Chapter 2: Solid Fuels and Derived Gases

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Key headlines

Demand for coal fell in 2024, by 52 per cent to 2.1 million tonnes compared to 2023. The fuel mix has shifted towards other sources of fuel, particularly for electricity generation.

Consumption of coal for electricity generation fell 55 per cent to 0.7 million tonnes in 2024. The last coal-fired power plant, Ratcliffe-on-Soar, closed on 30 September 2024. Coal use has been phased out as electricity generation now favours gas, nuclear and renewables.

Production of coal fell to another record low, down 79 per cent from 2023 to 107 thousand tonnes. This was due to the last large surface mine, Ffos-y-Fran, closing at the end of November 2023. There is currently no large-scale surface mining in the UK. Deep mined coal rose by 30 per cent in 2024 compared to the previous year but was only a fraction of the total in 2015 when the last large deep mines closed. In the last ten years, UK coal production has fallen by 99 per cent.

Coal imports fell 49 per cent in comparison with 2023 to 1.8 million tonnes in 2024. In 2024, Colombia was the largest exporter of coal to the UK with a share of 37 per cent of total UK imports. This was followed by the European Union with 26 per cent and South Africa with 17 per cent. Coal exports rose by 48 per cent compared to 2023 as surplus stocks from closed coal-fired electricity generators were sold.

In 2024, coal comprised 0.9 per cent of UK energy demand, down from 1.8 per cent in 2023. Over a longer period, the trend reflects the transition away from coal in the UK's energy mix; coal demand has fallen from a 16 per cent share of UK energy demand in 2000. Most of this coal is used for electricity generation, coke manufacture, or in blast furnaces in the steel industry.

The Sankey diagram at the end of this chapter shows flows of coal from production and imports through to consumption. It is a way of visualising the figures that can be found in the commodity balance for coal in Table 2.4. The chart illustrates the flow of coal from the point of supply (on the left) to its eventual final use (on the right).

Reduced demand for coal drove a substantial contraction in supply, with UK coal production down 99 per cent since 2015. In 2024, coal production fell to a record low of 107 thousand tonnes, down 79 per cent on 2023 (Chart 2.1).

Deep mined production rose to 106 thousand tonnes and comprised 99 per cent of production in 2024. Eight deep mines remained open, and five mines reported coal production in 2024. This compares to 2015 when deep mined production provided nearly a third of total coal production, and when the last three large deep mines closed – Hatfield, Thoresby and Kellingley.

The last large surface mine, Ffos-y-Fran, closed at the end of November 2023. There is currently no large-scale surface mining in the UK.

Chart 2.1 UK coal supply and demand, 2000 – 2024 (DUKES Table 2.1)

