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**
- Key oil data, 1990-2018
- 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

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- Ports and pipelines
- Storage capacity

**Decision-making structure**

**Stocks**
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- Location and availability
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- Gas import dependency
- Gas company operations

**Gas supply infrastructure**
- Ports and pipelines
- Storage

**Emergency policy**
- Emergency response measures
Hungary

Key data

Table 4.12.1 Key oil data

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<tr>
<td><strong>Production (kb/d)</strong></td>
<td>62.0</td>
<td>38.9</td>
<td>36.9</td>
<td>25.2</td>
<td>21.9</td>
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<td>177.5</td>
<td>143.2</td>
<td>154.8</td>
<td>149.3</td>
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<td>131.8</td>
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<td>Motor gasoline</td>
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<td>34.4</td>
<td>31.9</td>
<td>29.1</td>
<td>26.5</td>
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<td>Gas/diesel oil</td>
<td>66.1</td>
<td>40.7</td>
<td>57.5</td>
<td>62.3</td>
<td>59.0</td>
<td>53.3</td>
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<tr>
<td>Residual fuel oil</td>
<td>30.3</td>
<td>26.8</td>
<td>4.3</td>
<td>2.4</td>
<td>1.9</td>
<td>1.5</td>
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<td>Others</td>
<td>39.7</td>
<td>44.9</td>
<td>58.6</td>
<td>52.7</td>
<td>53.2</td>
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<td><strong>Net imports (kb/d)</strong></td>
<td>115.5</td>
<td>104.3</td>
<td>1179</td>
<td>124.1</td>
<td>121.3</td>
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<td>83.1</td>
<td>84.7</td>
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<td><strong>Refining capacity (kb/d)</strong></td>
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<td>161.0</td>
<td>190.3</td>
<td>190.3</td>
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<td><strong>Oil in TPES</strong> (%)</td>
<td>30</td>
<td>27</td>
<td>26</td>
<td>26</td>
<td>25</td>
<td>24</td>
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* Forecast.
** TPES data for 2012 are estimates.

Table 4.12.2 Key natural gas data

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<td><strong>Production (mcm/y)</strong></td>
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<td>3 194</td>
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<tr>
<td>Industry</td>
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<td>2 112</td>
<td>2 000</td>
<td>1 671</td>
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<td>4 003</td>
<td>3 667</td>
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<td>Others</td>
<td>1 698</td>
<td>3 094</td>
<td>3 762</td>
<td>2 765</td>
<td>2 778</td>
<td>0</td>
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<tr>
<td><strong>Net imports (mcm/y)</strong></td>
<td>6 293</td>
<td>8 840</td>
<td>11 955</td>
<td>9 232</td>
<td>8 791</td>
<td>7 998</td>
<td>8 729</td>
</tr>
<tr>
<td><strong>Import dependency (%)</strong></td>
<td>56.4</td>
<td>73.5</td>
<td>79.8</td>
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<td>76.1</td>
<td>78.2</td>
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</tr>
<tr>
<td><strong>Natural gas in TPES (%)</strong></td>
<td>32</td>
<td>39</td>
<td>45</td>
<td>39</td>
<td>37</td>
<td>36</td>
<td>-</td>
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* 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 4.12.1  Total primary energy source (TPES) trend, 1973-2012
Map 4.12.1  Oil infrastructure of Hungary
Map 4.12.2 Gas infrastructure of Hungary

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

Hungary has little domestic oil or gas production and relies heavily on imports. The Russian Federation is the dominant supplier for both oil and gas, and Hungary is supplied by crude, product and gas pipelines.

Oil represents roughly one-quarter of the total primary energy supply (TPES) of Hungary and is expected to remain at this level until at least 2020. Domestic oil production will continue to decline, further increasing dependence on imports. Oil consumption as a whole has dropped incrementally from its peak in 2006 of 163 thousand barrels per day (kb/d) and stood at 131 kb/d in 2012. Nevertheless, demand for middle distillates remains strong. The share of oil in total energy consumption as a whole is gradually declining.

Natural gas demand has declined since its peak of 15 billion cubic metres (bcm) in 2005, but remains the fuel with the largest share of Hungary’s TPES, standing at 36% in 2012. Gas demand dropped to 10.2 bcm in 2012 (from 13.1 bcm in 2008) owing to the economic crisis.

