



**Vol. 52, n°2, February 6, 2013**

## **Main news**

### **LNG: Production**

- Gazprom and Novatek signed recently an agreement to form a joint venture to produce liquefied natural gas on the Yamal Peninsula. The agreement is further evidence of Russia's growing interest in LNG production.

### **LNG: Transportation - Distribution**

- 2013 could be a breakthrough year for Chinese shipyards, with a number of them in the running to receive precious orders for LNG carriers.

### **LNG: Supplies- Imports - Exports**

- Osaka Gas and Chubu Electric Power Co. recently signed a 20-year contract with Freeport LNG Development to import up to 2.2 million tpy each of LNG from Freeport's facility on the US Gulf Coast.

### **LNG: Consumption**

- Global prices for liquefied natural gas are rising toward record highs this year as increasing demand runs up against stuttering supply, threatening to drive up fuel costs in some of the world's biggest economies.

### **GTL: Transport - Distribution**

- GTL jet fuel blended with synthetic paraffinic kerosene (SPK) at the Pearl GTL plant in Qatar is now flowing into airplane tanks at Doha International Airport. This is the first new aviation fuel to be approved globally in two decades.

### **Natural Gas: Production**

- BP may be forced to reconsider further gas exploration in North Africa as a result of the hostage crisis at the Algerian natural gas facility.
- Brussels appears to be expanding the number of options it will consider in Europe's long-running push towards expanding their natural gas options by expressing interest in what the Eastern Mediterranean has to offer.

### **Natural Gas: Transportation - Distribution**

- China National Petroleum Corp. (CNPC) has signed a cooperation framework agreement with Shenergy Group and Yangkou Port Co. Ltd. to build the Rudong-Haimen-Chongming natural gas pipeline.
- Gazprom has signed a deal with Plinacro to construct a branch of the South Stream gas pipeline in Croatia
- Opening the Gazelle natural gas pipeline in the Czech Republic, which connects to Russia's Nord Stream, provides a vital energy source for the transportation of natural gas to Western Europe

### **Natural Gas: Supplies- Imports - Exports**

- Gazprom's supergiant Zapolyarnoye natural gas field has reached its full design output of 130 billion cubic metres per year, making it the most productive field in the country and one of the most important fields for Russia's exports to Europe

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## LNG

### PRODUCTION

#### Australia : Production – CNR52/2/1

**Woodside Petroleum and Santos set production and sales records** in the December quarter as new developments came on stream. Woodside's Pluto LNG project north of Karratha helped boost overall production 31% in 2012 to 85 million barrels of oil equivalent (mboe), although prices fell in the fourth quarter as fewer cargoes went to the higher-priced spot market - a one-off due to a quicker-than-expected ramp-up in the second and third quarters. Woodside's sales rose 30% to \$US6.2 billion. Santos gave updated guidance on production costs for 2012 of \$660 million, above estimates of up to \$640 million. Santos said its major projects PNG LNG and Gladstone LNG were more than 70 and 45 per cent complete, and on track for first gas from 2014 and 2015, respectively. Santos drilled 143 coal seam gas wells in the Surat and Bowen Basin as part of the Gladstone LNG project, slightly below target analysts said. (January 18, 2013)

#### RUSSIA: Planned project – Production forecast - CNR52/2/2

**Gazprom and Novatek signed recently an agreement to form a joint venture to produce liquefied natural gas** on the Yamal Peninsula. The agreement is further evidence of **Russia's growing interest in LNG production**, which has been observed in recent years. It forms part of Russia's declared strategy of diversifying the markets for its domestic gas. Increased LNG production in Russia could make it possible to offer flexible gas supplies to the demanding Asian market, which is seen as an alternative to Europe, where Gazprom is facing increasing difficulties. Russia's activation in the LNG sector is a response to increased competition for markets among gas manufacturers and exporters (such as the Middle Eastern states, especially Qatar; Australia, Canada and the United States). The limited progress observed so far in implementing Russian LNG projects has been caused by the Russian gas sector's main problem, which is the dominant position of Gazprom in the internal market and its export monopoly, which is guaranteed by law.

In comparison with other liquefied natural gas-producing countries, the Russian market for producing LNG is relatively undeveloped. At present, it is only produced on the Sakhalin peninsula in the Russian Far East as part of the Sakhalin-2 project, which is funded mainly by foreign partners. The production volume is about 10 million tons per year, which represents approximately 5% of the world's LNG. In recent years, **Russia has launched new projects for gas extraction and LNG production**: the Yamal LNG company (80% of whose shares belong to Novatek, and the remainder to Total), which was established to exploit the South-east Tambey deposit; also, a Russian-Japanese memorandum to construct an LNG terminal in Vladivostok was signed last June in St. Petersburg. The Pechora LNG project, involving the development of the

Kumzhinsk and Korovinsk fields is at the initial stage of preparation (a feasibility study). A project to build a terminal on the Black Sea, as well as another to build on the Chukotka and Kamchatka peninsulas – if the existence of gas fields there is confirmed – are at the planning stage.

LNG projects in Russia have **the government's political support**; last November, President Vladimir Putin ordered the managements of Novatek and Gazprom to agree on contracts to export LNG from the Yamal Peninsula. The government has taken a number of measures to stimulate the projects, including granting the Yamal LNG project an exemption from the tax on the extraction of fossil fuels and natural gas (NDPI) in relation to gas processed into LNG, as long as production does not exceed 250 bcm; as well as an exemption from export duty. However, progress in implementing the LNG projects has been insignificant. The main reason for this is Gazprom's de facto and de jure privilege on the Russian gas market. **Gazprom is striving to maintain its current position, especially to maintain its export monopoly** in the gas sector, which is guaranteed by law.

LNG production from Russian fields (primarily Yamal) is **mainly intended for prospective Asian markets**, in particular China, Japan, India, South Korea and Taiwan. Projections indicate that by 2025 there will be a significant growth in demand for gas in the region (to 600-800 bcm per year), of which LNG will account for almost 50%. Exports of Russian LNG would be significantly enhanced by the production of raw material from the Yamal fields: Gazprom and Novatek's joint projects are expected to produce about 20 million tons of LNG per year, or about 28 bcm, and the Yamal LNG project should yield about 16.5 million tons, or about 23.1 bcm. Production in both cases is scheduled to start in 2016.