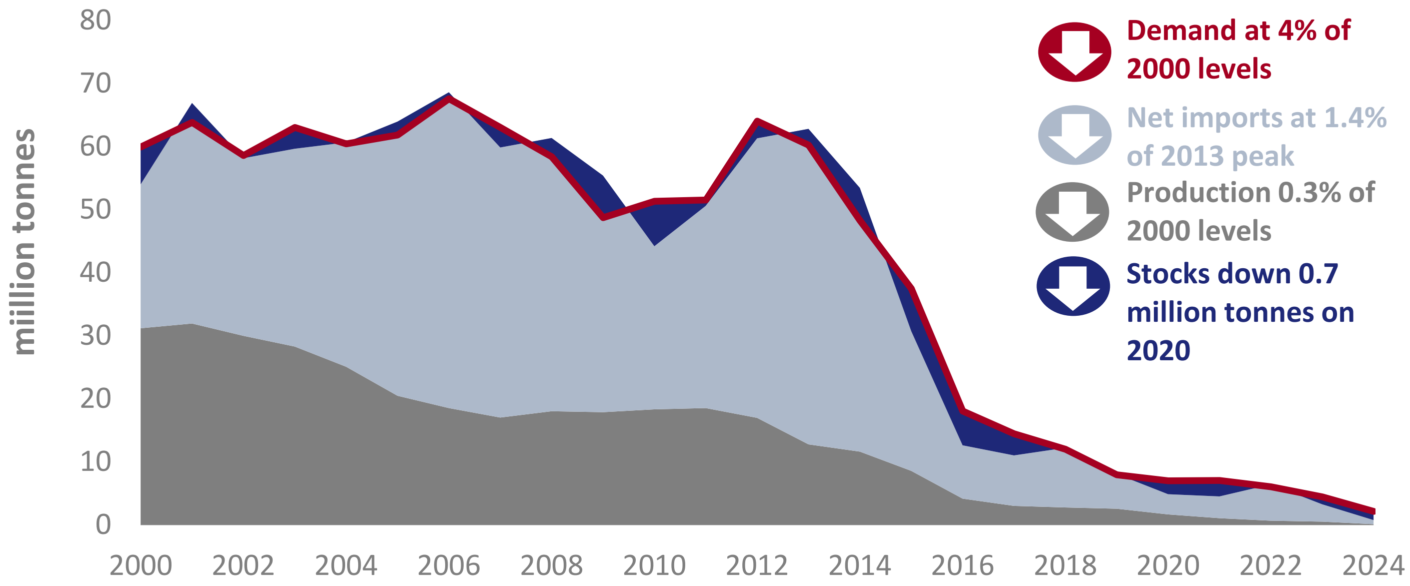
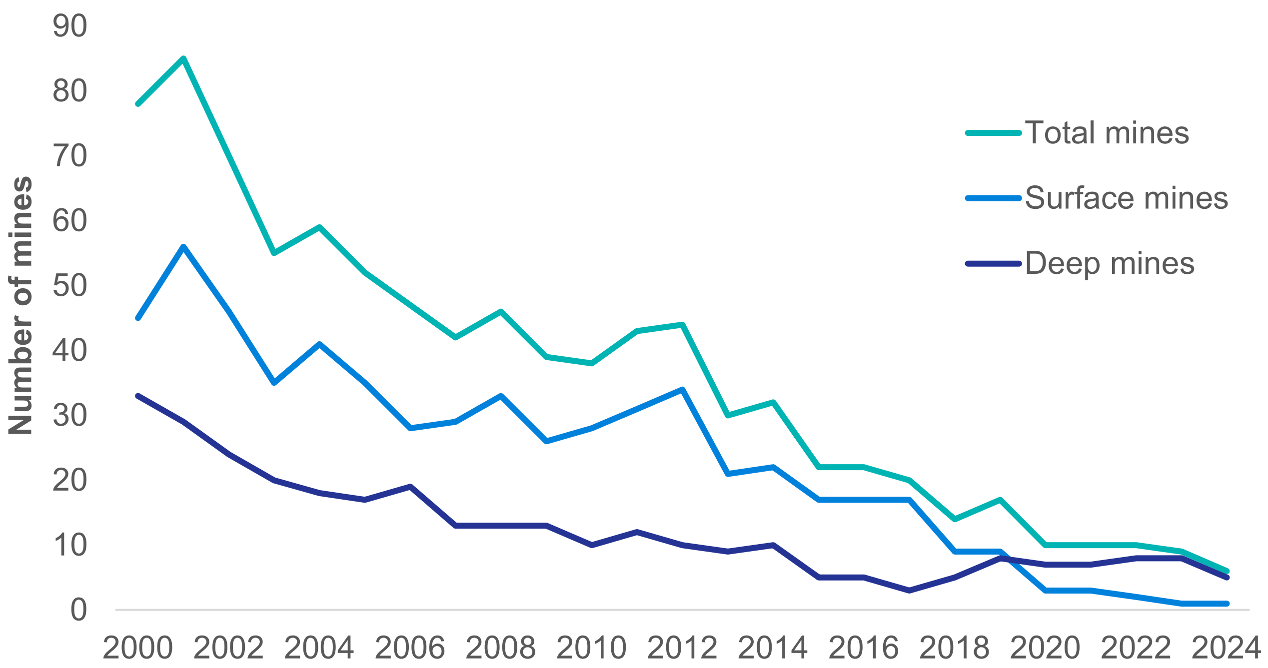
