CHEMICAL INDUSTRIES ASSOCIATION

CIA Economic Report

Fourth Quarter 2024

Executive summary

Steve Elliott, Chief Executive, Chemical Industries Association

I am pleased to present our latest economic report, written by Michela Borra, Head of Economics at the Chemical Industries Association (CIA). Our economic report has two sections. The first part is a CIA analysis of official statistics; this section assesses the UK chemical industry's performance against that of the wider economy. The second section presents the results of our quarterly industry survey. Our Q4 2024 Business Survey took place between January 8th and January 22nd, and we received entries from 42 chemical companies.

Economic Overview

After entering a recession in the last quarter of 2023, in the first half of 2024 economic output grew above expectations and resulted in a yearly growth of 0.8%. This expansion was driven by services output and resilient consumer spending. Since our previous Quarterly Economic Report, the Labour Government announced plans to establish a new Industrial Strategy to deliver strong economic growth.

Whilst the services sector's output continues to fuel the UK's economic growth, industrial output has been falling and is currently 10% below pre-pandemic levels. The contraction was the result of the energy crisis and fiercely priced exports.

Focusing on chemicals, despite expansions in two quarters of the year, 2024 output contracted by 1.8% and in December output levels fell to an eleven-years low. Official data coupled with results from our business survey and recent announcements indicate just how challenging conditions have been for the past few years. Forecasters indicate that 2025 will be a better year for the chemical sector as looser monetary policy and less volatile energy costs should increase production for costumer industries.

Headline inflation in December came in at 2.5%, up from the 1.7% registered in September. Higher inflation was the result of higher energy prices and an overall higher price level within the UK. In their latest meeting, the Monetary Policy Committee cut interest rates to 4.5% as the unemployment rate increased to 4.4% and economic activity slowed.

Due to weak demand, chemical input and output prices have deflated for almost twenty consecutive months. Over the past three years, input prices have been higher than output prices, but recently, input prices fell quicker than output prices, narrowing the gap between the two. As of December 2024, chemical input prices are 5.5% higher than output prices, as opposed to the 7.5% recorded in January 2024.

The labour market remains challenging, with chemical companies experiencing difficulties recruiting and pressure to increase salaries. In the chemical industry, total pay rose by 0.3% in the three months to November 2024 compared to the same period a year prior.

Insights from our industry

Turning to our survey, despite a strong start to 2024, the year concluded on a sour note for chemical companies. Sales, production levels, and capacity utilisation contracted for over half of the respondents. Business optimism deteriorated at the fastest rate in over two years, and energy costs increased for almost half of respondents. Margins remain in contractionary territory for 56% of respondents.

Looking ahead to the first quarter of 2025, expectations are positive but come from a low base. Almost 60% of respondents expect higher sales, but energy and raw materials costs are also expected to increase. Just over a third of respondents anticipate their margins to be in a better place at the end of Q1 2025. Expectations for 2025 are more or less similar, with slightly over 50% of respondents expecting sales, production levels, and capacity utilisation to increase. These fairly conservative expectations, coupled with statistical data showing chemical output at an eleven-year low, are worrying and indicate that the UK chemical industry is struggling.

The three main challenges for the sector are 'Energy Cost', 'Labour Cost', and 'Weakening Demand'. Expectations over the challenges are not positive, with over 60% of respondents expecting 'Energy Cost' and 'Labour Cost' to worsen.

The last section of the survey indicated that 48% of respondents planned new investments for 2025, with an average amount of around £11mn.

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Economic Update
A tough end to 2024

This first part of the economic report focuses on official releases from the Office of National Statistics (ONS), the Bank of England (BoE), the Office for Budget Responsibility (OBR), and Oxford Economics. Publications since the previous economic report (Q3 2024) provide information on GDP, chemical production, chemical trade, inflation for consumers and chemical manufacturers, and pay, as well as developments from the Autumn Statement and changes to interest rates.

GDP and chemical production

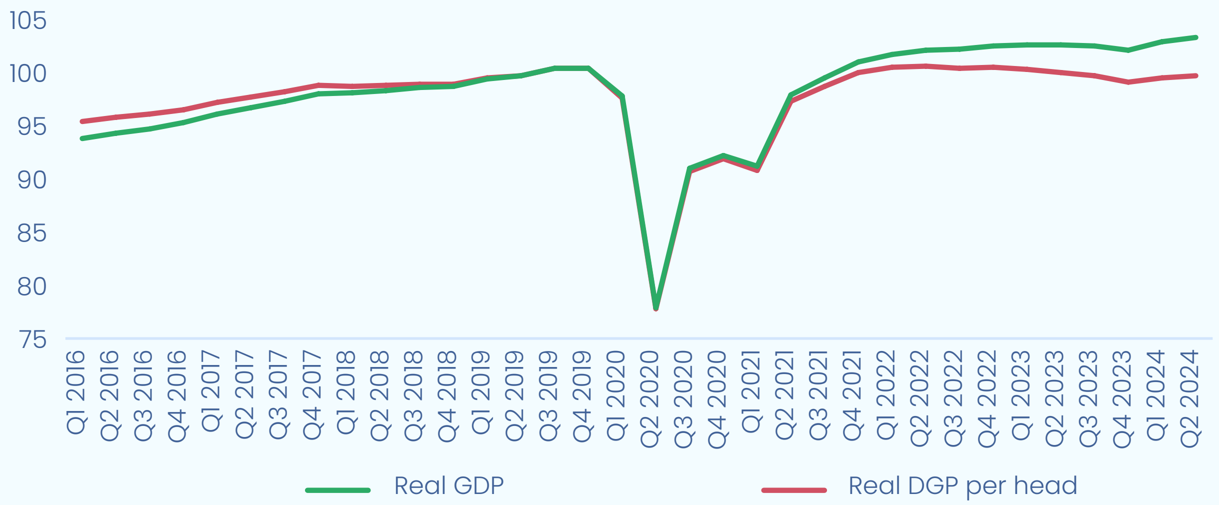
The Labour government won the national election in July 2024, and since then, it has promised to deliver economic growth. While enabling growth is always at the core of the political agenda, it is now particularly relevant due to the productivity puzzle that started after the pandemic.

Graph 1 shows Real GDP and Real GDP per head since 2016. Real GDP measures total economic activity, whereas Real GDP per head also considers changes in population size. Real GDP per head is often used as a proxy for living standards, reflecting the economic value generated per person.

Before the COVID-19 pandemic and subsequent lockdowns, Real GDP and Real GDP per head grew, suggesting steady economic expansion and improving living standards. Since the pandemic, however, Real GDP has been growing faster than Real GDP per head. This trend reflects the UK's ongoing productivity puzzle, where economic growth is driven by increased labour supply rather than improvements in efficiency or innovation. While overall economic activity is expanding, individuals may not see proportional benefits, reinforcing concerns on the long-term path for the UK's GDP.

The Government is aware of this conundrum and has implemented policies to stimulate economic growth. In the Autumn Budget, the Chancellor, Rachel Reeves, announced higher spending to support the construction of new homes, increased the NHS budget, introduced further education funding, and boosted military spending. To fund

Graph 1: Index of Real GDP and Real GDP per head over the past 8 years (2019=100)



Source: CIA analysis of ONS data

these initiatives, the Chancellor also introduced some tax-raising policies, the most impactful being higher Employer National Insurance Contributions (NICs). Together with these fiscal policies, the Chancellor announced plans to establish an Industrial Strategy by publishing the Green Paper: 'Invest 2035: the UK's modern industrial strategy'.