One major challenge is **the question of how profitable the Russian exports may be**. One characteristic of the Asian LNG market is the wide

variation in raw material prices. The potential high cost of transporting Russian LNG could increase prices; it is still unsure by which route the Russian gas from the Yamal and Gydan fields would be

transported. Getting a stake in the strategically important Asian market may prove very expensive, and quite possibly not very cost-effective. (January 16, 2013)

## TRANSPORTATION-DISTRIBUTION

### **CANADA: Planned project -Agreement- CNR52/2/3**

TransCanada said it was tasked with building a **\$5 billion natural gas transmission system to feed LNG facilities in British Columbia**. Progress Energy Canada Ltd. selected TransCanada to design, build, own and operate a proposed, 470-mile natural gas pipeline. The pipeline would transport about 2 billion cubic feet of natural gas per day from fields near Fort St. John, British Columbia, to an expected liquefied natural gas export facility near Prince Rupert, along the provincial coast. The company expects the pipeline to enter into service by the end of 2018, subject to regulatory and corporate approval. The company added that it was considering an extension to an existing pipeline system that could tie into later networks. That project would cost at least \$1 billion and go into service at the end of 2015. (January 14, 2013)

**CHINA: Orders for LNG carriers- CNR52/2/4 2013 could be a breakthrough year for Chinese shipyards**, with a number of them in the running to receive precious orders for LNG carriers. In addition to the **massive six-ship LNG carrier order** that Hudong-Zhonghua might clinch with China Shipping Group and Mitsui OSK Lines, CNOOC Energy and Technology Services is also planning to place an **order for 1+1 30,000 cu m LNG carriers**. Currently both Jiangnan Shipyard and Dalian Shipbuilding Industry Co are bidding for the contract. CNOOC is also tendering for the

construction of another two smaller LNG carriers with Shanghai Merchant Ship Design & Research Institute (SDARI) undertaking the design work for the vessels. In the meantime, Dalian Inteh Group, a chemical logistics provider is planning a 28,000-30,000 cu m LNG carrier newbuild project. The group has already contacted TEG Group and Hamworthy, a Wartsila company, for the designs of LNG systems. Cosco Dalian Shipyard and Bohai Shipbuilding Industry are currently bidding for the project. (January 14, 2013)

## SUPPLIES - IMPORTS - EXPORTS

### **ARGENTINA: LNG demand - CNR52/2/5**

**Argentina competing with Asia for cargoes of liquefied natural gas may curb shipping demand by shortening voyages**, according to RS Platou Markets AS. Low hydropower in South America helped LNG prices there rise to \$17.50 per million BTU, driving prices in northeast Asia to \$19.10, according to Platou. That could reduce shipping demand because Argentina is 4,600 nautical miles from Nigeria, compared with a 10,700-mile journey to Japan. Argentina is seeking to import 5.2 million tons of the frozen fuel this year, up from 3.6 million in 2012, according to Norway's shipbroker. If the increase replaces cargoes to Japan, shipping demand would fall 1 percent, cutting rates by \$8,000 a day, all else being equal, Platou estimates. "The reason for the higher spot prices has partly been fierce competition from other regions,...the increased trade within the Atlantic basin may hamper the charter rate development. (January 21, 2013)

### **CANADA: Supply contract – Agreement - CNR52/2/6**

**A West Coast energy export project has signed contracts to sell liquefied natural gas to foreign buyers**, a critical step in finding new markets for a struggling commodity. But the agreement by BC LNG Export Co-operative LLC to sell roughly 700,000 metric tonnes of natural gas a year also comes as a warning that Asian buyers may not make Canadian gas producers rich. In fact, the sales contract **values gas according to depressed U.S. and Canadian**

**prices**, rather than the far more lucrative international prices that are tied to oil. "What we're seeing is that the Asian marketplace is now beginning to embrace the North American gas indices as the pricing forum," said managing director of BC LNG. That's not going to provide much relief, he acknowledged, at a time when prices are so low that many natural gas wells barely break even. Mid-January, North American natural gas traded at \$3.57 (U.S.) per million BTU. LNG from Japan and South Korea sold for \$17.35, according to Platts data. (January 20, 2013)



**ISRAEL: Planned project – Start up- CNR52/2/7**

The Ministry of Energy and Water Resources says that the first liquefied natural gas (LNG) ship will dock at the offshore LNG buoy at the end of January. Israel Electric Corporation (IEC) invested more than \$100 million in the **LNG buoy, which will enable natural gas imports during peak demand periods**, until the Tamar natural gas field begins deliveries at the end of April. Use of LNG will lower electricity production costs and it will serve as back-up for natural gas deliveries. The LNG buoy will supply up to 570,000 cubic meters of gas a year. The buoy, located ten kilometers offshore from Hadera, will deliver gas to eight IEC power stations and other gas consumers. IEC estimates that each tanker load of LNG will replace ten days consumption of diesel and fuel oil, which the utility has been using to make up for the natural gas shortage. The capacity of the LNG tanker is 138,000 cubic meters of LNG, which equals 80 million cubic meters of natural gas. (January 20, 2013)

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**JAPAN: Supply contract- CNR52/2/8**

**Osaka Gas and Chubu Electric Power Co. recently signed a 20-year contract with Freeport LNG Development to import up to 2.2 million tpy each of LNG** from Freeport's facility on the US Gulf Coast. The facility is slated to start operations in 2017. Osaka Gas Co. is confident that it will be allowed to import liquefied natural gas to Japan from the Freeport project in Texas, a company executive said recently. The Freeport contract will be effective once the US grants a license. The question of whether the US Department of Energy will approve the agreement has been of investor interest because the department said last year it wouldn't approve any plans to ship LNG to countries without a free-trade agreement with the US until it completed a review

of natural gas shipments, including whether they will help create US jobs and offset trade imbalances. A study commissioned by the DOE said in December that natural gas exports would benefit the US economy, leading to net economic gains that would outweigh the downside resulting from higher natural gas prices. The DOE has invited the public to provide comment on the report in relation to 15 applications pending approval to export LNG from the US. The report and resulting comments will be taken into consideration when the department makes its decision in each case. The Freeport contract will be effective once the US government grants a license to export LNG to Japan. (January 21, 2013)

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**MOZAMBIQUE: Planned project – Engineering - CNR52/2/9**

