CHAPTER 4: Emergency response systems of individual IEA countries

The ability of the International Energy Agency (IEA) to co-ordinate a swift and effective international response to an oil supply disruption stems from the strategic efforts of member countries to maintain a state of preparedness at the national level. Energy security is more than just oil, as the role of natural gas continues to increase in the energy balances of IEA countries. The most recently completed cycle of Emergency Response Reviews (ERRs) reflected this change by assessing, for the first time, the member countries’ exposure to gas disruptions and their ability to respond to such crises. This chapter provides general profiles of the oil and natural gas infrastructure and emergency response mechanisms for 29 IEA member countries.

Each country profile is set out in the following sequence:

**Key data**
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- Key natural gas data, 1990-2018
- Total primary energy source (TPES) trend, 1973-2012

**Infrastructure map**

**Country overview**

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  - Oil demand
  - Imports/exports and import dependency
  - Oil company operations

- Oil supply infrastructure
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  - Ports and pipelines
  - Storage capacity

- Decision-making structure
- Stocks
  - Stockholding structure
  - Crude or products
  - Location and availability
  - Monitoring and non-compliance
  - Stock drawdown and timeframe
  - Financing and fees

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  - Fuel switching
  - Other

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  - Gas demand
  - Gas import dependency
  - Gas company operations

- Gas supply infrastructure
  - Ports and pipelines
  - Storage

- Emergency policy
  - Emergency response measures
The Slovak Republic

Key data

Table 4.23.1  Key oil data

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<td>Production (kb/d)</td>
<td>0.0</td>
<td>1.2</td>
<td>7.3</td>
<td>5.1</td>
<td>4.6</td>
<td>5.0</td>
<td>6.0</td>
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<tr>
<td>Demand (kb/d)</td>
<td>106.7</td>
<td>66.8</td>
<td>78.5</td>
<td>83.7</td>
<td>81.9</td>
<td>70.3</td>
<td>73.3</td>
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<tr>
<td>Motor gasoline</td>
<td>10.9</td>
<td>13.9</td>
<td>14.9</td>
<td>14.4</td>
<td>13.6</td>
<td>11.9</td>
<td>-</td>
</tr>
<tr>
<td>Gas/diesel oil</td>
<td>26.7</td>
<td>17.1</td>
<td>22.9</td>
<td>32.5</td>
<td>31.8</td>
<td>29.5</td>
<td>-</td>
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<tr>
<td>Residual fuel oil</td>
<td>275</td>
<td>3.4</td>
<td>6.1</td>
<td>6.4</td>
<td>4.6</td>
<td>4.2</td>
<td>-</td>
</tr>
<tr>
<td>Others</td>
<td>41.7</td>
<td>32.3</td>
<td>34.7</td>
<td>30.4</td>
<td>31.8</td>
<td>24.8</td>
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<tr>
<td>Net imports (kb/d)</td>
<td>106.7</td>
<td>65.6</td>
<td>71.2</td>
<td>78.6</td>
<td>77.3</td>
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<tr>
<td>Import dependency (%)</td>
<td>100</td>
<td>98.2</td>
<td>90.7</td>
<td>93.9</td>
<td>94.4</td>
<td>92.9</td>
<td>92</td>
</tr>
<tr>
<td>Refining capacity (kb/d)</td>
<td>0.0</td>
<td>115.0</td>
<td>115.0</td>
<td>128.5</td>
<td>128.5</td>
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<td>Oil in TPES** (%)</td>
<td>22</td>
<td>16</td>
<td>18</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>-</td>
</tr>
</tbody>
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* Forecast.
** TPES data for 2012 are estimates.