The use of publicly held stocks is central to Hungary’s emergency response policy for both oil and gas. The Hungarian Hydrocarbon Stockpiling Association (HUSA) is entrusted with the public stockpiling of both oil and gas. HUSA was founded and is operated and financed by the Hungarian oil and gas industry. The government has special control rights over HUSA.

HUSA’s public oil stocks are the equivalent of some 111 days of net imports (as of December 2012). When counted together with industry stocks, the total puts Hungary well beyond the International Energy Agency (IEA) minimum stockholding obligation of 90 days of net imports, with total stock levels standing at 152 days (as of December 2012). In an IEA co-ordinated response to a supply disruption, Hungary would respond with the release of public stocks.

Standing alone among its IEA peers (at the time of writing) Hungary has developed strategic gas reserves under government control. These were created in the aftermath of the January 2006 Russia-Ukraine gas crisis. Although these stocks reached the planned level of 1.2 bcm in early 2010, thereby covering around 40 to 45 days of average demand, the level has since been reduced to 0.76 bcm, equivalent to roughly 30 days of average demand.

Oil

Market features and key issues

Domestic oil production

Hungary has some oil reserves, mostly in the southeast of the country. Domestic crude oil production peaked in 1985, at 64 kb/d and is expected to continue its decline. In 2010 domestic production, including crude oil and condensate, amounted to 25 kb/d, or 13% of Hungary’s total oil supply.

Oil demand

In 2012, Hungary’s oil demand was 131 kb/d, down from 143.2 kb/d in 2011. While total oil demand in 2012 has decreased in comparison to 2000 and 2005 levels, oil use for transport has increased significantly, on average by 4.1% per year since 1995. In 2011 transport consumed 59% of total oil supply, and diesel alone accounted for 40% of oil product demand. Industry accounted for 24% of the total in 2011, a relatively constant share over the last decade. In contrast, oil use in the other sectors has declined markedly:
power generation, residential use and commercial services and the agriculture sector used 42% of oil supply in 1995, but only 17% in 2011. Of note, oil use for space heating is minimal.

**Figure 4.12.2** Oil consumption by sector, 1973-2011

The government expects the demand for oil products to grow by about 2% per year between 2010 and 2020. The key driver for growth is diesel use, increasing by about 3% to 4% yearly until 2020.

Dieselisation of the vehicle fleet is a gradual but continuing trend. At the end of 2009, 29% of all registered vehicles were diesel-fuelled while 71% were gasoline, but of all new vehicles registered in 2009, 50.5% were diesel-fuelled. Of note, vehicle ownership per capita stands at only 300 cars per 1 000 people, compared with the European Union average of around 500 cars per 1 000 people.

**Figure 4.12.3** Oil demand by product, 1998-2012
Imports/exports and import dependency

Approximately 82% of Hungary’s crude oil supply in 2012 was imported, with all imports coming from Russia via the Druzhba pipeline system. Because of Hungary’s declining domestic production, import dependency is expected to grow further.

Figure 4.12.4 Oil product imports by origin, 2012

Oil company operations

The Hungarian Oil and Gas Public Limited Company (MOL) is the main oil company in Hungary. It operates in both the upstream and downstream sectors. MOL is listed on the Budapest Stock Exchange and has a diversified ownership structure, consisting mainly of other energy companies, banks and foreign and domestic institutional investors. MOL and OMV of Austria are the largest wholesale companies in the region.

The retail market consists of numerous players. With 363 filling stations, MOL has the largest network. It is followed by Shell (249 stations), Agip (183), OMV (178) and Lukoil (75). In addition, there are some 600 white stations in Hungary, i.e. small private companies with just a few stations. The retail market consolidated from 2006, as OMV bought Q8, BP and Aral, while Agip bought Tamoil and ExxonMobil, and Shell bought Total and Tesco’s supermarket stations.

Oil supply infrastructure

Refining

Hungary’s refining industry supplies some 80% to 85% of oil products (including the output from MOL’s Slovnaft refinery in the neighbouring Slovak Republic). The remaining oil products supplied to the market are imported. The largest source of imported product is Russia, with a large share of imported product also supplied from OMV’s Schwechat refinery in Austria. Additional important product sources are Kazakhstan, Romania, Croatia, Belarus and Italy. Hungary has made notable efforts to diversify its oil product supply sources.