Anadarko Mozambique Area 1 has selected Bechtel to perform a front end engineering and design (FEED) for a new LNG facility in the country. Under the contract whose financial terms were not disclosed, **Bechtel will provide FEED services for the initial phase of the onshore plant to be constructed in the Cabo Delgado province**. The company will design a multi-train liquefaction plant with a capacity of 5 million metric tons per annum (MMTPA) of LNG and will design the overall LNG park plan to allow expansion of the facility to about 50MMTPA. First commercial LNG sales from the plant are scheduled for 2018. (January 21, 2013)

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**UNITED STATES: Planned project – Export facilities- CNR52/2/10**

Perth based Liquefied Natural Gas Limited and the Louisiana Economic Development have recently followed an **earlier announcement with plans for a US\$2.2 billion LNG export facility**, in Lake Charles, Louisiana. LNG's managing director expects to make a final investment decision to move forward with the project in late 2014, after it secures permits and completes financing. On the 18 December 2012, the Company's wholly-owned subsidiary, Magnolia LNG LLC, filed an application with the US

Department of Energy, Office of Fossil Energy (US DOE/FE) to export up to 4 million tonnes per annum (mtpa) of LNG. Magnolia LNG LLC executed an exclusive site access agreement with the Port of Lake Charles Harbour & Terminal District (Port), in the US State of Louisiana, on which it is proposed to develop a 4mtpa LNG production and export facility. The proposed project site has direct access to a number of existing underutilised gas pipelines, which directly access the highly liquid US gas market. (January 21, 2013)



## COMPANIES

### **CANADA: Planned project – Agreement - CNR52/2/11**

Apache Corporation has announced that its subsidiary **Apache Canada Ltd. has signed a broad agreement with Chevron Canada Limited to build and operate the Kitimat LNG project and develop shale gas resources** at the Liard and Horn River basins in British Columbia. Encana and EOG Resources — currently 30 percent non-operating partners in Kitimat LNG and Pacific Trail Pipeline — will sell their interests to Chevron and exit the venture. As part of the transaction with Chevron, Apache will increase its ownership of the plant and pipeline to 50 percent from 40 percent. Chevron Canada and Apache Canada each will become a 50 percent owner of the Kitimat LNG plant, the Pacific Trail Pipeline and 644,000 gross undeveloped acres in the Horn River and Liard basins. Chevron Canada will operate the LNG plant and the pipeline; Apache Canada will operate the upstream assets. "This agreement is a milestone for two principal reasons: Chevron is the premier LNG developer in the world today with longstanding relationships in key Asian markets, and the new structure will enable Apache to unlock the tremendous potential at Liard, one of the most prolific shale gas basins in North America," said G. Steven Farris, Apache's chairman and chief executive officer. (December 24, 2013)

## CONSUMPTION

### **ASIA: Regulation – Gas price - CNR52/2/12**

**LNG becomes most expensive fuel in northeast Asia.** LNG has overtaken oil to become the most expensive fuel in northeast Asia, after a Brazilian drought and freezing weather in the eastern Mediterranean lured away cargoes. The Argus northeast Asia (ANEA) LNG spot price has risen significantly since mid-October, climbing by over 46% to \$19.10/mn BTU today. Other fuels used for electricity generation, such as crude and fuel oil, have been relatively flat in comparison.

The reason behind the surge in northeast Asian LNG prices has been **fierce competition from other regions**. Brazil, which does not usually

import LNG at this time of year, has been aggressive in the spot market as it seeks to supply gas-fired power plants amid low hydropower output. Argentina launched an 80-cargo tender at the end of 2012, along with subsequent tenders for volumes it failed to secure first time round. Cargoes sell to Argentina at \$17.00-17.50/mn BTU, with Brazil expected to pay slightly less because of lower credit risk. Turkey and Greece have also bid for LNG cargoes to satisfy high domestic gas demand during a colder-than-expected winter. In December, Greece had to pay a relatively high price for a very prompt cargo, as did Turkey, paying \$17.50/mn BTU for a cargo delivered mid-January. (January 18, 2013)

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### **MALAYSIA: Planned project – Delay - CNR52/2/13**

IEV Holdings Limited and Gas Malaysia have **extended the deadline of the feasibility study for processing, transporting and marketing of LNG in Malaysia** from 16 January 2013 to 15 March 2013 as more time is required for the said study. The two parties entered into an agreement in October last year to conduct the feasibility study. Save for the extension to the deadline of the feasibility study, there is no change to the remaining terms as set out in the MOU. The Company will provide further updates on material developments relating to the MOU as they occur. Should the study indicate that the LNG projects are feasible, the parties shall agree to negotiate an exclusive Joint Venture Agreement. (January 16, 2013)

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### **WORLD: LNG Consumption - CNR52/2/14**

**Global prices for liquefied natural gas are rising toward record highs this year as increasing demand runs up against stuttering supply, threatening to drive up fuel costs in some of the world's biggest economies.** After a record, unexpected drop in LNG output in 2012, production is expected to grow only marginally this year. Demand, meanwhile, continues to march higher, driven by energy-hungry Asia's rapid economic growth, Japan's near total shutdown of its nuclear industry and a drought in Brazil that has forced the South American nation to buy emergency fuel supplies at high prices.

With 80 percent of global LNG supplies locked up under long-term contracts, it is countries such as Brazil, Argentina, number two economy China and India that rely on short term deals who could face the biggest hit.

LNG helps bridge fuel supply gaps in countries where domestic output fails to keep up with demand. The intricate process of liquefying gas, shipping and regasifying the fuel can also make it more expensive than pipeline supplies. Spot prices of liquefied natural gas are currently about \$18 per million BTU, up about \$2 from the same time last year. Moreover, the tighter market means that any unforeseen events, such as

Japan's Fukushima nuclear disaster, big weather events or sudden plant shutdowns, could push prices even higher.

