

Chapter 12.

GERMANY

This chapter identifies, documents, and provides estimates of the various budgetary transfers and tax expenditures that relate to the production or use of fossil fuels in Germany. An overview of the country's energy economy is first given to place the measures listed into context. A data-documentation section then describes those measures in a systematic way. Whenever possible, the description details a measure's formal beneficiary, its eligibility criteria and functioning, and the fuels whose production or use stand to benefit from the measure. The chapter ends with a set of tables that provide, subject to availability, quantitative information and estimates for the various measures listed.

Energy resources and market structure

Germany's proven reserves of oil and natural gas are modest and have been dwindling in recent years after decades of production. In 2010, Germany relied on imports of over two thirds of its overall energy needs. Recent technological advances, however, hold out the prospect of new discoveries of unconventional gas, which could lead to a revival of production. In 2010, indigenous production met almost 60% of the country's coal use, about 12% of its natural gas use and less than 3% of its crude-oil use. Hard-coal mining began in earnest in the 18th century and the country still produces hard coal, meeting almost one quarter of its total hard-coal needs. But hard-coal mining is uneconomic and the remaining mines will close by 2018 as subsidies are phased out. Lignite is produced from opencast mines that do not attract direct support measures. Germany has a relatively balanced mix of fuels in its primary energy mix. In 2010, oil made up the largest share of primary supply, at about one-third, followed by natural gas (24%), hard coal (12%), lignite (11%) and nuclear power (11%). Compared with other OECD countries, Germany has a very high share of renewables in its energy mix, accounting for about 9% of primary supply, with more than 80%-coming from combustible renewables and waste. Over 17% of German electricity in 2010 was generated from renewable energy and waste. Currently this figure stands at above 20%.

The German energy industry has traditionally been mainly privately owned, though there are still a large number of small electricity and gas distribution companies that are either wholly or partially owned by municipalities. The oil industry is fully liberalised, with no government ownership. Despite the takeovers of DEA Mineralöl AG by Shell in Germany and Veba Oel AG by German BP in 2002, which created two dominant players, Germany's oil-refining and retail sectors retain a relatively large number of operators.

All production of hard coal is carried out by RAG Deutsche Steinkohle AG (DSK AG), a wholly owned subsidiary of Ruhrkohle AG (RAG). In 2007, the shareholders, including E.ON and RWE, transferred their shares for a symbolic EUR 1 to the RAG Stiftung (foundation). In 2011, DSK AG operated five deep coal mines at sites in the Ruhr and Saar regions and in Ibbenbüren in North Rhine-Westphalia. As production costs remain well above revenues, the company gets substantial government subsidies. Lignite is produced from opencast mines, primarily by five companies, including Vattenfall and RWE.

Germany has implemented market reforms in the electricity and gas sectors in line with EU directives. Grid operators are now subject to regulation by the newly established Federal Network Agency (*Bundesnetzagentur*, BNetzA) and by regulatory authorities in the individual German states (*Länder*), some of whom have elected to transfer these powers to the BNetzA. The Federal Cartel Office (*Bundeskartellamt*) is responsible for approving mergers and monitoring anti-competitive behaviour. Despite these reforms, the incumbent operators in the wholesale and retail markets have retained large market shares. E.ON and RWE are among the dominant players in both the natural-gas and the electricity markets.

A central pillar of German energy policy is the phase-out of nuclear power, which was decided by the government in 1999. A 2001 agreement between the German government and energy utilities, as well as resulting amendments to the Nuclear Power Act in 2002, sets out the terms of the planned phase-out. Changes to the Atomic Energy Act enshrined the nuclear phase-out in German law. The legislation sets a time limit for commercial electricity generation for each existing power station based on an average 32-year lifetime. The nuclear law was changed in 2011 as a result of the Fukushima nuclear power plant accident in Japan. All nuclear-power stations in Germany will now be placed out of service by 2022.

Prices, taxes and support mechanisms

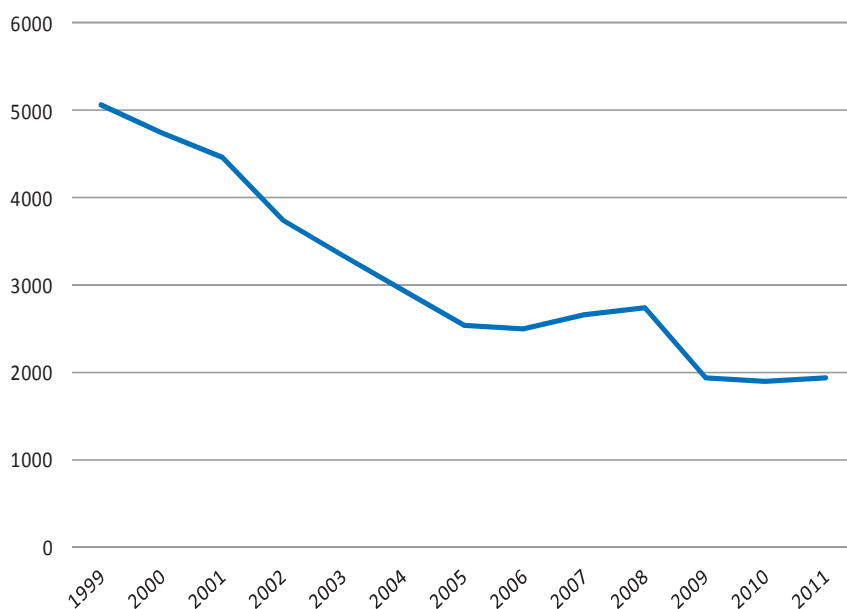
The prices of all forms of energy are set freely by the market, as required by EU competition law. Electricity and natural gas supply is regulated by the BNetzA. In principle, suppliers are allowed to pass through all costs, including the wholesale cost of buying the gas and network-related costs and charges.