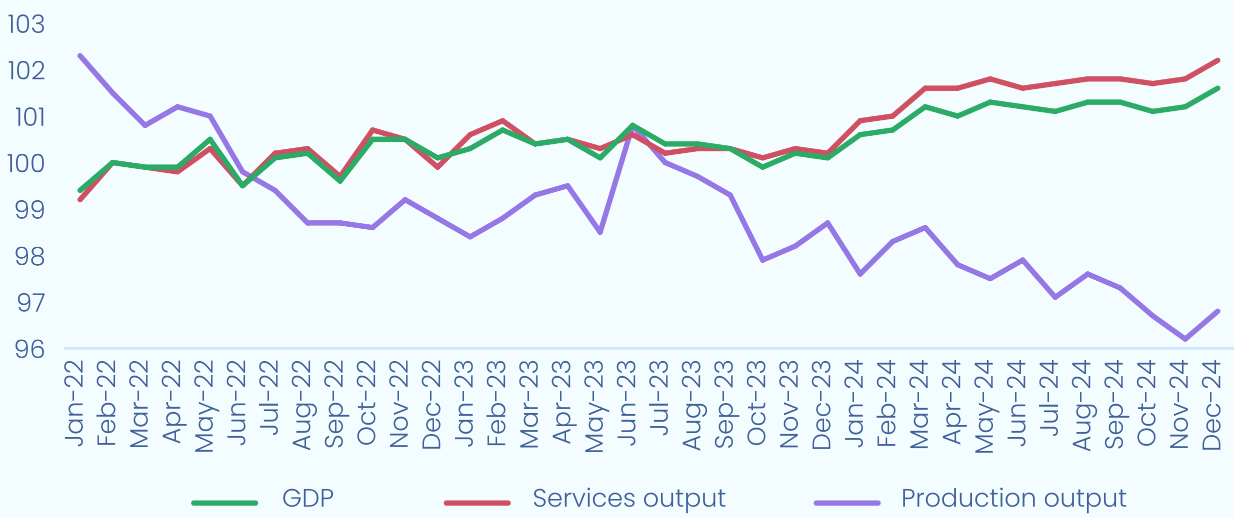
The Industrial Strategy outlines the Government's long-term plan to boost economic growth, foster innovation, and enhance global competitiveness. After receiving input from industry, the Industrial Strategy is currently in its consultation phase and should be published in spring 2025 alongside the multi-year Spending Review.

Taking into account developments from the Autumn Budget, international economic projections, and the latest economic data, most forecasters expect UK GDP to expand between 1.5% and 2.0% in 2025 (1.5% from the Bank of England, 1.7% for Oxford Economics, 2.0% for the Office for Budget Responsibility, and 1.6% for International Monetary Fund). The factors that have been identified to positively impact UK GDP growth are higher government spending, more stable inflation, strong wage growth, partial recovery of industrial production, and lower interest rates. On the other hand, the forces that will likely impact GDP growth negatively are higher unemployment, lower household disposable income, harshening of the geopolitical environment, and no signs of easing on the cost front (energy, raw materials, labour). US tariffs are likely going to have both a positive and negative impact: on the positive front, it is likely that it will lead to stronger protection of domestic markets and impact Chinese exports, but on the other side, the imposition of tariffs will diminish international trade pushing up inflation, and in the short-run result in the front-loading of Chinese exports.

Having a closer look at the UK and its main sectors, the below graph shows GDP, Services and Production output over the past two years. The UK economic is a service-oriented economy as the services sector contributes around 81% to the country's total economic output. This is shown in **Graph 2**, as the lines for GDP and Services output follow very similar paths. The green line, which represents GDP, is lower than the red line for Services output because the other sectors of the UK economy are struggling. Whilst services output is 5.0% higher than pre-pandemic thanks to strong growth over the past two years, production output has contracted significantly and current levels are 10.2% below pre-pandemic levels.

Due to lockdowns throughout 2020 and 2021, production output was extremely high as demand from consumers was orientated towards goods rather than services. With the reopening of the global economy, consumers' demand shifted towards services, particularly hospitality, leisure, and travelling. This change in spending habits, coupled with higher operating costs due to the energy crisis, hindered production output. Other

Graph 2: Index of GDP, Services and Production output from January 2022 to December 2024 (2022=100)



Source: CIA analysis of ONS data

core factors impacting UK producers are the ongoing industrial recession in Europe and the presence of aggressively priced third-country exports on the UK market.

Looking at the last quarter of 2024, after contracting in October, UK GDP grew by 0.1% and 0.4% in November and December respectively. This pickup in the latter months of the year resulted in a 0.1% expansion in Q4 and lead to a 0.8% growth in 2024 as a whole. This growth was below expectations of 1.0% made at the beginning of the year. Spending breakdown suggests that domestic private demand in Q4 was more subdued than in Q3 and it is indicates that 2025 growth will likely be steady but low.

Drilling down the data to the five biggest manufacturing sub-sectors in the UK, their index of monthly output is shown in **Graph 3**. Food and Drink, Pharmaceuticals, Automotive and Aerospace industries, along with the chemical industry, are colloquially referred to as the 'Manufacturing Five' or 'M5' because they are the five biggest manufacturing sectors in the UK.

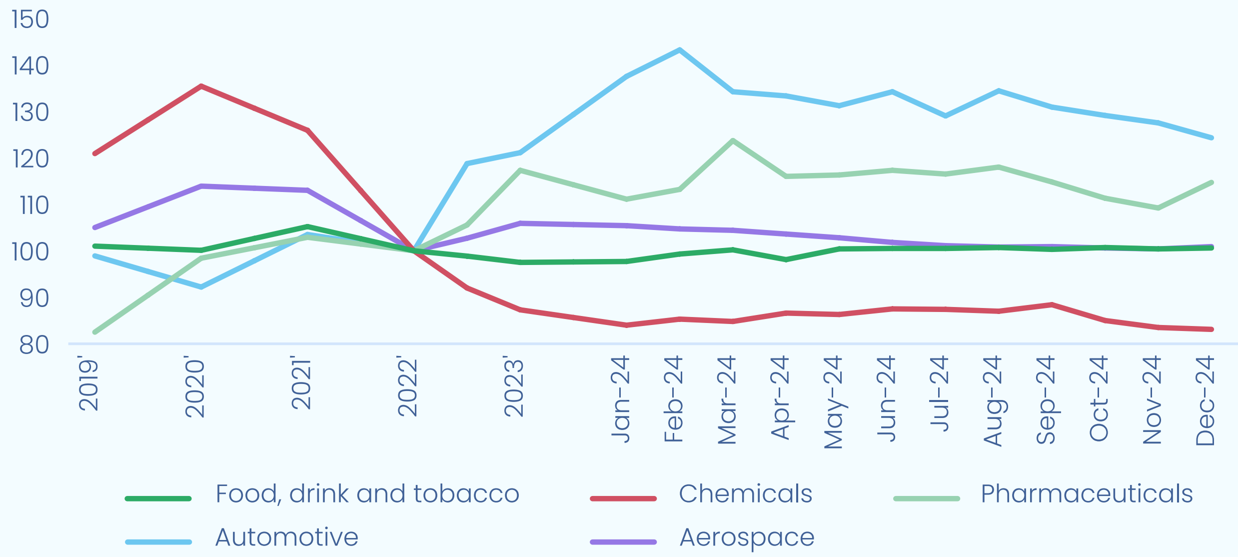
The blue line represents automotive output. The automotive sector has recorded the highest growth amongst manufacturing sub-sectors since the pandemic. Thanks to substantial government support and investment in electric vehicles, Automotive output grew by 9.3% in 2024 and it is currently 23.2% higher than pre-pandemic. This yearly contraction was the result of high input costs, fierce competition from third country markets, and strict regulation around EV sales coupled with consumer's demand shifting away from EV These core challenges are expected to continue in 2025, which will likely be a year marked by contraction in Automotive output.

