CZECH REPUBLIC: INVENTORY OF ESTIMATED BUDGETARY SUPPORT AND TAX EXPENDITURES FOR FOSSIL-FUELS

Energy resources and market structure

Fossil fuels accounted for about 80% of the Czech Republic's total primary energy supply (TPES) in 2010. Coal made up the largest share (42%), followed by oil (20%) and natural gas (17%). The rest of the energy demand was met by nuclear energy (17%) and combustible renewable energy and waste (7%). In 2010, coal accounted for over two-thirds of domestic energy production, followed by nuclear power (23%) and renewable energy (10%). Since the Czech Republic does not have any significant natural-gas and oil resources, it imports almost all of its petroleum products.

The Czech Republic is the third-largest net electricity exporter in the European Union, after France and Germany. It exports its electricity mainly to Austria, Germany and the Slovak Republic. In 2011, electricity was mostly generated from domestic coal (57%) and nuclear energy (32%). Small amounts of natural gas (1.3%) were used as a complement in multi-fired units and in peaking units. Roughly one quarter of the country's electricity produced from coal and almost 50% of heat in the Czech Republic is generated in CHP plants.

Coal played a big role in the energy mix in the past and it still accounts for the largest share of both the TPES and domestic energy production. In 1991, the government largely limited the coal-mining activity on environmental grounds, incentivising the biggest users of coal (i.e. the industry and building sectors) to switch away from coal to natural gas and electricity. Currently there is growing pressure on the government to revoke the decrees that limited coal mining, for both energy-security and economic reasons. There are substantial coal resources available – of bituminous coal in the southern part of Upper Silesia and of brown coal[1] in the Northern Bohemian basin – that could potentially be exploited. Six coal mines are still in operation: one bituminous coal mine, *Ostravsko-Karvinské Doly* (OKD), and five lignite mines. The largest coal consumer is ČEZ, the partly state-owned operator of all nuclear plants and most of the coal-fired power plants in the Czech Republic, which supplies about 70% of the country's total demand for electricity. ČEZ is the owner of the lignite mining company Severočeské uhelné doly, a.s., which produces about 50% of lignite in the Czech Republic. Since ČEZ and Severočeské uhelné doly, a.s. signed long-term contracts for energy supply, the market for lignite in the Czech Republic cannot be considered competitive.

The use of renewable energy resources is being constantly increased — the share of renewable-energy resources in TPES increased from only 2% in 2000 to about 6% in 2010. Czech renewable-energy policy is driven

[1] Due to the fact that brown coal generally includes lignite, most countries do not make a distinction between lignite and brown coal and use these two terms interchangeably in their documentation. The Czech Republic is one of very few countries that apply the distinction between brown coal and lignite. Most of the lignite resources can be found in the Vienna Basin in the south-western part of the country. For the purpose of the Inventory, estimates pertaining to both brown coal and lignite will be classified as estimates pertaining to brown coal.

by both the EU Directive 2009/28/EC[2] and the government's efforts to increase energy security through increasing both the share of domestic energy supply in total energy consumption and the diversification of energy mix. In 2004, the Czech government set its own national targets to be achieved by 2030: (i) 16% to 17% share of renewable-energy sources in gross electricity generation and (ii) 15% to 16% share of renewable-energy sources in TPES.[3] In order to reach the targets, the Czech Republic supports electricity generation from renewable energy.[4]

The Czech Republic imports the natural gas it consumes from Russia (63%), Norway (3%) and the European Union (34%). Natural gas from Norway was first imported in the late 1990s in order to decrease the country's complete reliance on imports from Russia. Most of its natural-gas imports still come from Russia as agreed under long-term contracts with Gazprom that run until 2035. The drop in imports from Norway and the steep increase of imports mainly from Germany, especially in 2011, was caused by the increase of natural-gas purchases by traders in the spot market where natural gas was cheaper than when sold under long-term contracts, with an exception of high-demand peak prices in winter. The Czech Republic transposed the second EU Directive 2003/55/EC on the liberalisation of the natural-gas market in 2005, which resulted in a gradual unbundling of each of the vertically integrated companies. The liberalisation continued by transposition of the Third Gas Directive 2009/73/ES in 2011. The biggest Czech importer of natural gas, RWE Transgas, was split into a transmission and a system operator, NET4GAS and RWE Gas Storage. The remaining part of RWE Transgas deals with the natural gas wholesale market. In 2011, RWE Transgas was responsible for 76% of all natural gas imports to the Czech Republic. Three storage-system operators own and operate eight gas-storage facilities. RWE Gas Storage operates six of those storage facilities, while MND and SPP Bohemia operate one storage facility each.

