

Energy in East Europe

CEPS to invest \$3.2bn by 2023

CEPS, the Czech state-controlled power transmission system operator, said January 11 that it plans to invest Koruna 4.5 billion (\$237 million) annually over the next decade to upgrade and extend the country's electricity network to ensure security of supply.

The state-owned company said in a statement that it expects total investment to reach K60 billion (\$3.16 billion) by 2023. Investments are needed to increase cross-border capacity, especially with Germany, and to handle an estimated 4,000 MW of new power generation capacity that is expected to come on line over the next decade, including CEZ's two planned new nuclear reactors at Temelin, as well as new coal- and gas-fired plant and renewable energy capacity, chairman Vladimir Tosovsky said at a press conference held in Prague. A projected rise in demand in the country's industrialized northeast is also a factor in the need for more investment, CEPS said.

More specifically, CEPS plans to build five new 400-kV substations and 675 km of new 400-kV lines to extend the grid by about 20%, he said. CEPS intends to invest K 4.7 billion alone in extending the power grid in the Moravskoslezsky region of northern Moravia.

CEPS expects its investment plans to raise its debt-to-equity ratio to a maximum 3.8, CEPS' vice chairman Petr Zeman said. "We will be able to finance this project through standard mechanisms like loans, issuing bonds and a capital increase," said Zeman. "We've talked to the banks and we can say we're able to finance it." Last August, CEPS said that it planned to borrow an initial K2.5 billion (\$127 million) to help fund its investment programme. CEPS will also likely require an increase in the grid connection fees to pay for its investments. It has complained in the past that connection fees paid by grid users are not high enough to cover investments to ensure grid connection.

Turkey approves renewables law

Turkey's new renewable energy law, passed on December 29, has generated a mixed response from developers. The new law addresses some of their demands including replacing a flat rate tariff of €0.05-0.055/kWh for all types of renewable energy with higher variable rates but it has also introduced a switch to US dollars – a move which appears to bring renewable tariffs in line with that of non-renewable power also dollar denominated, but which many developers see as unnecessary.

Emre Hatem, project finance manager at Turkey's Garanti Bank, which has financed a large number of wind and hydro projects in Turkey, told Platts that the change in currency increases the risk associated with wind projects, which are developed in Euros, and may now require hedging.

Despite the currency change, the rates offered to wind and hydro plants of \$0.073/kWh remain effectively unchanged, and are lower than both European tariffs and more generous tariffs offered in an earlier draft law which was blocked by the Turkish treasury, which feared that high tariffs would push up retail power prices. That fear has not materialized with Turkey's current market price hovering around €0.065/kWh (\$0.086) having fallen below €0.055/kWh (\$0.0726) for a total of only four months since the system was introduced in mid-2006. This has meant that no renewable energy project operators have yet applied for the guaranteed feed-in tariff.

With development of new capacity still lagging demand growth there is little

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Turkey approves renewables law

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prospect of prices falling and wind plant developers see little to celebrate in the new law. "With the current free market price of €0.064-0.065/kWh there is no new incentive there," said Erol Demirer, chairman of Demirer Holding, Turkey's biggest wind power developer and plant operator, who stressed that it is the guaranteed tariff which is used by banks when assessing viability for project finance and not the variable market price, a problem which he suggests may prevent many wind farms from being funded. However, he conceded that an amendment to the law allowing incremental increases to the basic tariffs according to the level of 'local content' in new plant may help some projects to qualify for commercial loans, especially if it encourages international manufacturers of equipment such as wind turbines, to begin production in Turkey.

Those tariff increases are being offered in increments for designated classes of equipment, for seven forms of renewables: hydro plant, two classes offering between \$0.01-0.023/kWh; Wind plant, four classes – \$0.006-0.037/kWh; PV Solar, five classes – \$0.0055-0.067/kWh; Concentrated Solar, seven classes – \$0.006–0.092/kWh, Biomass/Biogas, seven classes \$0.004–0.051/kWh and Geothermal \$0.007–0.027/kWh.

However, Demirer cautions that with only one wind turbine producer in Turkey and with imported turbines still the first choice of developers, local content is restricted to towers and blades, making it effectively impossible for new plant to attract a feed-in tariff higher than the current market price.

That may change if Turkey proves to be serious in its aim of having 10,000 MW of wind plant by 2020, with big international turbine manufacturers likely to be attracted to take advantage of both the market opportunity and lower manufacturing costs. "We're waiting to see if any of the big players invest in turbine production, but even then

it will take another two years before they can begin production," commented Demirer. The head of GE's local energy unit, Mete Maltepe, said in November that the company may revive a plan developed before the 2008 credit crisis to build turbines in Turkey.

The new law has also been greeted with mixed feelings by solar power developers not least because the new law limits the volume of capacity which can receive licenses to 600 MW until the end of 2013. According to Bungo Ezawa, head of the local office of German consultancy Lahmeyer International, the limit is probably designed to avoid a frenzy of applications as experienced in Germany. "It's a start but the tariffs are too low to attract international investors," he said. He conceded, however, that the tariff supplements on offer might help kick start a local PV panel industry.

Developers of other types of renewables though are more optimistic. According to Altan Denizel, head of BiyogazDer, the industry body representing developers of biogas power plants, the \$0.103/kWh feed-in tariff plus increments for local content offers good opportunities for companies that generate their own fuel. "Companies have been developing feasibility studies for all kinds of feedstock, now we'll find out if they're feasible or not," he told Platts January 11, pointing to Turkey's highly developed poultry industry as one sector expected to invest heavily in biogas production.

Possibly happiest of all with the new law though is Turkey's BM Muhendislik which has invested heavily in buying up geothermal drilling rights and now expects to be able to commission its first 15-MW geothermal plant by year-end. BM also expects to be able to move ahead with plans to build the world's first hybrid geothermal-concentrated solar power plant, which under the new law will receive a feed-in tariff of \$0.119/kWh. However, the company's coordinator Hakan Kazanc told Platts January 11 that BM faces a challenge to source all its equipment locally to take full advantage of the tariff supplements. "Some equipment we can source locally and we are looking at having the solar reflecting mirrors made here," he said.

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CEZ, EPH continue Czech market carve-up

CEZ, the Czech Republic's dominant power company, and Energeticky a Prumyslový Holding, EPH, continued their carve-up of the country's electricity and heat markets with the signing December 22 of a three-way asset swap also involving Dalkia Ceska Republika.

CEZ said it had agreed to sell its 800-MW Chvaletice brown coal-fired power plant in Eastern Bohemia to EPH, in exchange for the heating distribution network serving Most and Litvinov in North Bohemia.

Meanwhile, EPH will buy a 5% stake in Dalkia CR, the leading district heat producer and supplier in the Czech Republic, from Dalkia International for a reported K 1.2 billion with an option to buy another 5%.

CEZ said that its "effort to acquire Energotrans, a subsidiary of Prazska Teplarenska, after an agreement with its shareholders, is a part of the triangular agreement". Energotrans, which owns and operates a 352-MWe lignite-fired plant in Melnik close to Prague, is currently owned by Prazska Teplarenska, which is 49% owned by CEZ, 47% by Prazska Teplarenska Holding (which is owned 51% by the city of Prague and 49% by EPH) and 4% by other investors.

The transaction reportedly also involves EPH securing long-term coal deliveries for the power and heat plants operated by its subsidiary United Energy Trading, though neither party would reveal whether an agreement on coal deliveries from CEZ-owned mining company Severoceske Doly were part of the deal. The values of the respective transactions were not made public, and none of the parties wished to comment on the details of the transaction prior to the signing of final contracts and approval by competition authorities.

The agreement will do little to stem allegations of collusion between the country's two major power companies, which combined control 73.6% of the total installed capacity of the Czech Republic, which is already considered to be one of the most concentrated in the EU, with an Herfindahl-Hirschman Index rating of 4,678 (HHI is used to measure market concentration in various industries by regulators, including the European Commission; a market with HHI of over 2,000 is considered to be uncompetitive and mergers are prone to greater scrutiny by competition authorities and the European Commission).

CEZ and EPH are indeed both under investigation by the European Commission for alleged joint anti-competitive practices including the exclusion of competitors and raising prices on the Czech wholesale electricity market in a bid to enhance their positions on the Czech electricity market. A ruling on this case is expected this year.

The asset swap appears, on paper at least, to be a good deal for CEZ. The tripartite agreement further increases CEZ's foothold in the Czech heating market, which has emerged as a major new business area for the Czech power giant, while allowing it at the same time to divest itself of the Chvaletice plant, whose production costs were among the highest in the company's thermal power plant fleet, and whose divestment in any case may have been required on the grounds of market concentration as a result of recent transactions.

CEZ said it had acquired the heat supply companies in northern Bohemia, with a view to connecting them in the future to its Prunerov coal-fired power plant. "This step will help CEZ increase the production efficiency in its north Bohemian power plants and at the same time cut greenhouse gas emissions," said CEZ spokesman Ladislav Kriz. Its acquisition of Energotrans is also of key importance to CEZ as its plant currently supplies heat to Prague and CEZ is keen to control heat supply to the Czech capital to be supplied through a planned new combined cycle gas turbine CHP plant in Melnik.

The reasons why EPH has acquired the Chvaletice plant are less clear given the plant's high production costs and coal supply issues. The plant, located 20 kilometres west of Pardubice, operates four 200-MW units, which were commissioned in the late 1970s, producing on average about 3 TWh per annum from 300 million tons of coal annually.

Chvaletice's production costs are considerably higher than plant in the coal basin in North Bohemia, which are located in close proximity to brown coal deposits. Then there is the issue of coal supply. The plant has a coal supply deal with Czech Coal until 2012 but the plant's coal supply thereafter is less sure as Czech Coal, which has a dominant position on the Czech brown coal market, wants to increase its prices because of reduced output from its mines in Most and Sokolov. It seems improbable that any investor would buy a coal-fired plant for continued operation without an assured supply of coal.

EPH has not revealed its plans for Chvaletice though they may auction its capacity to provide cold or spinning reserves to cover higher demand for ancillary services from CEPS, the state transmission system operator, in light of increasing renewable energy output. It has also been reported that it plans to build new generation capacity at the site or turn the plant into a waste incinerator. CEZ itself planned to continue production at the plant until 2015 and then build new gas-fired capacity at the site until last February opting to focus on other more advanced CCGT projects in the Czech Republic, leading it to spin off the plant as a stand alone unit and sell it.

Polish shale gas: Game-changer or false dawn

Poland may have a clearer picture this year the extent of its shale gas resources, which hold out the promise of a new indigenous energy resource to replace coal as the country's dominant power generation feedstock and decrease its dependence on Russian gas imports.

In September, the Polish economy minister Waldemar Pawlak announced that the country expects to have an estimate of its total shale gas resources within the next year and in December, Jerzy Nawrocki, the director of the Geological Institute, told the state news agency PAP, that the first reliable estimates for shale gas reserves in the Pomorze region will be ready in April 2011. However, it could take more than five years to turn these estimates into more precise figures, although even this would not guarantee the actual start of production, according to Olena Kyrylenko, an equity research analyst at KBC Securities, in an article written for *EiEE* (see page 9). It will then take between 10 and 15 years for gas extraction to begin.

Preliminary forecasts have the Polish government and global gas industry salivating. Experts say the geology of Polish shale is similar to that of the giant Barnett shale field in Texas, which now supplies about 7% of America's gas. Preliminary estimates range from 150 billion cubic metres to 3 trillion cubic metres. Wood Mackenzie has estimated that Poland has potential shale gas reserves of around 1.4 trillion cubic meters, while US major ConocoPhillips estimates that its partners Lane's six concessions covering one million acres in the Baltic basin region contain multi-Tcf potential.

As a result, Poland's environment ministry has issued more than 70 shale gas exploration licenses in the last three years to companies including ExxonMobil, ConocoPhillips, and Chevron in different parts of the country. Over the last couple of months a number of these license holders have announced developments on exploration work.

The biggest license holder, Poland's dominant natural gas company, PGNiG, announced December 17 it had spudded its first dedicated shale gas exploration well in Wejherowo, Pomerania in northern Poland. "We started drilling the well ten days ago," Joanna Zakrzewska, PGNiG spokeswoman, told Platts. Drilling is scheduled to continue at least until the end of January and the results of the core will be known several months afterwards. PGNiG holds 13 concessions in the country's Silurian and Ordovician shales which stretch in a band from the onshore Baltic Basin to the Podlasie and Lublin basins in south east Poland. In November PGNiG said it plans to spend between Zloty 100-200 million (\$35.3-70.7 million) a year on shale gas exploration.

Meanwhile, on December 20, Independent energy exploration company, Lane Energy, in partnership with ConocoPhillips, said it had flare tested its first shale gas

exploration well. "We have been testing the well over the last month or so and this has included some flare testing," Kamlesh Parmar, Lane Energy country manager, told Platts December 20. "We are still in the monitoring phase of this work, so it is too early to start to draw any conclusions," he added.

Lane spudded the Lebien LE1 exploration well, the country's first, in the Leborck concession in Pomorze (Pomerania) west of the city of Gdansk, north Poland, in June. In August it spudded its second well, Legowo LE1 in Cedry Wielkie, south of the city of Gdansk, Pomorze. Both wells are in the country's onshore Baltic basin region, which includes Silurian and Ordovician shales.

In August 2009, Lane Energy, part of the Isle of Man-registered 3Legs Resources group, teamed up with ConocoPhillips to jointly evaluate six concessions. The US major is funding the initial exploration program of seismic and drilling and has the right to acquire a majority equity interest in the concessions. Lane Energy was one of the first foreign companies to enter Poland to search for shale gas. It was awarded its first exploration concessions in Poland three years ago. Its sister company, Lane Resources Poland, also has three concessions covering 620,000 acres near Cracow in southern Poland. The 3Legs Resources Group also has two licenses covering 630,000 acres in the Baden Württemberg region in southern Germany.

Earlier this month, US explorer BNK Petroleum spudded its first shale gas exploration well in Poland. The US company told Platts it had begun drilling its Wytowno S-1 well in the Slawno concession, just north of the town of Slupsk in Pomerania, north Poland. The well is being drilled by Poland's state-controlled rig provider, Nafta Pila. Upon completion of the drilling, BNK is planning to drill another exploration well, Leborck S-1, in its adjacent Slupsk concession. Both concessions are located near two exploration wells already drilled by ConocoPhillips and the Isle of Man-registered Lane Energy.

BNK Petroleum has an interest in three Polish concessions, Starogard, Slupsk and Slawno, which total 600,000 net acres through its previously wholly owned subsidiary Saponis Investments. In October 2009, BNK farmed out its 80% interest in the concessions to RAG Rohol-Aufsuchungs Aktiengesellschaft, an Austrian exploration company, and Sorgenia E&P. The remaining 20% is owned by a privately-owned Delaware company controlled by LNG Energy.

Despite the recent spate of activity, investors, oil and gas service companies, consultants and financiers who gathered in Warsaw in early December at the Shale Gas World Europe conference remained cautious about Poland's shale gas prospects.

Shell's director of new ventures, Glynn Ellis, said there is a clear attraction in Poland given the supply/demand equation. "After 2020 we see a big supply gap. The demand will still be there and the gas price will retain some robustness, but we see some significant challenges in terms of market access, even though on paper pipeline access seems open and transparent," Ellis said. Tomas Maj, general manager of Talisman Polska, agreed Poland is "an obvious place to look given the established EU market" and that "much of the shale basin is in northern Poland, where there is a deficit in both power generation and in gas."

Florence Geny, a conference speaker and the author of a new report published by the Oxford Institute for Energy Studies, "Can unconventional gas be a game-changer in European gas markets?" urged caution about the potential recoverability of Polish shale gas. She said she does not foresee unconventional pan-European gas production rising above 150 Bcf per year (about 4 Bcm per year) before 2020. Small-scale drilling plans for 2010-2012 imply the testing phase will last several years, even without regulatory and other risks. And even if material reserves are found, it would still take some four to five years to move from development to production, argued Geny.

Many of the early movers are small players such as Lane Energy, which are attracting bigger fish as partners, such as the US' ConocoPhillips in the case of Lane. But while pairing up with a major gives the local gas specialist producer access to vital technology and deep pockets, at the same time their ambitions are liable to be shackled by the bigger company's conservative attitude to the unconventional. According to Geny, majors have a higher cost structure: ExxonMobil carries a cost of \$4.30/Mcf, compared with Chesapeake's paltry \$0.38/Mcf.

Even the US has some problems with shale production, where initial production rates show a very fast decline of up to 29%. But even discounting the downside, delegates in Warsaw were broadly in agreement that anyone expecting a complete rerun of the US experience is in for a shock. For a start, the geology is very different. "Europe will look very different from North America. Companies that build on the North American experience but are flexible enough to adapt are most likely to succeed. This is the key to delivering success," said Ellis. According to Geny, Europe is characterized by smaller and more complex basins, and the shales are deeper, hotter and under more pressure. The quality is also different, with generally more clay content in Europe. That would make the rock less brittle and so different fracking techniques might be needed.

Population density is another issue. Poland does not have the vast open spaces available in Texas, Pennsylvania and other sparsely populated parts of the US. And land access is an issue where regulations in Europe are very different from the US. As Ellis said, US landowners benefit from production, but in Europe

mineral rights are owned by the state. This also means that developers need to negotiate both with landowners and the government.

Another major issue is access to water, which is needed in large quantities for hydraulic fracturing. Water is needed for other industries and agriculture. Some of the countries named in connection with shale have very low renewable water resources per capita. According to the United Nations, Poland already has water stress caused by excessive withdrawal. And in the US it is not the quantity of water used for shale gas production but the environmental risks that bother the local populations.

Another big difference between Poland and the US is the very real prospect of public opposition. Europeans are not used to seeing the blots on the landscape from oil and gas exploration that faded into the background in US states like Texas. "In Poland there are 25,000 local campaign groups that have been very successful in opposing things like roads or wind turbines" Ellis warned. "They operate in a coordinated way and have a real impact. Don't underestimate them."

Apart from these differences with the US, there are many other questions that remain unanswered, not least how big the potential resource is and how easily it would be extracted. In her research for the OIES, Geny looked at what it would take for shale gas to be a "game-changer." There is a high concentration of shale formations in northern Europe, but estimates that the resource could total 2,225 Tcf were out of date and even those estimates would suggest a recoverable resource of 500 Tcf, she said. To be a game-changer, Geny said shale gas would have to reach annual production levels of around 1 Tcf by 2020 and possibly rising to 2 Tcf by 2030, which would allow it to either flatten out the continual decline in European conventional gas production or to meet up to 5% of EU gas demand.

"What would it take to produce 1 Tcf of gas? According to the US experience this would need 11,000 drillings in total, so around 50 rigs capable of drilling around 700-1,000 wells every year; and this over an expanse of over 10,000 square km, with up to 100 million barrels of water."

She said European developers would have to adopt a different business model, so instead of drilling wells over a large area they would have to try to identify the "sweet spots" where the highest reserves are concentrated. In the US large areas of the Barnett Shale were drilled but most of the resource was concentrated in just one corner. "There are clearly hurdles to overcome and first we need to find some gas," agreed Tom Maj of Talisman. "There is a huge thickness of shale and the basin is very large but data is sparse. People have no idea where the sweet spots are and a lot of what has been said about potential is political, related to security of supply," he said. "There is still a monumental amount of work to be done."

– Paul Whitehead, London and Adam Easton, Warsaw

Turkey keeps nuclear options open

Turkey has opened preliminary discussions with EDF and a separate consortium of GDF Suez and Areva over the French companies' potential cooperation in constructing Turkey's second nuclear power plant at Sinop on the Black Sea coast, a spokesman for the Turkish energy ministry said January 7.

The spokesman said, however, that an agreement signed December 24 with Japan on potentially building the second plant at Sinop, prohibits Turkey from opening detailed talks with any other countries for the coming three months while negotiations with Japan continue. That agreement calls for the two sides to produce a feasibility study for a 5.6-GW nuclear plant at Sinop and to discuss details of the plant's technical and financial specifications, he said.

Turkey's minister of energy Taner Yildiz confirmed January 7 French interest in building a nuclear power plant in Turkey and said talks are being held with the country. "We have been considering the applications and have already established three separate teams working on France, Japan and Russia," Yildiz told reporters in Ankara. French companies – Areva, GDF and EDF – have proposals on the issue, though the government has preferred to talk with Japan, Yildiz said, adding that the talks are going "in a very positive direction".

GDF Suez spokesman Antoine Lenoir said January 10 that GDF Suez was teamed with Areva in any potential Turkish nuclear project. He said EDF had "presented its own candidacy" to Turkish authorities, separate from the Areva-GDF Suez team. EDF declined to comment. Lenoir said that GDF Suez Chairman and CEO Gerard Mestrallet met with Turkish Prime Minister Recep Tayyip Erdogan in late December and that they had discussed "numerous subjects for collaboration" in the energy field, including the possibility of the French groups participating in the Sinop reactor project. Lenoir said that no commercial or technical offer had been made but that Mestrallet had "showed our interest" in the Turkish project.

GDF Suez's Electrabel subsidiary has been operating seven PWRs in Belgium for decades, and its Tractebel energy engineering subsidiary has long experience in architect-engineering, including for nuclear power plants. GDF Suez and Areva have been collaborating for about 1.5 years on development of Atmea1, a 1,100-MW PWR that is the first product of the Areva-Mitsubishi Heavy Industries joint venture Atmea. Lenoir said GDF Suez and Areva could build Atmea1 at Sinop.

EDF has been less involved in Atmea1, concentrating on its ongoing projects with Areva on the EPR, rated at 1,650-MW or larger. Since last autumn, however, the two French state-owned companies have been talking about closer collaboration, including on development of Atmea1. Areva's EPR is a PWR design based on French

and German PWRs designed in the 1980s. Atmea1 is scaled down and based on the EPR design and Mitsubishi Heavy Industries' 1,700-MW APWR.

A Japanese consortium led by Toshiba is proposing to build four 1,350-MW advanced boiling water reactors (ABWR) units. Turkey is also asking Japan to create and provide operating funds for a "nuclear university" to train specialists in nuclear technology and plant operation, according to the ministry spokesman. The talks with Japan cover the possibility of Turkey offering offtake guarantees for the plant's output but any guarantee would be offered by state-owned electricity trading company Tetas, without a sovereign guarantee from the Turkish treasury.

Previous exclusive discussions with South Korea over the construction of a nuclear power plant on the same site foundered in November due to the Koreans' insistence on receiving treasury-backed offtake guarantees rather than guarantees from TETAS, which Turkey was offering. Turkey, which wants to build two nuclear plants to reduce its dependence on imported energy and cover a projected power shortfall, assessed bids from several countries after talks with South Korea collapsed. The Sinop plant, which is expected to have four reactors, is targeted to start operations in 2019.

The ministry spokesman said that the offtake guarantee included in the deal signed last May with Russia's Atomstroyexport for the construction and operation of Turkey's first nuclear power plant at Akkuyu on the Mediterranean Sea was provided by TETAS and not the Turkish treasury as had previously been reported. TETAS has guaranteed to purchase a fixed amount of the plant's output (70% of the electricity generated by the first two units and 30% of that from the third and fourth reactors) over the first 15 years of commercial operation at a reported price of \$0.1235/kWh, with the rest of the electricity to be sold on the open market by the project company. The reactors are expected to enter service in the period 2016-2019, with the first one due to start up within seven years of receipt of a construction licence and the others following at yearly intervals.

The licensing process for the 4,800-MW project has started and construction at the site in the southern province of Mersin is scheduled to begin next year. The plant will comprise four 1,200-MWe VVER units. The plant will be built, operated and middle-financed through a Russian project company, which will initially be 100% Russian-owned though Russia may later sell up to 49% of the company to other investors from Turkey and elsewhere, but will retain a 51% controlling stake. Turkish firm Park Teknik and state generation company Elektrik Uretim have been tipped as the most likely candidates to take up stakes in the \$20 billion project.

— Ann MacLachlan, Paris; David O'Byrne, Istanbul

Bulgaria: Revisiting renewables

Two factors in 2011 will shape the Bulgarian energy sector. The long-term development of the industry will depend upon the final decision on whether to build the Belene nuclear power plant. The short to mid-term development will be shaped by the new Renewables Act.

Updating the existing Renewables Act has proven complicated. The Ministry of Economy has been redrafting the policy for over 16 months in an effort to harmonize local legislation with EC Directive 28/2009 and to meet the 16% target share of renewable sources in gross final energy consumption by 2020. Yet it appears impossible to create incentives for investing in the underdeveloped grid, and more so to balance the needs of renewables investors, distribution companies (which effectively now subsidize the renewables growth), highly price-sensitive final consumers, and Brussels.

The available drafts of the act introduce several changes. The guaranteed offtake period with preferential feed-in tariffs will apply for 25 years for solar and geothermal sources, and 15 years for wind, hydro, and all others. Entry barriers will be raised through financial and technical filters in order to deter speculative projects. New investors will have to pay a connection deposit of €25,000/MW. Additionally, grid companies will be announcing newly available connection capacities annually, but controversially, this capacity does not have to correspond to resource availability. Ongoing projects with preliminary connection agreements might lock up their grid connection only if developers pay the deposit, prove property rights, and present a construction visa or a detailed zoning plan within three months after the new law is enforced.

Once the law is adopted, the outlook will be mixed for the various types of renewables. Hydro, the country's champion in green energy generation, has only limited potential for further development. Hydro projects are also waiting for major changes in the water-related regulatory framework. Wind development is likely to slow down as a result of stricter environmental requirements and grid congestion problems. Solar energy is just taking off and promising to grow fast in the short term. Although the National Action Plan for Renewable Energy sets high hopes on biomass and a share of 36% in the overall renewable energy mix, one can expect that biomass will develop rather slowly as the lack of tariff indexation will make it difficult to finance.

The Renewables Act will not be complete by itself. It leaves many technical details unclear, to be resolved by amending existing and adopting new secondary legislation. What is more, the Energy Act amended in 2010 will have to be revised again to incorporate the requirements of the Third Liberalization Package. Legislative uncertainty is thus likely to persist throughout most of 2011, keeping the brakes on investment.

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Troubled times for CEZ

This year will see CEZ's so far uncontested market leadership in CEE further undermined. Observers will be watching closely for signs of asset divestment and weakening financial performance. CEZ's 2010 operating cash-flow is already down by almost 20% year-on-year, on 15% lower net profits. CEZ's ROE decreased by 22% compared to the previous year, on a 35% increase in net debt. This mix of decreasing profitability and increased gearing will continue, given stagnant wholesale electricity prices on EEX.

