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Press contacts:
Christel Lerouge
Tel.:+33 (0)1 47 54 50 76
E-mail: christel.lerouge@capgemini.com

Vanessa McDonald
Tel.:+44 (0)870 238 2856
E-mail: vanessa.mcdonald@capgemini.com

Capgemini Launches the Tenth Edition of European Energy Markets Observatory (EEMO) Report

New report warns on the slowdown of Utilities infrastructure investments due to the credit crunch exacerbating the threat on Europe's security of energy supply when the economic crisis ends

Paris, November 24, 2008 – Capgemini, one of the world's foremost providers of consulting, technology and outsourcing services, today announced the results of the tenth edition of its European Energy Markets Observatory (EEMO)[1] report. The report states that while €1 trillion in investment is required to build the necessary new plants, electrical lines and gas pipelines, the credit crunch could severely hurt the investment cycle. Capgemini is anticipating a difficult wake up for the European energy markets once the recession is over.

Security of supply and Climate Change issues:

The results highlight that in 2007 and early 2008 Europe has yet to solve the related issues of responding to its energy demand while curbing its CO_2 emissions. In 2007, even at a slower pace than previous years, European electricity consumption still increased by 0.9% and CO_2 emissions stabilized, instead of decreasing.

Despite the mild weather, the electricity security of supply deteriorated, with the UCTE real margin[2] dropping from 7.6% in 2006 to 5.3% in 2007. This is evidence of what Capgemini is pointing out in its report: without a significant and vigorous investment program in electricity and gas infrastructures, Europe's security of energy supply would be threatened. Capgemini estimates that at least €1 trillion in investment would be required in electricity and gas infrastructures over the next 25 years.

Since the low point in 2005, Utilities have started to invest again but have made energy mix choices that are not moving towards a reduction in CO_2 emissions because the majority (58%) of the planned generation capacities will be fossil-fueled.

[1] Capgemini's European Energy Markets Observatory (EEMO) is an annual report that tracks the progress in establishing an open and competitive electricity and gas market in the 27 European countries (+ Norway and Switzerland). This 10th edition – built on a majority of public data sources combined with Capgemini methodology and knowledge – is based on 2007 and winter 2007/08 data sets

[2] The real margin takes into account non-usable and unavailable generation capacities, as per the definition of UCTE (Union for the Coordination of Transmission of Electricity)

In 2007, investments in renewable capacities grew fast, wind being the industry's preference, with an addition of 8.3 GW renewables in Europe. However, this type of source which is not schedulable, is not always available during peak hours. This partially explains the security of supply deterioration.

Impact of the financial and economic crisis on the Utilities sector:

While today's world economic crisis should smooth the tensions on security of energy supply, reducing energy demand, decreasing CO_2 emissions and electricity and gas prices, the credit crunch will very likely delay the needed investments in infrastructure to replace aging plants and to build the necessary new plants, electrical lines and gas pipelines.

Also, governments will have less tax revenues and will have to limit their spending so might be tempted to reduce financial subsidies to renewable energies, as did the Spanish government in October 2008, limiting its incentives to solar development. Such decisions could jeopardize the growth of renewable energies, especially wind and solar, which need subsidies to be financially competitive.

Furthermore, governments could also impose new taxes on certain Utilities, for example, on windfall profits linked to CO_2 certificates obtained for free and incorporated in the wholesale prices at their market price.

Also, many governments may want to protect their citizens' purchasing power by taking measures such as capping electricity prices as announced by the Belgian minister of Energy in October 2008 or imposing special measures to protect vulnerable customers as per discussions currently taking place in the UK.

Market consolidation:

During the first half of 2008 some long awaited mergers and acquisitions were closed as GDF-Suez and Endesa-Enel /Acciona. They have in turn triggered acquisitions of the divested assets following these transactions.

The crisis should trigger an increased market consolidation, the acquirers being those with solid balance sheet and cash even if the credit crunch could make big acquisitions more difficult to finance. Also, young companies, as well as new entrants, with weak balance sheets could be acquired by stronger ones, thus decreasing market competition.

