



Hosking Partners[®]

Hosking Post Cosmo Energy

May 2023



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JAPAN

Cosmo Energy

Over the years Hosking Partners has built positions in a number of oil refineries and we initiated a new one in Cosmo Energy, Japan's third largest refinery business, in the second half of 2022. It sits alongside investments in Marathon Petroleum in the US, Greece's Motor Oil Hellas and Turkey's Tüpraş refineries, owned by conglomerate Koç Holdings. In a recent meeting with us, Koç's management estimated that the replacement value of their four refineries was \$19.5 billion. That is a sharp increase from their previous estimate of \$12 billion before the pandemic to adjust for materially higher construction costs, and is almost eleven times the value ascribed to net Property, Plant & Equipment ('PP&E') on the balance sheet. Cosmo, with 12% domestic market share equivalent to 400k barrels per day ('bbl/d'), is smaller than Tüpraş (560k bbl/d) but the so-called 'complexity' of the two sets of refineries is similar, in that their technical capability to handle low quality crude and/or produce high value-add products is superficially comparable. Approximately 40% of Tüpraş' capacity comes from its most complex facility, Izmit, and the same share comes from Cosmo's Yokkaichi (by some measures the second most complex refinery in Japan).

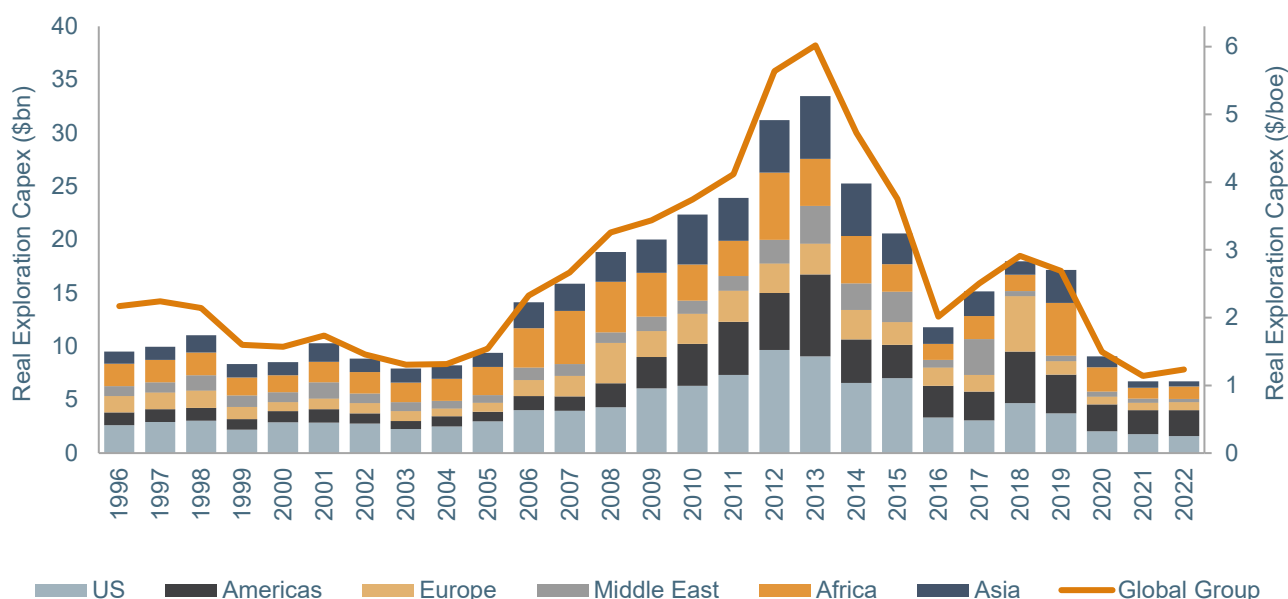
Given the similarities, it is not unreasonable to apply Tüpraş' estimate of replacement value to Cosmo, scaled to output, which implies a replacement cost of \$14 billion for its three refineries, double the company's enterprise value and more than double the carrying value of net PP&E on the balance sheet. Part of the discount is probably attributable to geopolitical and economic concerns which are depressing valuations in the Turkish and Japanese equity markets and have resulted in currency depreciation against the dollar (particularly in Turkey's case), but a significant portion of the discount reflects investor sentiment towards refineries.

Understanding why an asset is trading at a discount or premium to replacement value is something we focus on at Hosking Partners, because it helps us think about the likelihood of over- or under-investment in an industry. Just as managers of assets that trade at a premium are incentivized to over-invest, so a discount to replacement cost can be a barrier which starves an industry of capital. Deciding whether an industry is experiencing a period of over- or under-investment is not trivial, nor is it sufficient for us to conclude higher or lower returns for shareholders will follow, but it is an important tool that we use to understand the capital cycle.



