EUROPEAN ENERGY TRADING SYMPOSIUM, VIENNA, 29 OCTOBER 2009

MAKING ENERGY MARKETS WORK

in Central and Eastern Europe

MOFFATT
ASSOCIATES

Contents

Welcome and introduction

Making Energy Markets Work in Central and Eastern Europe

Dear Guest,

For the last six years, Moffatt Associates has organised and managed an annual EU energy trading symposium. These events, which normally take place in Brussels, have become the leading fora for market traders and policy makers to debate the future of EU energy markets.

The pace of market liberalisation has varied considerably across the different regions of the EU and I am delighted to welcome you today to our first symposium event, which focuses exclusively on developments in and prospects for trading in electricity and gas in Central and Eastern Europe.

As always, there are positive and negative factors impacting on energy trading – on the positive side we now have the EU's 3rd Energy Package, which has set down a legal framework to help facilitate greater market competition and regional integration – on the negative side we are in the midst of a global recession, which is having a depressing impact on wholesale market prices and general liquidity.

In such circumstances, there is always a danger that political intervention and economic nationalism could undermine the development of open markets. So now, more than ever, all market participants in the CEE region need to be both creative and co-operative, if markets are to be enabled to deliver the objectives of affordable, reliable and clean energy.

Our focus today is to identify and prioritise the barriers to progress and debate practical solutions. I would like to thank our sponsors – Merrill Lynch and Verbund – who together with the support of E-Control have made this event possible and allowed us to extend an open invitation to all leading market practitioners in the region.

To lead our debate, we have a group of highly experienced speakers and panellists representing a variety of market participants – E-Control, Verbund, CEZ, Merrill Lynch, EU Commission, Polish Power Exchange, EDF Trading, Statkraft, OMV, CEGH, GTE, Lumius, EUSTREAM and URE.

There will be ample opportunities for networking and for you to make your views known. We look forward to an open a frank debate on how we can make CEE energy markets work better.

Best wishes

Clive Moffatt
Managing Partner
Moffatt Associates

Setting the Scene

Walter Boltz, Managing Director, E-Control and Vice President CEER and ERGEG

Background

The energy market in CEE has a consumption of some 500 TWh of electricity and almost a 1000 TWh of gas, a sufficient local demand to fuel liquid gas and power trading.

However, trading is still in its infancy. Restructuring of the industry, setting up working market models to guarantee equal access to essential infrastructure have taken and will take some time.

In many Member States, the initial idea of hybrid market models, where regulated consumer prices and market prices were intended to co-exist, had a negative impact on market development, because it was based on a web of long term contracts and preferential practices.

Electricity – catching up with Central and Western Europe (CWE)

Central and Eastern Europe is on the verge of becoming more liquid. After solving urgent problems concerning access to infrastructure (viz the common auction office in Freising, the market coupling between the Czech and Slovak Republics, the OBAs in the gas sector, etc.), we expect more active trading will create reliable price indicators for both power and gas markets in the region.

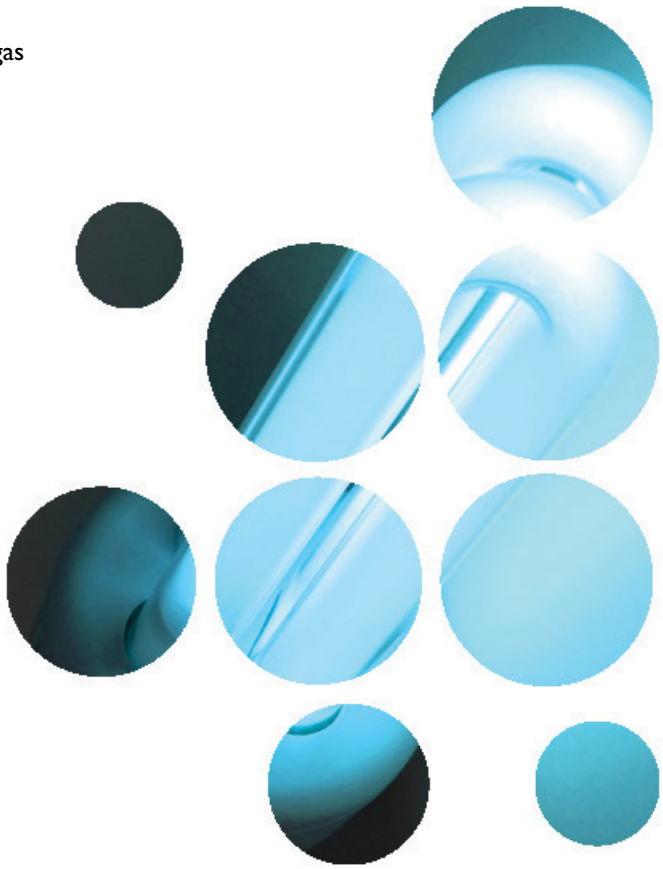
Looking to the future, we have to improve market infrastructure. In electricity, it seems possible that we will soon face a situation, comparable with the CWE region, where competition between trading platforms could develop. Co-operation between power exchanges would also allow the introduction of implicit auctions in the whole region. Due to the financial pressure on exchanges and other trading venues, some kind of consolidation might hopefully take place.

It is likely that we will have to go through a similar process as happened in CWE, where initially many national exchanges were established, but after some time there was consolidation. Liquidity leads to liquidity – and only unjustified "political resistance" towards the "benefits" of national exchanges can prevent restructuring and consolidation.

Gas – stuck in the pipe

The primary objective is to create a reference price for the region. The gas crisis earlier this year has demonstrated clearly the need for such a reference price. Next time we might not be able to manage such a shortfall in supply without price increases and a corresponding reduction in demand. The region therefore needs an indicator reflecting the present balance of demand and supply in gas.

Furthermore, in the gas sector important improvements are needed in transportation, balancing, market integration and storage access in order to create a wholesale market comparable to the power sector.



In the gas sector, we have not solved the 'transportation problem'. We still have illiquid transportation markets. Unused capacity is released on a non-firm basis only, which does not allow the development of liquid trading. The lack of effective systems for congestion management combined with insufficient flexible storage access regimes, across most of the CEE region, has inhibited trading and market integration.

Some of the uncertainties in transportation can be covered by the trading sector itself, where back-up and back-down services balance contingencies in the short run. More liquid 'swap markets' could circumvent the need to physically transport gas. But these are not long term solutions. Firm (physically or financially) transmission rights on a spot basis have to be created.

Broadly, trading is about time, place and price. A difference in any one of these variables can trigger trade.

Up until now, many factors are impeding gas trading in the region. We all know that the region is dependent on Russian gas, i.e. only one supplier will not trigger arbitrage trade, which is one of the important drivers of liquidity. For this reason, future investment in new transportation routes (either pipeline or LNG) could be very helpful. On the other hand, liquidity has developed at the Austrian CEGH, where the churn rate is fluctuating around three.

Another possibility, is to arbitrage between different points in time. Actual gas can be traded against future gas, if there is enough storage capacity and if access to this capacity is sufficiently transparent. Storage capacity and secondary markets for this capacity are vital for gas trading especially where there are few or even only one supplier. The EU's 3rd Energy Package will hopefully improve the storage situation.

Despite large transit volumes crossing the region towards many EU countries (some 130 Bcm, going to Italy, France, Germany, Slovenia, Slovakia, Czech Republic, Hungary) trading is still in its infancy. This means that market conditions continue to make trading very difficult for "non-incumbents" and that the market integration process still has a long way to go.

There are certainly no easy answers on gas. We have to develop the trust of traders in the market – a stable regulatory framework, transparent rules and markets attracting liquidity, which will enable an integration of markets, hub-to-hub trading, hedging of price differences via spread products etc.

Currently, we have a chance to profit from oversupply in natural gas, be it LNG gas or pipeline gas. There will be demand for trading in the market – we just have to get the regulatory framework right.

Next steps

The major challenge is now to get the market rules right and to provide a firm direction for market development. The financial crisis is a set back, but no more. In fact, the financial crisis has demonstrated the benefits of exchanged based trading or at least of OTC clearing at the exchange.

Debating topics, speakers, and schedule

Morning

09.30 – 10.00 Registration, coffee and networking

10.00 – 10.05 **Welcome and Introduction**
Clive Moffatt – Managing Partner, Moffatt Associates

10.05 – 10.15 **Setting the Scene**
Walter Boltz – Managing Director, E-Control and Vice President CEER and ERGEG

10.15 – 10.30 **DEBATING TOPIC – ELECTRICITY MARKETS IN CENTRAL AND EASTERN EUROPE**
Moderator Introduction – **Clive Moffatt**

10.30 – 10.50 **Session One – Market Regulation and Rules**
What are the barriers to the harmonisation of market rules and who should ensure compliance?
Dr Günther Rabensteiner – CEO, VERBUND Austrian Power Trading AG

10.50 – 11.10 **Session Two – Trading Channels and Opportunities**
What contribution can energy exchanges and OTC trading play in improving market efficiency and liquidity?
Alan Svoboda – Director Sales and Trading, CEZ

11.10 – 11.30 **Session Three – Market Drivers and Prices**
What needs to be done to ensure regional prices reflect fundamental demand and supply conditions?
Fjodor Duschek – Head of Continental Power Trading, Merrill Lynch Commodities (Europe) Ltd

11.30 – 12.00 **Electronic voting on key questions and debate**
Chaired by Moderator