Utilities have to quickly adapt to the new landscape by thriving towards operational excellence. This means that they will have to streamline their internal processes, simplify their organizations and increase their reactivity while continuously benchmarking their results with the "best in class".

After the crisis?

If investments are not completed in time, European energy markets are likely to have a difficult wake-up once the recession is over. The credit crunch should short-circuit the investment cycle, leading to a lack of generation capacities and infrastructures. It will very likely slow down renewable projects and some nuclear investments consequently raising CO_2 emissions due to an increased output from fossil-fueled plants.

For Colette Lewiner, Global Leader of Energy, Utilities & Chemicals, Capgemini, who led this research: "*Security of supply and CO_2 emissions curbing issues will be exacerbated after the crisis. To avoid this, Utilities and Governments should keep their investment plans in zero carbon generation investments*".

- For more details on Capgemini's analysis, please see the following appendices
- For a copy of the abstract report, please visit: www.capgemini.com/eemo

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APPENDICES: **Further findings from Capgemini's European Energy Markets Observatory (EEMO) Report**

Other key findings of Capgemini's latest report include the following trends observed in 2007 and during the 2007/08 winter:

- Gas security of supply is still a major concern for Europe

One of Capgemini's last year message "Europe needs to decrease its forecasted dependence on Russian gas supply" is more acute than ever, with the recent Georgia war threatening the stability of the Caucasus region ringing as a wake up call for Europe.

To have better control over the situation and to improve its security of gas supply, Capgemini believes that Europe should:

- Increase its gas storage capacities: In 2007, gas storage capacity in Europe increased by roughly 7% reaching almost 80 bcm. Around 60 bcm of additional storage capacity can be expected by 2015,
- Develop greater fluidity within the European market to enable more efficient pooling of resources among different countries,
- Diversify supply sources by importing larger quantities of Liquefied Natural Gas (LNG), which currently accounts for only 7% of European gas consumption. It is estimated that LNG could represent 15% to 18% of European gas supply by 2020.

- Progress was made towards a common electricity market in Europe

The political wrangling over ownership unbundling did not prevent the energy market actors (TSOs[3] and Power Exchanges) from entering into agreements enabling progress towards a common market. This is reflected in the increased convergence between wholesale electricity prices in different European markets.

- Some major new infrastructure were commissioned in 2007/2008,
- Some important projects have also been agreed upon or proposed in 2008,
- Three (E.ON, RWE and Vattenfall) out of the four German network operators are presently discussing to create a unique German transmission electrical grid unbundled from the incumbent Utilities,
- TSOs have significant investment plans: invest €17 billion on their national grids and on interconnections in the next five years.

- Energy conservation is taking up across Europe, with interesting actions having been launched by Politicians in various European countries (French "Grenelle de l'environnement" in October 2007, £1 billion energy package of the UK government announced in September 2008 funded by the country's "big six"). Some

[3] TSO : Transmission System Operator

Utilities are launching **Demand Response programs** incentivizing their client to reduce their consumption. According to Capgemini special report[4], these programs, enabled by innovative devices such as **smart meters or energy boxes**, can save significant amounts of energy and CO_2 emissions – ranging from 25 to 50% of the EU 2020 targets related to energy savings and CO_2 emissions (in a dynamic scenario, the annual energy savings could be 202 TWh i.e. the combined annual residential consumption of Germany and Spain and CO_2 emission could be reduced annually by 100 Mt i.e. 50% of the EU 2020 target devoted to Utilities).

- Prices have continued to go up: Electricity retail prices have skyrocketed in most European geographies since last winter, with year-on-year increases between 5 and 40%. Compared to 2006 levels, gas retail prices in all consuming segments have remained substantially stable in 2007 but have increased dramatically since the beginning of 2008, reflecting the delayed effect from the oil price surge.

The situation is not rosy for the customers: their energy spending has significantly increased, they barely benefit from market deregulation and security if supply is deteriorating with possible black-outs this winter.

[4] Demand Response: a decisive breakthrough for Europe, a study from Capgemini, VaasaETT and Enerdata, released in May 2008