MOL is the owner of Hungary’s three working oil refineries: Duna (Százhalombatta), Tisza (Tiszaujváros) and Zala (Zalaegerszeg). However, crude oil distillation is concentrated in the Duna refinery. Tisza’s role is hydrofinishing gas oil and ETBE production, and bitumen is blown and blended at Zala. MOL supplies the majority of the domestic market’s needs, but also sells its motor fuels, heating gas oil and bitumen to neighbouring countries in Central and Southeast Europe.
In 2012, the country’s refined product output totalled 166 mb/d and the capacity utilisation rate of Hungary’s refineries was 88%. The composition of production was gas/diesel oil (45%), motor gasoline (16%), residual fuel oil (1%) and naphtha (15%). Hungary’s refineries produce sufficient amounts of diesel (75 kb/d), gasoline (27.3 kb/d), jet kerosene (3.6 kb/d) and residual fuels (1.5 kb/d) to meet local demand.

Figure 4.12.5 Refinery output vs. demand, 2012

Ports and pipelines
There is no oil port in Hungary, but there is the option to export and import refined products by barge from Komárom and Százhalombatta. A large proportion of product exports from MOL refineries are transported by barge on the Danube River.

The Druzhba pipeline system, originating in Russia and transiting Ukraine, is Hungary’s main crude oil supply channel. The Druzhba I pipeline (built in 1961) has an entry point capacity of 70 kb/d (3.5 Mt/yr) and supplies Hungary from its northern border with the Slovak Republic. The Druzhba II (built in 1971) has a capacity of 160 kb/d (7.9 Mt/yr) and supplies Hungary from its eastern border with Ukraine. The pipeline terminates at the Duna refinery (via the Tisza refinery).

Hungary is also linked to the ‘Eastern product pipeline’ that transports product from Russia’s refining centres via Ukraine. This enables MOL to purchase gasoil feedstock from Russia for further processing. There is no arrangement in place for purchasing other feedstock.

The Adria oil pipeline, with a capacity of 200 kb/d (10 Mt/yr) links the Duna refinery to the Croatian port of Omišalj. This pipeline was originally intended for the delivery of crude oil imports from the Middle East or Africa to Hungary but has mainly been used for transport in the opposite direction, transiting Russian crude oil to the Sisak refinery in Croatia. The Hungarian government indicates that in an emergency it would take around 30 days for the Adria pipeline to be reversed in order to transport crude oil from the Adriatic Sea to the Duna refinery. A further pipeline connection from the Duna refinery to Šahy in the Slovak Republic extends the Adria to the Slovak section of the Druzhba pipeline. This connection has a capacity of 90 kb/d (3.5 Mt/yr).

MOL operates 1 356 km of domestic product pipelines to supply the main depots in Hungary: Székesfehérvár, Pécs, Komárom, Szajol and Tiszajvívos.
Storage capacity

Total storage capacity in Hungary stands at some 12.16 mb (of which 4.12 mb is for crude and 8.04 mb for products), spread over 10 sites.

The operating depot system has been downsized, the result of network optimisation. As of 2011 MOL has no plans to change the system in the near future, although some existing closed depots can be put back into operation within a relatively short time. Of note, there is no third-party access to MOL’s terminals, even if they are unused.

Eight MOL depots serve as public storage terminals (customs warehouses) for finished products and other companies operate depots at other locations. Three crude storage tank farms include storage facilities for commercial and strategic stockholding purposes.

Crude oil stored at one of the facilities, Tiszaujváros, can be transported via pipeline to Százhalombatta. A few days’ outage can be covered with existing storage facilities, and no expansion of storage facilities is planned by the industry.

Decision-making structure

Energy supply is the declared responsibility of the Minister of National Development in co-ordination with HUSA and the relevant stakeholders. Their responsibilities include oil security, maintenance and improvement of the emergency response system and co-ordination with the IEA.

The oil NESO is the key stakeholder body for emergency response and operates under the supervision of the minister. The political head of the system is the state secretary for energy, while the operational head is the deputy state secretary for energy together with the directors-general under his/her supervision. In a declared emergency, however, the NESO is directly led by the minister. The NESO works in close co-operation with HUSA’s board of directors. The board includes: representatives of the Ministry of Public Administration and Justice; the Ministry of National Development; oil companies including MOL, Eni, Mabanaft and Shell; appointed expert members of certain partner ministries (e.g. the Ministry of Interior); the Hungarian Petroleum Association (MÁSz); and the Energy Centre.