LNG exporters are bracing for a **supply glut in the second half of this decade as new supplies arrives** from Australia, Africa and the United States. But in the meantime a shortage looms. In fact, in a few years time, the supply picture is more promising for consumers. The shale gas

boom means there will probably be new supplies from the United States on the world market, although a debate is raging between domestic producers and consumers over allowing more than one project to go ahead. There are also new export terminals due to be established in Australia and East Africa by 2020. Already experts are asking whether there might even be excess supply once these projects are built. (January 18, 2013)

## GTL

### TRANSPORTATION-DISTRIBUTION

#### **QATAR: Planned project – Start up - CNR52/2/15**

**GTL jet fuel blended with synthetic paraffinic kerosene (SPK) at the Pearl GTL plant in Qatar is now flowing into airplane tanks** at Doha International Airport. Qatar Petroleum, Qatar Airways and Royal Dutch Shell have teamed up to unveil a new aviation jet fuel. The companies claim this is the first new aviation fuel to be approved globally in two decades. Representatives from the Qatari government and executives from Qatar Petroleum, Qatar Airways and Shell attended the inaugural fueling of a Qatar Airways aircraft with GTL jet fuel at the airport. A Qatar Airways Airbus A340-600 plane (Flight QR001) made history by being the first to fly outbound from Doha International Airport, en route to London Heathrow, using GTL jet fuel. This is a significant milestone for the giant onshore Pearl GTL complex, which was jointly developed by Qatar Petroleum and Shell and is the largest energy project in Qatar. Fully approved for use as an aviation fuel, GTL jet fuel is a blend of up to 50% GTL SPK meeting the requirements of ASTM-D-7566 and conventional crude oil-derived standard jet fuel (Jet A-1). GTL jet fuel from the Pearl GTL plant is marketed by Tasweeq for use solely within Qatar. (January 11, 2013)

## CNG

### TRANSPORTATION-DISTRIBUTION

#### **ISRAEL: Regulation –Economic incentives - CNR52/2/16**

The government wants to **use compressed natural gas (CNG) instead of gasoline in public transport**. On January the cabinet approved a plan to encourage the switch from oil to domestically produced compressed natural gas (CNG) for transportation. The plan calls for an initial use of 15% methanol in gasoline, use of CNG and electric engines by buses, the import of hybrid engine motor vehicles, and the extensive use of mass transit. The plan sets ambitious targets: cut the use of oil for transportation by 30% by 2020 and by 60% by 2025, compared with current projected oil consumption based on business as usual.

To achieve the targets, the committee recommends a series of **measures intended to lower the cost of fuel for transportation, develop Israel's energy and technology sectors, and improve the environment**. The cabinet will order the Ministry of Energy and Ministry of Transport to review instituting a

standard of 15% methanol in the first stage, and to gradually raise the standard to 30% and 85%. Methanol can be produced from natural gas and a 15% mix with gasoline does not require the redesign of engines. Another key recommendation is to encourage the switch to CNG by providing incentives to build a nationwide CNG refueling network. The committee hopes that it will be possible to begin refueling vehicles with CNG by the end of 2014. Eyal Rosner, the head of the Administration to Reduce Dependence on Oil for Transportation at the Prime Minister's Office says that the cost of Israeli natural gas is currently \$6 per mmBTU, almost two-thirds less than the price of oil of \$16 per mmBTU. Given that the government intends to levy a lower excise on CNG to encourage its use because it is cleaner than gasoline, the difference could be greater.

The cost of converting engines from gasoline to CNG, which is still too high to justify the conversion for individuals, which means that the main beneficiaries would be trucks, buses, and other heavy vehicle users. (January 13, 2013)

- Global LNG Summit 11 March 2013
  - Storage & Flexibility Forum 11 March 2013
  - Main Conference 12-14 March 2013
  - Trading Workshop: 15 March 2013
- The Hotel Okura, Amsterdam

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### What's New For 2013

- NEW European Road Map & Climate Change Senior Working Group**  
Dieter Helm of Oxford University will be joined by Lord Browne Of Madingley of Riverstone Holdings and former CEO of BP & Philip Lowe of the European Commission for a high level discussion on the future for Europe's energy mix.
- NEW Insights On The US Market**  
Adam Sieminski, Administrator of the U.S. EIA & Dr Charles Ebinger of The Brookings Institute will talk politics, policy, export and shale gas production and also explore how US exports could impact global gas flows.
- NEW Leading Economic Insight To Guide Us Through Volatile Times**  
Prominent global economist, Roger Bootle of Capital Economics will offer an outlook for the global markets & Christof Rühl of BP will look at the economic impact on gas demand
- NEW Saatchi & Saatchi Insight On Branding & Public Relations**  
Pedro Simko of Saatchi & Saatchi will explain what your company and the gas industry at large can learn from the brand pioneers
- NEW Special IEA Energy Briefing**  
Dr Birol, Chief Economist, IEA will give the World Energy Outlook & senior IEA analysts will host a working group on how Coal & Renewables are performing and could impact natural gas
- NEW Inside Chinese Thinking On Gas**  
Dr Victor Gao, Director, China National Association Of International Studies & Former SVP, CNOOC will be offering home truths about Chinese public policy on gas utilisation, exploration and import.

### THE GLOBAL LNG SUMMIT Monday 11th March

Discuss Global LNG Updates With 200+ LNG Experts

**Alaa Abu Jbara**  
COO, Commercial & Shipping  
QATARGAS



**Domenico Dispenza**  
President  
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#### PROGRAMME HIGHLIGHTS

- **Japanese Demand Update** – Understand Japanese public policy & opinion on energy with **Akira Myamoto** of Osaka Gas
- **An Interview With Shell** – **Roger Bounds** offers the IOC's perspective On Creativity & Innovation In LNG
- **Spotlight on US Exports** – **Jean Abiteboul** of Cheniere will be looking at the reality of US export.
- **LNG Trading Update** – **BP, Petrobras, Vitol & Morgan Stanley** explore where the opportunities lie in the traded LNG markets
- **A Conversation With QatarGas** – **Alaa Abujbara** will discuss the latest projects on the horizon for QatarGas

### THE STORAGE & FLEXIBILITY FORUM Monday 11th March

Take Part In The Annual Gathering For The Storage Industry

#### PROGRAMME HIGHLIGHTS

- **Regulatory Update** – **Geert Van Hauwermeiren**, of CREG will offer an update on European policy on storage
- **Seasonal vs Short Cycle Storage** – **Adri Pols** of TAQA ENERGY analyses cost vs risk appetite
- **Investment In Storage** – **Simon Wills** of Centrica Storage will be looking at who will foot the bill for European security of supply
- **What Role Does Storage Play In A Renewable Economy?** – **Willem Faber** of Gasunie will offer a case study of his insight on fast cycle storage



**Patrick Barouki**  
MD, EMEA Power & Gas Trading & Global LNG  
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**Erich Holzer**  
Managing Director  
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### Hear Important Updates On The Biggest Issues Impacting The Global Gas Market

