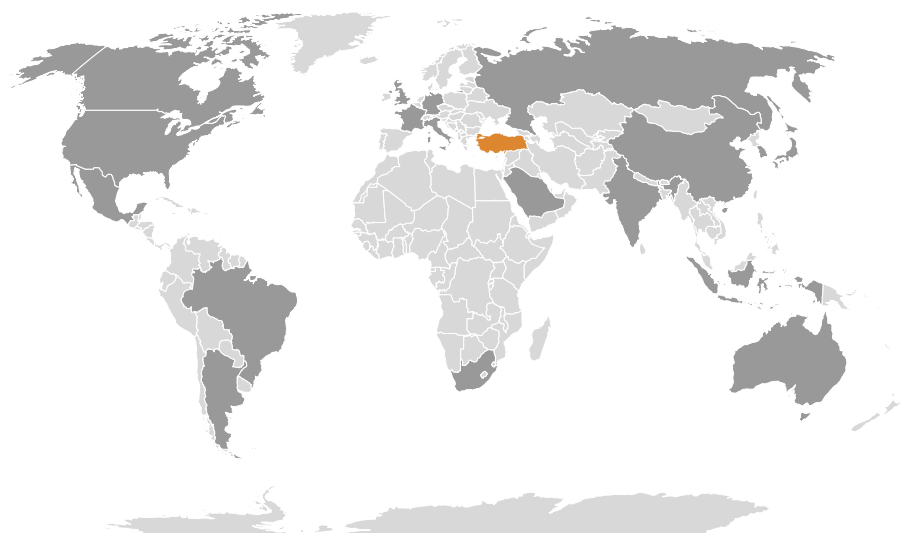




G20 subsidies to oil, gas and coal production: Turkey

Alex Doukas and Sevil Acar



Argentina
Australia
Brazil
Canada
China
France
Germany
India
Indonesia
Italy
Japan
Korea (Republic of)
Mexico
Russia
Saudi Arabia
South Africa
► **Turkey**
United Kingdom
United States

This country study is a background paper for the report **Empty promises: G20 subsidies to oil, gas and coal production** by Oil Change International (OCI) and the Overseas Development Institute (ODI). It builds on research completed for an earlier report **The fossil fuel bailout: G20 subsidies to oil, gas and coal exploration**, published in 2014.

For the purposes of this country study, production subsidies for fossil fuels include: national subsidies, investment by state-owned enterprises, and public finance. **A brief outline of the methodology can be found in this country summary.** The full report provides a more detailed discussion of the methodology used for the country studies and sets out the technical and transparency issues linked to the identification of G20 subsidies to oil, gas and coal production.

The authors welcome feedback on both this country study and the full report to improve the accuracy and transparency of information on G20 government support to fossil fuel production.

A Data Sheet with data sources and further information for Turkey's production subsidies is available at:
<http://www.odi.org/publications/10084-g20-subsidies-oil-gas-coal-production-turkey>

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Country Study
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Background

Turkey's importance in global energy markets is growing, with its role as a regional energy transit hub and as a growing energy consumer. Turkey sits between the oil and gas-rich former Soviet Union and countries of the Middle East, and European centres of energy demand. It hosts several major oil and gas pipelines, with plans for other major pipelines in development.

Domestically, Turkey's oil and gas reserves are limited, and Turkey relies on imports for almost all of the oil and gas it consumes. In 2014, Turkey produced enough petroleum and other liquids to account for about 9% of domestic consumption, while Turkey's dependence on natural gas imports is even higher, with demand for natural gas about 700 times greater than domestic production (EIA, 2015). This import dependency, coupled with recent large gas discoveries by nearby countries offshore in the east Mediterranean deep marine basin, has seen Turkey embark on an intensified oil and gas exploration programme.

Turkey is also dependent on imports of hard coal, importing around 90% of demand. It has significant proven reserves of lignite but limited reserves of hard coal. Overall, Turkey produced 76 million tons of coal in 2013, the 12th largest producer globally. Almost all of this production is lignite.

In the downstream energy industry, as of 2013, Turkey's electricity production was made up of 29% coal (hard coal 13.9% and lignite 14.5%), 44% natural gas, 24% hydropower, less than 1% oil, and 3% wind and other renewable sources (EIA, 2015). In 2013, Turkey generated 239 terawatt hours (TWh) of electricity, 70% more than in 2003, and 315% more than in 1990 (BNEF, 2014).

