

# Czech Republic

---

## Key issues

Coupling of the day-ahead markets between the Czech Republic, Slovakia and Hungary improved price stability in the region. Market coupling with the rest of European regions remains a priority.

Further investment in cross-border interconnectors will increase market competition and energy security. Unscheduled power flows from Germany remain a big concern for the Czech Republic as they risk the safe operation of its transmission networks.

The Czech Republic should reinforce its power distribution and transmission network in order to integrate power generating facilities, including dispersed renewables.

The major concerns regarding security of supply relate to depleting lignite reserves, an ageing electricity infrastructure (including the generation portfolio) and high networks costs, which influence the electricity prices for end-users.

## 1. General Overview

---

Energy consumption in 2012 (42.78 Mtoe) was based largely on fossil fuels, notably coal (with a share of 40% in the energy consumption mix). The renewable energy share is increasing and has reached 11,2%<sup>102</sup> in 2012, mainly due to solar and hydro contributions (8%<sup>103</sup>). The Czech Republic was above its 2011/2012 interim trajectory and is on track to achieve its national 2020 RES target of 13% by 2020. The power generation mix in 2011 (87.5 TWh) was dominated by solid fuels. Cogeneration<sup>104</sup> provided for 12.8% of the total electricity generation in 2011, falling slightly comparing to 2010.

---

<sup>102</sup> Eurostat.

<sup>103</sup> Eurostat.

<sup>104</sup> The share of electricity produced in combined heat and power plants (CHP).

Figure 1: Gross inland consumption 2008 – 2012 (source: Eurostat)

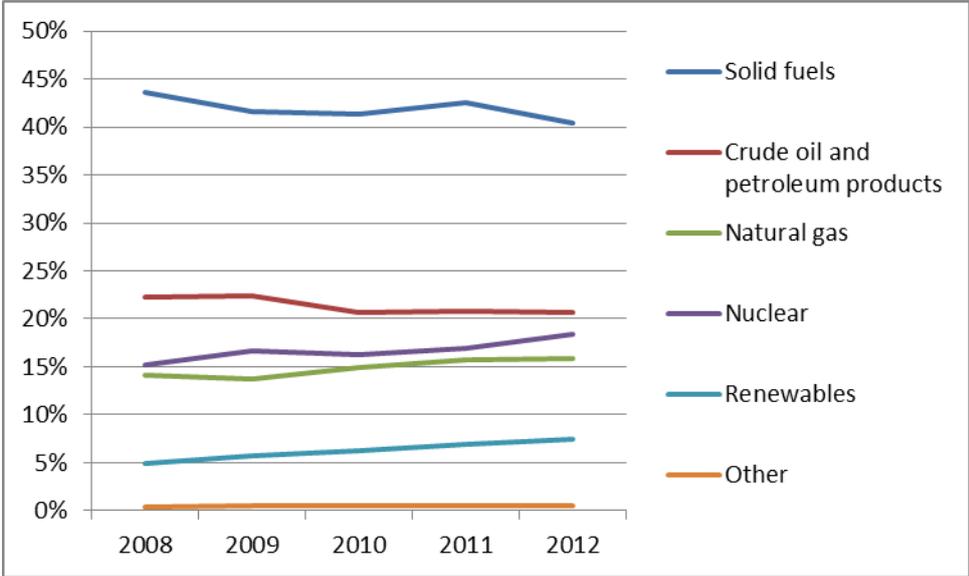
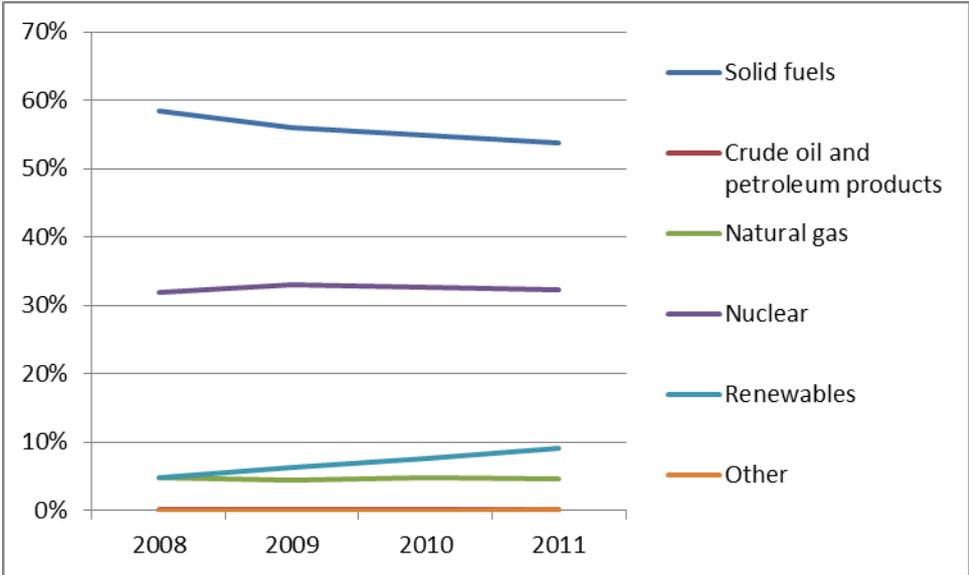


