



Fossil fuel subsidies and government support in 24 OECD countries

Summary for decision-makers

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CONTENT	
	Introduction p. 4
	Australia p.10
	Belgium p.11
	Canada p.12
	Chile p.13
	France p.14
	Germany p.15
	Hungary p.16
	Iceland p.17
	Ireland p.18
	Israel p.19
	Italy p.20
	Japan p.21
	Korea p.22
	Luxembourg p.23
	Mexico p.24
	New Zealand p.25
	Norway p.26
	Poland p.27
	Spain p.28
	Sweden p.29
	The Netherlands p.30
	Turkey p.31
	United Kingdom p.32
	United States p.33
	Overview in 24 OECD countries p.34

Introduction

1 Rationale

Scale of Fossil Fuel Subsidies

While governments are struggling to fulfill their promise of mobilizing US\$ 100 billion a year by 2020 for climate mitigation and adaptation – a pledge that was made at the Copenhagen summit in 2009 – recent studies estimate that around US\$ 750 billions of public funds are being spent every year to support the consumption and production of fossil fuels.

FIGURE 1

Recent Global Fossil Fuel Subsidy Estimates

As the box below demonstrates, there have been various attempts to quantify global fossil fuel consumption and production subsidies but there are large gaps in these numbers, highlighting the need for transparency and an agreed international reporting process.

	Wealthy Country Subsidies (Annex 2 and OECD)	Developing Country Subsidies (Non-Annex 1 and Non-OECD)	International Financial Institutions (IFIs) and Export Credit Agency Subsidies (ECAs)
OECD¹ and IEA	\$45-75 billion per year	\$409 billion in 2010 – about \$110 billion up on 2009. Expected to reach \$630 billion in 2012 ² .	OECD and IEA studies exclude IFIs and ECAs.
Estimates from NGOs	For both developed and developing countries: \$409 billion in 2010 and up to \$630 billion in 2012, excluding IFIs and ECAs.	For both developed and developing countries: \$409 billion in 2010 and up to \$630 billion in 2012, excluding IFIs and ECAs.	For IFIs, only, more than \$15 billion in 2010. ³ The US Export Import Bank alone offered \$ 4.9 billion in fossil fuel finance in 2011. ⁴
Notes	<i>The OECD estimates pertain to both producer and consumer support, covering 24 industrialized countries, and uses a concept of support that is broader and different from that of subsidies.</i>	<i>Estimate covers only consumption subsidies revealed through price gaps, going to reduce energy costs. Producer subsidies in the developing world are not well catalogued.</i>	<i>These numbers vary annually because they are based on loans and project funding.</i>

¹First-Ever OECD Inventory of Support to Fossil fuel Production or Use, October 2011, at <http://www.oecd.org/dataoecd/41/44/48802877.pdf>.

²Estimate made by Fatih Birol, Chief Economist at the IEA, and included on IEA website at <http://www.iea.org/weo/quotes.asp>.

³Oil Change International analysis in <http://shiftthesubsidies.org> database.

⁴These are loans, not subsidies. Conversion factors will apply in case loans are provided below market rates, otherwise there is no subsidy.

The benefits of reforming fossil fuel subsidies

Reforming fossil fuel subsidies would lead to a significant cut in greenhouse-gas emissions, while freeing up money to be invested in a clean and safe energy future, in green jobs as well as other public goods.

According to a review by the Global Subsidies Initiative of the IISD of six studies, fossil fuel subsidy reform would result in aggregate increases in gross domestic product (GDP) in both OECD and non-OECD countries, up to 0.7 per cent per year until 2050. In a world rocked by the fiscal and economic crisis, fossil fuel subsidy reform would be a smart strategy. Fossil fuel subsidy removal would also reduce greenhouse-gas emissions that lead to global warming. The IEA found that if fossil fuel consumption subsidies in developing countries only were phased out by 2020, global primary energy demand would be cut by nearly 5 percent and carbon-dioxide emissions by 5.8 percent. Reducing fossil fuel subsidies would also reduce the pollution associated with the use of fossil energy, and therefore improve air and water quality at the local level. Last but not least, it would unlock additional resources to invest in clean energy access for the poor.

Political commitments have already been made

Prompted by the scarcity of public funds which was aggravated by the financial crisis, the leaders of the G20 countries, representing the largest economies in the world, committed to "rationalize and phase out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption" at the G20 summit in Pittsburgh in 2009, followed by a similar agreement at APEC. In total, some 53 countries have committed to removing fossil fuel subsidies over the medium term. However, since that, progress has been slow, even if the G20 countries have repeatedly reaffirmed their commitment, including at the latest G20 summit in Cannes in 2011. G20 countries still need to develop effective action plans including clear targets and timelines, as well as a transparent and independent system of reporting.

2012 political momentum for action at the G20 and Rio+20 summits

The year 2012 represents an unprecedented opportunity to make further progress on fossil fuel subsidy reform. In June, G20 leaders will meet under the Presidency of Mexico, a country which holds the legacy of the climate agreements



adopted in Cancun and still shares with the US a vivid memory of oil spills in the Gulf of Mexico. The issue of the green economy will be at the top of the agenda, as the G20 summit will take place in Los Cabos on 18-19 June, just before the Rio+20 High-Level segment (20-22 June).

The issue of fossil fuel subsidy reform is also already included in the Rio+20 negotiation documents and is likely to get public and political attention from government leaders attending the summit in Rio.

2 Objectives of this report

EU & G20 country profiles of existing fossil fuel subsidies
In October 2011, the OECD published a comprehensive report on the estimated budgetary support and tax expenditures for fossil fuels in 24 OECD countries, including key EU and G20 countries. Unfortunately, this report did not get much publicity outside the sphere of experts specialized in this issue, and it did not command enough attention from decision-makers to trigger the necessary change in energy policies.

The first objective of this report is to synthesize the existing knowledge on fossil fuel subsidies by presenting short profiles of these subsidies in selected EU and G20 countries. The goal is to simply highlight how much money could be saved by governments from fossil fuel subsidy reform, without applying any subjective judgment to the available data.

The report does not go any further into prescribing specific policy measures about how the reforms should be implemented at the national level. These decisions need to be taken by policy-makers to best fit the national context and the economic and social specificities of each country.

However, in the lead up to Rio+20 and the G20 summit, we present here some suggestions of policy language that could be adopted by the international community to create an enabling environment for policy reforms at the national level.

3 Decisions to be adopted at Rio+20 and the G20 summit

This year, the Rio+20 UN Conference on Sustainable Development presents a clear opportunity to solidify the current consensus and turn talk into action.

The UN Secretary General's High Level Panel on Global Sustainability (GSP) unequivocally called for the removal of fossil fuel subsidies in their consensus report, "Resilient People Resilient Planet: A Future Worth Choosing." Co-chaired by the presidents of Finland and South Africa, the panel was comprised of major policy makers from 20 nations, including the European Union, the United States, Brazil, India, China, the Russian Federation and 14 others.⁵ The report recommends that the nations of the world "phase out fossil fuel subsidies and reduce other perverse or trade-distorting subsidies by 2020."⁶

The first round of talks on the negotiating text for Rio+20 "The Future We Want" saw important advances for fossil fuel subsidy phase out.

We are including below a statement signed by many large organizations including Oil Change International, Climate Action Network, IISD, Greenpeace and Earth Track, outlining the **four key steps that governments should take at Rio+20 and the G20 summit to translate these commitments into concrete action to eliminate fossil fuel subsidies.**

Four steps for governments to reform fossil fuel subsidies⁷

1 Define Plans to Phase out Fossil Fuel Subsidies by 2015

In Pittsburgh in September 2009, G20 leaders pledged to "phase out and rationalize over the medium term inefficient fossil fuel subsidies while providing targeted support for the poorest." Progress however has been slow. In order to fulfill this historic commitment, leaders should immediately establish a timeline for this process. Countries should agree to eliminate fossil fuel subsidies by 2015.

2 Increase Transparency and Consistency

⁵Resilient People Resilient Planet:
A Future Worth Choosing,
Recommendation 27 f., page 18, available at
http://www.un.org/gsp/The_GSP.

⁶Ibid, recommendation 27f., page 18.

⁷<http://priceofoil.org/wp-content/uploads/2012/05/FossilFuelSubsidiesNGOstatement.pdf>

in Reporting of Subsidies

An obvious first step to removing subsidies is to catalog all existing fossil fuel subsidies. Reporting and reform should be separate processes. Up to now, the disclosure of producer subsidies in particular has been lacking in many countries. It is imperative that governments commit to fully and fairly disclosing the existence and value of all fossil fuel subsidies in order to allow for informed, robust plans for reform.

- 3 Incorporate assistance and safeguards to developing countries, as well as poor and vulnerable groups:** Fossil fuel subsidy removal, particularly consumption subsidies, will only be successful by incorporating safeguards for poor and vulnerable groups, and by assisting with financial, technical and capacity building in developing countries, where needed.
- 4 Establish or identify an international body to facilitate and support Fossil Fuel Subsidy Reform**
An international body should be created or identified to support the global effort to phase-out fossil fuel subsidies. This body, wherever it is housed, should be transparent, inclusive of civil society, balanced to include representation from developed and developing countries, and sufficiently empowered to assess commitments by countries. The body would be tasked to define and review proper and regular reporting by all countries. This reporting should include all fossil fuel subsidy types as well as the actions and expenditures taken by countries to reduce subsidies, and be subject to independent measurement and verification.

4 Method and assumptions for country profiles

The following country profiles provide estimates of government support to the production and consumption of fossil fuels in selected countries, based on the OECD Inventory of Estimated Budgetary Support and Tax Expenditures for Fossil Fuels (2011). Some of the assumptions of the method used in collecting the data need to be taken into account when interpreting the country profiles. The goal of this study was to make the data more accessible in a user-friendly format, which implied some analytical limitations.

First, the scope of what is considered “support” is broader than some more narrow conceptions of “subsidy”, but at the same time limited to the data that were available from government sources. For this reason, some countries that are more transparent than others may appear as providing higher levels of support than other countries that have not disclosed the full amount of information regarding their own support measures. On the other hand, due to resource constraints, other forms of support such as concessional credits, loan guarantees or injections of public funds into state-owned companies were not quantified. In federal countries, only a few examples of sub-national support (from states, regions or provinces) were fully quantified.

The national context and tax structure of each country also needs to be taken into account while looking at tax expenditures. A country that has high rates of taxation on fossil fuels may appear as providing higher support to fossil fuels when counting the gross value of exemptions and rebates on taxation. Tax-expenditure accounting was not designed for international comparability. For this reason, cross-country comparisons of tax expenditures need to be interpreted with caution.

This report also does not provide any subjective judgment or analysis of which support measures are more inefficient or harmful to the environment than others, which ones are socially more acceptable, and which ones should be reformed as a matter of priority. We can only note that the bulk of support generally benefits more largely industry actors rather than low-income households, with the exception of the US Low-Income Home Energy Assistance Program. It could also be further debated whether or not the same support could go to alternative programmes supporting clean energy access, energy efficiency and energy saving for the poor.

Finally, the data presented here was obtained from government sources through the OECD Inventory. Accordingly, there may be gaps and missing elements, but the figures presented here must be considered reliable estimates of the minimum amounts that are being spent by governments on support to the consumption and production of fossil fuels.

We can only encourage countries to be more open and transparent in their reporting systems. Greater transparency would facilitate an on-going dialogue at the international level about how government policies can become more environmental friendly, economically efficient and socially acceptable.

Energy outlook

Australia holds the fifth largest coal reserve in the world and exports three quarters of its coal production. Its production of natural gas has been increasing in recent years with the discovery of large reserves of unconventional gas. In total, half of the energy production is exported. **Coal accounts for 42 % of its energy use (mainly for power generation); oil for 31%, natural gas for 22%, a very small minority being covered by biomass, hydropower and renewables.**

Australia liberalized its energy market in the 1990's.

90% of coal production is from "black" coal (anthracite and bituminous), which is being extracted mainly in New South Wales and Queensland. Rio Tinto, BHP, Billiton, Xstrata and Anglo American are the four largest coal-mining companies. Lignite or "brown coal" is being extracted in the state of Victoria.

The oil industry is privately owned; BP, Shell, Caltex and Mobil are the main refiners. The natural-gas sector has been recently privatized.

There is a mix of state-owned and private companies in the power generation sector.

Prices, taxes and support mechanisms

Energy prices are not regulated apart from electricity and natural-gas prices.

There are federal taxes and state royalties on the production of petroleum. A general 10% Goods and Services Tax (GST) is charged on energy products. A federal excise tax is applied to all motor fuels. Liquefied Petroleum Gas and biofuels benefit from exemptions and rebates.

The principal support measure at the federal level is the Fuel Tax Credits for Heavy Vehicles, for businesses using heavy trucks in some sectors, support to households switching to LPG cars, support to on-road trucks and special programs for low-income households.

