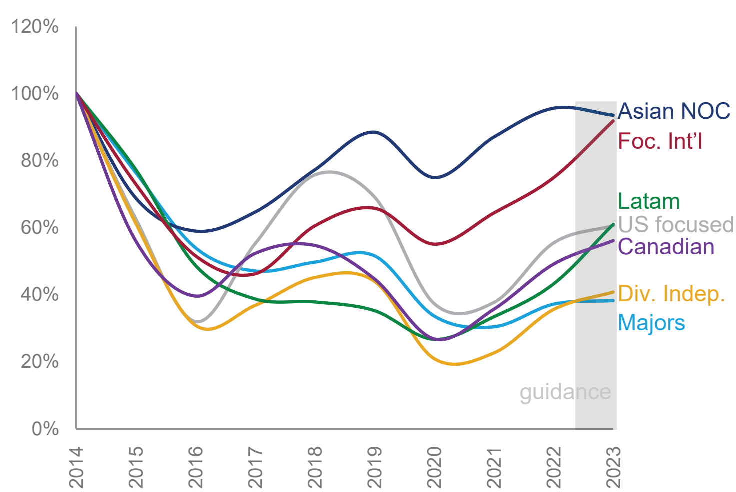
Some are exploiting the investment gap left by global IOCs

Some peer groups are essentially back to 2014 levels of spend. Overall spend is still well below 2014 but a lot of that is due to improved capex efficiency.

Total upstream spend* for 129 companies tracked



Upstream spend* evolution (indexed to 2014)

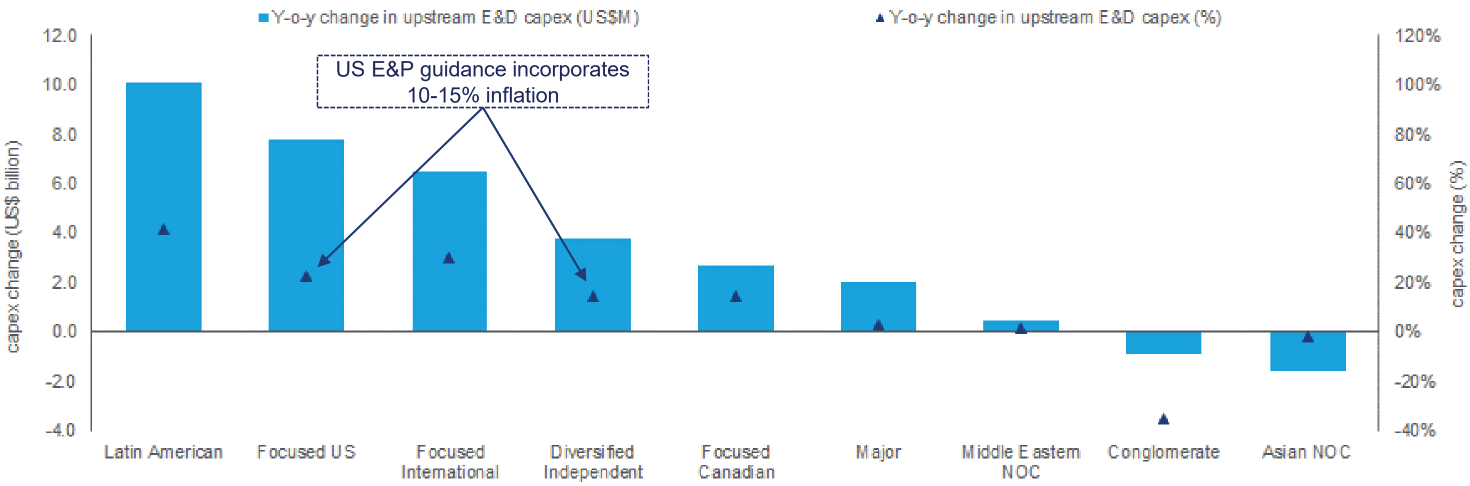


Note: *Upstream spend is tracked for a total of 129 E&Ps that report guidance. Dataset omits several large players, especially NOCs, that do not provide spend guidance (especially critical for 2023 guidance).
Source: Wood Mackenzie Corporate Service, company reports.