All forms of energy are subject to value-added tax at 19%. Excise tax and a special tax to fund the emergency storage fund (EBV) are applied (at different rates) to oil products. An ecological tax, introduced in 1999, is levied on oil products, natural gas and electricity. The eco-tax is levied at different rates according to the fuel and the customer category (households pay a higher charge than industry). Households were exempt from eco-tax payments on coal they use for heating until the end of 2009. The “eco-tax” refers in this context only to the tax increase since April 1999, in addition to the mineral-oil tax from before that time. One of the reasons put forward for introducing the eco-tax in Germany was that the increase in the costs of energy products would have a steering effect, encouraging the efficient use of natural resources.

By far the most important subsidy in Germany is the financial assistance to the hard-coal industry. The cost of producing coal in Germany is far higher than the price of imported coal; the difference is made up by a subsidy to RAG. RAG also receives support for closing down its mines. The cost of these combined subsidies stood at EUR 1.9 billion in 2011, even though both production and support measures had been declining for many years (as reflected in Figure 12.1). In mid-2007 the federal government, the governments of the states with mines, the unions and RAG agreed on a detailed road map to end all subsidies in a socially acceptable manner by the end of 2018. As of 2013, coal production in Germany will be undertaken in three remaining active coal mines in North Rhine-Westphalia: Prospel-Haniel in Bottrop, Auguste Victoria in Marl, and Ibbenbüren on the border with Lower Saxony. Under the deal, production is being gradually scaled back, limited by the retirement dates of miners. Subsidies for production will continue to be paid jointly by the federal government and the coal-producing states until 2014, after which time the federal government will assume payment of all production subsidies. Subsidies for closing down mines will be paid jointly until 2018. Mining costs that remain after the closure of the pits will primarily be paid out of a fund, which will be filled with the proceeds of a public sale of the equity-investment assets of RAG, now directly owned by the RAG Stiftung. If financing by the foundation falls short, the states of North Rhine-Westphalia and Saarland will guarantee two-thirds of the costs, and the federal government one-third. In addition, another programme provides older coal miners with early retirement payments until they become eligible for regular pension payments. Funding is split between the federal government and the states that possess mines.

Figure 12.1. Total Producer Support Estimates for coal, Germany (1999-2011)

(Million EUR, nominal)



The main features of the tax code relating to energy consumption involve tax exemptions, reductions, rebates and (partial) refunds for particular fuels and sectors. These include an exemption from energy taxes normally applied to the use of electricity, coal, natural gas, and petroleum products enjoyed by energy companies that use energy for processing purposes; tax privileges on heating oil, natural gas and LPG for certain users in the agriculture, forestry and manufacturing sectors; tax relief on diesel used in agriculture; an energy-tax exemption on fuels used in power stations of more than 2 MW and in efficient co-generation plants, as well in commercial aviation and in barges carrying freight on inland waterways; reduced energy taxes on fuels used in public transport; and reduced rates of eco-tax on fuels used in energy-intensive processes and techniques, mainly in the steel and chemical industries to protect their competitiveness. Those tax exemptions do not reduce energy prices below world-market prices.

Data documentation

General notes

The fiscal year in Germany coincides with the calendar year. Following OECD convention, amounts prior to 1999 are expressed as “euro-fixed series,” meaning that we applied the fixed EMU conversion rate (1 EUR = 1.956 DEM) to data initially expressed in the Deutsche Mark (DEM). In a few cases¹, the conversion into EUR was already made in official government documents.

Since Germany is a federal country, the data collection exercise was also conducted for those two German states (*Länder*) that are still producing coal, North Rhine-Westphalia (NW) and Saarland (SR), as they have been providing financial support to their coal mines. Also included are payments for the rehabilitation of Lignite Mining Sites in East Germany (see DEU_dt_13), which have been made by the federal government and the states of Saxony (SN), Brandenburg (BR), Saxony Anhalt (ST), and Thüringen (TH).

