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Phase-out 2020: monitoring Europe's fossil fuel subsidies

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United Kingdom

Key findings

Leading on phasing out fossil fuel subsidies:

- Although there are not specific examples of action to phase out fossil fuel subsidies, the United Kingdom (UK) has introduced taxation tools such as the 'carbon price floor' and 'climate change levy' to put a price on carbon, and has committed to phasing out coal-fired power by 2025.

Lagging on phasing out fossil fuel subsidies:

- The UK's transparency and reporting on fossil fuel subsidies remains relatively poor compared with other European countries including France, Germany, Italy and Sweden. The fossil fuel estimates in this study are therefore likely to be an underestimate.
- In recent years the government has significantly reduced the tax rate for North Sea oil and gas production. Overall fiscal support to oil and gas production was £665 million (€850 million) per year between 2014 and 2016.
- Subsidies to households include reduced VAT on fuel and power consumption, resulting in £3.6 billion (€4.7 billion) per year in foregone government revenue.
- Subsidies to the transport sector, including tax breaks for diesel, amounted to £7.4 billion (€9.5 billion) per year on average between 2014 and 2016.
- The UK's public finance institutions and the Royal Bank of Scotland (RBS), which is 73% state-owned, together provided financing to oil, gas and coal at home and abroad worth £1.3 billion (€1.9 billion) per year between 2014 and 2016, with RBS accounting for £937 million (€1.2 billion) of this support.

Status of the energy transition in the United Kingdom

The UK is the largest producer of oil and natural gas in the European Union (EU), and became a net importer of these fuels in 2004 and 2005 (Energy Information Administration (EIA), 2016). UK oil and gas production peaked in the 1990s and has steadily declined ever since due to depletion of existing fields and few discoveries of new fields (EIA, 2016). While oil and gas production accounted for £2.1 billion (€2.6 billion) in government revenues in 2014, the North Sea oil industry is now a drain on the UK budget (HMRC, 2017c). Recent government estimates suggest that the industry cost taxpayers £312 million (€263 million) in 2016, due to low oil prices, tax cuts and the government taking a large share of decommissioning costs (Gosden, 2017).

To increase oil and gas production, the UK is also looking to develop its shale gas reserves. A temporary moratorium on shale gas was introduced in 2011 following two earthquakes triggered by a shale well in the Bowland basin, but was removed the following year (EIA, 2016; Ambrose, 2017).

In terms of coal production, the UK's last deep coal mine closed at the end of 2015, following a government-aided phase-out (Littlecott, 2015). However, a few surface mines remain in operation in central and northern England, south Wales and central and southern Scotland, and applications for new mines are ongoing partly as a result of low corporate tax rates (NAE, 2015).

After a small revival in the use of coal in power generation between 2011 and 2013, coal-fired power generation has recently declined. In April 2017 the UK saw its first working day without coal power since the industrial revolution (Brown, 2017). This stems from a combination of the conversion of three of a total of six coal units by Drax Group to biomass, low renewable-based electricity prices, and, importantly, 'the carbon price floor', which puts a minimum price on fossil fuel-fired electricity (Delebarre, 2016; Jones, n.d.; Littlecott, 2016). Subsidies to coal-fired power, including in the form of capacity payments, however, risk slowing the UK's coal phase-out (currently targeted at 2025) (Worrall and van der Burg, 2017).

In 2008, the UK was the first country in the world to adopt a Climate Change Act with legally binding targets to tackle climate change. It sets five-yearly carbon budgets to cut greenhouse gas (GHG) emissions by 80% by 2050. However, analysis shows that the UK is likely to fail to meet its fourth and fifth carbon budgets (a 51% and 57% reduction in GHG emissions by 2025 and 2030 respectively) (CCC, 2017).

