COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 16.7.2009
SEC(2009) 977 final

COMMISSION STAFF WORKING DOCUMENT

Accompanying document to the

Proposal for a

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

concerning measures to safeguard security of gas supply and repealing Directive 2004/67/EC

THE JANUARY 2009 GAS SUPPLY DISRUPTION TO THE EU: AN ASSESSMENT

{COM(2009) 363}

INTRODUCTION

From 6-20 January 2009, gas flows were interrupted from Russia to the EU via Ukraine. A majority of Member States were affected directly and indirectly. Although the disruption was a commercial matter between Gazprom of Russia and Naftogaz of Ukraine, the EU was in regular contact with both parties before the onset of the disruption and throughout the event and was instrumental in the agreement on creating an international monitoring mission as well as facilitating negotiations on an agreement for gas supplies into the EU to resume.

This paper considers how the crisis developed and why existing provisions were not enough to avoid major disruptions to EU gas supplies in January 2009. It considers what the EU can learn from these events in order to make the framework more resilient and effective in responding to gas supply threats, both in an emergency situation and over the medium to longer term.

This paper also responds to a specific request from the European Parliament and from four individual MEP's for an analysis of the Russia-Ukraine gas crisis including the lessons learned.

It reflects discussions and consultations which the Commission has held with Member States, including in the Energy Council and Gas Coordination Group, the European Parliament and the industry, including Eurogas[1], the European Federation of Energy Traders (EFET)[2], the European Energy Regulators Group (ERGEG)[3], and Gas Infrastructure Europe (GIE)[4], Eurelectric and the International Federation of Industrial Energy Consumers (IFIEC), as well as the assessment of the International Energy Agency.

BACKGROUND

One quarter of all energy consumed in the EU is gas. 58% of this gas is imported. Of this, 42% comes from Russia, and around 80% of EU imports of gas from Russia pass via Ukraine. Among the 8 new eastern European Member States, dependence on Russian imports averages 77%. In practical terms, some 300-350 million cubic metres per day (mcm/day) of gas passes through Ukraine towards the EU, around one fifth of total gas demand in the EU. Ukraine transits the same quantity of gas on behalf of the EU as it consumes in its national market (around 300 mcm/day in winter).

In November 2008, the European Commission announced a revision to the Gas Security of Supply Directive 2004/67/EC in its assessment[5] on the grounds that "today's legal framework could be improved. In particular greater harmonisation of security of supply standards and pre-defined emergency measures on regional and EU levels are needed".

The EU legal framework for gas security of supply is largely regulated under the internal market framework, which governs issues such as transparency and access to networks, as well

---

1 Letter to Commissioner Piebalgs of 22 April 2009
2 Letter to Commissioner Piebalgs of 30 March 2009
3 Letter to Commissioner Piebalgs of 10 February 2009
4 Letter to Commissioner Piebalgs of 30 April 2009
5 Communication of the Commission …

as customers' rights. Trans-European Networks for Energy funding is also available to support key internal supply infrastructure which has European priority[6].

As far as the response to potential supply disruptions is concerned, the Gas Security of Supply Directive and the established Gas Coordination Group are the most important instruments, complemented by various levels of producer consumer dialogue, including the EU-Russia energy dialogue, EU energy relations with Norway, in the framework of the EU-Ukraine Memorandum of Understanding (MoU) on Energy as well other dialogues with producing and transit countries.

January 2009 is not the first time that gas supplies to the EU have been disrupted. Tensions between Russia and Ukraine and Russia and Belarus have been raised several times since the break up of the Soviet Union due to the continuing difficulties to agree on the details of a new gas transit and supply regime. The absence of a long term agreement has led to several disputes translating into supply uncertainty at the start of calendar year. For the EU, with respect to EU's gas supplies from Russia transiting through Ukraine, the most serious disruption before that of January 2009 occurred in January 2006. On that occasion, gas supplies to the EU were restored after one day of disruptions and available storage capacities easily made up the shortfall (some 80 mcm).

In order to respond to increasing concerns of possible disruptions of gas supplies to the EU, several initiatives were developed by the European Commission. An Early Warning Mechanism has been developed within the framework of the EU-Russia Energy Dialogue based on establishing direct communication links between the European Commission and the Government of Russia for notifying in advance possible supply disruptions. Additionally, the Thematic Groups of the Energy Dialogue address potential supply and demand risks in the medium and long-term. At the Permanent Partnership Council meeting in October 2008, the EU and Russia agreed to enhance the Early Warning Mechanism and include also practical steps to resolve supply disruptions. Moreover, in the implementation of the EU-Ukraine energy MoU a specific working group has been established to address the issue of enhancing the security of energy supplies. In this context, an International Investment Conference on the modernisation of Ukraine's gas transit system was hosted by the European Commission on 23rd March 2009 in Brussels, which resulted in an agreement between the Commission, Ukraine and the international financial institutions (EIB, EBRD and World Bank) on the way forward for the reform and modernisation of Ukraine's gas transit system. In addition, an Early Warning Mechanism is under development with Belarus and energy discussions with Moldova have also addressed the issue.

BRIEF OVERVIEW OF THE JANUARY 2009 GAS CRISIS

The January 2009 gas crisis resulted from an unresolved commercial dispute between Naftogaz (Ukraine) and Gazprom (Russia). Reportedly, Gazprom stopped supplying gas for Ukrainian consumption on the 1 January 2009 while gas to be transited through Ukraine for European consumption continued to be delivered to Ukraine. Normal transit to the EU continued through 1st January.

[6] Since 1995, TEN-E has supported 94 gas interconnection projects, with a total of €143,000,000

On 2nd January, gas deliveries to several European Member States were affected, notably Poland, Slovakia, Hungary, and above all Bulgaria and Romania. On the same day, Czech Prime Minister Topolanek (as President of the Council) met consecutively with Russian and Ukrainian representatives. In parallel, Czech Deputy Prime Minister for European Affairs Vondra met with the Gazprom deputy chairman, Alexander Medvedev. On 8th January 2009, President Barroso held a meeting with the CEO of Gazprom. Alexei Miller.

Until midnight of the 6th January, minor reductions of gas volumes were encountered in the EU, gradually increasing to 33% on the Western Balkan route and 11% at the Western Ukraine entry points. From 1 am on the 6th January, it was reported that all supplies through Western Balkan route were cut to Romania, Bulgaria, Greece, FYROM and Turkey. At 10am on the 6th January only 10% of gas was reported as flowing to Slovakia, the main entry point for Russian gas supplies towards the EU, to be distributed further to Austria, west Hungary, Czech Republic, Germany, Italy, France, Slovenia and Croatia. Very low level of gas flows was reported from Poland and the east Romania entry points. East Hungary received only 20% of gas, which also affected supplies to Serbia and Bosnia and Herzegovina.

On the night of 6th to 7th January, all supplies from Russia through Ukraine to the EU were cut. There were no gas supplies from Russia to Europe from 7 January to 20 January.