¹ This applies to the support measures for which the source is Landtag des Saarlandes (2005).

Federal payments can be found in the subsidy reports (Subventionsberichte) that the federal government publishes every year. Data in these subsidy reports date back to 1991. Payments by the government of North Rhine-Westphalia can be found in the budget reports (*Haushaltspläne*) that the Ministry of Finance of North Rhine-Westphalia publishes every year on its website. Data in these reports date back to 1998. Payments by the government of Saarland can be found in the budget reports that the Ministry of Finance of Saarland publishes every year on its website. While data in these reports date back to 2000, some of the programmes listed in the Inventory have not been reported in the budgetary reports of Saarland. There may be two reasons for exclusion of budget payments for certain programmes by Saarland. First, coal mining in Saarland accounted for only about 10% of the coal production in Germany in the period between 1958 and 2002. The payments thus may be very small. Second, the federal government exempted Saarland from most of its assumed support to the coal-mining sector.

Producer Support Estimate

Hard-coal mining in Germany has traditionally attracted support for geological, historical and political reasons. Since production of hard coal remains largely uneconomic, most mines are due to close by 2018 when subsidies to the industry are planned to be removed.

Over the years, production of hard coal has been scaled back through numerous government policies. In the 1990s, the industry underwent various capacity-adjustment plans. Funding for these programmes was usually provided jointly by the coal-mining Land and the federal government, with the former accounting for two-thirds of the total.

The industry also received substantial government aid to remain in operation. Hard-coal production was supported through a combination of debt relief schemes, mining-royalty exemptions, and reduced pension contributions for miners.

Germany follows European Commission regulations regarding state aid. The federal government does not provide subsidies to coal-mining under Article 5-3 (current production aid). In preparation for the closure of mines, most of the subsidies are now early-retirement schemes for coal workers.

RAG Debt Claims in North Rhine-Westphalia (data for 1991-1998)

This item (*Schuldbuchforderung der Ruhrkohle AG*) comprised annual payments made to *Ruhrkohle AG* (RAG) in order to cover part of its debt. RAG is Germany's biggest hard coal producer. Funding was split between the federal government and the government of North Rhine-Westphalia. The federal government committed to covering two thirds of the total debt of RAG, while the government of North Rhine-Westphalia committed to the remaining third of the payments.

Sources: Bundesministerium der Finanzen (various years), Finanzministerium des Landes Nordrhein-Westfalen (various years), Storchmann (2005).

Tag: DEU_dt_02

Adjustment Aid to EBV in North Rhine-Westphalia (data for 1991-1993)

This item (Zuschüsse an den Eschweiler Bergwerksverein zum Ausgleich von Belastungen infolge von Kapazitätsanpassungen und zur Stabilisierung des Unternehmens) comprised annual payments made to Eschweiler Bergwerksverein (EBV) in order to help the company adjust its production capacity. Funding was split between the federal government and the government of North Rhine-Westphalia, with the former accounting for two-thirds of the total.

Sources: Bundesministerium der Finanzen (various years), Finanzministerium des Landes Nordrhein-Westfalen (various years), Storchmann (2005).

Tag: DEU_dt_03

Adjustment Aid to RAG in North Rhine-Westphalia (data for 1989-1994)

This item (*Zuschüsse an die Ruhrkohle AG zum Ausgleich von Belastungen infolge von Kapazitätsanpassungen*) comprised annual payments made to Ruhrkohle AG (RAG) in order to help the company adjust its production capacity. Funding was provided in six equal instalments in the period between 1989 and 1994; it was split between the federal government and the North Rhine-Westphalia Land, with the former accounting for two-thirds of the total.

Sources: Bundesministerium der Finanzen (various years); Finanzministerium des Landes Nordrhein-Westfalen (various years); Storchmann (2005).

Tag: DEU_dt_04

Aid to Cover Revenue Losses in Certain Areas in North Rhine-Westphalia and Saarland (data for 1991-1998)

This programme (*Zuschüsse zur Verringerung der Belastungen infolge Wegfalls von Revierausgleich und Erschwerniszuschlag für niederflüchtige Kohle*) formed part of the so-called Kohlepenny (Coal Penny), which was Germany's largest coal subsidy. The Revierausgleich component that is reported here was meant to compensate certain producers for revenue shortfalls arising from the sale of high-cost or low-quality coal to thermal power stations. Funding was supposed to be split between the federal government and the coal-mining states of North Rhine-Westphalia and Saarland, with the states accounting for a third and a sixth of their funding respectively.

The programme started in 1990 and was supposed to stop at the end of 1995. Federal payments seem to have stopped in 1996, while payments provided by the North Rhine-Westphalia Land and by Saarland seem to have stopped in 1998 and 1996 respectively. Payments by the Saarland are available only since 1995.

Sources: Bundesministerium der Finanzen (various years), Finanzministerium des Landes Nordrhein-Westfalen (various years), Landtag des Saarlandes (2005), Storchmann (2005).