Cosmo and Tüpraş are not unique; most of the oil industry trades at a discount to replacement value and the historic decline in investment up and down the value chain is astounding. For example, the chart below shows the capital expenditure on exploration, in real terms, of the five so-called ‘Super Majors’, the largest non-state-owned oil and gas companies that together account for 11% of global production. The decline in capex since the peak in 2013 of c. \$5 per barrel of oil equivalent (‘boe’) is dramatic and 2022 marked an all-time low, in real terms, for exploration capex at \$1/boe.

Oil Super Majors’ real exploration capex over time¹



One of the most common explanations for why a company trades at a discount to replacement cost is that the valuer expects demand to decline in the future. What appears to be a discount is merely the net present value of the future cash flows that the company’s assets are expected to generate, recalculated with lower demand assumptions than originally seemed likely.

As a result, one would be forgiven for thinking the oil industry is already in rapid decline. In reality, demand reached an all-time high in 2022. The range of forecasts out to 2050 varies considerably, from steady growth of +25% to seemingly remarkable drops of -75%.² Fourteen major demand forecasts reviewed by the International Energy Forum (‘IEF’) produce a median 2050 oil demand estimate of 84 million bbl/d, a moderate reduction of around -15% from current levels. This seems to us a reasonable and balanced baseline assumption, with demand continuing to rise into the 2030s before starting a gradual decline as the energy transition unfolds.

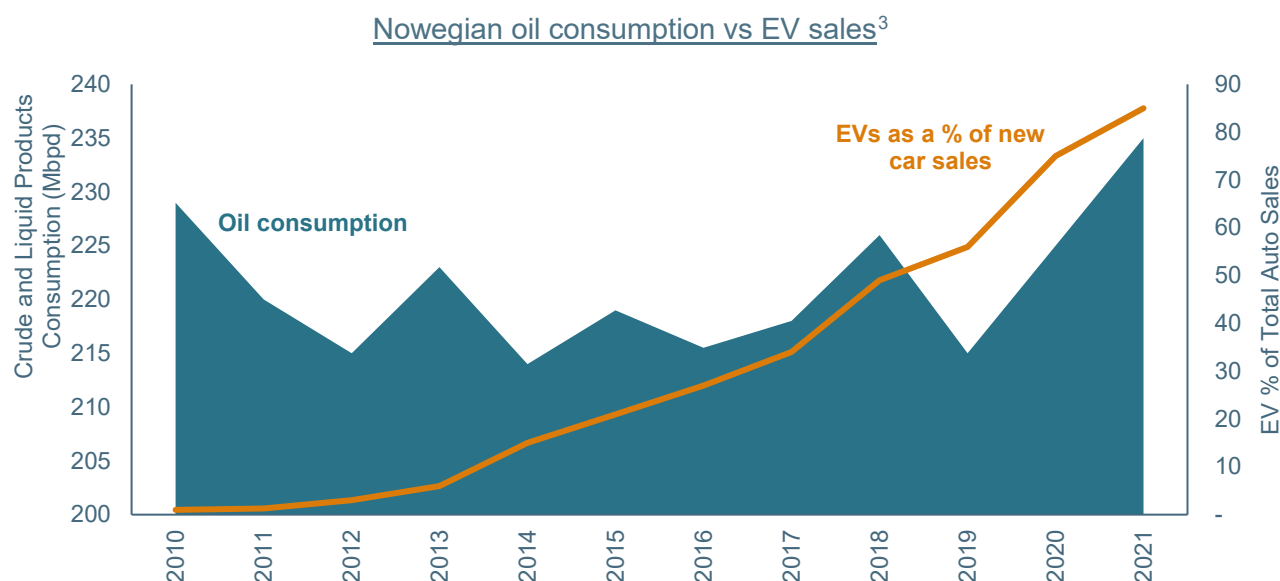
¹ Source: Thunder Said Energy, April 2023

² Source: International Energy Forum, February 2023; the total variance in forecasts for 2050 oil demand by major energy institutions is 92mpbd, representing over 90% of current demand.



However, the fact that implied asset values remain at large discounts to replacement cost tells us this median view is not consensually held. And shareholders have decided to reward companies that are cautious about the future health of the investments they – cumulatively – make. After years of terrible returns for shareholders, caused in part by over-investment in capacity through the proceeding upcycle, oil executives are compensated on return on capital and shareholder return targets, and as a result few aim to grow production more than a couple of percent a year. This is in contrast to the situation a decade ago, when most Big Oil CEOs were rewarded if they met production and reserve growth targets. This was made clear on a Hosking Partners research trip to Texas earlier this year.