The UK has also committed to reaching a share of 15% renewables in final energy consumption by 2020, in line with EU targets. On its current course, the UK is likely to miss this target. In 2016, fossil fuels still accounted for 82% of total energy supply, and renewables for only 8.9%

(Department for Business, Energy and Industrial Strategy (BEIS), 2017). The UK's vote to leave the EU has led to much uncertainty regarding the implications for climate and energy policy (Committee on Climate Change, 2017). Since Brexit, the UK has fallen to its lowest position in the Renewable Energy Country Attractiveness Index of Ernst and Young Global Capital (Johnston, 2016).

Status of fossil fuel subsidy phase-out in the United Kingdom

The European Union (EU) including all its Member States have committed to phasing out environmentally harmful subsidies, including those to fossil fuels, by 2020 (European Commission, 2011). In addition, EU Member States are committed to phasing out subsidies to hard coal mining by 2018. As party to the Paris Agreement, the UK has also committed to '[m]aking finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development' (United Nations Framework Convention on Climate Change (UNFCCC), 2015). With nearly 40 other countries and hundreds of companies, the UK has signed a communiqué calling on countries to eliminate inefficient fossil fuel subsidies in 2015 (Friends of Fossil Fuel Subsidy Reform (FFFSR), 2015). As a member of the EU bloc that is party to the G7, the UK has committed to phasing out its 'inefficient' fossil fuel subsidies, and called on all countries to do so as well, by 2025 (G7, 2016). As a member of the EU, and therefore part of the G20, the UK has repeated its commitment to phase out fossil fuel subsidies every year since 2009 (G20, 2017).

Despite the strong high-level commitments and calls to end subsidies, the government denies that it provides any fossil fuel subsidies as per its own definition for fossil fuel subsidies: 'a government action that lowers the pre-tax price to consumers to below international market levels' (UK Parliament, 2017a; 2017b). It is worth noting that renewable energy subsidies in the UK, as reported by the government, would also not qualify as subsidies under this definition. However, our analysis has identified numerous measures that support fossil fuel production and consumption in the UK. The government has also introduced new measures to support fossil fuel production in recent years.

Overview of fossil fuel subsidies in the United Kingdom

The UK government does not publish an inventory of its fossil fuel subsidies or environmentally harmful subsidies. This contrasts with Germany and Italy which demonstrate greater transparency in publishing such inventories (see Whitley et al., 2017). In the absence of systematic government reporting on fossil fuel subsidies or a roadmap for the phase-out of fossil fuel subsidies, it is challenging

to assess whether the UK is on track to meet its subsidy phase-out commitments.

Due to limited transparency, our analysis found no data for 22% of the fiscal support measures (including budget expenditure, tax breaks, and price and income support) identified.

Despite the UK's commitments to phase out fossil fuel subsidies, it continues to provide support domestically and internationally in all sectors reviewed in this analysis through national subsidies and public financing.

Table 1 below provides an estimate of the scale of UK's fossil fuel subsidies on average per year between 2014 and 2016 (using publicly available sources).

These subsidies comprise fiscal support worth £13.3 (€17.1 billion) per year between 2014 and 2016. This includes consumption subsidies, with subsidies to transport £7.4 (€9.5 billion) accounting for the largest shares of this support. Fiscal support to oil and gas production are estimated at an additional £665 (€850 million) per year.

The UK also provided international public finance for fossil fuel production, worth £1.3 (€1.9 billion) per year between 2014 and 2016. This includes £937 (€1.2 billion

in investments by the 73% state-owned Royal Bank of Scotland (RBS).

Coal mining

Domestic, and EU countries

The UK government supports coal mine rehabilitation through the UK Coal Authority (UKCA), a public body, sponsored by the Department for Business, Energy and Industrial Strategy (BEIS), that manages the effects of past coal mining. No estimates are available for expenditure on coal mine rehabilitation in 2015 and 2016, but in 2013 and 2014 the UKCA spent on average £28 million (€35 million) a year on subsidence damage claims, mine water pollution and other mining legacy issues (see spreadsheet) (Organisation for Economic Cooperation and Development (OECD, 2015). Other measures that are likely to have benefitted coal production as well as oil and gas, but for which no estimates are available, include the mineral extraction allowance (MEA) and the abandonment costs measure.