Tag: DEU_dt_05

Coking Coal Aid in North Rhine-Westphalia and Saarland (data for 1991-1997)

This programme, *Zuschüsse an die Unternehmen des deutschen Steinkohlenbergbaus zur Erleichterung des Absatzes von Kohle und Koks an die Stahlindustrie* (otherwise known as the *Kokskohlenbeihilfe*) was created in 1967 and allowed the steel industry to buy domestic coking coal at a price equal to that of imported coal. Payments went on for several decades until they eventually ceased in 1998. Funding of the gap between production prices and market prices was split between the federal government and the coal-mining states of North Rhine-Westphalia and Saarland, with the former accounting for two-thirds of the total payments until the end of 1994 and for 60% since 1995. The federal government eventually decided to cover all payments that were meant to be funded by Saarland.

Although the scheme was approved to run until July 2002, last payments seem to be paid in out 1997.

Since data from the Land budget are less disaggregated than are federal data, annual amounts mentioned under the heading “683 20 – 631” in the Land budget papers are allocated to Coking Coal Aid before 1998 and to Combined Aids after that. This approach yields numbers that are consistent with those reported in Storchmann (2005).

Sources: Bundesministerium der Finanzen (various years), Finanzministerium des Landes Nordrhein-Westfalen (various years), Storchmann (2005).

Tag: DEU_dt_06

Third Power Generation Act (data for 1991-2002)

This programme formed the bulk of what was otherwise known as the *Kohlepfennig* (Coal Penny). Under this agreement, power plants were required to burn fixed amounts of domestic coal in exchange for financial compensation covering the cost difference between domestic coal and oil (or imported coal depending on the quantities of input). Such compensation was paid out of a separate federal fund called the *Ausgleichsfonds zur Sicherung des Steinkohleneinsatzes*, which in turn was financed through a levy imposed on electricity consumers (the so-called *Kohlepfennig*). The whole scheme was eventually abolished in the late 1990s.

The amounts we report are those appearing as *Zuschüsse an Kraftwerksunternehmen* in the federal fund’s annual report to the Bundestag.

Sources: Deutscher Bundestag (various years).

Tag: DEU_dt_09

Fifth Power Generation Act (data for 1996-1997)

This measure proved short-lived in that it was introduced in 1996 before being phased out in 1998, at which time it was replaced by a package of Combined Aids (see below). It was meant to maintain the provision of subsidies to domestic coal usage during the transition from the Third Power Generation Act to the new system of combined aids that subsequently gathered several old programmes into one overarching budgetary framework.

Sources: Bundesministerium der Finanzen (various years).

Tag: DEU_dt_10

Combined Aids in North Rhine-Westphalia (data for 1998-)

This aid package, *Zuschüsse für den Absatz deutscher Steinkohle zur Verstromung und an die Stahlindustrie sowie zum Ausgleich von Belastungen infolge von Kapazitätsanpassungen*, has been replacing and combining previous programmes such as the different versions of the Power Generation Act (see above) since 1998. It provides general support to the hard coal industry in order to ease its gradual decline. The programme still gives rise to significant federal and state annual payments. It is due to expire at the end of 2018.

Since data from the North Rhine-Westphalia’s budget are less disaggregated than are federal data, annual amounts mentioned under the heading “683 20 – 631” in the Land budget papers are allocated to Coking Coal Aid before 1998 and to Combined Aids after that. This approach yields numbers that are consistent with those reported in Storchmann (2005).

Sources: Bundesministerium der Finanzen (various years), Finanzministerium des Landes Nordrhein-Westfalen (various years), Storchmann (2005).

Tag: DEU_dt_11

Aids for Capacity Reduction in North Rhine-Westphalia (data for 1997-2001)

This programme, *Zuschüsse and Unternehmen des deutschen Steinkohlenbergbaus zum Ausgleich von Belastungen infolge von Kapazitätsanpassungen*, started in 1997 to provide income support to coal-mining companies affected by the decline of the industry. It was meant to help firms adjust their production capacities. Funding was split between the federal government and the North Rhine-Westphalia Land, with the former accounting on average for about two thirds of the total. Since the measure was only a temporary one, payments ended following 2001.

Sources: Bundesministerium der Finanzen (various years), Finanzministerium des Landes Nordrhein-Westfalen (various years).

Tag: DEU_dt_12

Aid to Saarbergwerke AG (data for 1997-2001)

In 1992, Saarland decided to provide financing for the management of *Saarbergwerke AG* in five instalments over the years between 1997 and 2001.

Sources: Landtag des Saarlandes (2005).

Tag: DEU_dt_14

Capital Injections into Saarbergwerke AG (data for 1996-1998)

Saarland committed to “cleaning up” *Saarbergwerke*’s debt due to the fact that the state participated in the *Kokskohlebeihilfe* programme (see DEU_dt_06) for the years 1995 – 1997. *Saarbergwerke AG* was injected with capital in three instalments in the years 1996 – 1998.