In total, the government could save at least 7.2 billion Australian Dollars a year (or 5.6 billion €) by phasing out measures supporting the production and consumption of fossil fuels.

The data below include support at the federal level and in a sample of three provinces (Western Australia, Queensland, Victoria) and therefore is not complete.

Production support

In 2010, production support was rather limited; it included, for the most important ones (> 100 M\$):

- Exemption from Crude Oil Excise for Condensates (580 M\$).

Consumption support

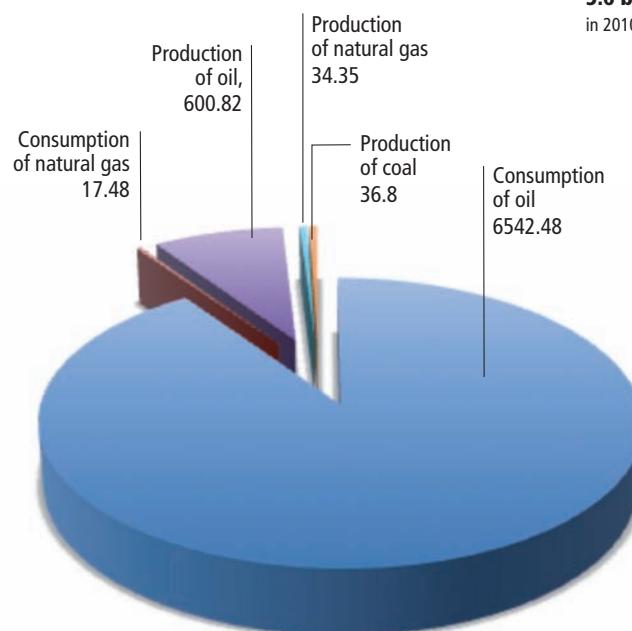
In 2010, consumption support went mainly to the consumption of oil, including aviation fuels and "alternative fuels" such as LPG.

These types of subsidies included:

- Fuel Tax credits (4,996 M\$);
- Reduced Excise Rate on Aviation Fuel (1,000 M\$);
- Exemption from Excise for "Alternative Fuels" (536 M\$).

Fossil fuel support in Australia

Data Summary (in Millions of Euros)*



**Total
5.6 billion €
in 2010**

Energy outlook

Belgium has very limited domestic resources and imports almost three quarters of its energy needs. The last coal mine closed in 1992. **Oil makes up 40% of the country's energy supply, natural gas 25%, coal 7%, renewables 5%.** Nuclear power accounts for the remaining one fifth of the energy supply and covers half the electricity generation.

The priorities of Belgian energy policy are the diversification of energy sources, competitive energy pricing driven by EU regulation, energy efficiency, environmental protection and the phase out of nuclear power. Three of the country's seven nuclear power plants will be shut down by 2015.

The energy sector is mostly privately owned but GDF Suez and Electrabel continue to hold dominant positions in the market.

Prices, taxes and support mechanisms

The Electricity and Gas Regulatory Commission (CREG) monitors energy prices at the national level, with the three regions having their regulatory body.

The government maintains a system of price ceilings on oil products.

A 21% VAT is applied to energy products except for the domestic consumption of coal. Excise duties are levied on oil products.

There is also a levy on households' consumption of oil, natural gas, LPG and electricity, and a special tax on nuclear power generators.

Some businesses, off-road vehicles and engines benefit from an excise-tax reduction on petroleum products. There are also some measures that support energy use for low-income households (the Heating Social Fund, a social tariff on electricity and gas, and a special heating grant).

In total, the government could save at least 1.7 billion of Euros a year by phasing out measures supporting the production and consumption of fossil fuels in Belgium.

Production support

In 2010, there was no data available for producer support, which was almost non-existent.

Consumption support

In 2010, consumer support was rather limited and centered on oil consumption for companies using a large amount of oil and for certain types of off-road vehicles and engines.

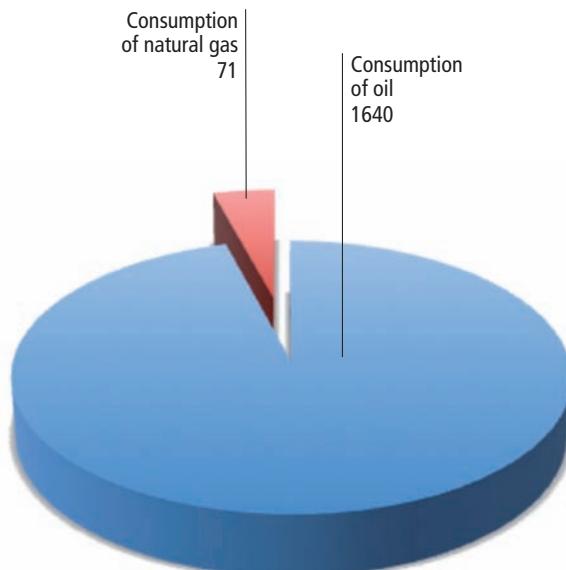
The types of support included, for the largest ones:

- Fuel Tax Reduction for Certain Professional Uses of oil (1,519 M€);
- Fuel Tax Reduction for Certain Industrial Uses of oil (110 M€).

Fossil fuel support in Belgium

Data Summary (in Millions of Euros)*

**Total
1.7 billion €
in 2010**



* Minimum estimates based on the OECD data

Energy outlook

Canada has substantial energy sources and is exporting one third of its energy production, including oil, natural gas, coal, and hydro-power. Canada is also the world's largest producer of uranium. Canada has the second largest oil reserves in the world, most of which are oil sands. Oil and gas account for two thirds of the country's primary energy use, hydropower 12%, and nuclear power 9%.

Petro-Canada was privatized in 2004 but the federal and provincial governments are still involved in nuclear research and development and in the production of hydropower through Crown corporations.

The provinces have jurisdictional responsibility for the resources within their boundaries. There are hundred of oil and gas exploration companies. The gas industry is owned by private companies but under the regulation of provincial authorities. Transmission and distribution services in the electricity sector are mostly provided by Crown corporations owned by provincial governments.

Prices, taxes and support mechanisms

Oil prices are regulated in some provinces; natural gas and electricity prices are regulated in most provinces by a board or commission on a cost-of-service basis.

Income tax treatment for the oil, gas and mining sectors has been recently reformed by the government to make it more neutral compared to other sectors that didn't get the same advantages. But the exploration of oil and gas, including shale gas and oil sands is still benefiting from significant tax deductions and exemptions, especially in Alberta. A federal good and services tax (GST) is levied on all fuels. Some

provinces also provide some support to farmers and to households for energy consumption in the northern territories, including First Nations communities.

In total, the government could save at least 2 billion Canadian \$ a year (or 1.5 billion €) by phasing out support mechanisms to the production and consumption of fossil fuels in Canada.

The data below include federal support and a sample for three provinces (Alberta, Saskatchewan and Nova Scotia) and therefore is not complete.

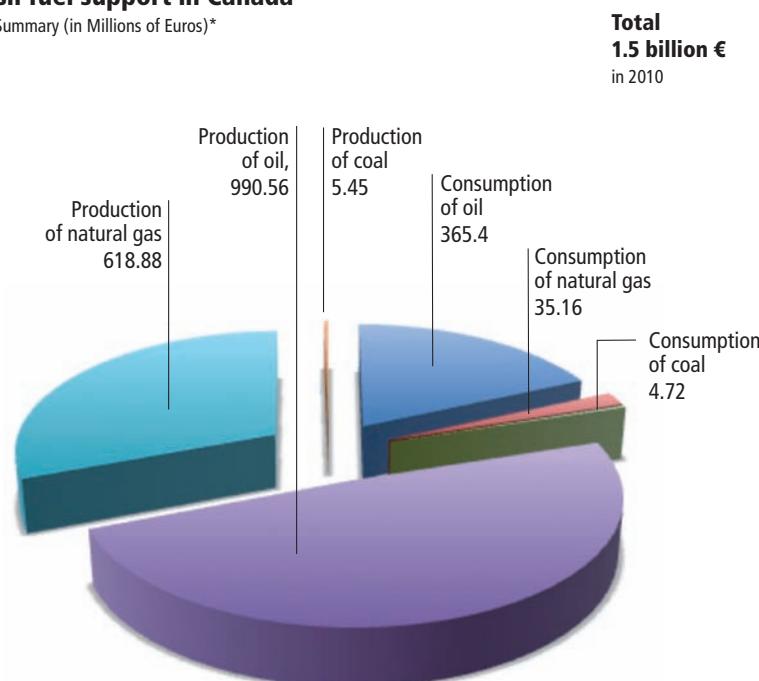
Production support

In 2010, production support was significant and benefited mostly the exploration and extraction of oil and natural gas, including unconventional sources such as oil sands and shale gas; they included, for the most important ones (>100 M\$):

- Energy Industry Drilling Stimulus for oil in Alberta (386 M\$);
- Energy Industry Drilling Stimulus for natural gas in Alberta (346 M\$);
- Accelerated Capital Cost Allowance for oil (300 M\$);
- Alberta Crown Royalty Reductions for oil in Alberta (182 M\$);
- Alberta Crown Royalty Reductions for natural gas in Alberta (164 M\$);
- Flow through Share Deductions for oil (125 M\$);
- Flow through Share Deductions for natural gas (112 M\$).

Fossil fuel support in Canada

Data Summary (in Millions of Euros)*



* Minimum estimates based on the OECD data

Consumption support

In 2010, consumption support was mostly targeted to off-road vehicles, farming, heating and mining activities.

The types of subsidies included:

- Tax Exempt Fuel Use Program for oil in Alberta (160 M\$);
- Fuel Tax Exemption for Farm Activity Heating & Mining in Saskatchewan (125 M\$).



Energy outlook

Chile has significant hydroelectric and biomass domestic resources but imports around three quarters of its energy supply. **Fossil fuels make up about 80% of total energy supply, oil being the leading fuel (55%) followed by coal (13%) and natural gas (10%).**

In 2007 and 2008, Chile lost most of its gas imports from Argentina, at a time when hydroelectric production was severely affected by drought. As a result, Chile is now looking for alternatives to replace its power plants originally built to run on natural gas imported from Argentina, and trying to boost its domestic exploration and production of oil and coal.

The national oil company, ENAP, dominates the oil extracting and refining sectors. ENAP is also active in natural-gas transmission. Other private companies operate the major pipelines, including the one that connects Chile to Argentina.

The electricity sector was privatized in the 1980's. 90% of the capacity belongs to three large companies. The SIC, which supplies more than 90% of the population, is the main country's electrical system. The northern system, SING covers 25% of the Northern territories and serves 6% of the population.

Prices, taxes and support mechanisms

Prices for oil products are freely set by the market. A specific excise tax (IEC) is levied on transport fuels. However, there is an explicit government policy to reduce price volatility for consumers of transport fuels, through the "Consumers' Protection System". A price band is established around the fuel's average of past and future prices over a five-month window. If the price exceeds the price-band ceiling, a reduction of tax is applied to benefit fuel consumers. On the other hand, if the oil price is below this price-band floor, the rate of tax applied is increased, hence making this measure more revenue-neutral for the government.

All electricity and fuel products are subject to a 19% VAT, with an additional 6% duty tax on imported products, except for the imports from the countries that have signed a trade agreement with Chile.

The main support mechanisms go to oil consumption and oil-price stabilization. There was no data available for consumption and production support by the government of Chile for 2010.



Energy outlook

France has very limited fossil-energy sources and imports most of its oil and natural gas and all of its coal. Since the 1960's, France has made the political choice to develop nuclear energy to reduce its dependence on fossil energy imports but imports almost all of the uranium needed to fuel its nuclear power plants. Nuclear power accounts for 42% of its total primary energy use, oil for 29%, natural gas for 15%, the rest coming from hydropower and renewable energy sources.

Although historically the state was strongly involved in the energy sector, France has progressively liberalized its oil, electricity and gas sectors to comply with EU directives. However, Total, EDF and GDF Suez are still dominant actors in the energy market.

Prices, taxes and support mechanisms

The prices of energy products are set freely by the market, apart from electricity and gas, for which the CRE (Commission de Régulation de l'Energie) is responsible for regulating the prices, in accordance with the French government. Most energy products and services are subject to 19.6% of VAT.

There are different mechanisms for supporting specific fuels or end users; these mainly take the form of partial or full exemptions or refunds on VAT or excise duties on oil products.

In total, the government could save at least 2.6 billion Euros a year by phasing out support mechanisms to the production and consumption of fossil fuels in France.

Production support

France used to support the production of coal through Charbonnage de France, (CdF) until 1994 when the government decided to dismantle the remaining production site. The last mine was closed in 2004 and CdF was liquidated in 2007 and its debt transferred to the French state, along with the responsibility of all inherited social and environmental liabilities.