The Department of Business Innovation and Skills (DBIS) provided a loan of £1.3 million (€1.7 million) to UK Coal production Ltd. to avoid insolvency and to help the company to deliver a plan for a managed closure of its mines in 2015 (DBIS, 2014).

International (outside the EU)

The UK has made policy commitments to limit international development finance for coal-fired power.

For more information on the sources of data and the methodology used in this report, please refer to the Methodology chapter of the summary report, *Phase-out 2020: Monitoring Europe's fossil fuel subsidies*.

Table 1. Subsidies to fossil fuel production and consumption by the UK, by activity (GBP millions, average 2014-2016)

Activity / instrument	Production				Consumption					TOTAL
	Coal production	Oil and gas production	Electricity production	Multiple activities or unclear	Transport	Industry and business	Households	Agriculture	Multiple activities or unclear	
National subsidies (Budget expenditure + tax exemptions + price relief)	28	665	171	113	7,406	1,260	3,583	0	37	13,262
Public finance	21	1,102	12	173	0	0	0	0	0	1,308
<i>Domestic and EU</i>	13	345	0.02	139	0	0	0	0	0	498
<i>International (outside EU)</i>	8	756	12	34	0.01	0.15	0	0	0	810
State-owned enterprise investments	0	0	0	0	0	0	0	0	0	0

Notes: This table is in the local currency, but numbers are compiled in Euros for the overall analysis presented in the summary report. For sources and data, see country data sheet available at: odi.org/Europe-fossil-fuel-subsidies

It supported strong policy proposals within the OECD negotiations regarding restrictions on the use of export credits for coal-fired power plants (Littlecott, 2016).

Oil and gas production

Domestic, and EU countries

In recent years, the UK significantly reduced the tax on North Sea oil and gas production to encourage continued investments in oil and gas production. The support packages follow the recommendations provided in the Wood Review, a government-commissioned consultation focused on how best to encourage oil and gas exploration and how to reduce the costs of decommissioning to operators. It led to a new legal mandate for the government to ‘maximise the economic recovery’ of UK oil and gas, and to the establishment of the Oil and Gas Authority (OGA), tasked with supporting oil and gas production, along with the introduction of support measures for oil and gas development (Pickard et al., 2015).

Exemptions and reductions are provided to three main taxes applied to oil and gas companies: the Petroleum Revenue Tax (PRT), the Supplementary Charge (SC) and the Ring-Fenced Corporation Tax. A number of concessions already existed prior to the recent reforms to the oil and gas taxation regime in order to incentivise investments, including the oil allowance and PRT relief for exploration, appraisal and research expenditure, among other measures. These concessions have been scaled up since the Wood Review, with a notable impact on government income from oil and gas production.

Following a £1.3 billion (€1.8 billion) package of support measures introduced in the government’s 2015 Budget, in the 2016 Budget the UK brought PRT down to zero and reduced SC to 10% (down from 30% in 2014) (Her Majesty’s Revenue and Customs (HMRC), 2016). Zero-rating PRT means that companies can still claim a rebate against it. This would not be possible if it were abolished. These further reductions will cost the government an additional £1 billion over five years (2016-2020). In calculating these costs to the exchequer, the government takes into account an expected increase in production levels as a result of the cuts (HMRC, 2016). The 2015 and 2016 budgets also included government funding for seismic surveys, which are used in exploration worth on average £11.7 million (€15.3 million) per year.

Fields in the North Sea are reaching maturity, and the government will account for a large share of the decommissioning bill. This is because the tax regime allows companies to offset capital costs associated with the decommissioning of oil and gas fields against tax that they have paid over the lifetime of those fields. The total industry cost of decommissioning all oil and gas infrastructure in the UK and the United Kingdom Continental Shelf (UKCS) is estimated at £59.7 billion

(€72.9 billion) between 2017 and 2055. The government expects to account for £24.2 billion (€29.5 billion) of these costs (HMRC, 2016). Between 2014 and 2016, HMRC repaid on average £304 million (€238 million) per year because of decommissioning tax relief (HMRC, 2014; 2015; 2016).