Sources: Landtag des Saarlandes (2005).

Tag: DEU_dt_15

Miners' Bonus (data for 1991-2008)

This measure provides miners with an income-tax deduction, thereby making wages in the mining industry more attractive. Although it targets labour inputs, the miners’ bonus is specifically aimed at boosting hard-coal production and therefore constitutes a production subsidy. Its creation dates back to 1956 and payments seem to have stopped around 2008.

Sources: Bundesministerium der Finanzen (various years).

Tag: DEU_te_03

Mining Royalty Exemption for Hard Coal (data for 1982-)

German mining companies are subject to a two-layered royalty system in which the federal government sets a guideline that *Länder* can decide to follow or not. The Federal Mining Act (BBergG) of 1982 sets the said guideline at 10% of the market value of production. The state of North-Rhine Westphalia which accounts for about 90% of Germany’s hard coal production maintains royalties on hard coal at 0%.

Some fiscal measures related to coal production may not constitute tax expenditures under an alternative baseline where royalties (or production taxes) vary with market conditions and production costs.

Even though sub-national royalty rates vary between 0 and 40%, we use the federal guideline (10%) as the benchmark for our subsequent calculations. Production data at market value were not readily available so we use coal-import prices from the IEA to estimate the market value of North-Rhine Westphalia's production of hard coal. Production data at the subnational level do not, however, distinguish between the different types of hard coal that are extracted. We therefore apply a weighted average of prices for coking coal and steam coal, with the former accounting for approximately 60% of hard coal production in Germany. It follows that our estimate is on the lower side for at least two reasons: (i) it relies on a low benchmark for royalty rates; and (ii) import prices for coal may well be lower than domestic prices.

Sources: Statistik der Kohlenwirtschaft e.V., IEA, UBA (2008).

Tag: DEU_te_06

Manufacturer Privilege (data for 1991-)

Coal, natural gas, and petroleum products used by energy companies as process energy (i.e. not as feedstock) are, under this measure, exempted from the energy tax that normally applies to final consumption of fossil fuels.

For more information on manufacturer privilege, see Box 1.3 of the introductory section of the Inventory.

We use data from the IEA's Energy Balances for the transformation sector to allocate annual amounts reported in the *Subventionsbericht* (Subsidy Report) to the different fuels. These are predominantly refinery gas and fuel oil.

Sources: Bundesministerium der Finanzen (various years), UBA (2008).

Tag: DEU_te_07

Mining Royalty Exemption for Lignite (data for 1982-2008)

Coal-mining companies in Germany are subject to a two-layered royalty system in which the federal government sets a guideline that *Länder* can decide to follow or not. The Federal Mining Act (BBergG) of 1982 sets the said guideline at 10% of the market value of production. Most of Germany's *Länder* do not, however, levy such a charge on production of lignite.

Some fiscal measures related to coal production may not constitute tax expenditures under an alternative baseline where royalties (or production taxes) vary with market conditions and production costs.

Even though sub-national royalty rates vary between 0 and 40%, we use the federal guideline (10%) as the benchmark for our subsequent calculations. Production data at market value were not readily available so we use production volumes from *Statistik der Kohlenwirtschaft*. Obtaining prices for lignite is complex since it is not openly traded. Hence, there is no market price for it. We thus take the average of the prices reported by *Rheinbraun Brennstoff GmbH* and in both *Lausnitz* and *Mitteldeutschland*. This yields price estimates of about EUR 10 per tonne that are consistent with the values reported in UBA (2008). Data are not available after 2008.

Sources: Statistik der Kohlenwirtschaft e.V., UBA (2008).

Tag: DEU_te_14

Consumer Support Estimate

Energy-Tax Breaks for Agriculture and Manufacturing (data for 1999-)

This programme, *Energiesteuerbegünstigung für Unternehmen des Produzierenden Gewerbes und Unternehmen der Land und Forstwirtschaft*, provides certain users in the agriculture, forestry and manufacturing sectors with a lower rate of tax on heating fuels. The latter include heating oil, natural gas and LPG. The measure was introduced in 1999 along with the so-called *Ökologische Steuerreform* (Environmental Tax Reform) and has since gone through some changes regarding the rates that apply to each fuel.

We use data from the IEA's Energy Balances for the agricultural and manufacturing sectors to allocate annual amounts reported in the *Subventionsbericht* (Subsidy Report) to natural gas, diesel oil and LPG. Since both this measure and the "Tax Relief for Fuels Used in Power Generation" were reported under the same budget line prior to 2005, we use their respective shares of the total budgetary amount in 2005 to separate them into two different items.

Sources: Bundesministerium der Finanzen (various years), IEA, UBA (2008).