The pharmaceutical sector – light green line – saw its output increase by 17.3% in 2023 but it fell by 1.8% in 2024 despite strong growth in December. Thanks to strong expansion in 2023 and 2021, pharmaceutical output is over 40% higher than pre-pandemic. The driver behind 2023 and 2021's growth was strong demand from the NHS and consumers. With the UK being a centre of excellence for medical R&D, forecasts are optimistic that 2025 will also be a year of moderate growth for this sector. Moreover, together with Automotive and Aerospace, this sub-sector is at the core of the Advanced Manufacturing Plan and upcoming Industrial Strategy.

The third best performing sector is Aerospace, represented by the purple line. Despite receiving substantial Government support its output has contracted by 3.4% throughout 2024 and it is currently 6.7% lower than pre-pandemic.

Food, Drink and tobacco manufacturing, represented by the dark green line, has been

Graph 3: Index of monthly output of M5 sectors over the past 12 months compared to yearly level (2022=100)



Source: CIA analysis of ONS data

struggling with stagnation for the past couple of years. In 2023, its output contracted by 2.5% but it grew by 2.6% in 2024 bringing output levels back to 2022's average. Monthly data indicates that current Food, Drink & Tobacco output levels are 0.8% lower pre-pandemic levels.

Lastly, chemical output is shown by the red line. This sub-sector has been the worst performing across the M5 for over two years. In 2023, its output contracted by 2.5% but it grew by 2.6% in 2024 bringing output levels back to 2022's average. Monthly data indicates that current Food, Drink & Tobacco output levels are 0.8% lower pre-pandemic levels. This contraction in output has been reflected in the news, with several chemical companies around Europe and the UK announcing site closures and restructuring. After the energy cost crisis and the recession of the industrial sector, operating energy-intensive chemical plants in the UK (and Europe) has become extremely uncompetitive, especially for companies with foreign headquarters that can compare production areas. For this reason, over the past year, numerous UK (and European) chemical sites have lost investment to areas with cheaper operating costs and/or stronger financial aid, like Asia or the US.

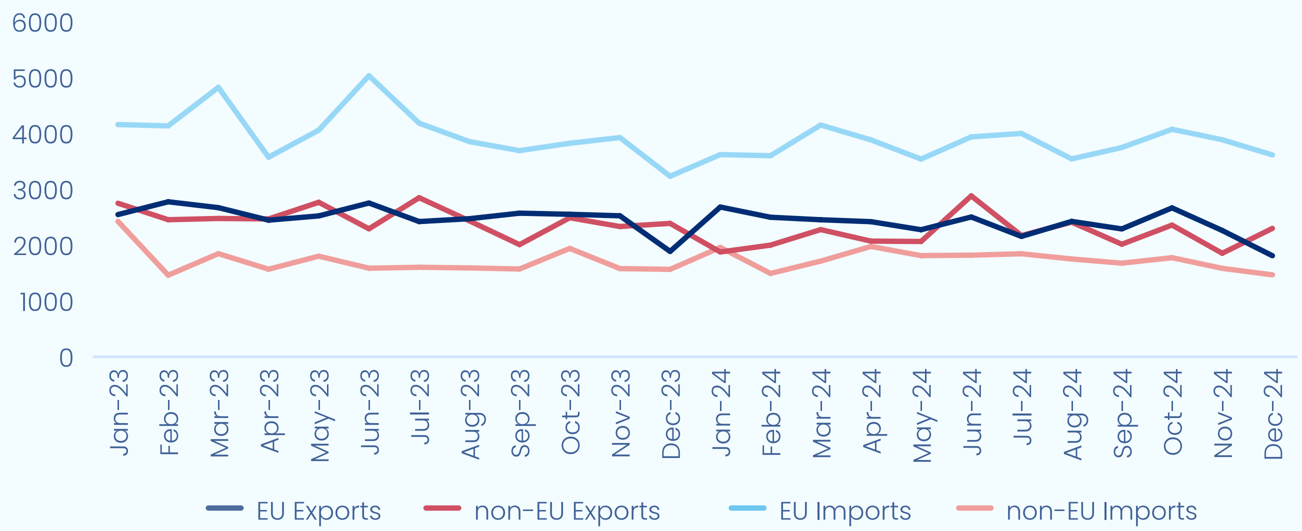
Oxford Economics has forecasted a 0.2% contraction through 2024 and is expecting a 1.7% expansion through 2025. They acknowledge that the new US president's position on shale will severely impact European and British industry's competitiveness, but their forecasting model indicates that the global industrial sector will return to growth in 2025, and this will boost demand for chemicals. Falling interest rates will also have a positive impact on both production and investment, whilst the Industrial Strategy has the potential of bringing additional investment into the UK by establishing a clear and long-term plan. The main factors that will continue to hinder UK chemical manufacturers are high production costs (both energy and labour) and, in the long run, the worsening of skills shortages.

Chemical trade

Globalisation has blurred the geographical boundaries increasing the incidence of trade on industrial supply chains. Every year roughly 70% of all chemicals produced in the UK are exported, so international trade and strong trade agreements are essential for our member companies. In 2023 the value of UK chemical imports was £70bn and £62bn for chemical exports. In 2024 the value of UK chemical trade has decrease for two reasons: firstly, UK chemical and industrial production has fallen, and secondly, export figures do not account for inflation and in 2023 prices rose quicker than in 2024. The value of UK chemical imports in 2024 was £66.5bn and £55bn for chemical exports.

Graph 4 represents chemical imports and exports

Graph 4: Monthly chemical trade in value terms from January 2023 to December 2024 (£mn)



Source: CIA analysis of ONS

towards EU and extra-EU countries. The two blue lines represent trade flows with the EU and the two red lines trade flows with extra-EU countries. Exports are illustrated by the two darker lines (dark blue and dark red) and imports are the two lighter lines (light blue and light red).

Focusing on imports first, the light blue line is consistently higher than the light red line indicating that imports from EU countries are higher than imports from extra-EU countries. In 2024 EU imports fell by roughly £3bn, whilst the value of non-EU imports remained vastly unchanged.

Moving on to exports, the dark lines are much closer together and they intersect multiples times indicating that the UK exports similar values of chemicals towards EU and extra-EU countries. Through 2024 exports fell by £5bn, with the strongest fall recorded for non-EU exports.

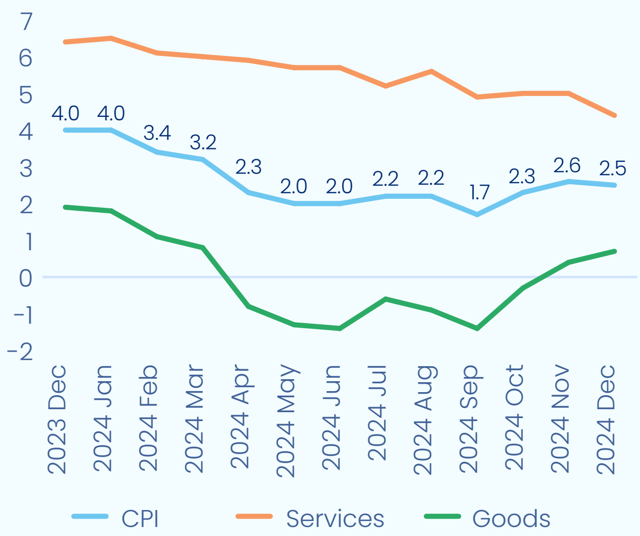
Since EU imports – light blue line – are higher than EU exports – dark blue line – the UK is a net importer of chemicals from the EU, meaning that the UK has a trade deficit with the EU as it imports more than it exports. Comparing overall trade figures for 2024 and 2023, the trade deficit the UK has with the EU has increased by £1bn this year because EU exports fell more than EU imports. With Extra-EU countries the UK has a trade surplus as it exports more than it imports, nevertheless, due to weaker domestic production, this year the trade surplus has contracted by £4bn. The total amount of chemicals imported each year is higher than the amount exported, so the UK is a net importer of chemicals as a whole. This means that we are highly dependent on other countries to meet the internal demand for chemicals, and given that we import roughly twice as many chemicals from EU countries than extra-EU countries, it is essential to maintain a stable relationship with the continent's trading block.

