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Capgemini's European Energy Market Observatory: Instability in electricity and gas markets threatens Region's security of supply

Paris, October 10, 2013 – Capgemini, one of the world's foremost providers of consulting, technology and outsourcing services, supported by Exane BNP Paribas, CMS Bureau Francis Lefebvre and VaasaETT Global Energy Think Tank¹, today announced the results of the 15th European Energy Market Observatory (EEMO) report. Significantly, the study shows that the combination of a long economic crisis, deregulation in the gas and electricity markets and the EU's Climate and Energy Package's² role in promoting rapid renewable energy expansion has led to very disturbed European gas and electricity markets. This unstable situation poses a potential threat to the future energy supply security of the region in both the short and long term.

Multiple factors are the root cause of this disturbed situation that impacts customers and Utilities

1. The economic crisis

The first contributing factor to the turbulent situation is the economic crisis which has significantly impacted both electricity and gas consumption. In 2012 in Europe, electricity consumption decreased by 0.2% year on year and by 1.2% in the first half of 2013 (versus H1 2012). Gas consumption decreased more significantly by 2.2% year on year and stabilized in the first half of 2013.

2. EU Climate-Energy package

Secondly, triggered by the 2020 target of 20% renewable energy sources in the final energy consumption mix set out in the EU Climate-Energy package, renewable energy projects have continued their development in the European Union putting huge pressure on gas plants. While their investment costs are subsidized, their low operational costs have put renewables in an attractive position in the power generation plants merit order. As a result, the utilization rate of gas fired plants (that come after renewable in the merit order) has dramatically decreased. For example, in countries with high share of renewables, the average gas plant utilization rate dropped significantly: in Spain to 11% for the first half of 2013 and to less than 21% in Germany in 2012. Worryingly, the International Energy Agency believes that gas plants require a utilization rate of 57% to be profitable.

¹ Exane BNP Paribas, CMS Bureau Francis Lefebvre and VaasaETT Global Energy Think Tank are partners of the Capgemini European Energy Markets Observatory. More information is available at the foot of the press release.

² The Energy-Climate European Directive adopted on January 23 2008, imposes the "3X20" objectives by 2020; 20% renewables share in the energy mix, 20% reduction in CO₂ emissions and 20% energy efficiency improvement

3. US unconventional gas development impact

Thanks to unconventional gas' spectacular development on the other side of the Atlantic³, the gas spot price in the US is low⁴ contributing to an economic and industrial revival in the country⁵. These low gas prices have resulted in more gas and less coal utilization in fossil fuel plants, leading to a coal surplus and an increase in exports to Europe. This has caused coal prices in the region to fall by 30% between January 2012 and June 2013, leading to much better coal fired plant utilization rates in Europe compared to gas plants⁶.

According to this Observatory, the consequences of this turbulent situation are very serious

1. Gas plant closures

One of the biggest impacts of the disturbed gas and electricity markets is the rapid closure of numerous gas plants in the region. A recent study by IHS estimates that about 130,000 MW of gas plants across Europe (around 60% of the total installed gas fired generation in the Region) are currently not recovering their fixed costs and are at a risk of closure by 2016⁷. These plants – essential to safeguarding security of supply during peak hours – are being replaced by volatile and unforecastable renewable energy installations that are heavily subsidized.

2. Very high renewables subsidies

Even if many governments are now less bullish on renewable subsidies, the increased share of these energies in the energy mix is triggering higher and higher subsidy amounts. This is becoming a severe problem for heavily indebted countries and the resulting higher electricity prices paid by consumers are damaging their standard of living already threatened by the economic crisis. For example, in Germany the EEG Levy⁸ increased from ct €1.31/kWh in 2009 to ct €5.28/kWh in 2013 and represents a significant (more than 18%) share of domestic electricity prices⁹.

3. Falling CO₂ certificates prices

The Observatory stresses also that another big industry issue is CO₂ Emission Rights prices that are currently too low, undermining the economic advantages of investing in technologies not emitting Green House Gases. In five years, the CO₂ price has decreased from around €20/t in 2007 to less than €5/t in August 2013. Compared with the estimated price required for CCS¹⁰ competitive systems to be implemented – €40-55/t for coal plants, €80-110/t for gas plants¹¹ – the current CO₂ price is worryingly low.