In the short-term, CEZ's weakening financial performance will cause it to withdraw from the Balkans and divest non-core assets to shore up its cash position. In the mid-to-long run, we may expect delays in the Temelin tender, which includes options on other nuclear reactors, with an estimated value of up to €20 billion. Current price levels make the economics of the project questionable. A prevailing price at between €60-70/MWh for 2016 delivery contract on EEX will barely allow the project to break even, according to the International Energy Agency's modeled investment costs using LOCE methodology. LOCE methodology is not flawless but it is sufficient for the purpose of approximating the viability of the project.

Observers will be following as well the European Commission's enquiry into the Czech energy sector. We expect the EC to publish the results of its enquiry in the second half of 2011 after two years of deliberation, which will likely lead to infringement proceedings against CEZ. CEZ is clearly a pivotal supplier in the Czech Republic and given that intraday and day-ahead prices in Prague are often higher than in Leipzig, it is improbable that the EC would conclude that the market functions well. CEZ's defense, that the relevant market is European not local, is not convincing given chronic congestion on interconnectors, the rigid way capacity is auctioned and grid bottlenecks.

Received wisdom has it that much of CEZ's success is thanks to domestic political goodwill. The real test of CEZ's power will come when the Czech government has to decide whether to cancel the waiver from full auctioning of CO2 allowances post-2013 to boost budget revenues. The Czech finance minister has floated the idea that proceeds from CO2 auctioning could be used partly to finance RES subsidies. Such a waiver would give CEZ an unfair competitive advantage over its European counterparts. This is because CEZ would be selling at German prices, which include the cost of carbon, while enjoying a local cost base which would exclude the cost of carbon.

Finally, CEZ may find it harder to attract financing with the emergence of PGE and Tauron of Poland, which may be considered serious regional challengers to CEZ's market leadership. Investors seeking exposure to CEE utilities will have more possibilities to diversify their investments.

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Hungary: Gas market malaise

Over the last two years a significant asymmetry between electricity and natural gas wholesale prices has emerged in Hungary (and in some other Eastern EU member states). Hungary's wholesale electricity prices have gradually converged with the German-Austrian market price and the former premium of €10-12/MWh to the German price has disappeared. Day ahead prices at the new power exchange in Budapest exhibit an almost complete correlation with EEX prices. The Czech and Slovak markets show a similar price convergence to the German market. Due to the recession, this convergence coincides with unusually depressed power prices.

Hungary though has been unable to benefit from falling Western European gas prices in 2009-10 as a result mainly of limited gas to gas competition. This in turn is a result of a concentrated wholesale gas market structure and the constraints the physical properties and the present regulation of the gas transmission system put on cross border gas trading. Insufficient steps have been taken to integrate Hungary's gas transmission network into the integrated European system and decrease the country's almost complete dependence on Russian supplies. The consequence is that wholesale gas price setting is still dominated by oil product indexed TOP formulas.

The consequence is a fast decreasing spread between gas and power prices. While the typical ratio between peak load power and gas prices has been and continues to remain 3-3.5 on the German market, the same ratio stands at 2-2.5 in Hungary. This has placed local gas-fired power producers at a significant disadvantage to their Western and regional peers. It is by no chance that after four years of decline, Hungary's net electricity import ratio started to rise in 2009 and exceeded 20% in four months during 2009-10, reaching a record level of 24.75% in July 2010. This trend is particularly painful for Hungary, which produced 14 TWh from natural gas in 2008, the double of what Poland, the Czech Republic, Slovakia and Slovenia together produced in the same year (7.4 TWh). And more than 1 GW of new gas-fired capacity is being built in the country.

If this trend continues in 2011, it will further reduce the profitability of Hungarian gas-fired plants and at the same time strengthen the case of gas-fired CHP producers for protection from competition through the extension of the generous feed-in tariff scheme. Indeed, the government has already decided to extend it until the end of 2012 while implementing a uniform 15% tariff cut from January 2011. There is an emerging consensus that the solution lies in a fast and deep physical and commercial integration into the European gas market. Recent EU initiatives seem to recognize this and the issue will top the agenda for the February European Council meeting on energy security under the Hungarian EU presidency.

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Romania: Pain before profit

The Romanian government must make some significant and most likely painful decisions for the country's power sector in 2011, regarding most notably its plan to create two "national champions", its energy strategy, nuclear program, renewables policy, and the financing of the renewal and environmental retrofitting of its generation park.

The new energy strategy should contain guidelines for achieving targets set out in the National Action Plan for Renewable Energy and decisions for renewing the country's obsolete power generation sector. Several important criteria will have to be weighed up before a strategic decision is made, such as future generation costs, dependence on primary energy imports, level of greenhouse gas emissions, and the impact on the coal mining sector. The economic crisis will not facilitate the task of forecasting.

A clear position on the new units at the Cernavoda nuclear power plant is needed to avoid losing more investors from the project company. As Nuclearelectrica is the only operator of CANDU technology among the project company shareholders, it is expected to play a lead role in implementing the project, and needs money, expertise and government backing.

The long-standing plans to create two "national champions" by merging locally competitive generators with ailing ones and coal producers, has been temporarily halted in the courts after strong opposition from the administrator of Fondul Proprietatea and from trade unions. The legal uncertainty combined with the lack of clarity regarding the viability of the envisaged entities has generated uncertainty for financiers and investors alike. This is not what the Romanian power sector needs. Investment into the sector is at present minimal when it is most needed.

The European Commission is expected to provide clarification on a number of important issues: the proposed state aid scheme for electricity from renewables (the Bucharest-Brussels dialogue on clearance of the support scheme provided by the newest legislation is in the last phases); its attitude towards generators not complying with SO2 emission limits after the elapse of the deadlines agreed in annexes to the EU Accession Treaty; a position towards the electricity and gas regulator that has caused concern and heated correspondence with Bucharest; and the details for transitional free allocation of emission rights under the 2009/29/EC Directive;

The IMF and its related institutions are also expected to take a tougher position regarding power sector reform, with the aim of rebuilding investor confidence and attracting renewed foreign direct investment. Further privatization as a result seems likely in the coming years. Thus, 2011, it seems will be a year of painful decisions, but this appears better than the continuation of the present lack of decisive action.

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Shale gas: Poland's salvation?

One year ago the prospects for shale gas production in Europe – and in Poland in particular – was one of the hot topics in mass media around the globe. Polish politicians said they wanted to follow the example of the US, where turning to shale gas had dramatically reduced reliance on imported gas. It was said the discovery of its own source of gas would be the salvation of Poland's power sector (which relies almost entirely on coal and therefore generates large amounts of carbon dioxide) and would decrease the country's political and economic dependence on Russia. While the possibility of Poland becoming "a second Norway" still cannot be fully ruled out, last year's optimism concerning shale gas has been dented by several concerns.

First, it is unclear how much gas is actually trapped in Polish shale. Experts say the geology of Polish shale is similar to that of the giant Barnett shale field in Texas, which now supplies about 7% of America's gas. Preliminary estimates range from 150 billion cubic metres to 3 trillion cubic metres: the width of the spread highlights the underlying uncertainty about the actual amount. It could take more than five years to turn these estimates into more precise figures, although even this would not guarantee the actual start of production. It will then take between 10 and 15 years for gas extraction to begin.

The second area of concern is the economic viability of extraction. The complicated nature of the production process doubles the lifting costs of shale gas versus conventional gas. Moreover, lifting costs in Poland will easily exceed those in the US. Exploration and production in Poland will be done by majors (ConocoPhillips, Exxon) while in America the costs were reduced by competition between many small wildcat exploration and oilfield-services firms. In addition, exploiting shale requires the drilling of lots of wells, which is harder and more costly to do in densely populated Europe than in the US.

The macro situation could also become a big obstacle to Poland's plans. According to some estimates, shale gas production in the country would be viable at a gas price of around \$9 per million British thermal units, more than double the current spot prices. The price outlook for the years ahead will depend on multiple factors including global economic growth and the development of the LNG market: the latter is expected to increase the liquidity of the natural gas market and pull down prices.

Last but not least, there is the question of the political and economic impetus. Poland's relations with the Kremlin have warmed recently and long-term import contracts with Gazprom have been renegotiated on favourable terms, which could delay the investment decision on shale gas and turn it into an important but a longer-term priority for the country.

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Poland: the carbon paradox

With over 90% of its electricity generation coming from coal, Poland has the highest carbon intensity (tonnes of carbon emitted per MWh of generation) in Europe. Despite the recent surge in investment in wind, and some limited development of gas-fired capacity, the heavy reliance on coal will likely see Poland's carbon intensity remaining at a high level during the next decade. The question is how, and to what extent, this carbon intensity will fall over the longer term.

Under current legislation, free allocations of carbon will cease in 2020, meaning consumers in Poland will be exposed to the full costs of carbon. With a highly carbon-intensive power generation sector, the impact on wholesale electricity prices could be significant. We estimate that for every €1 increase in the price of an EU Emission Allowance (EUA), wholesale power prices in Poland will increase by about €0.8/MWh. This contrasts with markets such as Germany and the UK, where the impact from rising carbon prices will be much less acute – about €0.3/MWh for every €1 increase in the EUA price.

In a world in which investors are motivated by the EUA price, which provides a strong signal for low carbon investment, the market in Poland is attractive. This is because the profit earned from a rising carbon price is higher than in less carbon-intensive markets, a factor that should encourage investment in more diverse technologies.

However, investors are faced with a paradox. Rising EUA prices will result in Poland being a very attractive market for low carbon investment. However, if EUA prices do not rise, wholesale power prices in Poland could remain below the European average due to the relatively low cost base of its generation sector. This would lead to lower earnings for low carbon technology. Whilst this is true in most European markets, the effect is magnified in Poland due to its carbon intensity. This increased exposure to the carbon price could carry a risk premium for investors, which at best increases their cost of capital, but at worst may slow investment in low carbon technologies.

The government in Poland has a number of potential strategies it could implement to encourage growth in the low carbon market. It could lobby for an extension of free allocations post-2020, or argue strongly for increased EU funding as recompense for compliance with EU Climate Policy. Alternatively, it could seek to introduce measures domestically that underpin the carbon price – potentially through fiscal or market reform measures. For the moment however, the strategy seems to be to internalize the problem and rely on the balance sheet of PGE as the national champion to deliver large volumes of low carbon generation in the post-2020 period.

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Russia: Follow the instructions!

Since the then President Putin signed a new Electricity Law in 2003 – essentially an instruction manual for market-based reform of Russia's moribund power sector – the rapid pace of change in the world's third-largest power sector has confounded detractors and even surprised supporters. With one exception, the country's 20 fossil-fuelled gencos have been privatized. Upwards of 85% of wholesale generation is priced on competitive markets. The best of the new gencos (which, coincidentally are foreign-owned) are beginning to report healthy financial margins, have been investing heavily in expansion and are expected to pay meaningful dividends when their new capacity comes on stream within the next couple of years.

The electricity grids have dispensed with value-destructive "cost-plus" tariffs and mostly replaced them with rate-of-return tariff formation, which provides incentives for gridco management to create profitable companies. Last year saw record electricity demand in Russia, in some cases testing the grids beyond their limits. The discos have a 10-year investment target of around \$87 billion and the national transmission company, FSK, plans to invest almost \$34 billion over the next five years. Generation prices are up, distribution tariffs are up and, in the closing days of 2010, FSK announced that it would increase its use-of-grid tariff by 33%.

Yet despite this dynamic picture, the share prices of Russia power companies imply average discounts on their market values of upwards of 75% compared with peers elsewhere. Why? One strand of the reform blueprint was that the state would exit as owner of fossil-fuel generation and distribution. Yet in the 2007/8 genco privatizations, ownership change was in some cases achieved by passing control from one state-controlled entity to another. As a result, over 50% of fossil-fuelled capacity remains under state control. Indeed, the proportion is set to rise to with the acquisition of Norilsk Nickel's OGC-3 by the state utility Inter RAO.

Privatization was also a major reform aim for the distribution sector and, here too, the picture is confusing, with sector management calling for all privatization to be postponed "...until the grids' market prices better reflect their underlying value". Moreover, despite the fact that reform requires the discos to become financially self-supporting, management has called on the government to invest a trillion Roubles in the grids. In return, the state would receive extra disco shares. Not only would this undermine investor confidence in the discos' ability to wean themselves off state hand-outs, it would also increase the state's stake in the main distributor to over 90%. If Russia is to get the reliable and affordable electricity supply that is characteristic of a modern economy, the government must stick to its plans, build on the huge progress already made and allow markets and private enterprise to take the strain.

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Russian oil growth to continue

Russia is the world's largest oil producer. Production has grown steadily since the late 1990s and despite predictions to the contrary, Russia maintained year-on-year growth in 2009. This continued in 2010, with Russia achieving annualised oil production of over 10 million barrels per day (b/d) for the first time since 1990. Wood Mackenzie believes this growth will continue and production will reach nearly 11 million b/d in 2017, before starting to decline.

The mature West Siberia region currently produces two thirds of Russia's oil. In 2017, we estimate that this will have declined to around 60%. Remaining commercial reserves in West Siberia exceed 55 billion barrels and production potential is still huge. Continued investment at some of the world's largest fields, and the development of deeper and more complex deposits will ensure that West Siberia remains the Russian production heartland, and will continue to shape the country's overall output.

Future production in Russia's mature regions (especially West Siberia and the Volga Urals) will hinge upon the success of controlling decline rates at brownfield projects. There has been recent progress on this, as companies increasingly adopt modern technology and new management practices. The prolific Samotlorskoye field, which achieved peak production in 1980, experienced year-on-year growth in 2010, following successful drilling campaigns. Another example is Russian oil company Bashneft, which grew production in 2009 and 2010, despite having a relatively mature portfolio of assets.

Frontier regions will also play an important role in future production growth. East Siberia boasts several greenfield projects which are being developed by key Russian oil players such as Rosneft, TNK-BP and Surgutneftegaz. By 2017, East Siberian oil production is estimated to provide 12% of Russia's total production.

Greenfield projects outside East Siberia include Lukoil's Vladimir Filanovsky field in the Caspian Sea, which is forecast to add up to 180,000 b/d. In addition, the recently awarded Titov and Trebs fields in Timan-Pechora could contribute a further 70,000 b/d by 2017, before increasing to over 125,000 b/d by 2019.

Russian companies are increasingly lobbying the government for changes to the industry's fiscal terms. During 2010, Lukoil was granted tax breaks for its Yurii Korchagin field in the Caspian Sea. Both Rosneft and TNK-BP are also seeking tax incentives before committing to the large scale development of several greenfield projects. Therefore the key risk to our production forecasts is the potential delays to Russia's more remote and expensive greenfield projects.

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All aboard the Orient Express

Turkey will continue to attract investors in the power sector. Economic growth is expected to reach 8% in 2010 and, according to the IMF, to average nearly 4% over the next few years. After the economic crisis of 2008-2009, Turkish electricity demand grew by 9% in 2010 and both private and government studies concur that electricity demand will continue to grow strongly, something unlikely to be emulated by other European countries.

The Turkish government's strategic plan for the power industry focuses on three objectives: (i) to promote enough investment to meet growing demand; (ii) to diversify power generation sources including the use of renewables and nuclear, thus reducing the reliance on imported natural gas and (iii) to improve the utilization of the existing infrastructure by transferring assets to the private sector.

Recent estimates from the state-owned Electric Generation Company (EUAS) indicate that the country will need 20 GW of new capacity by 2018 at a cost of around \$40 billion of investment. And whilst there is over 3 GW of licensed new CCGT capacity expected to come online between 2012 and 2016, the Turkish Higher Board of Planning actually wants to see the share of natural gas in electricity generation fall to below 30%. Turkey will thus need to provide investors with stronger incentives to develop local coal-fired capacity and renewable resources if they wish to meet such a target.

Both the private and public sector are expected to play significant roles in developing Turkey's significant renewable resources. Almost 5.5 GW of hydropower capacity has been licensed and is expected to come online by 2015. The Turkish Ministry of Energy and Natural Resources estimates the national wind power potential at 48 GW with less than 1.2 GW currently operational. But investments in new wind will need to be combined with improvements in tariffs and to the transmission network to overcome bottlenecks.

In May 2010 the government reached an agreement with Atomstroyexport from Russia to develop the Akkuyu nuclear power plant. This 4.8-GW project is expected to cost around \$20 billion but is unlikely to be operational

before 2020. Meanwhile, discussions over the development of a second nuclear power plant in Sinop are currently being held between Turkey and Japan after initial talks with South Korea failed.

On the privatization side, to date, the sale of eleven of twenty regional distribution companies have been successfully completed, raising over \$5 billion of revenue. The biggest winners have been large domestic companies with existing interests in the generation market, infrastructure and construction companies, and others active in natural gas distribution.

This year the government will begin the process of selling off the EUAS power plants. The first asset to go under the hammer is the Hamitabat combined cycle gas turbine plant (1,120MW). While officially announced in August 2010, some details still need to be ironed out such as the long-term provision of natural gas. The preparations for the sale are expected to be completed in early 2011 with an equity sale concluded by the end of the year.

The next assets in line are the lignite-fired plants of Soma (1,034MW), Can (320MW) and Seyitömer (600MW). But like Hamitabat, the privatization of these assets is complicated by fuel supply issues. Either a change will be required in the mining law to allow transferring the lignite mines to the investors, or the government will need to define long-term fuel supply contracts that are acceptable to the investors and funding institutions.

These four assets will be followed by the sale of about 40 plants with a total capacity of just over 13GW (see table), which have been grouped into nine portfolios according to location and technology mix. This should facilitate another government aim to create a series of vertically integrated power companies. So, whether investing in new capacity or participating in the privatization tenders, Turkey offers an exiting destination for investors. Don't forget to book your tickets.

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EUAS Portfolio by capacity type. Installed capacity (MW)

	CCGT	Coal	Hydro (Dam)	Hydro (Run-of-River)	Lignite	Steam	Total
Portfolio 1	0	0	0	0	2,795	0	2,795
Portfolio 2	1,351	0	0	0	0	630	1,981
Portfolio 3	180	300	0	0	822	0	1,302
Portfolio 4	1,432	0	476	0	210	0	2,118
Portfolio 5	0	0	370	0	1,680	0	2,050
Portfolio 6	0	0	1,017	0	0	0	1,017
Portfolio 7	0	0	838	0	0	0	838
Portfolio 8	0	0	620	0	0	0	620
Portfolio 9	0	0	281	75	0	0	356

Source: Turkish Privatisation Administration, EUAS and IPA calcs

Ukraine: Reform or not to reform

Ukraine has been sending mixed signals to the international community over the past two years. On one side, the country joined the Energy Community Treaty, liberalized electricity export by introducing cross border capacity auctions, approved the Green Tariff Law providing incentives for development of renewable projects, continued working on electricity market reform and remains committed to privatization of its ageing thermal power plants.

However, overregulation of electricity tariffs by the state still makes it hard for private investors to be sure how and when they will achieve a return on investment. In addition, the construction of many large wind farms is being delayed by the complicated permitting procedures and uncertainty with regard to the size of new capacity that can be accommodated by the grid. In addition, the absence of other strong local energy players has allowed DTEK, the largest Ukrainian energy holding, to buy all 2011 cross border capacity for export from Ukraine to CEE countries re-establishing a de-facto monopoly on electricity exports previously held by Ukrinterenergo.

It is hard to say where Ukraine may turn in 2011. In an ideal world, there will be transparent privatization of the country's power plants, which will attract major foreign investors. In parallel, real progress will be achieved in preparing synchronization of the Ukrainian grid and ENTSO-E and implementing the necessary legal changes prescribed by the ECT Accession Protocol. Finally, all types of cross subsidies will be removed allowing for the launch of electricity market reform aimed at a transition to direct contracts and balancing market. Taking such a path would allow Ukraine, first of all, to secure much needed financing to upgrade its ageing power infrastructure in line with modern environmental and efficiency standards.

Alternatively there will be limited progress in amending laws and regulations to meet the ECT requirements as well as a lack of concrete steps to implement a new market model. The energy sector will continue to rely on the state budget and IFI loans for sector investment. Privatization will be aimed at allowing local Ukrainian and, probably, some Russian oligarchs, to buy up sector assets at low prices in the absence of major international investors. Under such a scenario, the domination of local groups in the energy sector will increase and will make it even more complicated for foreign players to enter the market unless they form alliances with local investors.

In all likelihood, investors will continue to focus on renewables since a proper regulatory framework is already in place with current green tariffs being high enough to compensate for country risks and cost of financing.

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Ukraine: Tricky issue of tariffs

In 2011, Ukraine's electricity generation sector may see the long-awaited transition to a more reasonable market-based approach. The government tentatively plans to double household tariffs in one stroke next April and raise them by another 41% in September, realizing it has to pay the price for its predecessors' populist games.

In the past, Ukraine's frequently changing and populism-prone governments devised a convoluted scheme of cross-subsidization to keep household tariffs low. As a result, since 1999, residential tariffs have been increased only once, in 2006, and have since remained unchanged at \$0.026/kWh (net of VAT) – the lowest level in the CIS. To put this number into perspective, the average household electricity bill in Ukraine is presently lower than the average cell phone bill.

This has led to severe distortions, stimulating households to consume more and putting an ever-growing burden on the sector. While total electricity consumption in Ukraine has risen at an average rate of 1.7% over 2000-2010, household demand has risen at 5.1%/yr, raising its share of total consumption to 25% from 18% a decade ago. But as the cost of producing and distributing electricity grows, the share of costs covered by retail tariffs has slid, sinking to a quarter of total production costs in 2010 and meaning the sector was deprived of a whopping \$3bn in revenues.

If implemented, the proposed price hikes will have multiple positive effects, the most notable of which will be the financial recovery of the sector, especially for state-owned thermal power producers. Thermal gencos have until now been the primary victim of government subsidy schemes, operating either with heavy losses or, in their best years, barely turning a profit. In Q2 2011 their tariffs are set to rise to \$0.081/kWh (+53% over Q1 2011) and average \$0.072/kWh for the full year (+34% y-o-y), providing for an aggregate net income of \$600-700 million which gencos desperately need to finance capex.

Higher tariffs will also enable Kiev to increase the regulated coal price for state-owned mines, thereby improving their financials and decreasing the burden on the state budget. Market tariffs for fuel and electricity are, probably, the most important element of planned sector liberalization. Gencos' improving financials and the government's commitment to bringing electricity tariffs to an economically justified level will also help shore up foreign investors' confidence ahead of planned sector privatization in 2011-12.

Thus, a simple tariff increase (which is hardly simple from the political standpoint but should be made easier by 18 election-free months in Ukraine) can help a great deal towards cutting the Gordian knot of Ukrainian energy sector problems and putting the industry back on a sustainable growth track after almost 20 years of decay.

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ELECTRICITY NEWS

Albania

EBRD considers grid upgrade loan

The European Bank for Reconstruction and Development, EBRD, said mid-December that it is considering extending a €50 million loan to Czech utility CEZ to upgrade Albania's power distribution network. CEZ acquired a 76% stake in the country's sole electricity distribution and retail company in a privatization completed in May 2009.

The distribution company now known as CEZ Shperndarje plans to invest €180 million (\$238 million) through to the end of 2013, in the modernization of the distribution network and substations, installation of new meters and implementation of a new billing system. The investment programme is aimed reducing distribution losses from the current 34%, implementing metering which will support improvements in payment discipline and thus enable CEZ Shperndarje to improve the collection rates from the current 80% and as a result improve the financial and operational performance of the entity.

CEZ Shperndarje has been under pressure to supply uninterrupted power despite high technical losses, theft and unpaid bills from households and businesses. CEZ Shperndarje owns and operates the entire 110-kV distribution network in the country, serving around 1.1 million customers. Total supplied electricity amounted to 4.1 TWh in 2009.

The EBRD said that a long-term senior loan would be considered at a board meeting in March. The International Financial Corporation, other commercial lenders and CEZ Shperndarje in co-operation with CEZ are expected to provide the balance of the financing, it said.

Baltics

EstLink-2 contracts awarded

Finnish grid operator Fingrid and its Estonian counterpart Elering have awarded contracts worth almost €300 million for the cable and the converter stations for their new 650-MW high-voltage direct current EstLink 2 subsea power link between the countries, according to late December statements by the two contract winners.

Germany's Siemens is to supply the converter stations to be installed in Püssi, Estonia and in Anttila, Finland, while French cable company Nexans is to provide the 145 km subsea cable across the Gulf of Finland plus a 12 km section of underground cable in Estonia. Only a single cable is required because Integrated Return Conductor technology is to be used, Nexans said. The total length of the link is about 170 km, including 14 km of overhead line in Finland.

The project will also require the expansion of the Anttila substation in Porvoo in Finland and of the Püssi

substation in Estonia. Fingrid said in a separate statement, that it had awarded a contract worth around €10 million to Finland's Empower for the expansion of the Anttila substation and for the Nikuviken cable terminal station, and a contract worth around €6 million to the French company ETDE, which will build the direct current transmission line between Anttila and Nikuviken and carry out the transmission line arrangements at the Anttila substation. Elering will make the procurement decision about the expansion of the Püssi substation at a later date, it said.

EstLink 2 will have a capacity of 650 MW at a DC voltage of ± 450 kilovolts and will boost bidirectional capacity from 350 MW provided by EstLink-1 to 1,000 MW with both links in operation.

Nexans said its contract was worth €180 million (\$236 million), while Siemens said it has won a €100 million order. The total project value is estimated at €320 million (\$419 million) to be split between Fingrid and Elering. The European Union will part fund the project with a subsidy of €100 million as part of a more extensive economy recovery package of the EU. The grid operators announced in November 2010 that they would proceed with the project, which is due to enter commercial service in early 2014. The project is scheduled to be ready to undergo system testing in September 2013.

ABB wins NordBalt contract

ABB of Switzerland has won an order worth around €434 million from Swedish transmission system operator Svenska Kraftnat and its Lithuanian counterpart Litgrid to supply a new interconnector between the countries known as the NordBalt Link.

ABB said December 20 it is to design, engineer, supply and commission two 700-MW, ± 300 -kV converter stations using ABB's HVDC Light technology, one in Nybro, Sweden and the other in Klaipeda, Lithuania. The order includes supply and installation of two 300-kV underwater cables, each 400 km-long, and land cables of the same voltage in Sweden and Lithuania.