In response, the EU, led by the Czech presidency and the Commission, started their efforts aiming to facilitate an agreement between the partners at two levels: the Russian government and Gazprom in Russia, and the Ukrainian government and Naftogaz in Ukraine. This resulted in the signing of a monitoring agreement between Ukraine, Russia and the EU on 9th January, which provided for independent monitors from all the involved parties to oversee the gas transit on Russian and Ukrainian territory. The agreement was ratified by all parties in Brussels on 12th January. As early as 8 January, the European gas industry associations, including Eurogas and Gas Infrastructure Europe (GIE), had identified experts to participate in the EU monitoring team along with the Commission's representatives. These monitors were immediately dispatched to monitor the situation with respect to gas flows on the ground.

On 17th January, Russia hosted a high level summit in Moscow, with the participation of the EU and the Russian and Ukrainian representatives. This resulted on 18th January in an agreement between Russian Prime Minister Putin and Ukrainian Prime Minister Timoshenko. On 19th January, within the scope of this political agreement, Gazprom and Naftogaz signed new 10-year agreements on the purchase of gas by Ukraine and the transit of gas to the EU via Ukraine. On 20th January, normal gas transit towards the EU was resumed

The EU was not the only victim of the crisis. Other non-EU countries in south-east Europe suffered significant disruptions to their energy supply, with the international community stepping in to supply emergency fuel aid to Moldova. Finally, both Russia and Ukraine suffered damage to their reputations as reliable energy partners for the EU as well as substantial losses of revenue (for example Gazprom estimates its lost sales to the EU to be around $2 billion in the first three weeks of January). [7].

[7] Additional information on the chronology of the events, including records of gas volumes and flows, can be found in the comprehensive IEA report The Ukraine-Russia Gas Dispute (20.01.2009) and the IEA Secretariat's note *Overview of the Russia - Ukraine gas dispute of January 2009* (11 March 2009).

LEADING UP TO THE CRISIS: EARLY WARNING AND CRISIS PREVENTION

On 18th December 2008, Gazprom announced that it would interrupt supplies to Ukraine as of 1st January 2009 unless agreement was reached over Ukraine's outstanding payments and a new contract signed. Russia officially activated the EU-Russia Early Warning Mechanism on 18th December 2008. The Russian Deputy Prime Minister and Chairman of the Gazprom Board of Directors Viktor Zubkov wrote to President Barroso and 27 Member States to warn them that a gas interruption could be inevitable as a result of the impending gas supply dispute with Ukraine.

Political contacts between the Commission (Commissioner Piebalgs and President Barroso) and the Russian authorities and leaders of Gazprom took place over the Christmas period. President Barroso spoke to Prime Minister on 31st December and again on 6th January 2009, when he also spoke to the Ukrainian Prime Minister, Ms Timoshenko.

In anticipation of difficulties, the Commission alerted the Gas Coordination Group and other concerned parties on 19th December and convoked a meeting of the Gas Coordination Group for 9th January 2009. In parallel, a monitoring system was put in place by Gas Infrastructure Europe at the entry points of the EU involving Poland, Slovakia, Hungary and Romania on the 3rd January.

The European Network of Energy Security Correspondent (NESCO) was also used to exchange information in an impromptu way on the evolution of the situation in EU Member States as well as other third countries concerned.

Although the EU-Russia Early Warning Mechanism had warned about the possibility of the crisis in late December 2008, there was no further notification by Russia that supplies to and through Ukraine would be in fact be totally cut, which occurred on the 6th and 7th January. There was no contingency plan at national or EU level as to how to react to an unforeseen major disruption, which industry representatives had thought "impossible".

At the EU level, a major difficulty in assessing how best to respond to the crisis was the limited access to important technical information with respect to the gas system and gas flows at a national and an EU level. There was not enough reliable information about gas flows, how much gas was in the system, and demand patterns. This situation reflected on the fact that qualitatively different systems exist across Member States, with unequal access to information by market players and others, including public authorities.

As the crisis developed, the Gas Coordination Group helped to fill this information gap and enabled an exchange of detailed daily information and the analysis of the gas situation of the different EU Member States and Countries of Energy Community Treaty.

However, the crisis came too early to benefit from the provisions of the third internal market package that had been proposed by the European Commission on September 2007 and only recently finally adopted, which includes an obligation to publish data on forecast and actual gas flows, amount of gas in storage and available pipeline and storage capacities.

DIFFERENT MODELS OF DATA PROVISION RELATING TO SECURITY OF GAS SUPPLY IN MEMBER STATES

i) Live, updated and aggregated information on demand and supply forecasts, transmission and capacity detail and storage levels, disclosed to the public in real-time (e.g. UK).

ii) Daily information on demand and supply forecasts, storage capacities, contracted quantities and consumption patterns confidentially shared with the regulator alone (e.g. Austria).

iii) No information on storage levels even for the regulator or government representatives

The absence of reliable information about the gas transiting through Ukraine to the EU also hindered decision-making. In effect, the EU had become victim to a commercial dispute between two non-EU companies resulting partly from their move to put their relationship on a more commercial basis. The EU was aware of the shut-downs of gas supply that were causing major difficulties for industrial and household consumers, but did not have adequate access to information about the flows of gas which were contracted commercially for distribution to its customers.

The uncertainties of whether and to what extent the EU would be affected, and of how much gas was in the transit system once supplies were reported to be resumed, were major barriers to developing a coherent response.

Lessons for the EU:

A disruption on the scale of the January 2009 gas disruption might happen again. The EU is vulnerable not only to commercial disputes as happened in this case, but also to the risk of accidents or technical failures on major gas import pipelines.

The early warning and crisis prevention mechanisms at the EU level are weak in dealing with a sudden and unforeseen crisis. The situation at the moment is largely based on an assumption that national responses exist and will be enough.

A major barrier to understanding the situation and taking appropriate decisions was a lack of transparency and access to up-to-date information. Decision makers at both the political and market level need reliable and aggregated information about demand, supply and storage in order to take adequate actions responding to the situations of gas supply disruptions. Crisis prevention measures depend on having such information available and updated on a permanent basis.

The reliability of reporting mechanisms is even more important in an emergency situation. Comprehensive market data needs to be available, without restriction, on a daily basis, bearing in mind the possible need of recipient bodies to respect the standard commercial confidentiality requirements.

There is inadequate coordination and coherence between national provisions to anticipate and avoid crises. Greater consistency in crisis prevention might be achieved for example by regular exchanges between Member States about the situation of emergency measures and peer reviews of risks assessments among Member States. Existing bodies, such as the Gas Coordination Group and the Network of Energy Security Correspondents have to be involved.

In spite of discussions in the Gas Coordination Group, where some disruption scenarios (e.g. Yamal disruption) had been presented before along with the Winter Outlook of GIE, all based on rough data, common scenarios are lacking. There are no common scenarios for dealing

with emergency situations prepared in advance, involving regional or EU level risk assessments and detailed assessments of the market situation (demand patterns, main suppliers, alternative sources, storage possibilities etc). If these had been available, e.g. in Gas Coordination Group, it may have been easier to put in place contingency plans to cover for disruption of major supply route (e.g. accident, if not commercial dispute).

Scenarios could also be usefully coordinated with infrastructure planning procedures, via the proposed European Network of Gas Transmission System Operators (ENTSO – G).

Enhanced engagement with EU's major supplier and transit countries can also provide an appropriate framework for developing early warning mechanisms and adequate communication links for notifying of possible difficulties and facilitating possible solutions in case of disruption of gas supplies.