2023 upstream budgets are up about 10% overall

Inflation still the key driver for increases, particularly in US, but overall inflation impact cooled off by the time budgets were released. Capex growth only translating into 1.5% production growth guidance

Year-over-year change in upstream capex - 2023 guidance vs 2022 actual



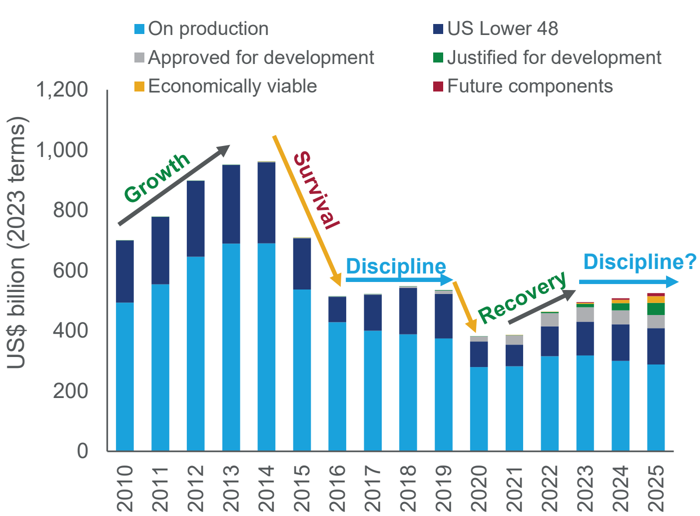
Note: *Upstream spend is tracked for a total of 129 E&Ps that report guidance. Dataset omits several large players, especially NOCs, that do not provide spend guidance. The aggregate budget for the included companies is US$329 billion.

Source: Wood Mackenzie Corporate Service, company reports.

