Security of Gas and Electricity Supply in Central and South-East Europe

Summary of the Presentations of the First Workshop

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Luigi Debarberis

Head of Unit, Institute for Energy, Joint Research Centre

I would like to consider generally security of supply issues. Europe is an extremely intensive area in energy consumption. In fact, Europe, North Africa and Eurasia together can be considered the greatest consumers of the world.

Europe faces considerable challenges regarding the security of energy supply in general. Rising energy costs endanger the competitiveness of the region. Increased share and low diversification of imported fossil fuels raise the dependence of Europe and curtail the security of supply.

For this reason the Community put the security of supply issue to the top of its agenda. Moreover, security of supply is one of the main goals of the Community's energy policy, along with sustainability and competitiveness.

In case of natural gas supply security, the main concerns may be the grid itself, the role of interconnections between member states and the diversification of import sources. JRC in a joint research with DG TREN attempted to present an easy-to-reproduce import risk indicator, which includes the diversification and interconnection components. Western Europe supplies its demand mainly from Norway and the North Sea, which is secure and of low risk. Countries of the CEE region score considerably higher, due to the extremely high, about 70-100 percent share of Russian import. Finding new sources of gas supply such as the Middle East can tackle the risks in case of Southern Europe.

A short term answer to security of supply issues is to increase the import capacity. The UK for instance is about to double its import capacities from Norway. Nevertheless, the best solution in the medium and long term import gap reduction is by means of indigenous production and alternative fuels, as seen in the US oil independence strategy.

Storage presents a great tool to meet increased winter demand, as well as to reduce the import gap and increase the security of supply. Unfortunately, average European storage stocks make up just 15 percent of annual demand. Among the member states, Germany, Italy and France own the highest storage capacities, but due to the high demand the vast capacities meet merely 20-30 percent of their annual consumption . Relative storage capacities tend to be the highest in Central and Eastern Europe. Still, the storage capacities may supply no more than 30-40 percent of the demand.

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LNG is considered as another possibility of dealing with import gap reduction. The greatest storage owners, such as Italy and France use this new type of supply extensively.

Another element is to develop local alternative resources and to increase energy efficiency. Current European trends point exactly the other way: the second greatest investment in electricity generation in 2008 turned out to be natural gas based power plants. Energy efficiency measures have already lowered the energy intensity of economies in Western Europe. Central and Easter Europe scores lower, the energy needed to produce a unit of GDP soars compared to the western member states. This cannot be caused merely by the heavy industry, the considerable difference indicates the impact of energy efficiency.

Besides the latter elements, more intense cooperation and solidarity steps among member states facilitate enhanced security of supply. Common investment programs ensure the development of common infrastructure, resulting in regional security of supply.

JRC conducted a modeling of supply interruption and exchange of gas flows among member states during the 2009 gas crisis. The Central and Southern European region proved to be hit the hardest by the crisis, and in the west considerable exchange of flows occurred.

Policy suggestions on the European level are the increase in interconnections, finding alternative import sources and routes, and congestion analysis of the existing grid. On a regional level in Central and South-East Europe, member states should increase the reliability of the grid, enhance cooperation, issue common solidarity plans, raise LNG and storage capacities, diversify and find alternative routes. The member states themselves shall cope with the question of long term contracts and import gap reduction.

The Romanian energy supply security policy

JEAN CONSTANTINESCU

President, Romanian Energy Institute Association

The Romanian energy sector can be characterized by high domestic capacities, cross-border capacities and concentrated power market structure. The energy supply challenge is partly tackled by the national energy strategy of Romania. Still, the strategy itself contains controversial goals. The integration of renewables, mainly wind, to the grid is of high importance. The security of supply is highly determined by the investments to the existing infrastructure of the grid, so the issue of investments is crucial.

Romanian primary energy sources reach 30 % of the regional generation capacity, spanning from 15 000 to 21 000 Megawatts. The generation mix proves to be relatively balanced, including about 40 % coal generation, 28 % hydropower, 18 % nuclear and 15 % natural gas generation.

The markets for electricity is composed of a wide range of market structures: bilateral contracts, forward markets, balancing market, day-ahead-markets, system services markets, cross-border capacities markets and green certificates market. The transmission and interconnection networks are considered strong as well.

According to the predictions of the state energy policy, primary energy sources will increase slightly to the year 2015, but cannot keep up with the rising energy demand. Therefore the production-demand share will fall from 65 percent to 63 percent per annum. The share of nuclear generation will rise considerably, while the other sources show a minor decline.

In case of interconnections, nominal capacities significantly exceed operational values, perhaps due to the lack of transparency in the allocation process or bottlenecks existing in the neighboring countries' networks. This issue narrows the capabilities of the regional market.

Although the seven major and other minor power generation companies are all in state ownership, competition exists because of the differences in production costs. Over 100 suppliers ensure that supply meets the demand.

To sum up, the security of supply in Romania is provided by the diversified primary power generation, strong interconnections and state ownership of the sector. Reduction of import share in the energy mix further enhances energy supply security. Long term contracts in natural gas imports secure the amount of incoming gas. Unfortunately such contracts also exist for domestic coal extraction and supply, which allows the hard coal segment to delay investments, making the sector obsolete.

The two big policy challenges faced by the sector are the replacement of existing fossil fuel capacities and reaching investment-grade financial ratings for generating companies. Despite the reliability of fossil fuel-based generation, the current technology in use is not efficient and the non-observance of emission norms allow for high pollution. The national strategy does not assess these issues. The current wholesale prices do not account for the emission costs, so highly polluting lignite and hard coal based generation is cheaper than clean gas generation. Moreover, coal extraction is rewarded with state subsidies. The existing capacities had been designed for much higher than the present demand.

Unfortunately, the national energy strategy goals still focus on coal-based generation. By 2020, the share of coal-based generation is expected to rise up to 36 percent in the domestic market and 40 percent if export is included, since the policy envisages massive power exports. The strategy overestimates coal and underestimates hydro capacities. The lack of policy goals in hydro energy, the inadequacy of policy measures for alternative energy resources – inter alia wind farms – and the absence of cogeneration and distributed generation strategies affect the security of supply negatively.

The significant hydro potential of Romania is underutilized, only 50 percent of capacities is used up presently. According to the estimation of the national energy strategy, generation will rise only by 1.5 TWh to 2020, although the generator Hydroelectrica expects much more developments. Biomass, solar and wind potential allow for further developments.

Extension of wind capacities is driven by feed-in-tariffs, the gap between market price and the tariff reached 90 euros/MWh. 11 000 MW had been requested for, the TSO Transelectrica allowed the connection of 7263 MW and plans to add further 1500 MW in 2012 and 3000 MW in 2017. CEZ is currently building the largest European wind farm with a capacity of 600 MW in the Dobrogea region. Nevertheless, such capacities require balancing energy to ensure the power system reliability, so down-rating by 60 or 70 percent is to be expected.

Direct investments were delayed in the sector due to changes in restructuring and privatization policies. Thanks to the EU sponsorship in 2004, the most cost-efficient fossil fuel power plants were ready for privatization. In 2005, privatization was put on hold. In 2008, the policy has changed direction, the state

tries to privatize the least cost-efficient power plants, undoubtedly without any success. Furthermore, the state tried to regroup Hydroelectrica and the most efficient coal based generating companies in a single firm, again unsuccessfully. In 2009 a new policy was issued, attempting to unite profitable fossil fuelled power plants into a single company. The policy failed again, leaving market structures unchanged.