We are generally humble when facing the challenge of predicting the future demand of anything, but we are naturally drawn to the margin of safety generated by low valuations. The below chart shows oil demand in Norway and the percentage of new cars which are electric vehicles (EVs). The relationship (or lack thereof) between the two would probably surprise the man on the Clapham omnibus.



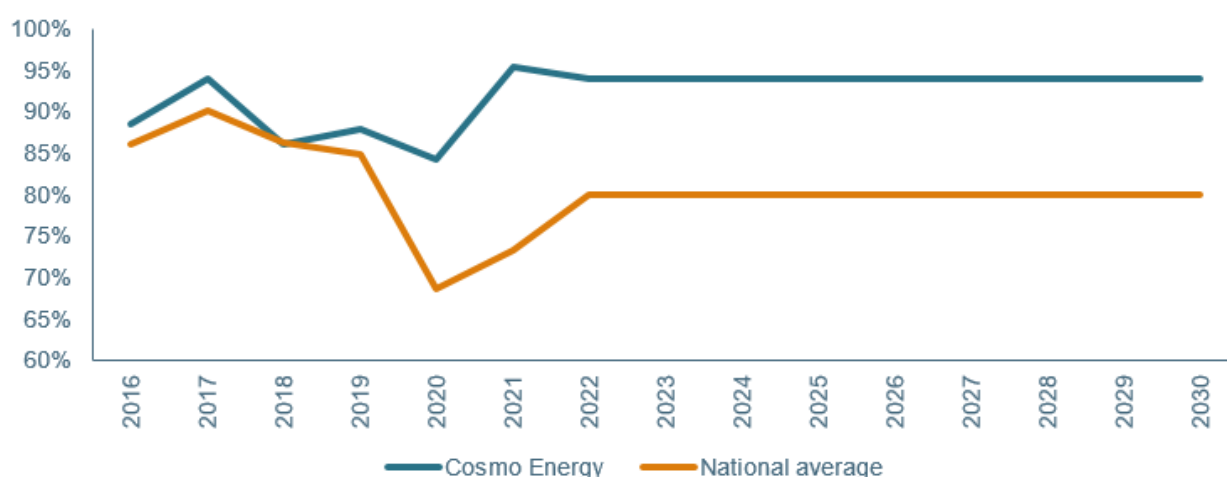
As discussed, the lack of investment caused by a discount to replacement value eventually starts to result in declining capacity as under-invested assets become less efficient and, eventually, economically unviable. As a result, the probability of higher future returns for surviving oil companies increases with every year that passes without a decline in demand. One might say we are ‘climbing a wall of fear’. The US lost refining capacity of 1.1 million bbl/d out of a total 19 million bbl/d in the last few years alone. The last major refinery to be built in the US was Marathon’s Garyville facility in 1977.

³ Source: Raymond James Conference, Orlando 2023



It is notable that state-owned corporations in the Middle East, China and India are investing in upstream and downstream oil capacity. One of our favourite quotes, “Show me the incentive, and I will show you the outcome” by Charlie Munger, is applicable when thinking about the differences between the investment decisions of state-owned entities and those of publicly traded companies. Perhaps the former, uninhibited by the demands of shareholders with short-term concerns, are looking at the evidence and predicting much longer duration returns? The International Energy Agency (‘IEA’) expects global net capacity additions of approximately 1.7 million bbl/d this year with growth in the aforementioned regions somewhat offset by permanent shutdowns elsewhere. We expect this to be a persistent theme. The additions on which the IEA has line-of-sight will likely take capacity ahead of pre-pandemic levels – if they go ahead as planned – but this will be offset by the countervailing force of a steady stream of closures in developed regions. This dynamic means it seems likely that end markets such as the US and Europe import a higher proportion of refined product in the future and, as a corollary, we have a number of investments in product tanker companies.