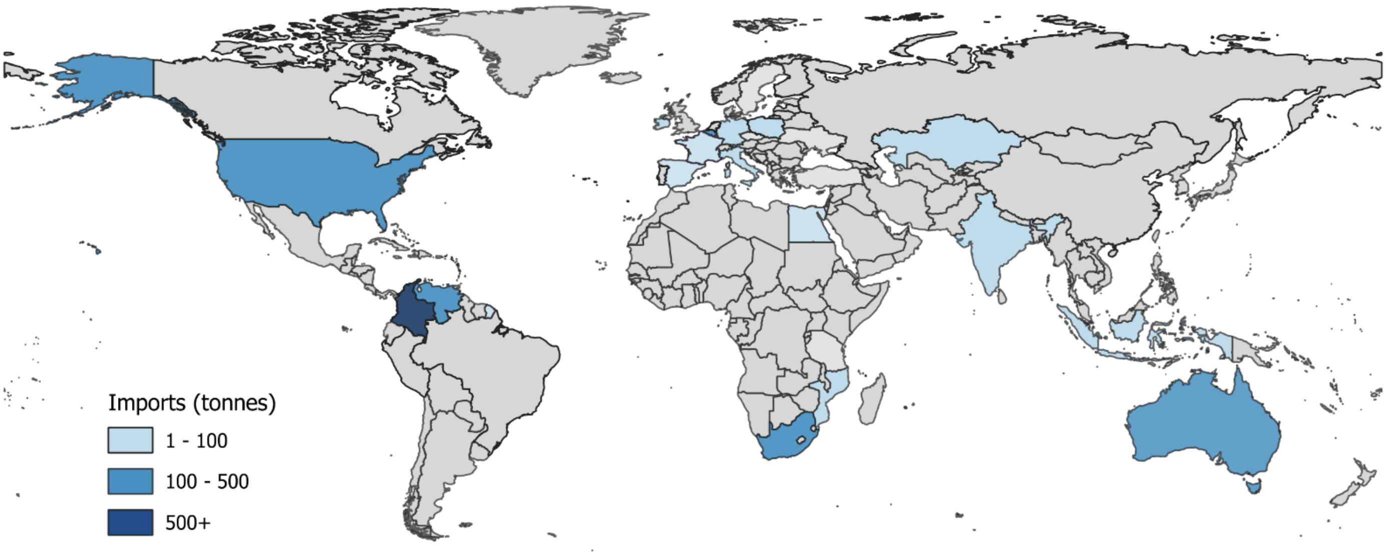