The credit crisis hit investments hard, since liquidity became low and expensive, increasing the cost of financing in capital-intensive projects. Lots of greenfield projects had been suspended, about 4000 MW of capacities were put on hold. Companies are waiting for a stable, stringent government policy regarding power generation expansion.

The UCTE predictions forecast remaining capacities to be lower than the adequacy reference margin, which means a threat to security of supply.

The present strategy fails to meet the European goals set by the third package.

In conclusions, Romania has significant and balanced energy resources, power network with excess capacity, and a sophisticated electricity market. Current supply security policy is facing two challenges as regards power system adequacy, namely replacement of existing fossil-fuel technology and reaching investment-grade financial ratings for generating companies. Some strategy goals are still controversial: orientation towards conventional coal with insufficient focus on clean and renewable technology.

QUESTIONS

ANDRÁS KISS: *Is it correct so say that currently Romania is exporting coal-generated energy because the coal sector is subsidized?*

JEAN CONSTATINESCU: Apparently, subsidies are not involved in the exports. Actually, there is export of those most cost-efficient parts of electricity and delivery for domestic customers is heavily subsidized. So overall there are subsidies, and from time to time the government removes subsidies from loss-making companies. This is one of the reasons, why massive exports are not so affected by subsidies. Of course we can't export in some periods and can't export for the high share of hydro generation.

PÉTER KADERJÁK: *Your point was that the major need for investment seems to be in the generation side, while the network is considered strong. Concerning the crisis, you found that the independent power companies were the least affected. What about the state? Is it financially behind the companies? What is your opinion about the ability of the state in investments for power generating companies?*

JEAN CONSTANTINESCU: Definitely, the Romanian state-owned generators are not able to invest according to their needs. Particularly in the fossil fuel sector, existing technology must be replaced. In spite of the fact that some lignite power plants are profitable, they are not able to receive loans in good conditions from the banks due to their ownership issues. The solution could be restructuring in relatively small companies and privatizing, thus giving incentive to developments in technology. Clearly, it makes no sense in my mind to regroup the two big state owned generating companies as envisioned in the national strategy, since the experience of the last 20 years very clearly shows that state owned companies do not invest at all. If we are mixing generating companies with mining companies, the situation can worsen. This is the main criticism of government policy.

GORAN MAJSTROVIĆ

Energy Institute Hrvoje Požar

The presentation is supposed to be divided in several sectors, electricity and natural gas parts, and to generation, transmission and supply parts. I will present some vulnerability indicators as well.

Market opening itself can increase security of supply for network energy due to larger number of market participants. It results with higher energy system "flexibility". Nevertheless, market opening without regulation may increase risks as well, therefore each country should take care of security of supply. So I would like to define security of supply as the system's ability to supply final customers with electricity/natural gas of acceptable quality and price. The concept of security of supply covers: supply diversification, technological safety, and geographical origin of imported fuels. These aspects are to be covered one by one and year by year, and upon that we will bring some policy implications.

In more details, just as a short list of topics which could also be included in security of supply issues we can list public obligation of suppliers to households, continuity of supply, investment programs, regulatory framework, measures in the cases of crises and emergencies, cross-border cooperation, energy balance policy, demand growth trends, generation diversity, network operational security indicators, integration of new technologies such as renewables, long term power purchase agreements, natural gas storage operational capacities, storage inlet and outlet capacities and so on.

EU legislation, in the SEE region more specifically the Energy Community Treaty, obliges member states to publish a statement of security of supply biannually, and accept and implement energy directives. Two such statements have already been published in 2007 and 2009, on the Energy Community website.

To give you a benchmark regarding the size of Croatian energy markets, I present average primary energy supply per capita. Croatia scores below the EU27 average, between Portugal, Lithuania and Romania around 2100 kgen/capita. The share of primary energy self-supply has been decreasing rapidly; in 2009 around 40 % of total demand was met by domestic generation. By 2030, import share is predicted to rise up to 70 percent. High proportion of import poses a considerable threat to supply security.

Concerning security of supply, the main stakeholders are the vertically integrated HEP sub-companies, HEP Generation, HEP TSO, and HEP DSO. The industry is regulated by the ministry and the CERA.

Current security of supply practices include prioritizing households in case of supply interruption, gas reduction to the power generation company HEP and fuel switching to oil. Dual fuel thermopower plants possess a capacity of 267 MW. Oil supply to HEP dual fuel plants is given high importance in case of gas supply interruption.

Electricity supply structure in Croatia is characterized by relatively high proportion of import, which has been growing in the past 20 years considerably. The domestic generation mix is relatively favorable, consisting of about 49 percent of hydropower generation, 38 percent thermopower, 8 percent nuclear, and the rest wind, renewables and others. Due to the disintegration of Yugoslavia, some Croatian power plants turned out to be located on the other side of the border: in Serbia and Bosnia-Herzegovina. The sole nuclear power plant of the country is owned commonly with and located in Slovenia. These issues endanger security of supply.

According to the newly drafted energy policy of Croatia, for the year 2020 thermopower capacities are to be expanded by 2400 MW, renewables by 1500 MW, hydropower by 300 MW. The regulatory agency is responsible for small power plants tendering, below 50 MW, and the government for those over 50 MW. So far, no standard detailed tendering procedure has been approved, but the ambitious goals would enhance the supply-demand ratio of the country.

Speaking of network capacities, there are some good news and some bad news as well. Croatia owns very high installed cross-border capacities. Unfortunately the transmission network is ageing, most of the lines are over 30 years old, which means they are close or at the end of their life-time. Comparing export over peak load and import over peak load indices Croatia follows the example of other small countries: import exceeds 100 percent of peak load likewise as in case of Latvia, Lithuania, and Estonia. Import is allowed by the relatively good connection of the region, since 20 years ago the region was a single country with an internal transmission network.

Market opening finished in 2008, although the market is fully concentrated in the hands of the HEP group.

In the near future, according to HEP estimations, the gap between power generation and demand may rise up to 9,5 TWh, contrary to the power plant expansions. The energy strategy sets higher standards to cover all the possible demand.

In the natural gas sector, situation is relatively the same. Storage and transport is owned by Plinacro and

Ina. Distribution and supply for households is divided up among 36 distributors. The ministry has the same role in regulating industry as in case of electricity.

Import share has been gradually increasing in the past 20 years, the interconnections between Croatia and Hungary, Serbia and South Montenegro are being built up. Potential new supply directions may be an Adria LNG terminal, connection to the Hungarian gas system and later to Nabucco, connection of Romanian gas via Serbia, expanding existing capacities with Austria and Slovenia, increasing imports from Slovenia via the Volta pipeline, or long term connection to the Italy-Greece Interconnector and the Trans-Adriatic pipeline.

Underground storage is of special importance in Croatia. Operational capacity of the Okoli storage facility is 550 million cubic meters, of which 50 mcm is reserved for Slovenian Geoplin. The development of Okoli storage and the construction of Benićani storage facility is also intended.

For the last part of the presentation, I present some indicators for security of supply. Energy dependency means the ratio between net energy import and total energy consumption. Croatia scores around 0.5, which can be taken as an average value. Bulgaria gets the highest and Romania the lowest energy dependency values in the region.