In 2010, producer support was rather limited and benefited mostly petroleum refiners using petroleum products for their own energy process; they included:

- Tax exemption for petroleum refiners (105 M€);
- Tax exemption for natural-gas producers (2 M€).

Consumption support

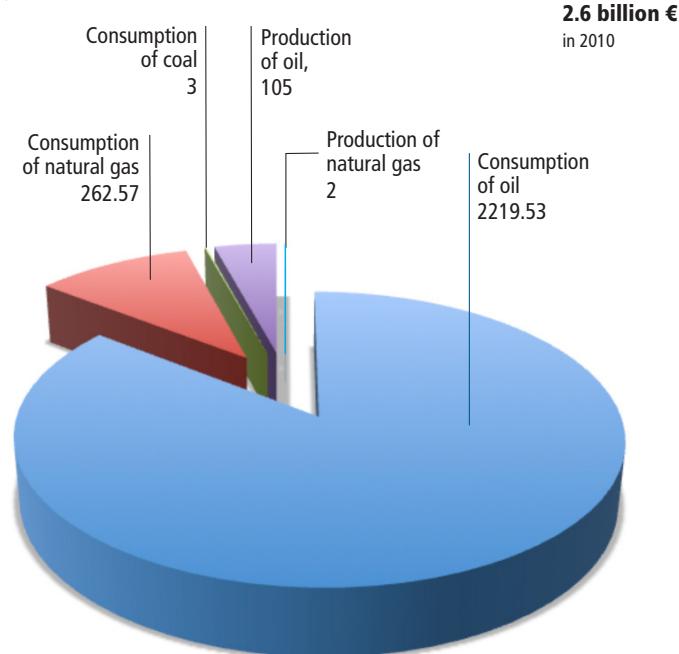
In 2010, consumer support benefited more largely the sectors of agriculture, fishing, road transportation, domestic aviation and to some households using natural gas as a source of heating.

The types of support mechanisms included, starting with the largest ones:

- Reduced Rate for fuel oil used as diesel fuel for farmers and fishermen (1,100 M€);
- Refund for diesel used in road transport (308 M€);
- Excise-Tax Exemption for domestic aviation (300 M€);
- Excise-Tax exemption for households using natural gas for heating (245 M€);
- Refund for fuel oil used in agriculture (150 M€);
- Excise-Tax exemption for certain boats (98 M€);
- Overseas VAT Exemptions for Petroleum products Guadeloupe, Martinique, La Réunion and VAT Reductions and reduced rates for Petroleum products in Corsica (73 M€);
- Reduced rate of Excise for Taxi Drivers;
- Refunds used for public transportation;
- Aid to small gas stations;
- Reduced Rate for Natural Gas, Liquefied Petroleum Gas, butane and propane used as transport fuels;
- Reduced rates for certain types of diesel-fired engine for agriculture and construction;
- Excise-Tax exemption for Co-generation;
- Excise-Tax exemption for natural gas used as fuel.

Fossil fuel support in France

Data Summary (in Millions of Euros)*



* Minimum estimates based on the OECD data

Energy outlook

Germany has limited reserves of oil and natural gas and imports 60% of its energy supply. Oil makes up more than one third of its energy supply, followed by natural gas (22%), coal (12%), lignite (11%) and nuclear power (11%). Germany has a relatively high share of renewable energy for about 9% of primary supply, with more than 80% coming from combustible renewables and waste.

The German energy industry is mainly privately owned. Hard-coal mining and production is carried out by RAG Deutsche Steinkohle and is heavily subsidized. Hard-coal mining has become uneconomic and the remaining mines will close by 2018 as subsidies are phased out.

Despite the reforms and regulations in line with the EU directives on free competition, E.ON and RWE are among the dominant actors in the gas and electricity sectors.

A top priority for the German government is to phase out nuclear power. After the Fukushima accident, the nuclear law was changed and all nuclear-power stations will be closed down by 2022.

Prices, taxes and support mechanisms

All forms of energy are subject to value-added tax at 19%. An ecological tax was introduced in 1999 and is levied on oil products, natural gas and electricity.

By far the most important subsidy is the financial support to hard-coal industry. Producing coal in Germany is much expensive than importing coal and the difference is made up by a subsidy to RAG, which also receives financial support for closing down its mines.

Tax exemptions and reductions are applied in specific sectors such as energy companies using energy for their own process, co-generation, agriculture, forestry, aviation, waterways transport, public transportation and some chemical and manufacturing industries.

In total, the government could save up to 7.4 billion € a year by phasing out subsidies and support mechanisms to the production and consumption of fossil fuels.

Production support

In 2010, production support benefited mostly hard-coal and lignite producers and some manufacturers for oil; it included, for the most important ones (> 100 M\$):

- Combined Aids for coal production (1,747 M\$);
- Mining Royalty Exemption for hard coal (276 M\$);
- Manufacturer Privilege for oil (256 M\$);
- Mining Royalty Exemption for lignite (198 M\$).

Consumption support

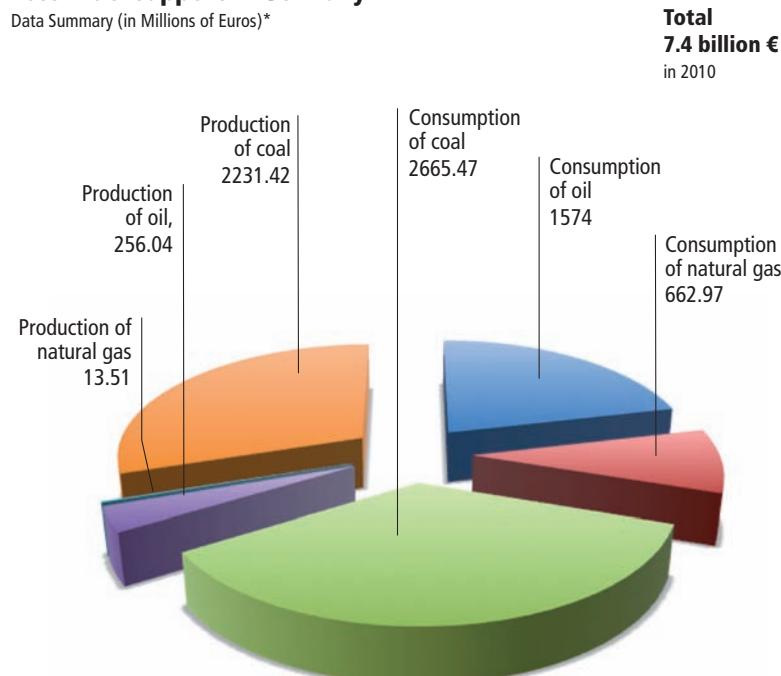
In 2010, consumption support benefited energy companies using energy for their own process, co-generation, agriculture, forestry, aviation, waterways transport, public transportation and some chemical and manufacturing industries.

The types of support included, starting with the largest ones:

- Tax relief for fuels used in power generation (2,300 M\$);
- Fuel tax exemption for commercial aviation (680 M\$);
- Refund for diesel used in agriculture and forestry (395 M\$);
- Energy tax breaks for agriculture and manufacturing (284 M\$);
- Tax-relief for energy-intensive processes for natural gas (224 M\$);
- Tax-relief for energy-intensive processes for coal (205 M\$);
- Tax relief for LPG and natural gas (190 M\$);
- Fuel tax exemption for internal waterway transportation (166 M\$);
- Early retirement payments (160 M\$);
- Peak equalization scheme for natural gas (155 M\$);
- Tax-relief for energy-intensive processes for oil (143 M\$).

Fossil fuel support in Germany

Data Summary (in Millions of Euros)*



* Minimum estimates based on the OECD data



Energy outlook

Hungary has modest resources of oil and gas and its energy production is declining. The country is importing around 80% of its natural gas and oil, mainly from Russia. Natural gas accounts for 37% of the energy supply, followed by oil (27%), nuclear power (16%), coal (10%) and combustible renewables (6%).

There is a mixture of public and private ownership in the energy sector. MOL, the former national oil company, which was privatized in 1990s, dominates the oil and gas upstream industry. E.On, Gaz de France and Italgas dominate the natural gas sales market. MVM is a state-owned company which controls around 80% of the electricity market.

The government has opened up the electricity and gas markets to competition in line with the EU directives but didn't take measures to restrict the power of the largest energy actors.

Prices, taxes and support mechanisms

Oil and coal prices are set by the market, while natural gas and electricity prices are regulated by the Hungarian Energy Office. All energy products and services are subject to value-added tax (VAT). Excises taxes are levied on transport fuels, as well as natural gas and electricity for industries. Natural gas and heat are subsidized for households consumption, disregarding the level of income of each household. The government is also supporting the production of coal.

In total, Hungary could save up to 78.8 billion of Hungarian forints a year by phasing out subsidies and support mechanisms to the production and consumption of fossil fuels.

Production support

In 2010, the government provided some price support to coal producers through a mechanism similar to "Coal pennies" in Germany; levies are paid by final electricity consumers to finance purchases of coal-generated power that is normally more expensive by electricity companies:

- Coal pennies
(8,900 M of Hungarian forints).

Consumption support

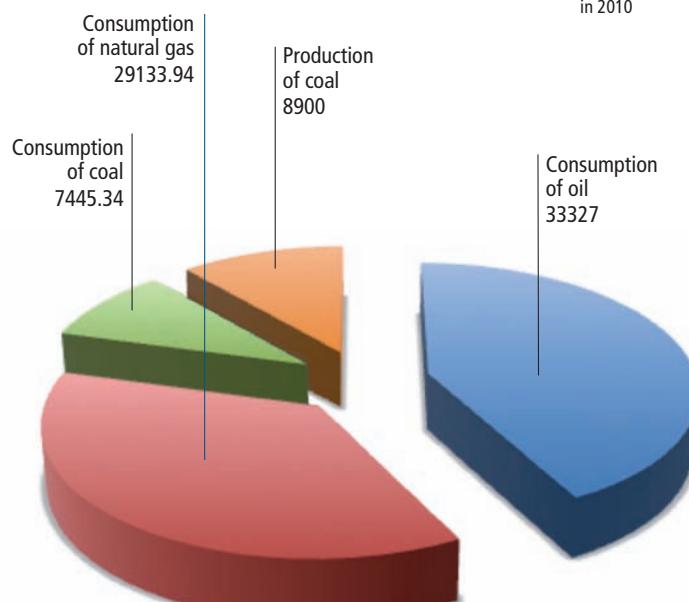
In 2010, consumption subsidies benefited more largely natural gas and heating for households, as well as the sectors of agriculture and railways.

The types of subsidies included:

- Fuel Tax Refund for agriculture using oil (22,037 M forints);
- Household Natural gas and heat subsidies (17,342 M forints);
- Reduced Rate of VAT for District Heating for natural gas (11,792 M forints);
- Fuel Tax Refund for railways using oil (7,000 M forints);
- Households heat subsidies for coal (4,432 M forints);
- Reduced Rate of VAT for District Heating for coal (3,014 M forints);
- Household heat subsidies using petroleum (2,554 M forints);
- Reduced Rate of VAT for District Heating for oil (1,737 M forints).

Fossil fuel support in Hungary

Summary (in Millions of Euros)*



* Minimum estimates based on the OECD data



Energy outlook

Iceland has significant domestic sources of renewable energy. **Around 85% of its energy supply and 100% of its electricity is obtained from hydropower or geothermal heat.** The country imports all of its fossil fuel needs for transportation.

Iceland converted from oil to geothermal heating from 1940 to 1975 and today 87% of space heating comes from geothermal resources, with most of the rest coming from other renewable sources.

Private companies supply Iceland with oil products; state-owned companies dominate the rest of Iceland's energy economy. Landsvirkjun (the National Power Company) is the largest electricity producer in Iceland and is owned by the State and municipalities.

Iceland consumption of electricity per capita is by far the highest in the world, with more than 85% of this consumption coming from industry and aluminum smelting. But only one fifth of the potential for electricity production from renewable sources is being used. The government is aiming to phase out fossil fuels in the transport and fishing sectors by increasing the use of electric and hydrogen-fueled vehicles and fleets.

Prices, taxes and support mechanisms

With the exception of petroleum products, energy prices are set by government-owned utilities. Electricity for general users is sold by seven licensed traders that buy electricity from the state through 1 to 12 year fixed-term contracts.

An excise tax is levied on motor vehicles using petroleum fuels; there are some reductions and exemptions for taxis, rental cars, large buses, trucks, off-road vehicles, sport cars, rescue cars and electric or hydrogen-fueled vehicles. All transportation fuels are subject to a road tax, except for off-road use and for LPG (Liquid Petroleum Gas). Aviation fuels and kerosene benefit from a lower taxation rate. Some items like oil for space heating or hot water for swimming pools are subject to a lower rate of VAT.

In 2010, no data was available regarding government support to fossil fuel production or consumption.