Turkey's current energy strategy involves a continued rapid expansion of coal-fired generation and coal production. As a result, Turkey is promoting the construction of more coal plants than any other OECD country – with more than 65 gigawatts (GW) of capacity proposed or under construction (Shearer et al., 2015). These plans assume that increased energy security for import-dependent Turkey will come from exploiting its domestic lignite resources, although there are questions about whether an expansion of coal power will increase Turkey's long-term energy security (Acar et al., 2015). Recently, several plants have been cancelled or put on hold due to difficulties in obtaining financing.

The expansion of coal in Turkey is particularly problematic since most of the domestic coal is lignite, the dirtiest type of coal: if all the currently planned coal plants were built, Turkey's greenhouse gas emissions would grow by an estimated 94% by 2030 (BNEF, 2014). While subsidies are flowing to support this coal-intensive approach, recent analysis indicates that it would cost almost the same (around \$400 billion) to build up and run Turkey's electricity generation to meet the growth in power

demand between now and 2030, whether the new capacity is generated with a mix of domestic lignite resources and hard coal or with a mix of clean energy technologies (WWF Turkey and BNEF, 2014).

National subsidies

A recent report by Oil Change International and 350.org found that subsidies to fossil fuel producers in Turkey totalled at least \$300 million to \$1.6 billion per year, depending on investments made in a given year, not including several subsidies for which no cost estimates are available (Doukas, 2015). Another study on coal subsidies (Acar et al., 2015) found that subsidies to Turkish coal producers and coal power plants alone totalled \$340 million in 2013, and this total did not include several known subsidies for which no cost estimates are available.

Table 1 builds on these estimates, but excludes a large subsidy (discussed further below) because it cannot be reliably quantified for 2013 and 2014 with available data. This analysis indicates that Turkey's subsidies to fossil fuel producers averaged at least \$626 million annually between 2013 and 2014. Given the number of subsidies for which data is not available, this estimate is likely to be highly conservative.

Turkey's subsidies for fossil fuel production appear to be a mix of tax breaks and direct spending.

The recently implemented incentives for coal and oil production under the New Investments Incentives Regime represent one of the largest single known subsidies that Turkey provides to fossil fuel producers. Beginning in January 2012, the government initiated the New Investment Incentives Regime providing subsidies across the board to investments, including VAT and customs duties exemptions. In addition, these new investment incentives define certain types of investments as 'strategic investments' and offer them a higher level of government subsidy. Oil and coal investments, including coal mining, coal exploration and investments in power generation using local coal are granted 'Region 5' incentives regardless of the region where the investment is located. Region 5 is one of the least developed regions in Turkey and thus, investments here receive higher levels of subsidy. The higher benefits represent a substantial subsidy for oil and coal investments. One calculation from the Global Subsidies Initiative, based on potential benefits to planned new coal power capacity, suggests the value of these subsidies to 2030 could be as high as \$11.6 billion (Acar et al., 2015). This calculation only applies to investments in new coal power plants and does not include the additional amount of subsidies afforded to oil and other coal investments. However, because available data does not allow for the level of subsidy from this regime to be tabulated for a given year, no portion of this subsidy is included in the total for national subsidies. If this subsidy

were included in the total and amortised over the lifetime of the subsidy, it could nearly double the level of average annual subsidy quantified above.

Another major form of subsidy is government support to state-owned fossil fuel producers. In 2013, the Turkish government provided \$500 million directly to the state-owned oil company, the Turkish Petroleum Corporation (TPAO), to support additional exploration activities. Likewise, for coal, capital injections from the Treasury to the Turkish hard coal enterprise, TKI, averaged \$299 million annually. In the case of hard coal, these capital injections are needed regularly, as the Turkish state-owned coal producer is currently producing coal at a loss (see ‘State-owned enterprise investment’). In the case of hard coal, there is also a link to consumer subsidies, as hard coal is distributed for free to poor households. This consumer subsidy, not included in the national subsidy estimates in this report, was valued at more than \$376 million in 2013 (from Acar et al., 2015).¹

A considerable portion of Turkey’s subsidies for fossil fuel production – nearly \$300 million – is targeted specifically at exploration for new fossil fuel reserves.

State-owned enterprise investment

Estimates are not included for fossil fuel investment by Turkey’s state-owned enterprises because, in some cases

data was not available. In other cases, where indicated below, estimates were not included to avoid double-counting where state-owned enterprise investments may be captured in the sections on national subsidies and public finance in this study.

Turkey’s main state-owned oil and gas exploration and production company is the Turkish Petroleum Corporation, TPAO. The Turkish government budgeted \$500 million to TPAO for exploration in 2013, and from 2003 to 2012, TPAO expanded exploration in Turkey, especially in the Black Sea and Mediterranean offshore (TPAO, 2013).