Energy intensity stands for the ratio between total primary energy supply and gross domestic product. Based on IEA data, Croatia gets low energy intensity values, around 120 mtoe/USD resulting in efficient production structure. The most efficient countries are Austria and Italy, while Bulgaria and Romania turn out to be the least efficient.

In conclusion, due to EU and Energy Community obligations on security of supply the regulatory and legislative framework had been defined. The key roles and responsibilities of stakeholders had been assigned in both sectors. Electricity and natural gas sectors development plans are regularly updated. The power system is very well interconnected, and the natural gas system is developing in the same direction. Existing networks are combined with: relatively favorable generation capacity mix and future gas supply direction diversification. This way electricity and gas sectors are able to reach satisfactory level of security of supply despite increasing energy import dependency. It may sound contradictory, but it is the real situation.

QUESTIONS

ANDRÁS KISS: *The electricity and natural gas sector in Croatia is a highly concentrated one, only monopolies exist. So if there is any competition, it can only be through imports. But if you try to ensure security of supply by constraining imports, then you act against competition.*

GORAN MAJSTROVIC: In fact, you are right, we have a state owned company covering 100 percent of the market, an import covering 30-40 percent of the needs and in the same time ten different traders dealing with imports. This part is more or less under competition, the other monopolistic. Even if there are some suppliers, they are not active. Power company is keeping low level of prices to final customers, new entrants can not enter since they can only buy energy from the incumbent power company. It's hard to say what to expect, but there is a desperate need for new capacities and the national power company is unable to keep up with the demand. The national power company has no sources to build up capacities, therefore new companies may enter and some kind of competition may occur in the generation sector.

PÉTER KADERJÁK, REKK: *Croatia was one of the countries, which was severely hit by the January crisis. Has anything been done in terms of regulation in order to ensure security of supply? What was the policy response to the crisis?*

GORAN MAJSTROVIC: As far as I know, after the crisis the natural gas storage facilities are expected to keep their storage full. In the policy part or the regulatory part, I don't know of any details, there were no regulatory steps in the meantime. In fact, we have not too much space to prepare because we are relatively well connected to the Slovenian network, so as much as you can preserve in Croatia, that's it.

PRZEMYSLAW KORDASIEWICZ, JRC: *In case of gas crisis you mentioned the fuel switching ability of power plants. What is the ratio of dual fuel thermo power plants?*

GORAN MAJSTROVIC: Basically, we have 4000 MW of installed capacity. In that part we have 1500 MW thermal power plants, of which 300 MW is coal based, the rest is gas fuelled. Less than 300 MW has dual fuel, so we are quite dependent on natural gas. At the time it was installed, duel fuel was not planned to tackle possible gas crises but now it presents a minor help.

ROUNDTABLE

István Bakács (Member of the Board, EON Hungary)
Gábor Hornai (CEO, CEZ Hungary)
Péter Kiss (Partner, Global utilities, KPMG)
Natália Soczó (MOL)
István Zsoldos (Chief Economist, MOL)

PÉTER KISS, KPMG: In case of electricity infrastructure investments, there are two important factors. One is that electricity demand in the region is increasing despite this year's and maybe the next year's drop. The overall trend is that our regions' demand is converging to the western European level, we are approximately at its 60%.

The other important factor is that the CEE generation portfolio's average age is around 25 years, so it is inefficient in terms of CO2 emission, etc. It is clear that significant investment is needed in the region, it is a question of what kind of power plants will meet this demand. The region itself is rich in coal but the question of CO2 emissions emerges, also when will be the clean-coal technology commercially available, what would be the impact of CO2 prices, so there are a lot of uncertainties with regards to coal. Of course, renewable production is a clear direction. The only consideration we need to take into account is that it is limited in terms of the possibilities. It is clear that the EU target of 20% is difficult to reach in the region, no wonder that for example in case of Hungary we managed to negotiate 13% instead of 20%. Nuclear is one of the obvious choices, there are many extensions and projects now in the region, we can say that there is a nuclear culture here with good professionals. In the case of nuclear power, there are two issues on the table: what will happen to the recycling of used fuel lots, and how these huge investments will be realized financially. A nuclear power plant requires an enormous financial investment, a 1000 MW nuclear block has a 3.5 billion euro investment need, which, considering for example MVM's total consolidated balance sheet of 1 billion euros, seems to be a great challenge.

Banks are now more than ever looking out for good projects, which are defined by two factors: 1) a sponsor with very good track record and ability to pay, 2) commercially viable projects. It is important to highlight this fact, because before the middle of 2008 financial institutions gave loans to even those investments where the ability to repay was very limited either due to the sponsor or due to the commercial viability of the project. The impact of the recession on the energy sector is that now the financial institutions are very selective about the projects and the debt conditions have become much stronger. If you look at the gearing debt to equity, it dropped significantly from 85-90% to 65-70%. The interest margin significantly increased, because the risk associated with the energy sector has increased, and also the period of the loans have dropped significantly, 20-25 years was earlier a common practice, today to reach even a 15-year loan is a hard discussion. But on the other hand it is also a good signal, a control, because the good projects will survive.

The investment climate is further worsened by the crisis' effect on the electricity consumption and price. Consumption has dropped significantly which was followed with an even more severe price drop.

It is important to consider however that power plant investments are of a very large timescale, with nuclear plants running for 60 years and even the gas fired power plants running for 25 years, thus short term events should be given a smaller weight, but it is a fact that the investment climate was badly affected by the crisis.

For gas infrastructure investments, there are the large pipeline projects, like Nord Stream, South Stream, and Nabucco. Which one is going to be realized, which ones do we need? The banks are keen to finance these projects, the question is when and how will they be finalized. The economies are very strong behind these projects. There must be gas transit, the demand is there. Whether today there is a recession or not, it does not matter in case of these large investments, since they are for the next decades, thus are not affected in this manner by the crisis. However there is a question of whether the necessary investments will be done in due time.

ISTVÁN BAKÁCS, E.ON: Gas infrastructure investments

From the perspective of E.ON and of other similar countries it seems that there is a tendency that the ongoing investments, projects already under construction are going to be finalized, but new investment plans, will be put on hold, due to the consumption and price drop on the market, and also the more vigorous financial climate. Regarding the ongoing projects, this region in case of natural gas lacks the necessary amount of infrastructure for a regional market, pipeline investments in this direction have been started (NETS project), which is a big step forward. Ongoing investments are also supported by the EU crisis fund which enables the finalization of these projects. So this is good news. Concerning Hungary, storage investments are also being completed, increasing the security of supply

Concerning the future investments, Nabucco, South Stream, there are lots of talks, political statements, I'd rather not say anything about the financing, whether EU or government support would be needed for them.

Electricity infrastructure investments:

There are also some ongoing interconnection projects further improving the common liquidity, driving towards a common regional energy market.

Concerning power generation in case of Hungary, two power plants are being built, from our part at Gönyü and there is also an investment at the Dunamenti power plant. These are being built without a long-term PPA with a state owned company, so market-based investment can be done, which is good news. However these are all the good news for the time being.

There are warning signals:

For the network companies: the crisis created a downturn in the consumption level, which will deteriorate the financial standing of TSO and DSO companies, and thus the future capability of financing infrastructure investments.

In the eastern region, we can hear that even the large size and important projects with credible investors under the crisis situation got a question mark, for example RWE has held back the Croatian Krk LNG project, which is a bad news for the whole region.