THE EXTENT OF THE CRISIS: ASSESSMENT OF THE EMERGENCY PREPAREDNESS AND RESPONSE MECHANISMS

The January 2009 gas disruptions resulted in the most serious gas supply crisis to hit the EU in its history, depriving EU Member States of 20% of their gas supplies (30% of imports). Coinciding with a cold spell in many parts of Europe, it demonstrated the vulnerability of the EU and some of its Member States to gas disruption and resulted in important economic repercussions in a number of EU Member States[8]. Within days of the supply interruption of 6 January, a total of 12 Member States and Member Countries of the Energy Community were affected. It was also clear that the interruption could not be resolved by individual EU companies or TSO's alone.

Although the existing Gas Security of Supply Directive obliges all Member States to have gas emergency measures, the emergency plans, triggers and the extent of these mechanisms differ from country to country, or are not yet even developed. During the January crisis, some Member States declared emergencies as a result of their national situation and launched emergency plans. Some adopted and implemented concrete plans and measures on the first day of crisis, while others had no detailed plans in place.

The level of preparedness of the different Member States varied significantly. Where emergency planning existed, the emphasis was on small, practical steps at a local or national level. Also, the measures applied, such as use of gas storage, focussed on the first reaction to supply cuts in the short term. Substantially increasing reliance on coal and fuel oil would also have been unsustainable due to environmental constraints (e.g. Large Combustion Plant Directive and emission quotas). Had the crisis continued for a longer period, or spread to other parts of the EU, the impact could have been much more devastating in economic, social and environmental terms.

The Gas Coordination Group met for the first time on 9th January and immediately identified a list of response measures. The first response, where this was possible, was to access gas from storage. However, the rates of release and extent to which gas was available varied from Member State to Member State (e.g. storage represents 35% of gas demand in Bulgaria, 97% in Slovakia). Most Member States and Energy Community countries, with the exception of

[8] Source: Regional Centre for Energy Policy Research, Budapest

Bulgaria, Moldova and Serbia, were able to substitute the supplies from Russia in the short term, either by drawing on storage, by importing additional spot LNG cargoes (such as Greece) by fuel-switching and by extra commercial deliveries from neighbouring countries (such as Austria, Hungary and Czech Republic).

Diversification of routes but especially sources was another widely used emergency measure: imports from alternative suppliers increased, namely Norway and Libya, along with increased Russian imports via Belarus and Turkey. In some cases, gas was cut off to large industrial companies (for example in Bulgaria, Romania, Hungary and Poland) in an attempt to keep gas flowing to households.

Some fuel switching took place, particularly towards fuel oil for heating and coal for power production (including Austria, Slovakia, Greece, Poland, Bulgaria, and Romania). LNG also proved itself a useful alternative, although the full compensation of the missing volumes was not possible.

The existing Gas Security directive encourages Member States and companies to collaborate with neighbouring countries, including on access to storage. Such arrangements were highly necessary during this crisis and proved to be an essential part of the response. However, there was no regional strategy among the Member States affected, despite their evident interdependence.

Political bilateral agreements (e.g. Bulgaria and Serbia with Russia) proved to be less effective than market arrangements between gas undertakings within the EU internal market framework in helping to keep supplies flowing. The deepening crisis highlighted the importance of robust and consistent regulation to ensure the adequacy of networks, at both the transmission and distributions levels, to deal with widely diverging demand and supply and maintain services.

Pricing systems appeared to be relatively insensitive to the crisis. Price reactions were almost non-existent in eastern Member States. This suggests a lack of market functioning in these regions. However, in other parts of the market, reactions were more dramatic with 10% rises on NBP in UK, and a 25% increase at Zeebrugge in Belgium. Direct and indirect subsidies or price distortions, either at the public level or through commercial policies, were identified as reducing the capacity for markets to deal with supply emergencies by removing incentives for investment in new infrastructure and for greater efficiency in energy use[9].

The crisis affected above all consumers. Maintaining services to household consumers was generally given priority throughout the crisis, although it appears that poorer households were most likely to shift to alternative and inefficient alternatives (electricity, wood-burning, particularly in Bulgaria). Where major shortages occurred, industrial customers had to reduce demand (e.g. Bulgaria, Romania, Poland's largest fertiliser plant and refinery). Some Member States, such as Hungary, Slovakia, issued calls to cut back on gas consumption for industry.

Beyond this, energy demand management policies proved insufficient and largely irrelevant due to the need for mid-winter heating and the inefficiencies of district heating systems and insulation standards. There was no properly worked out strategy which would have reduced energy demand more evenly, involved the whole economy and ensured that no country

[9] The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, Oxford Institute for Energy Studies, Feb 2009

suffered an undue impact on its economy, and on its environmental commitments (e.g. heightened emissions from coal plants).

LESSONS FOR THE EU:

There is considerable scope to improve the level of preparedness at national and EU level.

Emergency planning was greatly hampered by a lack of consistency, coherence and comparability between the various definitions and measures which exist in the different Member States. Where measures were in place, their effectiveness was curbed by the narrow and localised approach to tackling supply difficulties, a lack of options to diversify supplies, and by a lack of access to up-to-date and complete information on supply, storage and demand.

The EU needs to have common criteria on which Member States can base their emergency planning, and these need to be developed not just at the national level, but also at a regional and EU level with a view to the EU internal market dimension. Reactions based on national markets risk hampering the ability of gas traders to keep gas flowing efficiently in the internal market and thus exacerbate the situation for the EU as a whole.

Energy saving and energy switching should be better highlighted within prevention and emergency plans and seen as a first, rather than a last resort.

Access to storage is a useful emergency measure, but cannot be relied on for longer periods and cannot substitute for better interconnections to keep gas flowing (see also below *The EU gas market*)

RESPONDING TO THE CRISIS: THE FUNCTIONING OF THE EU GAS MARKET AND TRANSPARENCY

Early in the crisis, Europe's gas industry showed its ability to deal with some aspects of the European dimension of the problem. The existence of trading agreements and supply contracts enabled companies to work together to maintain supplies to domestic customers, schools and hospitals, during the coldest days of the crisis. For example, Russian gas was made available to Czech Republic via the Yamal pipeline, Czech gas storage was made available to Slovakia, Austrian gas storage to Slovenia.

New supply contracts between companies emerged during the first days of supply disruption (GDF/EON to Serbia and Bosnia and Herzegovina, ENI to Croatia). Hungary allowed domestic and transit gas to Serbia and Bosnia.

New reverse flows from Greece to Bulgaria and from Czech Republic to Slovakia became operational after 18th January.

Cooperation between individual companies (e.g. EON to Hungary) also took place, according to pre-arranged commitments. According to the gas industry[10], "commercial arrangements such as swaps and short term trades allowed a quick response to customers needs".

[10] Letter from Eurogas to Commissioner Piebalgs, 22 April 2009

At least in some of the affected Member States (Germany, Italy and Austria) the markets were able to continue supplies without any emergency intervention due to adequate interconnections, adequate gas in the system and back-up storage.