12.00 – 12.30 **MORNING PANEL DEBATE**
Chaired by Moderator

- **Andras Hujber** – Policy Officer, EU Commission (DG TREN)
- **Jacek Brandt** – Market Development Director, Polish Power Exchange
- **Jozsef Balogh** – Central European Origination & Trading Manager, EDF Trading Ltd
- **Plamen Popov** – Managing Director, Statkraft SEE

1230 – 1350 **Lunch and networking**

Afternoon

13.50 – 14.05 **DEBATING TOPIC – GAS MARKETS IN CENTRAL AND EASTERN EUROPE**
Moderator Introduction – **Clive Moffatt**

14.05 – 14.25 **Session Four – Market Regulations and Market Rules**
What rules should govern network tariffs, grid access and market balancing and who should ensure compliance?
Brigitte Kronfuss – Head of Transit Department, OMV Gas GmbH

14.25 – 14.45 **Session Five – Trading Channels and Opportunities**
What are the barriers to developing efficient and transparent trading and how can they be overcome?
Harald Wüstrich – Chief Executive, CEGH

14.45 – 15.05 **Session Six – Market Drivers and Prices**
Who should do what to improve market efficiency and liquidity?
Dr Jozsef Balogh – Central European Origination and Trading Manager, EDF Trading Ltd

15.05 – 15.35 **Electronic voting on key questions and debate**
Chaired by Moderator

15.35 – 16.05 **AFTERNOON PANEL DEBATE**
Chaired by Moderator

- **Nigel Sisman** – Senior Adviser, GTE
- **Dr Radim Fiala** – Head of Gas Tracking, Lumius, spol. s.r.o.
- **Andreas Rau** – Director, EUSTREAM
- **Marek Woszcyk** – Vice President - Energy Regulator Office, URE

16.05 – 16.20 **Summary Remarks**
Johannes Mayer – Director Competition and Regulation, E-Control

16.20 – 16.30 **Closing Comments**
Clive Moffatt – Managing Partner, Moffatt Associates

16.30 – 17.00 Afternoon tea and networking

CEE electricity markets

What are the barriers to the harmonisation of market rules and who should ensure compliance?

Dr Günther Rabensteiner – CEO, VERBUND – Austrian Power Trading AG

Setting the scene

Since the beginning of the market liberalisation in Europe, more than ten years ago, the business-models of energy companies have changed considerably. New market rules, which unfortunately have not yet been fully harmonised between all countries, and new market players and trading platforms determine today's electricity trading.

In Eastern Europe, these developments started with EU enlargement in 2002, a few years later than in Western Europe. Many obstacles still remain, with a single European energy market far from reality. Despite numerous initiatives to reduce barriers to trade, the integration of national markets into one Pan-European market might still not be achieved. This paper describes the general framework under which power trading currently takes place and the resulting challenges for the future, focusing on Central-East-Europe (CEE).

Legislative and regulative framework

In Spring 2009, the EU adopted it's "Third Energy Package". At the heart of it the concept of "unbundling" is defined – the objective to separate supply and production activities from the operation of transmission networks.

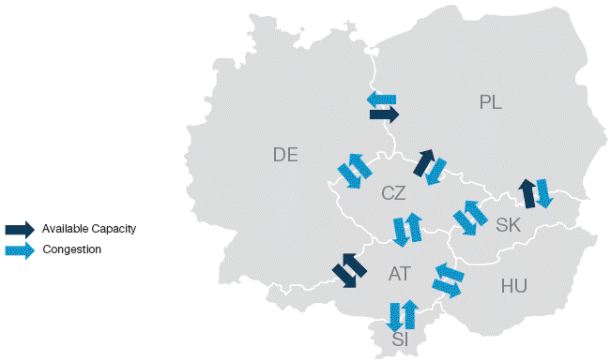
In addition, the package envisages the foundation of an *"Agency for the Co-operation of Energy Regulators" (ACER),* which will have a key role in setting framework guidelines for the energy market. And, in its regulation on cross-border exchanges of electricity, it also establishes a European Network of Transmission System Operators for Electricity (ENTSO-E) *"in order to promote the completion and functioning of the internal market in electricity and cross-border trade and to ensure the optimal management, coordinated operation and sound technical evolution of the European electricity transmission network.*[1]*"*

Generally, measures to improve market transparency regarding network operation and supply should ensure equal access to information and transparent pricing, in order to strengthen confidence in the market and prevent market manipulation.

Furthermore, the electricity market is influenced by the EU Energy and Climate Package, with its three directives on emissions trading, renewable energy sources and carbon capture and storage[2].

The current picture

Currently the European electricity market consists essentially of national markets representing their own price zones. In general, there is congestion at all borders, except between Austria and Germany. (see chart below)



(Source: PricewaterhouseCoopers, Electricity Traders Survey 2008)

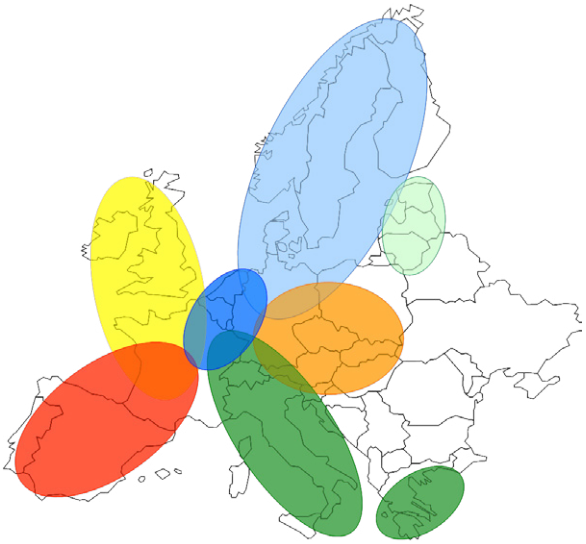
With their "Electricity Regional Initiative" the European energy regulators (ERGEG and CEER[3]) created seven "regional markets" as an interim step on the way to one Pan-European market. (see chart below) In accordance with EU-regulation, the aim of this initiative is to tackle barriers to trade and competition and to encourage market integration

[1] Regulation (EC) no 714/2009 on conditions for access to the network for cross-border exchanges in electricity, Article 4

[2] Directive 2009/29/EC to improve and extend the greenhouse gas emission allowance trading scheme of the Community; Directive 2009/28/EC on the promotion of the use of energy from renewable sources; Directive 2009/31/EC on the geological storage of carbon dioxide

[3] Committee of European Securities Regulators (CESR) and European Regulators' Group for Electricity and Gas (ERGEG) advice to the European Commission in the context of the Third Energy Package"

Region	Countries	Lead-Regulator
Baltic	EE, LV, LT	PUC (LT)
Central-Eastt (CEE)	AT, CZ, DE, HU, PL, SK, SI	E-Control (AT)
Central-South (SEE)	AT, FR, DE, GR, IT, SI	AEEG (IT)
Central-West (CEW)	BE, FR, DE, LU, NL	CREG (BE)
Northern	DK, FI, DE, NO, PL, SE	DERA (DK)
South-West	FR, PT, ES	CNE (ES)
France-UK-Ireland	FR, IE, UK	Ofgem (UK)



through the co-operation of regulators, companies, Member States, the European Commission and other interested parties. In line with this overall objective, the development and implementation of respective solutions in the seven regions concentrates on their different regional concerns.

Since the launch of this initiative in 2006, especially in the CWE and the Northern region, numerous projects have been initiated and implemented (TMC, CASC CWE, EMCC). Some of them have failed, are delayed or have been relaunched because of complexity (counter flows).

In the CEE region, the Central Allocation Office (CAO) was established in 2008 as a co-operation between eight Transmission System Operators (TSOs) [4] to centrally co-ordinate and operate the congestion management within the control areas. Currently, the CAO is preparing the implementation of the load-flow based explicit auctioning process to allocate physical transmission rights for cross-border capacity. After completion, which is planned for January 2010, CAO will take over the daily operation of the allocation process.

On 1 September 2009, the market coupling of the short-term electricity markets of Czech Republic and Slovak Republic was launched, bringing to an end the use of explicit auctions on the countries' border. On the second day of operation traders noted that, since coupling started, the prices in all hours were exactly the same in both markets – an indication that cross-border capacity is equally available in both directions. Before market coupling, Slovak prices were generally at premium to Czech levels.

Generally most trading activity in the CEE region takes place on an OTC-basis. At present, five power exchanges are operating in the region, with very different levels of liquidity: EEX (Germany; more than 100 participants), EXAA (Austria; approx. 50 participants), PXE (Czech Republic, Slovak Republic, Hungary; approx. 30 participants), POLPX (Poland; approx. 30 participants) and BSP SouthPool (Slovenia, Serbia; approx. 15 participants). Additionally OTE (Czech Republic) and ISOT (Slovak Republic) organise the spot balancing market as market operators/ organisers. In Hungary, no exchange or market operator has yet been established. OTC-trading via broker-platforms and bilateral contracts are currently the only possibilities to trade electricity in Hungary. The foundation of an Hungarian power exchange (HUPX) for day-ahead products is planned by MAVIR in co-operation with OPCOM, but the launch has been postponed several times.

[4] Shareholders of the CAO Central Allocation Office GmbH are eight transmission system operators from Central-Eastern Europe : ČEPS a.s., ELES Electro-Slovenija d.o.o. MAVIR Hungarian TSO Company Ltd., PSE-Operator S.A., SEPS a.s., transpower stromübertragungs gmbh, Vattenfall Europe Transmission GmbH, Verbund - Austrian Power Grid AG

It is clear that the pace of market integration is very different throughout Europe and especially within the CEE region. On the one hand in Germany and Austria, power trading has been quite effectively liberalised and unbundled from TSOs over the last ten years. National regulators have been installed to watch over the functioning of the market. The power exchanges EEX and EXAA have been established successfully with increasing numbers of participants and volumes traded. On the other hand, in eastern countries the establishment of liquid and freely accessible power markets is still far from reality.