Through the Turkish government’s five-year plans (including the most recent: 2010–2014 and 2014–2018), Turkey’s Ministry of Energy and Natural Resources (MENR) places a particular focus on the expansion of TPAO’s exploration and production activities both within Turkey and overseas, including partnerships and acquisitions in Azerbaijan, Georgia, Iraq, Libya and Syria, and in the Aegean, Caspian, Mediterranean and Black Seas (MENR, 2010). TPAO’s domestic oil and gas production totalled 8.9 million barrels of oil equivalent (mboe) in 2014 (Rystad Energy, 2015).

TPAO’s capital expenditures of \$144 million in 2013 and \$159 million in 2014 (TPAO, 2014) are not counted towards the total of government support identified in this analysis, to avoid double-counting. Instead, the \$500 million capital injection from government for exploration by

Table 1: Turkey’s national subsidies to fossil fuel production, 2013–2014 (\$ million except where stated otherwise)

Subsidy	Subsidy type	Targeted energy source	Stage	2013 estimate	2014 estimate	Estimated annual average amount
Incentives for ‘strategic’ investments under New Investment Incentives Regime	Tax expenditure	Coal	Electricity production	N/A	N/A	N/A
Budget support for TPAO exploration	Direct spending	Oil and gas	Exploration	500	N/A	250
Capital injections from Treasury to Turkish hard coal industry	Direct spending	Coal	Production	299	N/A	299
Exploration activities through MENR	Direct spending	Coal	Exploration	17	17	17
Exploration activities through MENR	Direct spending	Oil	Exploration	17	17	17
Other national subsidies (in Data Sheets)	-	-	-	-	-	44
Total						
Total national subsidies (\$ m)				876	376	627
Total national subsidies (TRY m)						1,296

Sources and additional data are available in the Data Sheets that accompany each Country Study.

Notes: N/A indicates data was not publicly available at the time of publication. When data is not available for both 2013 and 2014, the two-year average is based on the data for one year only.

1 Differences in figures listed in Acar et al. (2015) stem from the use of different exchange rates. Exchange rates used for this analysis are the yearly average exchange rates available at www.irs.gov/Individuals/International-Taxpayers/Yearly-Average-Currency-Exchange-Rates

TPAO is included, as identified in the section on ‘National subsidies’. The available data for that figure is more precise than for TPAO’s capital expenditures.

Turkey’s state-owned oil and gas pipeline company is the BOTAS Petroleum Pipeline Corporation, which owns and operates major oil and natural gas pipelines, Turkey’s national gas grid, as well as the Marmara Ereğlisi Liquefied Natural Gas (LNG) Import Terminal. BOTAS recorded a net profit of \$785 million in 2013, and a net loss of \$258 million in 2014.

Turkey has two state-owned coal mining companies, Turkish Coal Operations Authority (TKI) and Turkish Hard Coal Enterprises (TTK) that explore for and produce lignite and hard coal in the country.

TTK has a de facto monopoly in hard coal production, processing and distribution, including distribution of imported hard coal. These state-owned enterprises set the domestic prices of hard coal and lignite. TTK’s coal production totalled 2.1 megatonne (Mt) in 2014 (TTK, 2014).

TKI is able to set prices that cover its costs due to the relatively low cost of lignite production in Turkey. By contrast, due to geological conditions, the mining of hard coal in Turkey is very labour-intensive. In 2008, TTK’s production costs averaged \$289 per tonne, whereas the price per tonne obtained in the domestic market ranged from \$50 to \$55 in power generation to \$180 in iron and steel production (WTO, 2012). As a result, TTK accumulated losses of around \$2.3 billion between 2000 and 2009, covered by capital injections from the Treasury (WTO, 2012), with such capital injections continuing regularly. These losses totalled \$255 million in 2014 (TTK, 2014).

Data on coal exploration expenditure by these companies was not publicly available, although the 2010–2014 MENR strategic plan states that TTK invested \$15 million (32.4 million Turkish Lira) in hard coal mining in 2009 (MENR, 2010). Since 2002, most of Turkey’s coal mines have been effectively privatised (see ‘Private companies’ section), thus coal production by TKI has decreased as a result. TKI’s coal production was 21.7 Mt in 2014, a drop from 30.6 Mt in 2013 (TKI, 2014). TKI recorded a net loss of \$19 million in 2014 (TKI, 2014).