<p><b>The Global Economy</b></p> <p><b>Roger Bootle</b> Chief Economist CAPITAL ECONOMICS</p>	<p><b>The Energy Outlook</b></p> <p><b>Dr Fatih Birol</b> Chief Economist INTERNATIONAL ENERGY AGENCY</p>	<p><b>European Regulation</b></p> <p><b>Philip Lowe</b> Director General, Energy DG EUROPEAN COMMISSION</p>	<p><b>US Gas Production</b></p> <p><b>Adam Sieminski</b> Administrator U.S. ENERGY INFORMATION ADMINISTRATION</p>
<p><b>Energy Trading</b></p> <p><b>Klaus Reinisch</b> CEO PETRONAS ENERGY TRADING</p>	<p><b>Chinese Public Policy</b></p> <p><b>Dr Victor Gao</b> Director CHINA CNAIS</p>	<p><b>Russian Gas</b></p> <p><b>Marcel Kramer</b> CEO SOUTH STREAM TRANSPORT</p>	<p><b>Climate Change</b></p> <p><b>Dieter Helm</b> Fellow OXFORD UNIVERSITY</p>

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### UNITED STATES: Ongoing project - Expansion - CNR52/2/17

Last year, **Clean Energy Fuels Corp. began the first major project for natural gas fueling infrastructure since the shale boom pushed natural gas prices through the floor.** Called America's Natural Gas Highway, the effort to build 150 LNG fueling stations on major trucking highways across the United States got underway with 70 stations in 2012. The remaining 80 will be complete by the end of this year. But this project was just part of a national focus on natural gas for fueling. Honda rolled out a natural gas version of its Civic last year, while a number of companies began shifting fleets over to natural gas vehicles. Clean Energy's project is made for trucks. Truck fleets will likely be the first to shift to natural gas use, as companies will recover the cost of converting the vehicles by using the cheap fuel in place of diesel. The next group to take the plunge, before passenger vehicles, will likely be government and business fleets. And it's with that in mind that IGS Energy CNG Services has agreed to **develop a Compressed Natural Gas (CNG) Fueling Corridor** in West Virginia. The corridor will consist of three CNG filling stations along Interstate 79, costing a total of somewhere around \$10 million. The first station will be located in Charleston, with two more also starting construction in the first quarter. IGS Energy expects all three to be complete before the end of the year. West Virginia's Department of Highways will be the first to take advantage of the new stations. It has committed to purchasing 20 state vehicles capable of filling up at these CNG stations. (January 18, 2013)

## NATURAL GAS

### EXPLORATION – DISCOVERY

#### IRAN: Discovery - CNR52/2/18

**A huge natural gas field has been discovered** in north-eastern Iran. "Details of the discovery of new natural gas reserves in the region will be announced by the National Iranian Oil Company," Central Oilfields Company Managing Director Mehdi Fakour has announced. The exploratory study of the newly discovered gas field will continue until September 2013. According to BP's annual statistics, Iran's gas production (excluding flared and recycled gas) in 2011 was 153.3 billion cubic meters (some 420 million cubic meters per day), while the consumption volume was 151.8bcm in 2011, indicating a 1.5bcm negative balance. Iran's daily gas output is projected to hit 1.4 billion cubic meters by 2015 Iran's deputy oil minister said. With 34 trillion cubic meters of natural gas reserves, Iran has the world's second-largest natural gas reserves after Russia. (January 19, 2013)

#### MALAYSIA: Discovery - CNR52/2/19

Petronas said recently it has made onshore **oil and gas discovery in the country after 24 years.** The Malaysian firm and JX Nippon Oil & Gas Exploration drilled 3,170 metres into the Adong Kecil West-1 well in Sarawak state on Borneo island; The well encountered a total of approximately 349 metres of net hydrocarbon thickness. It had flow rates of 440 barrels of crude oil per day and 11.5 million standard cubic feet of

gas per day, the company said. Based on the drilling results, there are also indications that the **deeper sections in the onshore area may hold additional upside potential** for hydrocarbon accumulation. However, with the higher borehole pressures expected, drilling operations will be more challenging for the deeper reservoirs and rigs with higher specifications will be required to test such intervals; (January 18, 2013)

#### MYANMAR: Planned project – Tender - CNR52/2/20

The government of Myanmar announced it was accepting **bids for 18 onshore blocks** up for auction in its second oil and natural gas licensing round. The Ministry of Energy issued a statement explaining that state-owned Myanmar Oil and Gas Enterprise would serve as a partner alongside at least one other state-owned enterprise. "The petroleum operation shall be conducted on production sharing basis and/or improved petroleum recovery basis," a ministry statement published by the Myanmar Times read. The CIA World Factbook estimates that Myanmar holds around 50 million barrels of oil reserves and roughly 1 trillion cubic feet of natural gas. Bids are due by March 17. (January 18, 2013)

**TANZANIA: Planned project – Tender - CNR52/2/21**

London-based Solo Oil Plc plans to invite **bids for the exploration of natural gas in the Ruvuma basin on Tanzania's border with Mozambique** starting next month. FirstEnergy Capital LLP is managing the acquisition process of 50% stake of Solo and Aminex Plc in the Ruvuma production sharing area (PSA) where over 100 trillion cubic feet of gas has been discovered. Aminex and Solo hold 75% and 25% interest respectively in the Ruvuma PSA where in early 2012, gas was discovered onshore at Ntorya-1 well and successfully flow tested at 20 million standard cubic feet per day. Solo's executive director Neil Ritson said potential bidders will be asked to submit proposals on or after February 8. Ntorya-1 well estimated to contain 1.2 trillion cubic feet of gas has strong commercial potential. Gas from Ntorya and Ruvuma PSA will be transported from Mtwara to Dar es Salaam, a distance of over 550km, via a 36-inch pipeline under construction and due for completion in 2014. (January 19, 2013)

**PRODUCTION**

**ALGERIA: Regulation – Hostage crisis - CNR52/2/22**

**BP may be forced to reconsider further gas exploration in North Africa as a result of the hostage crisis** at the Algerian natural gas facility that it jointly operates, the Independent on Sunday reports, citing unnamed industry sources. While it is unlikely that BP will scale back operations in Algeria, further expansion across the region will need careful consideration, owing to the threat from al Qaeda in the Islamic Maghreb, an industry

source told the Independent on Sunday newspaper. "The Algerians are very security conscious, and they have to be...But BP will want to look at this again, as security is the key aspect. If there was reason why they wouldn't want to invest, it would be because of security," the sources said. BP remained committed to Algeria and its "high-quality assets" and intended to return to normal operations there as soon as the circumstances safely allow. (January 20, 2013)