Figure 2: Gross electricity generation 2008 – 2011 (source: EU Energy in Figures – Pocketbook 2012 and 2013)



## 2. Regulatory framework

### General

The Czech Republic has introduced amendments to their incentive scheme for renewables<sup>105</sup> and the support for all new installations except small hydro ceased at the end of 2013. This has slowed down the development of the sector which had increased rapidly in the previous period.

### National Energy Regulator

The Energy Regulatory Office ("Energetický regulační úřad", ERO) is responsible for energy regulation in the Czech Republic. In 2012/13, ERO employed 178 staff. The 2012 budget of EUR 8 million doubled compared to 2011<sup>106</sup>, due to the amendment to the Energy Act which markedly reinforced the ERO's powers, in particular those of supervision, oversight penalisation and remedial measures in cases of violations of legal regulations and in the enforcement of sanctions.

### Unbundling

In 2012, ERO certified the ownership unbundling of the electricity TSO, ČEPS. In the gas sector, at the beginning of 2013 ERO issued a certification decision concerning NET4GAS, which opted for the status of Independent Operator (ITO). Gas distribution companies are legally unbundled from the TSO, gas trading companies and gas storage operators.

## 3. Wholesale markets

### Electricity

The concentration of wholesale power generation remains very high. ČEZ is the dominant electricity generator with a market share close to 80%<sup>107</sup>.

In the Czech Republic, electricity is traded at Prague-based Power Exchange Central Europe (PXE), and in spot markets (day-ahead and intraday) organised by OTE, a.s. (a joint stock company established in 2001 which acts as the Czech electricity and gas market operator). In 2012, a total of 112 TWh was traded under bilateral contracts registered in the OTE system with an additional 11 TWh traded in the organised spot markets. A total of 19,8 TWh was traded at the PXE in future energy exchange products (a market volume of EUR 944 million).

The market coupling of the Czech, Slovak and Hungarian day-ahead markets started in September 2012 and has been successful so far. The price convergence between the countries reached 76%<sup>108</sup> after the launch of the market coupling. Cross-border capacity allocation for power transmission for German, Polish and Austrian borders takes place through Central Allocation Office, GmbH. Capacity allocation with Slovakia is based on long-term nominations. The average Czech day ahead wholesale price in 2012 was approximately EUR 43 /MWh for base load power (a decrease compared to 2011).

---

<sup>105</sup> Act no. 165/2012 on promoted energy sources and amendments to certain laws.

<sup>106</sup> [http://www.eru.cz/dias-read\\_article.php?articleId=51](http://www.eru.cz/dias-read_article.php?articleId=51).

<sup>107</sup> Eurostat.

<sup>108</sup> OTE's own estimations.

## Gas

In 2012, 25 entities imported gas into the Czech Republic. The largest entities importing gas were RWE Transgas, WINGAS GmbH & Co. KG, and VNG Energie. The volume of natural gas imports reached 6.9 Mtoe<sup>109</sup> in 2012. It was bought mostly from Russia and Norway under long-term contracts, but also at European energy exchanges, or from domestic resellers. The average price for gas imported from Russia was EUR 37.4/MWh in the third quarter of 2012<sup>110</sup>.