Chart 2.2 Number of coal mines producing in the UK, 2000 – 2024 (DUKES Table 2.5)



Net imports of coal also fell substantially, down 99 per cent from the peak in 2006. This is again a result of the sharp fall in demand for coal. However, in 2024, net imports fell by 75 per cent from 2023 levels to 0.7 million tonnes. In 2024, net imports accounted for 32 per cent of the UK's coal supply. Coal exports rose by 48 per cent compared to 2023.

Map 2A showing UK Coal Imports in 2024 (thousand tonnes)



For more detail on coal imports and exports see DUKES Tables 2.7 and 2.8

Steam coal imports were 34 per cent lower at 1.4 million tonnes in 2024 compared to 2023. Colombia was the largest provider of UK's steam coal (47 per cent). This was followed by South Africa (22 per cent) and the European Union (15 per cent). Steam coal accounted for 78 per cent of total coal imports. Coking coal imports were down 86 per cent at 0.2 million tonnes compared to 2023. The USA was the largest provider of UK's coking coal (47 per cent). This was followed by the European Union (38 per cent). Coking coal accounted for 11 per cent of total coal imports. The UK banned Russian coal imports in August 2022.

In 2024 the UK exported 1.1 million tonnes of coal, primarily to European countries. This included 0.9 million tonnes of steam coal, 0.1 million tonnes of coking coal and 0.01 million tonnes of anthracite. Steam coal exports included surplus stocks from closed coal-fired electricity generators.

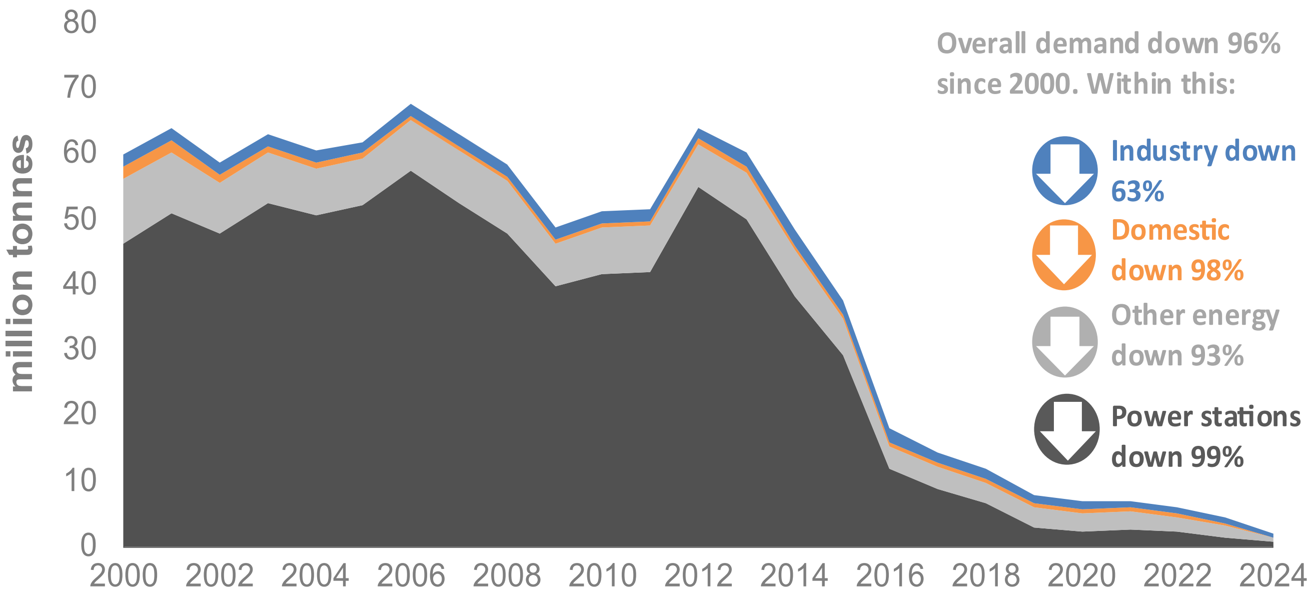
Coal stocks fell in 2024 continuing its downward trend. In line with much of what we see with coal, the main change to coal stocks came post 2014 when stocks began to gradually decline and power plants closed. There was a temporary rise in coal stocks in 2022, as generators rebuilt their stocks so that coal could be used for electricity if needed during winter 2022/23. However, stocks fell again in 2023.

As of June 2025, the Coal Authority estimates that in total there were 68 million tonnes of economically recoverable coal resources (Table 2.6). Of the economically recoverable and minable coal resource in current operations (including those in the planning or pre-planning process), 67 million tonnes are in underground mines and 1 million tonnes in surface mines. Overall, Wales had a 93 per cent share of UK current mines and licenced resources and England had a 7 per cent share.

The reduction of underground figures is due to the decline of the industry. An additional 2,050 million tonnes of prospects for underground mines and 778 million tonnes of prospects for surface mines were estimated in June 2022. Table 2.6 gives details of the resource assessment by England, Scotland and Wales as at June 2024.

