How rising energy prices will impact European sectors

High energy prices have hit European sectors such as aviation, shipping, and chemicals the hardest. However, the 2022 energy crisis led to reduced oil and gas dependence, and firms are now better equipped to manage price hikes

Shipping is one of the most energy-intensive sectors

Last week, we argued that Europe should be better able to deal with higher energy prices than during the 2022 energy crisis. While the exposure is not evenly distributed across sectors, we argue that even the most energy-intensive sectors are in a better position today than they were in 2022.

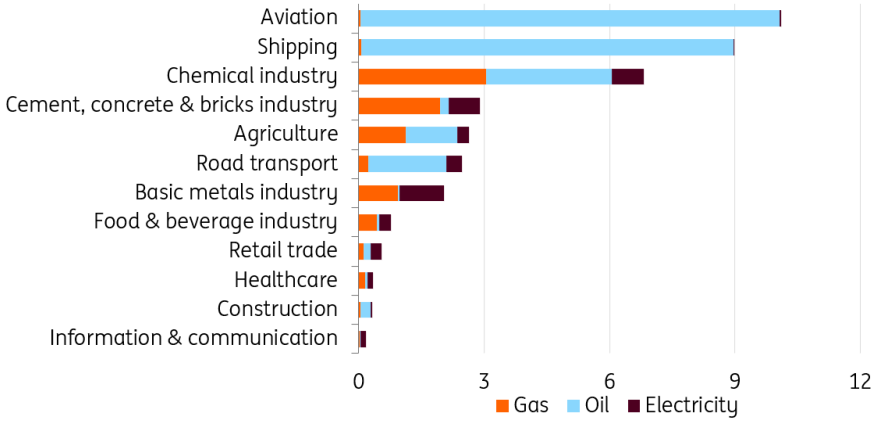
1 Energy price exposure remains highly uneven

The impact of higher energy prices varies depending on the sector and the quantity and type of energy used. Aviation and shipping, for instance, are among the most energy-intensive sectors. They are primarily reliant on refined oil products whose prices have increased. Many manufacturing sectors also consume significant amounts of energy, relying more on gas and

electricity to produce heat and as a feedstock in the production process. By contrast, other sectors such as construction, retail trade, and healthcare are less energy-intensive.

High energy use: aviation, shipping and chemical industry

Use of terrajoule energy per €1 million output, EU (5 largest countries) in 2023 (latest data available)



Source: Eurostat, ING Research

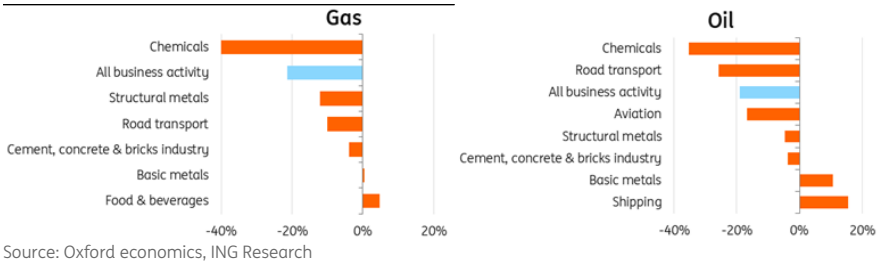
2 Energy intensity has declined

Many industries used less oil and/or gas in 2025 compared to the average in the period 2016-2019 per output. However, the current price increase due to the Middle-East conflict could be a new blow to European industry, which is just starting to recover. The chemical industry, in particular, stands out. There are (at least) two explanations for the lower energy intensity:

- Companies have invested in more energy-efficient production, both as a result of high energy prices and sustainability targets. For instance, BASF is building "the world's largest industrial heat pump", using waste heat from a steam cracker to generate high pressure steam for chemical processes. Another major player in chemicals, INEOS, is currently starting up an innovative cracker in Antwerp that converts ethane into ethylene, one of the most widely used basic chemicals in the world. It will be significantly less energy intensive than older assets due to the use of ethane instead of naphtha as a feedstock.