Trading activity on the Czech virtual trading point increased significantly in 2012 and reached 107 TWh in bilateral contracts (compared to 0,258 TWh in 2011). The increase was due to new brokering activities of three companies: 42 Financial Services (42FS), Tradition Financial Services (TFS) and ICAP.<sup>111</sup> In 2012, a bi-directional transmission between the Czech virtual trading point and Slovakia was enabled.

## 4. Retail markets

### Electricity

Market concentration remains very high, but the dominant position of three main power suppliers, ČEZ, E.ON and PRE is gradually decreasing. The three companies covered close to 70% of the market in 2012 down from 85% in 2011.<sup>112</sup>

Czech power prices are fully liberalized. The supplier switching ratio in 2012 was relatively high (7.96%<sup>113</sup>).

Between 2008 and 2012, power prices decreased for industrial consumers and increased for household consumers<sup>114</sup>.

---

<sup>109</sup> Eurostat.

<sup>110</sup> [http://ec.europa.eu/energy/observatory/gas/doc/qregam\\_2012\\_quarter2\\_quarter3.pdf](http://ec.europa.eu/energy/observatory/gas/doc/qregam_2012_quarter2_quarter3.pdf).

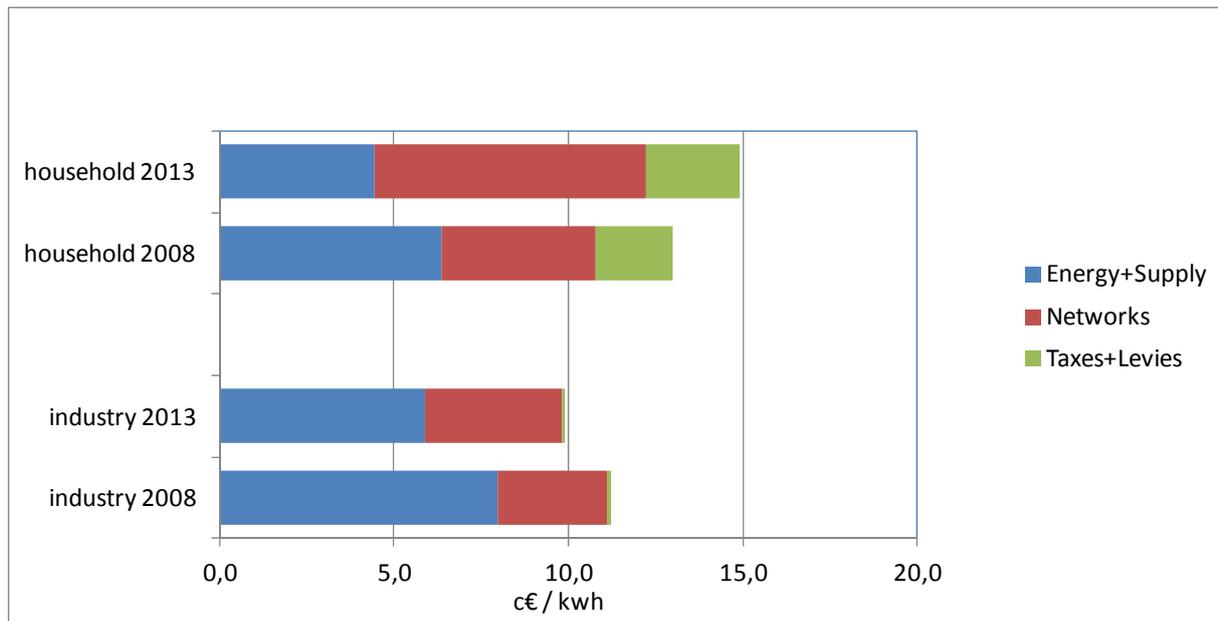
<sup>111</sup> <http://www.icis.com/resources/news/2012/12/28/9627306/year-in-review-czech-natural-gas-market/>.

<sup>112</sup> Overall, in 2011 there were 356 power retailers in the Czech Republic.

<sup>113</sup> ACER/CEER, Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2012, November 2013.

<sup>114</sup> Eurostat.