The new link would increase capacity, facilitate power exchange, enhance grid reliability and improve the security of electric supply at both ends, ABB said. "The system incorporates special features such as active AC voltage support providing greater network stability and black-start capability providing faster grid restoration after a blackout," ABB said. "The system is capable of being integrated into a future pan-European grid with the evolution of the DC grid concept, under discussion around the world."

The project is being supported by EU funding and is scheduled to be completed by the end of 2015. The Estonia-Finland Estlink, delivered by ABB in 2006, was the first interconnection integrating the Nordic and Baltic power markets. A second Estlink project has just been awarded to Nexans and Siemens (see *separate story*).

Fortum seeks WTE funds

Finland's Fortum is seeking €250 million (\$327 million) from the European Investment Bank to part finance waste-to-energy combined heat and power plants in Lithuania and Sweden and, as well as install metering equipment in Finland. According to EIB records December 23,

Fortum has taken a positive investment decision on the 20-MWe, 50-MWth Klaipeda plant, expected to be completed by January 2013 at a cost of €140 million. The plant is to be fuelled by municipal and industrial waste and biomass. The district heat produced at the plant is to replace natural gas-based heat production capacity.

Bosnia-Herzegovina

EPBiH to build first wind park

Bosnian power utility Elektroprivreda BiH said early January that it had been awarded a concession by the Herzegovina-Neretva canton to build the country's first wind power farm on the Podvelezje Plateau in southern Bosnia. The Sarajevo-based utility won a tender launched last August by the canton government for the rights to land near Mostar on the Velez Mountain plateau to develop the project.

The 46-MW wind farm will have 16 wind turbines, with the first two turbines, rated at 2-MW each, to be commissioned by September 2011, Elektroprivreda BiH said in a statement on its website. A further 14, 3-MW turbines are expected to be installed over the course of 2013.

EPBiH said that the first phase of the project would be financed by the South Eastern European Wind Energy (SEEWIND) Project, a Research and Demonstration Project set up under the 6th Framework Programme (FP6) of the European Commission.

SEEWIND, which has a total budget of €9.6 million to support pilot wind projects in Croatia, Serbia and Bosnia Herzegovina, allocated €978,090 to EPBiH in September 2010 for the installation of the first two turbines at Podvelezje. EPBiH has already received the first instalment of €715,375 and will receive the balance after the start-up of the first two turbines.

The award of the concession for the wind project has been a long-winded and complicated affair. Austria's Vjetroenergetika BH and Bosnian-Slovenian Energy 3 were previously granted concessions for wind projects in the Podvelezje area, with Vjetroenergetika even signing an agreement with the canton's Ministry of Economy for the construction of 15 wind turbines in the area but both companies were stripped of their rights to the land earlier last year for allegedly failing to comply with the terms of their contracts. Both companies were granted concessions on the basis of self-initiated offers, without a public tender or verification of their credit rating.

Prior to the tender, EPBiH director general Amer Jerlagic argued that the utility shouldn't have to

participate in the tender as it had already been awarded the rights to the project by the federal government and had bought from Vjetroenergetika the documents containing the results of the wind power measurements on Podvelezje which were prepared upon the agreement with the European Commission.

In 2008, EPBiH signed a memorandum of understanding with Vjetroenergetika BH Mostar to form a joint venture named EP BiH Wind to develop the Podvelezje wind farm in which EPBiH was to hold a 67.8% stake, while Vjetroenergetika BH was to have held 32.2%.

Low prices hit EPBiH's 2010 profit

Bosnia-Herzegovina's major power utility Elektroprivreda BiH (EPBiH) reported December 30 a 96% year-on-year decline in profit in 2010 to Bosnian Marka 2 million (\$1.35 million) due to high operating costs and low power prices. "The profit fell because the local tariff could not cover the operating costs, while wholesale prices remained low," Company general director Amer Jerlagic told a year-end press conference. Revenues dropped 6% year-on-year to Marka 875 million (\$588 million) in 2010 from the previous record year, though its electricity output rose 4% to a record 7,200 GWh. Increased output was the result of heavy rainfall and melting snow which raised annual production at the company's three hydropower plants on the Neretva River to just over 2,000 GWh, up 35% on last year's production plan.

EPBiH's sales on the open market rose 9% to 2,800 GWh but the proceeds from the sales of its power surplus more than halved from 2009 to Marka 117 million because of the recession, Jerlagic said.

EPBiH generates almost half of its revenue from power exports. Jerlagic said the company was targeting revenues of at least Marka 900 million in 2011 on the back of expected higher wholesale prices and an increase in domestic power prices after April. The utility sold its 100 MW surplus in the first quarter of 2011 to UK-based EFT at a price of €48/MWh and opted for quarterly surplus sales in the hope that low wholesale prices would rise later in the year.

Jerlagic said the majority state-owned EPBiH has invested Marka 180 million into modernization of its plant and network in 2010, up Marka 20 million from 2009. Rehabilitation of its distribution network helped it reduce transmission losses to about 9%, he added.

EPBiH plans to start in February the modernization of a unit at its 300-MW coal-fired plant Kakanj that will extend its lifespan by another 15 years. The company also expects to conclude talks this year with Switzerland's Alpiq, which has bid to invest \$1.1 billion in a new 450-MW unit at the Tuzla coal-fired power plant. The talks with Alpiq stalled after the outgoing parliament of Bosnia's Muslim-Croat federation decided to halt strategic power sector investments until a new cabinet was formed following elections last October.

EPBiH seeks Janjici HPP study

Elektroprivreda Bosne i Hercegovine, EPBiH, Bosnia and Herzegovina's largest power utility, invites bids by March 9, 2011, from qualified consulting companies to carry out a feasibility study on the construction of the Janjici run-of-river hydropower plant on the river Bosna, with installed capacity of about 13.3 MW.

The study is to be financed by a grant of €640,000 from the Government of Germany through KfW in the framework of the official Financial Cooperation with Bosnia and Herzegovina. The feasibility study is required as the basis for the implementation of the project, which might also be financed under German Financial Cooperation.

The winning consultant will be required to produce a study, which should determine basic parameters of the plant, the elaboration of a geological research program, the preparation of a preliminary design of civil works and equipment, a cost estimate, a financial and economic analysis and a preliminary environmental impact assessment.

The objective of the requested consulting services is to elaborate a complete feasibility study, which will allow EPBiH as the project sponsor as well as international finance institutions to assess the project. The study should constitute a sound basis for the preparation of detailed design and tender documents. The feasibility study shall also allow the project sponsor to apply for the approvals, authorizations and permissions from the competent authorities as required for further project preparation.

Tender documents can be obtained as a PDF file from the director of the Project Implementation Unit, JP Elektroprivreda Bosne i Hercegovine dd. Sarajevo, Vilsonovo Setaliste 15, BiH 71000 Sarajevo, via e-mail: ssadikov@elektroprivreda.ba. A copy of each application should be sent to Fritz.Roskopf@KfW.de

Veliko Tarnovo, will eventually have capacity of around 42 MWp, and entail total capital outlay of €150 million.

Construction has been underway since August, with €20 million invested by the time of the official launch and a first stage of 6.25 MWp already completed at the time of writing. The project, which occupies around 61.8 hectares, will when fully commissioned in July 2011, have an installed capacity of 20.135 MWp. Construction of another 21.48-MWp park on an area of 62.3 hectares, near the neighbouring village of Zlataritsa, started in December 2010 and is due to come on line in August 2011. The investment will also include construction of a substation and a 4.7-km power line to connect the parks to the grid. SDN's partners include the Korea Development Bank (which will supply 70% of the funds required), the Korea Trade Insurance Corporation, and Korea South-East Power.

Local firms RES Technology and ASM BG Investitsii received 25-year power production licenses from the State Energy and Water Regulation Commission—the sector watchdog—for the PV projects in December 2009 (Zlataritsa) and January 2010 (Samovodene) respectively. In February 2010 SDN (then known as Seoul Marine) acquired shares of 63% in RES Technology and 64% in ASM BG Investitsii for reported totals of KRW 4.127 billion (€2.64 million) and KRW 4.258 billion (€2.72 million).

Samovodene-Zlataritsa represents a large chunk of SDN's portfolio of foreign projects, which it reported at 53 MWp in July 2010. SDN makes marine propellers and power generators, but PV equipment—specifically its Sunday Series—is its fastest growing output: with production line capacity at its new Gwangju factory slated to grow from 30 MW in 2009 and 100 MW in 2010 to 250 MW in 2012, it will need to find outlets for its modules and inverters. Bulgaria is apparently seen as a base for expansion into the EU market: the Bulgarian EPC firm it set up in 2010 is, optimistically enough, named "EU Sunday".

Record output at TE Gacko

The Gacko coal-fired thermal power plant in the Bosnian Serb Republic produced 1,540 GWh in 2010, representing its second highest annual output in its 27-year-long history, its owner-operator, state power company Elektroprivreda Republike Srpske, announced January 4. For the first time since it was commissioned, TE Gacko operated for 7,000 hours last year. EPRS said that it expects the plant to produce 1,508 GWh in 2011. Its annual overhaul will run from April 1 to May 15.

Bulgaria

Koreans enter solar market

South Korea's SDN Company held a formal ceremony December 13 to mark the start of construction of its first photovoltaic park in Bulgaria. The project, located near the village of Samovodene in the northern municipality of

IWC plans Shumen wind park

Germany's Innovative Wind Concepts, a joint venture of WKN Windkraft Nord and Siemens Project Ventures, is planning a new wind park near the city of Shumen in the northeastern part of Bulgaria. The Krasen Dol Wind Park is being developed by the locally-registered project company IWC Bulgaria 4 in the municipalities of Nikola Kozlevo and Novi Pazar at a cost of some Lev 150 million (€75 million). The wind park will comprise 21 wind turbines, with installed capacity of 2-3 MW each, and is expected to produce average annual output of over 100,000 MWh. It is scheduled to enter commercial service in 2013.

IWC's project has been awarded a 'Class-A' investment certificate by the Ministry of Economy and Energy, which implies state support for the wind park's development. This is the second 'Class-A' investment certificate awarded to IWC by the Bulgarian authorities. It had previously supported the 140 MW Lozenetz wind park in Dobrich region.

CEZ sets up renewables unit

CEZ has established a new wholly-owned subsidiary called CEZ Bulgarian Investments to focus on investment in renewable energy projects in the southeast European state, the Czech state-owned power utility said January 4. CEZ Bulgaria Investments was founded on January 3, and registered January 4 in the commercial register in the Netherlands with a share capital of €30,000 (\$39,000).

CEZ, which controls the electricity distribution company in Sofia and western Bulgaria, will soon sign a memorandum with the government of Bulgaria on the implementation of a portfolio of renewable projects, according to a January 11 report by ADP Renewable Energy Track.

CEZ plans to invest Lev 59 million (€30.2 million) in Bulgaria in 2011, down from Lev 66.3 million invested in 2010.

EDF EN launches hydro plant

Electricite de France Energies Nouvelles, EDF EN, formally launched into operation December 18 the Dzherman hydropower plant in Southwestern Bulgaria. The inauguration ceremony was attended by Bulgaria's Ministry of Economy and Energy, Traicho Traikov, and the new French Ambassador to Bulgaria, Philippe Autie.

The renewable energy company, which is 50%-owned by the French state-controlled power company, invested €4.16 million in the 3-MW project, which is expected to produce about 10,500 MWh a year and will also provide drinking water to the residents of the nearby municipality of Sapareva Banya. The plant is part of the Iskar hydropower cascade, which includes the Pasarel and Kokalyane stations, with a combined installed capacity of 53-MW. It is owned by Dzhermaneya, a 51%-subsidiary of EDF EN's unit Centrale Hydroelectrique de Bulgarie.

In 2011, EDF EN plans to start construction of two photovoltaic facilities in Bulgaria at a combined cost of about €200 million. One of the projects is a 21.4-MWp solar photovoltaic power plant between the villages of Granitovo and Srem in the south of Bulgaria, which will require investment totalling €83.6 million.

Czech Republic

Temelin 2 to switch to Russian fuel

The second unit of Czech nuclear power plant Temelin will switch to Russian fuel this spring following the replacement of fuel in the first unit last summer, plant spokesman Marek Svitak told Czech news agency CTK December 19. Russian company TVEL won a ten-year fuel supply contract for Temelin in 2006, replacing Westinghouse.

"With Russian fuel, we plan to raise the reactor's output and extend the fuel campaign from the current four to five years," Svitak said.

These two measures should increase the effectiveness of Temelin's operation. But the power plant must first successfully switch to the fuel from TVEL and run several cycles with it. The first unit has been using Russian fuel for two months and it is too early to assess the impact of the new fuel, said Svitak. The replacement of fuel is generally a time consuming undertaking as usually only one-quarter of fuel is replaced at one time. However, during the last shutdown all 163 fuel assemblies were replaced in an outage of just over ten days.

Biomass support to be limited

The Czech government is drawing up changes to regulations supporting the use of biomass in energy production. A proposed new law on renewables support should stipulate that the only form of biomass use that would be backed in future by incentives would be cogeneration.

The Ministry of Industry and Trade is also looking to set minimum efficiency levels for electricity production at biomass facilities, ministry spokesman Pavel Vlcek told Platts January 7. The changes should take effect at the latest by the start of 2012, he said.

The chairman of the Czech Association for Biomass, Jan Habart, told Czech Television on December 15 that initial talks had looked at setting the minimum output efficiency level at between 40-50%.

The industry ministry spokesman said one of the aims of the proposal is that future support for biomass be kept within clear limits and better targeted. Fears have been expressed that a boom in biomass might follow that of solar power which forced the government to hurriedly redraw its support framework late last year.

The country's energy watchdog, the ERU, left its top level feed-in payments for electricity produced from biomass unchanged from January 1, 2011, at Koruna 4,580/MWh (around €186), the same as in 2010, with most of its other feed-in tariffs for biomass also little changed.

Record switching in 2010

A record number of Czechs changed their electricity suppliers in 2010 with a sharp rise in the number of households switching, according to figures released early January by the short-term electricity market operator, the OTE. A total of 249,181 consumers switched their supplier last year compared with 96,744 in 2009, taking advantage of promotions launched by many of the country's power suppliers at the start of 2010. The number of households changing supplier in 2010 more than tripled to 183,990, which represents more than 3% of the market, the operator said. According to a

breakdown of supply switching in 2009 by the Energy Regulatory Office, the ERU, 54,089 households, or 1.1%, switched that year. The picture for large consumers shows a much bigger flux in 2010 with 17,012 changeovers or around two-thirds of that slice of the market. In 2009 there were 5,173 changes which accounted for 22.2% of the market, according to the ERU. Smaller business users accounted for 48,072 changes in 2010 compared with 33,487, or 4.1% of the market, in 2009.

Dukovany meets output goal

The Dukovany nuclear power plant, owned and operated by CEZ, met its production goal for 2010, generating 14.2 TWh at the plant's four 500-MW reactors, CEZ said January 3. Central Europe's biggest utility also operates the Temelin nuclear power plant, which is expected to record total production of 13.7 TWh this year from 13.25 TWh in 2009.

Temelin, which boasts two 1,013-MW blocks, has produced 105 TWh since it started service ten years ago, with annual production rising year-on-year from around 12 TWh in the first years of operation.

Estonia

EE sells heat supplier

Eesti Energia has sold its 59.2% stake in the district heat supplier Kohtla-Järve Soojus to OÜ VKG Energia (VKG) for €5.6 million, the Estonian state-controlled power company announced December 22. The transaction will be closed after approval from the competition board.

Eesti Energia announced the public sales process for its 59.2% stake in Kohtla-Järve Soojus in September. VKG, the 40.8% shareholder of Kohtla-Järve Soojus, was the only bidder to submit an offer by the October 19 deadline for preliminary offers.

Kohtla-Järve Soojus supplies heat to the neighbouring towns of Ahtme and Johvi in northeastern Estonia. The company owns the district heating networks and soon to be decommissioned Ahtme combined heat and power plant. A new natural gas-fired boiler house next to the existing power plant will be commissioned in early 2011. Kohtla-Järve Soojus posted a net profit of €0.2 million in the 2009/10 financial year on sales revenues of €7.5 million.

MW Power to supply biomass plant

MW Power, a joint venture of Finland's Metso and Wartsila, has won a contract worth over €15 million from Estonia's OU Helme Energia to build a biomass-fired combined heat and power plant in the township of Helme in southern Estonia. Helsinki-based Metso Corporation, a supplier of process industry

machinery and systems for the paper and pulp, power and hydrocarbon industries, said January 5 that the biomass power plant will be based on its bubbling fluidized bed (BFB) technology and will use a combination of spruce bark, chipped logging residues and wood chips or milled peat as the main fuels. The plant, which will have an installed capacity of 6.4-MWe and 15 MWth, is scheduled to enter commercial service in the third quarter of 2012. The plant's electricity output will be part used by Helme Energia's own pellet factory with the rest sold into the national grid.

Helme Energia is a subsidiary of privately-owned AS Graanul Invest, the biggest producer of pellets in the Baltics and among the top five producers in Europe. Established in January 2009, MW Power is a joint venture of Finland-based Metso (60%) and Wartsila (40%). MW Power, which consists of MW Power Oy (former Noviter Oy), MW Biopower Oy (former Wartsila Biopower Oy), MW Power AB (former VEA AB), OU Noviter Eesti and associated companies supplies medium- and small-scale power and heating plants for sustainable energy generation.

Georgia

Kolin to build hydro cascade

The Georgian government has awarded a \$150 million hydropower project to Turkey's Kolin Construction and Trading Company, the Ministry of Energy Ministry said in early January. Kolin will build a cascade of four hydropower plants with a minimum total capacity of 105.7 MW on the Tekhuri River in the Samegrelo region of western Georgia, the ministry said. Construction will take four years, it added.

Investors awarded hydropower plant concessions in Georgia are obliged for a period of ten years to supply power for domestic consumption during three months each winter when the former Soviet republic experiences shortages, but are free to sell to any customer in Georgia or abroad for the rest of the year.

Greece

Athens proposes capacity swap

A Greek proposal for virtual power capacity swaps between state utility Public Power Corporation and foreign utilities is being examined by the European Commission, sources in Brussels told Platts January 6. The program, proposed by the Athens government to reduce PPC's market dominance, could involve up to 40% of PPC's lignite-fired output by end-2013, Greek media has reported. In 2009, PPC's lignite generation amounted to 30.5 TWh of total PPC output of 50 TWh. A capacity exchange has been proposed as an alternative to the European Commission's August 4, 2009, decision accepting Greece's commitment to ensure access to

lignite deposits at Drama, Ellasona, Vevi and Vegora by competitors of PPC. The commitment was given to comply with a March 5, 2008 Decision that Greece had infringed competition rules by giving PPC privileged access to lignite.

Pressure to deliver on the commitment was increased in 2010 via market restructuring conditions attached to the EU/IMF bail-out of the Greek economy.

Athens' about-turn on the lignite commitment was revealed in a December 22 written answer by Competition Commissioner Joaquin Almunia. "The Commission recently received a request from Greece to modify the Decision of 4 August 2009," he said. "Greece has not allocated exploitation rights on any of the four deposits of Drama,

Ellasona, Vevi and Vegora as mandated by the decision of 4 August 2009. It is considering some alternative measures to address the competition concerns identified in the decision of 5 March 2008. The Commission is currently examining that request."

It is believed that utilities such as Edison, Enel and Cyprus Power Company may be interested in capacity exchange. "The Commission is planning to proceed to a market test in order to see if there is any interest from European companies, but it restricts the period of this market research to only one month – January 2011," the source said.

The request for information from Almunia was initiated by Greek green MEP Michail Tremopoulos in early November. Tremopoulos said 21 local authorities and 40 professional organizations and citizen groups from Drama, Florina, Larisa and Trikala had opposed plans to tender "for the development of the subterranean lignite fields within their territories and call on the Greek Government and EU to give an undertaking not to insist that the project go ahead." Development of the new lignite fields was linked to construction of lignite-fired power stations in the areas, Tremopoulos said. "However, to achieve the national target for renewables set out in the action plan submitted by the Greek Government to the Commission, power generation from lignite must be reduced by around 40% from 2010 to 2020."

Almunia responded that EU rules "do not prohibit the use of lignite for electricity generation. It is for each Member State to decide on its energy portfolio and the use of its indigenous energy sources. The Commission does not interfere in Member States' decisions regarding the use of natural resources and the granting of permission for power stations when this is done in accordance with EU law."

PPC denies customer debt reports

Greece's state-controlled power company PPC has denied media reports of mounting customer debt. In a statement issued December 16 PPC said the increase in total overdue receivables in the first 10 months of 2010 amounted to €189 million (\$250 million), with the respective increase for low and

medium voltage customers at €104 million, "and not €600 million and €400-450 million, respectively," as mentioned in an unreferenced press article. A December 15 article on Greek newspaper Kathimerini's website said money owed to PPC represented more than 10% of the company's turnover and was mainly the result of non-payment by hard-hit small and medium-sized businesses.

The total amount of overdue receivables could not be considered as lost revenue, PPC said, because according to the latest data "only a small percentage remains unpaid after six months." Overdue receivables from low and medium voltage customers still outstanding after six months represented 6% of electricity bills in the 10-month period, PPC said. The company said it was, nevertheless, making provisions for receivables "whose collectability is considered unlikely." For low and medium voltage customers a €21 million rise in provisions had been made for the first nine months of 2010 compared with provisions made for the same period in 2009, PPC said.

PPC's net income for the nine months to end-September 2010 fell 30% on the same period last year to €520.2 million (\$694 million). Turnover for the period was down 2.8% year-on-year to €4,467.6 million while EBITDA fell 18.4% to €1,223.6 million. Net debt was up 4.1% year-on-year to €4,278.9 million.

EDF EN starts Fokida wind farms

EDF Energies Nouvelles has commissioned the 2x 23-MW Fokida 2 and 3 wind farms, the French company said December 16. Located in central Greece just a few kilometres apart, the wind farms have ten turbines each, supplied by German manufacturer Enercon. Fokida 2 wind farm has been in service since September 2010, the company said. Following commissioning of the Skopies wind farm (18 MW) in March 2010, these represent the ninth and tenth projects completed by EDF EN in Greece, which now has a gross capacity of 251.4 MW in operation.

Hungary

Fresh hope for new Slovak link

Plans to build at least one new interconnector between Hungary and Slovakia are gaining fresh momentum, and could be realized by the middle of the decade, according to Gabor Tari, CEO of Hungarian TSO Mavir. "Realistically, a new power link could be realized within three years after a decision is made," Tari said at a press briefing held in Budapest January 12. "Talks have moved away from the previous stalemate, making us more optimistic," he stated.

Currently, there are two 400-kV links connecting Hungary and Slovakia – one between Gyor in northwest Hungary and Gabcikovo in southwest Slovakia and another between God in central Hungary and Levice in

southern Slovakia. Hungary has long sought a new link between Sajoivanka in northeast Hungary and Rimavska Sobota in eastern Slovakia. However, in recent months Slovakia has said it wants to expand the Gyor-Gabcikovo link (either by converting it into a double-circuit line or building a new double-circuit line near the existing route). This has raised hopes that talks can move forward on both fronts, Tari said. Permitting and construction of these projects should take a relatively short time, as both proposed links are less than 50 kilometres in length, the CEO added.

Mavir is calculating with a development budget of Forint 15–17 billion (€54–62 million) in 2011, Tari said. This is more than Forint 5 billion lower than last year's figure, as Mavir completed a decade-long project in 2010 to renovate all middle-voltage power lines and a large number of substations across the power grid. In addition to studies and preparations for the Hungary-Slovakia interconnections, this year's investment budget will be spent on building or expanding 400-kV lines between central Hungary's Albertirsa and Martonvasar, as well as western Hungary's Bicske and Gyor, among others.

Mavir recorded pre-tax profit of around Forint 7 billion in 2010, slightly less than in 2009, according to Tari.

Poland

EDF agrees Enea sale conditions

EDF has agreed to the Polish government's main conditions in the sale of a 51% stake in the country's third largest power company Enea, a report said December 17. The daily, *Dziennik Gazeta Prawna*, citing a source close to the transaction said EDF, has already agreed to the Treasury's two major conditions to not sell Enea shares for at least ten years after the deal and to commit to Enea's plan to build 1,000 MW of new capacity at its 2,880-MW hard coal-fired Elektrownia Koźienice plant. EDF was granted December 15 the right to exclusive negotiations over the sale with the Treasury, following the collapse of exclusive talks with Kulczyk Holding, an investment vehicle for Poland's wealthiest businessman, Jan Kulczyk. The ministry reportedly had concerns about the firmness of Kulczyk's financing for the stake which is valued at an estimated Zloty 5.6 billion (\$1.87 billion).

EDF's biggest problem to sealing a deal could be trade union opposition. Enea trade unions said January 3 they oppose the sale of the Polish state-owned power company to EDF. "We are a state-owned company, just as the French are. When the state loses

Macedonia: ELEM seeks wind park assistance

Macedonia's state power producer Elektrani Na Makedonija, ELEM, has invited pre-qualification bids by January 31 from qualified consultants to assist with the preparation, tendering, construction and commissioning of a 36.8-MW wind park near to the town of Bogdanci in the southeast of the country, close to the border with Greece.

The Bogdanci wind project, which is expected to be registered as a CDM-project, will involve the supply and installation of 16, 2.3-MW wind turbines; electrical works relating to the internal grid and medium voltage transformer stations; civil works such as foundations, roads, hard stands and control building and connection to the grid.

The contract, which is to be financed by the German government through the state development bank, KfW, will require the review of all relevant existing documents including the feasibility study and additional wind assessments and environmental impact assessments. The consultant will also be required to prepare the detailed design for the wind farm and general and technical parts of the tender documents; arrange tendering of the supply and installation of wind turbines, electrical and civil works as well as the network connection; evaluate bids and contract negotiations and supervise the installation and construction works including factory inspection tests all the way through to commissioning. The consultant will also be required to assist the project sponsor in general tasks like planning and monitoring of time and cost schedules, developing a maintenance concept, checking invoices and pertaining documentation, advisory services in organizational and operational matters, reporting and with the procedure of CDM-registration. Cooperation with a local consulting firm is desired.

Interested bidders should submit as part of the pre-qualification application the following documentation: a corporate profile and status; balance sheet and profit and loss account of the last three years (certified by independent auditor); evidence of financial resources in relation to the volume of services required (inter alia confirmation of guarantee line given by company's principal bank); relevant references from the last ten years to prove technical qualifications in the field of wind farm development, experience abroad, in the region or country (maximum ten references); Curricula vitae of consultant's key personnel who will provide monitoring and back-up services; statement of personnel structure (number and qualifications); a declaration of intent regarding cooperation (name of the lead company, if any); legally binding signed declaration of undertaking and a declaration on associated firms if any.

