Change to method of estimating sector demand for oil products

Background

The Department for Business, Energy and Industrial Strategy (BEIS) release data on UK demand for oil in total and by 'sector' of consumption both in Energy Trends[1] and the Digest of UK Energy Statistics (DUKES)[2]. Our data indicate that around two-thirds of oil is consumed for transport purposes, 10 per cent as a feedstock for petrochemical plants and a further seven per cent by the energy industry.

These sectoral estimates rely on sound data. While it is easy to identify the end use of transport fuels, commercial fuels (gas oil, fuel oil and other kerosene) have many uses and the supply chain is complex with oil passing between producers, importers and wholesalers before reaching final consumers. As a result, it is difficult to correctly allocate these fuels to sectors, which currently include industry, the domestic market, public administration, commercial enterprises and agricultural machinery.

The relatively smaller scale, variety and high number of end users of these commercial fuels mean that a direct survey of final consumers would be a disproportionate burden. We needed to find an alternative way to identify the end use of the roughly eight million tonnes a year not captured in our current data framework.

Developing the evidence base for commercial fuel demand

The main survey that underpins estimates of demand by sector is the Downstream Oil Reporting System (DORS), the monthly survey of all substantial suppliers of oil to the UK. A substantial supplier is defined as delivering more than 50 thousand tonnes of key fuels to the UK market in a 12-month period[3]. As a result of the changing market structure, in 2015 this survey was extended to also cover all major importers who were increasingly important in the market. However, this new survey evidence did not provide much further detail on sectoral consumption. The evidence showed that these major suppliers do not tend to supply direct to the end user. Instead around 80 per cent of deliveries are to energy wholesalers who then resell the oil end users, making it difficult for substantial suppliers and BEIS to identify the final use of commercial fuels.

A result of this has been that historically BEIS has taken steps to identify alternative sources of data to inform estimates of demand for each sector. These have included working with trade industry bodies (users of fuel such as the Food and Drinks Association) and direct surveys of trade body members (to understand sectoral consumption of liquid petroleum gas). We have worked with petrochemical companies to better understand demand in that sector and cross-referenced our estimates with data from the EU Emissions Trading Scheme. More recently, since the Purchasers' Inquiry (now the Annual Purchasers' Survey) conducted by the Office for National Statistics (ONS) was re-started in recent years, we have been working closely with ONS to quality assure and improve this data source. However, despite these efforts around 3 million tonnes of total oil have been allocated to 'unclassified' each year.

New improvements to the evidence base and the impact on sector estimates

Given the importance of accurately identifying the end use of oil, development work has been undertaken by BEIS to collect further data. Following a survey of all substantial suppliers in 2018 to

[1] Oil Energy Trends: www.gov.uk/government/statistics/oil-and-oil-products-section-3-energy-trends
[2] www.gov.uk/government/statistics/petroleum-chapter-3-digest-of-united-kingdom-energy-statistics-dukes
[3] Substantial suppliers are obligated to hold emergency reserves of oil in case of a supply disruption. Further information and a template DORS form can be found here: www.gov.uk/government/publications/emergency-oil-stocking-international-obligations

construct a full customer base, BEIS have used the data to correctly classify deliveries from substantial suppliers that are delivered direct to the end user and have also identified the largest wholesalers of oil in the UK.

We have initiated a data collection from these larger wholesalers, who sell direct to the end user, and preliminary data from this exercise have been used to improve sector demand estimates. The changes to allocations of commercial fuel demand by sector have been implemented in this edition of Energy Trends (June 2019) and will be featured in more granular breakdowns in DUKES, published on 25th July 2019.

The impact on sectoral allocations can be seen in Table 1, which shows the volume changes (new data minus previously published estimates) in Energy Trends Table 3.4[1]. We have been able to re-apportion volumes from Industry (Unclassified) to the commercial, public administration and agricultural sectors. In Energy Trends Table 3.4 the unclassified volumes are counted under 'Other industries' and the commercial, public administration and agricultural sectors are counted under 'Other final users'.

Table 1: Volume changes in commercial fuel sector allocations between previously published and newly published Energy Trends Table 3.4

	Gas oil			Fuel oil			Burning oil		
	2016	**2017**	**2018**	**2016**	**2017**	**2018**	**2016**	**2017**	**2018**
Other industries	-293	-208	-514	-8	-251	28	-1,258	-1,282	-1,251
Domestic	16	17	-3	-	-	-5	-54	-206	-175
Other final users	285	287	224	-8	-45	73	1,310	1,326	1,255

th. tonnes

The fuel most affected by the improvement work is burning oil, where approximately 1.2 million tonnes has been moved out of unclassified and into 'Other final users'. Burning oil, or other kerosene, is a multi-purpose product that can be used for heating or to fuel generators, among other uses. Historical estimates indicated that 60 per cent of consumption was used in the domestic sector, with the remaining 40 per cent in industry, predominantly in unclassified. Our new data sources provide confirmation that that around 60 per cent is used in the domestic sector, but there is evidence for demand in other sectors apart from industry.

As a result of this new evidence, we have reduced the three to four million tonnes reported as 'unclassified' to just over one million tonnes.

Next steps

The revisions to sector estimates are considered by BEIS to be provisional because they are not based on a complete sample of resellers. Going forward, we will be working closely with wholesalers and considering appropriate legal and other gateways for data collection as we move forward in this iterative process. An important legal gateway in this regard is the proposed legislation to mandate further data collection from all elements in the oil change. This has been recently subject to consultation (www.gov.uk/government/consultations/downstream-oil-supply-resilience).

Our intention is to be able to provide greater confidence in these data now, but also be able to provide greater confidence through further revisions to the back-series for the 2020 edition of DUKES.

As ever, we welcome comments on these changes.

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