

## Fossil Fuels at a Time of Transition

### Executive Summary:

- Fossil fuels currently represent 80% of global energy supplies.
- These fuels are deeply embedded in all aspects of the current energy complex.
  - This energy complex is composed of different facets such as transport, manufacturing, heating, electricity, agriculture.
  - There are no immediately available substitutes for any individual facet of this energy complex, much less all concurrently.
- Due to ESG pressures on top of a classic investment cycle (where low prices lead to low investment), fossil fuel supply looks to be significantly underinvested – and has been so since 2015.
  - The world is returning to peak demand, but investments are a fraction of peaks.
  - Signs of this underinvestment are popping up across the system, not least in the form of higher energy prices (and this was the case even before the Ukraine war.)
- This predicament for the global economy – of dependence on fossil fuels but underinvestment in them – inevitably leads to higher prices for longer periods of time.
- With this backdrop, sector-leading energy majors remain exceptional investments.

## Introduction

Uncertainty, especially around inflation, has been unsettling investors since the autumn of 2021, upending many long-held market narratives.

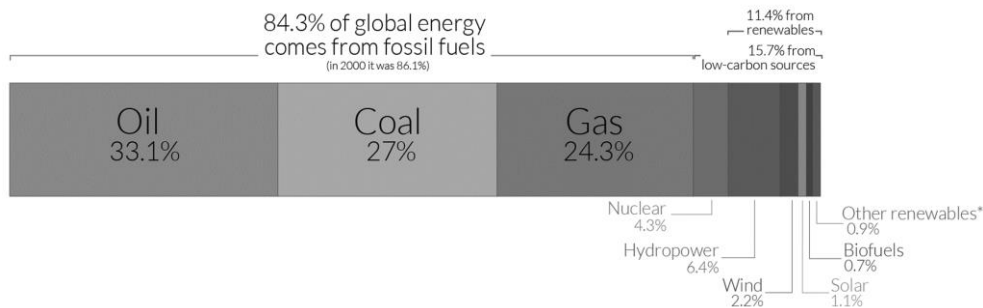
In times such as these and wary of the monetary distortions of recent years, Kennox sees eminent sense in an investment philosophy that is both conservative (especially regarding leverage and valuation/crowding risk) and pragmatically aligned to what is likely in the global economy, no matter how uncomfortable that might be. The Kennox portfolio is set to thrive in these times.

One concrete technique to achieve this positioning is to identify areas of the market where there has been marked underinvestment, i.e., industries that have seen a tightening of supply. Sector leading companies will thrive as the industry's profits improve – if and only if supply remains below demand.

This looks very likely to be the case at present in energy.

# Why It's Currently Impossible to Switch Off Oil & Gas

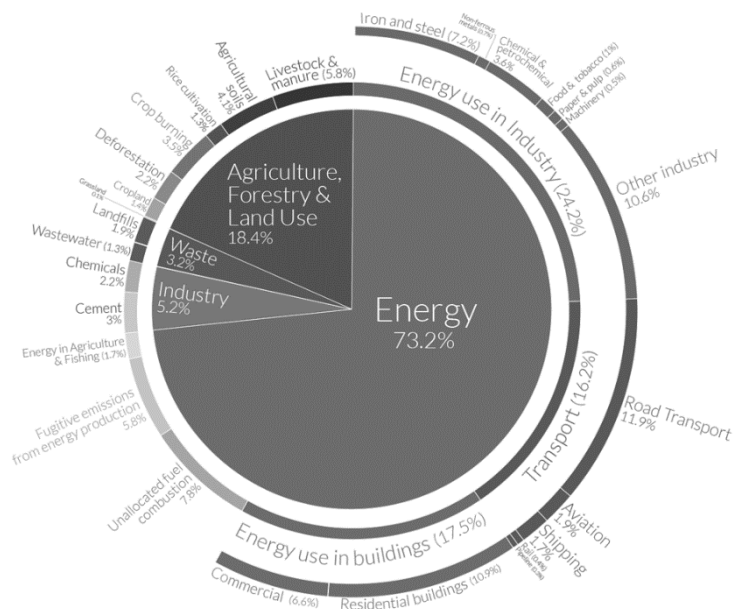
Currently over 80% of global energy demand is satisfied with fossil fuels. Fossil fuels are ubiquitous in our intricate energy complex, an interconnected system that has been built up over lifetimes (Rockefeller's transformative Standard Oil was founded 150 years ago).