While Turkey is in the process of largely privatising its electricity market, the state-owned Electricity Generation Company (EUAS), remains the largest producer of electricity in Turkey. This may change in coming years: private sector electricity producers represented 32% of the Turkish market in 2002, and had increased to a 75% share by 2015 (Republic of Turkey Prime Ministry Investment Support and Promotion Agency, 2015). EUAS was also a significant producer of coal, at 19 million Mt in 2014 (EUAS, 2014). EUAS recorded a net loss of \$1.1 billion in 2014, down from net profits of \$1.2 billion in 2013. The proportion of electricity generated from fossil fuels in 2014 was 67% of the total 70.5 GWh generated (EUAS 2013a, 2013b, 2014).

Public finance

Turkish public finance institutions and state-owned banks provided an annual average of \$1.3 billion in financing for fossil fuel production in 2013 and 2014.

Turkey is also the recipient of a significant volume of international public finance for fossil fuel production totalling nearly \$2 billion for oil, gas and coal projects in 2013 and 2014.

Domestic

Three of Turkey’s state-owned banks financed fossil fuel projects between 2013 and 2014. These were Türkiye Cumhuriyeti Ziraat Bankası A.Ş (Ziraat Bankası), Türkiye Halk Bankası A.Ş (Halkbank) and Türkiye Vakıflar Bankası (VakıfBank). Combined, these state banks provided an annual average of \$1 billion in financing for domestic coal projects – namely, financing to support the privatisation of existing coal-fired power plants (see Table 2).

Turkey provides domestic finance for fossil fuel production in a variety of other ways beyond finance from state-owned banks. Two examples include Turkey’s Mining Fund, which provides below market-rate loans for mining projects (WTO, 2008), and Turkey’s practice of providing government-backed guarantees for fossil fuel projects – including for both the construction of coal-fired power plants as well as guarantees (Acar et al., 2015; Doukas, 2015). However, details of these transactions are not publicly available, which makes it difficult to estimate the value of these investments and guarantees.

The sum of guarantees provided by the Turkish government may be very large, given the extent to which energy infrastructure investments in Turkey are usually covered by government guarantees – both for construction and, in the case of power projects, power purchase agreements – and combined with the rapid expansion and privatisation of coal-fired power in Turkey.

International

Turkey’s national development bank, Kalkınma Bankası, and Turkey’s export credit agency, Turk Eximbank, have financed fossil fuel production projects in the past, but there is no publicly available data that indicates they financed fossil fuel production between 2013 and 2014. Only one transaction was discovered: an investment by the state-owned bank VakıfBank, which provided \$500 million to the state-owned oil company TPAO for purchase of rights to a gas play in Azerbaijan. Combined with Turkey’s share of multilateral development bank finance, this equals a total of \$290 million in Turkey’s international public finance for coal each year (see Table 2).

Table 2: Turkey's public finance for fossil fuel production, 2013–2014 (\$ million except where stated otherwise)

Institution name	Coal mining	Coal-fired power	Upstream oil and gas	Oil and gas pipelines, power plants and refining	Total financing amount	Annual avg. fossil fuel finance
Domestic						
Halkbank	-	957	-	-	957	479
Ziraat Bankasi	-	957	-	-	957	479
Vakifbank	-	124	-	-	124	62
Subtotal domestic	-	2,039	-	-	2,039	1,019
International						
VakifBank	-	-	500	-	500	250
Multilateral development banks	-	11	19	50	80	40
Subtotal international	-	11	519	50	580	290
Total						
Total public finance (\$ m)						1,309
Total public finance (TRY m)						2,789

Sources and additional data are available in the Data Sheets that accompany each Country Study.

Private companies

Private upstream oil and gas companies

Private sector actors in Turkey's upstream oil and gas sector are dwarfed by state-owned TPAO in terms of production; TPAO produced more oil and gas than the top 10 private companies operating in Turkey combined in 2013 and 2014 (Table 3).

Private midstream/downstream oil and gas companies

Tüpraş is Turkey's only oil refining company, and operates four refineries in Turkey. Data was not available on subsidies that may be available to refiners in Turkey.

Private coal companies

Turkey's state-owned enterprise TTK oversees anthracite hard coal mines, and state-owned TKI oversees lignite mines. While Turkish state-owned enterprises own the vast majority of the country's coal mines, about 90% have been effectively privatised through a royalty tender scheme involving a subcontracting process beginning in 2002. This has resulted in a significant increase in coal production in Turkey (Kotsev, 2014). Under this system, TKI transfers

coal mine management to private companies, which in turn pay royalties to the Turkish government and provide coal to Turkey's state-owned Electricity Generation Company (EUAS) (Aksogan et al., 2014). The share of lignite produced by private enterprises is expected to increase to more than 40% beyond 2015, up from 28.6% in 2014 (TKI, 2014). Turkey's privatisation effort has created new subsidies that did not previously exist, including publicly funded remediation of coal mines prior to their transfer to private interests.