Success factors for energy exchanges

The successful establishment of energy exchanges in Western Europe has shown the importance of these trading platforms for the functioning of the market. In addition to OTC-trading, liquid exchanges like EEX or Nord Pool nowadays serve as an essential supplement to the electricity market and operate as independent and transparent price barometers.

But not all exchanges, especially in Eastern Europe, have been developed to this degree and still do not offer a real alternative to other trading options. To be successful and attract enough participants a power exchange needs to offer a physical, financial and environmental product portfolio ensuring transparent and standardised pricing methods and a cost-effective fee structure.

A further requirement is evidence of corporate governance with the guarantee of transaction security and a trustworthy central counterpart and clearing company. International co-operation and/or mergers like in Western Europe (e.g. EEX and Powernext, APX and Endex) could facilitate economies of scale.

Impediments to electricity trading in CEE

In 2008, a market survey on impediments for electricity traders in the CEE-region was updated, analysing regulatory, administrative and information-related inconveniences for traders in the region. According to this report [5] the main conclusion was that electricity traders are still facing significant impediments in their daily work, which could be quite easily reduced by national legislation. The survey identified four typical barriers to market entry that prevail especially in Poland, Hungary, Slovakia and Slovenia:

- bureaucratic and administrative obstacles to market and network access
- complicated market structures and timetables
- complex and non-standardised IT platforms and late data delivery
- market fragmentation and poor international co-operation

To increase the attractiveness of the market for traders, administrative and bureaucratic requirements should be reduced to the necessary minimum. But in most countries in the CEE-region, market participants have to fulfil many additional rules beside national laws to gain access to the network.

According to traders, unusual bureaucratic procedures, export fees, language barriers and overwhelming amounts of paperwork cause significant troubles. Important obstacles can also be seen in the requirement to establish a subsidiary or a licensed company in the country to be traded in or the setting up of balancing groups. The time to obtain a trading licence varies considerably between single countries, from less than one month to up to and sometimes even more than six months. In some countries, problems in obtaining relevant market documents and trader information (e.g. forms, rules, contracts, market data) in English remain a major issue.

Serious problems in obtaining relevant information on cross-border capacity and power generation still appear in most of the countries. In this context, traders complain about the non-transparent calculation of net transfer capacity values, different, unsynchronised auctioning systems and the unpredictable available transfer capacity. With regard to power generation traders experience difficulties in obtaining information about planned outages, forecasts and specific plant data. Traders also claim that there is a lack of regular data updating and data transparency in these countries. In addition different IT platforms are generally used for cross-border, balancing energy, power exchange and OTC nominations, a fact that hinders the effective operation of a regional electricity market.

[5] „Impediments to Electricity Trading in CEE“, Electricity Trader Survey 2008, PricewaterhouseCoupers 2008

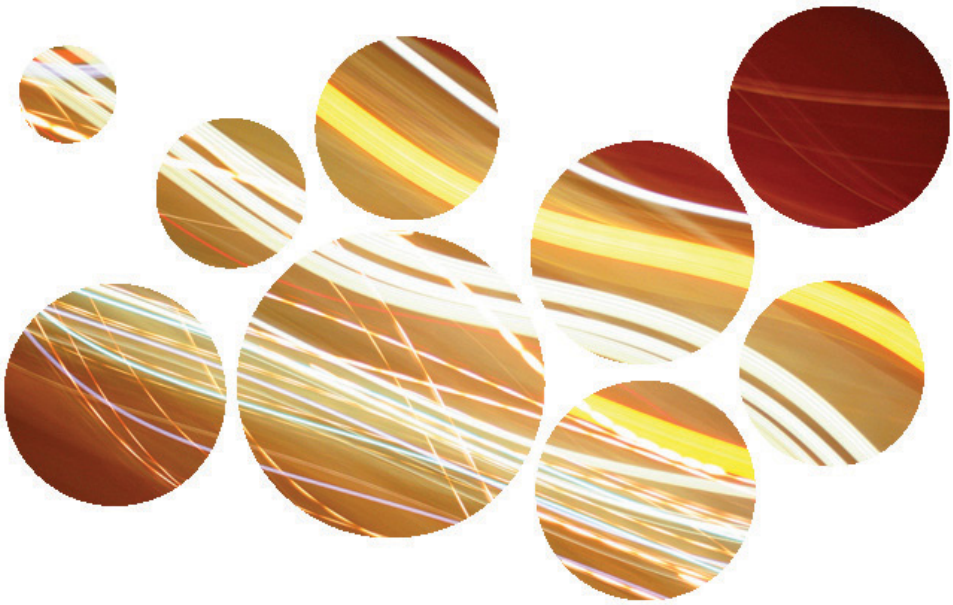
For the regional electricity market it is necessary to improve the level of international co-operation between regulation authorities, ministries, TSOs and exchanges. TSOs are especially required to handle congestion. Most traders are in favour of a regional independent co-ordination office which should organise regional auctions for cross-border capacities and would welcome a secondary market for cross-border transmission capacities and a "use-it-or-get-paid for it" option for holders of transmission rights.

The ten measures traders identified to be the most urgent are:

- elimination of congestion at cross-border lines:
- increase the size of the physical market
- more information on power plant production
- implementation of market coupling
- transparent balancing energy market
- reduction of transaction costs
- reduction of software implementation costs
- increase of software compatibility and usability
- reductions in licence and trading fees
- transparency in prices published

Next steps

Essential for the elimination of the existing impediments is the establishment of harmonised market rules. The 3rd EU Energy Package with its institutions ACER and ENTSO-E sets out the respective EU-wide framework, where the responsibility for the implementation into national law lies with national governments. At a national level the responsibility of regulators and TSOs should not be neglected. And, from the market side, energy exchanges could also "voluntarily" harmonise their conditions for access and trading.



What contribution can energy exchanges and OTC trading play in improving market efficiency and liquidity?

Alan Svoboda – Executive Director, Sales and Trading, CEZ

Summary

Liquid markets are crucial for market transparency and optimal business decisions. There are several key enablers of liquid markets. Namely, organised trading platforms, interconnection to neighbouring markets and supportive legislation. The first stage of organised trading platforms is usually represented by broker screens and spot trading. Later exchanges are introduced.

Exchanges offer several advantages over OTC markets (guaranteed liquidity, no counterparty risk, recognised by the public as official prices). OTC markets nevertheless benefit from the emergence of exchanges. Further improvement can be achieved by the harmonisation of rules, settlement procedures and margining across platforms.

Interconnection to neighbouring markets is also crucial. It transforms what are local usually oligopolistic markets into competitive markets where nobody individually is able to set the price. Well-functioning interconnections are not blocked by long term contracts, the capacity is offered in auctions and the decisions of TSOs on how much capacity to offer into auctions is fully transparent.

Another key driver of well-functioning interconnections is sufficient capacity. More capacity could be offered if TSOs adopt some quick-wins i.e. start sharing technical data and models, start to optimise on a daily basis, support cross-border intraday trading, introduce netting, etc.

The improvements should be gradual. A major change in the method of capacity allocation could be very disruptive and detrimental to market liquidity and transparency. Not all changes lead automatically to improvements. Some TSOs (mainly in Central Europe) promote so called flow-based methods of allocation. However, many other TSOs and almost all traders claim that it does not work in real time, due to the many restrictions that must be incorporated. Another well-known improvement is market coupling or so called implicit auctioning. It can be a major step improvement, if it is done well. Quick-wins and debottlenecking of the grids is crucial to allow grids to cope with power flows from unpredictable renewable sources.

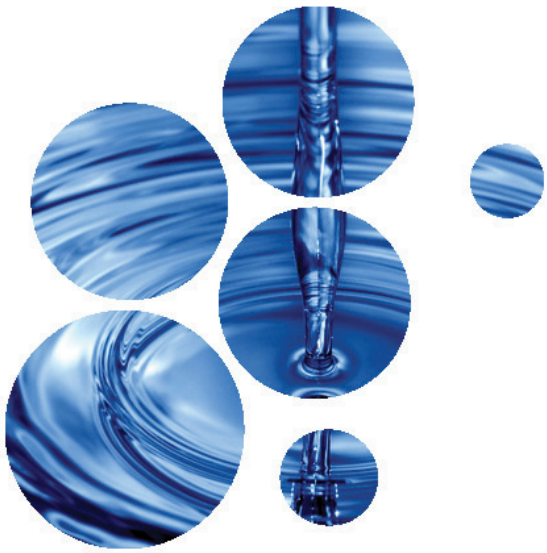
New EU institutions and regional initiatives can also help foster the development of markets. It is important not to allow the supply of power to end users at artificial prices and avoid other forms of perverse regulation (e.g. import/export fees or duties, difficult licensing procedures, etc.)

The CEE region has made huge progress in creating liquid markets. There are liquid spot markets, established exchanges and OTC markets and harmonised auctions of cross-border capacity. Nevertheless, there is still a long way to go.

Introduction

Due to the recession the consumption of electricity has fallen dramatically in most European countries. This decline has been accompanied by a fall in prices both on spot and forward markets. The electricity market in these regions is very fragmented and still far from the ideal of a single electricity market but to the surprise of all of us the market works. Prices follow fuel fundamentals and local merit orders. This is the good news. The bad news is that these markets do not function effectively.