Figure 3: Electricity price change by component 2008 – 2013 (source: Eurostat, energy statistics)



The network component of electric energy prices for households has increased since 2010 (figure 3). The levies related to the share of renewables in electricity consumption grew from less than 2% of the total energy bill for households in 2009 to more than 9% in 2012.

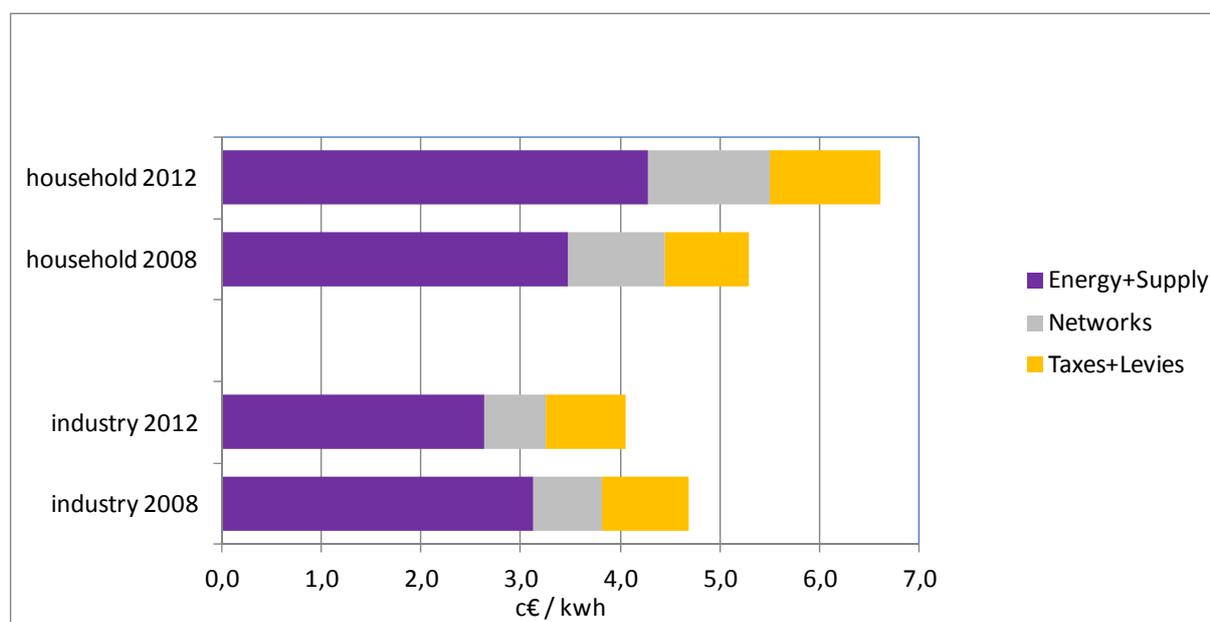
### Gas

Competition in the retail supply market is increasing. In 2012, there were 59 active gas suppliers in the retail market, 10 more than in 2011<sup>115</sup>. Nevertheless concentration remains high. ERO reports that the retail market may saturate if the number of traders continues to grow<sup>116</sup>. In 2012, gas was distributed by six regional companies.

<sup>115</sup> Some of the suppliers offered their services only during a part of the year, whereas others offered their services to certain customer categories. Source: Eurostat, gas market indicators, number of retailers selling natural gas to final customers, 2003-2012.

<sup>116</sup> Due to the high level of competition, motivation for newcomers may be limited.

Figure 4: Natural gas price change by component 2008 – 2012 (source: EC, EPCR metadata)



Gas prices are generally determined by long-term contracts but a growing number of suppliers offer prices reflecting spot market prices. Gas prices for industrial consumers decreased between 2008 and 2012 as network and tax related components of natural gas prices for industry decreased (figure 4). In the first part of 2013, gas prices for household consumers reached EUR 0.064/kWh. In the same period, gas prices for industrial consumers reached EUR 0.034 EUR/kWh.<sup>117</sup>

In the gas sector, switching rates have remained stable in the past few years, at around 12% for both the whole retail market and households<sup>118</sup>.