Demand for coal fell by 52 per cent to 2.1m tonnes in 2024, compared to 2023 (table 2.2). Much of this decrease was driven by the 55 per cent fall in coal-fired generation to 0.7 million tonnes. The last coal-fired power plant, Ratcliffe-on-Soar, closed on 30 September 2024. Coal use has been phased out as electricity generation now favours gas, nuclear and renewables.

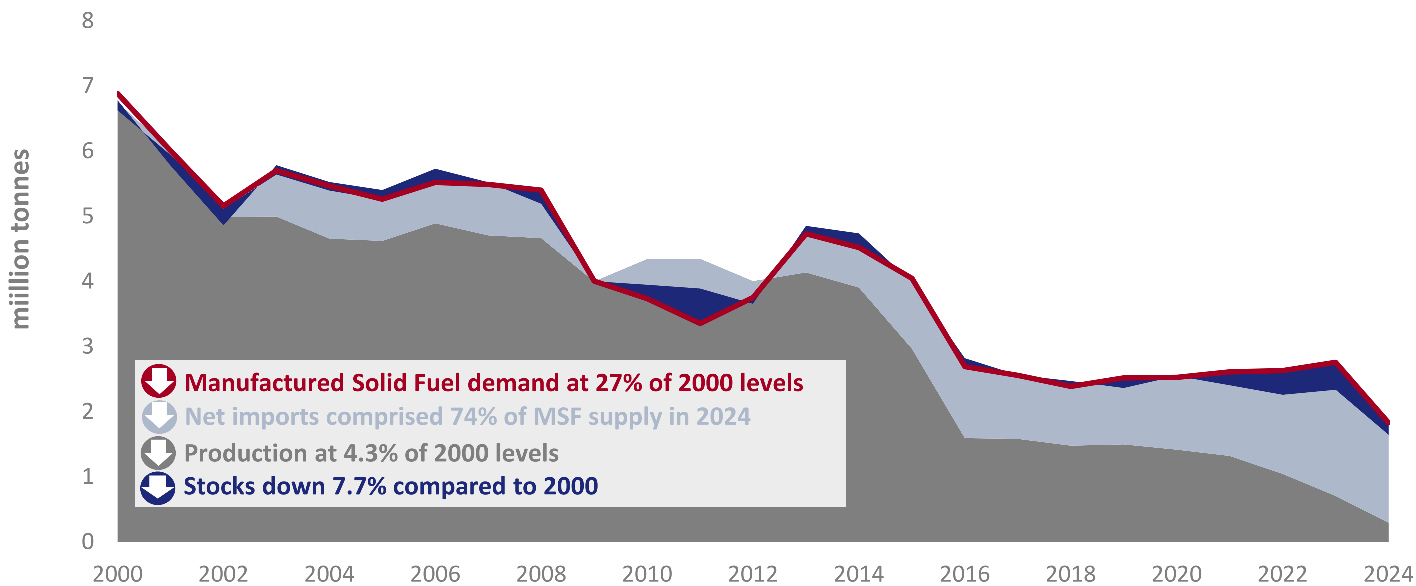
Chart 2.3 Coal Demand, 2000 – 2024 (DUKES Table 2.2)



The iron and steel industry is one of the main non-generation users of coal, for coke manufacture, blast furnaces and direct consumption. In 2024 it used 0.6 million tonnes of coal, just over a tenth of what it used in 2015 (5.2 million tonnes). In terms of total share, it comprised 27 per cent of UK coal demand in 2024, up from 14 per cent in 2015.

In addition to coal production and consumption, the UK has significant (but decreasing) supply and demand for a range of manufactured solid fuels that are used for domestic, industrial and transformation processes. Coke is the solid product obtained from the carbonisation of coal, principally coking coal, at high temperature and is used for smelting iron and steel.