Energy outlook

Ireland has few energy resources and is highly dependent on energy imports. Oil accounts for half of the energy supply, natural gas for 31%, coal for 9% and indigenously produced peat for 6%, the rest coming from renewables and combustible waste. The government plans to invest in renewable energy to reduce dependence on imported oil and gas, and to lower greenhouse gas emissions.

The energy sector is owned by a mixture of public and private actors.

The oil industry is entirely in private hands. The refinery of Cork, now owned by Conoco-Phillips, produces 35% of domestic demand for petroleum products.

State-owned companies dominate the electricity, gas and peat sectors. The Electricity Supply Board (ESB) holds two-thirds of generating capacity; Eirgrid is the main electricity distributor and

Bord Gais Eireann (BGE) the main gas distributor. Bord na Mona is the main peat producer and is partially owned by the state.

Prices, taxes and support mechanisms

The prices of all forms of energy are deregulated, with the exception of electricity and gas. The electricity and gas tariffs are regulated by the Commission for Energy Regulation (CER) on a cost-of-service basis.

Fuel and energy products are subject to a 13.5% VAT, except for the gasoline and diesel for road use which are taxed at a 21% rate. Excise taxes are levied on oil products. The main government support is a subsidy to peat production for power generation to compensate for higher costs of production compared to other sources.

In total, the government could save at least 93 million € a year by phasing out fossil fuel production support.

Production and consumption support

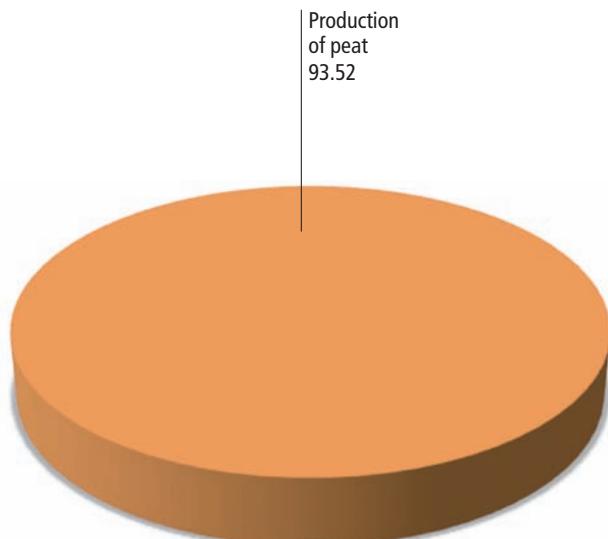
In 2010, the only data available was for the support to peat production:

- Public Service Obligation for Peat (93.52 million of Euros).

Fossil fuel support in Ireland

Data Summary (in Millions of Euros)*

**Total
93 million €**
in 2010



* Minimum estimates based on the OECD data

Energy outlook

Fossil fuels make up about 95% of Israel primary energy supply. Imported oil accounts for around 50% of its energy supply, imported coal for 35%, natural gas for 10% and renewable energy 5%.

Israel's consumption of natural gas is expected to triple by 2020. In 2004, Israel began producing natural gas from deposits in the Yam Tethys field and further intensified its exploration efforts. Two other large fields (Tamar and Leviathan) were discovered. According to the US Geological Survey, the potential for further discoveries is considerable, with around 3.5 trillion m³ of gas being located in the Levant Basin.

Israel is also looking at exploiting considerable oil shale resources in the Rotem basin underground but mining these resources would require tremendous amounts of water resources, which are very limited in Israel.

Electricity production and distribution is dominated by the state-owned Israel Electricity Corporation. Development of offshore gas fields is being operated by a consortium of private companies headed by a US oil company (Noble Energy).

The transmission of gas is carried by the government subsidiary Israel Natural Gas Lines Company (INGL).

Prices, taxes and support mechanisms

Oil prices are generally not regulated. High taxes on transportation fuels mean that prices are similar to the ones in European countries. In 2009, a tax reform was conducted to equalize the prices between gasoline and diesel. However some sectors such as agriculture,

construction, fishing, as well as taxis and buses and other large businesses and industries depending on diesel for their income, are entitled to diesel tax refunds. Excise duties are also imposed on oil, gas and coal used for power stations.

The purchase of polluting cars is heavily taxed (83%), while lower emission cars, hybrid and electric cars are charged a lower 45 to 10% tax.

The prices of electricity are regulated by the Electricity Authority. Natural gas is likely to become the dominant fuel used in new power plants.

A new fiscal regime was set up in 2011 to increase taxation and royalties on hydrocarbon production and discoveries.

In total, the government could save at least 2.1 billion of Israeli shekels to a year (or 433 million €) by phasing out subsidies and support mechanisms to the production and consumption of fossil fuels in Israel.

Production support

In 2010, government support went mainly to the exploration and production of natural gas and oil; it included:

- Depletion deduction for natural gas (118 Millions of Israeli shekels);
- Reduced Royalty Payments for natural gas (27 Millions of Israeli shekels);
- Reduced Royalty Payments and Depletion deduction for oil (0.14 Millions of Israeli shekels).

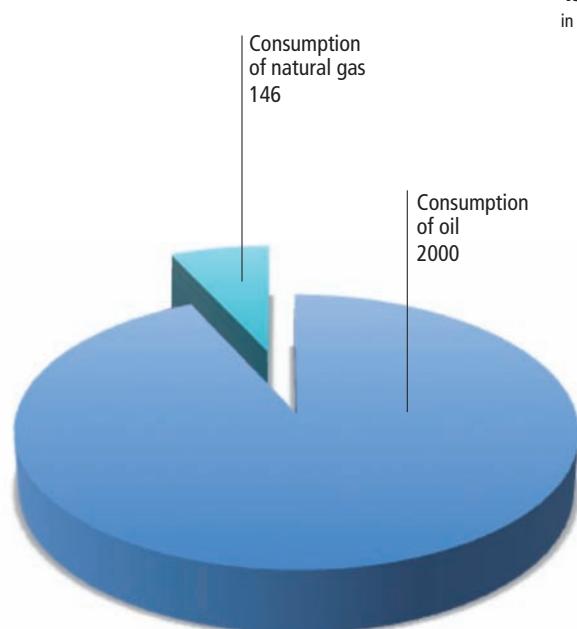
Consumption support

In 2010, consumption support benefited buses, taxis, fishing boats, and working vehicles such as tractors:

- Excise-Tax Exemption on Diesel (2,000 Millions of Israeli shekels).

Fossil fuel support in Israel

Data Summary (in Millions of Euros)*



* Minimum estimates based on the OECD data

Energy outlook

Italy has limited energy sources and imports 84% of its energy supply. Oil and gas each account for around 40% of the country's primary energy use (80%), the rest coming from coal (8%), hydropower and geothermal energy (6%), combustible renewables and waste (4%), and imported electricity (2%).

The Italian energy sector has been privatized since the 1990's in conformity with EU directives. But ENI remains a dominant actor in the oil and gas sectors, with 30% of state-ownership. The state has also retained a 31% stake in the former national electricity company, ENEL, which continues to play a dominant position in the electricity market. ENEL distributes 86% of the electricity distributed in Italy and is one of the largest power generators in Europe.

Prices, taxes and support mechanisms

The prices of all forms of energy other than electricity are set freely by the market. Italy applies different rates of excise tax and VAT (ranging from 10 to 20%) depending on the level of consumption and whether the consumer is a household or a business.

There are excise-tax exemptions and rebates for some sectors such as shipping, rail transport, agriculture, horticulture, aquaculture, forestry, road transport, public transportation and ambulance transport. Support to energy production includes cheap loans and grants to natural gas and oil production.

In total, the government could save at least 1.5 billion € a year by phasing out support mechanisms to the production and consumption of fossil fuels.

Consumption support

In 2010, consumption support was targeted at specific sectors and actors using oil. The types of subsidies included (for the largest ones):

- Energy tax Breaks for Agriculture (817 M€);
- Fuel Tax Exemption for Shipping (492 M€);
- Tax Relief for Trucking Companies (95 M€).

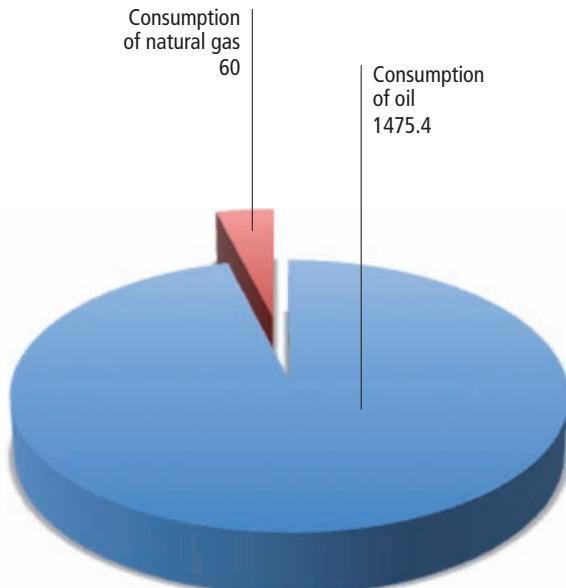
Production support

In 2010, production support was limited; there was no data available.

Fossil fuel support in Italy

Data Summary (in Millions of Euros)*

**Total
1.5 billion €
in 2010**



* Minimum estimates based on the OECD data

Energy outlook

Japan has almost no domestic resources and is importing 84% of its energy supply. It is the third largest importer and consumer of oil behind the US and China. Oil accounts for nearly half of its energy supply, coal about 20%, natural gas 15%, nuclear power 15%, renewables and combustible waste 3%.

The energy sector is dominated by private companies with some public-sector ownership. Four major gas utilities – Tokyo Gas, Osaka Gas, Toho Gas and Saibu Gas- supply about three quarters of the gas market. The largest electricity suppliers include J-Power and Tokyo Electric Power Company (TEPCO). Around 60% of the gas and electricity markets have been liberalized.

Prices, taxes and support mechanisms

There are no price controls on oil and coal but electricity and gas prices are regulated in the non-liberalized sectors. All fuel and energy services are subject to a consumption tax of 5%, as well as excise and other taxes according to the fuel. There are also road taxes, domestic aviation taxes and a tax on electricity sales to households to invest in Research & Development. In the OECD, Japan has the largest percentage of GDP spent on energy research, the bulk of it going to nuclear power. After the Fukushima events, Japan decided to phase out a vast majority of its nuclear power plants. Data is not available for the subsidies to the consumption of oil.

In total, the government could save at least 3.637 billion of Japanese Yen a year (or 35 million €) by phasing out subsidies and support mechanisms to the production and consumption of fossil fuels.

Production and general support

In 2010, production support went mainly to research and development for advanced oil-refining technologies; other types of support included:

- Oil-refining Rationalisation Subsidy (9,597 Millions of Japanese Yen);
- Oil Product Quality Assurance Subsidy (1,650 MYen);
- Large-scale Oil-Disaster Prevention Subsidy (710 MYen);
- Oil Prospecting Subsidy (301 MYen);
- Natural gas Exploration Subsidy (400 MYen).

General support included:

- Subsidy for Oil Refining Technology Programmes (11,857 MYen);
- Subsidy for Structural Reform Measures (9,194 MYen).

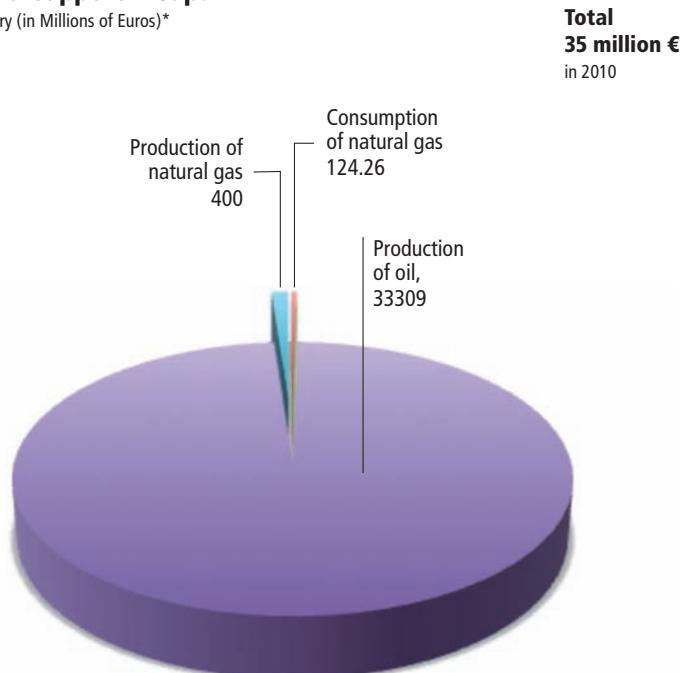
Consumption support

Available data regarding consumption support is very limited. It includes a Programme helping private firms convert coal-burning facilities into natural gas-burning facilities:

- Promotion of Natural Gas Use Subsidy (124 MYen).