**CHINA: Planned project – Production forecast - CNR52/2/23**

China has approved the **development plan for the deepwater Liwan 3-1 gas project** in the South China Sea, the National Development and Reform Commission said recently. This will be one of **China's biggest gas projects to come online in recent years** and will be a huge boost to the country's offshore production. It lies in Block 29/26 about 300 kilometers southeast of Hong Kong and is spearheaded by Canada's Husky Energy with 49%, partnering state company China National Offshore Oil Corp. with the remaining 51%. First gas is expected late this year or early 2014, before peaking at over **500,000 Mcf/day in 2015** once the neighbouring Lihua 29-1 field is tied back to production facilities. (January 18, 2013)

**EU: Supply – Extension - CNR52/2/24**

Brussels appears to be expanding the number of options it will consider in Europe's long-running push towards **expanding their natural gas options by expressing interest in what the Eastern Mediterranean has to offer**. Speaking at a conference in Cyprus, European Energy Commissioner Guenther Oettinger offered a cautious confidence that the Eastern Mediterranean natural gas find could play a part in Europe's push towards finding cleaner, more secure energy alternatives. Most notably, the **Eastern Mediterranean gas discoveries could offer a viable alternative to Russian reserves** – a central goal of Brussels' energy aims. The Cyprus setting for the gathering is especially notable as the island EU member state offers Europe the clearest shot at the offshore gas reserves. According to a United States Geological Survey, the Levant Basin, shared by Lebanon, Israel and Cyprus, offers up about 122 trillion cubic feet in recoverable gas and an estimated 1.7 billion barrels of oil. For Cyprus in particular, the Levant offers access to an estimated 5.1 trillion cubic feet of natural gas within the country's Exclusive Economic Zone. According to Reuters, the country's Industry and Tourism minister Neoclis Sylikiotis suggested they would be able to meet domestic needs with local natural gas by 2017 and earn export revenue by 2019. Currently, both Italy's Eni and France's Total are in talks with Cyprus to discuss production-sharing agreements for offshore natural gas, offering an entry point for the European market.

While the potential of the region's natural gas discoveries is substantial, Europe will be entering already turbulent waters if it chooses to move beyond its connection to EU member state Cyprus. Beyond Nicosia, the **Eastern Mediterranean gas issue has been the subject of increasingly tense interactions** about conflicting maritime claims and access to what could offer energy independence of some sort to much of the region for years to come. (January 18, 2013)

### **GULF REGION: Investment opportunities - CNR52/2/25**

The Gulf region's increasing **focus on offshore oil and gas projects will be a boost to the continuing economic development of the region**, the recent report from Meed projects. Oil producers are now actively turning offshore in search of oil and gas to boost production, now that advancing technology has significantly brought the costs down. As a result, the region now accounts for a significant proportion of global platform and pipeline contracts, as it continues to **attract renewed interest from major international contractors as well as new entrants to the market**. According to the report's count, citing data from the US' Baker Hughes, there are currently 45 offshore rig projects, eight more than the same period in 2011 and over previous peak of 43 recorded in 2008. "With advances in technology bringing efficiencies up and costs of exploration down, we can expect quality standards for projects to be raised even higher," the report added. (January 21, 2013)

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### **LEBANON: Partnership - CNR52/2/26**

Speaking at a press conference in Tehran, Majid Javedani, the representative of the French business law firm Fidal in Iran and Azerbaijan, said **Total SA and GDF Suez SA have expressed interest in working together with Iranian oil and gas companies outside Iran's borders**, IRNA reported. He added that a team of Total SA experts is in Lebanon and is currently holding talks with Lebanese officials, with the goal of expanding the French company's business

activities in the country. Javedani said that studies commissioned by the Lebanese government show that the country possesses about 700 billion cubic meters of natural gas. And it is projected that Lebanon's offshore oil reserves could eventually produce an output of 90,000 barrels of crude per day, he stated. He went on to say that the Chinese, U.S., and Russian rivals of Total SA are now ready to invest in Lebanese oil and gas projects. (January 20, 2013)

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### **MYANMAR: Production - CNR52/2/27**

"Myanmar's Ministry of Energy [MoE] is extracting 68 million cubic feet of natural gas per day from onshore blocks and 1,200 million cubic feet per day from offshore blocks, a total of 1,268 million cubic feet of natural gas each day," petroleum and natural gas production official Kyaw Thu Ya. Crude oil and natural gas are extracted in upper Myanmar, in Pyay, the Irrawaddy Delta, the Rakhine coast, and Mottama and Tenasserim offshore areas. Kyaw Thu Ya said that just 278 million cubic feet of natural gas fulfils the domestic demand. (January 21, 2013)

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### **WORLD: Production forecast - CNR52/2/28**

**Global natural gas production will grow by 2 percent per annum, reaching about 13 billion cubic metres per day by 2030**, BP Energy Outlook 2030 said. According to the report, most of the growth originates from non-OECD countries (2.2 percent per annum), accounting for 73 percent of world gas production growth. BP expects OECD gas production growth at 1.5 percent per annum over the outlook period. By 2030, according to BP's forecasts, non-OECD will account for 67 percent of total supply compared to

64 percent in 2011. BP predicts non-OECD gas demand will grow by 2.8 percent per annum compared to one percent annual growth in OECD countries over the outlook period. Thus, non-OECD share of global gas consumption will increase from 52 percent in 2011 to 59 percent by 2030. Non-OECD markets account for 76 percent of global gas demand growth to 2030. China alone accounts for 25 percent of the growth, and the Middle East for 23 percent, BP report said. (January 17, 2013)

## **RESERVES**

### **UNITED STATES: Regulation – Gas price - CNR52/2/29**

When US natural gas producers release their 2012 annual reports in the next several weeks, **many companies may have to drastically reduce a key indicator of their financial health: Reserves**. Even though US natural gas prices have bounced away from the decade lows of last April, the country's Securities and Exchange Commission **requires companies to calculate and report year-end oil and gas reserves using 12-month average prices**. Last year, the average price for natural gas at delivery point Henry Hub was \$2.77 per million British thermal units, 30 percent below a year before, as big supplies from shale gas fields continued to weigh, according to Reuters data. There is some dark irony here, since it was the industry itself that lobbied to change the SEC rule so that, from 2009, they could use a 12-month average instead of

the year-end price. This sharp price markdown will translate into **big cuts to estimates of proved reserves**. Reserves are important because they are used in determining the value of a company and are used in pricing loans. **"This is going to be a real issue for the companies with a lot of exposure to natural gas,"** said Neal Dingmann, oil and gas analyst with Suntrust Robinson Humphrey. US exploration and production companies likely to see large revisions include Ultra Petroleum Corp., Cabot Oil and Gas Corp., Southwestern Energy Co. Devon Energy Corp., have already taken gas reserves off the books, in a preview of what to expect when companies in the sector issue annual reports over the next six weeks.