Graphic I<sup>1</sup>

This demand permeates all facets of our society (and not just electricity). This energy landscape consists of several distinct parts, each having different characteristics. This can be measured in a range of ways, such as:

- The IEA's measurement, by final energy consumption:
  - 30% for transport, 20% for electricity, 50% for heat (including industrial).
- Bill Gates' list, by emissions, looks like this:
  - Making things (cement, steel, plastic): 31%
  - Plugging in (electricity): 27%
  - Growing things (plants, animals): 19%
  - Getting around (planes, trucks, cargo ships): 16%
  - Keeping warm and cool (heating, cooling, refrigeration): 7%
- This graphic illustrates the complexity:



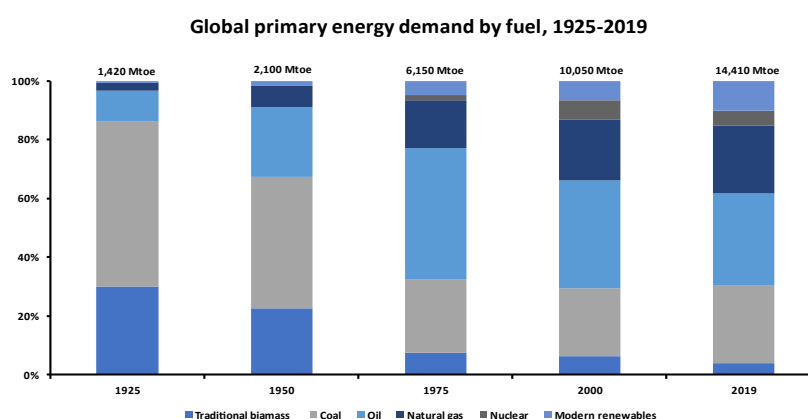
Graphic II<sup>2</sup>

<sup>1</sup> Energy mix - Our World in Data - <https://ourworldindata.org/energy-mix>

<sup>2</sup> Global greenhouse gas emissions by sector - <https://ourworldindata.org/emissions-by-sector>

**There are no easy substitutes.** Transforming each facet of society’s energy demands towards lower carbon alternatives is inherently tricky, and even more so as we try to address all of them concurrently. This is even more challenging as there is not an all-encompassing low-carbon solution for any of them right now. Cost is a drawback in each case, but other problems abound – lower levels of power efficiency, the need for suitable land and space, geographies where potential supply is distant from end demand (most of them), intermittency and the lack of practical storage at scale, the limited availability of key raw materials. Each of these issues present enormous hurdles yet to be overcome.

**Therefore, it has proved difficult to wean the global economy off fossil fuels.** Fossil fuels have proven themselves effective solutions for every facet of our energy needs: transport, heating, electricity, agriculture, manufacturing. As hard as society has tried to diversify, we have not yet been able to meaningfully decrease our dependence on these fuels over decades.



Graphic III<sup>3</sup>

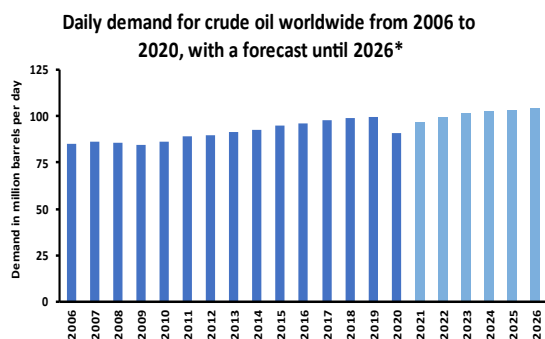
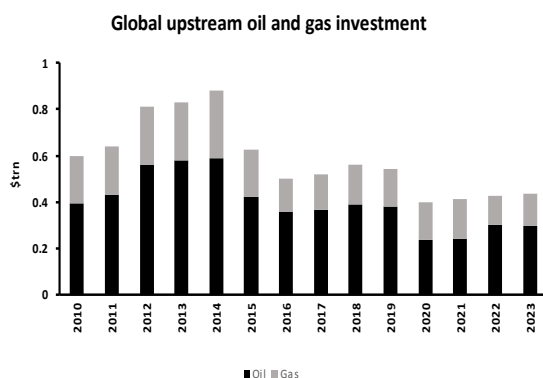
**That is the fossil fuel dilemma:** Measured only in terms of carbon emissions, the current energy landscape is tragically flawed. This is the crux of society’s problem – the existence of an Achilles heel (in the form of carbon production) doesn’t unfortunately negate the strengths of the energy complex as measured across all the other metrics. Built up since the early days of oil (and arguably coal before then), our energy infrastructure is gargantuan, pervasive, and has been honed to enormous efficiency, in (the non-carbon) terms of cost, availability, and reliability.