Almost all of the demand for oil in the Czech Republic is met by imports of crude oil, mainly from Russia (over two-thirds) and Azerbaijan (over a quarter). The Czech Republic produces small amounts of oil in Southern Moravia. Moravské Naftové Doly operates all of the domestic crude oil production. MERO operates crude oil pipelines and the central crude storage terminal, while ČEPRO operates the refined products pipelines and the products storage terminals. Both companies are state-owned, as the Czech Republic considers them to be of strategic importance. As for oil refining, it is in the hands of international oil companies Unipetrol, ENI and Shell. The Polish PKN Orlen Group is the main shareholder of Unipetrol, through which it owns 51% of shares in the Czech Refinery a.s. and 100% shares in Paramo Refinery. Eni owns 32.7 % in Czech Refinery a.s. while Shell owns the remaining 16.3%.

Electricity market liberalisation was conducted in line with the EU requirements. From 2005 onwards, all industrial consumers have been able to choose their supplier. In 2006, this rule was extended to all consumers.

Since 2004, the country's energy-policy framework has been outlined in the State Energy Concept (SEC). The new SEC, drafted in 2010, has not been approved at the time of writing. The SEC points to the security of energy supply and the maintenance of the Czech Republic as a net electricity exporter as the two main objectives of the country's energy policy. The document stipulates that these objectives are to be achieved through a diversified energy mix, an optimal use of domestic resources (mainly coal, uranium, biomass and waste) and expanding Czech nuclear capacity.

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[2] The mandatory targets set out by the Directive 2009/71/EC to be achieved by the Czech Republic by 2020 are (i) 13% share of renewable-energy sources in final energy consumption and (ii) 10% share of renewable energy in the transport-sector energy consumption.

[3] The plan from 2004 also set out an intermediate domestic target of 6% share of renewable-energy sources in TPES by 2010, which the Czech Republic successfully met.

[4] In 2010, the Czech Republic slashed its generous feed-in tariffs for electricity generated using solar-photovoltaic technology.

Prices, taxes and support mechanisms

The Energy Regulatory Office (ERO) regulates the energy sector while the State Energy Inspection oversees compliance. Coal prices are determined by the market, as are the end-user prices of natural gas. Some of the components of the natural gas and electricity prices, however, are regulated (e.g. the transmission and distribution prices are set by ERO for every calendar year).

A VAT rate of 20% is levied on all types of energy consumption and all fuels are subject to an excise or energy tax. Some specific uses and users of fuel are fully or partially exempt from the excise or energy tax (notably biofuels from renewable sources, fuels used in shipping, electricity production, combined heat and power generation, aviation and agriculture). Electricity is also subject to the energy tax, although some specific uses of electricity (e.g. electricity used for cargo and transport of passengers by rail, metro, trams and trolley buses) and electricity produced from renewable energy are exempt from the tax.

Until 1991, the state heavily supported its coal-mining industry. After that year, the only subsidies that remained were those intended to address the social and environmental impacts of mining. Since 2003, the Czech Republic had been following the EC Council Regulation 1407/2002, which stipulates that state aid to coal mining can only be provided under certain conditions. Since 2011, the Czech Republic has been following the Council Decision 2010/787/EC, which only allows state aid for the purpose of mine closure, the treatment of health damage to miners, and addressing the environmental liabilities related to past mining. Payments are made to two state-owned companies, Diamo and Palivový Kombinát Ústí, which are responsible for dealing with damages caused by past uranium- and coal-mining activity.

About half of the total R&D funding in the Czech Republic is provided by the state. In 2007, the Czech government started increasing the annual budget allocations to R&D. Public expenditure on R&D grew from CZK 20 billion that year to CZK 26.8 billion in 2010. Innovation in the field of energy production, distribution and efficiency accounts for roughly a third of this spending, but only a very small amount relates to fossil fuels (1% in 2007).

Data documentation

General notes

The fiscal year in the Czech Republic coincides with the calendar year.

Consumer support estimates were provided by the Ministry of Environment, the Ministry of Finance and the Ministry of Industry and Trade. Measures pertaining to restructuring of coal mining and eliminating the negative environmental consequences of mining are quoted from a study included in the *Mineral Commodity Summaries of the Czech Republic (2010)* that was published by the Ministry of Industry and Trade: “Eliminating negative consequences of mining in the Czech Republic” — main methods and financial resources” (Kaštovský and Platzek, 2010).

Consumer Support Estimate

Excise Tax Refund for Diesel Used in Agriculture (data for 2000-)

Diesel used in agriculture is subject to a partial refund of the excise tax, as stipulated by the Directive 2003/96/EC.

At the time of writing, a draft suggesting a decrease of tax refund for diesel used for agricultural purposes in 2013 and complete abolition of the tax refund from 2014 have been discussed as a part of austerity measures.