The bigger question is when a solid recovery in natural gas prices could take hold. "We don't think it's going to happen any time soon," Raymond James analyst Andrew Coleman said. While analysts give no predictions for reserves, their pessimistic outlook for earnings indicates no dramatic recovery in natural gas prices in the near term. The data also show the various challenges for companies based on their gas dependence and size, with larger players enjoying more flexibility and suffering less of a hit to share prices. Production from shale fields such as Marcellus in Pennsylvania and West Virginia, Haynesville in Louisiana, Fayetteville in Arkansas, and new fields in Ohio and elsewhere, have kept gas priced well below the \$4 mark that the companies often cite as a benchmark for healthy returns. (January 19, 2013)

## **TRANSPORTATION-DISTRIBUTION**

### **AZERBAIJAN-TURKEY: Planned project - Approval - CNR52/2/30**

EU Energy Commissioner Gunther Oettinger welcomed the ratification of **TANAP (Trans-Anatolian gas pipeline)** between Azerbaijan and Turkey. "I am pleased to see that a crucial step towards realisation of the South Corridor has been taken: both Azerbaijan and Turkey have ratified the TANAP agreement, thus enabling a dedicated infrastructure for the transport of Azeri gas to the EU," he said in a statement. TANAP will take gas from Shah Deniz gas field in Azerbaijan through Turkey to Europe. **In 2018 the Shah Deniz consortium will sell 16 bcm/annum of gas to Turkey and Europe.** (January 18, 2013)

### **CHINA: Planned project – Agreement - CNR52/2/31**

China National Petroleum Corp. (CNPC) has signed a **cooperation framework agreement** with Shenergy Group and Yangkou Port Co. Ltd. **to build the Rudong-Haimen-Chongming natural gas pipeline.** The 89.5-km pipeline will deliver 2.4 billion cu m/year from Jiangsu province to Chongming Island in Shanghai. The line will serve as the third major source of gas for Shanghai after the first and second West-East Gas Pipelines. It will also transport regasified LNG from terminals at Rudong when needed. PetroChina's first LNG terminal in China, Rudong is expected to be supplied mainly from Australia's Gorgon project, scheduled to start producing in 2014. CNPC, Shenergy, and Yangkou Port will jointly build and operate the pipeline and expect it to enter service in 2014. (January 17, 2013)

### **CHINA-MYANMAR: Ongoing project – Completed works - CNR52/2/32**

The **China-Myanmar oil and natural gas pipelines**, China's new strategic energy channels **are expected to be completed on May 30**, state-run Xinhua News Agency reported recently. The main parts in Myanmar have been finished, while those in Chinese territory will be completed this month. The pipelines will undergo pressure tests and a drying process in February, according to

Gao. The **1,100-kilometer-long** oil and natural gas pipelines run from the port of Kyaukpyu on Myanmar's west coast and enter China at Ruili, Yunnan Province. The oil pipeline has a designed annual transport capacity of 22 million tons, while the natural gas pipeline has a **designed annual transport capacity of 12 billion cubic meters.** The channels will significantly increase the energy supply to the country's underdeveloped south-western regions. (January 21, 2013)

### **CROATIA: Planned project - Agreement - - CNR52/2/33**

Gazprom has signed a deal with Plinacro to **construct a branch of the South Stream gas pipeline in Croatia.** State-owned Croatian gas transmission system operator, Plinacro along with Gazprom will set up a joint venture company at the beginning of the second half of 2013 to build the gas pipeline branch. Financial aspects of the deal and other details were not disclosed but the branch is expected to be completed by 2016. The 2,380km long South Stream gas pipeline project is being undertaken to transport Russian natural gas through the Black Sea to Bulgaria, Greece, Italy and Austria. The total planned capacity of the pipeline is 63 billion cubic metres of natural gas per year. (January 18, 2013)



**CZECH REPUBLIC: Ongoing project - Completed works - CNR52/2/34**

**Opening the Gazelle natural gas pipeline in the Czech Republic**, which connects to Russia's Nord Stream, provides a vital energy source for the transportation of natural gas to Western Europe, Germany's RWE said. Gazelle started working on 14 January. Its capacity is expected to be up to 30 billion cubic metres of gas per year. The **166-kilometre Gazelle connects to the Opal pipeline system in Germany and the Nord Stream dual pipeline system** running through the Baltic Sea to Germany. The second string of

Nord Stream went into service in October. Gazelle is part of Russian gas monopoly Gazprom's plans to diversify its export options. Konstantin Simonov, the General Director of the National Energy Security Fund in Moscow, told that the pipeline is very important for decreasing transit risks for Gazprom, especially Ukraine. For its part, the EU wants to diversify away from Russian gas supplies. "It's easier to avoid Ukraine, when you are speaking of our supply to Czech Republic, because Gazprom now has an alternative route," Simonov said. (January 21, 2013)



**SUPPLIES - IMPORTS - EXPORTS**

**ALGERIA: Supply contract - CNR52/2/35**

Algeria did **not reduce its gas exports after the start of the hostage crisis** at the In Amenas gas plant, the country's energy minister said recently. "We did not cut our gas exports, we simply compensated the shortfall in production with production from other fields". He added that production at In Amenas made up only a small portion of Algeria's national output. Yousfi said damage to the plant was "not huge as equipment had been depressurised." "There was no explosion," he explained. The site which opened in 2006 would be fully operational again once mine-clearing operations have been completed. In Amenas is a joint venture gas project run by the Algerian state oil and gas company Sonatrach, Norway's Statoil and BP. (January 20, 2013)

