

Changes to oil demand data

Background

This note documents changes to the oil commodity balances presented in Energy Trends and in the Digest of the United Kingdom's Energy Statistics (DUKES).

Changes to oil consumption by industrial sector

Tables 3.2 through 3.4 of Energy Trends provides a breakdown of oil demand, showing the volumes consumed in domestic and international marine navigation, the various industrial sectors, transport, domestic, retail and a range of other final users. DECC also provide an estimate of non-energy use (mainly oil delivered to the petrochemical sector to act as a feedstock for the petrochemical industry, but also oil delivered for lubrication and bitumen for road and other purposes). DUKES provides a similar, but more detailed, breakdown.

Estimating consumption by category of final consumer is problematic for many types of oil. Whilst the vast bulk of oil is used for transport, other oils can be used for a range of different purposes across a range of different industries. Typically, DECC has estimated consumption of these sectors via a survey of refiners but increasingly refiners deliver to third parties who then resell these products to final consumers so that the final sector remains opaque to the refiner who provided the fuel originally. Additionally, large volumes of product are now sold directly to consumers via importers whose deliveries to the market are not currently surveyed. Both these trends are increasing and make estimation of consumption by sector difficult and for 2014 we are making two changes to the breakdown for the years 2008 to 2013.

Non-Energy Use

The final consumption of eight products in DECC's oil balance (Ethane, Other gases, Naphtha, White Spirit, Lubricants, Bitumen, Petroleum Coke, and Miscellaneous Products) are currently shown as being consumed entirely for non-energy use. The final consumption of three other products (Propane, Butane, and Gas Oil) are split between energy and non-energy use, and the remaining products are regarded as being consumed entirely for energy use (mainly for transport).

For 2014, we have made a number of changes to the split between energy and non-energy use. In particular, we have reduced the volume of petroleum coke delivered into non-energy use and have also decreased our estimate of the volumes of butane, naphtha and gas oil delivered into non-energy use. Conversely, the amount of propane delivered into non-energy use has increased. The estimates make improved use of data on trade and data from DECC's refinery survey to calculate deliveries into the petrochemical sector, net of any backflows from the petrochemical industry to refineries. The non-energy use of propane, butane and naphtha consumed also contain – as they did previously - deliveries that go from the source (typically from the UK Continental Shelf) to the petrochemical sector without passing through an oil refinery.

The net result of these changes is a decrease in the amount of product delivered to non-energy use. In 2012, the total volume of deliveries to non-energy use decreased by 7 per cent, with the biggest reduction in petroleum coke. For the current edition of DUKES, these volumes have been reallocated to unclassified industrial use.

Marine fuel use

Both fuel oil and gas oil are used as marine fuels, either as *marine bunkers* (ships engaged in international travel) or for *national navigation* (ships engaged in transport from one point in the UK to another). The estimation of these volumes are difficult for the reasons noted above, very few refiners now deliver products to shipping directly and we do not currently survey resellers or importers of marine fuels.

For 2014, we have fully aligned energy demand for shipping in line with the estimates of marine fuel use used in the UK's National Atmospheric Emissions Inventory. The NAEI figures use DECC's estimate of marine fuels and derive the split between international and domestic use

Special feature – Changes to oil demand data

based on an activity based study of the UK's marine fuel use¹. For 2008 through 2013, this has resulted in an uplift in the estimates of national navigation of approximately 400 to 500kt per annum, with a corresponding decrease in the figures for international shipping.

Future changes

The increased fragmentation and increasing complexity of the downstream oil market will negatively affect the quality of the sectoral estimates of some oil products, particularly gas oil, fuel oil and liquid petroleum gases. As a result, DECC are considering changes to sampling methodology and additional surveys to better capture these data going forward.

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¹ http://uk-air.defra.gov.uk/assets/documents/reports/cat15/1012131459_21897_Final_Report_291110.pdf.