Estimates were provided by the Ministry of Finance.

Sources: Ministry of Finance.

Tag: CZE_te_01

Energy-Tax Exemption for Certain Uses of Natural Gas (data for 2008-)

The following uses of natural gas are exempt from the energy-tax payments: by households for heating purposes, for combined heat and electricity production if that heat is supplied to households, for non-recreational transport by boat, for certain mineralogical and metallurgical processes, for uses other than as motor fuel or heating fuel the energy tax on natural gas. Also, a reduced tax rate applies to compressed natural gas and LNG used as transport fuels. Rebates for the energy tax on natural gas are offered to all persons with diplomatic immunity.

Energy-tax exemption for natural gas used by households for heating purposes is planned to be abolished in 2014.

Estimates were provided by the Ministry of Finance.

Sources: Ministry of Finance.

Tag: CZE_te_02

Energy-Tax Exemption for Certain Uses of Solid Fuels (data for 2008-)

The following uses of solid fuels are exempt from the energy-tax payments: for combined heat and electricity production if that heat is supplied to households, for non-recreational transport by boat, for certain chemical, mineralogical and metallurgical processes, for coke production, for uses other than as motor fuel or heating fuel are exempt from the energy tax on solid fuels. Also, rebates for the energy tax on solid fuels are offered to all persons with diplomatic immunity.

Energy tax on solid fuels applies to hard coal, brown coal, coke and semi-coke obtained from either hard coal or brown coal. There are also other fuels to which the energy tax on solid fuels applies, but their contribution to the tax revenues and expenditures is minor.

Estimates were provided by the Ministry of Finance. We allocated all payments to brown coal.

Sources: Ministry of Finance.

Tag: CZE_te_03

Energy-Tax Refund for Oil Used for Heating (data for 2008-)

Consumers of mineral oil used for heat production can obtain partial refunds of their energy-tax payments.

Estimates were provided by the Ministry of Finance. We allocated all payments to light fuel oil.

Sources: Customs Administration of the Czech Republic, Ministry of Finance.

Tag: CZE_te_04

General Services Support Estimate

Since 1991, the Czech Republic has not provided any measures supporting production or consumption of coal. However, the state has an obligation to deal with the social consequences of restructuring the mining sector, the health consequences for the miners and the negative consequences of past mining activity. The state transferred these obligations to two state-owned enterprises, DIAMO, s.p. and Palivový kombinát Ústí, s.p., which acquired the assets of the closed mining companies. These state-owned enterprises receive state subsidies for the activities that they carry out. Since measures financed through these subsidy payments do not increase current production or consumption of coal, they are all allocated to the GSSE.

Restructuring of coal mining and eliminating the negative environmental consequences of mining are conducted in several different ways and using several different financial resources (Kaštovský and Platzek, 2010). Apart from the measures financed by the state aid that are described below (see CZE_dt_01, CZE_dt_02, CZE_dt_03, CZE_dt_04 and CZE_dt_05), since 1994 the mining companies have been obliged to set up two reserves: a financial reserve for remediation and reclamation of all plots of land affected by mining, and a financial reserve for alleviating damage caused by mining.

Compensation of Municipalities Affected by Mining Funded from Royalties on Mining Leases (data for 1993-2009)

All mining companies in the Czech Republic are required to pay royalties on mining leases and royalties on extracted reserved minerals. Funds collected this way are earmarked for compensating those municipalities that have been adversely affected by mining activity (CZE_dt_01 and CZE_dt_02).

Mining companies have an obligation to pay annual royalties on mining leases, as stipulated in the Mining Act (Act No. 44/1988 Coll.). The amount of royalties on mining leases is paid to the relevant Regional Mining Authority per hectare of land leased — the amount paid per hectare depends on the environmental protection level of the leased area, the type of activity conducted by the mining company and the environmental impact of this activity. Generally, royalties on mining leases may vary from CZK 100 to CZK 1 000 per hectare. All funds collected in this way are given to those municipalities on the territory of which the mining lease is located. This way, in the period between 1993 and 2009 the mining companies paid out about CZK 363 million to the municipalities where their mines were located.

We use production data from the IEA's Energy Balances to allocate the annual amounts reported in budget documents to the various types of coal concerned.

Sources: IEA; Kaštovský and Platzek (2010).

Tag: CZE_dt_01

Remediation of Environmental Damages Caused by Mining Funded from Royalties on Coal Extraction (data for 1993-2009)

Mining companies have an obligation to pay royalties on minerals they extract, as stipulated by the Act No. 541/1991 Coll. These royalties are collected by the Regional Mining Authority and they cannot exceed 10% of the market price of extracted minerals.