Operating rate on a calendar day basis (‘utilisation ratio’)⁴



Environmental concerns and the energy transition are, of course, ultimately existential issues for the oil industry, but for now they are generating demand for complex refineries that are able to produce low sulphur products given their environmentally friendly credentials. Japan’s refining industry has a relatively high complexity by international standards and it has the highest ratio of desulphurization equipment to nameplate capacity in the world (at approximately 90%). This is because decades ago the Japanese government introduced regulation to address domestic pollution concerns arising from the country’s dependence on crude imports from the Middle East for power generation. Being an early mover in this respect has put the industry in good standing for subsequent environmental

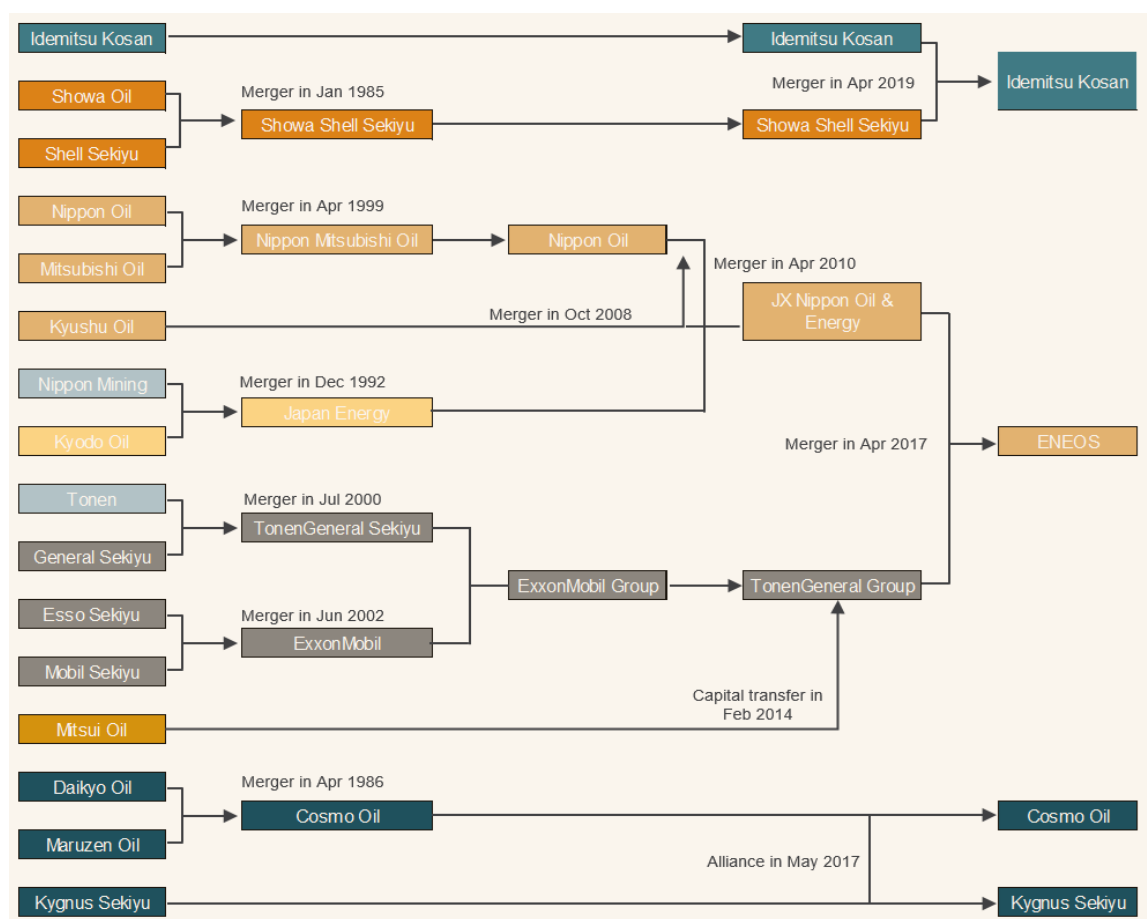
⁴ Source: Cosmo Energy, 2023; projections as per Cosmo’s 7th Medium Term Plan



policies, such as the IMO2020 regulation which reduced the cap on sulphur content in maritime fuel from 3.5% to 0.5% from 2020. Cosmo's high level of complexity explains why it is able to run its refineries at a higher utilization rate than the industry (as per the above chart).

Consolidation, via the acquisition of complex facilities and the closure of simple ones, has been a persistent policy overseen by the Japanese Ministry of International Trade and Industry (MITI). Toa Oil's Keihin refinery, the most complex in the industry, was acquired by behemoth Idemitsu in 2022. Before Toa, Idemitsu merged with Showa Shell Seikyu's complex refineries in 2019. Both Japanese and Western activists have played roles in bringing about consolidation, with the support of MITI. One might say we are in the 11th innings; the chart below shows the three major refining companies can trace their roots back to 16 principal constituents.