So these are warning signals. Although companies are completing their projects that have already been started, but those projects that are in a preparatory phase are being delayed and reconsidered. For example, the commodity price drop which is a good news for the consumers in the short run now changes the economic viability of the projects and therefore the likeliness of their realization.

Consumption levels will come back most likely but the question is when and whether the necessary investments will be done in due time. So in the short run we have good news, but in case of the long run I am not so optimistic as was the previous speaker.

GÁBOR HORNAI, CEZ HUNGARY: I will follow the gloomy line of István. Before the crisis it was a general rule that utility industries were the most welcomed clients of the financial sector. This is still true, however it is also clear, that although money will be there for this preferred sector, it will be less and more expensive. Utility companies have to be extremely picky with what projects they are going to realize.

It is also clear that consumption is substantially down compared to previous years, but it is also certain that consumption is going to come back to the earlier level and tendency. The question is, when? Building consumption curves and price curves has never been more difficult than now in the short run. And I only hope that this is not going to be made even more difficult with regulatory interventions.

As for the investments, CEZ has a joint venture project with MOL of building two gas-fired power plants, one in Hungary and one in Slovakia. We decided that despite the worsened environment we will not hold back these projects, because there will be a need for additional generation in the region.

Last comment: when talking about supply security, we should not restrict ourselves only to investments of iron and steel, but should also consider the demand side. Introducing efficiency into demand. So let us not only talk about new generation, but also investing care, attention, government subsidies in rationalizing energy usage.

ISTVÁN ZSOLDOS AND NATÁLIA SOCZÓ, MOL: We have four main points to make:

1. The financial sector was not working properly before the crisis…

The overall leverage and credit availability went up for 25 years without interruption. It went on so long that people became to think that this is normal. It changed the behavior of people: there is money for everything. Almost equity type of financing for the price of debt financing. This is not going to come back.

2. … and changes are far from over – we are heading for a "New Normal"

The short term indicators like the realized and expected write-downs or loss provisions for banks and the bank landing capacity show that we are only halfway through. But besides these short term problems, there are also fundamental changes which will take longer than just writing down debt. The fiscal and monetary policy expansions which policymakers made to combat the crisis cannot be maintained in the long run. The recovery will be very troublesome.

3. The long period of easy finance had an impact on infrastructure regulation as well

Of the main policy trends that are defining the investment decisions today in the EU, one is the liberalization agenda, second, the aim of high level of security of supply, and the third is to fulfill the

environmental objectives of 20-20-20. These policy trends had also been affected by the crisis.

Before the crisis there was a difference between the financing opportunities of international companies and the national oil companies. After the crisis, this difference will become stronger, which can affect to a big extent the competition for upstream resources. This can be illustrated by the following quotation of a senior policymaker from Central Asia:

> *When we hear the sentence "This project is a strategic priority" from the Chinese it means that cash is immediately on the table and construction starts tomorrow, from the EU it means the Commission will write a Green Paper about it"*

That is a major difference in attitude and currently we can say that in this competition for upstream resources Europe is loosing.

The second important policy trend is the green agenda. It is clear that new and new R&D efforts need to be made in order to achieve this target. Due to the economic crisis, capital put aside for this objective is also decreasing, so the majority of all the new clean technology became more questionable, resulting in higher uncertainty on the demand side. We can predict less exactly when we will have these new technologies.

The third, maybe the most important dimension is liberalization. The EU is pushing more and more for spurning long term contracts. On the other hand, we have not seen any large infrastructure investment that was realized without the famous article 22 on TPA exemption.

4. "New Normal" will have consequences for infrastructure investment

We think that this traditional investment model will be buried. Definitely the economic crisis speeded up the process and financing anomalies had been revealed more quickly. The bottom-line for the finance side is that finance is going to be a lot scarcer than what we are used to. And risk will be more properly priced.

On the policy side we think that in this new era EU and national governments shall have a bigger role in increasing good financing environment and also creating direct funds. The EU made a big step in this direction: the second Strategic Energy Review targeted to create a new fund from which infrastructure developments can be financed directly as well. Finally, we expect that PPP constructions will have a major role in the future. Of course these will affect competition.

QUESTIONS

PÉTER KADERJÁK: *What is your impression on the effects of crisis and the relative position of the energy sector in this respect compared to other sectors? Were there also major CAPEX cutbacks due to the crisis in the energy sector as well?*

GÁBOR HORNAI: Yes, there were, not in Hungary, which I am happy to say. In case of CEZ, yes, there were also CAPEX cutbacks and deterred investments. However there was no major staff release in CEZ. And we expect to continue with our strategic investment with MOL, but yes, financing is going to be more difficult.

Commenting on the 'no more easy money' opinion. I agree with this, and I think what is important to consider in this respect is that the countries of the region are competing for the investments. Therefore the Hungarian policymakers should consider what it is we have, what it is we should have, what should be encouraged that the investments come to Hungary and not to the other countries of the region. I am not sure that regulation had identified that this is a problem, and that the energy industry is more than a cash cow for various political purposes.

ISTVÁN BAKÁCS: Yes, there were cost cutbacks. E.ON does the same in case of a crisis as the other listed companies with shareholders: tries to cut on the CAPEX and OPEX. The three main problems the crisis brought for the energy companies was the drop of consumption, the drop of commodity prices and thirdly the increasing level of the long payment receivables. So the financing of these companies worsened. The company managers have to answer to these by CAPEX and OPEX cuts, both. But the question is in which part of the business are these cutbacks realized. Most CAPEX and OPEX cuts are necessary. A somewhat good news in such a situation is that the OPEX cuts also could result in increased efficiency of the company. And a more efficient company can be better positioned on getting funds from the capital market.

ISTVÁN ZSOLDOS: Due to the crisis, expectations for a project's time horizon to pay back have shortened significantly. So some projects with higher time horizons are not viable now. Even though if they had the same profitability before, now due to the higher discount rates and preference for shorter term projects, long term projects are not viable anymore. It is tempting to say that the governments should guarantee long term projects then. For example in an SoS project, probably governments should guarantee returns because of this shortening of the time horizons.

PÉTER KISS: Because of the drop in the consumption, cash position of the energy companies are getting worse. And because banks are more selective, therefore what we see on the market is that energy companies are also selective about new projects. And because of that there will be a consolidation of the power and gas industry in the CEE region. Because certain energy companies have not been able to close the value chain in terms of vertical integration, these companies might sooner or later decide to exit the CEE market and go somewhere else to find another area for investment. So if the crisis deepens I am sure that the colors on the CEE energy map will be different in 2-3-4 years than today.

JACQUES DE JONG comments:

1. We do not know how much demand destruction will be there instead of demand reduction. And this is adding to the uncertainties.

2. We need to rethink the regulatory climate, our market model in order to secure new infrastructure investments. Regulators are tending to work on the basis of asset sweating and not so much on new investments. And new investments are now the play of the game. So we have to rethink whether our current regulatory approach is sufficient to have all those new investments on line.

3. I don't think the exemption is a rule. I know many infrastructure investments that did not ask for the article 22 exemption.