Chart 2.4 Total manufactured solid fuels supply and demand, 2000 - 2024 (DUKES Table 2.3)

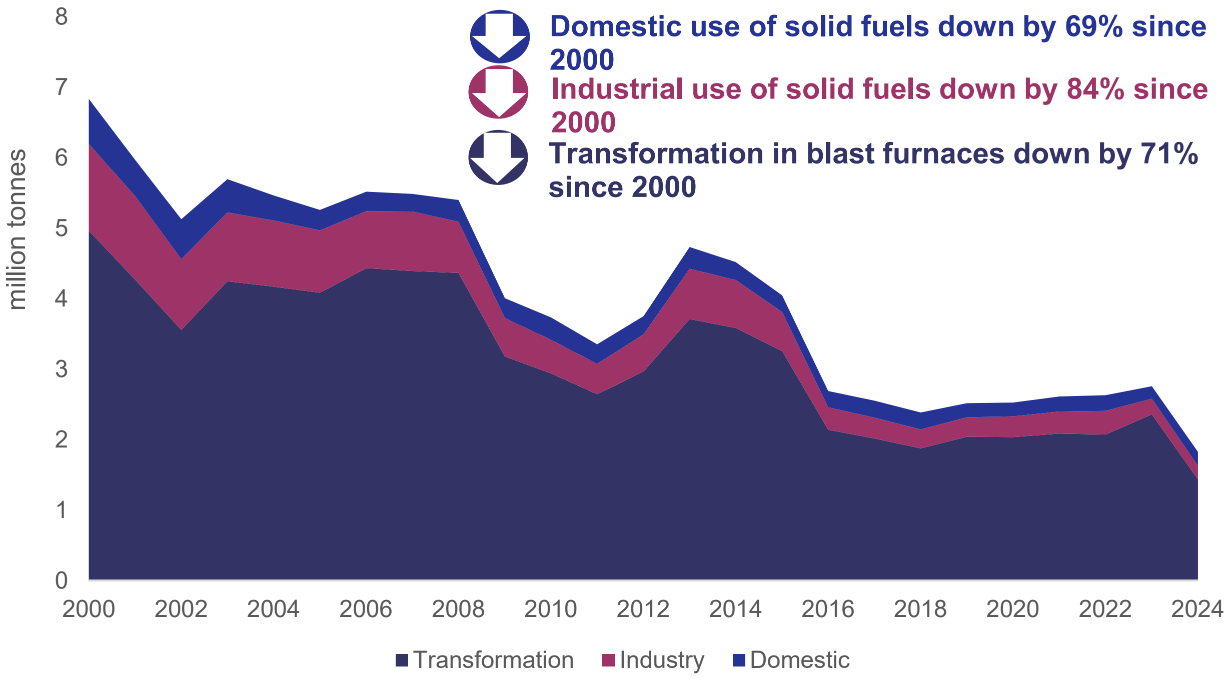


Production of coke oven coke, coke breeze and other manufactured solid fuels was 290 thousand tonnes in 2024. This was a decrease of 59 per cent compared to 2023. No coke and breeze was produced from the second quarter of 2024 after Port Talbot closed its coke ovens on 20 March 2024.

Monckton Coke and Chemicals, the only dedicated coke plant in the UK closed in December 2014. There has been a fall in steel production in the UK since 2015. Notably, SSI steelworks at Redcar ceased production in mid-September 2015 (with the subsequent closure in October). Scunthorpe steelworks closed on 12 June 2023.