Two copies of the prequalification documents are to be submitted to JSC Macedonian Power Plants and one copy each to KfW and Interbusiness at the following addresses:

Mrs. Nevenka Jakimova Filipovska, Head of Development Division Department for Development and Investments, Project Implementation Unit JSC Macedonian Power Plants, 11 Oktomvri 9, 1000 Skopje. Tel.: 00 389 (0) 2 3149 166; nevenka.jakimova.filipovska@elem.com.mk

Wilderich Hoerr, Division L III a/3, KfW Entwicklungsbank, Palmengartenstraße 5-9, D 60325 Frankfurt am Main, Germany. Tel.: 00 49 (0)69-7431-3060; Email: Wilderich.Hoerr@KfW.de

Eddy Schotborg, IB Interbusiness Consulting & Services GmbH, Weinheimer Str. 62-68, D-69309 Mannheim, Germany; Tel.: 00 49 (0)621 7 28 46 30/31; ibusinessCS@t-online.de

control of an energy company, it's not hard to imagine that EDF will transfer the profits to France and the state Treasury will not benefit in any way. The state should maintain control," Piotr Adamski, of trade union NSZZ Solidarnosc told the state news agency PAP. Earlier a group of unions represented in Enea wrote a joint letter saying the sale of the company was "infinitely idiotic and harmful for society".

Dziennik Gazeta Prawna reported December 17 that EDF had committed to financially support Poland's plans to build two nuclear plants. Poland's largest power company, Polska Grupa Energetyczna (PGE), has been tasked by the government to lead, in cooperation with one or more partners, the construction of 6,000 MW of nuclear capacity, with the first unit to be ready by 2020. Poland wants third generation reactors and PGE has already signed a number of non-binding cooperation deals with Westinghouse Electric, GE Hitachi and France's EDF among others. According to a Polish government official the selection criteria essentially narrows the choice down to Areva's EPR and Westinghouse's AP1000 technology.

A commitment by EDF, however vague, to support PGE's nuclear plans, may also help resolve the public objections made by Waldemar Pawlak, Poland's Deputy Prime Minister and Economy Minister to the sale of Enea to a state-owned French company. Pawlak has warned a sale to EDF could jeopardize PGE's own nuclear plans.

Enea, based in Poznan, west Poland, supplies electricity to 2.4 million customers in the region giving it around 16% of the country's sales market. Its Elektrownia Kozienice plant, 75 km south of Warsaw, is the largest hard coal-fired facility in the country with installed capacity of 2,880 MW and produces around 8% of the country's power.

Deloitte to carry out nuclear study

Deloitte Advisory has been appointed by Polska Grupa Energetyczna, Poland's largest power company, to carry out a pre-feasibility study for the construction of the country's first two nuclear power plants.

PGE said in a brief statement December 22 that the contract awarded to Deloitte was worth Zloty 1.56 million (\$520,000).

PGE has been tasked by the government to lead the construction of 6,000 MW of nuclear capacity with the first unit to be ready in 2020. In order to meet that deadline PGE wants to launch the tender for the third generation technology in July 2011. For that to happen, the Polish parliament would need to pass a nuclear power law by the end of the second quarter of 2011. A draft bill is currently being discussed within the government. Poland fast-tracked the creation of a nuclear power sector in January last year during the Russia-Ukraine gas dispute. The government plans to meet 15% of its energy needs from nuclear power by 2030. Currently the country produces close to 95% of its power from hard coal or lignite.

Energa's CCGT plans approved

Polish power company, Energa, has received approval from the Office of Consumer Protection and Competition (UOKiK) for the construction of an 874-MW gas-fired plant in Grudziadz, northern Poland. Energa said December 17 that the approval would allow it to create a joint stock company with Ireland's ESB to build the largest gas-fired plant in the country. Energa, which is based in Gdansk in northern Poland, also said it had received a grid connection permit for the plant.

The construction of the plant and the modernization of the 400-kV substation at Grudziadz-Wegrowo are scheduled to be completed in 2015, Energa said. The plant will produce 6 TWh annually and require 1.2 billion cubic meters of gas feedstock a year.

Energa, one of the country's four vertically-integrated power groups, is the country's leading producer of renewable energy with a 30% market share and. It supplies power to 2.7 million customers in northern Poland but it lacks significant generation capacity.

New regulator to liberalize

Poland's Prime Minister, Donald Tusk, has appointed Marek Woszczyk as the acting head of URE, the country's energy regulator, URE said in a statement December 22. Woszczyk, previously URE's vice-president, replaces Mariusz Swora, who had been in dispute with the government over liberalizing individual end user power prices. Swora was appointed in November 2007 as one of the last acts of Prime Minister, Jaroslaw Kaczynski, currently head of the country's main opposition party, Law and Justice. One of Swora's first decisions was to repeal his predecessor's decision to liberalize household energy prices.

Ironically, one of Woszczyk's first acts could be to oversee the liberalization of household prices. Andrzej Czerwinski, chair of the parliamentary energy subcommittee, said that new legislation could be introduced which will pave the way for liberalization of household power prices in the first half of 2011, according to a January 4 report by the respected daily *Rzeczpospolita*. Woszczyk told the daily that a liberalized market should be the target. "We have to deal with the end users whose position in negotiations with energy companies is the weakest, especially because competition on the market is not good," Woszczyk said. Poland's 14 regional distributors have been lobbying for liberalization of household tariffs for years but Swora opposed it arguing that market conditions were not ready.

URE approves 7.7% tariff rise

Polish energy regulator, URE, approved December 17 an average 7.7% rise in end user tariffs in 2011. URE said in a statement it approved power tariff increases ranging from 6.9% to 8.4%. On household bills, which also include a distribution tariff as well as a power tariff, the

increases will translate into a total average rise of between 3.8% and 7.4%, URE said. The regulator said the tariff increase was the result of a rise in costs resulting from the obligation to buy energy from renewable sources and co-generation as well as rising wholesale electricity prices. Polish wholesale prices are liberalized but household tariffs are still regulated.

Lotos, Energa delay CHP project

Poland's second largest refiner, Grupa Lotos, said January 7 its planned joint venture with power company Energa to build a 250-MWe oil-fired combined heat and power plant at its 120,000 b/d refinery in Gdansk had fallen behind schedule due to concerns about the cost of CO2 emissions. The design of the plant, which will cost an estimated €400 million and was scheduled to be commissioned in 2014, will now be ready in the second half of this year instead of at the beginning of 2011, as originally planned. "At the moment we are looking at CO2 emissions because the pitch, the heavy residue of refined crude oil we are planning to use as feedstock for the plant, is heavy and now we are thinking about using gas as a feedstock," Mateusz Cabak, a Lotos spokesman, told Platts.

Lotos had originally conceived the project to fire on gas but turned to heavy oil as a feedstock last year to reduce costs. At the moment the company uses the residue in its bitumen production but the market for bitumen is likely to decline. Lotos would have to buy the gas feedstock from PGNiG, Poland's dominant natural gas supplier.

EC approves power bridge grant

The European Commission has approved a grant of Zloty 683.83 million (\$229.5 million) for a project to build a power bridge between Poland and Lithuania, the Polish Ministry of Economy said January 11. The ministry said the funds would be used for five projects including the building of the Polish section of a 154 km-long, 400-kV asynchronous interconnector from Alytus in south Lithuania to Elk in northeast Poland. The interconnector is expected to have a transmission capacity of 1,000 MW. The project will also require the building of additional infrastructure including a back-to-back convertor station in Alytus since the Lithuanian and Polish grids are not synchronized. Poland is synchronized with the West European UCTE system and the Lithuanian grid with the Russian grid. Extra high-voltage lines are also needed to strengthen the local grids especially in north east Poland where the transmission system is underdeveloped.

On December 31, the Polish state-owned transmission system operator, PSE Operator, applied for Zloty 255 million (\$86.4 million) in EU funding for the second stage of the project – a line between Ostroleka and Narew in northeast Poland and the expansion of the accompanying substations. The Polish Oil and Gas

Institute, which is responsible for disbursing EU funds for energy projects, is assessing the application. The total cost of the project is Zloty 810 million. In June PSE Operator applied for funding for the construction of a 400/220/110 kV substation in Oltarzew. The power bridge was first conceived more than a decade ago and is now an EU priority project.

Tauron buys wind farm project

Poland's second largest power company, Tauron Polska Energia, has acquired Megawat Marszewo, the owner of a 100-MW wind farm project in northwest Poland. Tauron's renewable energy subsidiary, Tauron Ekoenergia, said December 17 it had signed a deal to buy 100% of Megawat Marszewo's shares. It added it would launch a tender for construction of the Marszewo wind farm in the first half of next year for completion in 2013.

Marszewo is located next to Tauron's only other wind farm project, Wicko, in Leborg County, Pomerania. In July Tauron launched a tender for the supply, installation, commissioning and servicing of twenty turbines, each with a capacity of 2 MW, for Wicko. The contract also includes accompanying road infrastructure and the construction of a 110-kV substation. The total estimated cost of the investment is Zloty 200 million (\$63 million). Wicko is to be commissioned in 2012, or no longer than 18 months from the signing of the contract, Tauron said. The company plans to have 440 MW of wind capacity by 2020.

Tauron currently has 131 MW of installed renewable energy capacity from its 35 hydro plants, which produced 0.9 TWh last year. The company, based in Katowice in Upper Silesia, operates seven power plants and four CHP plants, and produced 18.6 TWh in 2008, around 14% of Poland's production. Tauron is the country's leading distributor with a 27% market share and more than four million customers.

RWE commissions two wind farms

RWE Innogy, the renewable energy development arm of the German power giant, said January 10 that it has commissioned two new wind farms in Poland with a total installed capacity of 67 MW.

The 32-MW Piecki wind farm in the province of Podlaskie in northeast Poland, comprises 16, 2-MW turbines, and was developed and built by Gamesa. It is expected to produce over 60 GWh annually, meeting the equivalent demand of over 30,000 residential households per year and will result in the reduction of 60,000 tons of CO2 emissions. RWE Innogy acquired the project together with energy utility HSE Regenerativ, based in Darmstadt, which owns a minority share of 49%.

The Tychowo wind farm located in Western Pomerania has an installed capacity of 35 MW and consists of 15 Siemens turbines (SWT-2.3-93) each with a capacity of 2.3 MW. It will produce over 65 GWh per year and will result in the reduction of 65,000 tons of CO2 emissions.

“Poland is a particularly attractive market for us when it comes to operating onshore wind power plants,” Paul Coffey, chief operating officer for RWE Innogy said in a statement. “This is because of the remarkable wind resources, the large growth potential and the cooperation opportunities with our sister company RWE Polska. This is why we intend to go ahead with the development of additional Polish wind farms in the next few years,” he concluded.

RWE now has three wind farms with total installed capacity of 108 MW in Poland. The 41-MW Suwalki wind farm in the province of Podlaskie in northeast Poland has been operating since October 2009. The Suwalki project comprises 18, 2.3-MW turbines supplied by Siemens. RWE Innogy completed the acquisition of 100% of the Suwalki and Tychowo wind farms from Polish Energy Partners, a Warsaw-based international venture capital group, in March 2009. RWE Innogy said at the time that it expected to invest around €120 million in the two parks, which are expected to produce combined output of 168 GWh/yr.

Gamesa’s wind farm division, which developed the 32-MW Piecki wind farm for RWE Innogy, said January 10 it has a portfolio of wind farm projects in Poland totaling 706 MW at varying stages of development, of which 78 MW is now being built. Gamesa plans to break ground on a further 108 MW of wind farm capacity in Poland in 2011, it said.

Poland currently has installed wind capacity of almost 1,100 MW according to the Polish Wind Energy Association and plans to have 6,110 MW of wind power capacity in operation by 2020.

GDF Suez buys wind project

Polish wind farm developer, Polish Energy Partners (PEP), agreed December 22 to sell its Pagow wind farm project to France’s GDF Suez for Zloty 42.8 million (\$14.3 million). PEP said 90% of the contract’s value would be paid once it receives the final permits for the 51-MW project, which is located near the village of Pagow, in Namyslow county, southwest Poland, in February. The remainder will be paid once GDF Suez receives the final occupancy permit.

The project, which has already received its building and grid connection permits, is scheduled to be commissioned in 2012.

It is the third wind project that PEP has sold to GDF Suez. Last June PEP sold its 30-MW Wartkowo project in Goscino Karlino in western Pomerania, northwest Poland, for Zloty 18.7 million. In October 2009 PEP sold its remaining 30% stake in the Jarogniew/Moltowo wind farm in northwest Poland to GDF Suez for Zloty 4.7 million.

In related news, Polish construction company Erbud said December 29 it had signed a Zloty 50.6 million (\$16.9 million) agreement with GDF Suez to build the 30-MW Wartkowo wind farm. Erbud said the contract was signed with GAMMA, a subsidiary of GDF Suez, which owns the wind project. The project is to be completed by December 1, 2011, it said.

Kozienice signs coal supply deal

Polish hard coal miner, Lubelski Wegiel Bogdanka, said December 21 it had signed a new supply deal for 2011 with the Elektrownia Kozienice power plant in southeastern Poland. The contract is worth Zloty 617 million (\$205.6 million) but no details were provided on the volume of coal to be supplied next year or the price agreed. Bogdanka, located near Lublin, currently sells its coal for between Zloty 320/mt (\$107/mt) net to Zloty 500/mt (\$167/mt) net.

Elektrownia Kozienice, which is owned by the state-controlled power company Enea and located in Swierze Gorne, is the country’s largest hard coal-fired plant with installed capacity of 2,880 MW. It signs supply contracts with Bogdanka on an annual basis.

Bogdanka to raise output

Poland’s only listed coal miner Lubelski Wegiel Bogdanka expects to increase its hard coal production in 2011 by around 1 million mt, chief executive Miroslaw Taras said January 6. In an interview with the state news agency PAP, Taras also said he expects average coal prices to increase this year. Analysts forecast growth of about 3% in hard coal prices this year. Bogdanka currently sells its coal for between Zloty 320/mt (\$108.50/mt) net and Zloty 500/mt (\$169.50/mt) net. In November the miner said it expected to produce 11% more coal in 2010 than in 2009, when production reached 5.24 million mt.

Taras said the company’s costs would rise this year, mainly due to increased labour force costs. Bogdanka plans to hire at least 200 people to work on its Stefanow seam. Bogdanka, located near Lublin, southeast Poland, is planning to double its production capacity to 11.5 million mt by 2014 through the expansion of its Stefanow field.

“I would expect a slight increase in the unit cost of production but output will also increase which will offset this rise somewhat. Costs may rise primarily due to an increase in employment, machinery purchases and depreciation,” Taras said. “The next two years will be years of poor growth for the company for these reasons.”

Taras reiterated his view that the domestic mining sector is ripe for consolidation. “For me it is obvious that sooner or later the consolidation of the mining sector in Poland will take place because there is a need for it. We would like to take part in this consolidation if an opportunity arises and there is a will from the companies in Silesia but at the moment there is no will,” he said.

“If consolidation were to take place, in my opinion, it would be through a connection of healthy and efficient companies. There are such mines, for example Ziemowit, Budryk, Piast, which taken out of their capital groups would be effective. If there was a political will to remove single mines from those groups, we would take part in such a consolidation,” he added.

The Ziemowit and Piast collieries are owned by Kompania Weglowa, the EU’s largest hard coal miner,

based in Katowice, Upper Silesia in south Poland. Budryk is owned by Katowice-based Jastrzebska Spolka Weglowa (JSW), the largest coking coal producer in the EU. Taras said JSW could also lead consolidation in the sector. JSW has said in the past it would be interested in a merger with Bogdanka. Taras said a merger with JSW would create a regional giant but added that JSW has not been willing to discuss Bogdanka's conditions for such a move.

Babcock Borsig wins PGE order

Polish power company, Polska Grupa Energetyczna, said December 16 it had agreed a €460 million contract with Germany's Babcock Borsig Service to design, supply and install furnace and auxiliary units for blocks 7-12 at its Elektrownia Belchatow plant in central Poland. PGE spokeswoman Beata Nawrot-Miler said the work would be carried out over six years. The 4.4-GW lignite-fired plant is the largest in Poland, producing around 18.5% of the country's power.

New FGD unit for Kozenice

Enea, Poland's third largest power company, commissioned December 16 a flue gas desulfurization facility at the 535-MWe unit 10 of its hard coal-fired power plant, Elektrownia Kozenice. The FGD unit was supplied and installed by a consortium of Hitachi and Energomontaz Polnoc under a Zloty 260 million (\$86.7 million) contract signed in July 2008. Like the two existing FGD installations at the plant it uses wet limestone technology. The 2,880-MWe plant in Swierze Gorne, 75 km southeast of the capital Warsaw, has reduced its SO₂ emissions by more than 60,000 mt a year as a result of the FGD installations.

Tauron to refinance debt

Poland's second largest power company, Tauron Polska Energia, said December 17 it had signed a Zloty 1.3 billion (\$460 million) bond issue agreement with six banks to refinance its debt. Tauron signed the agreement with Bank Handlowy, ING Bank Slaski, Pekao, BRE Bank, PKO BP and Nordea. The company said it plans to issue Zloty 900 million of the total bond issue by the end of the month.

Rafako wins Belchatow order

Polish boiler maker, Rafako, signed December 17 a Zloty 186.6 million (\$62.2 million) contract to retrofit the flue gas reheating system for blocks 8, 10, 11 and 12 at Elektrownia Belchatow, the country's largest power plant, the company said in a statement. The lignite-fired Elektrownia Belchatow, owned by the country's largest power company, Polska Grupa Energetyczna (PGE), has installed capacity of 4.4 GW and produces around 20% of Poland's power.

Vestas wins 140-MW turbine order

Danish wind turbine manufacturer announced December 30 that it had received a firm and unconditional order for the supply and installation of 70 of its V90-2.0 MW turbines from Germany's Prokon Energiesysteme for a number of unnamed projects in Poland.

The contract includes supply, installation and commissioning of the turbines and a VestasOnline Business SCADA system. Delivery of the turbines is due to start in late 2011, with completion estimated for late 2012. Twenty-five of the turbines will be installed in 2011.

Fortum seals CHP plant deals

Fortum announced January 3 that it had completed the acquisition of majority stakes in two coal-fired heat and power companies in Silesia – Elektrociepownia Zabrze and Zespól Elektrociepowni Bytom – following approval of the deals by the Polish Anti-Monopoly Office.

In late November the Finnish utility signed an agreement with Poland's Treasury Ministry to acquire 85% stakes in the two heat and power producers for about Zloty 82 million (€20.6 million) (*EiEE 203/19*). Following the anti-monopoly office's approval, Fortum has changed the names of the companies to Fortum Bytom and Fortum Zabrze.

The acquisition of EC Zabrze and ZEC Bytom provides Fortum with access to the second largest heat market in Poland with 2.3 million citizens living in 21 municipalities in the region of Silesia, as well as significantly increasing the company's power production capacity in Poland. ZEC Bytom, which supplies heat and power to the city of Bytom near Katowice in Upper Silesia, comprises two plants – EC Miechowice and EC Szombierki – with a combined capacity of 55 MWe and 422 MWth. EC Zabrze supplies heat to the cities of Zabrze and Ruda Slaska in Upper Silesia and has installed capacity of 431 MWth and 74 MWe. The companies have total annual sales of 260 GWh of electricity and 930 GWh of heat. EC Zabrze's sales in 2009 totalled €20 million and ZEC Bytom's €19 million. Both operated at breakeven.

Fortum entered the Polish heat sector in 2003 and has since acquired several district heating companies in recent years. Fortum currently has district heating operations in over 40 municipalities in Poland. The biggest networks are in the cities of Wroclaw, Czestochowa and Plock. In 2009, Fortum's heat sales in Poland totalled 3.7 TWh.

Energa secures Elblag permit

Northern Polish power group Energa said December 16 it had received a construction permit for its planned 20-MWe biomass unit in Elblag, northern Poland. Construction is scheduled to start in the first quarter of next year for completion at the end of 2012. The unit, which will fire on biomass pellets, is expected to produce 160,000 MWh and 796,000 GJ of energy a year for the residents of the town.

Romania

Demand expected to rise by 4%

Romania's electricity consumption and production are forecast to increase year-on-year by 3.82% and 5.57%, respectively, according to forecasts by Romania's national grid operator Transelectrica. A total of 55.7 TWh is expected to be produced in 2011, while consumption is projected to rise to 52.7 TWh, leaving a net surplus of 3,000 GWh to be exported. Preliminary figures released for 2010 show production of 52,762 GWh and demand of 50,762 GWh. As of January 1, 2011, Romania's national power generation portfolio consisted of 3,174 MW of hydro power capacity (34.8%), 2,948 MW of coal-fired power capacity (32.3%), 1,425 MW of nuclear power (15.6%), 1,410 MW of hydrocarbon-fired power plant (15.4%) and 174 MW of wind power capacity.

CEZ secures EIB wind farm loan

CEZ announced December 17 the signing of a €200 million loan with the European Investment Bank, EIB, to co-finance the construction of its 347.5-MW Fantanele wind farm in eastern Romania. The loan, which has a maturity of 17 years, will part fund the construction of the wind farm, which is currently being completed at a site on the edge of the village of Fantanele near the Black Sea Coast in Dobrogea province, as well as the building of transformer stations and connection to the national grid. Installation of the first turbines started in June 2010 and as of mid-December 120 turbines were operational at the site. When completed, the wind farm will comprise a total of 139 GE 2.5-MW turbines, each with a hub height of 100 meters and a rotor diameter of 100 meters. The project is being developed by CEZ through its fully owned Romanian subsidiaries – Tomis Team and MW Team Invest. The project is expected to cost around €620 million. CEZ had earlier secured a 15-year loan of €262.4 million from a consortium of four European banks led by BNP Paribas with Bayerische Landesbank, Ceskoslovenska Obchodni Banka and KBC Bank Deutschland to finance the procurement of the turbines for the Fantanele wind park. The loan will be guaranteed by Germany's export credit agency Hermes. The project is being underwritten by GCube, a London-based provider of insurance services for renewable projects.

Work on the adjoining wind park in nearby Cogeaalac was halted last summer due to a dispute with the Constanta city council over the project's building permit but CEZ's spokeswoman Eva Novakova told Platts December 21 that the dispute had been settled and that work would soon resume. A total of 101 GE 2.5-MW turbines are to be installed at this site and are expected to be commissioned later this year. The rights to the two wind parks were acquired from Continental Wind Partners in August 2008 and once completed the adjoining projects with a total rated capacity of 600 MW will be Europe's largest onshore wind farm. The projects will require total combined investment of €1.1 billion including the acquisition price.

It is the second credit to be agreed with the EIB in the space of a month after the Czech utility signed in mid-November another €200 million loan for a series of photovoltaic projects under development in the Czech Republic. CEZ said that the loan would constitute about half of the funds needed to complete its portfolio of PV plants.

Alstom's CAP technology selected

Alstom announced December 20 that its proprietary Chilled Ammonia Process (CAP) had been selected as the basis for the development of a pilot carbon capture and storage plant at the Turceni coal-fired power plant in Romania. The French engineering giant also said that it would carry out a feasibility study into the project aimed at demonstrating CO₂ capture technology at the Turceni power plant together with CO₂ pipeline transportation and onshore storage.

In February 2010, the Romanian government issued an action plan to implement a carbon capture demonstration project in Romania and appointed the Institute for Studies and Power Engineering (ISPE) together with the National Institute for Research and Development of Marine Geology and Geoecology (GeoEcoMar) to develop the CCS plant, which will be integrated into unit 6 of the Turceni power plant which will at the same time be retrofitted to a capacity of 330 MWe.

The CCS demonstration project will be presented as a candidate for NER 300 funding in accordance with the ongoing EU process.

CEZ sells EnergoNuclear stake

CEZ said January 4 that it had completed the sale of its 9.15% share in Romania's EnergoNuclear, a joint venture company set up to build and operate two additional reactors at the Cernavoda nuclear power plant. CEZ said it had sold its shares at their nominal value of Lei 7.4 million (€1.73 million) to the majority owner of EnergoNuclear, the state nuclear power company Nuclearelectrica. CEZ said that the transaction was in line with its previous notified intention to concentrate on investments in the Czech Republic and to consolidate and develop its existing assets abroad. Adrian Borotea, corporate affairs manager of CEZ Romania, told news server HotNews.ro that it might have had more interest in the project if it had held a larger stake. "CEZ's policy is to have majority stakes," Borotea said.

As a result of CEZ's withdrawal, the state through Nuclearelectrica has seen its shareholding in the project increased to 60.15% from 51%. The other investors in the project company will decide by February whether to exercise their pre-emptive rights. If they decide to abstain, the government will seek alternative investors to replace CEZ. The remaining investors are Enel (9.15%), RWE Power (9.15%), GDF Suez (9.15%), ArcelorMittal Romania (6.2%) and Iberdrola (6.2%).

CEZ, however, may not be the only foreign investor to pull out of the project. The daily *Adevarul*, citing unofficial sources, reported January 5 that RWE Power is also considering exiting the project. Enel also mentioned that it would reconsider its involvement in the project after the government drafts the final plans for the restructuring of the country's power generation sector.

Societatea Nationala Nuclearelectrica (SNN) and the six foreign investors joined forces in November 2008 to create EnergoNuclear, which was formally established in April 2009.

The project, which will involve the construction of two advanced CANDU-type reactors with rated capacity of 720 MW each, will cost a reported €4 billion (\$5.3 billion) when completed. The first unit is currently scheduled to enter service in 2016. In September 2010, EnergoNuclear launched a €3.2 billion tender for the design, construction and engineering of reactors 3 and 4. In December the European Commission issued a favourable opinion on the project.

Trihenea heads Hidroelectrica

Romania's Ministry of Economy announced December 10 the appointment of Constantin Trihenea as the new director general of the country's state-owned hydropower company Hidroelectrica. Trihenea, an advisor to the minister of energy, replaces Mihai Ciprian David, a member of the opposition Social-Democratic (PSD) party, who has been general manager since succeeding Traian Oprea in September 2009. David remains as a member of the company's board of directors.

The appointment is the latest in a string of changes at the helm of state-controlled energy companies by the centrist government coalition led by the Democratic Liberal Party. Last month, Stelian Alexandru Gal was appointed as the new head of the state-controlled power grid operator Transelectrica (*EiEE* 203/7).