As described in the 'National subsidies' section, Turkey's upstream coal sector is the beneficiary of major subsidies, particularly in the form of regular capital injections from the Treasury to TTK.

Limited data is publicly available about the production and profit of specific coal-producing private companies operating within Turkey.

Private electricity companies (fossil fuel-based)

The unbundling of Turkey's electricity system has been under way since the 1980s. As part of this process, several laws have been passed that have partially privatised the Turkish electric sector, and the privatisation process continues (EIA, 2015).

Turkey's state-owned EUAS company still owns roughly 40% of electricity generation capacity in Turkey, with the remainder owned by independent power producers and firms given state concessions to build and operate power plants (EIA, 2015).

As with upstream coal production, Turkey's privatisation efforts have also led to new subsidies

for producers in the downstream coal industry. Coal-fired power plants benefit greatly from the 2012 New Investment Incentives Regime, described in the 'National Subsidies' section, while the government has also paid for the remediation of existing state-owned coal-fired power plants before the sale of those assets to private interests.

Table 3: Top private upstream oil and gas producers in Turkey, 2013–2014

Company	Headquarter country	Oil production (million barrels in country)		Gas production (billion cubic metres in country)		Sum of operating expenditure & capital expenditure, including exploration expenditure (\$ million)		Profitability (from country operations, as measured by free cash flow) (\$ million)	
		2013	2014	2013	2014	2013	2014	2013	2014
Perenco	France	3	2	<1	<1	90	68	126	99
TransAtlantic	Canada	1	1	<1	<1	61	153	40	-17
Tiway Oil	Norway	<1	<1	<1	<1	19	20	17	13
Valeura Energy	Canada	<1	<1	<1	<1	21	42	-5	-15
Guney Yildizi Petrol	Turkey	<1	<1	<1	<1	5	10	10	2
Petrako	Turkey	<1	<1	<1	<1	7	3	-2	3

Source: Rystad Energy, 2015.

Methodology

(for detailed methodology see Chapter 3 of main report)

This report compiles publicly available information on G20 subsidies to oil, gas and coal production across G20 countries in 2013 and 2014. It provides a baseline to track progress on the phase-out of such subsidies as part of a wider global energy transition. It uses the following terms and their definitions.

Production subsidies

Government support for fossil fuel production. For the purpose of this country study, production subsidies include national subsidies, investment by state-owned enterprises (SOEs) (domestic and international) and public finance (domestic and international) specifically for fossil fuel production.

Fossil fuel production

Production in the oil, gas and coal sectors. This includes access, exploration and appraisal, development, extraction, preparation, transport, plant construction and operation, distribution and decommissioning. Although subsidies for the consumption of fossil fuels can support their production, this report excludes such subsidies as well as subsidies for the consumption of fossil fuel-based electricity.

National subsidies

Direct spending, tax and duty exemptions and other mechanisms (such as forms of capacity markets) provided by national and sub-national governments to support fossil fuel production. Normally, the value assigned for a national subsidy is the number provided by the government's own sources, by the OECD, or by an independent research institution.

State-owned enterprise (SOE) investment

A SOE is a legal entity created by a government to undertake commercial activities on its behalf. SOEs can be wholly or partially owned by governments.

It is difficult to identify the specific component of SOE investment that constitutes a subsidy, given the limited publicly available information on government transfers to SOEs (and vice-versa), and on the distribution of investment within their vertically integrated structures. Therefore, this report provides data on total investment by SOEs in fossil fuel production (where this information is available from the company), which are presented separately from national subsidies.

For the purpose of this report, 100% of the support provided to fossil fuel production through domestic and international investment by an SOE is considered when a government holds >50% of the shares.

Public finance

Public finance includes the provision of grants, equity, loans, guarantees and insurance by majority government-owned financial institutions for domestic and international fossil fuel production. Public finance is provided through institutions such as national and multilateral development banks, export credit agencies and domestic banks that are majority state-owned.

The transparency of investment data for public finance institutions varies. Assessing the portion of total financing that constitutes a subsidy requires detailed information on the financing terms, the portion of finance that is based directly on public resources (rather than raised on capital markets) or that depends on the institutions' government-linked credit rating. Few of the institutions assessed allow public access to this information. Therefore, we report the total value of public finance from majority government-owned financial institutions for fossil fuel production separately from 'national subsidy' estimates.

For the purpose of this report, 100% of the support provided to fossil fuel production through domestic and international financing is considered when a government holds >50% of the shares in the bank or financial institution.

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