Tag: DEU_te_01

Peak Equalisation Scheme (data for 2001-)

This measure is closely related to the Energy Tax Breaks for Agriculture and Manufacturing (see above) in that it targets the same fuels and sectors. Following the introduction of a new "ecotax" in 1999, pension contributions were reduced as a way to compensate German companies for the higher taxes paid on energy inputs. The measure therefore provides certain companies with an additional refund on their energy tax bills in cases where the decrease in pension contributions does not prove large enough to offset the new tax burden. We only consider here the refunds that pertain to heating fuels as opposed to those that pertain to electricity, that is, we report the *Mineralölsteuer* (or the *Energiesteuer*) part and not the *Stromsteuer* part.

We use data from the IEA's Energy Balances for the agricultural and manufacturing sectors to allocate annual amounts reported in the *Subventionsbericht* (Subsidy Report) to natural gas, diesel oil and LPG. Tax expenditures data prior to 2001 are not available.

Sources: Bundesministerium der Finanzen (various years), IEA, UBA (2008).

Tag: DEU_te_02

Energy-Tax Relief for Energy-Intensive Processes (data for 2006-)

This tax expenditure exempts certain energy-intensive processes and techniques from the energy tax that has been levied since 1999. The measure itself was, however, only introduced in August 2006 as part of the *Energiesteuergesetz* (Energy Tax Act). It applies mostly to particular processes in the steel and chemical sectors and is meant to maintain the competitiveness of those industries. We only consider here the refunds that pertain to fossil fuels as opposed to those that pertain to electricity, that is, we report the *Mineralölsteuer* (or the *Energiesteuer*) part and not the *Stromsteuer* part).

We use detailed IEA estimates (unpublished) to allocate annual amounts reported in the *Subventionsbericht* (Subsidy Report) to all different fuels. These are mostly natural gas and coal.

Sources: Bundesministerium der Finanzen (various years), IEA, UBA (2008).

Tag: DEU_te_05

Energy-Tax Exemption for Fuels Used in Commercial Aviation (data for 1991-)

Since 1953, commercial air carriers in Germany have been exempted from the energy tax that is usually levied on consumption of mineral fuels. The concession is explicitly listed in the Ministry of Finance's *Subventionsbericht* (Subsidy Report) and refers only to domestic flights given that international aviation remains subject to the Chicago convention of 1956 restricting taxation of jet fuel.

Sources: Bundesministerium der Finanzen (various years), UBA (2008).

Tag: DEU_te_08

Energy-Tax Exemption for Fuels Used in Internal Waterway Transportation (data for 1991-)

This concession exempts internal waterway transportation from paying the fuel tax that normally applies to consumption of diesel. The measure in its current version dates back to 1962 and is still active as of 2010.

Payments have been allocated to diesel oil.

Sources: Bundesministerium der Finanzen (various years), UBA (2008).

Tag: DEU_te_09

Energy-Tax Relief for Public Transportation (data for 2000-)

Not much information is available in the *Subventionsbericht* (Subsidy Report) for this measure. It was introduced in 2000 and apparently reduces the fuel tax levied on public passenger transportation. The legal basis for it can be found in *EnergieStG § 56* where it is stated that the measure applies not only to motor fuels but also to natural gas and LPG.

Accordingly, we allocated the annual amounts on the basis of the IEA's Energy Balances for the road transport sector.

Sources: Bundesministerium der Finanzen (various years), IEA, UBA (2008).

Tag: DEU_te_10

Energy-Tax Relief for LPG and Natural Gas Used in Engines (data for 1996-)

LPG and natural gas used in engines are, under this measure, subject to relief from the fuel tax. Although the concession was introduced in 1995 and initially targeted vehicles used in public transportation only, it was subsequently broadened in April 1999 to include all vehicles.

We allocated the measure entirely to LPG given the very low share of natural gas used as fuel. Indeed, natural gas does not even enter the IEA's balances for road transport.

Sources: Bundesministerium der Finanzen (various years), UBA (2008).

Tag: DEU_te_11

Energy-Tax Refund for Diesel Used in Agriculture and Forestry (data for 1991-)

This measure was created in 1951 and provides both agriculture and forestry with a tax rebate on diesel fuel. It was renamed in 2001 when it was moved from the transfers category (*Gasölverbilligung*) to the tax expenditure category (*Agrardieselvergütung*) in

the *Subventionsbericht* (Subsidy Report). Since 2005, refunds have been capped at 10 000 litres and a maximum refund of EUR 350 per year, thereby limiting annual payments. It is also important to note that the energy tax in Germany is distinct from the road tax.

Sources: Bundesministerium der Finanzen (various years), UBA (2008).

Tag: DEU_te_12

Energy-Tax Rebate for Fuels Used in Horticultural Work (data for 2001-2004)

This measure was introduced for a period of four years only, starting in 2001 and ending in 2004. It provided the German horticultural sector with a fuel tax rebate on the heating fuel used in greenhouses.

Payments have been allocated to diesel oil.