Consumer-side inflation

Since the pandemic, the UK has experienced the highest inflation in over 40 years. To maintain inflation under control, the Bank of England tightened its monetary policy by gradually increasing interest rates to 5.25%. Whilst interest rates remain elevated, inflation has decelerated, and it is currently around the 2.0% target level. With inflation under control, the Monetary Policy Committee (MPC) was able to cut interest rates to 5.0% in August 2024 and then to 4.75% in November 2024. In their latest meeting in February 2025, they decided to cut interest rates again to 4.5%.

Whilst concerns from the MPC around wages growing quicker than inflation persist, in the back-end of 2024 unemployment increased to 4.4% and economic growth slowed to 0.1% in Q3 compared to 0.5% in Q2. These two developments were the main drivers behind the committee's decision to lower interest rates in both November and February. Through 2025, the MPC will likely maintain a close eye on the direct and indirect impact on prices of higher Employer NICs and US tariffs.

Graph 5: Headline (CPI), Goods and Services prices inflation over the past 13 months



Source: CIA analysis of ONS

Graph 5 shows inflation of goods and services, and headline inflation (CPI) from December 2023 to December 2024.

The green line represents the inflation of goods over the past 13 months. In H2 2022 and Q1 2023, good prices rose steeply due to energy price increases. Throughout 2023, more stable energy prices and subdued demand for goods led goods' inflation to decelerate from 13.3% in January to 1.9% in December 2023. This decelerating trend has continued through 2024, and in April 2024, prices deflated. Deflation of goods prices means that prices are lower in 2024 than in 2023, and it is a symptom of depressed demand for goods. This deflationary trend officially ended in October 2024, and in December 2024, goods prices inflated by 0.7%. Whilst this level of inflation remains low, it indicates a stronger demand for goods, which is essential for higher industrial production.

Although less volatile, services prices – orange line – are more stubborn and more indicative of domestically generated inflation and long-term inflation. Services' prices are less directly impacted by energy prices, so they peaked later than headline inflation and goods' prices. Nevertheless, they have been more stubborn due to resilient demand from consumers and higher production costs linked to labour costs and rent. Most recent data indicates that service inflation was 4.4%.

The blue line represents CPI, often referred to as headline inflation, as it is considered to be the most accurate proxy for price trends within a country. Through 2023, CPI inflation decelerated from 10.1% in January 2023 to 4.0% in December 2023, reaching the 2.0% target level in March 2024. A baseline effect from energy prices in September 2023 resulted in a CPI of 1.7% in September 2024. Yet, with winter raising energy prices, CPI bounced back up to 2.5% in Q4 2024. Forecasts made in February by the Bank of England expect 2025 inflation to be between 3.0% and 3.7%, slightly higher than forecasts from Oxford Economics.

In December 2024, US inflation was 2.9%, Germany 2.6%, France 1.3%, and the Eurozone 2.4%. China continues to struggle with a depressed domestic market, with inflation around 0.2% in December 2024.

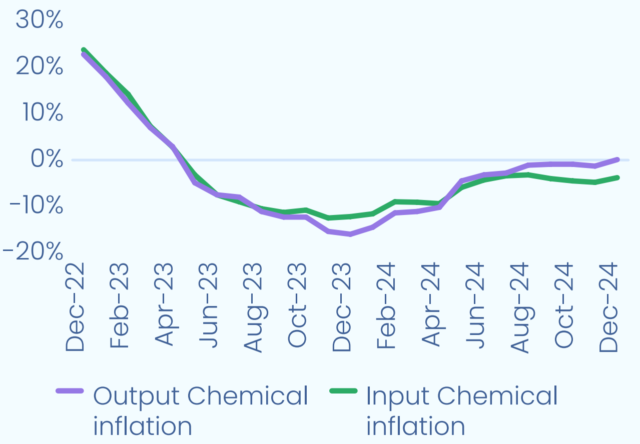
Chemical prices

Graph 6.1 shows the growth rate of chemical input and output prices from December 2022 to December 2024, where the purple line represents output prices and the green one input prices. Just as headline inflation, inflation for chemical prices is measured considering how much prices have grown – or shrunken – since the previous year, so December 2024 inflation shows the percentage change between prices in December 2023 and December 2024.

Since April 2023, both chemical input and output prices have been falling, with the strongest fall recorded in December 2023. Despite this sustained fall, input prices remain higher than output prices, as shown by the green line being above the purple one in **Graph 6.2**. Whilst input prices have been higher than output prices for over three consecutive years, recently, input prices have been falling quicker than output prices. In January 2024, chemical input prices were 8.5% higher than chemical output prices, and in December 2024, 5.5%.

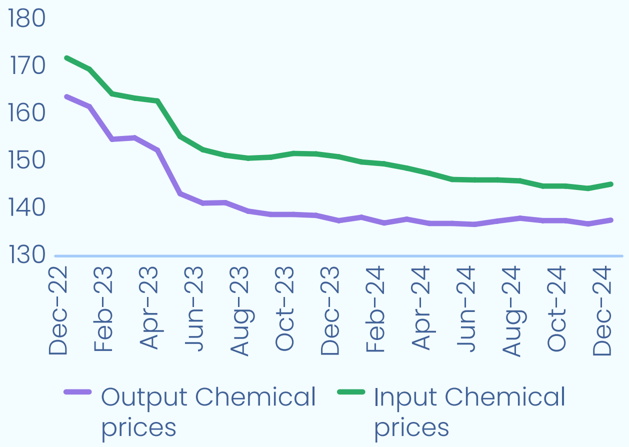
To better understand the narrowing of this gap, in **Graph 6.1**, two different periods can be identified: the first going from December 2022 to April 2023 and the second one from May 2023 to December 2024. In the first period, prices are inflating –prices increased from the previous year – this was due to the energy crisis, and it led to inflation of over 20% in December 2022 for both chemical input and output prices. After this shock to energy prices and thanks to a strong baseline effect, in May 2023, prices started to fall – a deflationary trend. This fall is the result of lower energy prices and lower demand. After the reopening of the global economy, industrial production – especially in the European continent – stagnated due to low demand coupled with high costs and fierce international competition.

Graph 6.1: Growth rate of chemical output and input prices over the past 25 months