There are several key enablers of liquid markets. Each market has to have several competitive organised trading platforms, sufficient interconnection to neighbouring markets and harmonised and consistent legislation.



Trading platforms

A spot day-ahead hourly market is a must. The spot market enables market participants to adjust their positions according to real-time information. In some countries, a missing spot market is substituted less effectively by day-ahead cross-border trading. When the market is ready to accept market standardisation in terms of traded products or international standard master agreements then brokers become more active. The presence of several international brokers seems to be a good indicator of the status of the market.

Eventually, power exchanges emerge and these offer several advantages over OTC markets. There is no individual counter-party risk, and at least minimum liquidity is guaranteed. Traditionally, exchanges publish transaction statistics and price indices and therefore are recognised by traders, authorities and also by the public as a reliable and transparent market place.

In some countries, we see increasing activity on power exchanges. The Prague power exchange recently expanded its activities to Slovakia and Hungary. Based on one contract, traders can trade forward products with delivery either in the Czech Republic, Slovakia and Hungary. In July, a spot market in Slovakia was launched as a necessary pre-condition for the Czech-Slovakian market coupling project. First days of coupling proved successful and liquidity of Czech spot at least doubled or tripled. It is a good example how an international project can improve the liquidity of a national market. Well functioning power exchanges attract more brokers, often offering clearing services to OTC transactions and therefore OTC markets benefit from the emergence of power exchanges. Further improvements can be achieved by the harmonisation of rules, settlement procedures and margining.

Interconnection to neighbouring markets

Regardless of the size of a national market, physical interconnection can transform an oligopolistic national market into a competitive market, where no company is in the position to set the price. In the CEE region, in accordance with the EU legislation, cross-border capacity rights are offered regularly to the market in auctions and long term contracts do not block or reduce the cross-border capacity. However, the decisions of TSOs as to how much to offer are not fully transparent. In the auctioning system itself there is no built-in economic motivation for TSOs to build new interconnections or free-up more capacity by closer co-operation with other TSOs.

We believe that more capacity could be offered via some quick-win solutions. For example, if TSOs start sharing more data, build common grid models, optimise operation on daily a basis, support cross-border intraday trading, introduce netting of capacities and cross-border redispatch etc. then liquidity will improve.

All these quick-win solutions and the construction of new transmission lines are crucial not only to support competition but also match new grid requirements to facilitate the massive investment in renewable energy.

In the CEE region, TSOs have developed a completely new auctioning system based on a flow-based calculation. Despite the desirability of a common grid model, capacity allocation based on the flow based calculation seems to be too complex and sensitive to a lot of artificial factors. A major change in the method of capacity allocation could be very disruptive and detrimental to market liquidity and transparency. At the moment the flow-based allocation project is not mature enough to go live and we do not believe that the flow-based calculation will ever work successfully on annual or monthly bases.

Market coupling projects are at different stages of implementation but are probably the right way forward in joining national markets and regional markets into a single European electricity market. Market coupling based on an implicit auction of cross-border transmission capacity together with electricity on spot exchanges respects both national merit orders, existing bottlenecks in grids and implicitly enables netting of flows. The flow based calculation of available capacities used for implicit auctioning could be easily tested in parallel with the current NTC calculation. If the new method proves valuable and delivers more cross-border capacity, then it can be easily applied without changing any interface to the market.

Legislation and regulation

The electricity market of the East and South European countries is very fragmented. The electricity consumption of 18 countries is approximately equal to the consumption of Germany. But, it will be much more challenging to achieve the same liquidity in Central East and South East Europe.

Market participants have to study national energy legislation in 18 countries, follow 18 market rules set by regulatory authorities and at least 18 different grid codes issued by TSOs. What do we see? – different approaches to licensing procedures, different scheduling formats and rules, different balancing markets and on top of that various export or import fees and different approaches to setting transmission fees.

In this part of Europe, the unification of law and market regulation is a key issue. Most of these individual national markets are not big enough to host new projects for the construction of modern 600 or 800MW coal or gas generation units, not to mention 1300MW nuclear units. Large, efficient generation will not be sufficiently utilised without reasonably well connected markets. If these markets do not find a way forward on integration and consistent regulation then they will suffer from either a lack of generation capacity and/or high generation cost.

New EU institutions and regional initiatives can help but the key institutions are national regulatory authorities and governments.

There is one more and maybe this is the most important obstacle for the development of the liquid markets; namely the regulation of end consumer prices.

A well functioning market cannot exist if a substantial part of the retail market is subject to price control. Price regulation takes different forms in different countries but the distorting effect is always the same. End consumers do not buy until the regulated price is published. It is usually at the very end of the year. Until it happens traders cannot trade, generators cannot sell because of price risk and liquidity suffers. Generators cannot sell via the exchanges if they do not know whether the price of their production will be regulated or not.

The CEE region has made a huge progress in creating liquid markets, but there is still a long way to go. Liquidity is a complex issue and will not improve while some of the key elements are missing.

What needs to be done to ensure regional electricity prices reflect fundamental demand and supply conditions?

Fjodor Duschek – Head of Continental Power Trading and Ante Ivankovic – Continental Power Trader, Merrill Lynch Commodities (Europe) Ltd

Introduction

For a market to develop, traders require confidence that prices reflect real market conditions. But, traders are also interested in efficient pricing because this encourages greater market liquidity and product innovation, which is a fast track towards market maturity. Efficient pricing removes factors that are external to fundamental demand and supply dynamics.

So if efficient pricing is important, is there any reason why the CEE region should create its own efficient pricing mechanisms, or should it accept a role as an ancillary market to more mature neighbouring markets?

We believe the CEE region should determine its own pricing and take control of the mechanisms to ensure that prices reflect the fundamentals of supply and demand.

This is important because of the geographical position of the market wedged between the energy exporters to the East and the large consumers to the West, as well as the different infrastructure characteristics. The influence of net external market flows just becomes part of the regional pricing stack rather than a price leader for local generation.

Creating regional specific pricing via a liquid market will bring benefits in terms of investment both in the energy sector and other areas, because energy exposures can be managed with more confidence.

Issues

Should the CEE be considered as one market or a number of distinct markets?

A recent survey by Moffatt Associates for the EU Commission (July 2008) revealed significant variations in market liquidity and efficiency across the region (see chart below).

	Number of active traders	Volume of trading	Number of new entrants	Demand and supply transparency	Influence of dominant market incumbent(s)	Representative spot market price	Ability to trade forward
Austria	Weak	Weak	Weak	Weak	Moderate	Moderate	Weak
Bulgaria	Weak	Weak	Moderate - Weak	Weak	Strong	Weak	Weak
Czech Republic	Moderate	Weak	Moderate	Moderate	Moderate - Strong	Moderate	Moderate
Hungary	Moderate	Moderate	Weak	Weak	Moderate - Strong	Weak	Weak
Poland	Moderate	Weak	Weak	Weak	Strong	Moderate	Weak
Romania	Moderate	Strong	Moderate	Moderate - Weak	Moderate	Moderate - Strong	Weak
Slovenia	Weak	Weak	Moderate	Moderate	Strong	Weak	Weak

KEY: Weak rating – green, moderate – yellow and, strong – red

Development in isolation of neighbouring markets is to be expected when regulatory regimes are not focused on a regional outcome. Although, progress in some markets can spur on developments elsewhere, introducing a more regional focus at an early point could have additional benefits, namely:

- harmonised approaches could maximise the efficiency of infrastructure investment;
- shared experiences could resolve difficult issues without the need to re-invent the wheel;
- shared development plans can provide a lower level of domestic political risk and avoid the temptation to favour local incumbents;
- the development of regional pricing can provide a stronger basis for liquid markets that reflect local pricing outcomes rather than be a derivative of larger nearby markets.

The success of Nordpool is a good example of a collective approach to generate additional market liquidity. While the design in Nordpool may not be appropriate for the CEE region, it does show that a co-operative approach can lead to a rapid increase in market liquidity and market confidence.

Local liberalisation

Measures at a domestic level are essential for success for the development of wholesale markets.

Such measures should include the development of more stable regulatory rules, a rapid opening up of supply competition, and transparent cross-border power flows without any undue restriction. Improvements in transparency around generation costs, fuel costs, plant outages and a consistent calculation and provision of cross-border capacity and congestion management approaches would also help.

The wholesale markets are a tool to allow stakeholders to better manage risk. The emergence and quality of those markets is a function of need and this comes out of market structure such as the level of supply competition and access to power and customers. Wishing for a liquid wholesale market in the absence of a sound market design is pointless.

Positive steps

The development of the Capacity Auction Office (CAO) is a strong message that a regional solution to capacity can add to better market outcomes. While the system is new and innovative and the lessons are yet to be fully understood, it is clear that thinking "regionally" introduces a number of additional challenges; namely:

- to stress test the old way of doing things, and to discover if stakeholders have the capacity to learn.
- to reduce mental barriers that often stop the policy-makers thinking beyond national frontiers.

Negative actions

Recently, we have seen attempts within the region to protect local markets through physical and fiscal measures that restrict power exports. Other than the dubious legality of such measures, the policies are short-sighted and ultimately damaging to local consumers.

The predictability and stability of cross-border capacity calculations have also proved illusive. Even recent market coupling activity between Czech Republic and Slovakia has raised concerns about whether the correct level of capacity was initially offered to the market. Whether or not such concerns are valid, the perception is important as this can add to market risk.

Regulators need to respond in a positive way to ensure that the maximum amount of capacity is made available. This requires a clear understanding and exposition of the security needs for the TSO, and also the development of appropriate tools and incentives for a TSO to manage capacity rather than just reduce availability.