Sources: Bundesministerium der Finanzen (various years).

Tag: DEU_te_13

General Services Support Estimate

Aid for Water Contamination in North Rhine-Westphalia and Saarland (data for 1991-1999)

This programme, *Erstattung der Erblasten des Steinkohlenbergbaus*, started in 1969 and finished at the end of 2002. It provided significant annual expenditure for undertaking rehabilitation works at old mining sites. These mainly aimed at treating contaminated ground-water. Funding was split between the federal government and the governments of the coal-mining states of North Rhine-Westphalia and Saarland. Contributions from North Rhine-Westphalia were growing over time from about a third in the first three years to about half of the total by the time the scheme ended, while contributions from Saarland seem to have consistently accounted for about a third of the payments to that Land.

Payments by Saarland are available only since 1995. Payments by both North Rhine-Westphalia and Saarland seem to have stopped after 1998, while the federal- payments seem to have stopped after 1999.

The measure is allocated to the GSSE as it does not increase current production or consumption of coal.

Sources: Bundesministerium der Finanzen (various years), Finanzministerium des Landes Nordrhein-Westfalen (various years), Landtag des Saarlandes (2005), Storchmann (2005).

Tag: DEU_dt_01

Early Retirement Payments for Hard-Coal Miners in North Rhine-Westphalia and Saarland (data for 1991-)

This programme, *Anpassungsgeld für Arbeitnehmer des Steinkohlenbergbaus*, provides older, unemployed hard-coal miners with early retirement payments until they become eligible for regular pension payments. Some of the payments are also earmarked for covering health-insurance contributions for those working in the hard-coal-mining sector. It goes back to 1972 and is still giving rise to significant annual expenditure. The programme is expected to continue until the end of 2018, while the payments are assumed to continue until the end of 2027.

Funding is split between the federal government and the governments of the coal-mining states of North Rhine-Westphalia and Saarland, with the coal-mining states accounting for two-thirds of the total.

Payments by the federal government and North Rhine-Westphalia are available since 1991, while payments by Saarland are available since 1995 (data for the period 1995-99 can be found in one of the government interpellations, data since 2000 is available in the budgetary reports).

The measure is allocated to the GSSE as it does not increase current production or consumption of coal.

Sources: Bundesministerium der Finanzen (various years), Finanzministerium des Landes Nordrhein-Westfalen (various years), Landtag des Saarlandes (2005), Ministerium für Finanzen und Europa des Saarlandes (various years), Storchmann (2005).

Tag: DEU_dt_07

Re-Adaptation Aid, Art. 56 ECSC (data for 1991-2006)

This measure, *Soziale Hilfsmaßnahmen für Arbeitnehmer der Kohle- und Stahlindustrie sowie des Eisenerzbergbaus*, was introduced in 1960 to help workers affected by the decline of the coal industry (along with the ore and steel industry) in the context of Art. 56 of the European Coal and Steel Community (ECSC) Treaty of Paris. It aims at reallocating the workforce away from these declining sectors through the use of training programmes and various allowances. Payments from the federal government ceased a few years after the Treaty of Paris had expired back in 2002.

Although specific breakdown of these payments is unavailable, the 13th federal subsidy report states that about half of the payments pertain to the coal sector. We thus allocate only this share of total payments to coal. The measure is allocated to the GSSE as it does not increase current production or consumption of coal.

Sources: Bundesministerium der Finanzen (various years).

Tag: DEU_dt_08

Rehabilitation of Lignite Mining Sites in East Germany (data for 1993-)

Rehabilitation of lignite mining sites (*Braunkohlesanierung*) began in 1990 and was undertaken together by the federal government and East-German “Lignite states” (*Braunkohleländer*) — Saxony, Brandenburg, Saxony-Anhalt, and Thüringen — which all provided substantial financial resources for the programme.

The programme will be in operation at least until the end of 2012, as stipulated by the current federal document regarding the financing of rehabilitation of lignite mining sites in the years between 2008 and 2012 (*VA IV Braunkohlesanierung*). The scheme encompasses a wide range of activities, including rehabilitating over 200 mining pits in 31 lignite mining areas, the vast majority of which were turned into lakes; securing over 1 000 km of embankment; liquidating the assets of briquette factories, power plants and industrial boilers; restoring water balances in regions affected by mining; dealing with the consequences of mine flooding; collecting and evaluating information on about 1 230 potentially contaminated mining sites, and undertaking necessary remedial measures.

As stated by the federal government, the total cost of running the rehabilitation of lignite mining sites programmes in the years between 1991 and 2007 amounted to over EUR 8 billion paid jointly by the federal government and the abovementioned

East-German *Länder*. The federal government and the “Lignite states” committed to securing over EUR 1 billion for the programme for the years between 2008 and 2012.