Source: CIA analysis of ONS

Graph 6.2: Price level of chemical output and input over the past 25 months

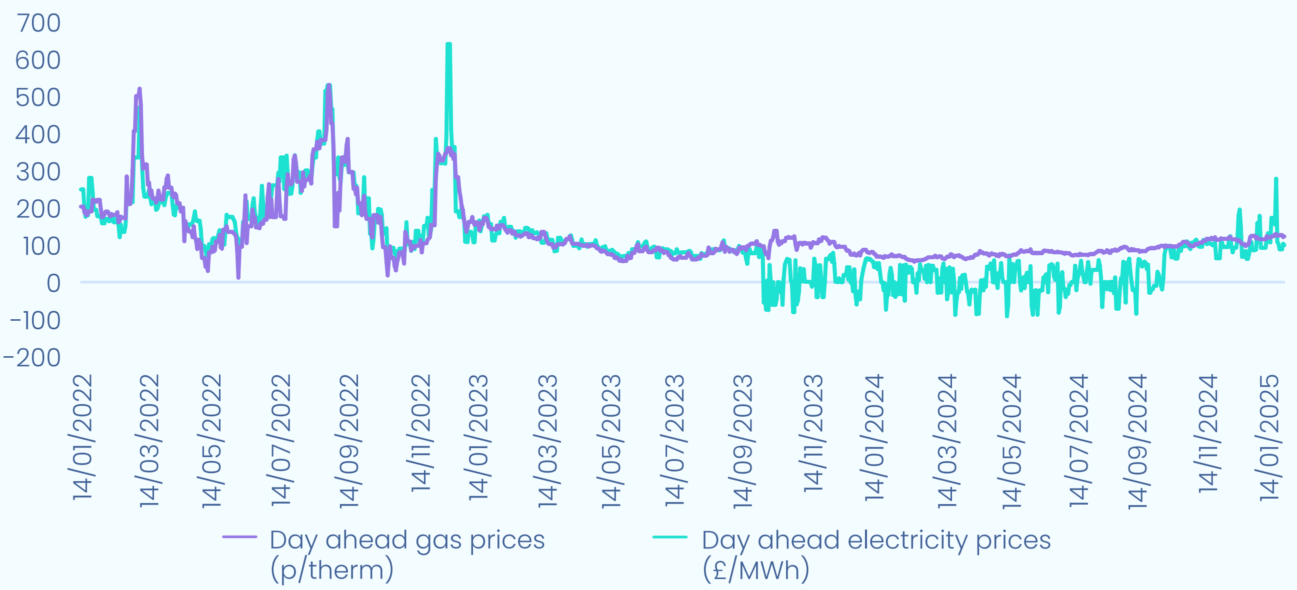


Source: CIA analysis of ONS

These trends in prices experienced and charged by chemical manufacturers show the additional toll on margins from the energy crisis and weakening demand. Despite experiencing input prices 5.5% higher than output prices, due to weak demand and fiercely priced international exports, UK chemical businesses have been unable to pass these additional costs onto consumers.

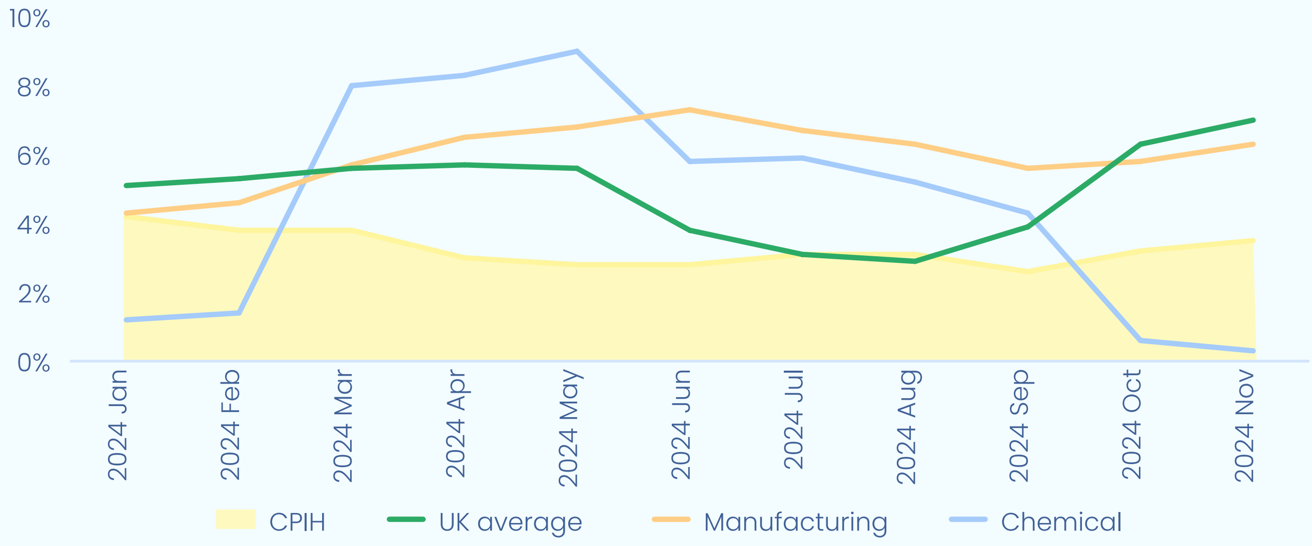
Graph 7 displays the day-ahead wholesale gas and electricity prices in the UK over the two years. UK gas and electricity prices have settled at the lowest level since summer 2021, but they remain roughly two times higher than pre-pandemic and extremely uncompetitive internationally. Data from DESNZ indicates that electricity prices in the UK are almost double the International Energy Agency average and about four times higher than in the US. Industrial gas prices are also about four times higher than in the US, and the new US president's approach to shale gas is going to increase this gap further, making UK gas users less competitive.

Graph 7: Day ahead gas (p/therm) and electricity (£/MWh) prices



Source: CIA analysis of Inspired PLC data

Graph 8: Growth rate of UK average, manufacturing, and chemical pay through 2024 compared to CPIH inflation



Source: CIA analysis of ONS

Labour market

Recent economic and political developments, including tight monetary policy and announcements from the Autumn Budget, impacted the labour market. Estimated payroll employees decreased by 0.1% between October and November 2024. More importantly, unemployment has increased from 4.2% in September to 4.4% in December, and it is currently 0.5pps higher than pre-pandemic. Inactivity due to long-term sickness has also increased since the COVID-19 pandemic as a result of longer wait times in the NHS. Amongst these developments, the one that the Monetary Policy Committee (MPC) is monitoring most closely is the rise in unemployment as it directly relates to labour supply and long-term productivity, and it can impact the overall quality of life in the UK.

Moving on to pay, through the second half 2023 and the first half of 2024 pay growth was quicker than inflation resulting in real terms pay increases and causing concerns amongst members of the MPC regarding expectations for medium term inflationary trends. Recently UK average pay growth rate has eased but it continues to grow above inflation.

Graph 8 shows pay growth rate for UK average, manufacturing, and chemical employees compared to CPIH inflation. CPIH inflation is considered to be a more accurate measure of the cost of living as it includes owner occupiers' housing costs.

The yellow area indicates the level of CPIH inflation. Any point within this area is below inflation and results in real-term pay cuts, while points above the area result in effective real-term pay increases.

The blue line represents pay raises for the average UK employee. In the three months to November 2024 compared to the same three months in 2023, total pay (including bonuses) increased by 7.0% and regular pay by 7.2%, with CPIH inflation at 3.5% that resulted in terms of pay raises of 3.5% and 3.7%, respectively. Throughout 2023, we saw total pay growing quicker than regular pay; that was because, in order to help employees deal with the cost-of-living crisis, several companies offered one-off payments. More recently, with higher prices becoming embedded in society, workers have been more vocal about receiving effective pay raises. Hence, regular pay has resumed growing quicker than total pay.

The orange line indicated the growth rate of pay for the average manufacturing employee, in the three months to November total pay grew by 6.3% whilst regular pay by 6.1%, resulting in real terms pay increases of 2.8% and 2.6% respectively.

Focusing on the average chemical salary – which is represented by the green line – after pay grew quicker than inflation from March 2024 to September 2024, it recently fell below inflation. In the three months to November 2024, total pay increased by 0.3% whilst regular pay increased by 1.4%; this resulted in real terms pay cuts of 3.2% and 2.1%, respectively. Whilst pay raises in our sector have been lower than for the average manufacturing employee, we continue to pay salaries 21% higher than the manufacturing average and 27% higher than the overall UK average. It is also important to mention that this monthly data is not overly accurate for the chemical sector, as fewer chemical employees report their salaries and pay raises every month.

Rounding up the official data

In the second half of 2024, UK GDP lost the momentum it had in the first half but overall it expanded by 0.8% in 2024. In December 2024, chemical output reached its lowest level in over a decade as soaring energy prices and weakening demand continued to impact businesses. Forecasts suggest a modest growth of 1.7% in 2025 for the UK chemical industry as a looser monetary policy should boost industrial production through higher investment and consumption.