Higher output boosts Hidroelectrica

Hidroelectrica, Romania's state-owned hydropower company, posted significant profit and revenue growth in 2010 as a result of higher power production and favourable supply contract renegotiations, according to preliminary figures released January 5. The results were also boosted by the fact that 2009 was the worst year in the past five years for Hidroelectrica in terms of revenues and profit.

Hidroelectrica's EBIT increased 807% year-on-year to RON 1.47 billion (€341 million) and pre-tax profit rose 663% year-on-year to RON 500 million (€116.2 million) on the back of a 34% year-on-year growth in total revenues of RON 3.38 billion (€0.8 billion). At the same time, total capex remained unchanged from 2009 at RON 1,460 million.

The hydro producer's results can be attributed to higher output in 2010, with production rising 27% year-on-year to 19.7 TWh, due to what Hidroelectrica termed "an

exceptional year hydrologically". Hidroelectrica expects production at 15.5 TWh in 2011, close to the company's consideration of "normal" hydrological production. As a result, the company forecasts revenues this year to slip to RON 3 billion, a 11.2% fall on last year's income, and pre-tax profit to drop 77.6% year-on-year to RON 112 million. Capex is projected to increase 16% to RON 1.7 billion. The company has earmarked €400 million in investment this year, up from €340 million in 2010.

Analysts at KBC Securities commented that Hidroelectrica's healthy 2010 results are probably due to higher production as well as contract renegotiations, which resulted in price increases for some major clients. "The good 2010 results should translate into a significant cash inflow for Fondul Proprietatea, as state-owned

Hidroelectrica is obliged to pay out at least 90% of its 2010 profits as dividends," said Antonela Badea January 6. Fondul Proprietatea, which is managed by London-based Franklin Templeton Investment Management, currently holds a 20% stake in Hidroelectrica.

Meanwhile, in related news, the daily *Ziarul Financiar* reported that Hidroelectrica borrowed €50 million from Banca Comerciala Romana for the upgrade of the hydropower plants on the rivers Olt, Lotru and Danube and applied for EU grants for development of its micro hydropower plants. There are 162 micro hydro plants in the country with an installed capacity of 300 MW. All of them originally belonged to Hidroelectrica, but some 80 have been sold over the past decade.

Outgoing general manager Mihai David, meanwhile, said at the presentation of the company's 2010 results that Hidroelectrica would complete four new hydropower plants with an installed capacity of 406 MW and an estimated average annual output of 853.5 GWh by 2014. The company has so far spent €162.5 million in the four new plants, while another €495.2 million will be needed to complete them. The company operates 326 units with a total installed capacity of over 6,300 MW.

EPGE develops 80-MW wind park

Cyprus-based private power project developer EP Global Energy (EPGE) has secured a grid connection permit and will choose a winner of its tender by the end of January to build a new 80-MW wind farm on the border of the Chirnogeni and Independenta municipalities in eastern Romania, EPGE partner Ioannis Sofianos told Platts January 10.

The project will comprise 32, 2.5-MW N90 Nordex turbines (12 in Chirnogeni and 20 in adjacent Independenta) and is expected to come online in late 2012. After obtaining the technical connection permit (ATR) in November 2009, EPGP signed a grid connection contract with regional power distributor Enel Dobrogea in March 2010 and began grid connection works in May, said Sofianos.

In addition to the Chirnogeni – Independenta project, EPGE is also developing six other wind projects throughout the eastern region of Dobrogea, which have been monitored for wind by Cube since 2007. The

Cobadin, Ciocarlia, Amzacea, Mereni, Topraisar and Negru Voda projects are each planned to have an installed capacity of 100 MW built in two 50-MW phases with an estimated phase one investment of €78 million (excluding financing costs), said Sofianos.

A subsidiary of the Cyprus-based Paraskevaides Group, EPGE will employ engineering and power consultant PowerCorp of Australia, of which EPGE is also a shareholder. Other contractors and consultants affiliated with the Paraskevaides Group which are also involved in the project include construction company Joannou & Paraskevaides, procurement and services company AGS and wind power advisor Cube.

New supply deal for ArcelorMittal

ArcelorMittal Galati, Romania's largest steel producer, has purchased 1.75 TWh of electricity for the coming year from state-owned hydropower producer Hidroelectrica at a price of RON 130 per MWh, according to a January 7 report by Mediafax. The value of the deal is RON 228 million (€53 million). The volume of purchased electricity corresponds to 10% of Hidroelectrica's total expected production this year and 3% of the country's electricity output in 2010.

The deal has been criticized by Franklin Templeton Investment Management, the London-based investment manager of Fondul Proprietatea, which holds a 19.9% stake in the hydro producer. The investment fund manager has expressed its discontent that the power producer has sold a significant share of its production well below the current market price of RON 170/MWh on the OPCOM exchange.

Templeton said that the production should have been sold on the market and that it will take all measures necessary to protect minority shareholder rights in this case. Mihai David, the former CEO of Hidroelectrica, and now board member, stated that the decision to sell power at a below-market rate to ArcelorMittal Galati was taken by the state which wants to support Romania's metal industry.

ABB Romania to build substation

Romania's state power grid operator Transelectrica has awarded ABB Romania a \$24 million turnkey contract for the construction of a substation to link a 700-MW wind farm to the national grid. ABB Romania announced January 6 that it would carry out the design, engineering, supply and commissioning of a 400-kV air-insulated switchgear (AIS) based substation for Transelectrica.

The wind farm is being developed by a consortium led by Austria's Verbund subsidiary Austrian Renewable Power and including its subsidiaries Alpha Wind and CAS Regenerabile, as well as Romanian Beta Wind and Italian Land Power Inergia. The wind farm, which is located in Casimcea in Tulcea County near the Black Sea coast in southeast Romania, is slated to be commissioned in 2012.

CEZ buys micro hydro plants

CEZ Romania, the local subsidiary of the Czech power group, announced January 6 it had finalized the acquisition of a cascade of four small hydropower plants in Caras Severin County near Resita from the Russian group, TMK Hydroenergy Power. The newly acquired company consists of the Crainicel I, Crainicel II, Grebla and Breazova stations with a combined installed capacity of around 18 MW as well as four reservoirs with dams – Trei Ape, Gozna, Valiug and Secu. The value of the transaction was not disclosed but a report by the daily *Ziarul Financiar* estimates the deal at about €30 million, based on a market price of €1.8 million per MW of installed power.

CEZ, which operates a regional electricity distribution grid in Romania and is also finalizing the first stage of its 600-MW wind project, said that the acquisition was in line with its policy to focus on its core business in countries with existing operations and in addition in the area of semi-regulated renewable generation.

Russia

TSO plans \$31bn grid investment

Russia will spend Rb 952.4 billion (\$31 billion) over the five-year period from 2010 to 2014 to improve the country's electricity grid, transmission system operator FSK announced December 17. The TSO said in a statement it planned to invest in the expansion and upgrading of the existing electricity grid, to remove network restrictions, and create network capacity for new power plants.

"We aim to cut over half the number of unconnected generating assets, considerably reduce the possibility of system faults, provide transmission capacity for around 23 GW of newly commissioned power generation and remove technological restrictions to transmission within the system," said Oleg Budargin, chairman of the management board of Federal Grid. The TSO said it would construct 123 new high-voltage lines of between 220-750-kV with a total length of 21,000 km. The investments have been approved by the Russian energy ministry.

OGK-5 upgrades Reftinskaya 5

OGK-5, the wholesale thermal power producer controlled by Italy's Enel, launched late December a full-scale refurbishment of unit 5 of its Reftinskaya GRES plant in Asbest in the central region of Sverdlovsk. The modernization project, which will cost around €120 million, will result in 25 MW of additional capacity and raise the unit's efficiency rate by approximately 3%, Enel said in a statement December 24. It will also produce cleaner power as the project will result in the reduction of the unit's NO_x emissions by 40% and the volume of ash emitted in the air by nearly 95%. The

modernized unit is expected to be recommissioned in the first quarter of 2012.

The modernization will involve the replacement of the existing 300-MW unit with a new 325-MW turbine and generator and the installation of a modern combustion system during the reconstruction of the steam boiler. In addition, an automated control system will be installed, significantly streamlining staff work and increasing the unit's efficiency. In order to reduce the plant's environmental impact, more efficient bag-house filters will be installed at the unit, Enel said. This type of gas treatment plants is widely used in coal-fired power plants, it added. Collected dust emissions will not be released through the chimney, but will be transported along with the ash and slag to the ash-disposal area. This will allow a significant reduction in the atmospheric concentration of ash particulates.

Refurbishment of unit 5 marks the start of the gradual modernization of Reftinskaya GRES, which celebrated its 40th anniversary of operation in early December. Enel OGG-5 plans to reconstruct all the 300-MW units of the first section of the power plant, including the replacement of the main and auxiliary equipment with new, more efficient equipment that meets modern environmental standards.

Reftinskaya GRES is the largest solid fuel-fired thermal power plant in Russia. With an installed capacity of 3,800 MW it represents 40% of the Sverdlovsk region's installed capacity. The power plant is located 80 km from Yekaterinburg and supplies power to the industrial regions of Sverdlovsk, Tyumen, Perm and Chelyabinsk.

Fortum launches new CCGT unit

Fortum announced December 21 the inauguration of a 230-MWe, 293-MWth combined cycle gas turbine (CCGT) unit at its gas-fired Tyumen CHP-1 plant in the city of Tyumen in Western Siberia. "The unit is now undergoing test runs and we expect to begin commercial operation during the first quarter of next year, a company official told Platts, January 11. Power produced by the new unit will be sold to the wholesale market. The new unit, which was built by ZAO Kvarts Novye Tekhnologii, a subsidiary of Kvarts Group, under an EPC contract signed in February 2008, will have energy efficiency of over 85% compared to 60% efficiency at the plant's existing 472-MWe, 1,640-MWth CCGT unit, said Fortum, and CO₂ emissions in the Tyumen area, which is the centre of Russia's gas and oil production, will be reduced by an estimated 400,000 tonnes annually, it added. The new unit features a gas turbine supplied by Italy's Ansaldo, a steam turbine and generator furnished by Silovye Mashiny, a heat recovery steam generator by TKZ and transformers by ABB. The equipment was produced in four countries including 11 Russian cities with the gas turbine delivered from Genoa and steam turbine from St Petersburg.

The exact value of the investment was not disclosed by Fortum but it said that the construction of a unit of

this type and size in Russia costs somewhere around Rb 7 billion (around €170 million).

The new unit will boost Tyumen CHP-1's total electricity production capacity to 702 MW and its heat capacity to 1,993 MW. "It will add new production capacity needed by West Siberia's gas and oil industry and will help us improve the efficiency of our energy production in Tyumen," said Fortum's president and CEO Tapio Kuula.

The Tyumen CHP-1 was commissioned in 1960. Its production capacity was increased to 450 MW in 1972 and in February 2004, it commissioned a new CCGT plant – Russia's first – raising the capacity to 472 MW.

The new CCGT unit is the first of seven new plants planned to be built by the Finnish utility in the Ural and West Siberia regions that will increase its electricity production capacity from approximately 2,800 MW at present to about 5,100 MW by end-2014. Two more units, each with capacity of 225 MWe, will be constructed at the Tyumen CHP-1 plant. They are estimated to be completed in 2014.

In conjunction with the inauguration of the new unit, the first equipment measuring the district heat feed and consumption was installed in Tyumen between the trunk network owned by OAO Fortum and the city's distribution network. Utilizing GPRS-data transfer, it is the first digitalized heat measurement system in Russia. During 2011, 159 similar units will be installed in the city, enabling Fortum to pinpoint heat distribution problem spots and thus reduce heat losses.

GE forms JV with Inter RAO

General Electric said December 27 that it had signed an agreement with Russia's state-controlled power company Inter RAO and state-owned industrial conglomerate Rostekhnologii to create a joint venture to produce, assemble, distribute and maintain industrial gas-fired plants in the Yaroslavl region in Russia. GE will hold a 50% stake in the joint venture, which was registered in the Netherlands last month, while its two Russian counterparts will each hold 25%.

Financial terms of the transactions were not disclosed but Boris Kovalchuk, the chief executive of Inter RAO, was reported as saying that the total amount invested will be around €100 million (\$131.1 million). "This (the amount) does not include technologies. We agreed the technologies will be for free in exchange for guarantees of distribution," Kovalchuk said. GE, whose Russian sales exceeded \$1.6 billion in 2009, is seeking to manufacture high-tech goods locally. In November, GE opened an energy technology centre in Kaluga, near Moscow, which will from this year manufacture and service power generation technology made by GE in Russia and the CIS (*EIEE 202/20*).

Russia plans to invest more than \$80 billion in the next 10 years in building new and upgrading existing power generation facilities and estimates that more than 80 GW of new thermal capacity will be built in the next 20 years, the Ministry of Energy said in a fact sheet distributed before the signing of the tripartite agreement.

Russia prepares capacity market

Russia's power sector is preparing the introduction of a long-term capacity market in 2011 even though it faces a gap of 22.7 GW between demand and the amount of approved capacity within the system, power network administrator SO EES said December 16. "This is not a physical deficit, but rather based on areas where no acceptable bids were submitted under the price cap," SO EES development director Fyodor Opadchii said at a press briefing, adding that approved capacity was over 160 GW.

Last month, SO EES announced a list of approved generators selected to provide capacity in 2011 at set tariffs based on the region the generator is located. Fifty-seven generating companies and 388 power stations on the wholesale market participated in the bidding to provide capacity in 2011, and 48 generating companies and 288 power stations were approved to participate in the system.

"The stations that were not approved either filed bids that were above the price cap, offered volumes that were not needed or had technical issues," said Maxim Rusakov, SO EES's deputy head of competitive pricing, said at the briefing.

Power stations that did not receive approval can sell their power on the market but will not have a guaranteed buyer, Opadchii said, adding that this generation capacity would ensure that there would not be any physical power deficits in Russia.

The tariff, set by Russia's Federal Tariff Service based on the bids received, is Rb118,125/MW (\$3,844/MW) per month for most of the European section of Russia, Rb126,368/MW for Siberia, and Rb123,000/MW in the Central and Urals regions.

The approved generators will be contracted to provide average output at the fixed tariffs in power free-flow zones on a take-or-pay basis, with the average output calculated monthly, which Opadchii said would provide stability and encourage investment in new capacity.

The government identified 29 free-flow zones across the country earlier this year. In April, Prime Minister Vladimir Putin signed a decree setting price ranges for the electricity market that were calculated to allow utilities to recover the costs of new plants.

Norilsk agrees OGK-3 swap

The board of directors of Russian metals giant Norilsk Nickel have agreed to swap the company's 79.2% stake in the wholesale thermal power producer OGK-3 for a minority stake in state-controlled power company Inter RAO in a deal valued at \$2.27 billion, according to a January 11 report in the *Moscow Times*. The nickel producer rejected a rival bid by EuroSibEnerg, the power sector arm of Oleg Deripaska's En+ Group, which had offered to buy the OGK-3 stake for cash, saying that selling the shares "wasn't economically beneficial", the English-speaking daily reported. Further details have not been made public but Norilsk Nickel last year said it had reached an agreement with Inter RAO to swap its stake

in OGK-3 for Inter RAO shares based on which Norilsk would receive a 10-15% stake in Inter RAO.

In late December, Russian business daily *Vedomosti* reported that Inter RAO and EuroSibEnerg had both increased their bids, with EuroSibEnerg said to have increased its bid by \$100 million to \$2.1 billion. Inter RAO also increased its bid, though its higher bid was not made public. Vladimir Potanin, co-owner of Norilsk Nickel, said last October that it valued the genco at around \$2.5-3 billion.

The deal takes place against a backdrop of continued conflict between Norilsk Nickel's two major shareholders – aluminium giant RusAl owned by Deripaska and Interros, owned by Potanin, which each own 25% in the nickel company. The two companies have been battling intermittently since RusAl became a shareholder in 2008. The world's largest aluminium producer lost its parity with Interros on the board of directors at the annual shareholders meeting last June. Last month, RusAl rejected a new bid by Norilsk Nickel to sell its 25% stake for \$12 billion stressing that the stake was "a strategic investment" and that it "has no intention to sell it". In a counter move, Norilsk's board of directors subsequently approved buying back \$4.5 billion of shares over the coming 12 months, which RusAl said was a move "aimed exclusively at the enrichment of one particular shareholder at the expense of all others." Meanwhile, Norilsk Nickel signed an agreement to sell 8% of its shares to Dutch oil trader Trafigura Beheer, a rival of RusAl's shareholder Glencore.

Inter RAO wins export deal

Inter RAO UES has signed a €700 million (\$921 million) agreement with Scaent AB, the Swedish-based electricity trader, for the supply of electricity to Finland, the Russian state-run utility and power exporter said in a regulatory filing December 27. The agreement provides for supplies until the end of 2013, Inter RAO said.

Scaent AB was founded in September 2003 to undertake electricity trading within the Nordic region and to invest in projects related to those activities. Scaent AB's main line of activity is the import of electricity from Russia to Scandinavia and electricity trading in the Nordic power and finance market. It is part of the Scaent Group, a privately held company registered in the Netherlands.

Slovakia

Household prices to rise 4.8%

Slovak household electricity prices will rise on average 4.8% from January 1, Slovakia's energy watchdog announced December 21. The increase is driven by the cost of supporting renewable energy, mainly from solar panels, the Office for Network Industries said.

Costs related to the support rose 527%, while wholesale energy prices and distribution fees dropped, the office said. Slovakia's parliament last year approved legislation to curb incentives for solar energy investors to limit increases in power prices.

E.ON launches Malzenice plant

Siemens Energy announced January 10 it had handed over the Malzenice combined cycle gas turbine power plant near Trnava in western Slovakia to the plant owner-operator, E.ON. The 420-MW plant, which was built by Siemens in 26 months and handed over in late December, is Slovakia's first independent power project.

The project, which was fully developed and equipped by Siemens Energy under a turnkey contract, features the German engineering company's F-class gas turbine technology in a single shaft design including a SGT5-4000F gas turbine, a SST5-5000 steam turbine and the hydrogen-cooled generator of type SGen-2000H. Siemens also supplied the entire electrical hardware as well as a SPPA-T3000 I&C system. The new plant has an efficiency rate of 58%, high on-line versatility, short start-up times and fast load cycling – properties that Siemens said are becoming increasingly important to balance intermittent power supply as a result of the growth of renewable energy, most notably wind.

The plant will also have low nitrogen oxide emissions as a result of the installation of Siemens' ultra-modern burner technology.

Construction of the project, which was launched in October 2008, was carried out by the project development company, E.ON Elektrarne at an estimated cost of €200 million. E.ON Kraftwerke, the company's power generation arm, acquired the rights to develop the project from compatriots Siemens Project Ventures and Advanced Power of Switzerland in March 2006. According to the original plans, first unveiled back in October 2000, the plant is to supply the west Slovak distributor, Zapadoslovenske Energetike Zavody, which is 40%-owned by E.ON Energie, with between 2.5-3 TWh per year.

Turkey

First wind grid access tender

Turkey's state transmission grid operator TEIAS announced January 12 details for the first of a series of planned regional tenders for grid access for new wind power capacity. The tender will take the form of preliminary sealed bids followed by open bidding, to be held at TEIAS headquarters in Ankara at 10am local time on February 15.

The tender is aimed at companies which have applied for licenses for 12 designated regions and transmission lines where the possible maximum installed capacity of wind plant which can be connected via existing transmission lines is less than the volume of license applications, and where multiple license applications have been received for the same sites. Companies will be expected to bid against each other on the basis of the level of discount they are prepared to give on the sale price of electricity based against the guaranteed feed-in tariff of \$0.073/kWh.

The regions and transmission lines covered in the grid access tender were announced as: Dursunbeyli,

Gerkonsan, Germencik, Alasehir Geothermal transmission line, Kaynarca, Kilis, Kusadasi, Milas, Silivri, Soke, Tasucu and Tokat Organized Industrial Zone.

The announcement of the grid access tender follows the passing by the Turkish parliament in late December of a new renewable energy law which fixed new baseline feed-in tariffs for all forms of renewable energy and offered some incremental tariff increases based on the use of locally made equipment in the construction of new plant.

BM Muhendislik blazes trail

Turkish energy and construction group BM Muhendislik is to proceed with the construction of the world's first hybrid geothermal and solar power plant, the company's coordinator Hakan Kazanc told Platts January 11. Kazanc said that the level of feed-in tariffs included in Turkey's new renewable energy law, which was adopted in late December, are sufficient to guarantee the planned plant's viability.

"We hold the rights to a number of geothermal wells in western Turkey which produce water in the range of 70C-80C that we plan to heat to 125C using concentrated solar technology to generate power," he said. BM, he added, was currently working on feasibility studies and hoped to make a decision on the size of the planned plant in about a month.

Kazanc explained that while the basic feed-in tariff of \$0.133/kWh offered by the new law was lower than expected, additional increments to the tariff awarded to projects utilizing Turkish-made equipment would make hybrid geothermal and solar plants financially very viable. According to the new law, geothermal plant utilizing Turkish manufactured equipment will receive tariff increases of between \$0.007 and \$0.027 on top of the basic \$0.133/kWh tariff rate, while concentrated solar plant using Turkish equipment will receive tariff supplements of between US\$0.006 and \$0.092.

Kazanc confirmed that while some of the necessary equipment for the plant is already available locally some may either have to be imported. "We're looking at the possibility of having the solar reflecting mirrors manufactured locally," he said pointing out that the new law offered Turkish manufacturers the chance to start manufacturing equipment for renewable energy plant.

Kazanc also confirmed that BM is planning to commission its first geothermal plant by the end of the year. The plant will have an initial capacity of 15 MW to be later increased to 25 MW, he said.

Akenerji commissions Feka II

Turkish private power producer, Akenerji, announced December 27 the commissioning of the Feka II hydropower plant on the Goksu River in the province of Adana in southeast Turkey. The 70-MW storage plant was built at a cost of \$114 million and is expected to produce average annual output of 223 GWh and result

in the reduction of around 122,205 tons of CO₂. The project involved the construction of a 71 m-high dam, creating a reservoir of about 257 hectares, a 317 m-long headrace tunnel, a 110 m-long, 4 m-diameter, penstock and a transmission line of about 60 km to connect to the national grid.

The company, in which Czech state-controlled power company CEZ and Turkey's Akkok Group both hold 37.5% stakes with the rest of the company's shares floated on the Istanbul bourse, received a 49-year operating license for the project in May 2007.

The Feke II scheme is the first of five hydropower plants that it is developing on the Goksu River at an estimated total cost of \$338 million. The next most advanced is the 30-MW Feke I plant, which is scheduled to be completed by the end of 2011.

Environmental permits have been secured for the 27-MW run-of-river Himmetli project, the 30-MW storage Gokkaya project and the 3-MW run-of-river Saimbeyli scheme though construction work has yet to start on any them. The former two are though scheduled to be completed in 2012.

The five Goksu River projects are being part financed by the International Finance Corporation, which in June 2010 approved a credit of up to \$75 million consisting of a \$65 million A loan and \$10 million C loan for the five projects as well as to support future potential power distribution projects pursued by Akenerji.

BayernLB finances wind farm

The Bavarian state bank, Bayerische Landesbank, announced December 8 that it is providing export financing totalling €26 million to German wind turbine manufacturer Enercon towards the delivery costs of supplying turbines for the 30-MW Seyitali-Aliaga wind farm in the northwestern Turkish province of Izmir. Enercon is supplying 15 of its E-82 turbines with a rated capacity of 2 MW each for the project, which is scheduled to enter service in 2011. The project is being developed by local project company Doruk Enerji, which is owned equally by Demirer Holding and Polat Enerji. The French renewable energy group EDF EN in turn holds a 50% stake in Polat Enerji.

OIB completes further disco sales

Turkey's state asset sales agency completed the sale late December of two more regional electricity distribution companies to local investors. The OIB said December 30 that Calik Enerji had taken over control of the Yesilirmak regional electricity distribution company in northern Turkey while Akxa Elektrik had acquired full ownership of the Firat regional power distributor in the southeast of the country.

Both companies won auctions held last November. Calik Enerji submitted a winning bid of \$441.5 million for 100% of Yesilirmak EDAS, which serves the Black Sea region around Samsun and

Sinop. According to the latest figures available, Yesilirmak EDAS sold 4,446 GWh of electricity to 1.47 million consumers in 2008.

Akxa Elektrik, a subsidiary of Akxa Enerji, submitted the winning bid of \$230.25 million for Firat, which supplies power to consumers in the Malatya region of southeast Turkey. In a disclosure to the Istanbul bourse, Akxa Enerji said that in 2010 Firat had sold 2,400 GWh to 677,000 consumers, worth \$229 million.

The new owners now hold monopoly rights over the operation of distribution infrastructure in their respective service areas for the term of their 25-year licenses and monopoly rights over retail electricity sales until 2015, when third-party sales are permitted.

Calik Elektrik paid 40% of the \$441.5 million price and is seeking financing for three remaining instalments, chief executive Saim Dinc said at a signing ceremony in Ankara December 30. Akxa chairman

Cemil Kazanci said that his company had opted to pay 70% of the purchase price in advance and the remainder in two tranches.

Speaking on Turkey's CNBC-E business TV channel, Kazanci said that Akxa plans to invest Lira 54 million (\$34.8 million) in the distributor mostly in improved technology to help cut grid losses which he said Akxa hoped to reduce by 1.5-2% per year.

Akxa already operates one of Turkey's 21 regional distribution companies – Coruh EDAS – and submitted the winning bids for two others – Vangolu EDAS and Trakya EDAS. Kazanci said that he expects Vangolu EDAS to be transferred to Akxa in February but that he was unsure as to what would happen with Trakya EDAS due to a ruling on the sale by Turkey's competition board, the Rekabet Kurulu, RK.

That ruling stated that the RK had decided to treat Akxa and another company MMEKA which last year submitted winning bids in the sales of three of the country's biggest electricity discos (two of them in partnership with a third company) as being a single entity, due to

MMEKA being co-owned by Cemil Kazanci's brother, Mehmet Kazanci, who retains a 5% stake in Akxa's parent company. As such the RK decided that either Akxa must relinquish its purchase of Trakya EDAS sale or MMEKA must relinquish one of its purchases. Under Turkey's electricity market law, governed by the state energy regulator the EPDK no single company may hold more than 20% of the national distribution market by volume of power distributed. EPDK regulations on cross ownership are however, unclear and it is not known whether the EPDK will follow the RK by blocking one or more of the sales.