The legal basis for Hungary’s oil emergency response policy is Act No. XLIX/1993 on the Emergency Stockholding of Imported Crude Oil and Oil Products (amended in 1997 and 2004). It outlines the requirements in terms of emergency oil stockpiling held by HUSA and provides the Ministry of National Development with the statutory power to implement demand restraint or release strategic oil stocks in response to an IEA or European Union declared emergency. The Act is in line with the relevant European Directives (98/93/EC, 73/238/EC and 2006/67/EC). The roles and responsibilities of government ministries during an emergency are allocated in Government Decree No. 212/2010. (VIII.1) Korm.

Stocks

Stockholding structure

HUSA is responsible for meeting Hungary’s stockholding obligations as a member of the European Union and the IEA. It thus maintains, on behalf of member companies, stock levels of no less than 90 days of domestic consumption of the three main product categories (gasoline, middle distillates and fuel oil). In practice, the agency holds levels in excess of the minimum requirement. All strategic stocks must be available for withdrawal within 48 hours of the government’s order for release.
Hungary has also signed formal bilateral stockholding agreements with Slovenia, Italy and Croatia. Hungary does not allow stock ticket arrangements for its IEA and European Union stockholding obligations, but it holds ticketed stocks for Italy and Slovenia, primarily of gasoil stocks.

**Crude or products**

HUSA holds 43% of its stocks in crude oil. The remainder is split between motor gasoline (19%), diesel (38%) and heating oil (for power plants, less than 1%).

**Location and availability**

Hungary would contribute to an IEA collective action by tendering stocks from HUSA’s public reserves. Physically, stocks are held separately from industry stockholding. If a tender were to be held it would be location-specific, so delivery would be directly from the tank in which the stock is held.

**Monitoring and non–compliance**

Hungary’s oil stocks remain comfortably above the IEA’s 90-day requirement, the equivalent of 152 days of net imports in December 2012, of which 41 days were held by industry and 111 days are public stocks. Hungary consistently meets the IEA’s 90-day obligation with its public stocks alone.

HUSA’s activity is controlled by its members (market participants) and the government through voting rights exercised at the general meeting and by the board of directors.

All emergency stocks are owned by HUSA and are stored separately from commercial stocks. The Hungarian Stockpiling Act lays out strict controls on accounting and close physical monitoring. HUSA regularly conducts inspections of the operation of storage companies and facilities.

**Stock drawdown and timeframe**

In the event of a supply disruption, the drawdown of stocks is ordered by the minister, on the basis of consultations with the NESO members. As HUSA is a member of NESO, the drawdown process can be started immediately.

Following the declaration of an oil supply disruption, HUSA member companies have 48 hours to declare their quota (i.e. the amount they have the right to purchase from the stockdraw), after which those not exerting their right forego all access to the stockdraw. The minister then has the right to choose how to allocate any unclaimed stocks, either by awarding pre-emptive purchase rights to selected consumers or by asking HUSA to call for tenders from its member companies.

Physical deliveries are possible within 48 to 72 hours following a stockdraw decision.

**Financing and fees**

HUSA is an independent, not-for-profit company. It is financed by compulsory membership of all crude and oil product and gas traders in Hungary. Membership levies are proportionate to the percentage of oil and gas the company puts into circulation on the domestic market.
Other measures

Demand restraint

Hungary has never resorted to demand restraint measures, and is unlikely to resort to such measures in a crisis. However, in the event of a crisis, the minister is entitled to take measures to restrict consumption in a decree issued jointly with the other ministers concerned in the regulation.

Since 1979, Hungary has had rules and legislation giving the minister responsible for energy wide-ranging authority to impose demand restraint measures. If necessary, a parliamentary decision can also be prepared on the NESO’s behalf. Hungary distinguishes three levels of demand restraint: light-handed, medium-handed and heavy-handed measures.

The light-handed measures can be executed within a few days and would result in a 2% to 4% reduction in consumption. They include:

- publicity to encourage fuel savings
- avoiding the use of cars for short distances
- reducing the temperature of public buildings
- encouraging a reduction of the temperature in dwellings.

The medium-handed measures would take one to two weeks to implement and would result in a 4% to 8% reduction in consumption (including the aforementioned light-handed measures). They include:

- introducing driving and speed restrictions
- prohibiting driving for one day a week or at weekends
- restricting the use of passenger cars based on registration numbers
- reducing the quantity of fuel that can be purchased at filling stations
- restricting the deliveries of oil products.