The 2017 Budget states that ‘the UK already has one of the most competitive tax regimes for oil and gas in the world’; the government says, however, that further support is needed to ‘maximise economic recovery’, in particular to maximise exploitation of the North Sea reserves (HM Treasury, 2017).

The UK government also has several measures to support the shale gas industry, including a pad allowance that reduces tax rates on a portion of a company’s profits, from 62% to 30% (Kahya, 2016; Autumn Statement, 2013). In 2015, the UK government allocated £5 million (€6.9 million) to a shale gas public information campaign, and £31 million (€42.7 million) to the launch of a research test centre that will support innovation relevant to shale gas and carbon capture and storage (CCS) operations. Several other research and development schemes also supported the development of CCS and the production of oil and gas in the UK.

International (outside the EU)

The UK continues to support international oil and gas production through majority government-owned public finance institutions. Public finance includes the provision of grants, equity, loans, guarantees and insurance for fossil fuel production.

Between 2010 and 2014, 46% of support for energy in developing countries provided by the UK was for fossil fuel energy, more than double the proportion that went to renewable energy (CAFOD, 2017).

The UK government holds a 73% stake in the Royal Bank of Scotland (RBS), which used to be one of the world’s biggest financiers of fossil fuels. This study finds that between 2014 and 2016 the UK provided an annual average of £1.3 billion (€1.9 billion) in public finance to oil and gas production. RBS accounts for £937 billion (€1.2 billion) of this support. The data for RBS is not sufficiently disaggregated to be able to determine what share of this support is for oil and gas production, and what share is for oil- and gas-based electricity; but overall financing for fossil fuels by RBS fell during this period by 70%, down from £26.7 billion (€33.1 billion) in 2014 to £8.7 billion (€12 billion) in 2015 (Carrington, 2016).

Electricity production

Domestic, and EU countries

Fossil fuel-based power generation benefits from subsidies in the UK including capacity payments, balancing reserves, and exemptions to the carbon floor price.

The UK capacity mechanism¹ was introduced in 2014, with the main objective to ensure security of electricity supply. Of the £4.8 billion (€5.9 billion) in capacity payments secured for 2018-2035, more than two-thirds will benefit fossil fuel-based capacity (van der Burg and Whitley, 2016). Recent changes to the scheme mean that a large share of diesel plants that initially bid in the auction resulted in fewer diesel plants (those smaller than 20 megawatt (MW) generation) won capacity contracts in the 2016 auction (Jones, 2016b). However, coal-fired power plants still won contracts worth £128 million (€156 million) in the 2016 auction (Jones, 2016b). There are currently four coal plants with capacity contracts up to 2021. These payments, secured in the 2016 capacity auctions, will start in 2017. For this reason, this support is not included in the average annual support to fossil fuels in the UK between 2014 and 2016.

'Black start' services contracts are also in place between the government and utilities; these require power plants to restart generation when needed, to support security of electricity supply. In 2015 and 2016 opaque contracts worth €139 million (£114 million) were signed for two units, Drax and Fiddler's Ferry, from a total of €151 million (£123 million) spent on black start contracts (National Grid, 2016). National Grid does not publish market information reports on these services because they are bilaterally agreed contracts.

There are exemptions to the carbon price floor, which was set up to put a minimum price on carbon used in electricity generation (Jones, n.d.). The total support provided through these exemptions is estimated at an average of £162 million (€208 million) per year between 2014 and 2016 (HMRC 2017a; 2017b). In addition, the carbon price floor is only levied on electricity generation; it does not apply to the use of gas by domestic users nor in small-scale industrial use outside the EU emissions trading scheme (EU ETS). It was not possible to quantify the extent to which these exemptions benefit gas use.