In the period between 1993 and 1999, the Regional Mining Authority transferred 50% of the collected revenue to the state budget of the Czech Republic and 50% to the budget of those municipalities on the territory of which mining leases are located. If a given mining lease is located on the territory of a few mining municipalities, the Regional Mining Authority distributes the funding according to the share in mining, similarly to the royalties on a mining lease. As stipulated by the Amendment No. 10/1993 Coll. of the Mining Act, 50% of the royalties transferred to the state budget (i.e. 25% of the total revenue collected from royalties on extracted minerals) had to be earmarked for the purpose of remediation of environmental damages caused by the mining of reserved deposits.

The Act No. 366/2000 Coll. changed both the proportions of the revenues from royalties on extraction given to the state and to the municipalities affected by mining and the amount of royalties earmarked for the purpose of remediating environmental damages — since 2000, the state receives 25% of the revenues from royalties (the remaining 75% is given to the municipalities on the territory of which there is mining activity), all of which must be spent on remediation of environmental damages caused by mining activity.

Only those estimates that are explicitly earmarked for remediation of environmental damages are considered: in the period 1993-2000 they accounted for 50% and in the period 2001-2009 they accounted for 25% of the total payments.

We use production data from the IEA's Energy Balances to allocate the annual amounts reported in budget documents to the various types of coal concerned.

Sources: IEA, Kaštovský and Platzek (2010).

Tag: CZE_dt_02

Restructuring of the Coal Mining Industry (data for 1992-2009)

A plan to phase out coal-mining activities in uneconomic underground mines and quarries in the Czech Republic was announced at the end of 1992. The government announced a plan of restructuring the coal-mining industry in Government Resolution No. 691/199, in which it committed to state-budget financing of the technical work related to closing mines, rectifying the consequences of past mining activity and covering the social costs of phasing out mining activity, such as covering health benefits for miners.

Annual payments for the years from 2004 until 2009 are aggregated, i.e. the estimates provided represent total state expenditure on the restructuring of the coal-mining, ore-mining and uranium-mining industries. Since before that date coal mining accounted for between 50% and 70% of these total payments, we allocate 50% of the total payments to coal mining.

We use production data from the IEA's Energy Balances to allocate the annual amounts reported in budget documents to the various types of coal concerned.

Sources: IEA, Kaštovský and Platzek (2010).

Tag: CZE_dt_03

Elimination of Past Environmental Damages (data for 2009)

In 2006, the Ministry of Finance of the Czech Republic decided to use revenues from privatisation for financing the elimination of past environmental damages that had arisen due to mining activity that had taken place before privatisation of the Czech mines. As of the end of 2009, four coal-mining entities had drawn financial resources from the National Property Fund of the Czech Republic in order to deal with past environmental damages: Diamo (a state-owned company responsible for dealing with damages caused by past uranium- and coal-mining activity), OKD, a.s. (a bituminous-coal mine), Sokolovská uhelná, a.s. and Severočeské doly, a.s. (both are lignite mines).

While the payment for Diamo cannot be allocated, the payment for OKD is allocated to hard coal and payments for Sokolovská uhelná and Severočeské doly are allocated to brown coal.

Sources: Kaštovský and Platzek (2010).

Tag: CZE_dt_04

Programmes Financing Remediation of Ecological Damage Caused Prior to 1994 (data for 2009)

As mining companies in the Czech Republic have been obliged to generate financial reserves for remediation and reclamation of areas affected by mining only since 1994, the state took up the responsibility to finance remediation of those ecological damages that had arisen before that date. For this purpose, the state earmarked over CZK 37 billion or EUR 1.5 billion from privatisation revenues and the profits of public enterprises for the following projects:

(i) Dealing with ecological damage created prior to privatisation of brown coal mining companies in the Ústí nad Labem Region and Karlovy Vary Region (CZK 15 billion — allocated to brown coal);

(ii) Dealing with ecological damage caused by mineral mining, primarily underground mining of bituminous coal in the Moravia and Silesia Region (CZK 20 billion — allocated to hard coal);

(iii) Dealing with reducing the impacts caused by the termination of coal mining in the Kladno Region (CZK 1 billion — allocated to hard coal);

(iv) Eliminating ecological burdens caused by the exploration and extraction of crude oil and natural gas in the South Moravian Region (CZK 1.177 billion — allocated to crude oil and natural gas).

Sources: Kaštovský and Platzek (2010).

Tag: CZE_dt_05

Sources

Policies or transfers

Vít Kaštovský, Platzek, Adolf (2010), "Eliminating negative consequences of mining in the Czech Republic — main methods and financial resources", Ministry of Industry and Trade, Mineral Commodity Summaries of the Czech Republic (2010), Czech Geological Survey — Geofond, Available at: *www.geofond.cz*.

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