PÉTER KADERJÁK: *Do you think that governments or regulators can do something good to manage the present situation, is there an increased role for governments or regulators to manage this issue especially from the SoS point of view.*

GÁBOR HORNAI: Yes, I am fully convinced that governments/regulators have a role. Regulation has been extremely dependent on prevalent political regimes. There has not been a consistent regulation in Hungary. It should be there, which would be in its principles independent from the political regimes. This is extremely important. Hungary has no advantage compared to other countries in the region when it comes to attracting energy investments other than potentially good regulation. Why would for example CEZ's money come to Hungary and not to Slovakia entirely?

And let us again not forget about demand management when talking about security of supply.

Energy efficiency, solar collectors, family house insulation, etc. Which is clearly a regulatory area.

István Bakács: Three issues I would like to mention. After the crisis the country risks of the region's countries will grow. Which will deter investors' money.

The other point is that I think that business level SoS can be delivered by markets, I am optimistic in this respect. What I do not believe in is the same regarding the climate goals. Climate goal is a political goal not decided by business. I think the climate goals will not be reached in Europe without government intervention. In this respect the cost of integration of renewables into the electricity grid infrastructure is a dramatic and under-evaluated challenge. What kind of investment it requires in the grid, no one talks about.

If the grids are unbundled from the integrated companies, which is now the preferred regime of policymakers, the financing is also unbundled. So if we want to reach the 20-20 goals, either direct investments are needed especially in the grid side, or more guaranteed loans or other instruments.

István Zsoldos: I just want to elaborate a little bit on what I meant by how governments can promote long term projects. Before the crisis these long term projects were considered by regulators as secure cash flows with relatively low returns and optimistic models. Furthermore regulators did not like large integrated companies, and there was an interesting assumption there that small companies can always finance investments. In this changing environment, for investors, large integrated companies are lot more attractive because there is a security of having a diversified portfolio. This crashes with the regulators' view. Regulators have to realize that expected returns will have to be higher in the future than they were in the period when finance was so cheap and abundant. This is a new environment, which everyone should realize, then I would be more optimistic about these long term projects.

Natália Soczó: I would like to highlight that the major role of the governments and also the EU shall be to play a role in risk mitigation, in this regard they have to use innovative new instruments. One good example of this is the Caspian Development Corporation.

Péter Kiss: The state's role in SoS is a very important dilemma. The EU is about competitiveness, market integration is happening, but SoS is still the responsibility of the individual States. By definition, because the countries' characteristics are totally different, one country promotes renewable, others coal. It is therefore difficult to achieve an EU wide SoS energy policy. That has been the dilemma in Hungary: what is the energy policy of Hungary in terms of the mix, how to get there, state participation, etc.

For example in case of the nuclear projects, if somebody is considering to install a 1700 MW reactor, by definition in terms of keeping the cold reserves, there must be another country. But then what about the interconnector capacity auctioning, the system usage and so forth.

Another example from Romania is the large capacity pumping storage project. Hungary is very interested in this project, a direct line is not possible according to EU law, but then who is going to invest into a block at Tarnyica, if later all the interconnector capacity will have to be auctioned on a yearly basis?

In order to have state intervention in the system there must be consistency, transparency, driven by a crystal clear energy strategy, but that is what we do not see.

In case of a state ownership, it is an easy question what to subsidize. But in a private, liberalized environment governments have to be careful to make sure that there is no competition issue, and also have to be careful in how to execute it.

András Kiss: *As I understand what you said about the crisis: before the crisis money was given for too cheap, and that was a market failure, and what is happening now is a kind of correction, credit is now more properly priced. But I do not see then why governments should now start to subsidize companies, making investments artificially cheap for them again, heading back towards the earlier market failure.*

István Zsoldos: I did not mean that governments should make investments artificially cheap again. Regulators should have a more realistic view of what is possible. Before the crisis there was a mismatch between the investors and final users of capital regarding the risks and returns. This kind of mismatch was very big part of the problem. That's why it's very important in this sector to make clear whether there are guarantees and where there is regulation and to what extent. Also you have to realize that even if governments like certain projects, they will only go ahead if the return is higher than before, when finance was there. I agree that there are certain projects that probably shouldn't have been done. But I think we are getting to the extremes because of the uncertainty: time horizons are very short. If you are a regulator and you say: no, you can't earn more than let's say 4 or 5 percent on your project, these very likely will not go ahead in the current environment.

GÁBOR HORNAI: In my opinion this is all about regulation. I think financial markets work, I don't believe there is such a thing as a market not working. Probably it was not working as regulators expected it or markets were not regulated after all. What I want to say is that the issue is coming back again to investments. It's quite a task, I can tell you, to build a 15-year-price curve, to forecast demand-supply situations, to envisage markets in such quality and credibility, that financing banks potentially accept. I mean that financing banks deem those assumptions credible. So let's not have one additional variable, unreliable regulation, that can "kill" any reasonable business-type assumption immediately. This is my point about regulation. It's not about market or state. For me a working market is made up of players and a clearly defined state role in the form of regulation. State role should be defined by laws and regulations which are transparent and reliable. Reliability is the key word I'm missing very much from this business.

PÉTER KADERJÁK: *I have a final question with regard to regional security of supply. There are two prominent areas in case of security of supply. One is investment into new generation, replacing of old, obsolete facilities in the electricity sector. The other is to put more gas interconnections into operation, that will enhance regional gas security of the region. Nabucco, South Stream or NETS are the area of investment that can improve supply security the most. Which area of supply security is more difficult to meet purely by market means and which area needs more government intervention?*

ISTVÁN BAKÁCS: I do believe that both sides that we are talking about are relevant. There is an investment which does not respond to an increased demand, it is an infrastructure that can serve for the so called security of supply issue. Probably these are not always the best solutions for supply security; it is hard to be measured. This is one side. However, I do not want to play down the role of the security of supply.

I do believe that interconnections that do not answer to new demand can resolve the security situation. We will have Nabucco not because we need 20 bcm more import gas for consumption. We already have wide intake, but we are not secure. This needs special level investment also in storage facilities. These infrastructures (storage, interconnections) need government, it is an other story which part of the government.

In the new power generation requirement, I do not think the market will be the driver. It will be the climate. Like recent discussions in UK: should Britain finance the new built nuclear projects or not? If nuclear generation is part of the climate solution especially in raising investment costs? In this regard it is worth to think about government involvement. These solutions do not arise for market reasons; therefore I think government should be part of the solution.

NATÁLIA SOCZÓ: Take the North-South gas corridor for example. Just this year, although within the framework of the European Economic Package for Recovery (EEPR) EUR 20 million has been dedicated to this infrastructure piece the Slovak-Polish gas connector project has been canceled, because market players cannot finance such costly infrastructure investment that is only used in a crisis situation. So definitely, to complete such investments, government participation is needed.

PÉTER KISS: I would say that government intervention is needed in both cases, in electricity and gas markets as well, but to different extent. If we are looking at the power sector, we find an abundance of new investments. This is an area for private investors, E.On, RWE, Iberdrola, Vattenfall have recently invested a lot. They would only like to see a commitment from the government that this is an environment, where long-term projects are needed.

In the gas sector, the most important factor to which the government gave its consent was recently the South Stream project. Behind the project stood Gazprom, that is the Russian state. Such a project will never do any good, if the Russian state is negotiating with private investors. That wouldn't be a negotiation of equal parties. Therefore the state should have a strict and hard role as a negotiating party.