Investment benefits

Investment in energy assets, as in other assets, requires consideration of how to manage the risks, whether they relate to credit, financing, input costs or delivered energy. Having market prices closely related to the assets themselves makes this task significantly easier as this directly impacts on the fundamental valuation of an asset.

A tougher environment for risk management will make the use of correlated markets a more difficult sell. A visible liquid trading curve in the target market for investment will be viewed even more favourably in today's environment.

Pricing within an EU context

The physical realities of the power market means that different price zones should naturally emerge. The introduction of more renewable and potentially intermittent generation strengthens this outcome.

It is not sufficient for Regulators to simply wish for single price zones or to shoe-horn different markets into a uniform solution. The key to efficiency in pricing is to allow differences to be exposed and managed (e.g. through the development of intra-day markets). Indeed, Regulators blindly driving single price zones without consideration of physical realities will add to uncertainty about investment spending and location.

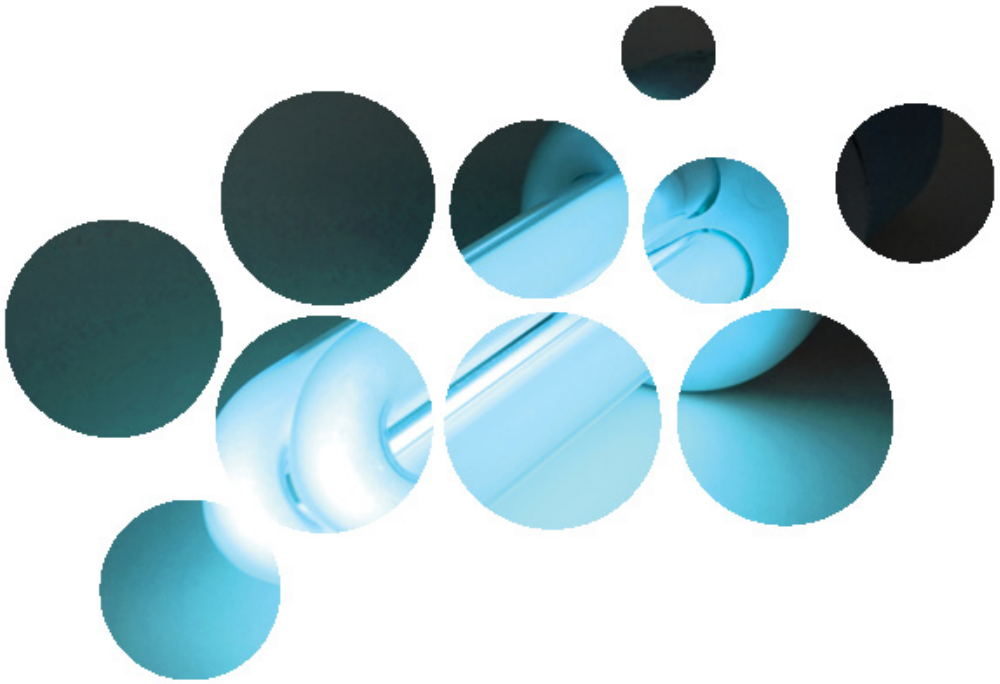
It is entirely feasible that a large part of the CEE region could form a key pricing hub for European power. Only by developing the conditions conducive for efficient regional pricing will the role of the CEE as a pricing hub be truly tested.

Conclusions and challenges

Our view is that the CEE region can represent a significant pricing zone in Europe. A lot of the work in progress will help make this a reality, but there is still a need for strong domestic action to ensure that the foundations of a regional market are not weakened by poor implementation. What we do not need is undue focus on the rules rather than the spirit of the liberalisation process, or attempts to protect domestic consumers through inappropriate restrictive practices.

The need for additional investment in energy infrastructure and services is undisputed. However, this investment pool is not bottomless and, in the wake of the financial crisis, investors will look not only at net margins, but will have a greater eye on the associated risks. By tackling issues at a regional level, there is a greater opportunity to lower investor risks and to better position the CEE when competing for these limited funds.

The evolution of the CEE power market faces similar challenges to other European markets. It would be difficult to conclude that the CEE region faces more difficult circumstances, particularly when the speed of liberalisation and regional integration are controllable, and it is these factors that will dictate the level of market development and investor interest. The opportunity to lead is available, and allowing the conditions for efficient market pricing to emerge will bring numerous other benefits.



CEE gas markets

What rules should govern network tariffs, grid access and market balancing and who should ensure compliance?

Brigitte Kronfuss, Head of Transit Department, OMV Gas GmbH

Setting the scene

A possible answer to this complex question could be summarised as follows:

Network tariffs should be governed by market rules in the supply/demand context; grid access through transparency provisions as already implemented; market balancing through interconnection agreements and global OBAs (Operational Balancing Accounts) between adjacent TSOs.

As regards compliance, it is/was of crucial importance to have regulatory authorities break up monopolistic structures. But after, it would be appropriate that they relinquish some of those regulatory powers, which are already covered by existing regulations, e.g. competition authorities.

However, the real world is not that simple and therefore the following paper elaborates on the issues from a TSO's perspective.

The EU's 3rd Energy Package has established some legal guidelines but there are many questions that remain unanswered.

So what is missing? It is not enough to say that gas transportation and storage needs to be liberalised via regulation. The reality is that we will have to deal with the current economic recession for longer than expected. In January this year, the "gas crisis" took the EU by surprise. The term crisis in this context is not strictly correct because the gas was there, but for political reasons delivery was a problem.

In the current economic and political situation, we need to question the timing and also the content of the 3rd Energy Package.

The new directives increase the regulatory burden on the market. Meanwhile, all stakeholders have to work together to maintain a high level of security of supply in a more uncertain environment and to restore a climate of co-operation, which is essential for preventing or solving a future supply crisis. In this context, improving the relationship between the European Union and foreign producing countries and companies (e.g. Russia and GAZPROM) should be a priority.

EU Commission's proposals on effective TSO unbundling

According to Directive 2009/73/EC there are two "preferred" options for TSO ownership unbundling:

- full ownership unbundling or
- independent system operator

A third option as laid down in Chapter IV of the Directive is the Independent Transmission Operator (ITO). Considering the views of the Austrian representatives in the various Council working groups at the European Level it can be assumed that the ITO model will be implemented in Austria. The ITO model implies a high degree of regulation and as a potential ITO, we hope that regulation will be exercised with a degree of restraint.

For example, in our opinion "ITO" Chapter IV of Directive 2009/73/EC concerning common rules for the internal market in natural gas has to be assessed in terms of its impact on the vertically integrated undertaking. These provisions are very strict in order to avoid any positive discrimination in favour of companies within the integrated business. With respect to the relationship between the vertically integrated company and the ITO a strict approach is understandable, but the same approach should not apply for relations between the parent company and other market participants. Liberalisation rules should not go too far.

Chapter IV is not intended to undermine co-operation between TSOs and other market participants, which are not part of the vertically integrated undertaking. Therefore, existing business relationships of the future ITO (apart from those linked to the vertically integrated company) should not be touched by Chapter IV of the Directive.

To make the ITO model more restrictive than the ISO or Full Ownership Unbundling options should not be one of the outcomes of the 3rd Energy Package.

In the liberalised model, the network is controlled by an independent company, having no interest in the downstream market and the big question is: Will an unbundled network company have sufficient resources and sufficient incentives to invest in the development of the network?

Entry/Exit tariffs – Appropriate for all transmission systems?

A further, major reform with regard to the 3rd Energy Package is the creation of Entry/Exit tariffs or methodologies. According to Article 13 Regulation (EC) No 715/2009

"Tariffs for network users shall be non-discriminatory and set separately for every entry point into or exit point out of the transmission system. Cost-allocation mechanisms and rate setting methodology regarding entry and exit points shall be approved by the national regulatory authorities. By 3 September 2011, the Member States shall ensure that, after a transitional period, network charges shall not be calculated on the basis of contract paths."

In Austria, tariffs for cross-border transportation are based on contract paths and, therefore, it will be necessary to establish a new system even though Austria is a typical transit country with domestic consumption considerably lower than the transportation of gas between neighbouring countries. [6]

An Entry/Exit system has many disadvantages. Not only will the tariff system need to be changed but also capacity allocation and calculation. An Entry/Exit System has no potential to create capacity – and balancing has to be redesigned.

Some advantages and disadvantages of an Entry/Exit system are as follows:

Advantages

- an Entry/Exit system is supposed to support competition to create flexibility in the network
- the fact that capacity at Entry and Exit points is marketed separately is considered to be a pre-condition for an increase gas trading

Disadvantages

- risk that short distance transmission prices are too high
- risk that transportation services are not priced to reflect costs
- risk of physical congestion
- risk that available firm capacity is reduced

Another issue is that complexity makes optimisation nearly impossible. For instance, how are costs to be shared? For example, the initiatives to invest in reverse flow capacities to deliver e.g. gas to Slovakia via the Austrian or Czech Grid. The Reverse Flow initiative is a step in the right direction but who will pay? From our point of view the transit shipper has to pay for such investment, but in an Entry/Exit system it could also mean that the domestic customer would also have to pay.

Top down approach or bottom up? Role of key stakeholders?