From the start, the gas industry made significant efforts to deal with the shortages, as well as to cooperate with public authorities. However, common problems faced by many suppliers included: the lack of alternative suppliers, limited or non-existent connections to alternative supplies, slowness of accessing gas from storage, few options for fuel-switching and high levels of demand as a result of cold weather. These technical problems highlighted weaknesses in the way the internal market functions and which call for regulatory intervention.

Gazprom, which was now in breach of its supply obligations to EU consumers which are normally supplied by transit through Ukraine, took some steps to help reduce the extent of the disruption by increasing supplies via alternative routes (notably through the Yamal and Bluestream pipelines). Although limited (around 12% of the cut), these additional supplies replaced some of the missing gas supplies where interconnections existed.

Norway also increased production to help fill the shortfall in EU supplies. On 6th January 2009, gas production in Norway, the EU's second most important source of gas imports, was at an all-time high (342mcm/d). This helped to mitigate supply concerns in parts of the EU, although the additional supplies could not reach Eastern Europe due to the lack of interconnections, and different standards of gas.

Two Norwegian production fields (Kristin and Åsgard) had to be shut down from 8th -12th January due to rough weather conditions. This left excess capacity in the Norwegian transport system towards the EU. During this period, total deliveries of Norwegian gas amounted, with some exceptions, to 320-340 mcm/day, with a total transporting capacity of about 350 mcm/day. In addition, a compressor facility (B11) was out of operation, which reduced flexibility in the overall export system. Bottlenecks further downstream in German infrastructure implied that gas that could have been rerouted to the Continent was instead sent to UK despite lower prices. Importantly, all available gas was routed to the market, but not necessarily to the market where prices were the highest.

Although the UK was not directly affected by the crisis, an attempt was made to help alleviate security concerns in continental European markets by transiting Norwegian gas to Belgium and from there across Europe.

Despite reasonable cooperation between gas companies to exchange data, limitations on access to up-to-date and consistent information were an obstacle to making the most of market potential. In particular, the market was hampered by inadequate information on cross-border gas flows and transparent information on the flow of gas into the EU.

Another obstacle was inadequate coordination between Transmission System Operators, who still had a largely national view of their market. This meant that in some cases such as Italy with Slovenia and with Germany, measures which brought local relief placed neighbours under additional strain.

Events also highlighted shortcomings in the gas pipeline network, on which the internal market is based. Additional supplies from the Netherlands for example, where domestic production was increased in response to the crisis, could not reach needy customers in

Bulgaria because the interconnections and same gas standards were not there. Lacking infrastructure also meant that available LNG supplies could not be supplied to where they were most needed, particularly from Spain and Greece.

Lessons for the EU

The internal market principle, that one part of the market should help supply another at times of supply difficulty, proved valuable.

The gas industry also showed that it can be largely relied on to deal with localised and very short term interruptions to supply. In a wider or longer term emergency, or one involving external circumstances beyond the control of market players, political intervention or coordination is helpful.

It was also the case that the market response largely relied on existing obligations and commitments. Concrete scenarios to deal with unexpected risks were lacking.

Greater coordination among TSO's and better coordination of access to pipeline networks could also have ensured that the available gas flowed to the affected areas. This might have avoided some of the worst impacts of the disruption.

While a well-functioning market is beneficial for security of supply, account must be taken of the negative consequences which come from weaknesses in the existing market framework. Weak markets and/or inadequate regulation may not encourage spare capacity and infrastructure or transparency, including in pricing.

Insufficient physical network integration, inadequate transparency in network utilisation, as well as inflexibility in capacity reallocation and congestion management, inadequate price-response mechanisms and lack of coordination are all factors which undermine the market's response to a gas supply disruption. These will be at least partly addressed in the new internal market legislation, but this makes it all the more important to ensure that the legislation is fully implemented and properly regulated.

Differing understanding of public service obligations across Member States may also make it more difficult for the market to respond in a consistent manner to a crisis. Again, the third internal market package should help in this respect.

Nevertheless, there is a strong case for stronger market regulation to tackle some of the weaknesses this crisis identified. The most serious and most immediately apparent of these was insufficient transparency. But other weaknesses which became apparent included missing connections or sustainable alternatives to pipelined gas, the absence of contingency plans, and an effective role for consumers (energy demand management).

Companies are willing to cooperate in a crisis, but to do so they need a clearly defined and consistent political framework. This needs to set out clearly what constitutes a crisis, how to respond, and the respective role of markets and public authorities.

There is also a need for a better understanding of contractual obligations among different market players, how adequate they are in an emergency, and whether there is a risk of conflict if these come under strain.

The need for complete market transparency cannot be overemphasised. The internal market provisions on transparency may need to be tailored in case of a supply emergency. The market can only work at its most effective if all market participants have equal access to all the available information.

The question of infrastructure and interconnections is paramount. Markets work better when they are fully interconnected and where supply flexibilities are possible (see also below).

RESPONDING TO THE CRISIS: EU ADDED VALUE

During the crisis, a localised disruption (in Eastern Europe) grew into a EU-wide shortage of gas supplies affecting countries across the EU, including for example France, as well as Netherlands and UK that were actively involved in providing additional supplies. The scale of the gas supply disruptions required an adequate response at the EU level, however, a clear strategy as well as concrete instruments were lacking.

The European Commission, in close coordination with the Council Presidency, ensured coordination within the EU and facilitated contacts with the interested parties. These efforts were instrumental in ensuring a common EU position and speaking with a single voice in contacts with third partner countries.

In addition, in order to address the difficulties in access to the relevant information, a fact finding mission composed of representatives of the Commission and the Czech Presidency was deployed to Kiev and Moscow on the 4th January. This was complemented at a later stage by deployment of experts from the industry and the European Commission, in cooperation with the European Gas Industry and the European Gas Transmission Operators, on the Russian and Ukrainian territory for monitoring of gas flows to the EU.

The European Commission also exchanged valuable information with the Member States on a regular basis throughout the crisis. This took place mainly through the Gas Coordination Group (meetings on 9th and 19th January), through the Network of Energy Security Correspondents where relevant information was disseminated and at the level Directors General for Energy in a meeting held on 21st January. The Czech presidency held an extraordinary Energy council on 12th January where Russian and Ukrainian Ministers attended to provide additional clarifications on their respective positions.

With respect to third partner countries concerned, namely Russia and Ukraine, the European Commission facilitated contacts between the parties, in order to seek an adequate solution with the objective of resuming gas supplies to the EU. The high level political contacts that took place throughout the crisis were complemented by regular contacts on a technical level with the Russian and Ukrainian officials and representatives of Gazprom and Naftogaz. This enabled also the above-mentioned deployment of experts and facilitated the eventual resumption of gas supplies to the EU.

The Commission worked closely with the gas industry throughout the crisis. Regular meetings took place between the Commission and Eurogas, including a high level meeting between President Barroso and heads of gas companies on 20th January 2009.

The crisis therefore demonstrated some of the potential benefits of coordination, exchange of information and advice between the European Commission, gas industry and Member States

which took place, including at the level of the Gas Coordination Group (GCG). Representatives of the Energy Community[11] were also present at the GCG meetings of 9th and 19th January, as they were also seriously affected by the crisis. However, it remains the case that the provisions of the Gas Security directive were insufficient in order to enable the EU and Member States to fully understand the extent and the impact of the crisis.