Closing words, **PÉTER KADERJÁK:** Thank you very much. I think it's very difficult to sum up the discussion, but I think I heard many useful comments on this issue. I think it's very important to note that the present crisis has positive impact on companies. As the financial sector becomes more selective, more competitive, this is a good correction to the formerly badly operating market. The message is that for a government, we need a selective, clever, one. Moreover, the government should focus on long-term investments, which cannot be made solely by market players. We also learnt that policy may be even a larger risk of security of supply.

ROUNDTABLE

András Kiss (REKK), Jacques de Jong (CIEP), Henryk Faas (JRC EC)

In the afternoon session on security of supply indicators, three different, but complementary approaches were introduced to measuring the exposure of countries to various energy security risks [*slides are available for details*].

Presenting REKK's study, **ANDRÁS KISS** argued for a framework that distinguishes between supply security risks on three time horizons: short, medium and long term. Different security indicators were proposed for each category, depending on whether operational security, gas import disruptions, year-round system adequacy, or the general investment climate of a given country was the source of supply security concern. Regarding the Central and South-East European region, unilateral dependence on Russian gas imports and country-specific regulatory risks were emphasized as the energy security issues of main relevance.

JACQUES DE JONG gave an informative overview on the global challenges in energy security, stressing the complementary role of markets and governments, the different supply security issues facing the EU and the United States, and the complexity of the larger picture in securing energy resource routes from producers to consumers, which cannot be separated from foreign diplomacy and defense issues. Regarding Europe, he emphasized the importance of internal and external network development both in electricity and natural gas.

In the second part of the presentation, Jacques de Jong introduced a potential standard model for supply security developed by CIEP and ECN in the Netherlands. He described the composition of a short-term Crisis Capability and a longer-term Supply/Demand index, underlining their usefulness as policy tools in energy strategy formulation and reviews. The indices aim to reduce the dimensionality of supply security problems into a few, comparable numerical measures, necessarily involving expert judgements on the relative importance of the different elements.

HENRYK FAAS presented research by JRC on the January 2009 gas crisis and supply security measurement in general. Gas supply security indicators developed at the Energy Security Unit of JRC work along several dimensions, including energy balance, reserves, diversification, import risk, infrastructure, and system flexibility for crisis management, among others. A gas flow simulation modeling approach by JRC to assess the likelihood of different countries being impacted by gas supply disruptions was also introduced as a useful tool in measuring the security of energy supply.

DISCUSSION

TAMÁS JÁSZAY: We have just completed a small survey at the department, finding that heating of flats in Eastern Europe uses 50% more energy per square meter than in Western Europe. This means a large potential reduction in gas demand, which may enhance the security of supply. There is a significant efficiency potential in the generation sector, too. Old gas-fired power plants in Hungary are operating with 35% efficiency. These gas-fired power plants would be replaced by more efficient CCGTs, like those planned in Dunamenti and Gönyű, which have efficiency well over 50%. Moreover, investments in the network infrastructure to reduce network losses, is another step towards saving energy. Increasing efficiency could therefore reduce the dependence on Russian gas.

To mention a typically bad example however, how short-term political interests conflict with long-term industrial goals, let's have a look at the recent reduction of VAT of district heating. This contributes to the stabilization of the inefficiency in the sector. This money should have well been spent on making energy use more efficient in the district heating instead of subsidizing inefficient systems.

A further point I would like to make is the long-term planning of power plants. Construction times are usually 5-10 years, and the plants are in operation for about 50 years. This means when we make decisions today, we have to think and look 60 years forward. Such foresight – taking into account the technological and economic development – is difficult to possess. (Suffice it to remember what impacts internet, or mobile phones have had on our lives for the last 20 years.)

In conclusion, security of supply indicators, in my view, shall incorporate energy efficiency as well.

JACQUES DE JONG: When you talk about indicators, you not only try to affect national policies but also want to make assessment to the countries connected to each other. Member states in the EU are encouraged to tighten their cooperation and make common projects of grid development, energy efficiency measures and other strategies to improve their security of supply.

Supply security indicators are always merely tools of evaluating policy. A good indicator can be used to compare international policy outcomes. The best scoring countries then may present a good

benchmark for the other member states, on how to conduct programs ensuring security of supply.

PÉTER KADERJÁK, REKK: As far as I am concerned, I find one component is missing from these indicators which could help policy formulation. None of the presentations referred to the costs, maybe due to the descriptive nature of such indicators. We should not forget the cost side: actors should be aware of the cost of enhancing supply security. Indicators presented showed how the supply security changes to the ceteris paribus change in some variables, but what costs are incurred if some factor changes occur? Policy makers must consider not only the effect but also the cost of the developments. Without this aspect, the indicators cannot be used for optimizing policy implications.

HENRYK FAAS: It would be very important to look at the costs and alternatives. The problem is the lack of data. For the scarcity of cost data, we might be blinding out areas, which could prove very useful. On the other hand, energy intensity indicators, which turned up in all the three presentations, are obvious and straightforward in evaluating and helping policy planning.

JEAN CONSTANTINESCU: In the common discussion, market and supply security are seen as competing ends. The speakers before have very correctly remarked that measures do exist that are beneficial not only for supply security but also for the markets.

JACQUES DE JONG: Reflecting to the remarks on the cost side, I would like to mention an example from the Netherlands. The Netherlands do possess significant strategic oil reserves. But building such reserves in gas, oil or other fuels is not at all cost-effective. Society is willing to pay for protection from such events which might occur with a very low probability. However, in the Netherlands some in the very same society are willing to make electricity contracts for the lower price, which do not guarantee full security of supply. So referring to Peter's point, supply security at what price? The question is whether we are willing to pay more money to diversify our imports.

PÉTER KADERJÁK: I absolutely agree, cost-efficiency is not the single element. But the lack of any cost-studies may result in huge expenses and inefficient decisions. When I was at the ministry during the coldest wintertime, the minister for energy was quite nervous about the supply security issues. The company owning all the storages reported that there will be a supply disruption in the country if the minister didn't approve the rates they presented. The ministerial decision about building a strategic storage was made for not being dependent on the industry only. Before the decision, no previous assessment of the alternatives took place. Storage is the most reliable but also the most expensive tool of enhancing security of supply. Had the decision taken place after a thorough cost-benefit analysis of the alternatives, it could have resulted in a much more reasonable policy choice.

WALTER BOLTZ

Chairman, E-Control Gmbh.

The 2009 January gas crisis was an opportunity to learn the strengths and weaknesses of the current system. When crisis comes next time again, which is not very unlikely, Europe will be much more prepared for that.[1]

Last January the European Union had come to the conclusion that it was impossible not to disengage in the Russian-Ukrainian debate. The EU helped to resolve the crisis, however, we will see only this winter how successful these negotiations were. The EU also committed some money to upgrade the transmission system and it allocated some resources for joint investment programs in Ukraine. Europe put pressure on Russia and convinced the IMF and credit lenders to support Ukraine. Nevertheless the current situation is far from being resolved. Financial liquidity problem may occur and Russian-Ukrainian relations have not developed as well as desired so far.

The lesson we have to learn from the crisis is how we can work more effectively. Europe did not have a shortage in gas when the crisis hit. Europe had a difficult time to get the gas from where it was to places where it was needed. Also there was a problem sharing the information that each national authority had. For example it took ten days that some reverse flows actually started to operate. It showed that infrastructure was there, some technical modifications had to be done, and some of it could be made in 8-12 hours. However, it took days until the Greece-Bulgaria pipeline was able to run reverse flow.