Heavy-handed measures include:

- the introduction of quotas on fuel oils for large customers (amounts to be determined by a crisis committee)
- retail quotas and restriction of fuel oil deliveries for small customers
- a restriction on the use of motor fuels by the chemical industry
- the introduction of rationing tickets for motor fuels in the private sector; the introduction of quotas on motor fuels in the public sector
- the allocation of quotas on motor fuels for the trading and services sector.

The impact of the heavy-handed measures has not been quantified and could take two to three months to have an effect.

Fuel switching

There is virtually no ability to switch from oil to other fuels, although there is a limited amount of fuel switching from natural gas to oil.

Other

Hungary has no potential for increased indigenous production in an emergency.
Gas

Market features and key issues

Gas production and reserves

Domestic gas production met approximately 24% of total demand in 2011, with the remainder of demand met by imports, mostly from Russia. Domestic production has been in steady decline since 1990, when it stood at almost 4.9 bcm. In 2011 production stood at 2.7 bcm, and in 2012 it is estimated to reach 2.2 bcm. The country has proven reserves of 95 bcm, according to Cedigaz, corresponding to roughly 40 years of current level production. Gas production comes mostly from mature fields, but the government believes that production can be maintained at close to these volumes until around 2020. Thereafter, however, production is expected to decline considerably if no new resources are developed.

Hungary has unconventional gas resources – tight gas – but this potential remains very uncertain. Several companies, including MOL, ExxonMobil, and Falcon, are involved in unconventional gas exploration, for example in the Makó Trough and the Békés Basin. However, most activities are in the preliminary stages and it is too early to estimate if and when unconventional gas could reverse the declining production trend. The government is encouraging unconventional gas production with lower royalty rates (12%) than conventional gas production (up to 30%). However, the terms for new gas exploration contracts are determined on a case-by-case basis by the government.

Gas demand

Gas demand has been declining since 2005. It dropped by some 30%, to 11.5 bcm in 2011 (from 14.9 bcm in 2005) and is expected to stay at similar levels in the future.

The residential sector is the largest consumer of natural gas in Hungary, standing at some 32% of total gas demand in 2011. As such, the supplies of natural gas are of paramount importance in the cold winter months, as many homes depend on gas for residential use and heating. Equally important, the transformation sector accounted for around 30% of gas demand. The commercial sector accounted for 20% of gas demand, and industry accounted for another 15%.

Figure 4.12.6 Natural gas consumption by sector, 1973-2011
Gas import dependency


While Hungary was until recently largely dependent on imports from Russia (in 2009 more than 80% of its imports came from Russia), recent years have seen a significant change in this trend. Imports from Western Europe and other sources have increased incrementally since 2008, as traders have taken the opportunity of cheaper spot prices for gas from this region. In 2011 only 65% of natural gas was imported from Russia and the estimates for 2012 show this figure to be even lower at 44%.

As of 1 July 2010, 20% of the import capacity is reserved for short-term capacity booking contracts.

Figure 4.12.7 Natural gas imports by source, 2012

Gas supply infrastructure

Ports and pipelines

Hungary’s gas transmission network consists of 5,632 km of high-pressure pipelines, with 402 gas delivery points. The network includes five compressor stations with a total installed capacity of 135 MW.

Hungary imports most of its gas from Russia via Ukraine at Beregdaróc (56.3 mcm/d), but also small amounts via Austria at Mosonmagyaróvár (12.1 mcm/d). Hungary is planning to enhance its import capacity as well as diversifying its import routes and sources. Hungary is also a key transit country for Russian gas to southeastern Europe, and is looking to expand its general role as a transit country. Around 12 to 15 bcm are transported on Hungary’s gas transmission network annually, of which some 4.25 bcm are reserved for transit through the grid.

This process of diversifying supply sources and expanding Hungary’s role as a transit country includes the construction of the Romanian and Croatian interconnectors, preparation for missing links (Slovakian and Slovenian interconnectors) and future considerations of capacity upgrades for existing interconnectors. The cross-border connection between Hungary and Romania was completed in 2010 and the one with Croatia has been in operation since the beginning of 2011.

Storage

Gas storage is crucial because of the high dependence of Hungary’s electricity sector on gas-fired power plants, and because of the high volumes of relatively inflexible residential demand. Hungary has five commercial storage facilities, with a total working
capacity of 5.43 bcm and a withdrawal capacity of 72.0 mcm/d at the beginning of the winter months. All commercial storage can be accessed by third parties.