In the aftermath of the crisis, the GCG members responded to an ad-hoc questionnaire requiring more detailed data than MS would be obliged to provide under the provisions of the Gas Security of Supply Directive. All Member States cooperated and nearly all provided the replies. This contributed to being able to assess the situation correctly at an EU level.

Finally, with respect to the European Parliament, information was provided on a regular basis throughout the crisis and in its aftermath by Commissioner Piebalgs and the Czech Presidency. This included the participation at plenary sessions 14 January and 1 February 2009, as well speaking to the Conference of Presidents on 8 January. The European Parliament held a further hearing on this issue on 2nd April 2009.

Lessons for the EU

Security of supply clearly needs to be part of a common and coherent energy policy of the EU and full consideration needs to be given to the long and short term dimension of security of gas supply. The internal market dimension has to be complemented by a strong external relations element.

Interdependence in gas supply in the EU has increased and continues to do so. Within the internal energy market, a significant disruption affecting one Member State can quickly become an issue for the wider European market. Therefore a greater consistency and collaboration is needed across the EU, in particular as regards the common objectives and standards of EU's security of gas supply.

Within the EU, the work of the European Commission in terms of coordination and bringing together Member States and industry contributed during the January crisis to a more coherent action at the EU level. The Gas Coordination Group proved to be a very useful body, anticipating and contributing to identifying solutions to gas supply problems at the EU level. It is also a helpful instrument to bring together all interested parties, at the political and industrial level. The GCG could also have the potential to enhance communication between network operators and to coordinate emergency and solidarity measures.

Consultation, communication and exchange of information are crucial at the European level, whether a disruption arises or not in order to ensure a European security of gas supply. It is vitally important that the EU communicates with a common voice, both at home and when speaking with third countries.

During the January gas crisis, the EU succeeded in maintaining a common approach despite the pressure from some EU Member States. The cooperation between the European Commission and the Czech Presidency, with the active support of the Gas Coordination Group, was key in maintaining a strong, consistent message internally and underpinned the

[11] The Energy Community includes the European union, Albania, Bosnia and Herzegovina, Croatia, former Yugoslav Republic of Macedonia, Montenegro, Serbia and Kosovo

efforts undertaken externally with Russia and Ukraine. It facilitated an agreement that eventually made possible the resumption of the supplies of gas to the EU.

Likewise consultation, communication and exchange of information are crucial with supplier and transit countries in order to prevent and carefully manage possible problems with respect to the EU's external gas supplies. The initiatives that are already underway, such as within the EU-Russia Energy Dialogue, the implementation of the EU-Ukraine energy MoU as well as the ongoing energy discussions with Belarus and Moldova, should continue and be intensified. In this context, the EU needs to insist that international treaties and transit/supply agreements are respected. [Where possible, relevant provisions building on the existing frameworks and commitments should be reflected in bilateral agreements.]

The appointment and prompt dispatching of EU monitors made a useful contribution to better understanding and identifying possible solutions to the problems in EU's external gas supplies. A consideration should therefore be given to providing the EU with an adequate capacity of experts able to carry out this role.

The involvement of the Commission, in collaboration with the Council Presidency and with the support of the European Parliament and European industry, in speeding a resolution of this crisis has important implications for energy relations between the EU and external partners. The strength of its internal energy market and internal energy policy are factors which contribute to EU's credibility externally.

RESPONDING TO THE CRISIS – THE ADEQUACY OF INFRASTRUCTURE AND POTENTIAL FOR DIVERSIFICATION

The gas supply disruption lasted a total of 14 days. It took almost as long for emergency network options, such as reverse flows, to be implemented where interconnections where already in place.

It was assessed that it was mainly the inadequacies in gas transport which constrained flows (capacities, reverse flow capabilities, unusual routes, insufficient integration of gas networks in Central and South Eastern Europe), not an aggregate shortage of gas. Theoretically, the shortfall (300mcm per day) could have been fully compensated by increased imports from alternative sources and withdrawal from gas storage (available spare storage withdrawal capacities at EU level of around 800mcm).

The Commission has repeatedly warned of the risks to security of supply arising from the lack of adequate interconnections, the inadequate possibilities for reverse flows and the limits to fuel switching which exist in certain parts of the EU market, most recently in the November 2008 Strategic Energy Review. The events of January 2009 vindicated these concerns and highlighted how the lack of interconnections and diversification options (route and fuel source) can exacerbate a supply crisis.

As the crisis developed, the importance of sufficient infrastructure and of access to diverse sources of supply became evident. Countries which coped best were able to take up other options very quickly, e.g. more frequent Liquefied Natural Gas deliveries in Greece, Italy and France, increased import via Yamal and Norway for Poland, Czech Republic and Germany, additional supplies from Libya to Italy, more cross border trade within the EU, for example, from Austria to Hungary.

The most seriously affected Member State, Bulgaria, had no other import options, no other gas supply option such as LNG and no option to increase domestic gas supply.

Access to additional domestic gas production was limited. In those countries which were affected with domestic gas resources (Romania, Hungary, Italy and Poland), there was limited scope to increase production. The other main producers, UK and Netherlands, were better able to increase supplies, and both increased their gas transport towards the affected area. However, this gas failed to reach the most affected areas due to missing pipeline links.

Investment in alternative gas supplies paid off for those Member States who had already pursued a policy of supply diversification. Slovenia for example was able to compensate for Russian supplies as it only imports 50% of its gas from Russia, and more than one third from Algeria. Czech Republic, Austria and Hungary were also able to compensate by Norwegian gas imports via Germany.

Reverse flow proved a problematic option at the time and came too late to make a real difference, particularly in Bulgaria. However, had the crisis persisted, the role of reverse flows might have been significant. On 18 January, Slovakia, together with RWE Transgas (the Czech Republic TSO), reversed the flow on the main East-West transit pipeline. The next day, one day before the resumption of Russian supplies via Ukraine, Greece reversed gas pipeline flows to Bulgaria. The fact this was possible is a promising development for the future.

Those Member States where gas is an important fuel for electricity generation faced additional difficulties. In Slovakia, the cut in gas supplies from Russia put the electricity system under severe strain. The situation was eased by the provision of additional gas from within the EU. In Germany, demand for lignite for power production increased such that the industry had difficulty to cope with demand. In Bulgaria, there was pressure to reopen nuclear reactors at Kozloduy. Likewise, Slovakia considered the possibility of reopening the nuclear reactor at Bohunice in Slovakia in response to the gas crisis.

Lessons for the EU

The crisis confirmed that the EU needs to diversify its supplies in terms of supply source, supplier, transit route and fuel form (natural gas or LNG). It also highlighted the benefits of diversifying energy sources towards indigenous fuels, providing these are also sustainable and competitive.

A more interconnected market, more flexibility in gas transport and more fuel-switching options can also help mitigate the risks of a significant reliance of a single supplier.

Reverse flow was recognised as potentially powerful tool for mitigating the effects of disruptions to supply. However, more investment in the relevant infrastructures are needed to ensure that this possibility exists across the EU's internal market. The GIE task force to examine reverse flow options set up in February 2009 is a timely development.

Access to gas storage is useful fall-back where gas flows are restricted. Development of commercial storage is a positive step where this is attractive technically, economically and geographically. Ongoing investment in new storage sites confirms that storage is an option of growing interest to the gas sector.