Table 4.23.2  Key natural gas data

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<td>Production (mcm/y)</td>
<td>438</td>
<td>173</td>
<td>147</td>
<td>104</td>
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<td>Demand (mcm/y)</td>
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<td>7 136</td>
<td>7 227</td>
<td>6 099</td>
<td>5 630</td>
<td>5 289</td>
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<td>Transformation</td>
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<td>1 733</td>
<td>1 389</td>
<td>1 433</td>
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<td>Industry</td>
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<td>1 379</td>
<td>1 660</td>
<td>1 338</td>
<td>1 593</td>
<td>0</td>
<td>-</td>
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<td>1 734</td>
<td>1 623</td>
<td>1 424</td>
<td>0</td>
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<tr>
<td>Others</td>
<td>2 054</td>
<td>1 969</td>
<td>2 100</td>
<td>1 749</td>
<td>1 180</td>
<td>0</td>
<td>-</td>
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<tr>
<td>Net imports (mcm/y)</td>
<td>5 925</td>
<td>6 963</td>
<td>7 080</td>
<td>5 995</td>
<td>5 509</td>
<td>5 139</td>
<td>3 981</td>
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<td>Import dependency (%)</td>
<td>93.1</td>
<td>97.6</td>
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<td>98.3</td>
<td>97.9</td>
<td>97.2</td>
<td>98</td>
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<tr>
<td>Natural gas in TPES (%)</td>
<td>24</td>
<td>32</td>
<td>31</td>
<td>28</td>
<td>27</td>
<td>26</td>
<td>-</td>
</tr>
</tbody>
</table>

* 2012 data are estimates.
** Forecast.

Note: This section on the emergency response systems of individual member countries was written by the IEA. All countries provided valuable information and comments. All opinions, errors and omissions are solely the responsibility of the IEA.
Figure 4.23.1  Total primary energy source (TPES) trend, 1973-2012
Map 4.23.1 Oil infrastructure of the Slovak Republic

This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.
Map 4.23.2  Gas infrastructure of the Slovak Republic

[Diagram showing gas infrastructure of the Slovak Republic, including locations like Zilina, SPP storage, and major pipeline routes.]

This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries, and to the name of any territory, city or area.
Country overview

Oil and natural gas represented 20% and 36%, respectively, of Slovakia’s total primary energy supply (TPES) in 2012. While their share in the energy mix is not expected to change substantially over the next decade, demand for both fuels will continue to rise as total energy demand in the country grows.

Total Slovakian oil demand, some 70,000 barrels per day (kb/d), is met almost entirely by Russian crude oil delivered via the Druzhba pipeline. This is also the case for natural gas; all but a fraction of the country’s 5.3 billion cubic metres (bcm) of gas demand is imported via pipeline from Russia.

Slovakia plays a key role in Europe’s oil and natural gas supply chain. The country is a net exporter of refined oil products, providing significant quantities of product to neighbouring countries. Slovakia is also a major entry point for natural gas into the European Union, with transit volumes representing some 20% of total EU natural gas consumption.

Slovakia’s primary response measure in an oil supply disruption is the drawdown of public oil stocks. The office which oversees the country’s emergency reserves, the Administration of State Material Reserves (ASMR), is responsible for maintaining and implementing emergency measures in the event of an oil supply disruption. Emergency oil stocks are held by the Emergency Oil Stocks Agency (EOSA) and they cover Slovakia’s entire stockholding obligation to the International Energy Agency (IEA) and the European Union. In an IEA co-ordinated action, the ASMR and EOSA would participate by releasing agency stocks – most likely in the form of loans to industry.

In the implementation of its natural gas emergency response policy, the Slovak government requires all suppliers operating on the domestic gas market to be able to meet standards of security of supply in circumstances of extreme weather conditions or the disruption of normal supplies. Natural gas suppliers must be able to guarantee their ability to meet average peak demand for 30 days, using measures such as the release of natural gas stocks, and backup deliveries from other countries.

Natural gas suppliers are obliged to inform the government as to how they will comply with the security standard for the coming year. Following the experience of January 2009, Slovakia has also taken steps to improve the reversibility, and thus flexibility, of its gas transmission grid and to develop a new interconnection with Hungary’s gas network.

Oil

Market features and key issues

**Domestic oil production**

Slovakia has no significant crude oil reserves – domestic oil production averaged about 5 thousand barrels per day (kb/d) in 2012. All producing fields are located in the west of the country, in the Gbely area of the Vienna basin. Crude production is expected to remain relatively flat in the coming years, increasing slightly to about 6 kb/d by 2018.