Second lesson we have to learn is that Europe has to be better aware of the available capacities. Europe had interesting things during the crisis, like discovering pipelines that nobody knew about. There was a pipeline between Austria and Slovakia that was not finished. It needed only ten meters to be built and put in operation. When it became part of the Austrian transmission system, none of the companies wanted it to operate. This showed that Europe has to focus on bottleneck issues. Reverse flow technical capabilities were not good enough; Europe could have a better level of it. Therefore Europe has obvious weaknesses in the transport system, black holes that are inexpensive to fix.

For example there is no available counter flow from Italy to Austria. The pipeline was used to transport gas from Austria to Italy commercially, if in some cases reverse direction was requested, it could be resolved on commercial basis, without physically moving the gas on that direction. Such a reverse flow upgrade would cost less than ten million euros. The other example can be given by Slovakia that is also not able to provide counter flow. It has a huge infrastructure system design that makes difficult to supply only one point e.g. Bratislava. Its system is very ill-suited for it. They have to cut three-four upstream pipelines and separate each other to supply Slovakia. These small things are missing. There is a lack of unusual direction capabilities, like from Italy to Slovenia. This illustrates that couple of things can be done much better with small amounts of money.

The crisis proved that well functioning market is a big asset. Austria has one of the few markets in Europe that has liquid balancing market. Its mechanism allowed the country to replace missing Russian imports for a couple of hours by 100%. It needed the flexibility of market actors and their spare capacity. It is not sure that it would have worked in a market where the TSO has a control-and-command system. A TSO would have not been able to contact everyone and figure out the level of spare capacity.

The crisis pointed out how much damage it can cause and showed that the costs required to upgrade the system are low comparing to the damage levels. It was a bad choice not to spend on reverse flows earlier.

The crisis also pointed out how bad unilateral measures are. Such measures endanger some countries, where suppliers have booked storage capacity in a neighboring country. Extensive unilateral measures could lead to a break down of the whole system during a crisis situation.

The consequences of import cuts vary among the countries. The infrastructure has developed on historical basis for flows from east to west, from north to south. There was less thought given to flexibility and spare capacity. Everyone acted on national interest levels. Some were more cautious like Germany and Austria, some less.

The information exchange was problematic, it was hard to get proper and timely information. For example, three days after the cut, the interconnector was still flowing from the continent to the UK with almost 60 mcm.

The system was not able to react to the new demands. Some reverse flows did start after 10 days finally from Germany and Poland. Supply on Yamal and Blue stream was increased. One or two days would be reasonable, but why did it take ten days?

[1] The summary focuses on information that was not included on the presentation slides. For full content please refer to the presentation.

The Commission asked GTE to make a reverse flow study that concluded that if all the reverse flow projects are built, it would cost 80-90 million Euros. If it is depreciated in twenty years, this is a tiny amount. If it had been done earlier, it could have saved 1 billion Euro damage. This shows the importance of the reverse flows and its costs are not a big thing.

Austria had an advantage, because couple of years ago they realized that there was a need of some kind of emergency planning in the gas sector and its coordination. By that time Austria already had emergency regulation for oil and electricity industries. Four years ago, E-Control sent a report to the government and in 2006 a law was passed that authorized the regulatory authority to coordinate the planning and actions of an emergency situation, to give recommendations on actions to the Ministry, and gain access to relevant data.

After the law came in force, the first action they made was a creation of a database with 200 entities across Europe, including TSOs, storage operators, and shipper companies. It was analyzed how they mobilize, how much reserves they have, and how flexible they are. All this data was put in a database that goes through a control flow manager, who can then report to the regulator. E-control assesses if it is a crisis situation or not. If it is a crisis situation they contact everybody who is relevant, and discuss what has to be done. They have prepared actions to activate additional production and/or mobilize additional storage, to force power stations to switch to other fuels or ultimately cut off big industrial customers.

Austria had made exercises in October 2008 in line with the emergency plan. It was handy, as the first coordinating communication was not easy at all. Later this autumn they made exercises on regional level to make sure that the procedures were approved.

After the last crisis they have changed the reporting level. That means that during a crisis period they would receive more detailed data. For example power stations send anticipated consumption levels of the next day.

In European level a closer cooperation would allow to start reverse flows in 20-30 hours. Currently the responsibility for security of supply is spread out widely; something has to be done about that. There is no cooperation in infrastructure development. On these issues TSOs have to coordinate the development of projects better among themselves. They have to make scenarios on different development proposals. These scenarios can point out where spare capacity, reverse flow capabilities are needed.

Developing reverse flows and its capacities is an important part of the solution to a crisis. This is an effective and cheap method to avoid or counter balance a crisis like the one we saw in January 2009. However, other measures also have to be taken to increase the flexibility of the systems (e.g. Slovakia) These infrastructure developments have to be coordinated among the states to have spare capacities not only on cross border points, but also in inter country transmission systems. An organized information exchange mechanism should be implemented that would allow the 15 TSOs to exchange information and live data routinely on short period of time. (Full list of the proposal is in the presentation)

Taking into account the ongoing investment projects, two years from now Europe will be much more prepared for a gas supply interruption.

PREZMYSLAW KORDASIEWICZ

Energy policy & security of supply unit, DG TREN

The current regulation is not sufficient to the changing gas market. Therefore there is a need for revision. A new regulation proposal is on schedule for 2010. The gas crisis has accelerated the work on the proposal although its aim is not to address the reasons of the latest gas crisis.

The new regulation addresses three issues: prevention, crisis management, and infrastructure development. It sees the key for rapid crisis response and management in transparency. It advocates the importance to avoid distortions of the market in a crisis and let it work as long as possible, as the market is a key to provide incentives to invest in infrastructure. Revisions have to be made more often than the current three-year period. The new regulation would like to create a common and acceptable level of preparedness that also requires the responsibility of the participants, because without responsibility, solidarity cannot be achieved. Solidarity also can be strengthened if a regional approach is practiced, and by common standards for protected customers and demand management. Besides this, a regional approach is important as we have seen in the past, supply disruptions to one country can rapidly spread around the region.

The regulation would require member states to make risk assessments based on the N-1 infrastructure standard, and two supply standards. This would lead to address identified risks with a Preventive Action Plans and to respond to crisis situations with Emergency Plans. These plans have to be published and notified to the Commission. The Commission has the right to assess those plans, review, comment, and request the member states to imply changes or amend them. The Commission may recommend regional plans. In crisis situation the Commission may have rights to ask the authority to change its action (e.g. gas takings, imports/exports).

There are ongoing consultations to find out who should be the one competent authority in every country, the member states have the right to mandate it, but there should be one.

The N-1 indicator looks at the remaining sufficient capacity to supply gas demand when the largest infrastructure fails. It addresses flexibility issues, like capacities and demand management on border levels not just national. However, definitions of the possible regions have not been given yet.

Security of Gas and Electricity Supply in Central and South East Europe

The easiest way to increase infrastructure's security of supply is making reverse flows available. GTE+ study identified some 43 projects that can enhance security of supply. Those are small and cost efficient investments.

The risk assessment process would include obligation for consultation with the industry, gas customers, and NRAs and should be completed every two years. Based on the regulation environment some countries may need revisions more often than others, due to for example infrastructure developments.