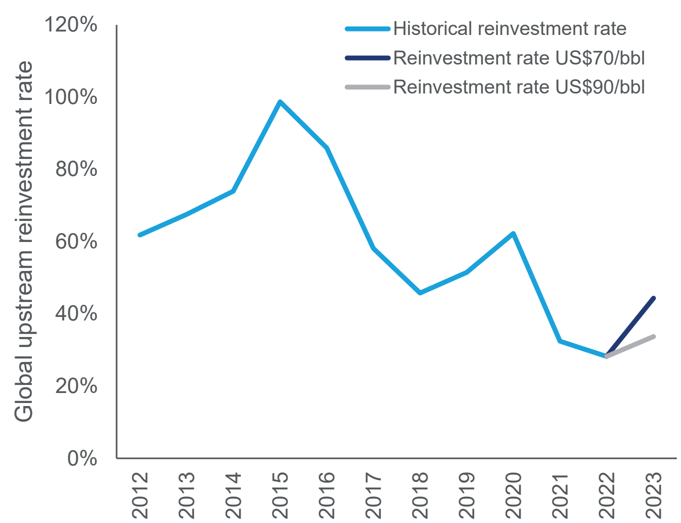
Global upstream spend is bouncing back

Capital discipline and supply change are key constraints

Upstream development capex



Global reinvestment as % of post-tax cash flow

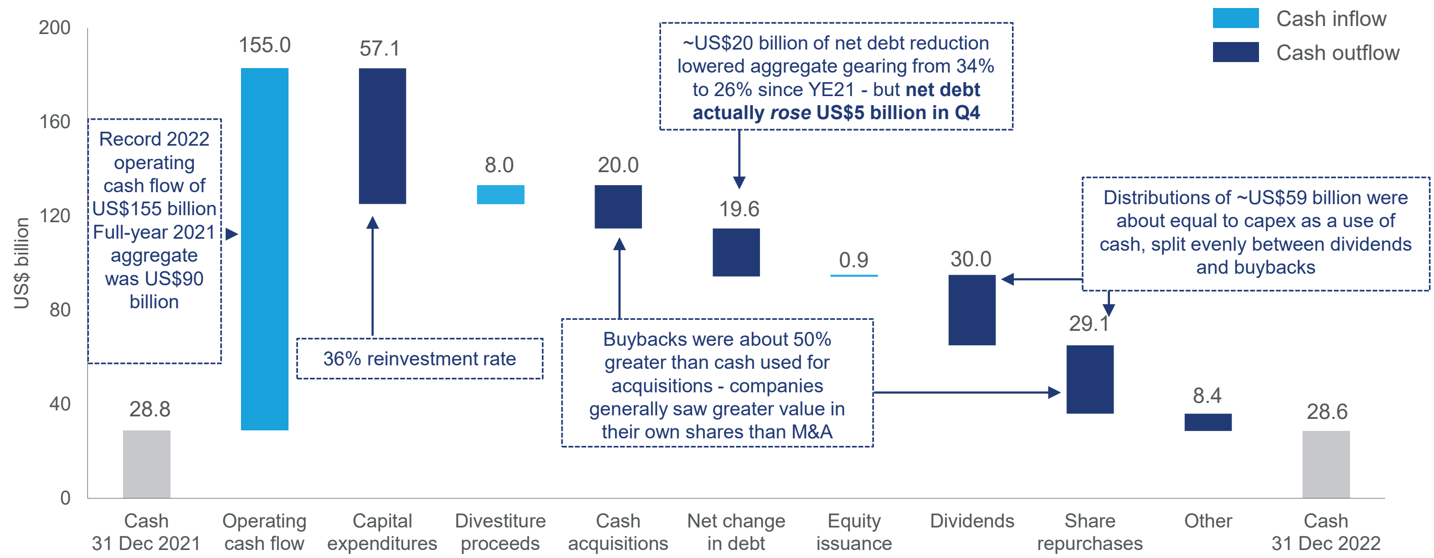


Source: Wood Mackenzie Lens Upstream

Capital restraint in a upcycle drove record cash flow in 2022

Balance sheet mending is largely done, return of cash to shareholders remains the primary focus

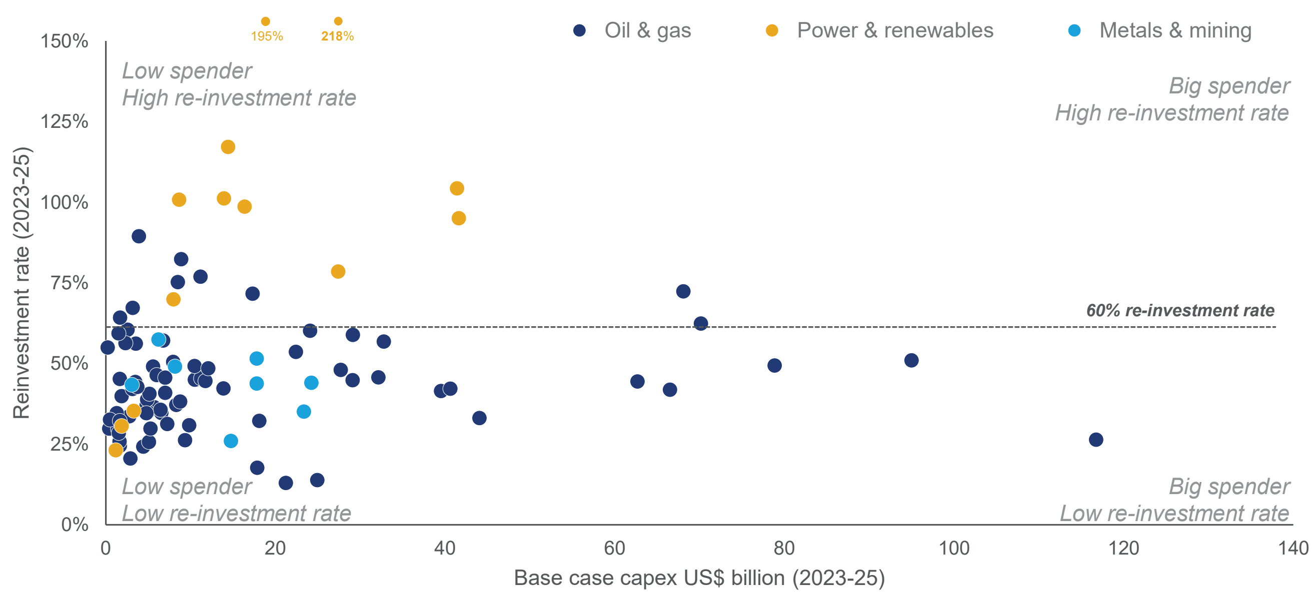
US Independents (37 largest publicly-traded): 2022 aggregate sources and uses of cash flow (US$ billions)



Source: Wood Mackenzie Corporate Service; Company filings; Note: Results include 37 Lower 48 focused US Independent producers.