Following the supply interruption of January 2006, the Hungarian parliament approved a new law, Act No. XXVI, 2006 on Safety Stockpiling of Natural Gas, in February 2006. According to the act a strategic underground gas storage facility of 1.2 bcm was to be built, so as to provide Hungary with 40 to 45 days of autonomy if its main import source from Russia failed.

The stockpile aims to protect households as well as customers who cannot switch to other energy sources. HUSA and MOL established MMBF Zrt, a private limited company, to own and operate the storage facility, which was completed in 2010. The gas is owned by HUSA.

In June 2010, Hungary amended the legislation to allow for a reduction in the minimum strategic stockholding level, the level to be determined on a yearly basis by the minister.

**Emergency policy**

Hungary’s natural gas emergency response measures for use in the event of an interruption to supplies are set in Government Decree No. 265/2009. (XII. 1.) Korm.

The Hungarian Energy Office (HEO) is the regulator for natural gas. It approves the network code which provides for transparent and non-discriminatory access to the network for all user groups. In practice, the regulator’s powers are often limited to providing advice to the minister, who has the right to set system usage and connection tariffs and the price of “universal supply” (notably to households). The HEO co-operates closely with the Hungarian Competition Authority and the Hungarian Consumer Protection Authority. The parameters of their co-operation are detailed in a joint agreement which is reviewed every year.

The third European Union gas market directive (2009/73/EC) obliges EU member states to separate the transmission system operations of vertically integrated companies from their other operations. Hungary opted for the independent transmission operator option, and its parliament amended the Gas Act accordingly in January 2010. Consequently, the gas transmission owner/operator FGSZ remains 100% owned by MOL but is subject to heavy regulation and permanent monitoring to ensure non-discriminatory system operation.

In the event of a crisis, the TSO is responsible for operational crisis management. However, decisions regarding certain strategic questions may remain in the hands of the regulator or government. There are no specific emergency plans between the Hungarian TSO and neighbouring countries.

In the case of natural gas, the structure of the natural gas NESO is similar to the oil NESO, but the crisis committee includes partners from the natural gas industry such as the limited company FGSZ and the energy service provider E.ON, as well as other relevant authorities.

**Emergency response measures**

System operators are responsible for informing the regulator about any circumstance which could indicate a crisis. The regulator assesses the seriousness of the crisis and determines the rating of exceptionality (crisis level 1 or 2), and informs the minister who, in agreement with the crisis committee, formally determines the crisis level. Under crisis level 1, the system can be operated in line with the existing civil law contracts through a combination of restrictions and the use of strategic stocks. Under crisis level 2, the gas
market cannot be operated in line with the existing civil law contracts and the remaining gas sources have to be managed by the TSO.

Any decision to release strategic gas stocks lies with the minister. HUSA is responsible for monitoring gas stocks and is responsible for ensuring that any stock release goes according to plan.

The Hungarian Natural Gas Law outlines demand restrictions that can be implemented in case of supply disruption, when there are no other applicable means for ensuring balance in the system. The responsible authorities are the minister, the HEO and the TSO. In a crisis situation, detailed rules are set up for all market players.

There is a priority list of consumers for whom supplies must be guaranteed, even in the event of a severe crisis (crisis level 2). Among the priority listing are: TSO consumption, household customers, other residential buildings, public institutions, medical centres, consumers where the restriction could cause health or environmental risk, district heating power plants, etc.

The other consumers can have their gas supplies curtailed, and are divided into eight specific “limitation” categories. These categories are prioritised, depending on the size and nature of the consumption sectors.

Additional demand restraint measures are also at the government’s disposal in a crisis. Among them are: reducing the opening hours and heating temperature of public buildings; appointing free public holidays; and removing the excise tax on imported fuel oils to incentivise fuel switching from natural gas.

The Hungarian Electricity Law (Act No. LXXXVI/2007) obliges power plants with over 50 MW of output to hold so-called normative and emergency oil stocks, both of which must correspond to a minimum of eight days of average fuel consumption. Some 34 kb/d of gas could be switched to oil in the event of a crisis.

The TSO has indicated that the total volume of fuel saved by interruptible contracts could amount to between 5 and 6 mcm/d. However, the TSO has also indicated that it only knows the interruptible capacities and that the interruptible volumes are known and handled by the traders.

For gas, the “normal” natural gas production level stands at around 7.5-8 mcm/day. In the event of an emergency, production can be increased by 0.5 mcm/day over a maximum period of two to three months.