## Oil & Gas Energy – Has the Industry Underinvested?

**Have society forsaken essential oil & gas investment?** For the reasons listed above, society’s dependence on fossil fuels can’t be broken imminently. That being the case, it is almost certain the global energy industry has underinvested in the production of oil & gas – and has been doing so for an extended period.

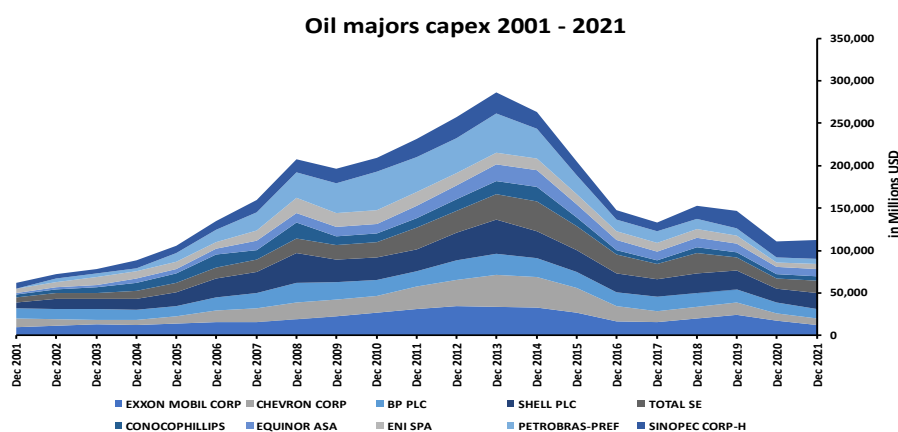
Over the last seven years, shrill ESG pressures were piled on top of the painful economics of the industry (where low fossil fuel prices decimated financial returns and expectations). With decision makers throughout the globe rationally responding to these signals, investment plummeted to a fraction of its pre-2015 highs – and has remained low ever since.

<sup>3</sup> Global primary energy demand by fuel, 1925-2019 - <https://www.iea.org/data-and-statistics/charts/global-primary-energy-demand-by-fuel-1925-2019>



Graphic IV<sup>4</sup>

The cumulative investments of the listed companies tell the same story – or even more so.



Graphic V<sup>5</sup>

**Is spending at less than 50% of peaks enough to supply peak demand?** Due to the long lead time on any significant new capacity appearing (most major projects will take years to come on stream), this is one of the most important questions facing the world at present. Global energy demand is close to peak again, and the industry has invested at around half of peak levels over an extended period. For assets such as oil & gas fields which naturally deplete, this is a dangerous combination.

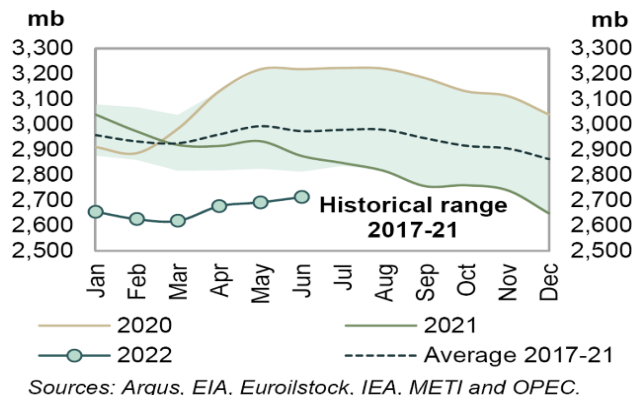
From another angle, for all to be fundamentally sound in the energy markets, an investor must believe that enough energy providers have been far-sighted and effective in their investments, both maintenance and expansionary. That's over a time frame of several years, during which cash was excruciatingly tight and which culminated in the unprecedented disruption of a pandemic with lock downs.

Having all your chips on the chance that all players across the industry acted responsibly and wisely in such times is a very brave bet.