According to Regulation (EC) No 715/2009 Article 6, the process of establishing network codes is as follows:

- *"The Commission shall request the Agency(ACER) to submit to it… a non binding framework guideline (framework guideline) setting out clear and objective principles,… for the development of network codes relating to the areas identified in the priority list…"*
- *"The Agency shall formally consult the ENTSO for Gas and the other relevant stakeholders in regard to the framework guideline…"*
- *"the Commission shall request the ENTSO for Gas to submit a network code which is in line with the relevant framework guideline, to the Agency…"*

[6] Austrian domestic consumption 2008: around 9 bcm
OMV Gas GmbH - gas transportation sold 2008: 66,32 bcm

These articles clearly define that network codes have to be devised by TSOs (within the framework of the ENTSO for gas) based on framework guidelines developed by ACER. The question here is does ACER have the competence to develop such framework guidelines or is input from ENTSO-G (and relevant stakeholders) required beforehand?

From a TSO perspective such guidelines can only be developed jointly. Therefore, neither a top down nor bottom up is the best approach – a combination of both would be the best solution i.e. close collaboration. This should be the role of the key stakeholders in the process – EU Commission, ACER, TSOs and national regulators.

Regional co-operation?

Regulation (EC) No 715/2009 Article 12 says

- *"Transmission system operators shall establish regional cooperation within the ENTSO for Gas…"*

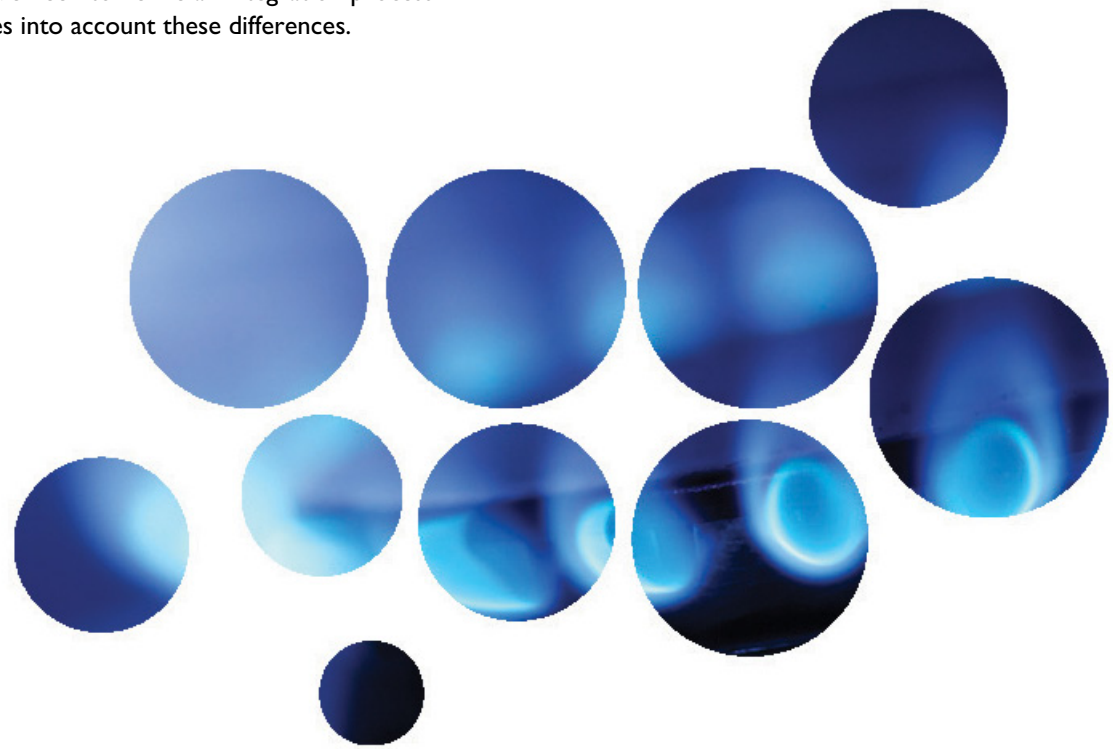
In 2006, ERGEG established regional market initiatives and co-operation has achieved some progress in some regions but the results have not been outstanding. In the light of the 3rd Energy Package, these initiatives should be questioned. It would not make sense to maintain the Gas Regional Initiatives alongside the new ACER/TSO process.

The reality is that regional gas markets differ substantially – e.g. the North West market with various suppliers in contrast to the South East market with one dominant supplier – this difference is still ignored. We need to define an integration process which takes into account these differences.

Next steps

The central issue for TSOs is uncertainty surrounding the future return on investment. The aim of the regulators is to reduce tariffs but in the end the tariffs set could be too low to stimulate investment in networks. A reasonable return on investment is of utmost importance to guarantee network investment. Coming back to the question "What rules should govern network tariffs, grid access and market balancing in CEE gas markets and who should ensure compliance?" the answer is that the rules should facilitate:

- an appropriate framework for investment, capacity selling and balancing including sufficient incentives for TSOs and customers
- an improvement of the regulatory framework – stability and appeal procedures are just as important as standardisation
- the speedy implementation of the existing legal framework in ALL Member States
- a fresh approach to TSO co-ordination and standardisation for European transmission



What are the barriers to developing efficient and transparent trading and how can they be overcome?

Mr Harald Wüstrich, CEO, CEGH AG

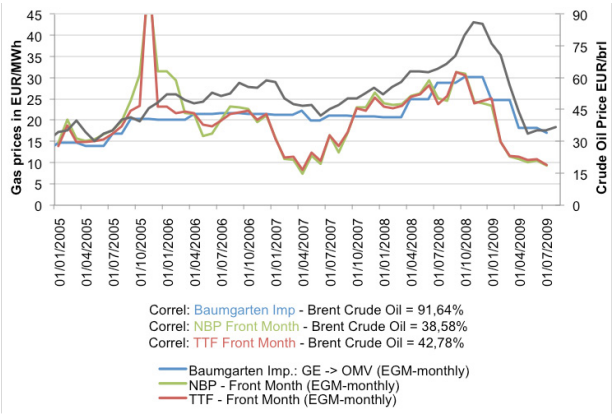
Setting the scene

Hubs might be regarded as the most recent step in the evolution of the gas industry and have become the symbol of the development of free markets, in an environment once characterized by national incumbents mainly supplied by long-term contracts.

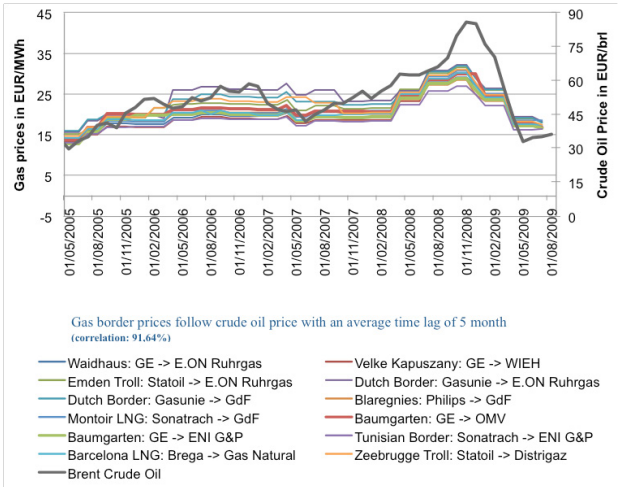
The evolution of liquid gas markets is essential because they provide an environment where customers can source gas at competitive prices, thus creating transparent and reliable price signals. Forward prices provide market players with the best view on future supply and demand conditions to faciliate the efficient usage of their existing asset base (e.g. gas production/ supply contracts).

Currently, the correlation (link) between daily quoted hub prices and oil prices is reducing. Gas hubs are, in effect, becoming the price formation points reflecting purely gas market conditions (see charts below).

Gas Prices vs. Crude Oil Price (shifted 5 month)



Gas Border Prices (Heren European Gas Markets) vs. Crude Oil Price (shifted)

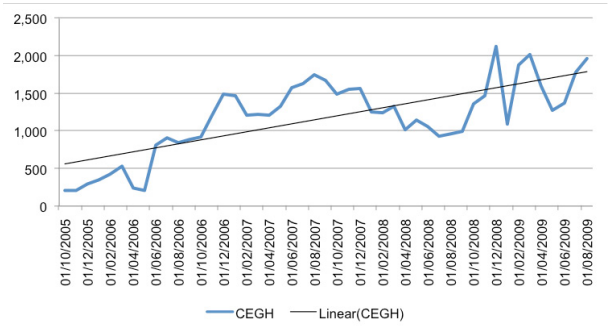


Hub evolution has transferred from electricity to gas markets and is moving from North-Western to Eastern Europe. In fact, the liquidity of gas hubs in CEE has increased.

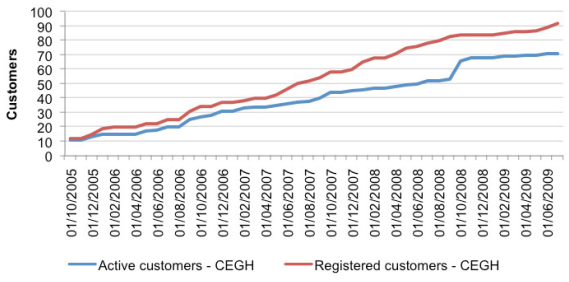
Influencing market liquidity

This paper focuses on the development of the CENTRAL EUROPEAN GAS HUB (CEGH) and investigates the factors influencing operations at Baumgarten. In recent years, the customer base has increased to 92. Trading volumes and churn rate are rising, and the Herfindahl index is decreasing (see charts overleaf).