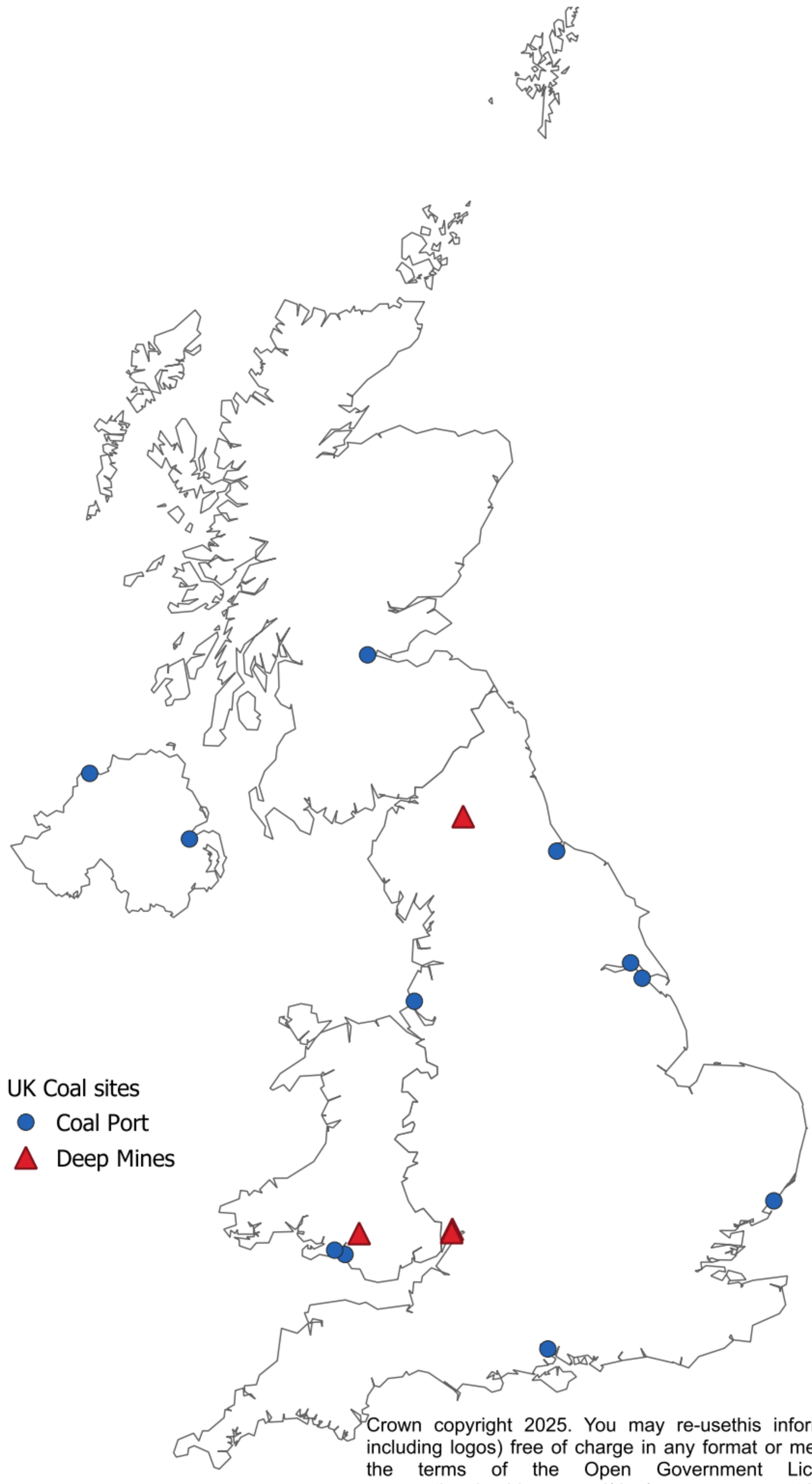
Other manufactured solid fuels (patent fuels) rose by 6.0 per cent to 193 thousand tonnes in 2024 compared to 2023.

Chart 2.5 Total manufactured solid fuels consumption in the UK, 2000 – 2024 ([DUKES Table 2.3])