The importance of a stable regulatory framework to encourage urgently needed investment in infrastructure and interconnections was also confirmed.

The crisis confirmed the political and economic reasons for greater diversification of gas supply, particularly in Central and Eastern Europe. However, it also illustrated the barriers to investment in major new infrastructure projects: as long as the cost to industry of the disruption is limited, as was the case in January 2009, the commercial justification for additional capacity for the worst case scenario remains weak.

The importance of a speedy agreement on criteria for the new 10-year network development plans by ENTSO-gas and regulators became evident. The experiences of January 2009 suggest that these will need to take full account of security of supply as a public good, and scenarios for crisis prevention and mitigation. Both short term and longer term solutions should be considered. The aim should also be for heightened cooperation between regulators and TSO's in Member States when developing and implementing infrastructure plans with a view to improved cross-border measures and greater reverse flow capacities.

The EU needs to consider ways of making investment in infrastructure more attractive in Eastern Europe. One way might be via the New Europe Transmission System (NETS) project to integrate gas transmission systems operators across central and eastern Europe.

This situation requires longer term planning and investment. The measures included in the Economic Recovery Plan and Strategic Energy Review (e.g. Baltic Energy Market and Interconnection Plan, interconnections in central and south eastern Europe, the Southern Corridor as well as an LNG strategy) and the new provisions to oblige the new ENTSO to develop 10-year plans, will help address these shortcomings. The Commission's initiative, presented in the second Strategic Energy Review, to develop a new Energy Security and Infrastructure Instrument is also relevant.

An important element which has been greatly overlooked as a tool in preventing and alleviating crises is energy efficiency. Greater energy efficiency across the whole energy spectrum, and a more efficient use of gas in all its processes (water and space heating, power generation) is needed to enable the EU to do more with the gas which it has.

CONCLUSIONS

A repeat of the January 2009 gas supply crisis, from a similar or different cause, can not be ruled out.

The Commission’s concerns that the EU energy security strategy must be strengthened are therefore completely vindicated.

The crisis highlighted weaknesses in each stage of the gas supply security approach at EU level:

– The early warning mechanisms at national and EU level are inadequate. Early warning mechanisms within the EU as well as with supplier and transit countries should be strengthened or put in place. They should be underpinned by appropriate bilateral and multilateral agreements with the EU’s gas supplier and transit countries, including energy

provisions, building where possible on the relevant existing frameworks and provisions, such as within the WTO and Energy Charter.

– Emergency planning needs to be made more consistent and coherent among Member States, with common standards and coordinated responses;

– The new internal energy market legislation should be implemented as quickly as possible in order to address weaknesses in market functioning which undermine security of supply and limit the ability of the market to deal with supply threats and disruptions;

– Greater transparency and easier access to market information is necessary in order to assess the supply situation wisely and taken necessary preventive and remedial action;

– The lack of interconnections and the physical isolation, in energy terms, of some Member States, proved to be a real impediment to dealing with a supply crisis.

The crisis also confirmed the importance of certain principles of EU energy policy which deserve to be strengthened:

– As far as possible, the market should be able to manage risks and crisis situations. However, this requires the regulatory framework to be adequately robust. There also has to be room for political intervention should this be necessary;

– A national energy supply crisis quickly becomes a European issue; conversely, European intervention can work more effectively than individual national reactions and ensure security of gas supply across the EU.

– Political solidarity in the EU is vital both in domestic responses, to ensure that the market can work properly, and in dealing with external partners;

– The importance of demand side management as an important energy security tool, as it was conspicuously absent from most reactions. Any emergency response must also focus on ways of reducing energy demand and diverting demand towards other low-carbon fuels and technologies. This also has to be fully incorporated into any longer term strategy on energy supply security;

- Effective and transparent coordination at the EU levels at the political, commercial, regulatory, and network level is key to resolving a crisis with EU implications;

The crisis also served as a wake-up call to policy makers to strengthen their energy strategies:

– Growing dependence on gas for electricity and domestic heating, with limited options for fuel-switching, further increases the risk that a gas supply crisis will have a deeply damaging economic impact;

– Likewise, the dependence of parts of the EU on a single supplier or a single source is a major concern to consumers across the EU and calls for new efforts to increase supply diversification in supplier, supply route and supply source.

The crisis also confirmed the benefits of EU collaboration:

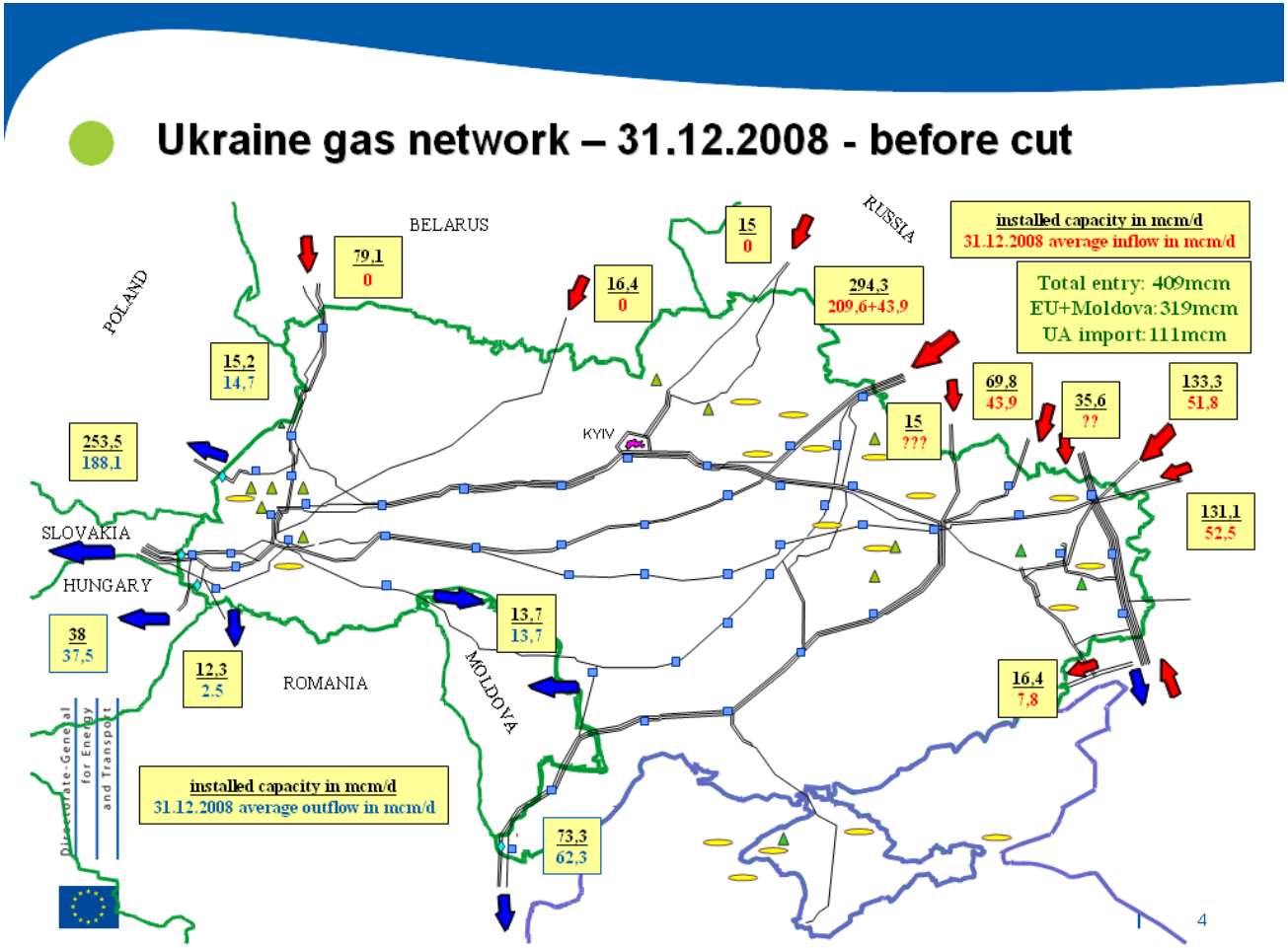
– The central role of the Commission as information gatherer, mediator and monitor, in collaboration with the Council Presidency and supported by the European Parliament, proved fundamental to facilitating a solution.