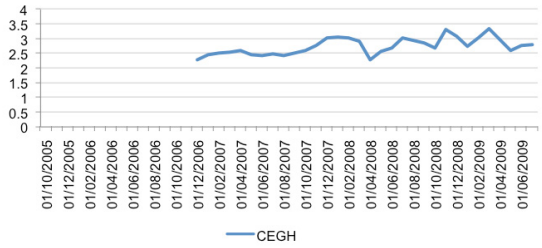
CEGH



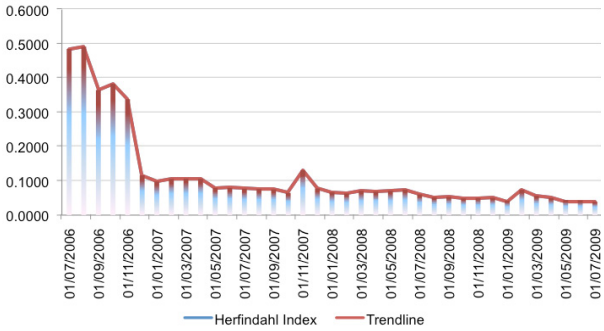
Number of registered and active customers at CEGH



CEGH – Churn Rate

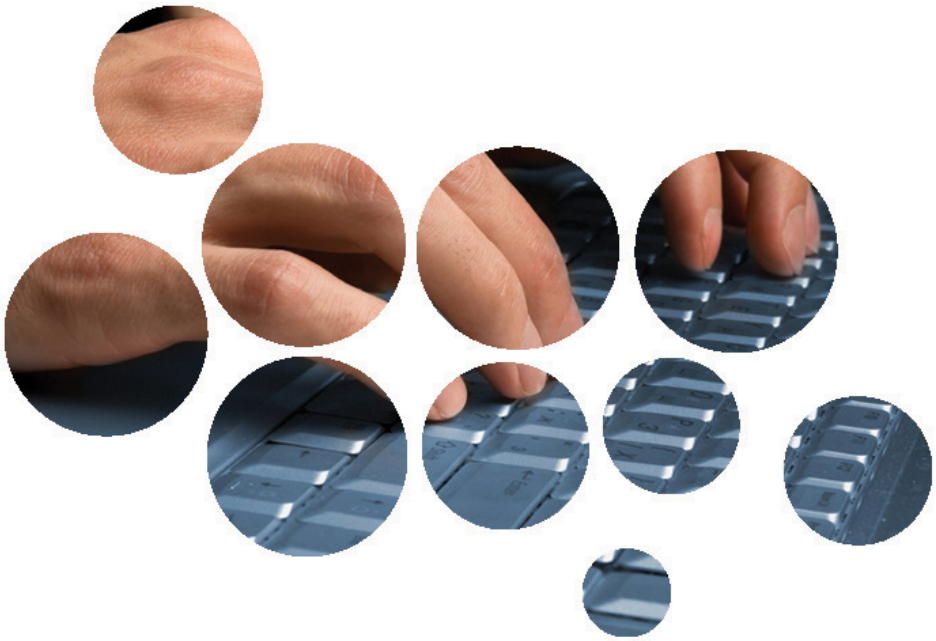


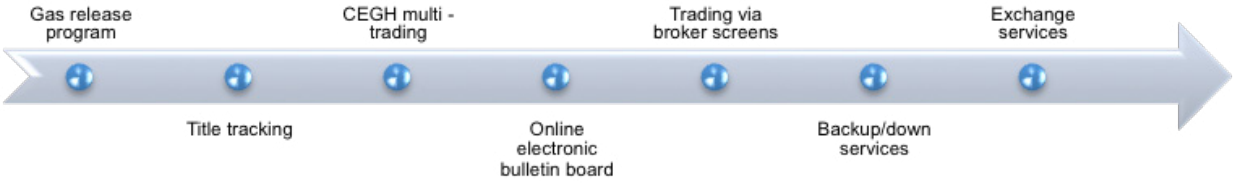
Verlauf Herfindahl Index CEGH



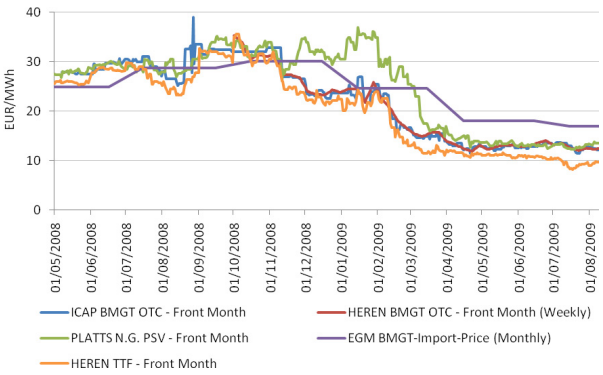
The planned partnership with GAZPROM (still subject to EU Commission approval) will promote the further evolution of the hub. In order to describe the pathway for future development, it seems appropriate to first explain what we have already done to increase the liquidity of the market.

Gas release programs were the first step creating some liquidity at the Baumgarten hub. Functionality of the trading platform was finally established 2006 when title tracking services were offered. Additional services and the implementation of "CEGH Multi-Trading Software" tailored to customize the complexity of the Baumgarten location was a major step to attract more traders to Baumgarten. Involvement of brokers and the availability of price indices have further increased liquidity. One of the most important brokers worldwide is reporting increasing trading activities at Baumgarten and publishes daily price quotations which show very good correlations with HEREN indices (see charts overleaf).

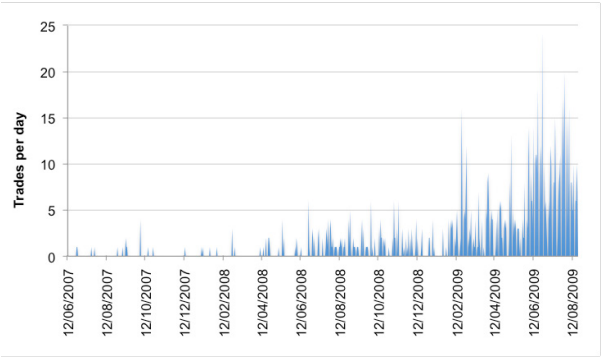




Price quotations in Baumgarten – reflect the market environment



Broker trades per day brokered at Baumgarten



Benefits of exchange trading

Moving along the OTC–development path takes us to the last step in our evolution, viz. the development of a gas exchange platform.

Gas release programs, as the first step of our evolution, have contributed to liquidity. Progress in launching a gas exchange platform will most likely do away with the need to carry out gas auctions in the future. In Autumn 2009, we will start exchange trading, offering spot services, which will be followed by derivative services in the first quarter 2010. To be totally compliant with the Austrian exchange law, we have teamed up with **Vienna Stock Exchange.** In a second step, we agreed on a co-operation with **European Commodity Clearing House** (ECC) in order to create maximum clearing efficiency for our customers. ECC will deliver cross-margining benefits for customers trading at different exchanges and trading different products throughout Europe (multi-commodity approach).

In general, exchange functionalities will provide the following benefits for customers:

- **Globalisation of trading activities**
  - across regions
  - across industries and businesses
- **Standardisation of trading activities**
  - anonymous trade
  - anonymous price quotation
  - standardised contracts (interchangeable with other exchanges)
- **Management of risk exposure for traders**
  - traders not utilising EFET term sheets can easily participate in trade without risk exposure
  - OTC–clearing as an alternative to exchange trading

Operating between TSOs

Unlike other hubs in Europe operating within one single TSO, CEGH operates between different TSOs and storage operators. As a consequence, at Baumgarten there is a need to harmonise operations between TSOs and to integrate trading into the transportation operation.

Over the last few months, progress has been made concerning co-operation with TSOs. TSOs agreed to conclude an Operating Balancing Agreement (OBA) under which CEGH will act as "Central Matching Agent" on behalf of the TSOs in order to enhance the integration of trading in the overall shipping process. Together with TSOs, a model has been developed for a more effective handling of matching processes and trading processes, while transportation issues are managed exclusively by each TSO.

Transmission operations will benefit from liquid hubs. For example:

- interruptible contracts seem to be more attractive for shippers since gas can be sold and bought at competitive market prices with lead times of two hours. As a consequence the utilisation of short-term transportation contracts (e.g. use it or lose it models, interruptible contracts) will be also a function of liquid hubs;
- shippers in Baumgarten may sell to the hub and buy from the hub free of charge;
- TSOs have access to balance their grid, taking advantage of liquid market platforms.

The co-operation between transportation and trade is essential for success. This is why Baumgarten operates a trading platform on top of one of the most important logistic transmission nodes in Europe. This means that CEGH is firstly a trading point for transmission streams, and the local Austrian end consumer market is less important than downstream transmission activities.

This is different from the business models of other hubs in Europe, which are embedded in the "end-consumer market". The following factors are essential to the success of the CEGH operation:

- co-operation with TSOs is very important to efficiently integrate trading with different transportation systems and storage systems;
- harmonisation of operating rules of different TSOs in order to increase operational efficiency;
- market-making is crucial to develop a trading market; especially during the implementation phase the commitment of interested and strong traders in the respective markets (SPOT, FUTURE ; OTC) is an essential driving mechanism for a high liquidity development.
- extension of the exchange functionality to include secondary capacity trade in order to put the customer in the position to trade gas, storage and transportation capacities simultaneously;
- implementation of back up/down services due to the absence of a major domestic balancing regime:
- integrating back up/down mechanism with different balancing regimes of up and downstream transmission systems;

Following the HANSE model

The distinctive feature of the Baumgarten Hub is that trading has to be co-ordinated in collaboration with different network operators. In future, additional pipeline systems owned and controlled by different operators will be linked up to the Baumgarten node transferring gas from other sources in the Caspian region to our trading location. This will boost liquidity and therefore the greatest challenge for the implementation of the EU's 3rd Energy Package must be the efficient integration of the CEGH trading structures into the upstream and downstream transmission regimes.