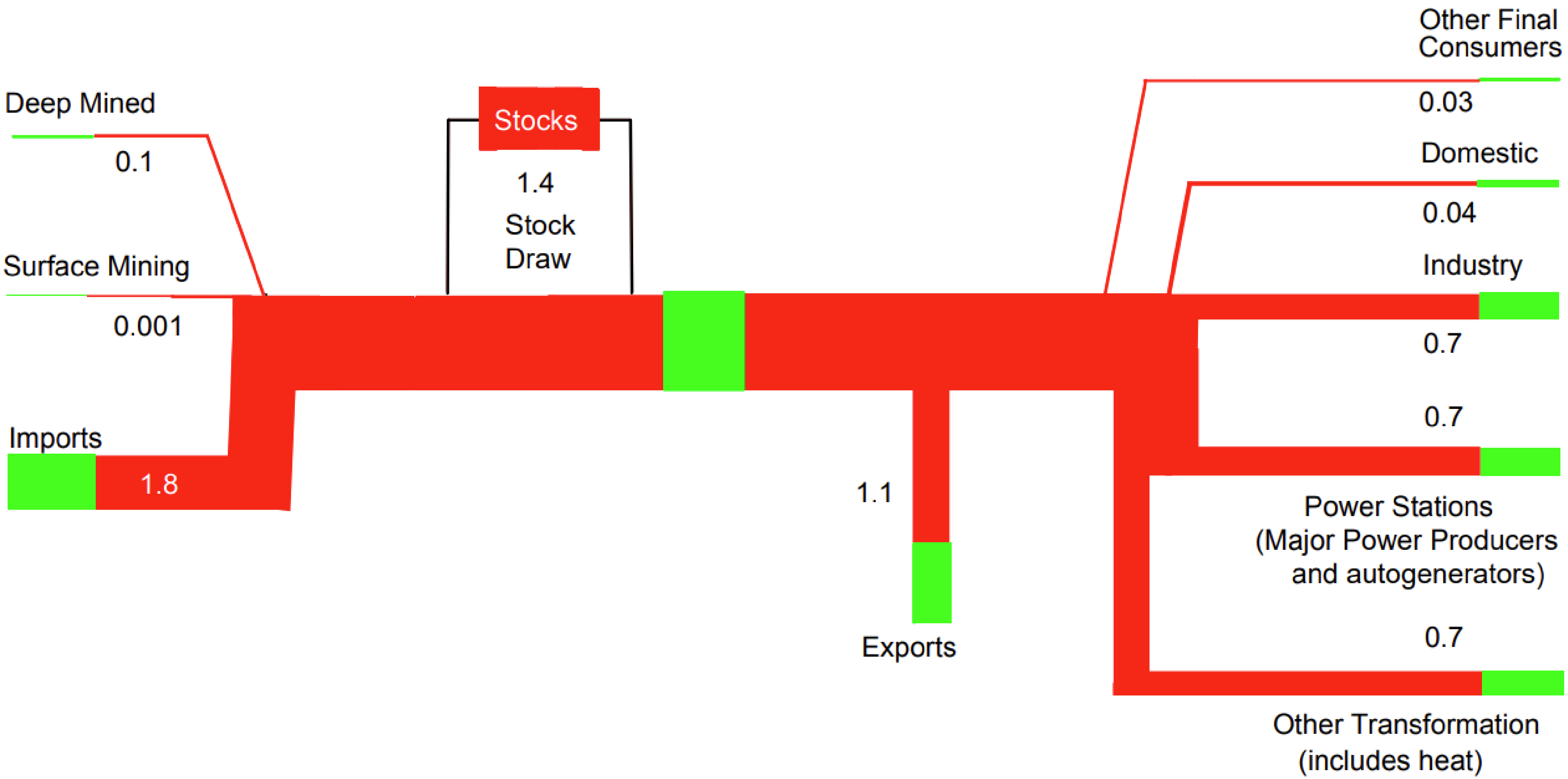
In 2024, coke oven coke comprised 59 per cent of demand for manufactured solid fuels, with coke breeze at 30 per cent and other manufactured solid fuels at 11 per cent. Almost all coke oven coke and coke breeze in the UK is used in blast furnaces for steelmaking.

Map 2B Location of UK coal production sites and ports as at end 2024



Note: Only ports that imported more than 10,000 tonnes are shown

Coal Flow Chart 2024 (million tonnes)



Note:

This flow chart is based on the data in Tables 2.1 and 2.2.
The numbers on either side of the flow chart will not match due to losses in transformation.

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