### Smart meters

The outcome of the cost benefit analysis of smart meter deployment, undertaken by the Czech government, was negative. Consequently, a formal decision was made not to proceed with the roll-out of smart metering in both the electricity and gas sectors<sup>119</sup>. In 2014 the European Commission formally requested the Czech Republic to ensure that final energy consumers are provided with individual meters<sup>120</sup>.

## 5. Consumers

Retail gas market is assessed below the EU average (72.0 points compared to 74.1<sup>121</sup>) and ranks 19<sup>th</sup> EU-wide. The market is also assessed below the average of 31 domestic services markets (24<sup>th</sup> position). In particular, trust in providers is 4<sup>th</sup> lowest in the EU. However, switching rates are the second highest in the EU while the ease of switching receives the fourth highest score. Overall, this

<sup>117</sup> Eurostat.

<sup>118</sup> CEER database.

<sup>119</sup> [http://www.ceer.eu/portal/page/portal/EER\\_HOME/EER\\_PUBLICATIONS/CEER\\_PAPERS/Customers/2013/7-1\\_C13-RMF-54-05-Status\\_Review\\_of\\_Regulatory\\_Aspects\\_of\\_Smart\\_Metering\\_FOR\\_PUBLICATION.pdf](http://www.ceer.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Customers/2013/7-1_C13-RMF-54-05-Status_Review_of_Regulatory_Aspects_of_Smart_Metering_FOR_PUBLICATION.pdf)

<sup>120</sup> <http://ec.europa.eu/energy/newsletter/20140205-newsletter.htm>.

<sup>121</sup> However the difference is not statistically significant.

market has remained stable compared to 2012. Consumer assessment of the electricity retail market is above the EU average (72.9 points compared to 72.0<sup>122</sup>), corresponding to 15<sup>th</sup> place. It increased by 3 points between 2012 and 2013, in particular with regard to overall consumer satisfaction, choice of providers, actual switching and ease of switching. The two last components have the 5<sup>th</sup> highest score in the EU.<sup>123</sup>

Czech consumers no longer only switch from vertically integrated incumbents to new suppliers, but also between suppliers to obtain the lowest price. The total number of switches in the electricity sector was 472,000 in 2012 (from that 382,000 households) and in the gas sector it was 348,000 (from that 316,000 households).

Consumers can access a tool providing information on electricity suppliers on ERO's website<sup>124</sup>. Consumers may address their complaints, questions, and suggestions to the Consumer Protection Unit operating with ERO. The most frequent subject of complaints concern unfair commercial practises, switching and billing. Czech law does not define a "vulnerable customer"<sup>125</sup>. The amendment of the Energy Act is currently under preparation and non-economic support should be foreseen in it.

## 6. Infrastructure

The Czech authorities should ensure a proper and timely adoption of the measures stemming from the TEN-E Regulation, including the establishment of the one-stop-shop for Projects of Common Interest (PCIs) (due by 16 November 2013), and other measures foreseen for 2014 and 2015, including the publication of the manual on the permit granting process for project promoters, and the adoption of legislative and non-legislative measures streamlining the environmental assessment procedures.

### Electricity

The increasing share of renewables in the energy mix of the Czech Republic and other countries in the region, as well as the foreseen increasing demand (up of about 200 MW per year depending on scenarios), call for an ambitious investment in the Czech energy infrastructure.

Several Projects of Common Interest (five in total) being developed in the Czech Republic aim to increase capacity at the country's North-Western and Southern borders. Pending investments also include the upgrade of the transmission network to connect the new and modernised power plants. Improvement of distribution infrastructure is needed to enable the expansion of dispersed renewables. There is an on-going replacement and expansion project for the 400 kV grid. It is planned to be completed by 2030, but investment is slow and lead times are long.

---

<sup>122</sup> However the difference is not statistically significant.

<sup>123</sup> 10th Consumer Markets Scoreboard,

[http://ec.europa.eu/consumers/consumer\\_evidence/consumer\\_scoreboards/10\\_edition/index\\_en.htm](http://ec.europa.eu/consumers/consumer_evidence/consumer_scoreboards/10_edition/index_en.htm)

<sup>124</sup> <http://kalkulator.eru.cz/>.

<sup>125</sup> ERO, Annual report 2012, July 2013.