**Oil demand**

Oil demand in Slovakia totalled some 70.3 kb/d in 2012. The transport sector accounts for half of all oil used in Slovakia.
The 2012 demand level marks a substantial decline from 2008, when oil demand peaked at 85.8 kb/d. In the period from 2005 to 2008 total oil demand grew by an average of 3% per year, primarily driven by growth in demand for transport diesel. Oil demand is expected to return to this trend as economic recovery gets underway. In 2012 diesel demand was 29 kb/d, representing roughly one-third of total oil demand and over 40% of all transport fuels consumed in the country. Automotive diesel has a price advantage for consumers because of a lower tax rate compared to gasoline.

**Imports/exports and import dependency**

Slovakia exports small amounts of domestically produced crude oil to Austria, while crude oil imports are entirely sourced from the Russian Federation through the Druzhba pipeline. Slovakia has a government-to-government agreement with Russia to supply up
to 6 million tonnes per year (mt/y) – or 120 thousand barrels per day (kb/d) until the end of 2014. Crude oil imports from Russia averaged 126 kb/d in 2012.

Total output of finished products from domestic refining was nearly 130 kb/d in 2012, well in excess of domestic demand, allowing Slovakia to be a net exporter of finished products. In 2012, the country exported some 74 kb/d of refined products (mainly diesel), the bulk of which went to neighbouring countries, including the Czech Republic and Austria.

**Oil company operations**

The company Nafta produces domestic crude oil. Nafta is also involved in natural gas production and the building and operating of underground gas storage facilities.

Two companies, Transpetrol and Slovnaft, operate the bulk of the oil market infrastructure of Slovakia. Transpetrol is the sole operator of the country’s crude pipeline network, and its operations also include crude storage for both its own customers and the ASMR. The company is fully state-owned, following a period of private ownership that ended in March 2009 when the government repurchased the remaining 49% of outstanding company shares.

Slovnaft, a member of the MOL group of Hungary, operates the country’s refinery and product pipeline network. Its operations also include petrochemical processing and product storage as well as wholesale and retail distribution and product exports. Slovnaft holds a dominant position on the domestic market, supplying nearly two-thirds of all transport fuels distributed in the country. One-third of this amount is supplied through its own network of 209 petrol stations in the country. The other main oil companies operating in the Slovak retail and wholesale oil market include Eni Slovensko, Jurki Hayton, Lukoil Slovakia, MOL-Slovensko, OMV Slovensko, Shell Slovakia, Unipetrol Slovensko and Tesco stores.

**Figure 4.23.4** Oil product imports by origin, 2012

![Figure 4.23.4 Oil product imports by origin, 2012](image)

**Oil supply infrastructure**

**Refining**

There is one operating refinery in Slovakia, Slovnaft’s facility in Bratislava, which processed about 127 kb/d in 2012. A second refinery, Dubová, which had a capacity of 3 kb/d and processed mostly domestic crude supplied by non-pipeline routes, was closed in 2007.
As total domestic refinery capacity exceeds oil demand in the country, Slovakia is a net exporter of refined product. The country’s refineries produce a considerable surplus of output in all major oil product categories.

**Figure 4.23.5** Refining output vs. demand, 2012

![Graph showing refining output vs. demand for various oil products in 2012.]

**Pipelines**

Slovnafť operates an oil products pipeline network that connects its Bratislava refinery to three key product terminals that hold ASMR public stocks. The pipeline system is used by Slovnafť for commercial purposes and connects to the Czech Republic's oil pipeline network. The network has a maximum transport capacity of 240 cubic meters per hour.

The main crude oil supply channel is the Druzhba pipeline, which originates in Russia and transits Belarus and the Ukraine before continuing on to the Czech Republic. The section of the pipeline that runs through Slovakia (part of Druzhba's southern branch), has five pumping stations and consists of two parallel lines for nearly all its length. While the Slovak section of the pipeline has a total capacity of approximately 400 kb/d, slightly more than half of this capacity is currently utilised to supply both Slovak and Czech refiners.

The Adria pipeline, which connects the Croatian port of Omišalj to the Hungarian refinery at Duna, provides a potential alternative supply for Slovakia. The Slovak section of the Druzhba pipeline is connected with the Adria by a 100-kilometre pipeline from Százhalombatta, Hungary to Šahy, Slovakia. While not used for normal operations (crude oil is occasionally transferred between the Slovak and Hungarian refineries), the section has an average capacity of around 90 kb/d. However, in order for this route to be a viable alternative to the full volumes imported via the Druzhba, the existing capacity of the Adria (200 kb/d) would need to be expanded to be able to supply both the Hungarian (Duna) and Bratislava refineries. Moreover, the connection between Százhalombatta and Šahy, only a small portion of which is in Slovakia, would need to be reconstructed.