– The value of the Gas Coordination Group in terms of coordination and development of a coherent internal approach was fully demonstrated. The contribution of the Network of Energy Security Correspondents, bringing together the representatives of Ministries of Foreign Affairs and Ministries of Energy, involved a useful exchange of the available information. Participation of the third partner countries concerned (Russia, Ukraine as well as Energy Community countries) on an ad hoc basis in these discussions also provided a positive feedback.

The events of January 2009 confirmed the importance of having emergency plans and measures in place at a national level, the need to improve the Community dimension and the added value of a coherent EU approach to the EU's external energy security. The disruption of supplies affected a large number of Member States and the ad-hoc measures facilitated at a Community level did help to mitigate somewhat the major economic impact the dispute had on some EU Member States. Clearly there is a need to formalise these arrangements and ensure that the Community is better placed to face such situations in the future.

ANNEX

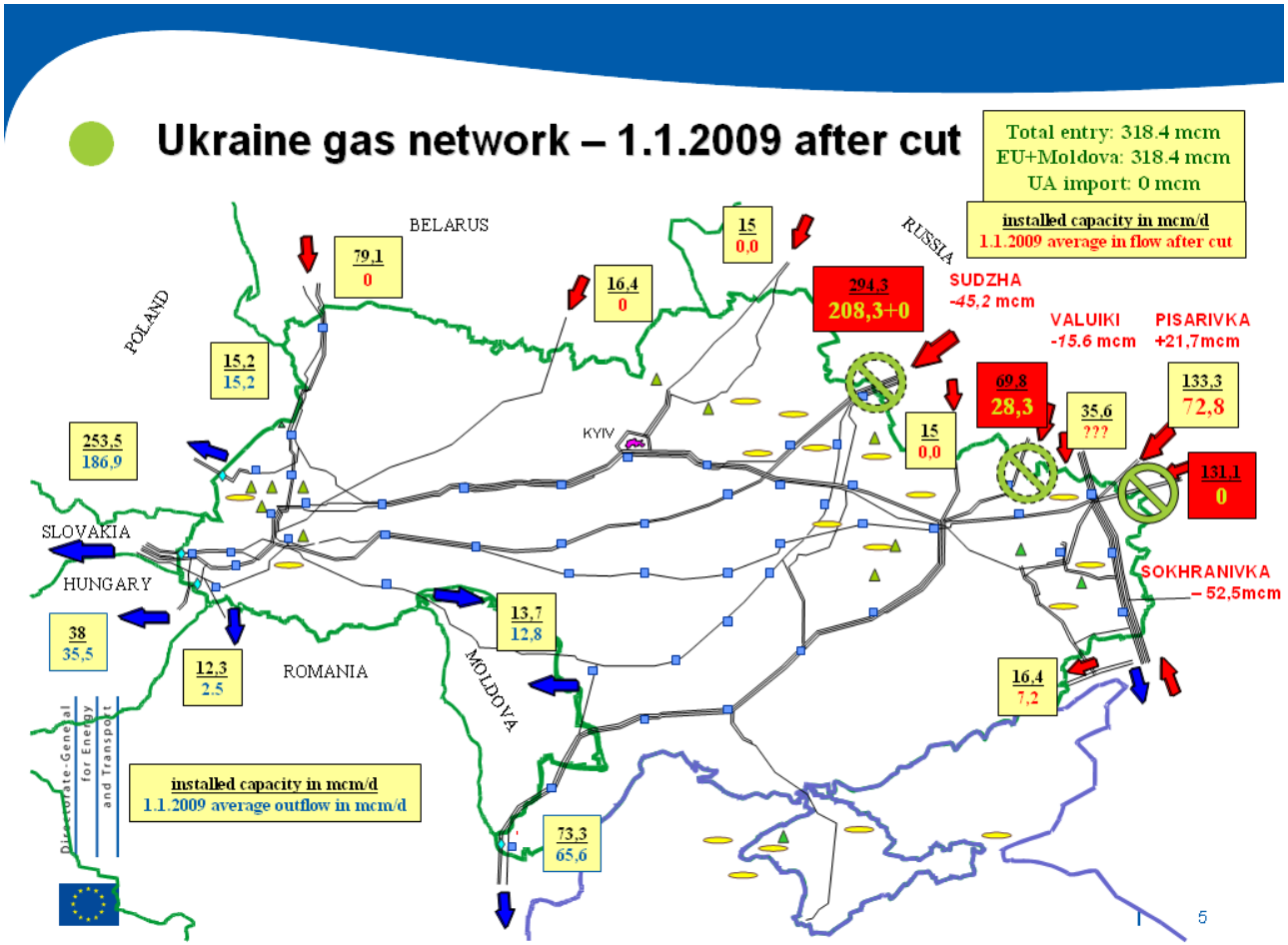
1. Situation in Ukraine before the gas cut with flows of 31 December 2008