<sup>4</sup> Global upstream oil and gas investment - <https://www.economist.com/business/2021/10/16/dont-expect-big-oil-to-fix-the-energy-crunch>  
Daily demand for crude oil worldwide from 2006 to 2020, with a forecast until 2026\* - <https://www.statista.com/statistics/271823/daily-global-crude-oil-demand-since-2006/>  
\* This statistic was assembled from several editions of the IEA Oil Market Report. Outlook figures are from the IEA Oil 2021 report. All figures are annual averages and include biofuels.  
<sup>5</sup> Oil majors capex 2001 – 2021 – Source: Bloomberg

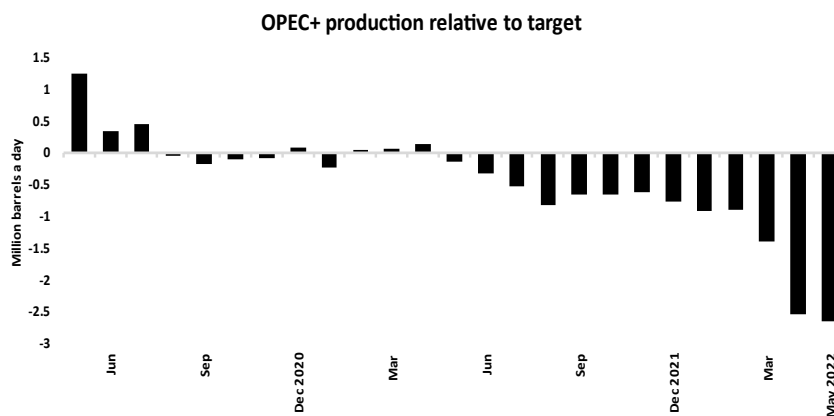
**How could we tell if there were a squeeze in markets?** Any squeeze could show up in a number of factors. These would include:

- **Low inventories:** There are signs of tightness in global inventories, such as OECD numbers.



Graphic VI<sup>6</sup>

- **Limited spare capacity:** OPEC has recently been talking about how little global spare capacity is available. More importantly, the production numbers reflect this narrative as OPEC have been producing less than their own self-declared targets.

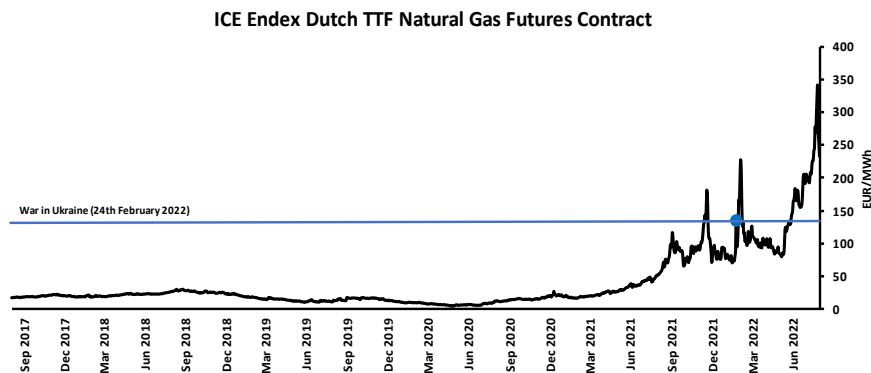


Graphic VII<sup>7</sup>

<sup>6</sup> Monthly Oil Market Report 2022 – August [https://www.opec.org/opec\\_web/static\\_files\\_project/media/downloads/publications/OPEC\\_MOMR\\_August-2022.pdf](https://www.opec.org/opec_web/static_files_project/media/downloads/publications/OPEC_MOMR_August-2022.pdf)

<sup>7</sup> OPEC+ production relative to target – Source: OPEC, <https://www.bloomberg.com/opinion/articles/2022-03-06/opec-s-13-minute-meeting-shows-it-s-making-itself-irrelevant>; <https://www.moneycontrol.com/news/opinion/opec-did-its-job-but-dont-expect-it-to-disappear-8773031.html>

- **Price spikes:** Lastly, any squeeze would show up in the level and speed of increasing energy prices. This has blatantly been happening, with prices moving steadily upwards since early 2021 and spiking upwards over the last year. This can be seen in a number of prices and indices, such as oil or Asian LNG prices, or European gas prices below:



Graphic VIII<sup>8</sup>

After an extended period of low levels of investment, with demand returning to peak levels, warning signals are flashing. It appears increasingly likely that these signals are genuine.

## Summary

With this backdrop and at current energy prices, the energy majors are trading at depressed multiples – well under 10x, half or less of the US market multiple, and implying double digit returns even in difficult financial conditions. Put another way, share prices for the energy majors can be justified at oil prices not far over \$60, a country mile below the current oil prices.

For the foreseeable future, there is no available-at-scale, affordable & viable substitute to the energy provided by fossil fuels. Underinvested as the industry appears to be, and with long lead times on any significant new capacity or substitutes, the odds lie firmly on the side of higher energy prices, for longer.

The energy majors, the sector leaders in this area, remain exceptional investments.

<sup>8</sup> ICE Exend Dutch TTF Natural Gas Futures Contract – Source: Bloomberg

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