The Ingolstadt-Kralupy-Litvínov (IKL) pipeline connecting the Czech refinery at Kralupy to the Trans-Alpine oil pipeline network (TAL) in Ingolstadt, Germany could also potentially contribute to the provision of crude oil supplies to Slovakia in a crisis. The IKL line currently has a capacity to deliver around 200 kb/d to the Kralupy terminal in the Czech Republic.
Storage capacity

Slovakia’s total combined oil storage capacity at the end of 2009 was just over 1.4 million m³. Most of the country’s oil storage capacity is operated by two companies: Transpetrol (primarily crude oil) and Slovnaft (primarily product).

In 2013 Transpetrol and ASMR established a joint enterprise called “Company for Stockholding” which owns part of the crude oil storage capacity previously owned by Transpetrol, and the oil product storage capacity previously owned by ASMR. Storage capacity owned by the Company for Stockholding is primarily used by the EOSA.

Decision-making structure

The ASMR is responsible for oil emergency response preparedness. The ASMR functions as an independent body, and it reports directly to the government through the Council of Ministers. It is responsible for stockpiling and supply security of the main resources considered essential for the protection of public interests during crises.

ASMR stockpiles a wide variety of items including raw materials, foodstuffs and industrial equipment. However, the emergency oil stocks were separated from the state material reserves in 2013 and are now held and managed by the EOSA. The ASMR oversees the emergency oil stocks held by the EOSA. The chair of the ASMR serves as the head of the national emergency strategy organisation (NESO) and is responsible for initiating and co-ordinating a response to an oil supply disruption. The Oil Security Commission, which includes representatives from various ministries as well as from industry and the petroleum association, acts as a permanent advisory body of the ASMR chair in his capacity as NESO head. Within the ASMR, the Oil Emergency Department has the lead role in co-ordinating NESO activities and liaising with industry representatives.

In a supply disruption, the ASMR would prepare measures for managing the emergency and convene an emergency NESO meeting to discuss these measures. The ASMR chair, as the NESO chair, would then submit a draft order to the government which, based on the recommendations, would issue an official decision.

The use of EOSA-held crude and product stocks is central to Slovakia’s emergency response policy. Slovakia considers the use of loans from agency reserves as the most effective way of participating in an IEA collective action. In a domestic situation that warrants the declaration of a state of emergency, the country’s policy relies on industry participants to make an initial response to a supply disruption. Implementation of demand restraint measures and agency stocks would be a subsequent course of action if the initial efforts proved insufficient.

Stocks

Stockholding structure

Slovakia uses the agency stocks of the EOSA to fully meet its minimum stockholding obligation as a member of the IEA and the European Union. The law imposes the stockholding obligation on industry, but at the same time this obligation has to be delegated to the EOSA.

The Act No. 218/2013 Coll. is the legal basis for the EOSA’s oil stockholding practices. This act defines conditions and types of oil which the EOSA is to hold for emergency purposes, and the methodology for calculating the minimum levels required to meet both the IEA and EU stockholding commitments. Agency stocks are financed by collecting fees from industry as a price for holding the stocks by EOSA on behalf of the industry.
Crude or products

Total agency stocks of the ASMR at the end of 2013 were 4.9 mb. Nearly a quarter of this was in the form of gas/diesel oil, while some 60% was held as crude oil. In addition to the agency stocks of EOSA, industry stocks at the end of 2012 stood at 3.6 mb, with approximately 2.0 mb of this amount being held in the form of refined products.

Under IEA methodology, both EOSA and industry-held stocks count towards meeting the 90-day stockholding obligation. Thus roughly 55% of Slovakia’s total stockholding obligation is covered by stocks held in the form of refined product.

Location and availability

Volumes of public stocks are stored on behalf of the EOSA by designated storage operators and refiners. Agency stocks held by private companies under contract with EOSA cannot be commingled with commercial stocks, and must be kept in separate tanks that are clearly marked as state emergency reserves. The product stocks are refreshed every three to five years by the company holding the stock, based on the contract agreement. The stockholder must keep detailed records, and regular inspections of both the records and storage terminals are carried out by the ASMR and EOSA.