Fossil fuel support in Japan

Data Summary (in Millions of Euros)*



* Minimum estimates based on the OECD data



Energy outlook

Korea has limited fossil fuel resources and imports most of its energy supply. **Oil makes up about 40% of its primary energy supply, coal 28%, nuclear power 17%, natural gas 13% and renewables accounts for the rest.** All uranium fuels for nuclear power plants are also imported.

The Korean State plays a significant role in the energy sector. The state-owned Korea National Oil Corporation (KNOC) is responsible for Korea's strategic oil reserves and for the exploration and production of natural gas within and outside the country. The state-owned Korea Coal Corporation (KCC) is a key actor in anthracite coal mining and distribution. The government is also involved in several bituminous coal projects abroad. The state-owned Korea Gas Corporation (KOGAS) holds a monopoly on gas imports and distribution. Korea's electricity market is dominated by the Korea Electric Power Corporation (KEPCO), a 50% state-owned company. The production of hydropower, nuclear power and heat are mainly managed by the State.

Prices, taxes and support mechanisms

The retail prices of oil and bituminous coal are deregulated, while the prices of domestically produced anthracite coal, electricity, natural gas and heat are regulated by the Ministry of Industry and Energy and the Korea Electricity Commission.

A 10% VAT is levied on all energy products and services, with an additional duty on imported coal, oil and refined products. Excises taxes apply to households and businesses consumption of oil and gas and to transport fuels.

Government subsidies to fossil fuels are mainly targeted at domestic coal production through price support. The Korean government is also investing in R&D for "clean" coal technologies. Some sectors such as farming, fishing and shipping benefit from some tax exemptions.

In total, the government could save at least 2,2 billions of Korean won a year (or 2 million euros) by phasing out support mechanisms to the production and consumption of fossil fuels in Korea.

Production subsidies

In 2010, the government supported mainly the production of coal; it included (>20,000 Millions of Korean won):

- Support to Coal Briquette Production (151,221 M of Korean won);
- Coal Mining Inherited Social Liabilities (132,885 M of Korean won);
- Direct Support to Coal Production (24,233 M of Korean won).

Consumption subsidies

In 2010, consumption support benefited most largely the sectors of agriculture and fisheries.

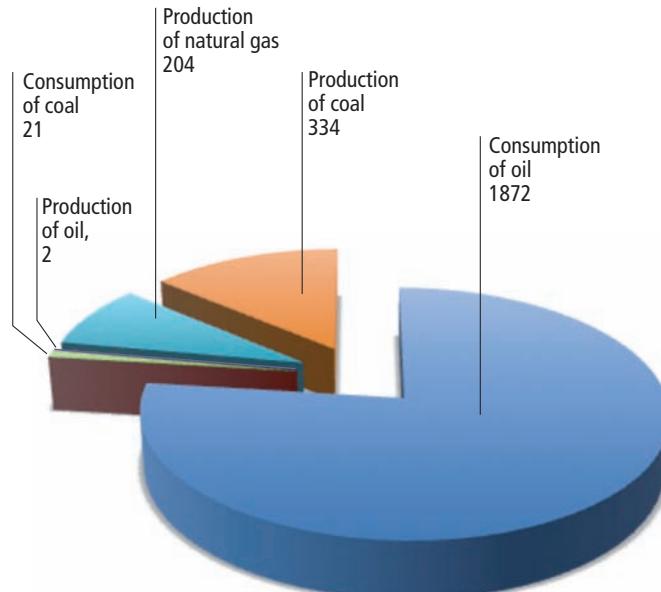
The types of support included, for the largest ones:

- Fuel Tax Exemptions for Agriculture (1,120,779 Millions of Korean won);
- Fuel Tax Exemptions for Fisheries (751,500 Millions of Korean won).

Fossil fuel support in Korea

Data Summary (in Millions of Euros)*

Total
2 million €
in 2010



* Minimum estimates based on the OECD data

Energy outlook

Luxembourg doesn't produce any fossil fuels and imports half of its electricity.

Oil accounts for more 61% of its energy supply, followed by natural gas (28%) and coal (2%). Net imports of electricity supply 7% of the country's energy needs, with the remaining 2% coming from biofuels, hydropower and wind power.

Luxembourg has a specificity: as the prices of diesel and gasoline are lower than in other countries, many truck drivers and commuters buy their fuels in Luxembourg; around four-fifths of the sales are for foreign drivers. Luxembourg also has 85% of its oil storage capacity located outside the country.

The natural gas market is dominated by a few companies including Creos Luxembourg SA, which is 40% owned by the State. The main electricity operator is the Société de Transport de l'Electricité (SOTEL).

Prices, taxes and support mechanisms

Luxembourg sets maximum prices for oil products. Around two-thirds of fuel is sold at the maximum price. The natural gas and electricity markets are regulated by the Institut Luxembourgeois de Régulation (ILR). The government applies a relatively lower VAT (10.4%) to compensate for the fact that electricity prices before tax are higher than in other OECD countries. A reduced VAT also applies to mineral fuel and oil (12%) and an even lower rate applies to natural gas (6%). The government raised its excise duties on diesel in 2008 to comply with the EU directive on minimum levels of taxation on energy, but it is still significantly lower than in France and Germany. Agricultural use of oil is exempted from excise tax.

The State could increase its income by raising the level of taxation on fossil fuels to a level that would be closer to other EU countries. It could also reduce subsidies and tax exemptions.

Unfortunately no data is available regarding fossil fuel support in Luxembourg and there is a great need for better transparency.



Energy outlook

Mexico has substantial oil and gas resources. It is exporting one fifth of its total energy production and one third of its oil production, although it has fallen in the last few years with the depletion of Cantarell, the main oil field in the country. On the other hand, natural gas production has been rising but Mexico is still importing gas from the US to meet its domestic demand. **Oil accounts for 56% of energy supply, natural gas 28%, with the rest coming from coal, combustible renewables and waste, geothermal energy and a nuclear power plant.**

The energy sector is run by state-owned companies. The national oil and gas company Petroleos Mexicanos (Pemex) is the largest company in Mexico and one of the largest oil companies in the world. In 2008, Mexico passed a new legislation aimed at boosting oil production by

regulating the sector and creating incentives for new exploration and production efforts. Pemex is also the dominant operating company in the gas sector. The coal sector has been opened up to foreign companies since 1975 and the major players in the sector are now a mix of Mexican and foreign companies. In the sector of electricity, the state-owned Comision Federal de Electricidad (CFE) is the dominant player, controlling about two thirds of installed capacity.

Prices, taxes and support mechanisms

All energy prices are controlled and usually set below import prices with support from the government. VAT is levied on all energy products and excise taxes are levied on transport fuels. All electricity tariffs are approved by the Ministry of Finance, the Ministry of Energy, the Water Commission and other regulatory bodies. Tariffs for households and small businesses are usually below average costs resulting in large subsidies, which have been increasing in the last few years. Moreover, fuel-tax credits are available for agriculture, fisheries, commercial vessels, commuters and some types of diesel fuels.

In total, the government could save at least 8.8 billions of Mexican Pesos a year (or 510 million €) by phasing out support mechanisms to the production and consumption of fossil fuels in Mexico.

Production support

In 2010, no data was available for production support.

Consumption support

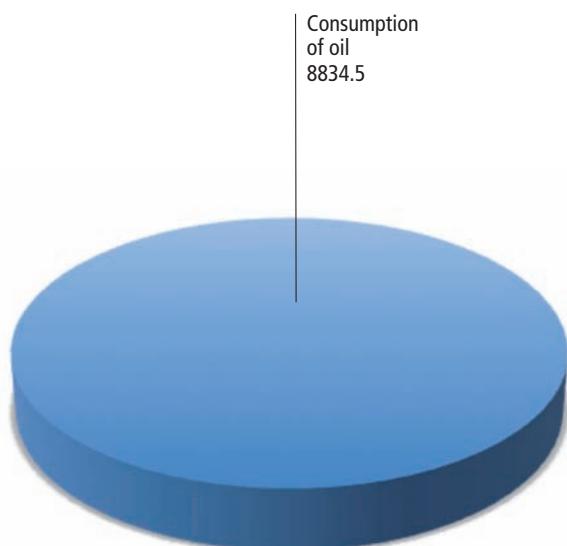
In 2010, consumption support was mainly targeted towards oil consumption. It included:

- Diesel Tax Credit for Commuters (3,048 M of Mexican Pesos);
- Petroleum Revenue Stabilisation Fund (5,649 M of Mexican Pesos);
- Tax Credit for Marine Diesel (85 M of Mexican Pesos);
- Fuel Tax Credit for Agriculture and Fisheries (51 M of Mexican Pesos).

Fossil fuel support in Mexico

Data Summary (in Millions of Euros)*

Total
510 million €
 in 2010



* Minimum estimates based on the OECD data

New Zealand



Energy outlook

New Zealand has substantial fossil-energy resources and imports only 14% of its total energy supply. It is a net exporter of coal. Oil accounts for about 25% of its energy supply, followed by natural gas (20%), geothermal energy (17%), hydropower (12%), coal (9%) and biomass (8%).

The energy sector was partly liberalized in the 1980s and 90s but the state retains significant ownership, especially in the electricity sector.

Upstream oil and gas production is dominated by Shell, which operates the Maui field, the main production field for natural gas. BP, Caltex, Mobil and Z-Energy own about three-quarter of refinery. The state-owned companies Genesis Energy and Mighty River Power are key players in the gas market. Meridian and Transpower, two state-owned companies, are responsible respectively for power generation and transmission.

Prices, taxes and support mechanisms

There are no price controls on any energy services and products in New Zealand.

A Goods & Services Tax (GST) is levied on all fuels and energy services. There are various taxes on transportation fuel, with some exemptions and refunds for commercial users and off-road vehicles. An Energy Resources Levy is applied to some natural gas and coal production fields, with tax breaks for new oil and gas exploration projects. There are also some levies on electricity and gas to fund safety regulatory activities. New Zealand is also located in a seismic region, which means that the government has to invest in specific activities related to the monitoring of seismic activity in oil and gas exploration and production sites.

In total, the government could save more than 52 millions of New Zealand dollars a year (or 32 million €) by phasing out support mechanisms to the production and consumption of fossil fuels in New Zealand.

Production support

In 2010, there were no specific data available on production support, but the government provided some general support to oil and gas exploration and development, including for Research & Development, Acquisition of Petroleum Exploration Data, and Management of Oil Stocks (in total 14.24 Millions of New Zealand dollars).

Consumption support

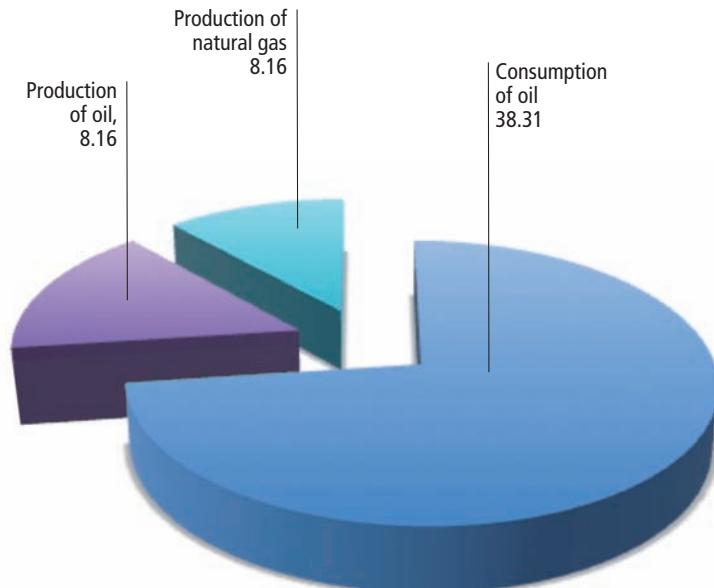
In 2010, government support included a refund on motor-spirit excise duty charged on certain types of fuels for off-road vehicles, commercial vessels and agricultural vehicles:

- Motor Excise Duty Refund (38.31 M of NZ dollars).

Fossil fuel support in New Zealand

Data Summary (in Millions of Euros)*

**Total
32 million €
in 2010**



* Minimum estimates based on the OECD data

Energy outlook

Norway is the third exporter of oil and natural gas in the world, after Russia and Saudi Arabia. Production volumes were multiplied by 4 between 1980 and 1997; since then the oil production decrease was offset by a gas production increase. Most of the natural gas is being exported to the UK and continental Europe.

Hydropower is the single largest energy source in Norway (41%). Oil and gas account together for 55% of the total energy supply. Norway is also producing and exporting coal, mostly to Germany.