The Preventive Action Plan has to consider economic effectiveness and effects on the internal energy market and environmental impact. The Emergency Plan, besides emergency gas supplies, has to define the roles, responsibilities, reporting obligations, and procedures.

The formal adoption of the new regulation is possible in mid 2010.

QUESTIONS

ANDRÁS KISS, REKK: *Role of the market coordination methods through the prices may have limits. What happens when the price rises to the highest possible level, however, it is still not enough to solve the situation? What are the long term consequences of country solidarity on future preventive actions on those who are in financial difficulties?*

PRZEMYSLAW KORDASIEWICZ: It is not the proposal of the Commission to regulate some kind of solidarity. It has to be linked to the responsibility of the member state to the security of supply with high level coordination among them. Before we violate and attempt to limit market responses. Of course it might have an impact on final customers. We have to provide some kind of safety for those customers who are not able to pay for it. This has social characteristics.

WALTER BOLTZ: I very much agree. There is a need to protect vulnerable customers up to ~10% of the population that's fine and can be done. It is fully comparable with the mechanism system. One example for price signals was in winter 2003-2004 in Scandinavia, it was extremely dry. The situation was tight; it was a cold winter with low hydro levels. Spot prices went far up in Norway, where customers have short contracts 2-3 weeks, but not in Sweden. The tripling electricity prices caused a drop in demand by 6%. This saved the system from collapse. Some of the large customers stopped their production and sold their fix priced electricity, because they could make more money on selling electricity than to produce their product. An average European customer does not need protection, can afford double digit number bills for couple of weeks.

PÁLMA SZOLNOKI: *Can you imagine that industrial consumers who are cut off after three days or even after one hour can receive some kind of compensation?*

WALTER BOLTZ: We had a meeting with the interest groups, representatives of food processing industry and paper industry and had some discussions. There was a long debate in Austria about compensation and we have come to the conclusion to say no. Why? If there is compensation, nobody will do it on voluntary basis. Everybody will wait for legally initiated curtailment because then they will get compensation. If they do it voluntarily, they won't make as much money out of the crisis. There is a certain logic to keep it somehow unclear, how much compensation and in what form will be paid. There might be something or maybe somebody will find a rule that it is force majeure and there is no compensation, because if you open up this Pandora box of compensation, you have huge consequences and you will have to set aside large amounts of state budget, or TSO budgets, suppliers budgets. No one knows, who should have to pay for it. So we not decided to completely disregard compensation. Of course there is a possibility that in some situation it does occur that some certain small group of customers was unfairly put in disadvantage regards to others, they have the right for some sort of compensation, which the government will implement. But I would warn against for some type of pre-agreed compensation because we will immediately see changes in behavior, and there will be much less willingness to work on it cooperatively, on formal basis. Everybody will sit and wait until the emergency is declared because they then will get compensation. For this we will need a lot of money.

PÁLMA SZOLNOKI: *What are the lessons for Hungary and Serbia in that you couldn't really measure the customers in the distribution who were asked for curtailment? The TSO could not see them, that was a metering problem. But the other problem was that if they did not proceed with curtailment there was no opportunity to enforce it or to punish it somehow. Was it some kind of lack of regulation? Would a market mechanism do it in a better way or should some kind of an administrative measure be implemented?*

WALTER BOLTZ: Initially we have made a list of large consumers and we notified them that they are part of this group and that they are by law obliged to reduce their consumption or discontinue if we ask them. It is their responsibility to the network operator to ensure that it does happen. The operator knows every 15 minutes about all these consumers, how much they consume and basically they, not the network operator, apply the curtailment. They can still withdraw gas. But there is a limit how much they can consume and if they exceed it, they have a relatively high premium to that. There is no disconnection, but they have to pay a lot more, a 2-3 times higher price. If many of them continue to exceed their limits, then they will also be cut off and it is relatively easy as all of them have meters and the worst thing is that we have to drive there and disconnect them. We have the information on 15 minute basis, so it is relatively easy. Of course if you don't have this information that is another situation. Don't forget to put such a meter on top of the other we are talking about an investment in a range of 1000 euros. In six months, all the big customers can be served with such a meter. It is easy as there are only a few thousand or hundreds of such consumers. You have to do preparations. If you do not have the system, then we have a problem.

PETER KADERJÁK, REKK: *Do you agree, that a well functioning market is key for managing a crisis situation and putting a price cap in crisis situation is a very bad policy? But you also mentioned that during the last crisis the most important market place in Central and Eastern Europe, the Baumgartner hub, was shut down. Could you just explain what happened and what was the reason? Did the regulator make any investigation into what happened over there?*

WALTER BOLTZ: This chapter is a difficult situation. The reason why it was shut was because it was really not clear how the various contracts would have been affected by the lack of delivery. I mean most of the gas that is actually traded there of course is coming form Russia in normal circumstances and since the hub is not a sufficient exchange yet, it has also no clearly defined force majeure clauses, because no special rules have been approved how to handle these situations. I hope once the gas exchange is operational, there would be rules about what is force majeure, what is not force majeure, when to start, when to stop, when to continue the trading. This was lacking because Baumgarten is an informal trading place which is actually not really supervised by anybody. It only coordinates bilateral trades so, it's up to the partners there whether trading is done or not, and we had not given much thought before to what to do in a case like that. Because in the gas industry, nobody ever thought that it was possible. But I think once we have an exchange, there will be proper procedures which we didn't have in January, so there was really not much we could do.

PETER KADERJÁK: *Mr. Kordasiewicz mentioned that there is a discussion now about the cost allocation of meeting the N-1*

standard in the Council working groups. And I can understand that, because I guess to meet the N-1 standard for a country where the network is already very well interconnected perhaps it has no cost, lets say Germany, and those countries who where most hit by the crisis were hit exactly because they don't have the N-1 standard in place. Those are the poorest of the group. It will be the most expensive for them to meet the N-1 criteria. Could you just provide us a little bit of a more detailed information which countries are coming up with innovative ideas how to allocate costs regarding meeting these N-1 management standards? What could be rather sort of cost allocation than each country pays for meeting these standards? Or what sort of ideas are hanging around?

PREZMYSLAW KORDASIEWICZ: Maybe I was not clear enough. In think in that regard the consensus is to create reverse flows where the investments have to be taken across the borders and very often the investments includes member states which are different from member states that benefit from the reverse flow. That is for example to provide investment regulation for reverse flows, but also hubs, downstream and upstream elements of the network that have to be upgraded for benefits of the reverse flows. Not just looking at the border point. What you mentioned is that actually to bring the gas you will have to upgrade the upstream infrastructure in the German territory. These are the details of network upgrade and cost allocation.

There is no discussion and there is no idea to allocate the costs between those member states who do not meet N-1 to those who meet. There is no transfer from those who have invested and who are unfortunate ones of not having these infrastructures. We strongly believe that any requests on reverse flow upgrade have to be coupled with the responsibility of the member state to take the responsibility itself of its own investments. And of course that is passed to the final customers in the regulated tariffs. Even the costs of element upgrades of infrastructure are not so high if you look at the total value of the market and depreciation over long period. So we are not talking about billions of euros and it is also important to remember that the regulation provides, meets or considers the selected demand side measures. Authorities would have to demonstrate in their plans that they actually have sufficiently quick demand side measures to actually decrease this response to contract demand from the total demand.