Lineage of Japan's major refiners⁵



The government's concern with the financial health of the industry stems in part from the 2002 Strategic Energy Plan which balanced decarbonization targets against energy security

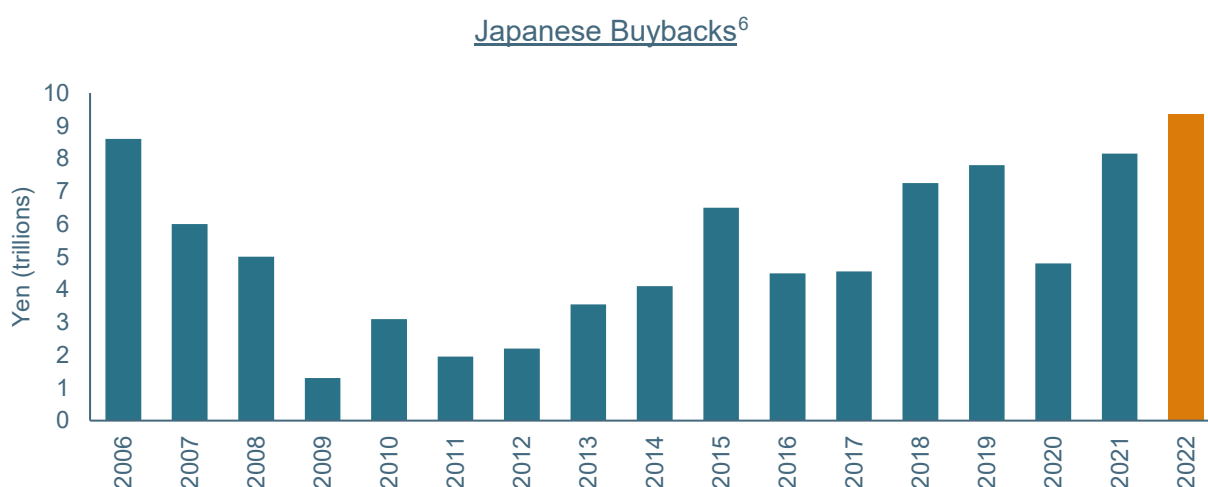
⁵ Source: Petroleum Industry in Japan 2020, PAJ



considerations. It is unsurprising a healthy refining industry is considered strategically important given that oil accounts for nearly 40% of Japan's total energy consumption and is almost entirely imported as crude. The task of maintaining the financial health of the industry is made harder because demand for oil in Japan – in contrast to the global situation – is falling predictably as the population shrinks, by about 2.5% a year. Planned closures at Idemitsu and ENEOS will remove 8% of capacity in the next few years in an effort to maintain equilibrium. Experience tells us this is a very hard balance to strike, and the probability of a squeeze is high, particularly for complex refineries that can produce low sulphur product for export as well as for the domestic market.

We are not the only investors to see the asymmetry of the situation: Cosmo's largest shareholder at the time of writing is a Japanese activist with a long history in the oil and gas sector – Yoshiaki Murakami owns 20% of the company and would likely own more had Cosmo not recently issued a poison pill to prevent him from doing so. Murakami has not published the reasons for his interest in Cosmo, but is pushing for a board representative that could oversee them spin-off their renewable assets. In addition, it seems likely his views were considered in the 7th Medium Term Plan, announced in March 2023. Of the commitments made, the decision to cumulatively return greater than or equal to 60% of earnings to shareholders over the next three years was notable given the company trades on 5.3x the Bloomberg estimate of FY2023 earnings.

As we have shown, a refiner strategically focused on returning most of its cash to shareholders is far from unusual, at this juncture, but Cosmo's announcement comes in step with a remarkable sea-change in Japan as a whole. The chart below, released by Nikkei, shows Japanese buybacks reached a 16 year high of nearly ten trillion-yen last year and the figure will almost certainly be higher again this year.



⁶ Source: Nikkei, 2023



The Tokyo Stock Exchange ('TSE') recently issued a public announcement calling attention to companies trading at a discount to book value, and threatened that they might be moved off the main list unless they are seen to make reasonable efforts to improve their valuation. As a consequence, pay-out ratios and buybacks are being announced across the board. However, the TSE's announcement is simply the latest in a long line of initiatives that can trace their way back to the late Prime Minister Abe's economic reforms, the "Three Arrows", to improve the country's competitiveness. Efforts to turn Japan's savers into investors and improve capital efficiency signal a shift in the national service required of Japan Inc., away from providing full employment for its shrinking workforce towards providing pensions for its expanding retired population.

Hosking Partners visited Tokyo earlier this month and we returned buoyed by what we saw, underwriting an allocation to the country which is currently at an all-time high of 9.5%. Comprised of Cosmo and a growing list of other compelling investments, we look forward to discussing this exciting theme further in coming months and years.

STEVE CHAMBERS

May 2023



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