Petroleum is the backbone of the Norwegian economy and the state plays a major role in the sector. The state holds around one-third of Norway's oil and gas reserves, through the Direct Financial Interest (SDFI) shares managed by the state-owned company Petoro. Statoil ASA, an international company, 67% of which is owned by the state, operates 80% of total oil production. Gassco is the state-owned operator of gas

transportation from Norway to continental Europe. The Norwegian state also owns 99.9% of the shares in Norske Spitsbergen Kulkompani AS (SNSK), which carries out coal mining operations.

Norway deregulated its electricity market in 1991. The Norwegian legislation is harmonized with EU legislation. There are many local and national actors operating in the electricity market, but 90% of generating capacity is in public ownership either through the state or local authorities.

Scheme market in 2008. Income derived from oil and gas production is subject to a special tax of 50% in addition to the ordinary corporate tax of 28%. But the government also reimburses up to 78% of all the exploration expenses. This means that the government shares both profits and losses from exploration and production of petroleum products. Hydropower excess returns are taxed at 30% in addition to the 28% corporate tax.

In total, the government could save at least 5.6 billion of Norwegian kroner a year (or 733 million €) by phasing out subsidies and support mechanisms to the production and consumption of fossil fuels.

Prices, taxes and support mechanisms

All energy prices are determined by the market. A 25% VAT is applied to all forms of energy consumption. Excise taxes are levied on oil products and electricity, with some exemptions for several industries. Energy is subject to environmental tax measures, including an SO₂ tax on mineral oil, taxes on fertilisers, pesticides and lubricant oils, a CO₂ tax on the consumption of petrol, diesel and mineral oil and on offshore petroleum production, as well as NOx taxes on oil production. Fisheries are exempted from the CO₂ tax. Moreover, Norway joined the EU European Trading

Production support

Norway stopped subsidizing coal production in 2002. In 2010, the main government support went to R&D and tax exemptions to the oil and gas exploration and extraction; it included (>100 Millions of Norwegian kroner):

- NOx Tax Exemption for natural gas (703 M of Norwegian kroner);
- R&D funding in the oil sector (142 M of Norwegian kroner);
- R&D funding in the natural gas sector (106 M of Norwegian kroner).

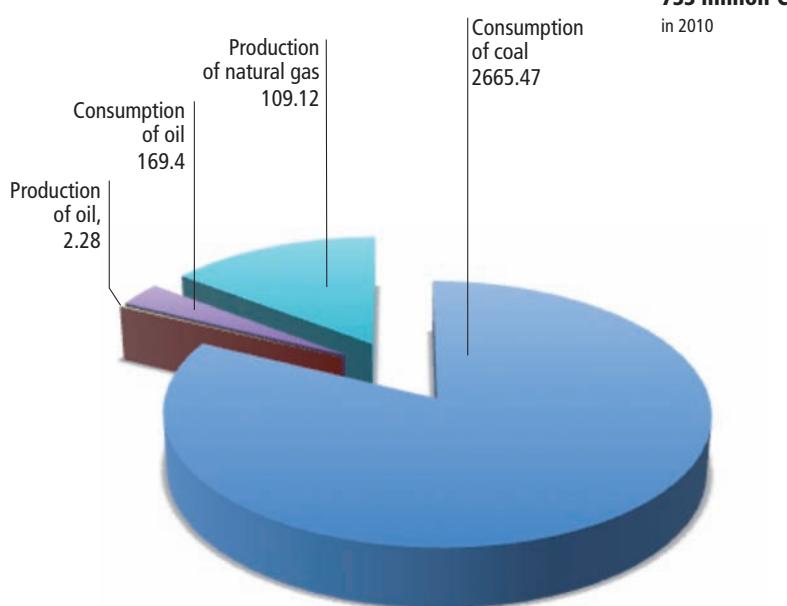
Consumption support

In 2010, the government supported the consumption of diesel instead of petrol and to some sectors such as fisheries, shipping, aviation and some industries. It included:

- Lower Tax Rate on Diesel compared to Petrol (3,510 M of Norwegian kroner);
- NOx exemption for shipping (540 M of Norwegian kroner);
- CO₂ exemption for fisheries (235 M of Norwegian kroner);
- NOx exemptions for fisheries (130 M of Norwegian kroner).

Fossil fuel support in Norway

Data Summary (in Millions of Euros)*



* Minimum estimates based on the OECD data

Energy outlook

Poland relies heavily on fossil fuels (especially coal) for meeting its energy demand. **Indigenous bituminous coal accounts for 55% of its energy supply and more than 90% of electricity generation.** Oil provides around 26% of the total energy supply, natural gas 13% and biomass 6%. Poland imports almost all of its oil and gas from Russia. The polish government is planning to diversify its energy mix away from coal and expanding nuclear power and renewable energy.

The energy market changed dramatically after the fall of communism. Some assets were privatized but the state still owns two of the three largest coal producers (Katowicki Holding Weglowy SA, Kompania Weglowa SA). The Polish Oil and Gas Company (PGNiG), a majority state-owned company accounts for 98% of oil and gas production from on-shore wells and controls most of the natural gas market. Oil storage, distribution and refinery are undertaken by a few companies that are also

largely owned by the government. Four companies that were formed out of the state monopoly in 2007 control most of the electricity market (Polskie Sieci Energetyczne, Tauron Polska Energia, Energa and Enea),

Prices, taxes and support mechanisms

Oil and coal products are not regulated, while the prices of natural gas are regulated by the Energy Regulatory Authority (ERO). Electricity prices are not regulated except for household tariffs. All fuels are subject to a 23% VAT. Oil products and electricity are subject to excise taxes. Road taxes on gasoline are higher than on diesel and LPG. The fisheries and aviation sector are exempt from oil taxes. The polish government is paying for the heavy costs of restructuring the coal industry and for the social and environmental liabilities inherited from the closure of the mines. The total cost of these liabilities from 1999 to 2009 is estimated to be above PLN 20 billion.

In total, Poland could save up to 3.5 billion of Polish zloty a year (or 332 million €) by phasing out subsidies and support mechanisms to the production and consumption of fossil fuels.

Production support

In 2010, government support went mainly to the production and mining of coal; it included (> 100 M Polish zloty):

- Exemption of Deferral of Taxes and Fines for coal production (2,128 M of Polish zloty);
- Initial Investment Aid for Hard Coal Mining (400 M of Polish zloty);
- Aid for Coal Mining Decommissioning (195 M of Polish zloty).

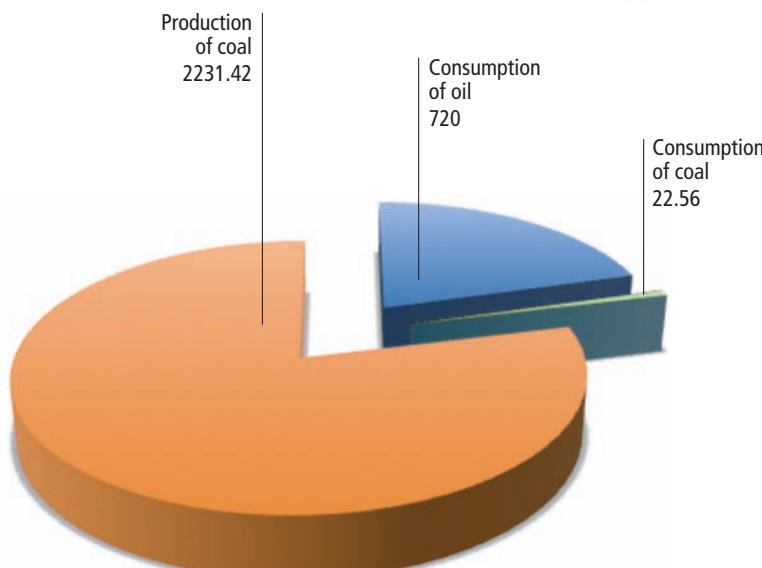
Consumption support

In 2010, consumption support went mainly to the farming sector:

- Rebates on Diesel Fuel Tax in Farming (720 M of Polish zloty).

Fossil fuel support in Poland

Data Summary (in Millions of Euros)*



* Minimum estimates based on the OECD data

Energy outlook

Spain is importing most of its energy sources apart from a declining domestic production of coal. **Oil is the most important fuel, meeting 47% of the energy supply, followed by natural gas (24%), nuclear power (12%), renewable energy and biomass (11%), and coal (6%).**

The production of wind and solar power is growing and contributes to 17% of electricity production thanks to large subsidies.

Coal production has become largely uneconomic and is declining and being regulated by the State through price control and production quotas. The oil sector was deregulated and is entirely privately owned. The gas sector is also privately owned, with Natural Gas, Iberdrola and Enagas playing dominant roles in the market. Spain was one of the first EU countries to liberalise the electricity market in the 1990s. Today,

three quarters of electricity is generated by three companies: Iberdrola, Endesa (owned by the Italian ENEL) and Union Fenosa (owned by Gas Natural).

Prices, taxes and support mechanisms

All energy prices are deregulated except for LPG. The government levies excise taxes on oil products and electricity. All energy products are subject to a 18% VAT. There are tax exemptions or refunds for biofuels and fuels used in aviation, navigation, rail transport and farming. Spain recently raised its gasoline and diesel taxes to comply with the EU directive on minimum levels of taxation.

The main support to energy production goes to coal mining. The government is also providing assistance to coal mines to cover inherited liabilities and social costs induced by mine closures. It also supports power plants for the purchasing of domestic coal and R&D projects for developing "clean" coal technologies and carbon capture and storage.

In total, the government could save at least 2.6 billion € a year by phasing out subsidies and support mechanisms to the production and consumption of fossil fuels in Spain.

Production support

In 2010, production support benefited more largely the sector of coal mining and production; it included (>100 M€):

- Inherited Liabilities Due to Coal Mining (335 M€);
- Operating Aid to Coal Producers (250 M€).

Consumption support

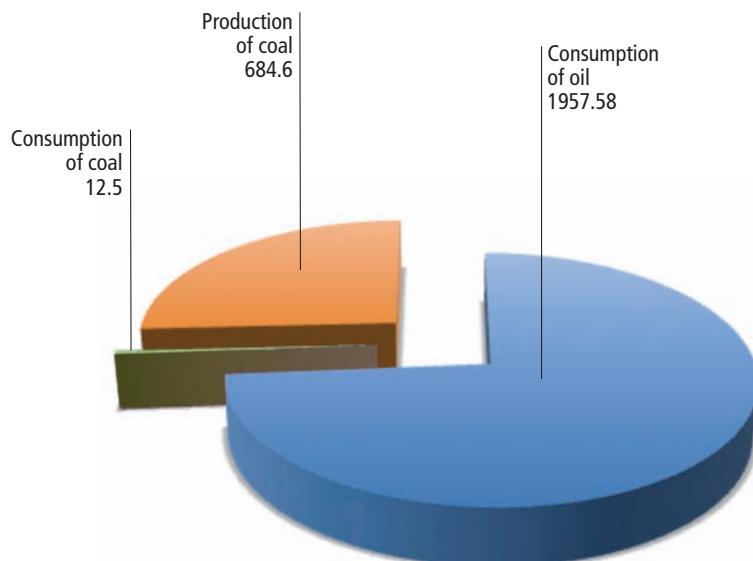
In 2010, government support benefited mainly the sectors of agriculture, mining, aviation, navigation and railway transport. It included:

- Fuel Tax Reductions (1,368 M€);
- Fuel Tax Exemptions (589.58 M€).

Fossil fuel support in Spain

Data Summary (in Millions of Euros)*

**Total
2.6 billion €**
in 2010



* Minimum estimates based on the OECD data

Energy outlook

Sweden has minimum fossil-energy sources but important supplies of biomass and hydropower. **Fossil fuels (oil, coal and gas together)** account for only one third of the total energy supply; nuclear power for 30%, and biomass from the forest industry for 22%. Peat fuel is also used for heating. Electricity generation is almost CO₂-free with a large part coming from hydropower. However the energy intensity per GDP is relatively high because of the cold climate and the energy needs from the pulp, paper, iron and steel industries.

The Swedish government supports the development of renewable energy and a largely decentralized energy market with many different operators. The Swedish oil market is privately owned and open to competition. Oil refineries are owned by foreign companies, including Preem (a Saudi company), OK-Q8, Statoil, Hydro, Neste Oil and Petroleos de Venezuela. E.ON Gas Sverige and Swedegas are the largest companies in the natural gas

market. Vattenfall, Fortum (a majority state-owned company) and E.ON Sverige generate the bulk of power, while distribution is done by many suppliers.

Prices, taxes and support mechanisms

All energy prices are set freely by the market except for electricity and gas tariffs which are regulated by the regulating agency (EMI).

Energy is subject to an energy tax, a CO₂ tax, a sulphur tax and a levy on NOx emissions. Taxation rates on fuels vary depending on their use (industry or households, transportation or heating) and their location (North, South).