Meanwhile, the energy market regulator announced December 30 that it had approved investment plans for the newly privatized distributors. The pace of investments in distribution will double under the new owners, Energy Minister Taner Yildiz said. The owners of the nine distributors thus far privatized will invest a total of Lira 8.5 billion (\$5.5 billion) over the next five years, including Lira 1.7 billion in 2011, said Hasan Koktas, head of the regulatory agency.

Forthcoming conferences

European Gas Conference 2011

January 25-28, 2011
Vienna, Austria
Organizer: The Energy Exchange
Contact: z.nathan@theenergyexchange.co.uk
Tel.: 00 44 (0)207 067 1800
www.europeangas-conference.com/659/

5th Annual Central and Eastern European Power

January 27-28, 2011
Prague, Czech Republic
Organizer: Platts
Tel.: 00 44 (0)207 176 6226
Email: stacey_knox@platts.com
www.ceepower.platts.com

5th Annual European Gas Storage

January 31 – February 1, 2011
Budapest, Hungary
Organizer: Platts
Tel.: 00 44 (0)207 176 6226
Email: stacey_knox@platts.com
www.platts.com/conference

Russia Offshore 2011, 6th annual meeting

February 15-18, 2011
Moscow, Russia
Organizer: The Energy Exchange
Tel.: 00 44 (0)207 067 1800/1836
Email: marketing@theenergyexchange.co.uk
www.russianshelf.com

5th Annual European Carbon Capture & Storage

February 17-18, 2011
London, UK
Organizer: Platts
Tel.: 00 44 (0)207 176 6226
Email: stacey_knox@platts.com
www.platts.com/conference

The 2nd Annual Ukrainian Energy Forum

March 1-3, 2011
Kiev, Ukraine
Organizer: Adam Smith Conferences
Contact: Stephen Butler,
stephen@adamsmithconferences.com
Email: events@adamsmithconferences.com
Tel.: 00 44 (0)207 017 7444/50
www.adamsmithconferences.com/er8bnee

EWEA 2011

March 14-17, 2011
Brussels, Belgium
Organizer: European Wind Energy Association
Tel.: 00 32 2 213 18 00
Email: events@ewea.org
www.ewec2011.info

PWEA 2011

April 12-14, 2011
Warsaw, Poland
Organizer: Polish Wind Energy Association
Tel.: 00 48 91 48 62 539
Email: biuro@psew.pl
www.conference2011.pwea.pl/

EE & RES 2011

April 13-15, 2011
Sofia, Bulgaria
Organizer: Via Expo
Tel.: 00 359 32/945459, 960011, 960012
Contact: office@viaexpo.com
www.viaexpo.com

Windpower in the Nordic & Baltic region

April 14-15, 2011
Copenhagen, Denmark
Organizer: Energyforum
Contact: karin@energyforum.com
Tel.: 00 46 722 96 55 07
www.energyforum.com

10th ERRA Energy Investment & Regulation Conference

May 16-17, 2011
St. Petersburg, Russia
Organizer: Energy Regulators Regional Association
Contact: Evnika Polovinkina
Tel.: 00 36 1 477 0456
Email: secretariat@erranet.org
www.erranet.org/InvestmentConferences/2011

11th Annual CIS Oil & Gas Summit

May 25-27, 2011
Paris, France
Organizer: The Energy Exchange
Contact: Evnika Polovinkina
Tel.: 00 44 (0)207 067 1800/1836
Email: e.polovinkina@theenergyexchange.co.uk
www.theenergyexchange.co.uk/3/

5th Coaltrans Russia and the CIS

July 6-7, 2011
Moscow, Russia
Organizer: Coaltrans Conferences
Contact: coaltrans@euromoneyplc.com
www.coaltrans.com

Hydro 2011

October 17-19, 2011
Prague, Czech Republic
Organizer: Aquamedia International
Contact: Margaret Bourke, mb@hydropower-dams.com
Tel.: 00 44 (0)208 773 7244
www.hydropower-dams.com

Prompt prices collapse after seasonal highs

Czech and Polish prompt power prices rose to their highest levels of 2010 in December amid freezing temperatures and lower than average wind power generation in Germany. However, prices fell precipitously in the final 10 days of the year as industrial production wound down ahead of the festive period.

Czech day-ahead baseload touched on a 2010 high on December 14 at €71.50/MWh, before plummeting to a year low on December 31 at €24.75/MWh.

Czech day-ahead prices have picked up since the start of 2011, but are still trading well below their 30-day moving average at 52/MWh on January 10.

The front-month baseload contract in December had a solid start to the month as much colder than average temperatures increased speculation that demand will remain elevated through January.

Czech January baseload power rose about €5 to €54.65/MWh by December 6 as prices for coal and gas increased markedly, but declined to €50.65/MWh by December 15 as excess hydro levels in the Balkans kept the region well supplied. The retracement was short lived, however, as January baseload prices retested the €54/MWh level in the final few days of December.

The Czech Cal 11 contract continued to find upside momentum during December after prices bottomed out in early November. Cal 11 baseload rose about €2.50 on the month to €50.50/MWh, while the equivalent peak contract gained €3 to €63.50/MWh by December 31.

In Poland, price action on the day-ahead market on POLPX was similar to that of its Czech neighbor.

Day-ahead prices surged to Zloty 271/MWh (€69.50/MWh) on the exchange by December 7 due to colder temperatures, but then fell dramatically towards the end of the month as power demand waned.

The front-month baseload contract traded in a 2 Zloty range for most of December as trading activity abated, but did see a minor breakout to the upside after Christmas to Zloty 207.50/MWh (€53.21/MWh).

Polish cal 11 traded in a similar tight range, starting the month at Zloty 194/MWh (€49.75/MWh) and closing ahead of delivery at about Zloty 195.25/MWh.

Since the start of the new year, both front-quarter and front-cal in the Czech Republic have traded at a discount to Poland.

Czech day-ahead baseload



Source: Platts

Polish week-ahead baseload



Source: Platts

Czech vs Polish month-ahead baseload



Source: Platts

Czech vs Polish year-ahead baseload



Source: Platts

Day-ahead trade on the Czech Power Exchange, December 14, 2010 – January 13, 2011



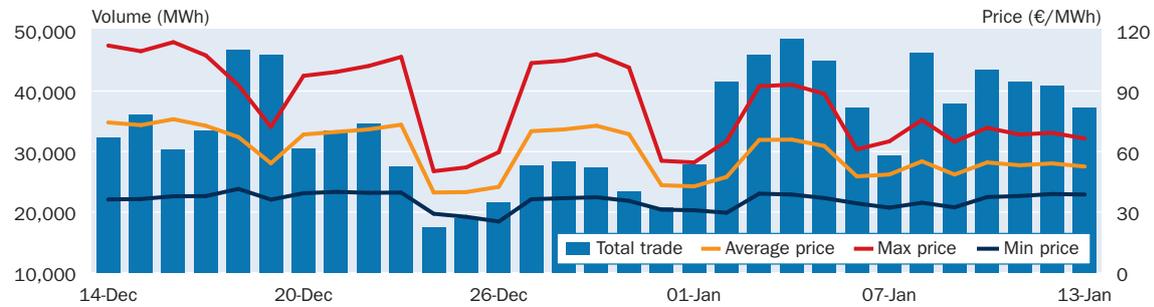
Source: OTE

Romanian day-ahead market, December 14, 2010 – January 13, 2011



Source: OPCOM

Day-ahead trade on the Polish Power Exchange, December 14, 2010 – January 13, 2011



Source: Platts

Western Russian wholesale power market, December 14, 2010 – January 13, 2011



Source: Trading System Administrator

OIL & GAS NEWS

Albania

Bankers raises 2011 capex

Canadian-based oil and gas exploration and production company Bankers Petroleum announced December 16 it would increase its capital expenditure in 2011 by 40% year-on-year to \$215 million to expand oil production in Albania.

Bankers said its capex program would focus on the producing Patos Marinza heavy oil field as well as development of the Kucova oil field and the newly acquired block F acreage.

Bankers said it expects to fully fund its 2011 capex from funds generated from operations, supplemented with a portion of its cash resources. Bankers have been steadily increasing capex. In 2009 it spent \$40 million, while this year it expects to spend \$150 million. Earlier this year, it said its capex in 2011 would be \$160-200 million.

At Patos Marinza, which Bankers Petroleum has operated since July 2004, when it took it over the field from a consortium of three international companies, it intends to drill 60 production wells in 2011, with average output of 135 b/d, indicating an additional 8,100 b/d of production.

It also plans to reactivate some 60-70 wells to stem natural decline in production at the field. Crude production has risen from 700 b/d in 2004 to current output of 11,400 b/d and by the end of 2014 the company hopes to increase it to 40,000 b/d.

At Kucova, the company plans to begin field activity in the first quarter having received approval from the Albanian government for its development program in November 2010.

"Field activity is set to commence in the first quarter and will include conversion of one well to water injection with 3 to 4 wells re-equipped for a production test to commence the waterflood pilot in a small group of wells," Bankers said.

At block F, geophysical data reprocessing and interpretation is continuing, it said. It anticipates drilling two exploration wells on the block during 2011 with the first test well projected to spud early in the third quarter.

Meanwhile, the company said December 16 that it had been able to fully restore all shut-in production at the Patos-Marinza oilfield due to flooding and that the one drilling rig which was temporarily offline due to flood damage, is now back into operation.

On December 4 the banks of the Semani River, which crosses the northern half of the Patos-Marinza field, were breached by high water levels due to heavy rainfall, caused Bankers to shut in 1,800 b/d of production and shut down operations of three workover rigs and one drilling rig.

Bulgaria

DKEVR cuts Q1 gas price by 5%

Bulgaria's State Commission for Energy and Water Regulation, DKEVR, approved December 27 a cut in natural gas prices of 5% for the first quarter of this year. The decision taken at a closed meeting of the regulatory watchdog follows a December 10 call by the country's state-owned gas monopoly Bulgargaz to decrease retail gas prices in the first quarter of 2011 by 1.78% as a result of a combination of world prices, the Lev-US dollar exchange rate, and the recent deals signed with Russian gas suppliers and with Melrose Resources, an UK company extracting natural gas off the Black Sea coast.

Bulgargaz said in a separate statement issued December 28 that as a result of the DKEVR's ruling the marginal price that it shall charge end suppliers and consumers connected to the gas transmission network will be Lev 509.38 per 1,000 cubic metres and Lev 517.10 per 1,000 cubic metres for consumers connected to the low-pressure networks owned by Bulgartransgaz. The prices are exclusive of VAT. The regulator had earlier approved Bulgargaz's transmission fee for the first quarter of Lev 19.73 per 1,000 cubic metres, VAT excluded.

As a result, the price of central heating will drop an average of 5.71% from January 1. The price reduction of heating and hot water is 5.1% in Sofia, 5.2% in the cities of Plovdiv and Burgas, and 5.7% in Pleven. Consumers in the cities of Varna, Vratsa, Veliko Tarnovo and Kazanlak will pay 5.1%, 5.4%, 4.6% and 5.5% less, respectively.

IGI Poseidon to build Bulgarian spur

IGI Poseidon, the joint venture between Italy's Edison and Greek state gas company DEPA that plans to build a Caspian-Europe gas pipeline, has set up a company that will build and operate a spur line to Bulgaria.

Interconnector Greece Bulgaria will be responsible for construction and management of the 168 km-long pipeline that will connect Komotini in Greece and Stara Zagora in Bulgaria, Edison said in a statement December 29. Edison said that Interconnector Greece Bulgaria will soon launch a tender for detailed engineering of the pipeline and apply for environmental impact assessment approval. The setting up of the company follows the signing November 30 of an agreement between Edison, DEPA and Bulgarian Energy Holding. The project will be part financed with a grant of €45 million by the European Commission under the European Energy Plan of Recovery.

Both IGI Poseidon and Interconnector Greece Bulgaria are parts of the larger ITGI Turkey-Greece-Italy Interconnection pipeline project. The project also includes the Interconnection Turkey-Greece (ITG), completed in 2007, with a maximum transmission capacity of about 11.5 billion cubic meters of gas a year; and the Turkish national gas pipeline network, which will be expanded in order to accommodate the volumes intended for Greece and Italy. Interconnection Greece-

Italy (IGI), of which IGI Poseidon is the offshore section, is under construction, and will have capacity to transport 10 Bcm of gas per year. The IGI pipeline will be approximately 800 km long.

The subsea section, IGI Poseidon, will be 200 km offshore, running between the Greek coast and Puglia, on the heel of Italy. The onshore part, which crosses Greece, will be 600 km long. The joint venture IGI Poseidon will build the offshore part and Greek gas grid operator DESFA, a DEPA subsidiary, will be responsible for the land-based part. The whole ITGI project was recognized by the EU as a project of European interest for the development of the Southern Corridor of the European Recovery Plan. It was allocated an EU grant of €100 million.

Central Asia

Petrofac advances at South Yoloten

UK-based Petrofac said December 22 it had completed the first phase of a service contract for the giant South Yoloten gas field in Turkmenistan and has started work on the \$3.4 billion second phase.

Under the terms of the second-phase agreement, expected to require about two-and-a-half years, Petrofac will provide engineering, procurement and commissioning work on a lump-sum basis for a 10 billion cubic meter/year gas processing plant, as well as infrastructure and pipelines for the entire 20 Bcm/year South Yoloten field development. When complete, the South Yoloten field, located around 400 km southeast of the Turkmen capital Ashgabat, is expected to export 20 Bcm/year of gas from total output of around 30 Bcm.

The feed gas from the South Yoloten field contains up to 6% hydrogen sulfide and the Petrofac development will include gas treatment and sulfur handling facilities, as well as other infrastructure.

In December 2009, Petrofac said it had signed a service contract with Turkmenistan's state-owned Turkmengeaz to develop the South Yoloten gas field, with the first phase requiring the company to complete a front-end engineering and design study for the project together with initial planning and set-up studies.

Last October, the Turkmen government said it believed South Yoloten could hold more than 21 trillion cu m of gas resources, an increase on previous estimates, after an assessment carried out by state company Turkmengeologiya. UK company Gaffney, Cline and Associates in 2008 evaluated gas reserves at the field complex at 4-14 Tcm.

Since then, Turkmen geologists have carried out additional 3-D seismic surveys and drilled a series of new deep wells that resulted in "more reliable geological" data, the government said.

The development of South Yoloten will enable Turkmenistan to diversify further its gas export options. It already exports gas via pipeline to Russia, China and Iran, but it is also planning to send gas via the Turkmenistan-Afghanistan-Pakistan-India pipeline, as well as studying the possibility of sending gas to Europe.

Central Europe

EnQuest buys stake in Ascent

UK-listed EnQuest is to take a 22.5% stake in Eastern Europe-focused oil and gas explorer Ascent Resources in return for its 49% interest in the Petisovci project in Slovenia, Ascent said December 21. EnQuest, created last year from the UK North Sea assets of Sweden's Lundin Petroleum and the UK's Petrofac, also has a "nil cost" option to take additional shares in Ascent.

"The option will potentially allow EnQuest to benefit from the future success of the project; however should the interest in the deep reservoirs of the Petisovci license be relinquished, the option lapses without recourse," Ascent said. Despite disposing of its stake in the Slovenian project, EnQuest will provide technical support to Ascent at Petisovci, as well as evaluate future European business development opportunities. "This transaction is an excellent outcome for Ascent shareholders, as we have increased our interest in this core field and will now retain a 75% interest in this Slovenian license for our shareholders," Ascent Managing Director Jeremy Eng said in a statement.

Ascent expects imminently to drill the Pg-11 well, the first well to be drilled into the core field area at Petisovci in 30 years. In October, Ascent said the Petisovci projects, together with the neighboring Lovaszi license, could hold as much as 834 Bcf of gas. Petisovci/Lovaszi covers about 200 sq km, and Ascent says it has the potential to be the largest asset in the company's portfolio.

Croatia

Eni wins gas supply deal

Italy's Eni has begun supplying gas to Croatia under a new supply agreement signed December 15. Prirodni Plin, the gas supply arm of Croatia's INA Group, which is controlled by Hungary's MOL, said December 16 that it had signed a three-year contract with Eni to import up to 750 million cubic meters per year of natural gas with effect from January 1, 2011. As a result of the agreement, ENI has replaced Russia's Gazprom as the sole importer of gas to Croatia from 2011. Gazprom's contract with INA for the supply of up to 1.2 billion cubic metres per annum expired on December 31, 2010.

INA stated that it had managed to negotiate greater flexibility in volumes and the timing of gas deliveries and more favourable prices, while having the possibility of using two supply routes from the direction of Slovenia and the Croatian-Hungarian interconnector, which is expected to put into operation in the "near future".

"Despite some issues related to the future of the company's gas business, INA has been continuing to take every necessary measure in order to ensure stable and uninterrupted gas supply to Croatia during the heating season," INA President Zoltan Aldott said in a statement. "In light of that, INA concluded a supply contract with the best possible terms available on the

market. Selecting Eni as a reliable and credible company proves our success in ensuring security of supply for the Croatian citizens and industry," he said.

Croatia's gas demand is around 3 billion cubic metres per year, with some 60% covered by INA's own gas production.

The government of Croatia was due to buy INA's loss-making gas business by the end of last year in line with the terms of an agreement signed by MOL and the Croatian government in January 2009 as part of a process that saw MOL take operational control of the company. INA sells gas to Croatian consumers at regulated low prices, which has contributed to INA's financial woes in recent years.

MOL seeks INA trading probe

Hungarian oil and gas major MOL said December 29 it had asked the Croatian authorities to investigate whether market players may have acted in concert to purchase shares in Croatia's INA during the first week of MOL's offer period to buy out the company's 8% stake in free float. "[MOL] filed on December 29 a proposal to Croatian Competition Agency AZTN to initiate proceedings for establishing whether a prohibited agreement, in form of concerted action within the meaning of the Croatian Competition Act, has been entered into with regard to purchases of INA shares on the Zagreb Stock Exchange between December 14 and 20, 2010," MOL said.

MOL owns a controlling 47.2% stake in oil and gas company INA, while the Croatian government holds 44.8%. MOL said on December 2 that it would launch an offer to buy out the remaining 8% in INA that is traded publicly at a price of Kuna 2,800/share (\$505/share). That price, which contained a 60% premium to the prevailing market price, valued the offer at \$400 million. The price of INA shares on the Zagreb bourse jumped when the offer period officially opened on December 14. This prompted charges – denied by all parties – that the government might be enlisting the help of "white knights" to prevent MOL from gaining a majority in INA. The Croatian government has previously claimed that it was not informed of the pending offer for INA, while concerns were raised in Croatia over the possibility of MOL upping its INA stake to more than 50%.

MOL's offer to minority shareholders – mostly employees and former employees of INA, as well as private individuals who acquired shares during INA's initial public offer – is open through January 14.

INA makes discovery

Croatia's INA reported January 7 a small oil and gas discovery close to its existing onshore Zutica field. Measurements at the depth of

over 2,000 meters indicated a flow of 30 cubic meters of oil per day and over 30,000 cubic meters of natural gas per day (180 boe/d), it said. INA, majority owned by Hungary's MOL, said more analysis of the

results from its Selec-1 exploration well would enable a "more precise appraisal of the new reservoir and estimation of the commercial reserve base, after which a reservoir study will be prepared." As the Selec-1 well is near existing fields and infrastructure, bringing the field on stream would be relatively straight forward, it said in a statement.

Hungary

Budapest's energy policy under fire

EU gas industry association Eurogas has criticized Hungary's energy regulation. A letter from its president, Jean-Francois Cirelli, sent December 16 to the European Commission's Energy Commissioner Gunther Oettinger said "harsh measures" made by the Hungarian government against energy sector players were restricting investment.

"Tough and unfair decisions have been implemented at regulatory and political level, having detrimental consequences on the energy operators active in these countries," Cirelli said in the letter. "The situation, if it is to remain as it is, will hamper investments...especially in a context where the local regulatory bodies took restrictive measures orientated explicitly towards other European countries," Cirelli said. Cirelli said that Hungary's implementation of internal market legislation was "inappropriate" and called for the European Commission to examine this and the transparency of Hungary's energy regulator.

Cirelli also highlighted Romania and Slovakia as presenting similar difficulties for the gas industry. He said that Eurogas was "very concerned" about the impact of misinterpreted regulation in these countries for security of gas supply. Letters were sent to the prime minister of Hungary and Slovakia and to the Romanian president.

Hungary's government said in November that it was looking to extend emergency taxes levied on the country's energy sector beyond their original expiry date of 2012. In mid-October, Hungary's parliament adopted a revenue-based 1.05% "crisis tax" to be paid by the country's energy companies in 2010, 2011 and 2012, as part of a wider effort to narrow fiscal deficits. While government officials said at the time that the tax would expire at the end of 2012, a supplement to next year's draft budget reveals that the state expects revenues of Forint 85.5 billion (\$425 million) in both 2013 and 2014 from "crisis taxes", which also involve the retail and telecom sectors, compared with around Forint 160 billion annually in 2010-12.

Emfesz' gas license revoked

The Hungarian Energy Office (MEH) has suspended the trading license of Emfesz, one of Hungary's largest natural gas traders, for 90 days because the company has become unable to buy gas and serve its customers

due to payment problems. "The Office is suspending the natural gas trading license of Emfesz Kft for 90 days starting January 13," the MEH said in a statement January 5. "The transmission system operator has suspended Emfesz' pipeline connection, which makes it impossible for [Emfesz] to supply its customers," it said.

Emfesz currently has a 20% market share among large industrial gas consumers, and has market shares of close to 10% in other segments as well, serving 300,000 households, 300 local governments, 1,100 public institutions and 6,000 small and medium-size enterprises.

Emfesz, owned by Russian-backed Swiss entity RosGas, has said that some of its financial problems are due to late payments by customers. The company, which captured a large segment of the household market by offering an 8% discount over regulated prices, said in a statement it is cooperating with the MEH, and is doing its best to settle debts so that it can resume service during the first quarter of the year.

In the meantime, Emfesz consumers will be automatically switched to a provider appointed by the MEH. While supplies will be continuous, customers will likely have to pay regulated prices for gas, meaning that many of them will lose the price discounts offered by Emfesz.

Poland

PGNiG interested in RUE gas

PGNiG, Poland's dominant natural gas supplier, is interested in buying gas from Ukrainian trader, RosUkrEnerg (RUE), the company's chief executive, Michal Szubski, said January 5. "We're still waiting for RUE to physically receive this gas. When they do we would be interested in receiving a part of those supplies, but only if RUE gives us a good price," Szubski told *Dziennik Gazeta Prawna*. The daily said PGNiG could buy several hundred million cubic meters of gas a year from RUE without giving further details.

In November RUE signed a package of agreements with Ukrainian state gas company, Naftogaz, and Russia's Gazprom regulating their gas debts which followed a June ruling by the Stockholm arbitration tribunal. Under the agreements Naftogaz will return 12.1 billion cubic meters of gas to RUE. In return RUE, which is owned by Gazprom and Centrogas, which is in turn managed by Ukrainian businessmen, Dmitry Firtash and Ivan Fursin, will pay back its debt of \$1.7 billion to Naftogaz and \$810 million to Gazprom. Naftogaz took control of RUE's gas in January 2009 when the trader was eliminated as an intermediary following the settlement of the Ukraine-Russian gas pricing dispute. RUE signed a contract to supply PGNiG with 2.3 Bcm/year of gas in 2006 but it was unable to fulfil its contract in January 2009 following the dispute, causing PGNiG to start talks with Gazprom about amending their contract to make up the shortfall.

The new contract with Gazprom signed in October increases Russian gas supplies to Poland from around 8 Bcm per year to 10.24 Bcm per year by 2012. Poland

consumes around 14 Bcm per year of gas, of which 4 Bcm per year is produced domestically. PGNiG also receives around 0.8-0.9 Bcm per year from Germany via its interconnector at Lasow.

LNG terminal link approved

Poland's state-owned natural gas transmission system operator, Gaz-System, said December 29 that local authorities had approved the connection of the country's planned LNG terminal to the gas network.

The company said in a statement that Marcin Zydorowicz, the local leader of the Western Pomerania province, had approved the route for the 80-km, 800 mm-diameter pipeline, which will connect the terminal in the port of Swinoujscie to the city of Szczecin in northwest Poland. The pipeline is scheduled to become operational in 2013.

Poland is set to receive its first LNG imports from Qatar at the terminal from July 2014. The pipeline will be partly funded from the European Commission's 'European Energy Plan for Recovery' program.

Gaz-System has also said the pipeline would allow gas from the terminal to flow to Scandinavian countries if the Polish network is connected to the Danish network via the Baltic Pipe project, which would involve a 230 km line below the Baltic Sea between Redvig in Denmark and Niechorze in northwest Poland, close to Swinoujscie. The project is currently shelved but Poland would like to revive it.

In June 2009 Poland signed a \$550 million, 20-year agreement with Qatargas to supply 1.5 Bcm/yr of gas to the terminal. Poland plans to buy an additional 1 Bcm/yr from other suppliers and on the spot market. The terminal will reduce Poland's dependency on Russian gas, which accounts for more than 90% of the country's gas imports and around two third of its 14 Bcm per year consumption.

A consortium led by Italy's Saipem won the contract to build the terminal, which will be capable of docking Q Flex tankers, in July. The terminal will have a capacity to import 5 Bcm/year of gas once it starts operations at the end of June 2014, although there are plans to expand that to 7.5 Bcm per year by 2018 depending on demand.

URE lowers Q1 gas prices

Poland's energy regulator, URE, has cut the price of gas in the first quarter of 2011 by an average of 3.2%, according to a December 16 statement by the country's dominant natural gas supplier, PGNiG.

The new tariff, which took effect on January 1 and expires at the end of March, will translate into an average 2.3% fall in household gas bills, PGNiG said. Based on a new tariff adjustment rate, the new gas price stands at Zloty 984 per 1,000 cubic metres (\$328.5), which, according to estimates by Budapest-based KBC Securities, is close to the import prices for natural gas. The company had applied for a cut in the gas price based

on a discount it received under its recently signed gas deal with Russia and on November macro trends including the strengthening of the Zloty against the US Dollar and weak gas spot prices. PGNiG said the lower tariff would not negatively impact its financial results but Olena Kyrylenko, senior analyst at KBC Securities, said December 17 that the situation has changed in the last weeks as gas prices have started to rise again and the greenback has strengthened against European currencies. "Therefore, we believe that already in the second quarter of 2011, PGNiG might again suffer from the growing gap between import and domestic prices," she said.