Headline inflation in December 2024 was 2.5%, slightly higher than the 2.0% target level. Through 2025, inflation is expected to rise between 3.0% and 3.7% as US tariffs and higher Employer NICs put upward pressure on prices. The Monetary Policy Committee cut interest rates to 4.5% in February. Further cuts this year are to be expected, especially as unemployment reached 4.4%.

Chemical prices have deflated for roughly 20 consecutive months due to weak demand, with input prices falling quicker than output prices. Despite this trend, input prices have been higher than output prices for over three years, but the gap is narrowing.

The UK's labour market remains challenging, with chemical companies experiencing difficulties recruiting and pressure to increase remuneration to ensure retention of experienced workers. In the chemical industry, total pay rose by 0.3% in the three months to November 2024 compared to the same period a year prior.

CHEMICAL INDUSTRIES ASSOCIATION

Survey results

About the survey

At the close of each quarter, we survey member companies of the Association to gather data about current operating conditions and views on what lies ahead. The information from this is incredibly useful in our work, and we are grateful to all who responded.

The CIA's Q4 2024 Business Survey was live between January 8th and January 22nd, 2025. The survey received responses from around 50% of CIA members. This edition of the survey was split into three sections. The first and second sections contained the standard industry performance and challenges and opportunities questions. In the third section, we asked respondents some questions focusing on planned new investments.

In the industry performance section, three questions asked respondents whether the 19 variables listed below had increased, decreased, or stayed the same in the fourth quarter of 2024 compared to the third quarter of 2024 and their expectations for these variables in the first quarter of 2025 and 12 months' time.

Industry performance variables:

1. Total sales
2. Domestic sales
3. Exports
4. EU exports
5. The rest of the world exports
6. New orders
7. Production levels
8. Capacity utilisation
9. Employee numbers
10. R&D spend
11. Business investment
12. Your level of business optimism
13. Time to deliver
14. Raw material (input) prices
15. Cost of importing
16. Cost of exporting
17. Your energy costs
18. Finished goods (output) prices
19. Your company/site profit margins

When displaying the industry performance data, diffusion indexes are used. These are easy-to-interpret statistical tools that can be read in the same way as S&P Global's Purchasing Managers Indexes (PMIs). Therefore, any figure below 50 indicates a contraction, above 50 an expansion, and 50 means it remained constant. To compute these indexes, we combined the percentage of respondents who reported experiencing an increase with half of those who reported experiencing no change.

Industry performance

Performance in the fourth quarter of 2024

Table 1 displays the diffusion indexes for the 19 variables mentioned in 'About the Survey' and the percentage of respondents that reported experiencing a decrease in the variables. The first column is the diffusion index for the performance in the fourth quarter, the second column contains the diffusion index for what was expected for the fourth quarter of 2024 when respondents were asked in the CIA's Q3 2024 Business Survey, the third column contains the diffusion index for the performance in the third quarter of 2024, and the final two columns contain the percentage of respondents that experienced a decrease of that variable in the current quarter and the previous one. This allows comparisons between the performance in the fourth quarter of 2024 compared to expectations and the prior quarter.

Table 1: Q4 performance compared to Q3's and expectations made in Q3

	Q4 Actual	Q3 Expected	Q3 Actual	Percentage that experienced a decrease in Q4 2024	Percentage that experienced a decrease in Q3 2024
Total sales	32	45	53	59%	33%
Domestic sales	37	48	48	44%	20%
Exports	29	48	52	54%	26%
EU exports	28	47	48	54%	24%
Rest of the world exports	33	48	52	46%	26%
New orders	37	42	52	44%	30%
Production levels	32	43	48	54%	35%
Capacity utilisation	33	45	48	49%	35%
Employee numbers	49	38	46	20%	33%
R&D spend	44	46	47	20%	11%
Business investment	41	43	45	27%	20%
Your level of business optimism	29	40	43	54%	33%
Time to deliver	50	57	49	5%	2%
Raw material (input) prices	54	48	50	20%	26%
Cost of importing	54	54	48	5%	11%
Cost of exporting	52	53	48	5%	11%
Your energy costs	67	56	60	10%	4%
Finished goods (output) prices	51	48	51	15%	17%
Your company/site profit margins	30	42	46	56%	33%

Source: CIA Q4 and Q3 2024 Business Survey

Key take away

After a strong first half of 2024, sales, production levels, and capacity utilisation contracted for the majority of respondents. Employment and investment also contracted, while the cost of energy increased at the fastest pace in over a year. Lower sales coupled with vastly unchanged output prices left margins in a tough spot for 56% of respondents.

The last quarter of the year tends to be the most challenging for chemical businesses for various reasons, including higher energy prices linked to colder climates. Q4 2024 was no different, as 60% of respondents reported lower sales and 54% lower *production levels*. Our surveys show that 2024 was an ambivalent year, with strong growth in the first half of the year and substantial slowdowns in the second half. In Q3, over a third of respondents reported lower sales, *production levels*, and *capacity utilisation*, which were mainly linked to weakening demand and falling exports. The same trend has continued through Q4 with strong contractions across the board.

Focusing on *total sales* first, the 'Q3 actual' index was 45, indicating a small contraction; in Q4, the contraction became more pronounced as the index fell to 32. Less than 25% of respondents saw an increase in *sales*, likely linked to lower exports, which contracted for the second consecutive quarter. The domestic market remains weak but outperforms exports overall, particularly *EU exports*, which fell for over half of respondents. Low demand was reflected in falling *production levels* and *capacity utilisation*, as both recorded the strongest contraction of the year.

Among the slower-moving variables, *R&D spending* and *business investment* deteriorated between Q3 and Q4, while *employee numbers* slightly improved. Almost a third of respondents reported lowering their business investment over the last quarter of 2024, while 20% reported falling R&D spending. While employee numbers continue to fall, 17% of respondents increased their workforce.

Moving on to costs, *raw material prices* increased for 27% of respondents and *energy costs* for almost 45% of respondents. In December, gas prices were extremely volatile and higher than normal due to colder weather, leading to higher domestic demand. UK gas storage was called on heavily during the month, closing around 7TWh below the 2023 position. The index for the cost of trading (*cost of importing* and *cost of exporting*) is marginally higher than 50, indicating a small increase as over 80% of respondents reported *no change*. Output prices have remained vastly unchanged since Q3 due to lower sales and higher production costs, resulting in falling margins for 56% of respondents.

Lastly, with no immediate sign of demand's recovery, growing energy costs, a lack of clarity around future regulation, the continuation of the EU industrial recession, and fierce price competition from third-country markets resulted in *business optimism* falling at the quickest rate for over two years.

Expectations for the first Quarter of 2025

Table 2 displays the diffusion indexes for what is expected for each of the 19 variables in the first quarter of 2025 and the percentage of respondents who expect to see an increase.

Table 2: Expectations for Q1 2025

	Q1 Expectation	Percentage that expects an increase in Q1 2025
Total sales	73	58.5%
Domestic sales	66	41.5%
Exports	70	46.3%
EU exports	68	43.9%
Rest of the world exports	66	39.0%
New orders	71	53.7%
Production levels	70	53.7%
Capacity utilisation	70	53.7%
Employee numbers	41	9.8%
R&D spend	50	7.3%
Business investment	41	9.8%
Your level of business optimism	52	26.8%
Time to deliver	49	2.4%
Raw material (input) prices	55	22.0%
Cost of importing	54	12.2%
Cost of exporting	54	12.2%
Your energy costs	70	41.5%
Finished goods (output) prices	52	22.0%
Your company/site profit margins	54	34.1%

Source: CIA Q4 2024 Business Survey

Key take away

Expectations for the last quarter of the year are moderately positive, with 59% of respondents expecting higher sales. Winter is expected to raise energy costs significantly, and some companies are confident that they will be able to pass on some of the added cost to consumers. Overall margins will continue to contract. .