EOSA stocks of crude oil are for the most part held at the Transpetrol terminals located on the Druzhba pipeline; roughly 10% are held at the refinery in Bratislava. The public reserves of motor fuels (gasoline, gas/diesel and jet kerosene) are located at the three terminals of Klačany, Hronský Beňadík, and Stožok connected to the Slovnaft product pipeline, as well as at the storage sites of Horný Hričov and Kapušany. Slovakia has a bilateral stockholding agreement with the Czech Republic, making it possible for Slovakia to hold emergency stocks in the Czech Republic.

Monitoring and non-compliance

EOSA performs volume and quality control on emergency stocks stored in facilities with which it has contractual agreements. The stockholders have to ensure samples are taken of emergency stocks on a regular basis for the purpose of quality checks in accredited laboratories, and to provide the results to EOSA. At least once a year, EOSA takes an inventory of all its emergency stocks.

Sanctions and penalties for breaching stockholding obligations are stipulated by provisions in particular stockholding contracts. The contracts refer to Act No. 218/2013 Coll. According to this act, the ASMR is authorised to impose a fine on the stockholder for: unauthorised use of emergency stocks (a minimum of EUR 665 000, rising to EUR 1 700 000 in the case of repeatedly unauthorised use of emergency stock); and breaching other obligations resulting from a stockholding contract (from EUR 35 000 to EUR 665 000).

When imposing a fine, the ASMR considers the severity, means, duration, impact of the lawless act and rate of culpability and the extent of harm.

Stock drawdown and timeframe

Slovakia could initiate a drawdown of public stocks under two main scenarios: within the framework of a domestic emergency and in conjunction with demand restraint measures, or in order to participate in an IEA collective action. In either case, the ASMR would propose to the NESO the conditions for a stock release, including the volume and types of stocks to be released, and the terms of release (likely in the form of loans). The ASMR chair would submit the NESO draft proposal to the government in an extraordinary meeting convened to discuss the emergency response. A final decision would be adopted with immediate effect.
The release of agency stocks could be implemented either in the form of loans or sales. In the case of loans, the period of the loan would be limited by the duration of the emergency but not exceeding one year. A company taking a loan from the EOSA must pay an interest fee which is set at double the European Central Bank’s interest rate as of the time of the loan contract. The company must also provide the EOSA with a financial guarantee covering the market price of the oil stocks. The first phase (from the decision of the Cabinet of Slovakia to release the stocks to the conclusion of the loan contract) would take seven days. The second phase (from the conclusion of the loan contract to the first release of stocks) would take three days.

In the case of selling agency stocks, the stocks would be offered at market price to all industry participants who are able to ensure that the stocks will be placed on the market. The process, including the preparation of the sale process to first stock deliveries, would take 14 days.

The maximum drawdown rate of agency stocks of crude oil is just over 180 kb/d, well above the country’s total domestic refining capacity (127 kb/d). The maximum drawdown rate for finished products would depend on the specific storage site, and ranges from under 5 kb/d at Horný Hričov to some 30 kb/d at Kláčany and Hronský Beňadik.

**Financing and fees**

Agency stocks are financed by collecting fees from industry. The average stockholding costs for maintaining one tonne of agency stocks are EUR 35.55 a year. The costs associated with product stockholding are 2.5 times that of crude oil.

**Other measures**

**Demand restraint**

Demand restraint measures would be specified in the ASMR chair’s proposal to the government, likely in parallel with the release of agency stocks. The level of the demand restraint measures would depend upon the severity of the crisis. In the initial stages, they would consist primarily of a mass media campaign calling for voluntary reductions in oil consumption.

Additional measures available to the Slovak government include the ability to limit motor vehicle speed, limit motor vehicle use on certain days or for specific kinds of transportation, or impose usage restrictions based on odd/even licence plates. They could also limit the opening hours of petrol stations, and regulate or otherwise direct the actions of oil importers and exports.

Legislation (Act No. 218/2013 Coll.) assigns responsibility for ensuring compliance with these different measures to various components of the Slovak government and sets fines for non-compliance. Industry and other bodies of the state administration would be obliged to provide all data deemed necessary by the ASMR for the monitoring and evaluation of the measures. The NESO would meet regularly to evaluate the effectiveness of the measures in comparison to current and past data, which might be collected on a weekly, bi-weekly or monthly basis. Depending on the results, the measures would be modified as deemed appropriate.