Our historical model is HANSE, which has developed trading structures for commodity trade in Europe, which might be regarded as a prototype for our future evolution.

- HANSE was successful in integrating Eastern Europe into the highly advanced trading structures of the West; NOVGOROD at that time was a very important HANSE trading location, marking the first time ever resources of the EAST had been efficiently traded in the WEST.
- HANSE efficiently managed the combination of trade and transportation.

The Central European Gas Hub can be seen as a gas market place at the eastern frontier and, due to its geographic location, it will undoubtedly have the obligation to open up trading in the region.

Therefore, we have invited GAZPROM to become our partner and together with our other partners (Vienna Stock exchange and CENTREX) our target is to establish the most liquid trading point in this area.

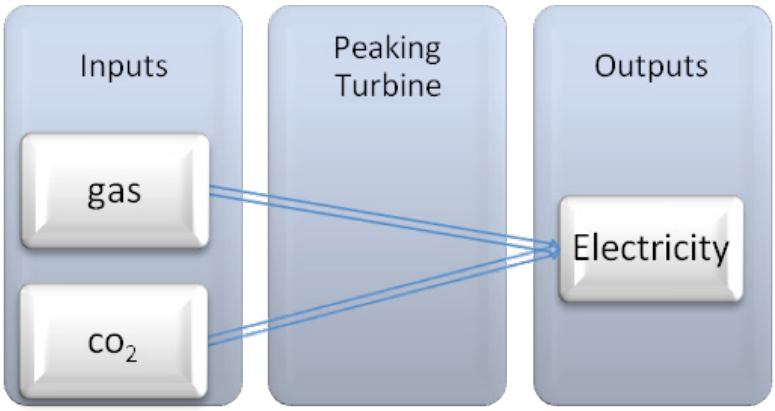
We are following the HANSE model by attempting to integrate Russian resources into modern market functionalities and implement best practices of co-operation with all neighbouring transportation and storage systems.

Who should do what to improve market efficiency and liquidity?

Dr Jozsef Balogh – Central European Origination and Trading Manager, EDF Trading Ltd[7]

Setting the scene

I have recently been involved with a peaking turbine project in Central Europe. In theory, this is an easy exercise:



The commercial value of a peaking turbine depends on the future value of the spark spread (electricity *minus* gas *minus* CO_2). While working on this model, I have discovered a striking contrast between the gas and electricity aspects of the peaking turbine project.

We managed to build a Central European electricity forward curve without any major problem. The same exercise for gas proved to be difficult. We could not get reliable forward gas prices in Central Europe. The next best solution would be to move gas from one of the Western European hubs to Central Europe. This exercise was also challenging. Predicting medium term transportation and cross-border costs was hard, if not impossible.

What are the main reasons for this difference between electricity and gas markets in the same geographical region? I would list two points here, not in any particular order:

(1) Compared to electricity trading, gas is a micro-cosmos: micro volumes trade at a micro hub. There are over 300 electricity trading licence holders in Poland alone[8]; the Central European Gas Hub (www.gashub.at) had 93 members, as of 8 September 2009[9]. POEE, one of the Polish organised electricity markets, is trading around 10.00 TWh/day[10]; the same number for CEGH is 0.00022 TWh/day[11].

(2) Gas is an over-politicised commodity. I was active on the privatisation side of the Central European gas markets in the early 1990s. Back then, the industry was all about an Eastern country and a particular company in that country. I have recently re-contacted my gas-industry friends to get some help with building that gas curve. I had good and bad news. The good news was that some of my old friends are still around; the bad news was that the gas sector seems to be as politicised today, as it was in the early 1990s. When asked about the forward curve for the peaking turbine, the discussion quickly went back to an Eastern country and a particular company in that country. Marcel Proust was correct: Time (with a capital T) can indeed stand still.

Creating a gas market

I would like to discuss who should do what and when to reduce this 'spread' between the Central European electricity and gas markets?

We have to address the two points listed above and things should improve.

I would argue that Point (2) is the cause of Point (1), but not everybody shares this approach. Some market participants want to expand the micro-cosmos, hoping that this 'big bang' will de-politicise the gas markets. Two recent examples should suffice here:

a **Austria:** Three leading companies have agreed in November 2008 to establish a Central European gas exchange[12];

b **Hungary:** PowerForum, an internet-based electricity trading platform, launched a gas trading section in April 2009[13].

[7] The views expressed in this paper represent those of the author and not EDF Trading

[8] Polish Regulator's web-site: http://bip.ure.gov.pl/portal.php?serwis=bip&dzial=import&id=4&szukaj%5B1%5D=OEE&szukaj%5B2%5D=&szukaj%5B3%5D=&szukaj%5B4%5D=&szukajod_5=&szukajdo_5=&szukajod_6=&szukajdo_6

[9] https://www.gashub.at/downloads/CEGH_memberlist.pdf;

[10] http:// http://www.cire.pl/poee/index.php

[11] Dr Ingholf Hoven: Who should do what to improve the liquidity and efficiency of EU regional gas markets? In: APX Energy Trading Symposium, 22 April 2009, page 38, Chart B

[12] https://www.gashub.at/pr_downloads/20081105_IN_OMV_engl.pdf

[13] https://www.powerforum.hu/powerforum/Hir.psml?articleId=4428

This approach will fail because it is concentrating on the effect (point 1 above) without fixing the cause (point 2). The history of the Central European electricity exchanges proves this point. A number of Central European countries set up a number of local electricity exchanges during the last decade. Liquidity on the Central European electricity market increased sharply, but most of these exchanges failed.[14] What is the moral? We need a large pool of active, creditworthy and experienced traders to de-politicise the Central European gas industry.

Attracting more traders

Traders like simplicity and predictability and dislike over-politicised commodities, like the Central European gas market.

There is no magic formula to de-politicise quickly the Central European gas markets. But we should not underestimate how much co-ordinated, step-by-step actions from politicians, regulators and traders could do to maximise market efficiency and liquidity in CEE gas markets. There are in my view, three key requirements

1 Politicians: attitude change

The number one priority is to convince politicians that gas trading is best left to active, creditworthy and experienced gas traders. As an example, I would note that the Central European electricity markets have been fully liberalised. Long-term electricity contracts, once deemed to be the corner-stones of security of supply, have been terminated and pre-allocated cross-border capacities cancelled. The Central European electricity market did not collapse after liberalisation. Quite the contrary, all market participants, including politicians and final customers, benefited from electricity liberalisation.

The same success story could be repeated in the Central European gas sector. The basic ingredients, such as regulation, separate transmission companies, are ready. Politicians are not: they do not seem to acknowledge that active, creditworthy and experienced gas traders are indeed a viable alternative to inter-governmental bodies and oil-indexed, long-term contracts. Security of supply and over-dependency on imported gas are not valid excuses to delay proper gas market liberalisation. As the EFET Gas Committee pointed out recently, *"Competitive markets help to maintain secure supplies because the gas flows respond to price differentials as far as physically and economically possible."*[15] As I said above, our number one priority is to get these messages to politicians in Central Europe.

2 Regulation: transparent and simple

Strong independent regulation is a necessary, but not sufficient pre-condition to improving market efficiency and liquidity in Central Europe. Regulators should repeat the following words, as their daily mantra: *transparency and simplicity.*

a **Transparency:** This is a requirement of natural justice and, usually, requires no special discussion. Yet Slovakia introduced non-transparent storage constraint rules earlier this year[16];

b **Simplicity:** The slightest barrier to entry, like the need for a local office or uncertainty about VAT re-claims, will discourage traders from entering the market. For example, an EU entity could obtain a wholesale electricity trading licence without any local office requirement in Hungary but the same applicant would have to set up a local branch to obtain a gas trading licence.

[14] http://www.borzen.si/pripone/249/Report%202008.pdf, page 12, figure 3 'Monthly volumes of trading and SLOeX index fluctuation during the years 2002 to 2008

[15] http://www.efet.org/default.asp?Menu=283, Improvements to EU Gas Security of Supply Legislation, EFET Response to the European Commission, dated 26 March 2009, page 1.

[16] Ibid, point 2.2, page 5.

3 Traders: standard contract and credit

Finally, the traders. I wish to concentrate on two points only: standard contracts and credit. As a main rule, gas traders should use the standard EFET General Agreement. My experience of the electricity sector are that even tiny amendments to the general EFET agreement could delay execution. Home-made EFETs, i.e. EFET principles mixed with local contracts, should be avoided at all costs.

So far as credit is concerned, the recent turmoil in the financial sector was a painful, but useful reminder that credit control is important. One or two Central European energy trading firms failed earlier this year. They had one thing in common: all operated on the basis of name trading. Hopefully, the Central European gas traders learned their lesson namely that, trading lines are opened following appropriate credit checks, and not on a name basis. This is not an easy task in Central Europe. I have mentioned in my introduction that CEGH had 93 registered users as at September 2009. Of this total 71 are declared to be active; it would be interesting to see how many would satisfy the *'credit-checks and no name-trading'* principles.

Conclusion

To conclude, I wish to return to the original question: what about the forward gas curve for the peaking turbine? I believe that the above recommendations would help to minimise the striking contrast between the electricity (forward curve ready) and gas (no forward curve) sides of my model. Once I have the gas forward curve, I can calculate the forward value of the spark spread and decide whether to build the peaking turbine in Central Europe or not. I would like to think that this will happen soon.

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