Chemical companies tend to record the highest performances in the first quarter of the year, and the majority of our respondents expect this trend to continue in 2025. Almost 60% of respondents expect higher sales driven by new orders. As the index is higher, exports are expected to recover more strongly than domestic sales. Production levels and capacity utilisation are also expected to increase by over 50% of respondents.

Expectations over slower-moving variables are more or less constant despite over 25% of respondents expecting to see lower employment and business investment. This will likely be the result of Trump’s presidency attracting capital to the US and higher Employers NICs coming into place in April 2025.

Raw material prices are expected to remain elevated and potentially increase, whilst expectations over energy prices are gloomier, as 40% expect to see further increases before the end of winter. A few companies are confident that they will be able to pass some of these additional costs onto consumers, but overall, they should remain vastly unchanged. Respondents’ expectations over margins are a mixed bag; whilst 34% hope to see signs of improvements, 27% expect to see further falls.

Lastly, the same trend observed in margins is also reflected in business optimism. Among the respondents, 27% anticipate an increase in their optimism, while 22% foresee a further decline.

Expectations for 12 months ahead

Expectations for 2025 are slightly subdued compared to other surveys. Usually more than 60% of respondents believes that they will experience an improvement of operating conditions in 12 months' time, whilst this quarter the overall expectations indicate improvements, the percentage of respondents that expects these improvements is lower.

Table 3: Medium-term expectations

	12 months Expectation	Percentage that expects an increase in 12 months time
Total sales	75	57.1%
Domestic sales	73	47.6%
Exports	67	42.9%
EU exports	68	47.6%
Rest of the world exports	65	40.5%
New orders	73	50.0%
Production levels	74	54.8%
Capacity utilisation	73	52.4%
Employee numbers	39	7.1%
R&D spend	55	16.7%
Business investment	49	23.8%
Your level of business optimism	56	38.1%
Time to deliver	49	9.5%
Raw material (input) prices	63	38.1%
Cost of importing	57	16.7%
Cost of exporting	58	21.4%
Your energy costs	54	26.2%
Finished goods (output) prices	62	31.0%
Your company/site profit margins	61	35.7%

Source: CIA Q4 2024 Business Survey

Key take away

Due to a strong baseline effect, 60% of respondents expects higher sales and production levels in 12 months' time. Employee numbers are expected to continue contracting and input costs to marginally increase. Profit margins are expected to improve by 44% of respondents, a low percentage considering current levels.

57% of respondents expect higher sales in 12 months' time, with 48% expecting higher domestic sales and 43% improvements in overseas demand. Whilst these percentages are positive, when we consider current output levels and the struggles facing the industry over the past two years, these percentages appear much lower. Slightly more than 50% of respondents expect improvements in production levels and capacity utilisation; once again, despite it being the majority of respondents, it is still a low percentage considering current output levels. These medium-term expectations clearly show that whilst there is some optimism for 2025, business leaders are conscious that the main challenges that impacted 2024 show no sign of easing.

Forecasts for slower moving variables are also conservative compared to current and historic levels. These variables are less volatile than the previously mentioned ones and are only impacted by long-term shifts in production levels and productivity. Focusing on employee numbers, this is one of the few variables that is expected to worsen in a year's time; this is because almost 30% of respondents are expecting lower employee numbers. It is unclear whether that is related to long term losses in market share or increases in productivity. With net zero and a circular economy becoming more established, chemical companies are expecting to increase their R&D spending in the coming year.

Another variable that is expected to deteriorate in the medium term is input prices; this is probably linked to the more aggressive stance taken by countries towards Chinese exports as well as inflationary trends across economies. The cost of trading is expected to slightly increase.

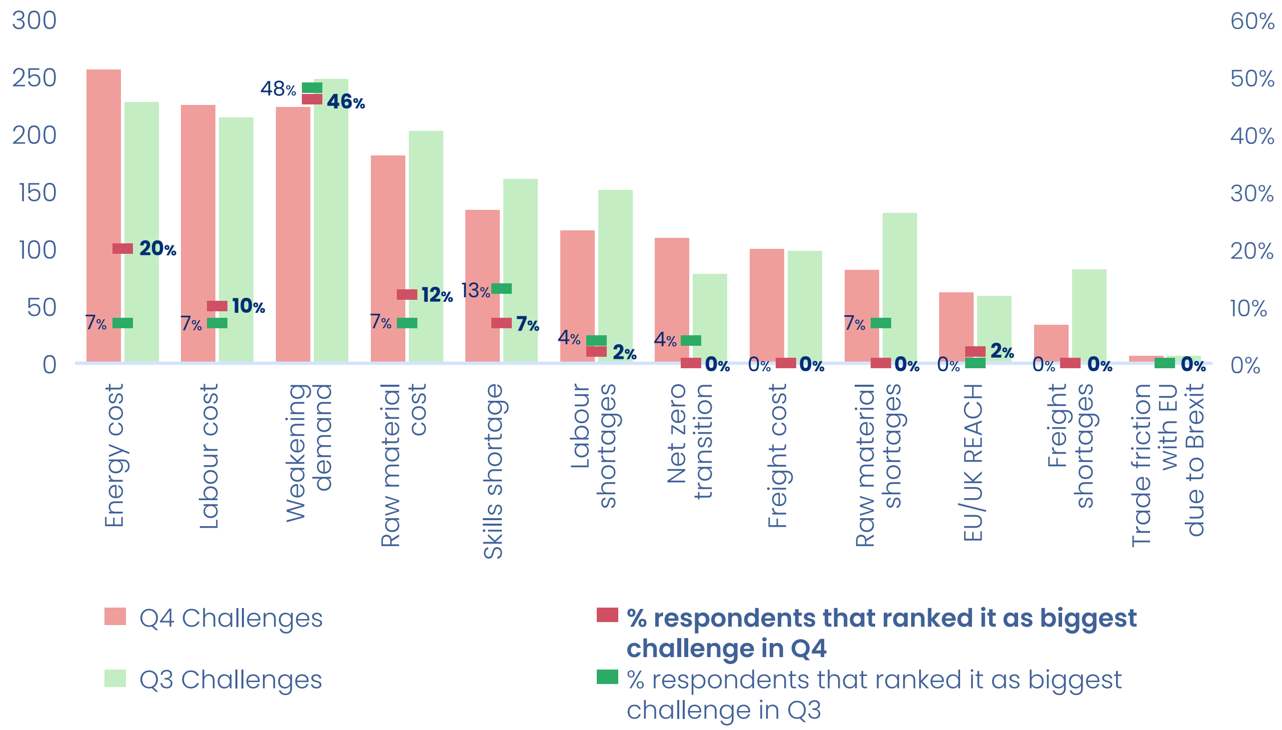
These expectations are likely the reflection of the possibility of tariffs established by the US. Overall energy cost is not expected to change as 26% of respondents expect an increase and another 19% a decrease.

36% of companies are confident that higher sales and production levels, coupled with vastly unchanged costs, will increase margins.

Challenges and Opportunities

The second section of the CIA's Q4 Business Survey focused in more detail on the challenges members faced and the opportunities they identified. The first question asked respondents to rank 11 challenges faced by the industry from most significant to smallest, with '1' signalling the greatest issue and '11' the smallest. Since members repeatedly ranked this challenge last, the CIA removed 'Trade friction with EU due to Brexit' from the listed challenges. In Graph 9, there is still a bar for this challenge because it was included as a challenge in the Q3 2024 Business Survey.

Graph 9: Industry ranking of business challenges in Q4 and Q3 2024



Source: CIA Q4 and Q3 2024 Business Survey

Key take away

1. Energy cost
2. Labour cost
3. Weakening demand

This quarter's survey recognised: 'Energy Cost', 'Labour Cost', and 'Weakening Demand' as the three main challenges. Last quarter, the three main challenges were: 'Weakening Demand', 'Energy Cost', and 'Labour Cost'.