**Fuel switching**

The potential to switch away from the use of oil to another fuel source in the short term is inconsequential in Slovakia. The bulk of oil consumption (50%) is in the transport sector, where there is no capacity for short-term switching. Oil used in power plants is
for the stabilisation of production, rather than for generation of electricity or heat, and therefore offers no opportunity for potential fuel switching.

**Other**
Short-term surge production capacity in Slovakia is considered inconsequential and not a potential emergency response measure.

**Gas**

*Market features and key issues*

**Gas production and reserves**
Only a small fraction of Slovakia’s natural gas demand is met by domestic production. In 2012, some 150 mcm of gas was produced domestically, meeting less than 3% of its total demand. Production is expected to decline, dropping to roughly 90 mcm/y by 2018.

**Gas demand**
In 2012, demand for natural gas was some 5.3 bcm. Industry, the transformation sector and residential users each account for nearly a quarter of the total gas used in the country. Gas represented only 8% of the total share of electricity generated in the country.

Daily gas consumption ranges from some 5 mcm/d in the summer to around 25 mcm/d in the winter (inferring a 1:5 seasonality of gas demand). The highest average daily demand over the coldest 30-day period was in early 2006, at 35.9 mcm/d (when temperatures averaged -7.4°C). Historically, the highest daily peak was in December 2001 when gas use reached 46.9 mcm/d (-12.2°C).

*Figure 4.23.6*  Natural gas consumption by sector, 1973-2011
Gas import dependency
The totality of Slovakian consumption is supplied by imports from Russia.

Gas company operations
Transmission and distribution activities in Slovakia were unbundled on 1 July 2006. Slovenský plynárenský priemysel (SPP), the dominant importer of natural gas into Slovakia, remains the parent company of the transmission system operator (TSO), Eustream, and the main distribution system operator (DSO), SPP distribúcia.

Eustream (a fully owned subsidiary of SPP), is one of the biggest transmission operators in Europe, focusing mainly on the transit of Russian gas towards Western and Southern Europe. SPP – distribúcia (also a fully owned subsidiary of SPP) is the biggest distribution network operator in Slovakia, while a number of small independent local distribution companies are also active in the country’s gas distribution.

There are two storage system operators (SSOs) in Slovakia: Nafta and Pozagas. Nafta also operates the country’s domestic gas production and is partially owned by SPP (56%) and E.ON Ruhrgas (40%). Pozagas is partially owned by SPP (35%), Nafta (35%) and GDF (30%).

SPP is the leading supplier of natural gas on the Slovak gas market with a share of more than 80% (in 2010). The company is 51% state-owned and 49% owned by Energetický a průmyslový holding, a.s. (EPH). Other companies active on the Slovak gas supply market are local branches of international companies, including RWE Gas, VNG and Shell. Other companies, such as Lumius Slovakia, ČEZ Slovakia and Vemex also supply gas to customers in Slovakia.

The number of shippers trading gas in Slovakia has been constantly increasing since 2005. At the beginning of 2010, Eustream had 20 shippers, three times the number in 2005, with portfolios of different entry-exit contracts. Physical nodes in the transit gas network (Veľké Kapušany, Lanžhot, Baumgarten) or domestic off-take points can be used to trade natural gas. In most cases it is over-the-counter trading because, with the exception of the Baumgarten node, there are no gas exchanges established on these points.

Gas supply infrastructure

Pipelines
Eustream, Slovakia’s TSO, manages a domestic and transit pipeline network with three interconnection points. This is used both to transport natural gas for consumption in Slovakia and for transit of Russian gas to other end-user markets further west. The annual capacity of the system exceeds 90 bcm. In 2012, a total of 56.5 bcm of natural gas was transmitted through the transmission system. Transit gas arrives at the incoming transfer station of Veľké Kapušany on the Ukraine border (245 mcm/d capacity) and departs from outgoing transfer stations in Lanžhot at the Czech border (75 mcm/d), and Baumgarten at the Austrian border (150 mcm/d).