Source: Gas Coordination Group, DG TREN

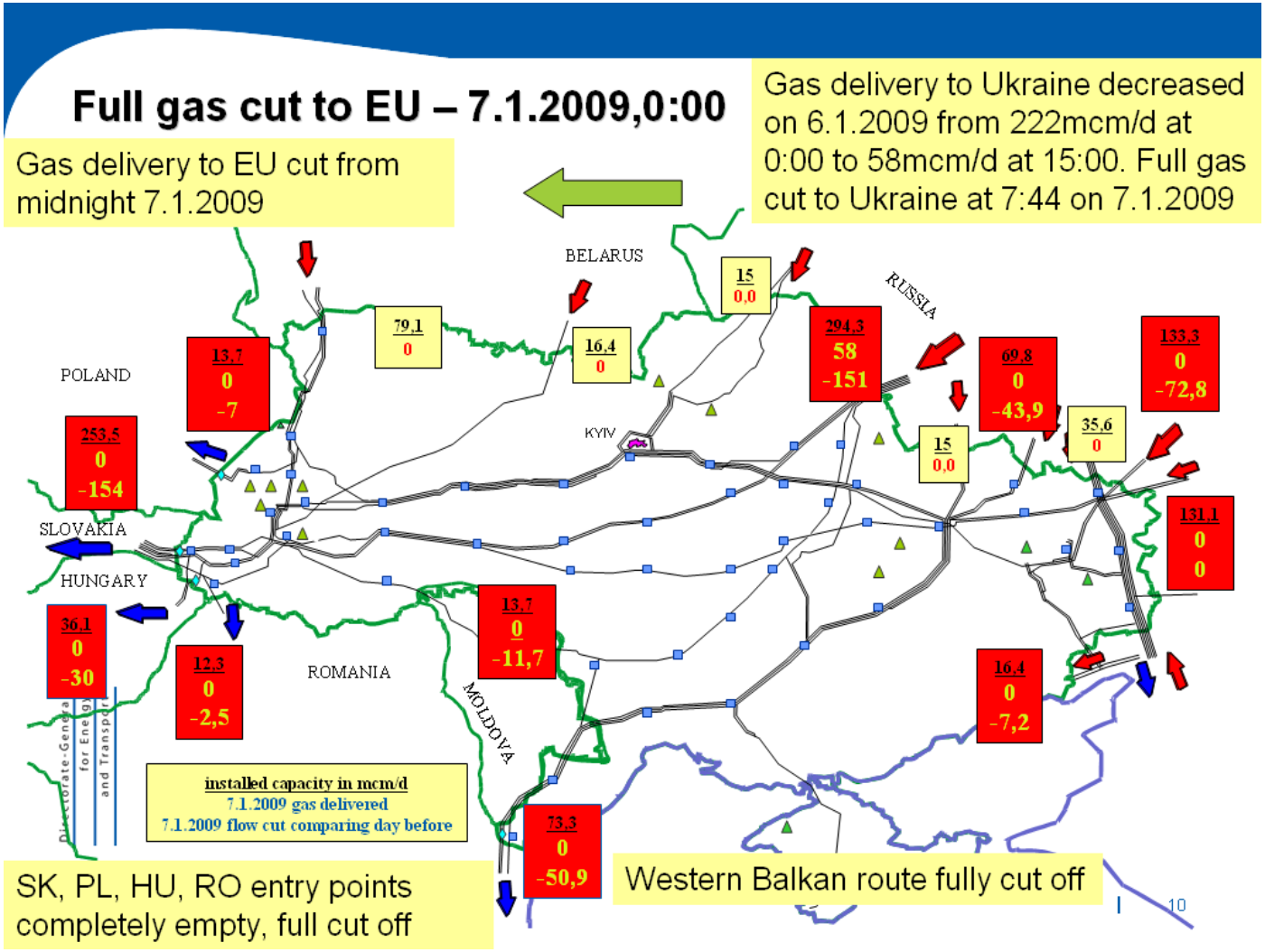
2. Picture: Situation in Ukraine after the gas cut with flows of 1 January 2009

The red boxes indicate the drop in gas flow to Ukraine after the cut. The volume of lost gas is under the name of affected entry points from Russia to Ukraine.



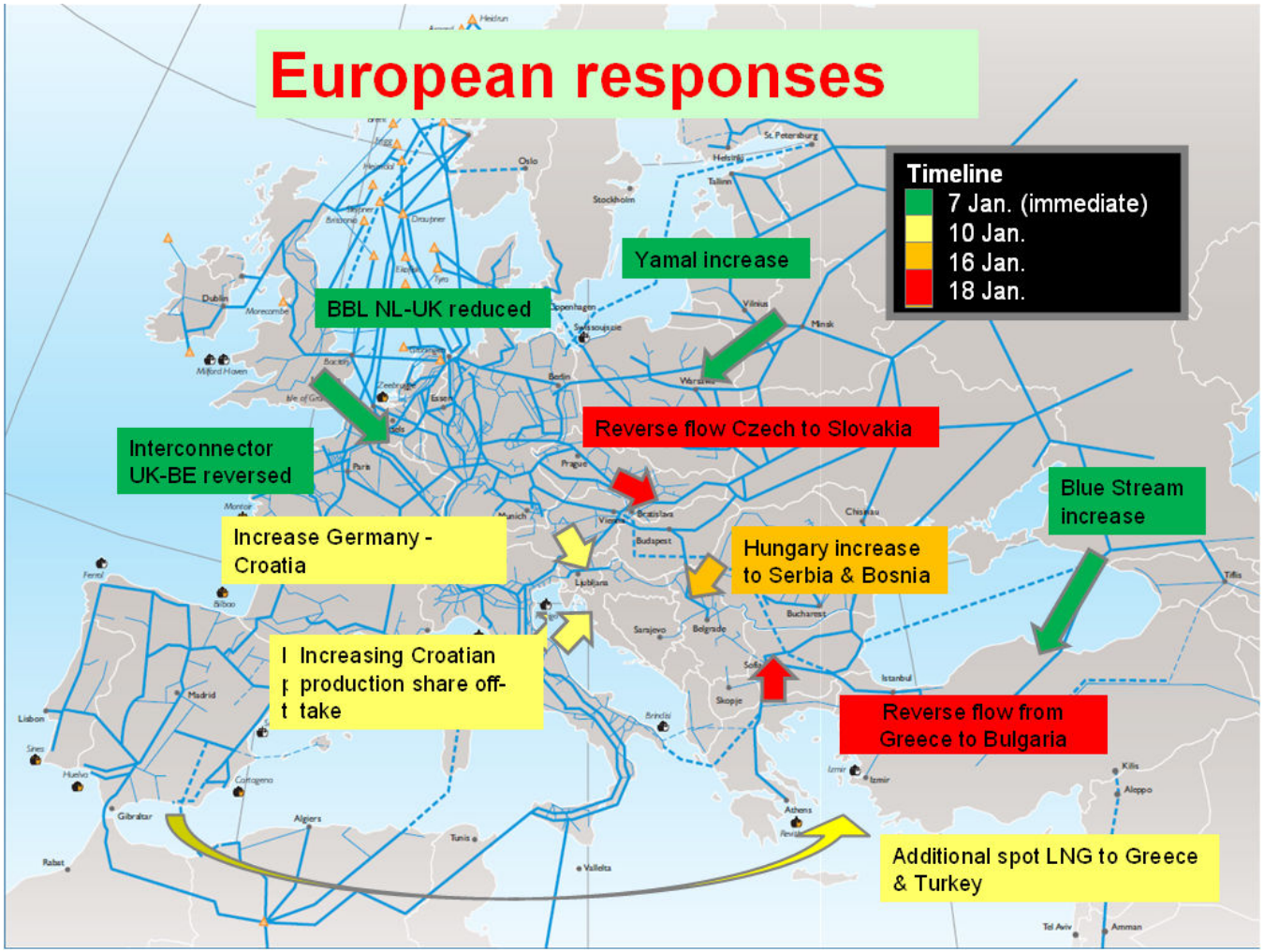
Source: Gas Coordination Group, DG TREN

3. Picture: Situation in Ukraine after the gas cut to EU on 7 January 2009 at midnight



Source: Gas Coordination Group, DG TREN

4. Picture: Main responses in Europe during the period of gas cut (from 7 to 20 January 2009)



Source: Analysis of gas crisis presented to Gas Coordination Group by IEA