Change in oil and gas intensity in energy intensive sectors

Change energy intensity per output (mtoe/ USD 2015 billions) in the eurozone, 2025 compared with average 2016-2019 period



Source: Oxford economics, ING Research

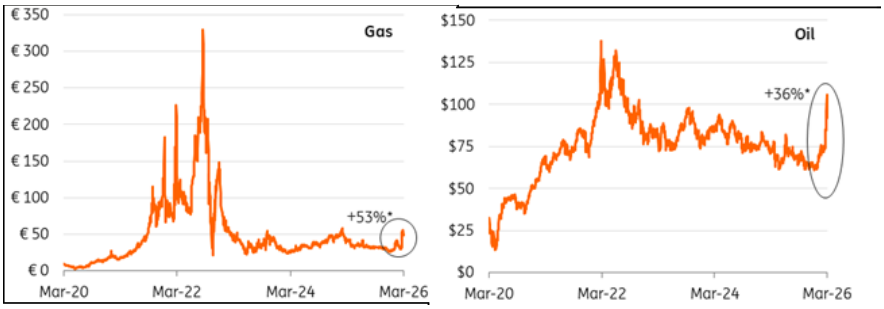
- The large drop in measured energy intensity for oil and gas in the chemical industry does not automatically mean that production has become more energy efficient. Energy intensity is calculated as physical energy use divided by real output. It may reflect changes in the composition of output, shifts towards less energy intensive activities, plant closures, or lower capacity utilisation, rather than genuine efficiency gains at the process level.

The European chemical sector is seeing a gradual shift from less energy-intensive bulk chemicals to higher value specialty products. A substantial number of relatively energy-intensive plants have also been closed due to their weaker competitive position. A similar pattern is visible in metals, where the most energy intensive producers have reduced output the most. Production activity has also become more flexible. Zinc smelter Nyrstar, for example, produces more when electricity prices are low and less when they are high. In addition, some energy heavy production has moved abroad.

The decrease in energy intensity in road transport and aviation is consistent with significant efficiency gains achieved in the sector. Many road transport companies and airlines have renewed their fleet with (electric) freight trucks or new generation aircraft that are more energy efficient. New-generation aircraft like the Airbus A320neo series use up to 20% less fuel per passenger-kilometre. However, shipping has grown more energy intensive in recent years due to longer routes from sanctions on Russia and Red Sea avoidance, as well as faster, less efficient sailing. Changing trade patterns have further increased inefficiency, outweighing gains from better engines and alternative fuels. Inland shipping has also seen lower average occupation rates of large vessels, largely because of more variable water levels on the Rhine.

Gas price still a long way from peak, while oil price approaches previous highs

Daily gas price (Dutch TTF) per MWH & daily oil price (BRT in USD), latest data points 12 March



Source: Refinitiv, ING Research

*Compared with one month earlier

3 Companies are better prepared

We would argue that companies are now better prepared for higher energy prices than they were in 2022. Back in 2022, corporate decision makers were accustomed to relatively low and stable prices, today they still vividly recall the energy shock of 2022. Many have taken structural measures to reduce their exposure, including investing in energy efficiency, electrifying production processes, increasing the use of renewables and long term energy contracts. For instance, many construction companies no longer accept fixed-price mega-projects. Others have improved energy monitoring and diversified suppliers. For German utility company Uniper, its heavy reliance on

Gazprom nearly resulted in bankruptcy in 2022. Since then, Uniper has diversified its gas sourcing through LNG (Liquified Natural Gas) contracts to lower concentration risk. Now, its suppliers include companies from the United States, Canada, and Europe.

As a result, a sudden jump in energy prices plays a less disruptive role in many business performances today, making firms more resilient to the renewed volatility in the energy markets.

How companies cope with energy price risks

As profit margins are often thin, and many sectors are energy-intensive, firms must closely monitor energy prices. There are several strategies that companies can follow to mitigate price fluctuations. All of them have their pros and cons and most companies make use of a combination of these strategies. Therefore, we should point out that the exposure, risk appetite and market situation for every single company are different:

Minimise energy use: By using energy-efficient production processes, the amount of energy will be diminished and the vulnerability to energy price hikes will fall, too. Air carriers are investing, for instance, in more energy-efficient aeroplanes. This strategy, however, takes time and is less suitable to accommodate the immediate impact of high energy prices.

Use a price escalation clause: This makes it possible for firms to pass on energy price increases to the customer. This is mainly done in B2B markets. Price clauses with private consumers (B2C) are more difficult to achieve and therefore not common.

Directly procure inputs: Firms can directly procure input products that are very vulnerable to energy price shock at the time a sales deal is closed. This secures the calculated energy price at the moment a deal is closed. They can agree on the price with a supplier and ensure delivery of the energy-intensive input products when needed in the production process. However, it must be said that suppliers are sometimes reluctant to lock in long-term contracts as the price risk is handed over to them.

Commodity futures: If the above strategies are not possible, a hedge with a commodity future is an option. However, futures are complicated financial products which have to be fully understood and constantly monitored.

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