Under the contract with Russia, which was signed late October, PGNiG is entitled to a discount on 15% of the Russian gas it receives.

PGNiG agreed to increase the volume of gas imports from Gazprom from around 8 billion cubic meters per year to 10.24 Bcm per year by 2012. PGNiG has said it can take advantage of a preferential pricing scheme until 2014, which would bring savings estimated between \$200-250 million. The estimated average annual value of the contract is Zloty 8.5 billion (\$2.8 billion). PGNiG pays a market price for the Russian gas but is forced to sell it at a reduced price set by URE.

Gas demand to rise 20% by 2016

Poland expects its natural gas consumption to increase by 20% over the next five years as more gas-fired power stations come online, Deputy Treasury Minister Mikolaj Budzanowski said December 27.

"The gas consumption balance in Poland will change by 2016. We will consume around 20% more than we do currently, mainly due to the construction of new gas-fired power plants," Budzanowski told the daily *Dziennik Gazeta Prawna*. Poland currently consumes around 14 billion cubic meters per year of gas. More than 8 Bcm per year is imported from Russia and the figure is set to rise to 10.24 Bcm by 2012 after the two sides signed a new supply deal in October. The bulk of the remainder, around 4 Bcm per year, is produced locally.

Domestic production of conventional gas is not expected to rise although foreign oil companies including ExxonMobil, ConocoPhillips and Chevron are exploring the country's shale gas potential.

Poland currently produces more than 90% of its electricity from coal-fired power plants. Several companies are planning to build gas-fired power plants because of the difficulty raising financing for coal-fired plants and because of the uncertain cost of complying with the EU's climate change regulations after 2013.

PGNiG plans CNG terminal

Poland's state-controlled gas company, PGNiG, plans to start building a compressed natural gas (CNG) terminal near Gdansk to receive Norwegian gas shipments in two years time, Michal Szubski, the company's chief executive, said December 30.

Szubski told the daily *Dziennik Gazeta Prawna* that the company is thinking of building the terminal in Puck Bay on Poland's Baltic Sea coast. It would have a capacity to import between 0.5 – 1 billion cubic meters of gas per year. The terminal, to be completed in 2014, would cost an estimated Zloty 800 million (\$267 million) and would supply gas to Gdansk, Sopot and Gdynia.

PGNiG expects to start production in its Skarv concession in the Norwegian Continental Shelf in the second half of 2011. Skarv has estimated reserves of 42.1 Bcm of gas, 16.5 million cubic meters of oil and 5.5 million mt of NGL. Skarv will produce an estimated 0.4 million mt of crude and 0.5 Bcm of gas annually, PGNiG has said.

EU funding for gas storage

Poland's dominant gas supplier, PGNiG, signed December 22 agreements securing Zloty 116.6 million (\$38.9 million) in funding from the European Union to enlarge its underground storage capacity. PGNiG said it had signed the financing agreement with the state Oil & Gas Institute which receives the EU funding.

PGNiG said it would receive Zloty 93.5 million in EU funds to help build a new 250 million cubic meter capacity facility in Kosakowo near Gdansk, north Poland. The total cost of the project, which is scheduled for completion in 2020, is Zloty 667 million.

The company will also receive Zloty 23.1 million to enlarge its existing Mogilno facility from 370 million cubic meters to 535 million cubic meters. The project will cost a total of Zloty 220.4 million and the first stage of the development is scheduled to be complete in 2014, PGNiG said in a statement.

In early December PGNiG secured Zloty 53.2 million (\$17.7 million) in EU financing to enlarge its Strachocina facility from 150 million cubic meters to 330 million cubic meters (*EIEE 204-205/35*). The project to be completed this year will cost Zloty 494 million.

In October the company secured EU financing worth Zloty 503.6 million to enlarge the storage capacity of its Wierzchowice facility from 0.575 billion cubic meters to 1.2 Bcm.

Once all the projects are completed in 2015, PGNiG will have increased the country's storage capacity from 1.66 billion cubic meters to 2.6 Bcm. The EC said the enlargement would bring Poland closer to the current EU reserve capacity average of 14% of annual demand. Poland's average annual demand is around 14 Bcm.

In June the European Commission authorized 4390 million in grants to Poland for the expansion of its underground gas storage facilities as part of the EC's demand that the country open up its storage facilities to all competitors on the Polish market. Currently all of the country's storage capacity of 1.66 Bcm is used by PGNiG, and under Polish law, companies are only allowed to sell gas in Poland if they store a certain amount in the country. In July, the EC warned Poland it would refer it to the European Court of Justice for violation of EU rules on the internal gas market.

Refiners sign fuel supply deals

Poland's two major refiners have both signed a series of new fuel supply contracts for 2011. The country's largest refiner, PKN Orlen, said January 5 it had signed two deals worth Zloty 2.38 billion (\$809 million) to supply gasoline and diesel to Lukoil and Statoil's network of filling stations in Poland in 2011. In market filings, PKN Orlen said the contract with Lukoil is worth Zloty 1.6 billion and takes the combined value of contracts between PKN and companies belonging to the Lukoil group in the last 12 months to Zloty 2.79 billion. PKN said the 2011 contract with Statoil was worth Zloty 783 million. The total value of contracts between PKN and companies from the Statoil group in the past year was Zloty 2.01 billion.

Meanwhile, the second largest refiner, Grupa Lotos, said January 10 it had signed a Zloty 1.7 billion (\$570 million) deal to supply fuel to BP's network of filling stations in Poland in 2011. The contract is smaller than the Zloty 2.4 billion deal agreed between the companies in 2010. The Gdansk-based company also announced

December 29 it had agreed a Zloty 4 billion (\$1.3 billion) deal to supply fuel to Shell's network of filling stations in Poland in 2011. The one-year contract follows the signing last year of a Zloty 930 million supply deal between the two companies. PKN Orlen supplied Shell last year under a Zloty 3.2 billion supply deal.

PGNiG produces at Kupno

PGNiG has launched production at its Kupno gas field in southeast Poland. Poland's largest gas producer and supplier said January 10 the field in Podkarpackie province will produce around 35 million cubic meters of gas a year and that it expects to exploit the field for 15 years. PGNiG said it had invested Zloty 65 million (\$21.8 million) in the field and accompanying gas collection centre.

PGNiG produces around 4.1 Bcm per year of natural gas from its fields near Sanok in southeast Poland and near Zielona Gora in west Poland. Poland's annual gas consumption currently stands at around 14 Bcm.

PKN unveils exploration plans

Poland's largest refiner, PKN Orlen, said January 9 it plans to spend Zloty 420 million (\$141 million) over the next three years on oil and gas exploration. Wieslaw Prugar, the head of Orlen Upstream told the state news agency PAP the company has four projects, three domestic and one in the Baltic Sea off the Latvian coast. "Orlen Upstream and Kuwait Energy Company hold 90% in two exploration and production concessions. The remaining 10% belongs to the Latvian government," Prugar said. He added the companies plan to drill their first exploration well in the Latvian shelf at the turn of the year.

Prugar said two exploration wells were planned this year at the Wronki concession in Wielkopolskie province,

western Poland, which contains an estimated 26 million barrels of oil. PKN Orlen has a 49% stake in the concession together with Poland's dominant gas producer, PGNiG. He said production in the concession could start in 2016.

Prugar said the company also has five concessions, totalling 4,700 square km, searching both for conventional oil and gas as well as shale gas in Lubelskie province in southeastern Poland. "We've been carrying out geological analysis there since the autumn of 2007 and it has allowed us to select several prospective sites where oil and gas may be found, including shale gas," he said. "The first conclusions and recommendations as to further shale gas exploration should be known in the middle of the year," he added. Orlen Upstream is planning to drill six shale gas wells in the region in 2011-2013.

PKN Orlen, which owns a 14 million mt/year refinery in Plock, central Poland, currently imports all of its feedstock, mainly from Russia. It has stepped up its downstream activities in the last two years.

Aurelian finds gas in Siekierki

UK-listed upstream company Aurelian Oil and Gas announced December 23 it had found an "extensive section" of tight gas with an exploration well at the Siekierki tight gas project in Poland. Siekierki is Aurelian's flagship project among a number of conventional and unconventional oil and gas plays in Eastern Europe. The company believes Siekierki, which is located on the company's Poznan licences near the city of Poznan in western Poland, could hold up to 346 Bcf of gas resources. The licences are 100% held by Energia Zachod, a company 90% owned by Aurelian and 10% by Avobone.

Aurelian said that the Trzek-2 well encountered a total of 1,378 meters of Rotliegendes gas in 1,417 meters drilled with porosities up to 15%. Although not yet flow tested, variations in gas shows and drilling rates were encountered throughout the sand and these are thought to indicate the occurrence of potential "sweet spots".

Aurelian now plans to carry out up to 10 fracture stimulations and flow testing at the well, though these will be delayed by bad weather in Poland. "This delay means that the flow test will not commence until mid/late January. Notwithstanding this delay, it is expected that the cost of Trzek-2 will still be within the budget of €18.2 million (\$23.8 million)," the company said. "Successfully completing the horizontal section and encountering such an extensive section of gas is a very good outcome in this first well in our Siekierki tight gas project," CEO Rowen Bainbridge said in a statement. "While the severe weather in Poland will delay the results of the flow test for approximately four weeks, we are nonetheless very pleased to be in a position to be able to finish this first well on budget," he said.

Aurelian said that the rig used for Trzek-2 is now being demobilized to move it to the Trzek-3 well-site with

a view to spudding the second Siekierki multi fraced horizontal well in early January.

Aurelian said work on the development of the pilot plant and flow lines of the Siekierki gas processing facility is on schedule to allow first gas before the end of 2011. A letter of intent signed with BCCK Engineering, a Texas-based natural gas engineering company for the major long lead item, a Nitrogen Rejection Unit, has now progressed to a purchase and sales agreement which is expected to be signed by both sides in the coming weeks. Progress on the planning and approvals process continues and it is expected that the final construction approval will be obtained in early 2011, it said.

Separately, Aurelian said an exploration well targeting an oil prospect of up to 100 million barrels in the Bieszczady block in southeast Poland is expected to reach its maximum depth by the end of February. Existing 2D seismic data covering around 20% of the block's area shows a total of 680 million barrels of unrisks prospective resources. Bieszczady is 51% owned and operated by Poland's PGNiG. Aurelian has a 25% stake and Eurogas Polska holds 24%.

Aurelian also said budgets have been agreed to undertake eight seismic surveys in 2011 covering 1,455 km of 2D and 3D in the Siekierki Tight Gas Project, Bieszczady oil prospect, the Karpaty East and West blocks and its concessions in Slovakia and Romania.

PKN sells strategic reserves

Poland's largest refiner, PKN Orlen, said December 27 it sold a second tranche of its strategic crude oil reserves to Maury Co., a special purpose vehicle owned by the Royal Bank of Scotland, in a deal worth Zloty 910 million (\$303 million). PKN sold 490,000 mt of REBCO crude, equivalent to 14% of the company's strategic reserve stocks, to Maury, following a tender involving eight banks. Maury will hold the reserves as inventory on behalf of PKN. During the duration of the agreement, which expires at the end of January 2012, Maury will not be able to sell or use the reserves for their own purposes. PKN will be able to buy them back at any stage. The reserves will physically be held in PKN's storage facilities.

Under Polish law refiners are required to hold large strategic reserves, which depending on crude oil prices, are valued between Zloty 7-9 billion. Both PKN and Poland's second largest refiner, Grupa Lotos, have been pressuring the government to drop the obligation because it distorts their quarterly results. The values of the inventories fluctuate with crude oil prices.

At the end of 2009, PKN valued its mandatory reserves at Zloty 6 billion, more than half the company's net debt at the time. In March, PKN sold 13% of its strategic crude oil reserves to Lambourn, a special purpose vehicle 100% owned by Deutsche Bank. PKN said under the renewable one-year deal Lambourn would hold 500,000 mt of Rebco crude as inventory.

Russia

Rosneft to cut Vankor output

The debate over a plan to increase the export duty on Rosneft's giant Vankor oil field in East Siberia from this May took on a new dimension December 16, as Rosneft said it would cut its production next year by 12% to 15 million mt (300,000 b/d) because of the planned tax hike. "The cut in the plan is to come as the company has minimized its capital expenditure into the project as the government has not confirmed the extension of tax benefits for the field," Rosneft President Edward Khudainatov told reporters in Moscow, adding that construction of infrastructure at the field had been delayed.

Khudainatov said Rosneft believes it needs tax benefits for the field to be extended by at least three years to allow the company to reach its expected peak production of 25 million mt per year at Vankor.

"Without tax benefits, the project will be unprofitable," he said.

Khudainatov added that the company is developing its proposal on the tax regime and plans to complete the work in the first quarter.

In mid-December, a source in Russia's finance ministry said the energy ministry and Rosneft are preparing estimates to support the continuation of a reduced export duty for crude produced at Vankor and are likely to present their calculations to the government in early January. According to an order by Russia's Deputy Prime Minister Igor Sechin dated December 2, the ministry and Rosneft are "to conduct scrupulous calculations" on what the economically justified export duty should be, the source said, adding that normally such an order envisages the work to be done within a month.

In October, Prime Minister Vladimir Putin announced the government agreed to extend the reduced export duty paid on crude from Vankor for four months, implying Vankor crude would pay the standard duty from May 1, 2011, but no resolution on the issue has been signed yet.

The Russian government temporarily introduced a zero-rated duty for East Siberian crude in December 2009 to encourage companies to invest in the new, oil-rich but remote province of East Siberia, which requires massive spending on infrastructure. But last year it emerged that Russia's finance ministry was pushing the government to lift the tax exemption or impose a reduced export duty for East Siberia as the ministry struggles to fill the federal budget.

Since July 2010, oil producers have paid the export duty for East Siberia Pipeline Oil (ESPO) crude at a level of around 45% of Urals crude, which is calculated on the portion of the crude price above \$50/b. Vankor crude is part of the ESPO blend. The initial plan called for Vankor crude to become subject to a regular export duty rate from January 1, 2011. In 2012, a regular duty rate is also to be imposed on exports of crude from TNK-BP's Verkhnechonsk and Dulisma fields. In 2013, a regular duty rate will be charged for crude from Surgutneftegaz's Talakan field. Surgutneftegaz's

neighboring Alinskoye field would become subject to regular duty rates in 2013 as well, according to a source in the finance ministry. The five fields are currently the only producing fields in East Siberia.

Sistema, ONGC to cooperate

Russian industrial conglomerate Sistema and India's ONGC Videsh December 21 formalized their intention for future cooperation, which is widely expected to involve the joint development of the major Trebs and Titov oil fields in northern Russia.

In separate statements, Sistema and ONGC Videsh, the wholly owned overseas arm of India's state-owned ONGC, said they had agreed to look at transactions involving their Russian oil assets – Sistema's majority stake in oil producer Bashneft and its 49% stake in Russneft and ONGC Videsh's 100% stake in producer Imperial Energy.

The companies signed the framework agreement December 21 during the official visit of Russian President Dmitry Medvedev to India. The "potential transaction" could also involve any other oil and gas assets that the companies may acquire before definitive agreements are signed, plus possible cash investments, the companies said. The parties also agreed to consider joint investments in each other's existing and future exploration assets in "key countries."

A Sistema spokeswoman declined to provide further details on the agreement. "This is a framework agreement and we would like not to present any details at the moment," she said.

Analysts believe there are three possible options for cooperation between ONGC and Sistema, which is looking for a strategic partner to help it develop the Trebs and Titov oil fields in northern Russia.

Valery Nesterov, an analyst with Troika-Dialog investment bank, said the options are: ONGC taking part in the development of the Trebs and Titov fields; ONGC buying a minority stake in Bashneft; or ONGC setting up a joint venture with Russneft, which has fields in the Tomsk region where Imperial Energy's assets are also located.

Trebs and Titov, with combined reserves estimated at 137 million mt (1 billion barrels), are the biggest explored oil fields in Russia for which development licenses have yet to be issued. Bashneft was the only bidder for the fields during the December 2 tender and is expected to be named the winner in January.

Both Indian and Russian representatives have admitted that talks over the possible joint development of Trebs and Titov have been held. In mid-December, Sistema Vice President Alexander Korsik said his company planned to decide on a strategic partner for Trebs and Titov "within a quarter after the tender's results are announced."

Nesterov said Sistema is likely to decide quickly on the strategic partner for the fields as the company would like to launch oil production as soon as possible. Sistema was thought to have been

considering a possible partnership for the fields' development with Rosneft, Lukoil or a foreign partner with major financial resources.

ONGC has had a presence on the Russian oil market since 2001, when it acquired a 20% stake in the Sakhalin 1 project. It is partnered there with Rosneft, also with a 20% stake, operator ExxonMobil and Japan's Sodeco, each with a 30% stake. It also acquired small West Siberian producer Imperial Energy in August 2008 for \$2.4 billion. Imperial's proven and probable reserves are estimated at 946 million barrels of oil equivalent as of December 31, 2008, with output expected at 25,000 b/d by the end of 2010, according to the company's website.

Bashneft, with average oil output of 277,000 b/d, and Russneft (250,000 b/d), are respectively Russia's eighth and ninth biggest oil producers. ONGC has also said it is interested in helping Russian gas giant Gazprom develop an LNG project in Russia's Yamal Peninsula.

Majors buy into Yamal venture

Anglo-Russian oil company TNK-BP and Gazprom Neft, the oil arm of Russian gas giant Gazprom, have agreed to develop the Messoyakha oil project in northern Russia outside of the framework of their 50:50 joint venture Slavneft, the two companies said in a joint statement January 11. The companies said they would acquire 50% stakes each in the project's license owner Messoyakhaneftegaz, which is currently part of Slavneft, at a cost of \$20 million each for the company.

"Following assessment of the prospects of developing the Messoyakha fields, and also considering the scope of the project, the Slavneft shareholders reached agreement on creating a joint venture with the purpose of developing the project," the companies said. By directly managing the asset "the shareholders will be able to promptly make key decisions, simplify financing procedures for this large-scale investment program and expand borrowing opportunities," they said. Gazprom Neft will act as the operator of the project. The companies estimate total required investment for the project at \$15-18 billion.

The Messoyakha oil and gas fields are located on the Gydan Peninsula in the Yamal-Nenets autonomous region. Combined C1+C2 recoverable reserves of the West-Messoyakha and East-Messoyakha fields are estimated at 560 million mt of oil and 230 billion cubic meters of gas under the Russian classification system. This equates roughly to proven plus probable reserves. Peak production is expected to reach 20 million mt per year (400,000 b/d) of oil and condensate and 10 Bcm per year of gas, the companies said, providing no timeframes.

The two companies have been discussing the possibility of setting up a separate joint venture for the project for at least the last two years. The Messoyakha fields are far from existing infrastructure but close to

other fields developed by Gazprom Neft and TNK-BP in the area. Development of the fields will require the shareholders to tackle a wide range of engineering, technical and logistical challenges associated with severe climate conditions and absence of infrastructure in the north of Yamal.

“The acquisition of Messoyakhaneftegaz will enable us, jointly with TNK-BP, to begin developing large fields in Russia’s new oil production region,” Gazprom Neft CEO Alexander Dyukov said. “By participating in the project, Gazprom Neft is going to gain new experience in executing projects ‘from scratch’ in the harsh conditions of the Arctic region.”

Development of the Messoyakha fields will also ensure synergy with Gazprom Neft’s other strategic projects in the region, Dyukov added.

Yamal projects are going to play a decisive role in TNK-BP’s business in the next five years, TNK-BP Chief Operating Officer Bill Schrader said. “This region is becoming a new major oil and gas hub in Russia and one of TNK-BP’s centers of growth. The success of these plans will be largely determined by the support of the government and by creating the necessary infrastructure,” he said.

In August, Boris Zilbermints, Gazprom Neft deputy CEO for exploration and production, said the company expected to launch test production at Messoyakha in 2012-2013 after finishing a three-year intensive exploration stage. As of late 2010, 48 exploration and appraisal wells have been drilled in the license area, the companies said. The start of commercial production at the fields is dependent on the construction of a pipeline to link these remote fields to the national pipeline transportation network.

Russia’s national oil pipeline operator Transneft plans to launch the new link, from Zapolyarnoye in the northern Yamal Nenets region to Purpe, where it could be linked up with the national system for further shipment via the East Siberia-Pacific Ocean Pipeline (ESPO) to Asian markets in 2014.

Rusia Petroleum’s assets for sale

The assets of the license holder of the major Kovykta gas field in East Siberia, Rusia Petroleum, will be auctioned February 15 in line with its bankruptcy procedure, with a starting price of Rb 15.1 billion (\$490 million), according to a company statement December 24.

The assets will be sold in a single parcel in a closed auction that will include a limited number of bidders, the statement said.

The assets include land and infrastructure built for the development of the Kovykta field, as well as the Khandinsky license block, both in the Irkutsk region, the statement said. Kovykta’s reserves are estimated at 2.13 trillion cubic meters (71 Tcf).

Rusia Petroleum filed for bankruptcy in June after Anglo-Russian venture TNK-BP, which holds a 62.9% stake in the company and has invested \$664 million in

Kovykta, requested early repayment of loans issued to Rusia Petroleum to finance the development of Kovykta.

Most of the remaining shares are held by power generating company OGK 3 (24.99%) and the local government of the Irkutsk region (10.78%).

The license for Kovykta is not up for sale, as Russian legislation does not permit the sale of licenses. In June, Russia’s natural resources minister Yuri Trutnev said the license to develop Kovykta would likely revert to the state during the bankruptcy. According to a source familiar with the matter, “It is most likely that the license will be reissued to the new owner of the infrastructure.”

Prior to Rusia Petroleum’s bankruptcy, TNK-BP had been trying to sell its stake in the company to Gazprom since 2007, when the Russian authorities first threatened to withdraw the Kovykta license on the grounds that it had failed to meet the license terms. Gazprom, which has the exclusive right to export Russian gas, has said it does not see demand for gas from Kovykta in the near future. Under the license, gas production at the field was to reach 9 billion cubic meters per year starting from 2008, but Kovykta’s full-scale development has long been effectively blocked by a lack of pipeline access to international markets.

Last year, there was speculation that state-owned Rosneftgaz, which is chaired by Russian deputy prime minister and Rosneft chairman Igor Sechin, may be interested in the asset. Gunvor founder Gennady Timchenko, who is thought to be close to Russian Prime Minister Vladimir Putin and holds a stake in Russia’s largest independent gas producer Novatek, has also been rumoured to be interested in Kovykta.

Lodochnoye field to be sold

Russia expects to put up for auction the major Lodochnoye oil and gas field in the northern Krasnoyarsk region in East Siberia in the second quarter of 2011, according to a governmental resolution issued January 12. The government has ordered Russia’s subsoil agency Rosnedra to auction a combined license for the right to conduct geological study, exploration and hydrocarbons production at the field in the second quarter, according to the resolution signed in late December by Russia’s Prime Minister Vladimir Putin.

A contender able to develop reserves of “federal significance” and with the best price offer for the field will be the winner, the document said. Lodochnoye’s recoverable reserves are estimated at 43.2 million mt of crude and 69.8 billion cubic meters of gas. Reserves in place are estimated at 129 million mt of crude, under the Russian classification system. The Lodochnoye field is adjacent to the giant Vankor field, currently the key source for exports of Russia’s new export blend ESPO, which is being transported via the East Siberia-Pacific Ocean (ESPO) pipeline to Asian markets.

Russia’s biggest oil producer Rosneft, which develops Vankor, has previously indicated its interest in developing the Lodochnoye field.

Russia’s law on foreign investments prohibits companies with less than 50% Russian ownership from

bidding for so-called strategic fields, allowing them to participate only as minority partners.

Under the law, hydrocarbon fields with reserves of 70 million mt (511 million barrels) of oil and 50 Bcm of gas as well as offshore fields are considered strategic.

Record oil output in 2010

Russia's crude oil production hit a record high of 10.17 million b/d in 2010 as the country cemented its position as the world's biggest oil producer. Crude output totalled 505.194 million mt (10.17 million b/d) last year, a 2.2% increase year-on-year, according to preliminary data released end-December by the Ministry of Energy's Central Dispatching Unit. It is the first time Russian crude production has exceeded 10 million b/d in a single year.

In December, crude and gas condensate output totalled 43.048 million mt (10.137 million b/d), up 1.3% year-on-year, but marginally down on November's output of 10.2 million b/d. It was the 15th consecutive month Russian oil production has exceeded 10 million b/d and the 22nd consecutive month showing a year-on-year gain since March 2009.

For the full-year, Rosneft and TNK-BP showed the highest production growth rates (+5.8% and +2.5%, respectively). Tatneft's and Surgutneftegaz's production was flat, while both Lukoil and Gazprom Neft saw declining production, down 2.3% and 1.7%, respectively.

The growth in oil output over the course of 2010 can be attributed in the main to the commencement of production at TNK-BP's Uvat fields in West Siberia as well as the ramping up of crude output from Sakhalin and Rosneft's Vankor field in East Siberia. The rate of increase seen in crude production had been expected to slow as the effect of the startup of several major new fields gradually diminished, though producers in East Siberia continue to ramp up output.

As for 2011, most analysts expect flat output or even a decline compared with 2010, though most of the country's major oil producers have flagged expected output increases this year.

Rosneft, Russia's largest oil producer, said at the end of December it expects a slight increase to 2.4 million b/d next year, while third-biggest producer TNK-BP has also said it anticipates output growth in 2011. Gazprom Neft, which in 2010 produced some 53 million

mt (1.07 million b/d), said in December it expected 7% production growth in 2011. Only Lukoil, Russia's second largest oil producer, has said it expects a fall in crude production in 2011.

TNK-BP sets 2011 targets

Anglo-Russian oil company TNK-BP expects total oil and gas production in 2011 to rise by 1.3% to 715 million barrels of oil equivalent (1.96 million boe/d), including TNK-BP's share in oil producer Slavneft, the company said December 24. TNK-BP's hydrocarbon output —

excluding Slavneft — is set to rise by 1.7% to 1.77 million boe per day in 2011, it said following a meeting of its board of directors. Slavneft is a 50-50 joint venture between TNK-BP and Gazprom Neft. TNK-BP also expects capital expenditure to rise 15% to \$4.6 billion and a 100% replacement of production with new reserves, it said.