## Gas

In 2012, the GAZELLE gas pipeline was completed to connect to the OPAL and MEGAL gas pipelines that expand to the transmission system supplying Germany and France. Also, in 2012, the interconnector between the Czech and Polish gas transmission systems (the STORK project) was completed (partly financed with funds from the European Energy Programme for Recovery). The Czech-Polish interconnector plays an important role in the integration and liberalisation of the gas market in the region. Following the implementation of reverse flow projects (also co-financed by the EEPR), security of supply has substantially improved in the Czech Republic and Slovakia. A second pipeline between the Czech Republic and Poland is already planned to start operation end 2018, with two other projects with Austria planned to come online after 2020 (all these three are PCIs under the guidelines for Trans-European energy networks)<sup>126</sup>.

## 7. Security of Supply

### Electricity

The Czech Republic's degree of electricity dependence is one of the lowest in the EU (25.2 % in 2012)<sup>127</sup>. The generation mix is well diversified as the national strategy does not allow any single source of energy to provide for more than 65% of the total. Abundant domestic coal resources are gradually declining. They can be exploited until 2050. The country is a net electricity exporter. Major concerns relate to the depleting lignite reserves, ageing electricity infrastructure and high networks costs which influence the electricity prices for end-users.

The Czech Republic is interconnected with the Austrian, German, Polish and Slovak markets. The relatively high interconnection rate is generally positive for Czech security of supply, but has a downside. The Czech network suffers from unscheduled flows of power originating in Germany (loop flows).

### Gas

Almost all gas consumed in the Czech Republic is imported from Russia (90%) and Norway (9%)<sup>128</sup>. Security of supply is relatively robust and has benefited from the new interconnectors and reverse flow capabilities on existing pipelines being put in place. The contractual gas prices are mostly linked to oil products and hard coal. This maintains stable prices, but carries financial penalties in case of early termination. In this regard, an important precedent was set in October 2012 when RWE's Czech subsidiary succeeded in its dispute with Gazprom over gas contracts. The court ruled for the first time that a company did not have to pay fines under a "take-or-pay" clause<sup>129</sup>.

---

<sup>126</sup> Technical information on Projects of Common Interest accompanying the Commission Delegated Regulation (EU) No 1391/2013 of 14 October 2013 amending Regulation (EU) 347/2013 of the European Parliament and of the Council on guidelines for trans-European energy infrastructure as regards the Union list of projects of common interest.

<sup>127</sup> Eurostat.

<sup>128</sup> Eurostat.

<sup>129</sup> [http://ec.europa.eu/energy/observatory/gas/doc/qregam\\_2012\\_quarter2\\_quarter3.pdf](http://ec.europa.eu/energy/observatory/gas/doc/qregam_2012_quarter2_quarter3.pdf).

## 8. Key indicators

<b>Electricity</b>		<b>Gas</b>	
Number of companies representing at least 95% of net power generation	73	Number of entities bringing natural gas into country	25
Number of main power-generation companies	1	Number of main gas entities	1
Market share of the largest power-generation company	78%	Market share of the largest entity bringing natural gas	82.3%
Number of electricity retailers	360	Number of retailers selling natural gas to final customers	59
Number of main electricity retailers	3	Number of main natural gas retailers	11
Switching rates	7.96 <sup>130</sup>	Switching rates for gas (entire retail market)	12.03
Regulated prices for households – electricity	No	Regulated prices for households – gas	No
Regulated prices for non-households – electricity	No	Regulated prices for non-households – gas	No
HHI in power-generation market	N/A	HHI in gas supply market (domestic)	3,358
HHI in electricity retail market (domestic)	N/A	HHI in gas retail market (domestic)	1,632
Electricity market value <sup>131</sup> (bn€)	5.001	Gas market value <sup>30</sup> (bn€)	2.505
Installed generation capacity (MW)	20,520		
Peak demand (2012, MW)	11,324		

<sup>130</sup> ACER/CEER, Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2012, November 2013.

<sup>131</sup> Market value is an estimation of the size of the retail electricity and gas markets. It is calculated using data on electricity and gas consumption in the household and non-household sectors (average bands) and annual average retail prices.

Number of smart meters installed	50,000		
----------------------------------	--------	--	--