**UKRAINE: Supply contract - CNR52/2/36**

Ukraine continues to import European natural gas via Poland as it seeks to break the stranglehold of Russian supplies. **The state-owned gas company Naftogaz is still receiving supplies under a contract with German utility RWE via reverse flows from Poland**, Kiev's energy minister says. Naftogaz in November struck a deal with RWE to supply it with **56 million cubic meters of natural gas** over a two-month period via Poland through the reversing one of the lines that connecting the two countries' transmission systems at Drozdovychi. The German company wouldn't confirm the price it is getting from Naftogaz but local media reports claimed it is cheaper than those charged by the Russian company Gazprom, which is fetching what Ukraine considers to be an exorbitant rate of \$426 per cubic meter, British energy analysts ICIS Heren reported. Ukraine has already purchased about 57 million cubic meters from RWE via Poland, but the arrangement is continuing, Stavitsky said. Naftogaz in May signed an agreement with RWE creating a legal framework for the importation of natural gas supplies from the German utility - a deal that wouldn't contain binding purchase or supply commitments, such as required by Gazprom. (January 21, 2013)

**RUSSIA: Planned project – Supply forecast - CNR52/2/37**

**Gazprom's supergiant Zapolyarnoye natural gas field has reached its full design output of 130 billion cubic metres per year**, making it the most productive field in the country and one of the most important fields for Russia's exports to Europe. Simonov stressed that without Zapolyarnoye field it would be impossible to have sustainable exports of Russian gas to Europe. "When you are speaking about such serious level

of production - 130 billion cubic metres - you can say that this field is extremely important for Gazprom," Simonov said.

However, he explained that not all this gas goes to the EU, noting that there is no correlation between European consumers and Russian gas fields. All the gas from Gazprom's fields goes to Russia's gas transmission network for domestic consumption and to fulfil Gazprom Export contracts to consumers at certain exit/entry points. (January 18, 2013)

### USE FOR POWER GENERATION

**CHILE: planned project – Investment decision - CNR52/2/38**

Codelco, the world No. 1 copper producer, will present a roughly \$750 million, **780 megawatt natural gas-fired plant project** for environmental approval in coming weeks, the company said recently, as it seeks to **soothe power prices at its massive northern mines**. State mining giant Codelco's Ministro Hales, Radomiro Tomic, Gaby and Chuquicamata mines benefit the most from the Luz Minera project planned in the city of Mejillones, local newspaper El Mercurio reported. Codelco intends to manage the project's environmental approval process itself, but then tender development and operation of the three planned plants to a third party. The plants will be built gradually and the timeframe depends on the environmental approval and construction processes, a Codelco spokesperson told Reuters. Codelco is not the only miner to take energy supply into its own hands in Chile. Energy costs have soared on the back of delays to key projects, underinvestment and recurrent droughts that have hurt hydropower generation, pinching power-intensive miners' margins. Industry experts say Chile, the world's leading copper producer, is failing to take a firm hand in regulating its mining and energy industries, leaving billions of dollars worth of projects exposed to the risk of lawsuits by local communities. (January 17, 2013)

### USE AS AUTOMOTIVE FUEL

**VENEZUELA: Regulation - CNR52/2/39**

The use of **natural gas as automotive fuel is now one of the most important aspects of the Venezuelan strategy to diversify the country's energy matrix**. According to the Venezuelan Automotive Chamber (Cavenez), last year 51.4 %

of the cars assembled by local plants were equipped to use this type of fuel. The figure amounts to 53,501 units, meeting regulations adopted in 2009 that include a 50 % domestic production of cars capable of using natural gas. (January 14, 2013)

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**WORLD: Regulation – Economic incentives - CNR52/2/40**

**Sales of natural gas trucks and buses will expand steadily over the remainder of the decade, nearing 1 million in sales from 2012 through 2019**, according to a recent report from Pike Research, a part of Navigant's Energy Practice. The report said because trucks and buses use significant amounts of fuel and tend to emit high levels of greenhouse gases, diesel and natural gas (NG) vehicles are increasingly attractive options in commercial markets. At the same time, the rebounding construction industry is pushing growth in the overall truck market while cities and municipalities look to expand their public transit systems. NG trucks typically run on compressed natural gas (CNG) because their tanks weigh less and are less costly than those for liquefied natural gas. LNG trucks, however, are increasingly being used as longer-range vehicles (400 mi. or more compared to the 150 to 300 mi. range for CNG vehicles) and are seeing higher growth rates than CNG trucks (17% versus 14% in heavy duty trucks), the study finds.

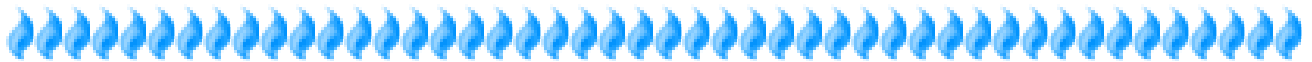
The worldwide breakdown of refueling stations is 117 LNG refueling stations versus 20,233 CNG refueling stations. About 45% of the LNG refueling stations are located in the United States, even though China has the largest annual sales for LNG fueled trucks, with 3,020 vehicle sales in 2012, according to the report. The report, "Natural Gas Trucks and Buses", analyzes the global market opportunity for natural gas vehicles in the medium and heavy-duty truck and bus markets. (January 16, 2013)

CONSUMPTION

**TURKEY: Planned project – Tender - CNR52/2/41**

**Six investors have submitted official bids in a tender to sell 100 percent of stakes in Turkish capital's natural gas grid, BaskentGas,** Turkey's second largest gas distribution network. BaskentGas has nearly 1.4 million subscribers with more than 70 new subscriptions annually, and its sales volume is over 2.3 billion cubic meters a year. 80% of the BaskentGas stakes are state-controlled while 20% is owned by the Ankara Metropolitan Municipality. Two former tenders for the privatization of the gas grid have seen offers as high as \$1.61 billion in 2008 and \$1.21 billion in 2010, however, they were not concluded as the winning bidders failed to fulfill contractual obligations.

Bidders in the third tender include Eksim Yatirim Holding AS–GENPA Telekomunikasyon ve Iletisim Hizmetleri Sanayi ve Ticaret AS-MKS Marmara Entegre Kimya Sanayi AS; Fernas Insaat AS; Torunlar Gida Sanayi ve Ticaret AS; Turkerler Insaat Tur. Mad. Enerji Uretim Ticaret ve San AS-Gama Holding AS; Zorlu Holding AS; and Akfen Holding AS–STFA Yatirim Holding AS.(January 19, 2013)



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