International (outside the EU)

UK public finance institutions, such as UK Export Finance (UKEF), supported fossil fuel-based power generation projects with €16.7 million on average per year between 2014 and 2016 (EnergyDesk, 2016; Oil Change International (OCI), 2016). RBS also invests in fossil fuel-based electricity projects abroad, although, as mentioned above, the data is not sufficiently disaggregated to determine what share of total fossil fuel investments went to fossil fuel-based electricity.

Industry and business

In addition, industry benefits from exemptions from, and reliefs for, various energy transition measures, which undermines the economic effectiveness of these transition measures. Support provided to industry through climate change levy discounts and exemptions is estimated at an average of £224 million (€287 million) per year between 2014 and 2016 (HMRC, 2017a; 2017b). The climate change levy is a tax on energy use by non-domestic users to support energy efficiency and reduce carbon emissions.

Under the EU ETS, economic operators (utilities and industry) are required to obtain emission permits or allowances for each tonne of CO₂ they emit. Although auctioning is supposed to be the default mode for acquiring emission allowances, close to half the total allowances are still handed out to polluters for free. As a result, in its current design the EU ETS provides subsidies to carbon-intensive operators in the form of free allowances. No data was available on the total value of the permits allocated.

Industries across the EU also profit from the ETS because of the overallocation of ETS permits, which they are able to sell off. This generated subsidies for the energy intensive industries worth £710 (€867 million) between 2008 and 2015, or £84.6 (€108 million) per year (de Bruyn et al., 2016). However this was not included in the data sheet as it is not a direct subsidy.

Transport

The UK provides subsidies towards the consumption of fossil fuels in the transport sector. Broad subsidies include a zero-rate VAT for all domestic and international passenger transport services supplied with any vehicle, ship or aircraft in the UK (HMRC, 2017a; EC, 2014). Between 2014 and 2016 the share of this subsidy that supported fossil fuel-based transport is estimated at £7.4 billion (€9.4 billion) per year. In addition, the use of energy in some forms of transport is also exempt from the climate change levy (HMRC, 2017a).

Aviation and waterway navigation are exempt from energy tax for fuels (Seely, 2012; EC, 2014b; HMRC, 2017d). However, it was not possible to quantify the total amount of subsidies provided through these tax exemptions. In 2016, Innovate UK awarded £10 million (€12 million) to support innovation in gas turbine combustion for large jet engines (Innovate UK, 2016a).

The use of 'red diesel' and other petroleum products for off-road vehicles (agriculture, off-road construction, clearing snow) are subject to a reduced rate of excise duty (OECD, 2015). However, estimates for the amount of subsidies provided through this measure were not found during our research.

1. Capacity Mechanism: A mechanism that rewards market participants for available capacity, on top of revenues generated by selling electricity in the wholesale market. These payments are meant to ensure security of supply by incentivising sufficient investment in new capacity or preventing the retirement of existing capacity (van der Burg and Whitley, 2016). (van der Burg and Whitley, 2016).

Households

UK households are granted a reduced VAT rate of 5% (instead of the baseline rate of 20%) on fuel and power consumption. The oil-, gas- and coal-based fuel and power consumption share of this subsidy amounts to £3.5 billion (€4.4 billion) on average per year (HMRC, 2017a). In addition, there are direct and indirect support measures to help vulnerable households with heating costs. The value of the ‘warm home’ discount applied to household electricity

bills is estimated at £182 million (€232 million) per year (based on the share of fossil fuels in the electricity mix).

Agriculture

We did not identify any support for consumption of fossil fuels in agriculture during the timeframe of this study (2014-2016).

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For the purposes of this country study and accompanying country data sheet, fossil fuel subsidies include: fiscal support from governments (budgetary support, tax breaks, and price and income support), public finance, and investment by state-owned enterprises (SOEs). The years for which data was collected and analysed is 2014, 2015 and 2016, and findings are expressed in annual averages across this period.

The summary report *Phase-out 2020: Monitoring Europe's fossil fuel subsidies* provides a more detailed discussion of the methodology used for this country study. The authors welcome feedback on both this country study and the accompanying country data sheet to improve the accuracy and transparency of information on fossil fuel subsidies.



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