Reinvestment rates expected to remain at historic lows for O&G sector

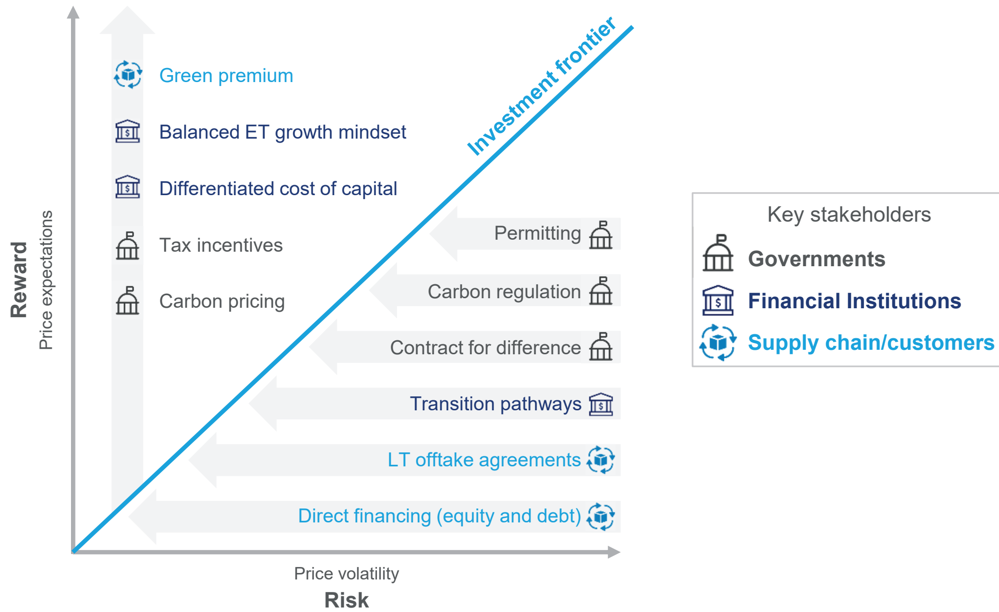
Reinvestment rates for 2023-2025 – investment as a percentage of operating cash flow



Source: Wood Mackenzie Corporate Service, FactSet
From *Fuelling change: how oil and mining companies can finance the energy transition*

Shifting risk-and-rewards towards low-carbon

Ways of de-risking and incentivising investment



Source: Wood Mackenzie Corporate Service
From *Fuelling change: how oil and mining companies can finance the energy transition*

Conclusions

- **Key stakeholders – governments and investors – have course-corrected in the last year and accept need for investment in both oil and gas *and* low-carbon supply**
- **Reinvestment rates at historic low as capital discipline remains a much bigger factor than ESG on holding back investment**
- **In longer term, shifting risk and rewards expected to favour increased corporate allocation towards lower-carbon solutions**

Source: Wood Mackenzie Corporate Service. See also *How the war is shaping Big Oil's transition strategy*

Erik Mielke

Senior Vice President – Corporate Research

Biography

Erik leads Wood Mackenzie's global corporate research team. The corporate service provides corporate strategic analysis, M&A and data-driven benchmarking of strategies, performance and valuation. The corporate service has recently expanded from Oil & Gas to also include Power & Renewables and Metals & Mining sectors.

A core research theme is the corporate response to the energy transition. The corporate team developed a strategic framework and ranking tool, *Corporate Resilience & Sustainability Indices* (CoRSI) to analyse this systematically.

Erik joined Wood Mackenzie in 2020 after more than 25 years of energy industry research and corporate management experience. Prior to Woodmac, he was head of Business Development and Commercial at Buried Hill Energy. Before that he was Managing Director at Bank of America Merrill Lynch, leading the bank's emerging markets energy and US oil and gas equity research. He was also a research fellow with the Belfer Center's Energy Technology Innovation Policy research group at Harvard University.

Education

MPA, Energy Policy, Harvard Kennedy School
BSc, Economics, London School of Economics
Chartered Accountant (FCA, ICAEW)

Connect with Erik

Erik.Mielke@woodmac.com

+44 330 124 8326

Disclaimer

Strictly Private & Confidential

Europe	+44 131 243 4477
Americas	+1 713 470 1700
Asia Pacific	+65 6518 0888
Email	contactus@woodmac.com
Website	www.woodmac.com