³ Since the beginning of the 21st century, the American shale gas production has grown in a spectacular way. In 2000 it accounted only for 2% of the US gas production. In 2012, its share grew to 34% and it should grow to 50% by 2040.

⁴ US gas prices are around 3 times less than European long term gas contracts prices.

⁵ Around 600,000 new industrial jobs have been created in addition to more than 1 million direct jobs linked to oil and gas unconventional activities

⁶ For example, in Germany in 2012, coal fired plants utilization rate was in the 43-71% range; a far better utilization than gas plants (see above).

⁷ IHS May 2013 study

⁸ EEG Tax for the promotion of renewable energy

⁹ In France the share is around 10%

¹⁰ Carbon Capture and Storage

¹¹ ZEP « Zero Emission Platform » estimations

4. Financial strain on Utilities

This unstable market situation has led to low and erratic wholesale electricity prices, reduced positive price spikes and increased negative price spikes. As a result Utilities are struggling financially. Revenues are structurally decreasing as commented recently by the German Utility RWE CEO Peter Terium: “80% of company revenues will be gone in 2-3 years”.

Utilities EBITDA margins are also under pressure because of power generation margins deterioration, rising overcapacity due to stagnating consumption and growing taxes burden.

5. Critical investments are threatened

In the long term, Utilities need to make significant infrastructure investments in a number of areas in order to safeguard the region’s security of supply while remaining competitive. These investments include replacing either gas fired or coal plants that are closing¹², building new electricity transmission grids notably to implement energy transition policies. With the lead time for these types of infrastructure projects typically between five and ten years, Utilities could face a difficult wake-up call if the economy improves and consumption increases again. These investments are estimated at more than €1000 billion¹³ from now to 2020. However, in this very uncertain market and regulatory environment – with Utilities facing a deteriorating financial situation – the Observatory fears that these critical investments will not happen at the right pace.

Observatory recommendations for the European energy markets

According to the Observatory, there is an urgent need to radically reform energy markets. These changes include reforming the ETS¹⁴ system to introduce some market related regulations or replicating the UK’s model of a CO₂ floor price.

In addition, the creation of capacity markets¹⁵ coordinated at a European level is adamant.

Implementing a new retail market design enabling the financing of smart grids is necessary.

Finally, establishing a more reasonable renewable energies capacity growth pace and limiting the related increase in subsidies is crucial.

Colette Lewiner, Capgemini's Energy and Utilities worldwide expert comments: *“The present situation poses a clear threat to Europe’s security of supply. Gas plants – capable of dealing with peak loads – are closing quickly. Buffers, such as gas stored for the winter in underground reservoirs, are significantly lower than in previous years. In the short term these factors mean that a very cold winter could lead to serious supply and grid balancing problems. In addition, renewables growth and a CO₂ Emissions Right price that is far too low, have pushed wholesale electricity prices down and Utilities are under strong strain.”*

About the European Energy Markets Observatory

Capgemini’s European Energy Markets Observatory (EEMO) is an annual report that tracks the progress in

¹² Large Combustion Installation Directive adopted in 2001 for a 2015 implementation

¹³ European Commission Study

¹⁴ Emission Rights Trading System (the European market where CO₂ and other Green House gases allowances are traded)

¹⁵ A capacity market remunerates available capacity (even if it is not producing electricity) and peak shaving actions

establishing an open and competitive electricity and gas market in EU-28 (+ Norway and Switzerland) as well as the progress on the EU Climate-Energy package objectives. The 15th edition is built on a majority of public data sources combined with Capgemini methodology and knowledge, and based on 2012 and winter 2012/2013 data sets. Specific insights on the European energy policy; the financial performance and valuation of the Utilities; and the switching rates evolution and customer behavior in retail markets are brought by CMS Bureau Francis Lefebvre, Exane BNP Paribas and VaasaETT Global Energy Think Tank respectively.

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