The board also supported the management's recommendations with regard to TNK-BP's international expansion, including the completion of a deal to acquire BP's oil and gas assets in Vietnam and Venezuela, as well as the continued search for other opportunities.

TNK-BP is Russia's third largest oil company, 50% held by BP and 50% by a consortium of three Russian companies — Alfa Group, Access Industries and Renova.

Meanwhile, Maxim Barsky, the designated CEO of TNK-BP who was due to take over the post on January 1, 2011, will now not become CEO by that date because of "technical procedures", the company said, adding he will still take office next year. "The shareholders of TNK-BP once again confirmed that Maxim Barsky will assume the role of head of the company in 2011," the company said. "The board of directors agreed that, due to technical procedures still in progress, there will be a delay in Barsky assuming his new role until the completion of the aforementioned procedures, primarily related to finalization of stock options and long-term incentive plans," the company said. In the meantime, Mikhail Fridman will continue as interim head.

The board also accepted the resignation of Viktor Vekselberg, one of the Russian shareholders in the company, as the company's executive director for gas so that he can focus on the development of a 'Silicon Valley'-style innovation city outside Moscow.

Novatek seals Sibneftegaz deal

Novatek, Russia's leading independent gas producer, completed late last month the acquisition of a controlling stake in Sibneftegaz, in the process boosting its gas output by 14%. Novatek announced December 17 it had paid Gazprombank the sum of Rb 26.9 billion (\$874 million) for its 51% stake in Sibneftegaz, which holds the licences to develop four gas and gas condensate fields in the Yamal-Nenets autonomous region in northern Russia, with proved reserves of 290.4 billion cubic metres of gas and 1.7 million mt of liquids under PRMS standards (about 1.9 billion barrels of oil equivalent). The company produced 7.3 Bcm in the first nine months of 2010 and was expected to produce almost 10 Bcm of gas by the end of last year.

Novatek has paid only \$150 million so far with the remainder to be paid before the end of 2011. As part of the deal, Novatek also refinanced Sibneftegaz's debt of about \$360 million. Novatek said it would use equity accounting for its investment in Sibneftegaz. Gazprombank originally acquired the 51% stake from Itera in 2006 for \$131.5 million. Itera owns the remaining 49% stake in the company.

Share options for Novatek execs

Novatek CEO Leonid Mikhelson and majority shareholder Gennady Timchenko have been granted an option to buy the 9.4% stake in the independent Russian gas producer sold late last month by Gazprom, Novatek said December 21. Hibridge Ventures, an entity owned 50:50 by Mikhelson and Timchenko, entered into a purchase agreement with the Gazprombank investment vehicle Dhignfinolhu Holding that acquired the 9.4% stake from Gazprom for an undisclosed price on December 20.

The agreement gives Hibridge the right to purchase the stake at any time within a two-year period. No strike price or other conditions were mentioned. Interfax quoted Mikhelson as saying that these shares could later be listed or sold to a strategic partner. Ildar Davletshin, oil and gas analyst at Renaissance Capital said December 21 that Novatek may bring in a foreign strategic partner to jointly develop the Yamal fields, and a stake of 9.4% or more might be sold in the future to a new partner. Timchenko's private investment fund vehicle Volga Resources currently holds 24.6% in Novatek, management holds 25%, Gazprom has 10% and IFC 1%, with about 30% in free float.

Gazprom did not explain the reason for the sale of a 9.4% stake in Novatek to Gazprombank, in which it holds less than a 50% stake.

Gazprom, which acquired a 19.4% stake in Novatek in September 2006 for \$2.34 billion, said in November that it was considering selling 9.4% of its stake but did not plan to cut its stake below 10%.

Renaissance Capital said it did not consider the transaction as a technical arrangement for Gazprom aimed at raising liquidity through its non-consolidated subsidiary Gazprombank but rather as a sign of more fundamental changes to come in the future. "Gazprom has been gradually shifting focus from controlling domestic upstream operators to expanding its export capabilities (primarily through capital-intensive pipeline projects), which makes its 19.39% stake in Novatek less relevant," Ildar Davletshin, the Moscow-based investment bank's oil and gas analyst said December 21. "Now, with the Altai project becoming a reality next year, we expect Gazprom to focus on international operations even more, while independent producers may capture a greater share of the domestic market".

Novatek pumped 32.8 bcm of natural gas in 2009, up 6.3% year on year. Novatek's proved and probable reserves are estimated at 10.6 billion barrels of oil equivalent under PRMS standards, including natural gas reserves of 1.1 trillion cubic meters as of December 31, 2009.

Novatek buys gas trader

Novatek, Russia's leading independent gas producer, announced December 23 the acquisition of 100% of Yamalgasresource-Chelyabinsk, a regional gas trader. The price of the deal was not disclosed. It follows the

signing in November of a cooperation agreement with the governor of the Chelyabinsk Region, according to which Novatek agreed to supply as much as 3.9 billion cubic meters of gas to the region in 2011. "Although the acquisition price was not disclosed, we believe the transaction should be viewed positively, as it will support Novatek's sales, underlying its strategic interest and long-term presence in the region," commented analysts at Alfa Bank.

Mikhelson buys stake in SIBUR

Novatek's chief executive Leonid Mikhelson had agreed to acquire a 50% stake in SIBUR Holding, a leading petrochemical company in Russia and Eastern Europe, from Gazprombank, SIBUR announced December 22.

According to the agreement, Mikhelson may increase his ownership in SIBUR to 100%, although this would require approval from the state. Gazprombank valued SIBUR at \$7.4 billion, excluding debt, but it is not clear what Mikhelson paid for the stake or how it was financed. Gazprombank may be the source of financing for the deal, said analysts at Alfa Bank, who added that although they were not aware of any contractual obligations with its main suppliers, changes in SIBUR's shareholder structure could potentially create synergies between Novatek and SIBUR. As a petrochemical producer, SIBUR relies heavily on hydrocarbons in its production technology (mainly associated petroleum gas, LPG and naphtha).

Transport tariff rises 9.3%

Russia's Federal Tariff Service has increased the transportation tariff for independent gas producers to access Gazprom's pipeline network by 9.3% as of January 1. In 2010, the tariff for gas transported within the Russian domestic market and the customs union between Belarus, Kazakhstan and Russia averaged Rb 51.37 (\$1.70)/1,000 cubic meters per 100 km, according to the FTS.

In October, Gazprom, which controls the gas pipeline network, called for a tariff hike for independent producers of 15.3% in 2011.

Russian independent producers produce about 20% of Russia's gas and include Novatek and Itera, as well as major oil companies such as Lukoil, Rosneft, Surgutneftegaz and TNK-BP.

Khodorkovsky jailed to 2017

Former Yukos chief executive Mikhail Khodorkovsky and his business partner Platon Lebedev had their jail terms extended until 2017 on December 30 after being convicted of money-laundering and theft of 218 million mt (1.6 billion barrels) of crude, in a trial condemned in the West as politically motivated. Moscow Judge Viktor Danilkin granted the prosecutors'

request and ordered Khodorkovsky and Lebedev to serve 14 years in prison, including their current eight-year jail sentences for fraud, for which the two men were arrested in October 2003 and sentenced in 2005, Russia's Itar-Tass news agency reported.

Khodorkovsky, once Russia's richest man, is in the final year of an eight-year sentence imposed after a politically charged fraud and tax evasion trial that shaped Vladimir Putin's 2000-2008 presidency.

Khodorkovsky and Lebedev said in a statement read out by lead lawyer Vadim Klyuvgant after the sentencing: "Our example shows that in Russia, you cannot count on the courts for protection from government officials." "The sentence was clearly issued under pressure from the executive authorities, headed as before by Mr. Putin," said Khodorkovsky's lawyer, Yuri Shmidt. "Putin signalled to the court who is the boss today and who today decides Khodorkovsky's fate and life," he said. Shmidt said he planned to appeal the verdict.

The conviction, which made a mockery of President Dmitry Medvedev's pledges to improve the rule of law, are widely considered to be politically motivated and was roundly condemned by the West. The US State Department sharply criticized the sentencing. "We remain concerned by the allegations of serious due process violations, and what appears to be an abusive use of the legal system for improper ends," spokesman Mark Toner said. "The impression remains that political motivations played a role in this trial," German Chancellor Angela Merkel said in Berlin. "This contradicts Russia's frequently repeated intention to pursue full adoption of the rule of law".

"It is a brutal, shameful verdict, which demonstrates our lack of an independent judiciary. An independent court would never reach such a judgment on this absurd case," the head of the Moscow Helsinki Group human rights organization Lyudmila Alekseyeva said after the guilty verdict on December 27. The head of the Russian branch of Amnesty International, Sergei Nikitin, was quoted as saying on Khodorkovsky's website that the process was politically motivated.

Russia said the trial was a matter for its courts and rejected as "groundless" suggestions that the verdict resulted from selective justice. Earlier in December, Prime Minister Vladimir Putin said in response to a question about Khodorkovsky's fate that "thieves should be in jail." The Kremlin insists Khodorkovsky and his partner are guilty of massive financial crimes stemming from controversial privatization deals in the 1990s. However it was only after he fell out with Putin after airing corruption allegations, challenging state control over oil exports and funding opposition parties that a string of tax charges were brought against the young tycoon, forcing Yukos, once a leading Russian oil producer, into bankruptcy. Its main assets were forcibly auctioned off by the Russian authorities to repay the tax debt, with state-owned Rosneft buying its main production unit.

Some political commentators and Khodorkovsky's supporters said the handling of the case by the government, including Putin's condemning comments

while the trial was ongoing, could discourage foreign investment in Russia. "It will be perceived as the ultimate evidence Russia is not a law-governed state, nor has the intention to become one," said Maria Lipman, an analyst at the Carnegie Moscow Center.

"The consequences will be hard for Russia as a country seeking to attract investment and will take a toll on its reputation internationally," she told Reuters. But many investors said the guilty verdict had already been priced into the market and was not likely to influence foreign investments in Russia. A lengthy sentence was "already priced in" to the stock market, said Kingsmill Bond, chief strategist at Moscow investment bank Troika Dialog. "I'm sad to say this was the sentence the market had anticipated," he said.

PetroNef sticks to targets

The UK's PetroNef Resources, one of a number of small independents developing oil fields in Russia, is sticking to its production targets for 2011 and 2012 despite missing its output goal for last year, the company said January 5. PetroNef, 100% owner and operator of licenses 61 and 67 in the Tomsk region, plans to produce 8,000 b/d by year-end and 12,000 b/d by end-2012. A second phase of development may push output to more 20,000 bpd in 2014, according to the company.

Oil output at the end of 2010 was 2,750 b/d, down considerably on the year-end target of 4,000 b/d. This was due to greater than expected formation damage resulting from the drilling and completion process of production wells at the company's fields. "While our well performance is good, it has been limited due to formation damage arising from the drilling and completion process," PetroNef chief executive Dennis Francis said in a statement. "However, this will be resolved by the hydraulic fracturing program and has not in any way changed our view of the reservoir quality or overall productivity of the field. We remain confident of achieving our long-term production targets," said Francis, a former executive with Marathon Oil Corporation in Russia. The company, which only produced its first oil in August 2010, aims to boost proved and probable reserves to more than 200 million barrels by the end of 2011 from 70.8 million now, Francis said. Petroneft agreed upon a loan facility of as much as \$30 million with Macquarie Group last May and raised \$43 million selling shares to fund drilling and move reserves from the "possible" category to the more valuable "proved and probable" category.

The company was formed in 2005 with rights to Block 61 in Tomsk, a region on the fringe of the West Siberian basin where most of Russia's oil is produced. Through drilling, Petroneft raised the block's proved, probable and possible reserves to 531 million barrels at the start of 2009, according to an audit by Ryder Scott.

In 2009, Petroneft and Arawak Energy bought the rights to Block 67 and plan to begin drilling this year. The block holds 55 million barrels of reserves under the Russian C3 classification.

The company may also seek to expand through acquiring new licenses, Francis said. Russia has “thousands” of Soviet-era prospects in the 10 million or 15 million barrel range, passed over at the time for larger deposits closer to pipelines, Francis said. An expanded pipeline network and higher oil prices have made some of these deposits potentially viable, he said. Small explorers such as Petroneft have preferred Tomsk where blocks put up for auctions tend to contain several prospects as opposed to other West Siberian regions, such as Khanty-Mansiisk, where structures tend to be auctioned individually, said Francis. “It’s a small niche,” Francis said. “We have an advantage working there over some of the larger companies who are more focused on developing bigger resources.”

Oil taxes and the financial crisis have hindered Russian oil explorers listed on London’s AIM, but in contrast Petroneft’s market value more than tripled last year to about £275 million (\$424 million). As a result, the company could be a target for a bigger company as was the case with Sibir Energy and Imperial Energy, which were snapped up by larger companies. “Petroneft shares aren’t that expensive considering that reserve additions are likely early next year” after drilling a successful well and further exploration in the region, said Ildar Davletshin, an oil and gas analyst at Renaissance Capital. “There’s also the potential for a buyer to be a catalyst.”

Serbia

Srbijagas extends gas deal

Serbia’s state-run natural gas company Srbijagas has negotiated an extension to its existing gas supply deal with Yugorosgaz for 2011. A new annex to the agreement was signed by Srbijagas director general Dusan Bajatovic and Yugorosgaz executive director Vladimir Koldin in Novi Sad on December 21. “The advantages of this new contract extension for us are numerous. Practically there is no other European country that enjoys the same flexibility in natural gas deliveries without it having any impact on the end price of the fuel,” said Bajatovic, according to a Srbijagas statement issued December 22.

The contract extension for 2011 allows for daily changes in fuel supply in accordance with Serbia’s needs and no penalties exist for lower consumption. “Without this clause, for example, Srbijagas would have paid \$200 million in penalties in 2009,” said Bajatovic.

Another advantage of the deal with Yugorosgaz is that Srbijagas does not have to submit bank guarantees for the full amount, which is not the case of gas supply deals with Hungary, for example. Srbijagas expects that the bank guarantee for 2011 deliveries will amount to around \$15 million as in 2010. Finally, should Serbia require additional volumes of natural gas in 2011, they will be offered at more favourable prices. “The price of natural gas was agreed in US Dollars and will be calculated based on an internationally accepted formula based on which gas deliveries are also being made to

other consumers in Europe. Price changes will be implemented on a quarterly basis,” said Bajatovic. The new annex came into effect on January 1.

Separately, Srbijagas continued its new policy of taking over debtors that are seen by the Serbian government as either too large or too important to fail. The natural gas company paid €11.3 million for poultry producer Agroziv that was under threat of bankruptcy. Agroziv, which produces around 30% of Serbia’s poultry meat, joins a growing list of companies that have been taken over by Srbijagas.

Last year Srbijagas took over ailing glass manufacturer Srpska Fabrika Stakla from Paracin and fertilizer producer Azotara Pancevo, two of its largest debtors for natural gas deliveries.

Turkey

Iran gas exports set to rise

Iranian gas exports to Turkey, Iran’s only pipeline gas customer, doubled in 2010 compared with the previous year and the volume available for export is set to increase as domestic demand falls as a result of a gradual removal of energy subsidies, the National

Iranian Gas Company (NIGC) said January 12. Based on NIGC statistics, Iran exported more than 8.25 billion cubic meters of gas to Turkey in 2010 worth close to \$3 billion, the semi-official Mehr news agency reported. The volume of gas exported to Turkey rose by 50% over 2009 volumes and by 100% compared with 2008 but corresponds to only 4% of Iran’s total gas production,” NIGC spokesman Majid Boujarzadeh said.

Referring to a recent gas price hike for domestic consumers after the government began phasing out energy subsidies, Boujarzadeh said: “With the implementation of the subsidies’ cut plan and economical consumption, it is predicted that gas consumption will fall by at least 10%. This will bring billions of dollars in gas exports.”

Gas consumption has dropped by 6-6.5% since energy prices were raised starting December 19, the report said.

Iranian Oil Minister Masoud Mirkazemi said after talks with Turkish energy officials in Tehran that Turkey had asked for a discount while Iran had proposed a higher fee for its gas. NIGC managing director Javad Owji said after the talks that Iran planned to boost gas sales to Turkey in coming months. Iran has been exporting gas to Turkey through a 2,850 km (1,800 mile) pipeline since 2001 under a 25-year agreement. Turkey currently receives an average 30 million cu m/d of gas through the pipeline, which runs from the northwestern Iranian city of Tabriz to Ankara. The contract contains a provision for raising gas shipments to Turkey to up to 13 Bcm/year.

Iran sits on the world’s second biggest natural gas reserves after Russia but remains a net importer of gas because of high domestic consumption, which the government is trying to curb by removing costly subsidies

and replacing them with cash payments to ordinary Iranians. The plan was accompanied by a phased hike in the price of energy products, including gasoline and diesel.

Ankara disco sale approved

Turkey's higher privatization council has approved the sale of a controlling stake in Baskent Dogalgaz, the gas distributor serving the capital Ankara, to MMEKA Makina, the OIB privatization authority said December 31. MMEKA Makina, a joint venture between local businessmen Mehmet Kazanci and Mehmet Emin Karamehmet, won a tender in August for an 80% stake with a bid of \$1.21 billion.

Baskent Dogalgaz holds a 30-year license to distribute natural gas in the Turkish capital. According to figures released by the OIB during 2009, it distributed 2.1 billion cubic meters of gas to 1.2 million customers out of a total population in Ankara of 4.5 million. The remaining 20% of the company's stock is held by the Ankara municipality, which is expected now to offer it for sale.

MMEKA Makina also submitted winning bids for three of Turkey's 21 electricity distribution companies put up for sale last year.

Ukraine

Russian gas price on the rise

The price of imported Russian gas for Ukraine will increase 4.3% quarter-on-quarter to \$263.9 per 1,000 cubic metres in the first quarter of this year, according to data reported by news agency Ukrainian News January 10. The new gas import price, which represents a 14% fall year-on-year, has risen in line with higher global oil product prices. The price of Russian natural gas to Ukraine was about \$253/1,000 cubic meters in the fourth quarter of 2010, compared with \$248/1,000 cu m in the third quarter. In 2010, Ukraine's national gas company Naftogaz Ukrayiny paid an average price of \$257/1,000 cu m for a total of 35.9 billion cubic metres of Russian gas imported.

With world oil prices on the rise, Dragon Capital expects the gas import price for Ukraine to rise in Q2 2011 to \$285.2/1,000 cu m and the full-year average at close to \$300/1,000 cu m, representing a 16% rise year-on-year. As a result, it expects Naftogaz has little choice but to pass higher import costs onto end-consumers and expect the gas price for industrial consumers to increase at least 5% to \$285/1,000 cu m (net of transport costs and VAT) in the first quarter.

Regal risks losing licences

Regal Petroleum, the UK-based oil and gas explorer may lose its licenses due to numerous breaches of Ukrainian environmental laws, the chief executive of Nadra Ukrainy, the state-owned company responsible for

exploration of Ukraine's mineral base and attracting investments into the sector, said December 23. Interfax quoted the chief executive as saying that company management was to blame.

His comments are the first official statement that Regal Petroleum may actually lose its licenses for its Svyrydivske and Mekhediviska-Golotvshchinska (MEX-GOL) gas and condensate fields, production at which it halted in October due to uncertainty over its compliance with the terms of its licences. Regal has been in talks with the Ukraine government since May 2010 after the country's Ministry of Environmental protection ordered the company to suspend production until it had ensured that operations complied with local legislation.

"As Nadra Ukrainy geologists participated in the government commission reviewing the Regal Petroleum case, we think the company may encounter new problems defending its position, and the final review may be delayed further," commented Dennis Sakva, analyst at Dragon Capital in a December 23 research note. "We think selling its assets to a local investor is probably the best solution for Regal Petroleum in view of its licensing problems," he added.

Two Ukrainian-owned companies have officially expressed interest in acquiring the company. In mid-December Regal said it had agreed a \$121 million takeover offer from Ukraine's Energiees Management Limited, the principal holding company of Smart Holding – a group with assets in metallurgy, shipbuilding and food processing. Energiees Management is jointly controlled by Ukrainian businessmen Vadim Novinskiy and Andrey Klyamko. UK-based Heamoor affiliated with oil and gas producer GEO Alliance, said it was also considering an offer but has yet to announce its terms. Heamoor and GEO Alliance are both owned by Ukrainian businessman Victor Pinchuk and his family.

JKX plans direct gas sales

JKX Oil & Gas, through its wholly-owned subsidiary Poltava Petroleum Company, PPC, intends to start supplying natural gas to industrial consumers in Ukraine, a company spokesman said December 16. PPC was recently awarded a five-year supply license valid until January 2016 by Ukraine's National Electricity Regulation Commission, NERC, permitting PPC to supply gas to consumers at non-regulated tariffs.

The company is reported to have negotiated potential gas supply deals with a number of companies including Arcelor Mittal Kryvyi Rih.

"We expect higher margins on gas sales for JKX resulting from the switch away from traders in deliveries," said Oleksiy Gorovyy, analyst at Kiev-based brokerage Millennium Capital December 17. JKX presently sells its gas mainly to intermediaries with Shell purchasing around 65% (250-270 million cubic metres) of the natural gas extracted by PPC. Under the license terms, PPC will supply up to 373 million cu m per year directly to industrial consumers. Established in 1994, PPC initially focused its efforts on four fields located within the Novo-

Nikolaevskoye complex located in the Poltava region of Ukraine. Production of commercial quantities of oil and gas began in 1995. Since then JKC has added two additional exploration licences to the portfolio: Elizavetovskoye and Chevronyarske East.

NERC ups Ukrnafta gas prices

Ukraine's National Energy Regulating Commission has increased prices for 2011 for gas producers that have joint venture agreements with Ukrnafta, the country's largest oil company, by 90-230% to \$52-104/tcm, according to a December 23 report by Interfax.

Under the agreement between Ukrnafta and UK-based Regal Petroleum, NERC approved a price of Hryvnia 412 per 1,000 cubic meters (excluding VAT), a rise of Hryvnia 120 more than the current price. The COGS (Cost of Goods Sold) under this contract is Hryvnia 305.95/1,000 cu m, which equates to a profit margin of 15%.

For Cyprus-registered Momentum Enterprises, the price was raised 92.7% to Hryvnia 553 per 1,000 cubic meters (excluding VAT), with a COGS under this contract of Hryvnia 421.8 per 1,000 cubic meters, providing for a profit margin of 15%. Finally, for Petroleum and Gas Extracting Administration (PGEA) Poltavanaftogaz and Nadra Invest, the price of gas was raised by 225% to Hryvnia 928 per 1,000 cubic meters (excluding VAT), with a COGS under this contract of Hryvnia 829.28 per 1,000 cubic meters, providing for a profit margin of 5%.

According to Vladimir Sementsov, the watchdog's head of pricing and tariff policy for the oil and gas industry, the increase in these gas prices would not affect household gas prices this year. Ukrnafta said that the commission took into full account the necessary capital investments needed when determining the gas sales price.

"The news is generally positive for Ukrnafta but, as its JVs' gas output is insignificant, we expect a much stronger positive effect next year from an increase in oil revenues which should be underpinned by strong world prices as well as provisions in the new Tax Code which are intended to close the loopholes which have until now allowed Ukrnafta to sell its oil at a 20% discount to the price of imported oil," commented Dennis Sakva of Dragon Capital. Meanwhile, Ukrnafta continues selling its gas volumes kept in storage to industrial consumers while refusing to supply it at the state's regulated price of \$57 per 1,000 cubic metres.

JKX hit by higher tax rate

UK-based JKC Oil and Gas warned January 7 that its subsidiary in Ukraine would be hit by a new tax rate on oil and gas production in the country. Ukraine raised the royalty rate on hydrocarbon output as of January 1 this year by an average of 40%, the first substantial increase since 2007. JKC, the largest listed independent oil and gas producer in Ukraine, said the overall impact of the

tax changes would be that its tax rate is now some 50% compared with 30% previously.

"JKC has sought clarification and advice from Ukrainian tax experts regarding the expected impact of these changes on JKC's Ukrainian subsidiary, Poltava Petroleum Company (PPC)," it said in a statement. "While the detailed effect is yet to be clarified, it is apparent that PPC will be subject to a substantial increase in unified production-related taxes," it said. Dennis Sakva, oil and gas analyst at Kiev-based Dragon Capital said that he expected JKC's subsidiary would face up to \$75 million of royalty payments in 2011.

JKC said that among other tax changes made by Kiev for 2011, there will also be a progressive reduction in the corporate tax rate from the current rate of 25% to 16% by 2014, which would "partially" mitigate the raise in royalties. JKC said it is exploring "other options" to lessen the impact of the Ukrainian tax changes on its business, which represents the majority of its revenues.

The new tax rates are applied to production of natural gas, oil and gas condensate at depths below and above 5,000 meters. The royalty rate for gas produced below 5,000 meters and sold to Ukraine's state gas company Naftogaz Ukrayiny has been raised from \$6.32/1,000 cubic meters to \$8.85/1,000 cu m. At depths of more than 5,000 meters, the rate is increased from \$5.06/1,000 cu m to \$7.07. For gas to be sold to industrial consumers, the rate is increased from \$25.28/1,000 cu m to \$35.40/1,000 cu m for depths of 5,000 meters or less, and from \$12.64/1,000 cu m to \$17.70/1,000 cu m at depths of more than 5,000 meters. For oil and condensate, the rate is raised from \$193.41/mt to \$270.77/mt at depths under 5,000 meters, and from \$71.57/mt to \$100.19/mt for oil output at depths of more than 5,000 meters.

In the third quarter of 2010, JKC Oil saw its production fall 34% to 9,080 b/d of oil equivalent. JKC said production was down because of a delay in the arrival of a drilling rig in Ukraine, its main operational focus, which was intended to drill new wells. The company plans to produce 20,000 boe per day during 2011.

Kolomoyskiy ups stake in JKC

Igor Kolomoyskiy, the co-owner of Privat Group and the largest individual shareholder of JKC Oil & Gas, increased his stake in the UK-based E&P company by 1.4% to 26.4%, according to a London Stock Exchange filing on December 27. JKC Oil & Gas, which is the largest of the listed independent oil and gas producers operating in Ukraine, reported December 14 better than expected test results from a new well at its Rudenkovskoye field in Poltava (*EIEE 204-205/43*).

Privat Group presently exercises operating control over Ukrnafta, Ukraine's largest oil company, and Ukratnafta, the largest domestic oil refinery by installed capacity, as well as owns two other domestic refineries, Naftokhimiya Prykarpattya and Galychyna. It also operates the largest gasoline station network in the country.

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