There are some tax exemptions for peat, natural gas, LPG and bioenergy. However users of energy peat are obliged to buy EU ETS credits for CO₂. Most tax revenues come from oil. There is also a tax on nuclear power.

In total, the government could save at least 22.4 billions of Swedish kronor a year (or 2.5 billion €) by phasing out subsidies and support mechanisms to consumption of fossil fuels. In 2010, there was no support to the production of fossil fuels.

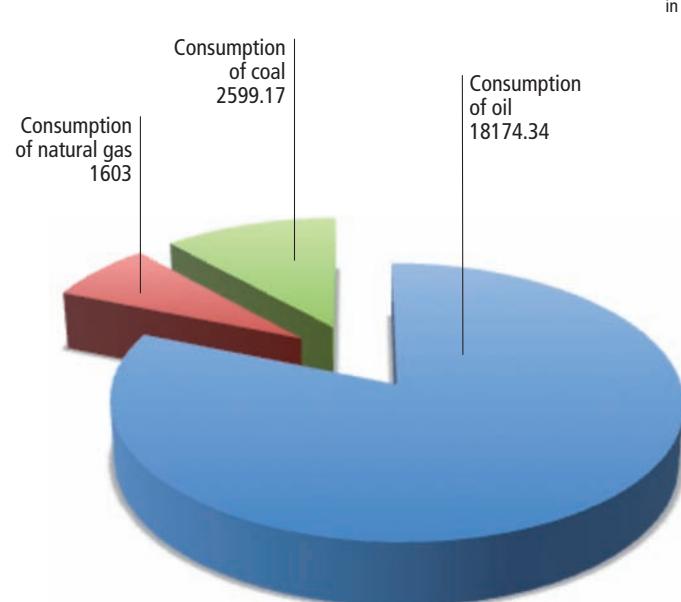
Consumption support

In 2010, the main support from the government to the consumption of fossil fuels went to the sectors of transport, aviation, shipping, agriculture, forestry, heating and some industrial consumers. That included (for the largest ones, above 300 M of Swedish kronor):

- Reduced Energy Tax Rate for Diesel used in Transport (12,030 M of Swedish kronor);
- CO₂ Tax Exemption for Peat (1,840 M of Swedish kronor);
- CO₂ Tax Reduction for diesel used in Agriculture and Forestry (1,360 M of Swedish kronor);
- Energy Tax Exemption for Domestic Aviation (1,050 M of Swedish kronor);
- CO₂ Tax Exemption for Domestic Commercial Aviation (970 M of Swedish kronor);
- Energy Tax Exemption for Domestic Shipping (690 M of Swedish kronor);
- CO₂ Tax Exemption for Domestic Shipping (620 M of Swedish kronor);
- Reduced CO₂ Tax Rate for industrial consumers outside EU ETS for natural gas consumption (465 M of Swedish kronor);
- Reduced CO₂ Tax Rate for industrial consumers outside EU ETS for coal consumption (448 M of Swedish kronor);
- Reduced Energy Tax Rate for industrial consumers outside EU ETS for natural gas consumption (437 M of Swedish kronor);
- Reduced CO₂ Tax Rate for industrial consumers outside EU ETS for oil consumption (437 M of Swedish kronor);
- General CO₂ reduction for oil use in agriculture (383 M);
- Energy Tax Exemption for Industrial Consumers of natural gas (320 M);
- Energy Tax Exemption for Industrial Consumers of coal (309 M);
- Energy Tax Exemption for Industrial Consumers of oil (301 M).

Fossil fuel support in Sweden

Data Summary (in Millions of Euros)*



* Minimum estimates based on the OECD data

The Netherlands



Energy outlook

The Netherlands used to be a major producer of natural gas, but its major production field (Groningen) is getting close to exhaustion. Oil resources are smaller, meeting about two thirds of domestic demand. **Natural gas is the largest source of energy, accounting for 40% of energy supply, followed by oil (38%), coal (10%), with the rest coming from nuclear power, wind power and biomass.**

The energy sector is mostly in private hands. NAM, which is owned jointly by Shell and ExxonMobil, operates Groningen and is the largest gas producer. Gasunie, GasTerra, Essent, Eneco, Nuon and Delta are companies that are at least partly owned by the state and are

dominant actors in the gas transportation and distribution market. The major electricity companies are partly owned by the state and partly by foreign companies, with the five largest generators being Electrabel, Essent, Nuon, E.ON Benelux and Delta.

Prices, taxes and support mechanisms

There are no prices controls on energy services and products, but safety-nets on electricity and gas prices charges to consumers. The Office of Energy Regulation is responsible for ensuring that these prices are reasonable.

VAT, excises taxes and a storage fee are levied on oil products, and an energy tax is levied on electricity and gas. There are some tax breaks, deductions and exemptions on aviation fuel and oil and gas exploration and development.

In total, the government could save at least 352 million € a year by phasing out subsidies and support mechanisms to the production and consumption of fossil fuels.

Production support

In 2010, government support was mainly targeted at oil and gas exploration and development efforts.

There is no data available.

Consumption support

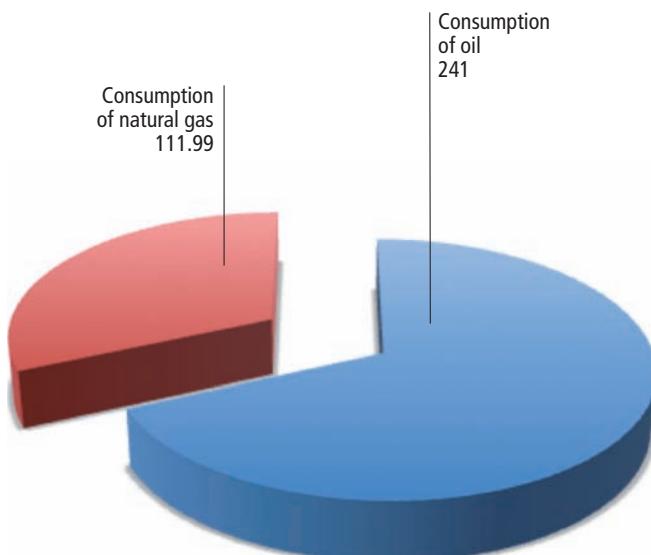
In 2010, oil consumption support benefited the horticulture sector, as well as NGOs and religious groups, and the consumption of some fuels used for heat and off-road machinery:

- Differentiated Tax Rate on the consumption of Gas Oil (241 M€);
- Reduced Energy Tax Rate for Horticulture (92 M€);
- Energy Tax Rebate for NGOs (15 M€);
- Energy tax Rebate for Religious Institutions (4.61 M€).

Fossil fuel support in the Netherlands

Data Summary (in Millions of Euros)*

**Total
352 million €
in 2010**



* Minimum estimates based on the OECD data



Energy outlook

Turkey has limited fossil fuel resources and imports about three quarters of its energy supply, mainly from eastern countries. Turkey is a major energy transit route due to its proximity to oil and gas reserves. **Fossil fuels make up about 90% of the country's energy supply, natural gas being the leading fuel (31%) followed by oil (30%) and coal (29%).** Hydropower accounts for 19% of power generation and Turkey is planning to build a second nuclear power plant to meet its growing electricity demand. Turkey produces hard coal and lignite for its own consumption.

Turkey has undergone privatization and de-concentration reforms since 2000. The government-owned Petroleum Pipeline Corporation (BOTAS) remains a major player in the natural gas market. Turkey's oil and gas network is operated by BOTAS. Well located between Europe, the Middle East and the Caspian region, Turkey is major hub for international pipeline connections. The Nabucco pipeline project would enable

new suppliers from the Middle East and the Caspian region to access the European gas market.

Prices, taxes and support mechanisms

The Energy Market Regulatory Authority (EMRA) plays a strong regulatory role by applying a uniform national tariff to gas and electricity products, but is moving towards a more cost-based tariff structure to better reflect the increase in generation costs.

Turkey levies an 18% VAT on energy products. Gasoline and diesel prices are amongst the highest in the OECD countries due to a high excise rate.

The most important measure supporting energy production goes to hard-coal production industry, R&D and consumption for poor households. Some sectors such as aviation, maritime shipping and agriculture also benefit from tax exemptions and rebates.

In total, the government could save at least 1,2 billion of Turkish lira a year (or 502 million €) by phasing out support mechanisms to the production and consumption of fossil fuels in Turkey.

Production support

In 2010, production support went mainly to the production of hard coal:

- Support to Hard Coal Industry (398 M Turkish lira).

Consumption support

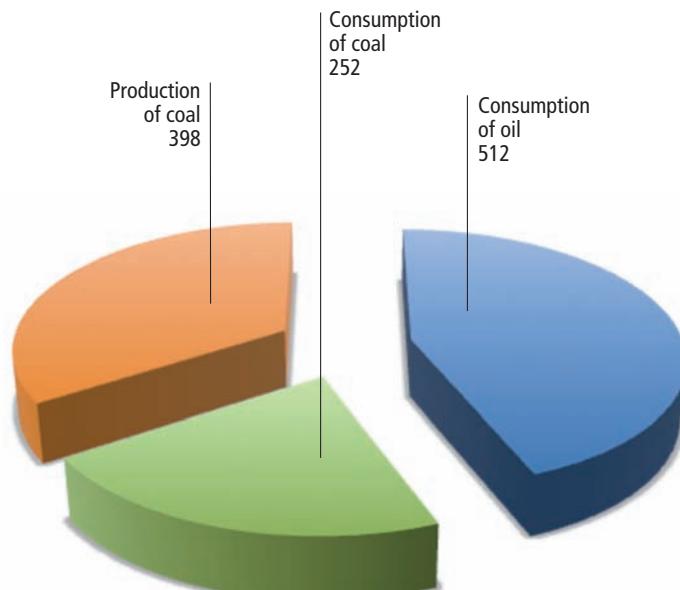
In 2010, consumption support went mainly to agriculture and coal consumption for poor families:

- Rebate for diesel used in Agriculture (512 M Turkish lira);
- Aid for Coal consumption for poor families (252 M Turkish lira).

Fossil fuel support in Turkey

Data Summary (in Millions of Euros)*

**Total
502 million €
in 2010**



* Minimum estimates based on the OECD data

United Kingdom



Energy outlook

The UK used to be a major producer of oil and gas but production has been declining in recent years with the depletion of reserves in the North Sea. Natural gas is the dominant fuel and accounts for 39% of total energy supply, followed by oil (33%), coal (13%), nuclear power (9%) and biomass (9%). Although UK import dependence has risen in recent years, especially for oil, gas and coal, the country is still only importing about one fifth of its energy supplies.

The UK was one of the first countries to deregulate and liberalize its energy market. With the phasing out of state support to inefficient coal mines, production of coal declined sharply after 1980. The main producer of natural gas, British Gas, was privatized. Oil and gas production and exploration are now

carried out by a large number of private companies. The UK electricity market was also privatized in the 1990s, creating a fragmented and competitive market structure.

Prices, taxes and support mechanisms

Oil and gas production is subject to a Petroleum Revenue Tax (or "PRT", 50% tax on profits made on new extraction fields), a ring-fence corporation tax (30%) and a supplementary charge (32%). Energy sales are subject to a 20% VAT, excise taxes and a Climate Change Levy. Some reduced rates are applied to domestic use of fuel and power, to elderly people, in case of cold winter, or for the consumption of low carbon vehicles.

There are very few measures of support other than tax exemptions and reductions.

In total, the government could save at least 3.6 billion £ a year (or 4.5 million €) by phasing out subsidies and support mechanisms to the production and consumption of fossil fuels.

Production support

In 2010, production support measures rather limited, the main ones going to the development of small oil and gas natural gas fields; they included (> 100 M£):

- PRT Oil Allowance for the development of petroleum sites (201 M£);
- PRT Oil Allowance for the development of natural gas sites (169 M£).

Consumption support

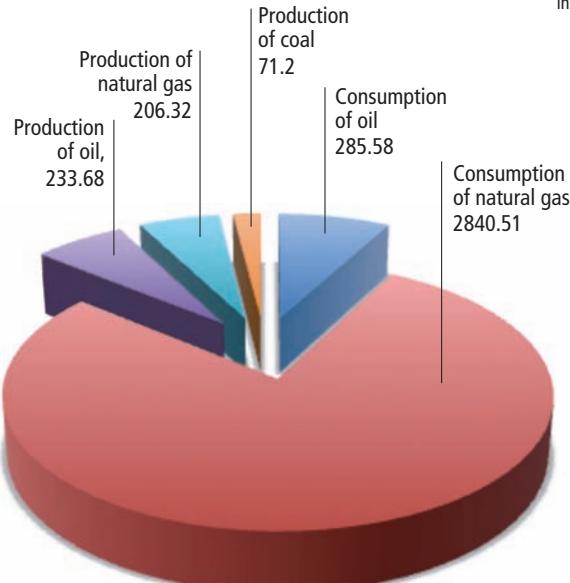
In 2010, the main support from the government to the consumption of fossil fuels was the VAT reduction for the domestic use of heating fuel and power. That included:

- Reduced Rate of VAT for fuel and power from natural gas (2840 M£);
- Reduced Rate of VAT for fuel and power from oil (286 M£).