Aggregate data estimates for *Braunkohlesanierung* are available for the years between 1993 and 2012. Data estimates for the period between 2008 and 2012 are appropriations. In 1993, financing came solely from spending earmarked for job creation (*Arbeitsbeschaffungsmaßnahmen*). Estimates for the period between 1993 and 2007 cover the total cost of running the rehabilitation programme, whereas the appropriations are computed excluding the cost of labour (*Lohnkostenzuschüsse*) as it is said to be difficult to forecast.

Since this measure does not increase current production or consumption of coal, we allocate it to the GSSE.

Sources: Bundesregierung (2008), Bundesregierung (2009).

Tag: DEU_dt_13

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Table 12.1. Summary of fossil-fuel support to coal - Germany

(Millions of EUR, nominal)

Support element	Jurisdiction	2005	2006	2007	2008	2009	2010	2011p
Producer support								
Income support								
Combined aids in North-Rhine Westphalia	NW	2139	2130	2288	2332	1781	1727	1778
Support for intermediate inputs								
Manufacturer privilege	Federal	12	11	8	8	6	6	7
Support for land and natural resources								
Mining royalty exemption for hard coal	NW	151	141	141	191	140	153	153
Mining royalty exemption for lignite	NW SR	201	200	204	199
Support for labour								
Miners' bonus	Federal	25	21	11	1	n.a.	n.a.	n.a.
Consumer support								
Energy tax relief for energy-intensive processes	Federal	n.a.	41	192	204	204	206	218
General services support								
Re-adaptation aid Article 56 ECSC	Federal	1	1	n.a.	n.a.	n.a.	n.a.	n.a.
Rehabilitation of lignite mining sites in East Germany	BR SN ST TH	330	290	231	213	218	192	163
Early-retirement payments for hard-coal miners in North-Rhine Westphalia and Saarland	NW SR	188	196	194	183	169	172	179

Notes: Tax expenditures for any given country are measured with reference to a benchmark tax treatment that is generally specific to that country. Consequently, the estimates contained in the table above are not necessarily comparable with estimates for other countries. In addition, because of the potential interaction between them, the summation of individual measures for a specific country may be problematic. The allocation of particular measures across fuel types was done by the OECD Secretariat based on the IEA's Energy Balances.

Table 12.2. Summary of fossil-fuel support to petroleum - Germany

(Millions of EUR, nominal)

Support element	Jurisdiction	2005	2006	2007	2008	2009	2010	2011p
Producer support								
Support for intermediate inputs								
Manufacturer Privilege	Federal	358	365	247	242	260	260	303
Consumer support								
Energy-tax refund for diesel used in agriculture and forestry	Federal	410	180	135	135	320	395	395
Energy-tax breaks for agriculture and manufacturing	Federal	47	44	24	33	34	34	16
Energy-tax relief for LPG and natural gas used in engines	Federal	57	85	100	120	160	190	210
Energy-tax exemption for fuels used in internal waterway transportation	Federal	129	129	129	118	157	166	170
Energy-tax relief for public transportation	Federal	69	63	57	67	67	70	70
Energy-tax exemption for fuels used in commercial aviation	Federal	397	395	395	640	660	680	680
Energy-tax relief for energy-intensive processes	Federal	n.a.	27	137	143	143	144	152
Peak equalisation scheme	Federal	33	34	17	17	16	18	21

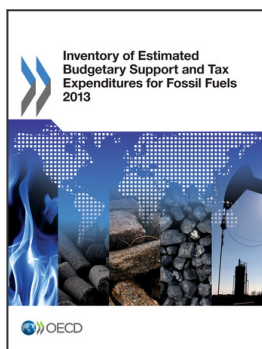
Notes: Tax expenditures for any given country are measured with reference to a benchmark tax treatment that is generally specific to that country. Consequently, the estimates contained in the table above are not necessarily comparable with estimates for other countries. In addition, because of the potential interaction between them, the summation of individual measures for a specific country may be problematic. The allocation of particular measures across fuel types was done by the OECD Secretariat based on the IEA's Energy Balances.

Table 12.3. Summary of fossil-fuel support to natural gas - Germany

(Millions of EUR, nominal)

Support element	Jurisdiction	2005	2006	2007	2008	2009	2010	2011p
Producer support								
Support for intermediate inputs								
Manufacturer privilege	Federal	28	21	13	17	29	29	34
Consumer support								
Energy-tax breaks for agriculture and manufacturing	Federal	295	269	212	282	283	284	134
Peak equalisation scheme	Federal	207	206	153	145	130	155	174
Energy-tax relief for energy-intensive processes	Federal	n.a.	47	217	223	223	224	237

Notes: Tax expenditures for any given country are measured with reference to a benchmark tax treatment that is generally specific to that country. Consequently, the estimates contained in the table above are not necessarily comparable with estimates for other countries. In addition, because of the potential interaction between them, the summation of individual measures for a specific country may be problematic. The allocation of particular measures across fuel types was done by the OECD Secretariat based on the IEA's Energy Balances.



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