The blue bar on **Graph 9** shows the ranking of the challenges in this quarter's survey, whilst the green bar ranking in the previous quarter (Q3 2024). In the case of 'Weakening Demand', the green bar is higher than the red bar, meaning that, as a challenge, it ranked higher in Q3 than in Q4. The dots represent the percentage of respondents that ranked each challenge as number one, the green dot is the percentage in Q3 2024 and the red one in Q4 2024. Focusing on 'Energy Cost', more members have ranked it as the main challenge in Q4 2024 than in Q3 2024, probably because energy prices were significantly higher in Q4 than in Q3. Moreover, since energy cost is the most widespread challenge across our sector, it always tends to rank among the top three challenges.

In this survey, the second biggest challenge identified was 'Labour Cost'. The changes to Employer National Insurance Contributions (NICs) coupled with pressure from Unions and workers to receive higher salaries continue to affect chemical businesses. Higher labour costs, coupled with skills and labour shortages strongly indicate that the industry is facing a tough labour market and it creates further uncertainty over long-term labour supply.

Last quarter, 'Weakening Demand' was ranked by respondents as biggest challenge. This quarter, whilst almost 50% of respondents ranked 'Weakening Demand' as their biggest business concern, it overall ranked third. Unlike 'Energy Cost' and 'Labour Cost', 'Weakening Demand' is not as widespread across the sector, even if it impacts numerous chemical businesses across the UK.

'Raw Material Costs' remain elevated and continue to put pressure on businesses, furthermore they are the result of the delicate geopolitical situation and the shortages that it entails.

The 'smallest' challenges still pose a serious threat to the industry in the mid-to-long term. They however are not being felt as acutely as low demand, high costs, and labour frictions. It is therefore important that these challenges, including 'EU/UK REACH' and the 'Net zero Transition' not underestimated.

Members also mentioned other challenges that were not in the survey, such as: HR issues, regulation changes and lack of clarity over regulatory environment, Chinese oversupply and weak demand due to fierce competition, necessity of plant modification for new products line, and volatility of ETS Carbon Credits.

The next question asked respondents if the 11 challenges from the previous question were improving, worsening, or remaining unchanged. Table 4 displays the diffusion indexes of the answers with figures above 50 indicating an improvement, below 50 worsening, and 50 equals no change, and the percentage of respondents that expects a worsening in the near-by future.

Table 4: Expectations over challenges

	Expectations	Percentage that expects this challenge to worsen
Energy cost	27	59%
Labour cost	11	76%
Weakening demand	37	46%
Raw material cost	48	39%
Skills shortage	33	32%
Labour shortages	38	22%
Net zero transition	29	34%
Freight cost	34	34%
Raw material shortages	37	22%
EU/UK REACH	29	15%
Freight shortages	32	10%

Source: CIA Q4 2024 Business Survey

Unlike the majority of previous surveys, this survey recorded negative sentiments across the board, with the worst conditions anticipated for 'Energy Cost' and 'Labour Cost'.

Starting with 'Energy Cost', with cooler weather associated with winter months and loss of international competitiveness due to shale gas projects in the US, this issue is expected to worsen by almost 60% of respondents. After two years from the energy price crisis, the European and British energy market continues to struggle through volatility and elevated prices, strongly impacting local industries and harming their ability to secure international investment.

The development of 'Labour Cost' worries our respondents the most, with 76% expecting the situation to worsen. As mentioned above, a higher price level in the economy requires companies to increase wages, but coupling this with higher Employer NICs and low margins poses a big challenge for chemical businesses going forward. 'Skills Shortages' and 'Labour Shortages' are also expected to worsen, but less strongly than costs.

'Weakening Demand', which until Q3 2024 was expected to be transitory, continues to weigh on chemical businesses and is not expected to improve through 2025. We have identified two main reasons for this trend: (i) competitively priced third-country exports lowering companies' ability to set prices and diminishing demand, and (ii) the continuation of the downturn of UK and EU industrial production.

'Raw Material Costs' are expected to worsen by 39%. This percentage has increased from the Q3 2024 Business Survey, further indicating the harshening of geopolitical tensions. 'Net zero Transition' is also expected to worsen by 34% of respondents, indicating that the Government and the Industrial Strategy will be crucial in designing the industry's future.

Moving onto opportunities, the most recurrent themes were:

1) New products and/or applications
2) Expansion to new markets: US, Asia, and improvements to the EU trade deal
3) Scaling up and investment
4) Circular economy becoming more established
5) Possibility of higher US tariffs on China impacting Chinese exports and UK/EU responses
6) Energy saving and similar cost cutting initiatives.

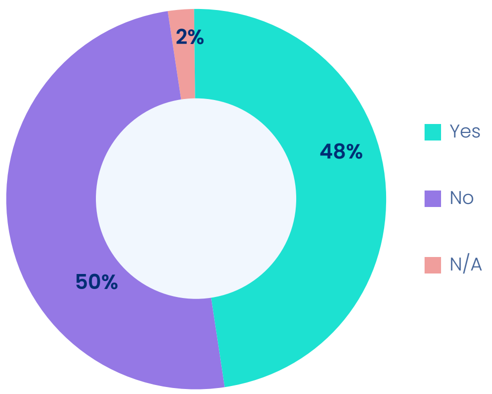
Open-ended questions

The final part of the survey asked members one open-ended question about investment:

Investment

In this version of the survey, we asked members if they had any new investments planned for 2025.

Graph 10: Do you have any plans for new investment in the UK in 2025?



Source: CIA Q4 2024 Business Survey

Graph 10 shows that 48% of our respondents reported that they are planning new investments in 2025. Amongst the companies that volunteered, the investment average was around £11mn. Whilst £11mn might appear like a large sum, it is relatively small in terms of what it can deliver on a chemical plant.

Key takeaways from the survey

Despite a strong start to the year, 2024 ended on a bitter note for the industry as 60% of respondents reported lower sales and around 50% lower production levels and capacity utilisation. The continuation of weak demand has also impacted business investment, which contracted for almost a third of respondents. On the cost front, energy and raw materials increased significantly from Q3, whilst lower sales did not allow companies to pass some of these additional costs onto consumers. The continuation of tough times for the industry resulted in falling business optimism and margins.

Expectations for 2025 are more positive, but they come from a low base. In the first quarter of 2025, over half of respondents expect improving sales, which would also increase production levels and capacity utilisation. With the continuation of colder weather, energy costs are expected to rise further by 41% of respondents. Expectations over margins are more conservative, with just over a third of respondents expecting to see improvements. Expectations for 2025 as a whole are more or less similar, with 60% of respondents expecting to see higher sales and energy costs, which are expected to remain more or less at current levels. While there are expectations of improvements, these come from a very low base as chemical output reached an 11-year low, and seeing 30% of respondents expect sales to remain unchanged or worsen raises concerns about the future of the industry.

The sector's main three challenges are 'Energy Cost', 'Labour Cost', and 'Weakening Demand'. In the previous survey, 'Weakening Demand' was ranked as the main challenge, but due to the rise in energy costs and their widespread impact on the chemical industry, 'Energy Cost' was ranked first. Expectations over the listed challenges remain negative, with over half of respondents expecting 'Energy Cost' and 'Labour Cost' to worsen significantly.

Lastly, 48% of respondents is planning new investment in the UK in 2025 with the average investment amount around £11mn.

Michela Borra
Head of Economics
Chemical Industries Association, UK
Tel. +44(0) 20 7963 6761 Mob. +44 (0)7908 897013
Email: BorraM@cia.org.uk

Simon Marsh
Director of Communications
Chemical Industries Association, UK
Tel. +44 (0) 20 7963 6725 Mob. +44 (0)7951 389197
Email: MarshS@cia.org.uk