The physical reversal of flows is possible at the interconnection points of both the Czech and Austrian borders. The reversal at Lanžhot could be implemented within two hours, with a capacity to bring 36 mcm/d of gas from the Czech network. The possibility for reversal at the Baumgarten interconnection was achieved in October 2010, making it possible to bring 17 mcm/d of gas into Slovakia from Austria.
A project to construct an interconnection with Hungary is underway, with “open season” procedures conducted in 2010 to assess market demand. The project will consist of a pipeline connection between Veľký Krtíš in Slovakia and Vecses in Hungary and would be part of the Visegrad 4 countries (the Czech Republic, Hungary, Republic of Poland and Republic of Slovakia), which aims to connect LNG terminals in Poland and Croatia. It is currently expected that the line will have an annual capacity of some 5 bcm and be operational in 2015.

**Storage**

Total natural gas storage capacity in Slovakia is 3.02 bcm (2012), with a maximum withdrawal rate of 39.25 mcm/day. All capacity is in underground storage facilities at the Láb complex in the west of the country. A new storage facility, within the Láb complex at Gajary-Baden, is under construction and is expected to raise the total capacity to 3.12 bcm, and the maximum withdrawal rate to over 40 mcm/day by 2014.

Additionally, a storage facility in the Czech Republic, at Dolní Bojanovice, and directly connected to the Slovak system is used physically balance the Slovak distribution network and ensure security of supply for households. Storage capacity at this site is 0.57 bcm and the maximum withdrawal rate is 8.8 mcm/day. At the same time, part of the Slovak storage facilities (0.5 bcm) is used to supply the Czech market.

**Emergency policy**

The Ministry of Economy (MoE) is responsible for natural gas emergency response. Following the January 2009 gas crisis in Europe, the Slovak government launched several initiatives in order to improve security of supply and increase capacity to deal with any similar future crises. The initiatives included infrastructure investments to increase capacity, improvements to interoperability between storage and transmission networks, and enabling the reversibility of physical gas flows. The Energy Act requires all suppliers operating on the domestic market to meet specific security of supply standards for their portfolio of protected customers. These supply standards are in compliance with EU Regulation No 994/2010 concerning measures to safeguard security of gas supply.

The Energy Act sets the standard of security of gas supply for suppliers. Suppliers are obliged to guarantee supply of gas under circumstances related to weather conditions or the disruption of normal supplies. Suppliers must be able to guarantee to meet the supply standard for 30 days, using measures including gas in storage, domestic production contracts and backup deliveries from other countries.

The main long-term gas supply contract for the Slovak market, signed in 2008 for 20 years, is between SPP and Gazprom Export. In order to reduce dependency on one source, as well as in an effort to diversify its portfolio, SPP concluded gas supply contracts with E.ON Ruhrgas and GDF SUEZ. In case of disruption of supplies from the east, these supplies can be obtained following the flow reversal of the gas pipeline system.

Other suppliers active on the Slovak gas market are local branches of major companies and have their supplies covered by the diversified portfolio of the parent companies or via contracts with Nafta, the domestic natural gas producer and storage operator.

The dispatching centre of the biggest DSO is responsible for announcing a crisis situation and its level, the measures to be taken and how the emergency situation will be managed. Other gas infrastructure operators (the TSO, the two storage operators and other DSOs) are obliged to co-operate with the dispatching centre to resolve the state of emergency as soon as possible.
Emergency response measures
There are no emergency reserves of natural gas in Slovakia, as all storage is used for commercial purposes.

In order to meet the standard of security requirements under the Energy Act, suppliers are able to use storage volumes (as well as domestic production contracts and backup deliveries from other countries). However, there is no obligation placed on suppliers to guarantee the supply exclusively in the form of minimum reserves.

Demand restraint
In the event of a disruption to gas supplies, the dispatching centre of the concerned DSO is responsible for announcing and managing a crisis situation by applying restrictive measures (off-take levels and heating curves). Other gas infrastructure operators (TSO, SSOs and other DSOs) would be obliged to co-operate with the dispatching centre to eliminate the state of emergency as soon as possible.

Crisis severity levels would be used to determine the level of restrictions or cut-offs to end-users. Customers are divided into groups according to the volume and type of consumption (e.g. gas used for heating). Disruptions would be rated according to severity levels, determining the degree to which specific consumer groups would have supplies restricted or stopped.