Fossil fuel support in the United Kingdom

Data Summary (in Millions of Euros)*

Total
4.5 billion €
in 2010



* Minimum estimates based on the OECD data

United States



Energy outlook

The United States is a leading producer and consumer of energy in the world. In recent years, the US expanded the exploration and extraction of hydrocarbon in the Gulf of Mexico and the use of unconventional gas such as shale gas. The US is mostly self-sufficient in coal and natural gas, but importing 58% of its oil supply. **Fossil fuels make up about 85% of US primary energy supply, oil being the leading fuel (37%) followed by natural gas (25%) and coal (22%). Renewables (mainly biomass) account for 5% and nuclear power 1%.**

The US has a tradition of private ownership in the energy sector and was one of the first countries to deregulate its energy market. The coal industry is privately owned and dominated by three large producers accounting for 40% of the production. Coal is mainly used for power generation. The oil market is fully privatized, but four fifths of the resources are located in federal land or waters. There are more than 15,000 companies operating in oil and gas exploration and production and 148 refineries, the largest number in the world. The natural gas market is competitive and integrated with the markets of Canada and Mexico. There are roughly 1,400 local gas distribution companies. The electricity and gas

industries are subject to regulation at the local, state and federal levels. Electricity market liberalization was slowed down after the electricity power crisis in California, which raised concerns about the reliability of energy systems in a competitive environment.

Prices, taxes and support mechanisms

Electricity and gas are regulated by the state. Other energy products are not regulated, apart from price ceilings for oil products in some states. Compared to other developed countries, energy is taxed at a relatively low rate. Federal tax breaks are available for some types of offshore oil and gas production and exploration, for refineries and for the construction of power plants. The Low Income Home Energy Assistance Program provides grants to poor households to help pay their energy bills. The farming, fishing, forestry and mining sectors are exempted from federal and excise taxes on fuel. A number of states provide support to the production and consumption of oil, coal and gas mainly through the tax system. The cost of the Strategic Petroleum Reserve, which was created in 1975 to provide a secure reserve of petroleum in case of a major disruption is also covered by the government.

In total, the government could save at least 15.4 billion US Dollars a year (or 11.8 billion €) by phasing out subsidies and support mechanisms to the production and consumption of fossil fuels.

The data below are including federal support and some targeted support mechanisms from a sample of three states (West Virginia, Texas, Alaska); therefore the data is not complete.

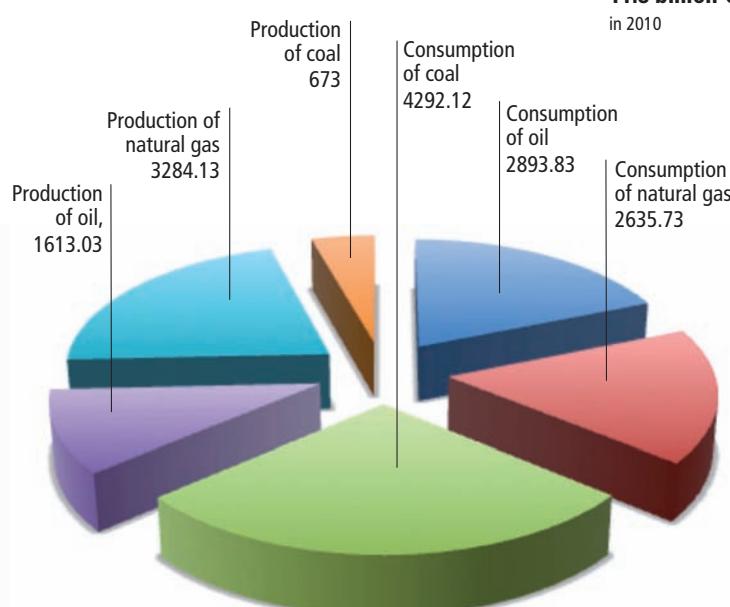
Production support

In 2010, federal production support was significant and benefited the exploration and extraction of oil, coal and gas production, the refining of oil, and the production of unconventional fuels (eg: from shale and tar sands); it included, for the most important ones (> 100 M\$):

- Temporary Expensing of Equipment for Refining of oil (760 M\$);
- Excess of Percentage over Cost depletion for coal production (416 M\$);
- Qualified Capital Expenditure in Alaska for natural gas (352 M\$);
- Excess of Percentage over Cost depletion for gas production (339 M\$);
- Expensing of Exploration and Development Costs for gas (241 M\$);
- Qualified Capital Expenditure in Alaska for oil (232.74 M\$);
- Excess of Percentage over Cost depletion for oil production (224 M\$);
- Alternative Fuels Production Credit for coal production (170 M\$);
- Expensing of Exploration and Development Costs for oil (159 M\$);
- Accelerated Depreciation of Distribution pipelines (120 M\$).

Fossil fuel support in the USA

Data Summary (in Millions of Euros)*



* Minimum estimates based on the OECD data

Consumption support

In 2010, consumption support benefited more largely R&D, farming and consumption of natural gas and oil for low-income households.

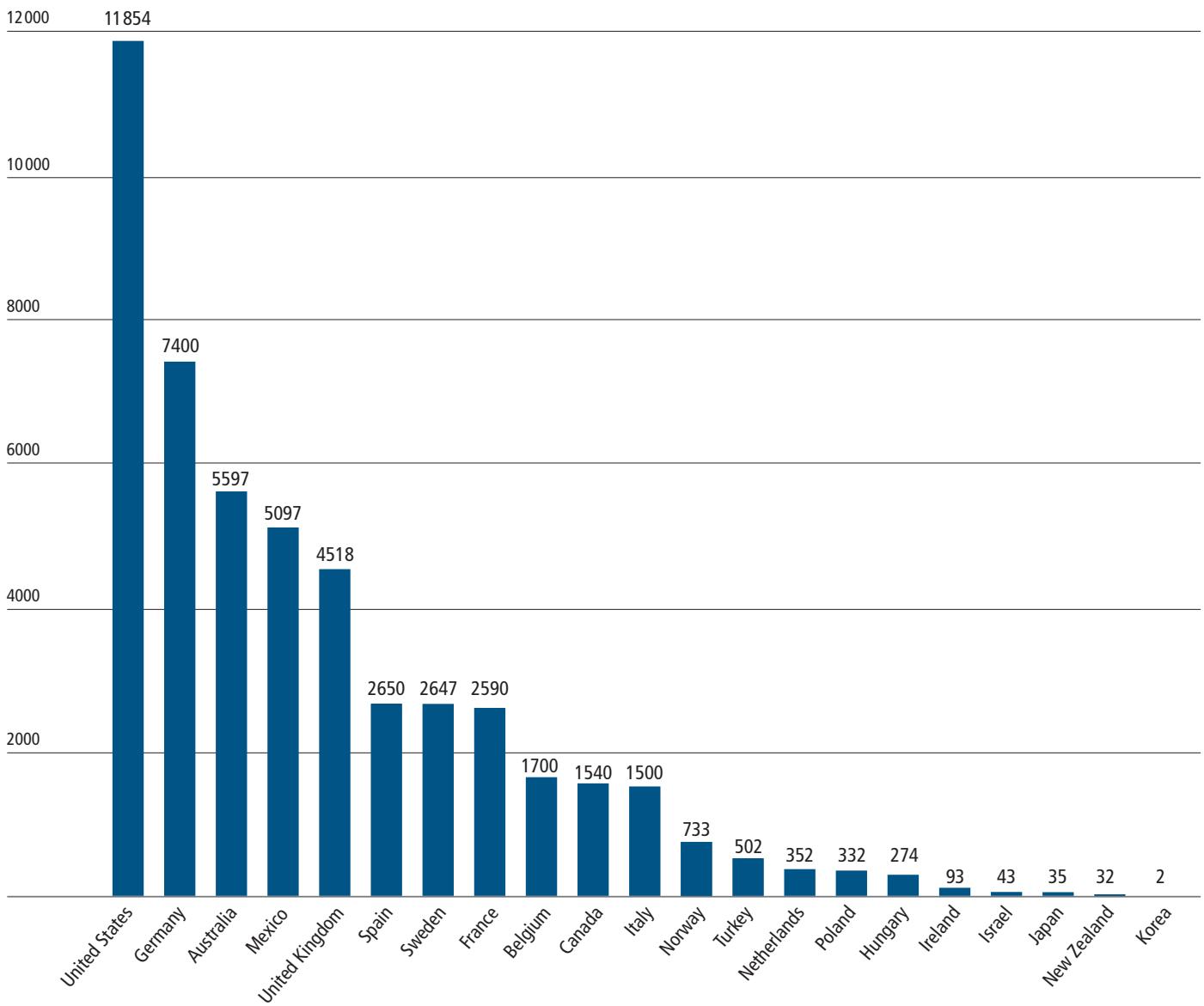
It included:

- Fossil Energy Research & Development for consumption of coal (3,905 M\$);
- Low-Income Home Energy Assistance Program for natural gas (2,879 M\$);
- Strategic Petroleum Reserve (1,077 M\$);
- Fuel Tax Exemptions to farmers (923 M\$);
- Low-Income Home Energy Assistance Program for oil (570 M\$);
- Sales Tax Expenditure in Texas (256 M\$);
- Credit for Investment in Clean Coal (240 M\$);
- Fossil Energy Research & Development for the consumption of natural gas (126 M\$);
- Amortisation of certain Pollution Control Facilities for coal (100 M\$).

Overview in 24 OECD countries

**Government support and subsidies to the production
and consumption of fossil fuels in 2010**

Millions of €



OECD Data 2010 (No data was available for Luxembourg, Iceland and Chile)



Yves Cochet, Green Member of the European Parliament

The report has been commissioned by Yves Cochet, who is a Green Member of the European Parliament. Before that, he was member of the French National Assembly during 14 years (1997-2011) and was also Minister of environment for one year (2001-2002). His main interest is Energy and the future of mankind. He published several books including "Sauver la Terre" (with Agnès Sinaï, Fayard, 2003), "Pétrole Apocalypse" (Fayard, 2005), "Anti-manuel d'écologie" (Bréal, 2009-), "Où va le monde?" (Mille et une nuits, 2012).

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The International Institute for Sustainable Development – Global Subsidies Initiative

The International Institute for Sustainable Development (IISD) Global Subsidies Initiative (GSI) is a leading organization working in the field of fossil fuel subsidies reform and the author was working in very close partnership with the GSI team.

For more information on fossil fuel subsidies reform in countries that could not be covered in this report, as well as more detailed policy analysis and research, you can find resources on line at: www.iisd.org/gsi/resources

Data sources

While the report is based on OECD data, the views expressed by the author should not be attributed to the OECD Secretariat or to any of the member countries of the OECD.

The full OECD report and the latest data on fossil fuel subsidies and other support can be found at:

www.oecd.org/iea-oecd-ffss

Peer review

The author would like to thank the following individuals for their useful feedback and advice on this report:

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Global Subsidies Initiative, IISD

Traci Romine

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Kim Carstensen

Co-founder of FairGreenSolutions

Doug Koplow

Head of Earth Track

Disclaimer

The content of the final report is the sole responsibility of the author and should not be attributed to any of the organizations that provided data, support or guidance during the preparation of the report.

About the author

Elise Buckle has been working in the field of sustainable development for ten years. Most recently, she worked for WWF France and WWF International as Energy and Climate Manager leading the policy and communications strategies leading to the UNFCCC COP15 in Copenhagen and to the G20 summit in Cannes in 2011. Her specialized areas of expertise include fossil subsidies reform, innovative finance for climate and development and green economy.

Before that, she was based at the International Union for Conservation of

Nature Headquarters, as a Global Programme Coordinator working together with the Regional Programmes based in Africa, Asia and Latin America.

She also worked for the Green Members at the European Parliament, focusing on climate and energy, chemicals legislation and GMOs.

She gained some experience and useful insight from private-sector multinational companies specialized in the energy sector while working as a consultant for Ernst & Young. She also worked overseas on disaster risk reduction for the United Nations in Latin America and for ACTED, a development NGO based in Central Asia.



**It is time to move beyond oil
and invest in renewable energy and
clean energy access for all.**

**Four key steps to translate commitments into
concrete action to eliminate fossil fuel subsidies:**

- 1 Define Plans to Phase out Fossil Fuel Subsidies by 2015
- 2 Increase Transparency and Consistency in Reporting of Subsidies
- 3 Incorporate assistance and safeguards to developing countries, as well as poor and vulnerable groups
- 4 Establish or identify an international body to facilitate and support Fossil Fuel Subsidy Reform

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