



Vol. 52, n°1, January 22, 2013

Main news

LNG: Production

- Commercial production of LNG is scheduled to begin in 2018 as Eni and Anadarko will jointly develop the 10-train Afguni LNG Project in Mozambique.

LNG: Transportation - Distribution

- New LNG import terminals in India are being hit by delays, even as the country faces a gas shortage because of dwindling domestic output and rising demand from power plants.

LNG: Supplies- Imports - Exports

- Angola LNG is expected to start regular exports of LNG in first quarter 2013 and will target buyers in Europe and Asia.
- Lithuania's new government said it would reconsider a project to build a new nuclear power plant but continue to support a liquefied natural gas import terminal.
- Qatar will reduce spot-market sales of LNG by at least 40 percent by 2014, curbing supplies available for Europe.

Natural Gas: Exploration

- Argentina's Pan American Energy has signed a deal with the government to invest \$3.4 billion between 2013 and 2017 to boost natural gas exploration and production in exchange for being able to charge higher prices.

Natural Gas: Production

- The Alberta government is aiming to attract major investment in its natural gas sector in 2013, as part of a strategy to develop a balanced and diversified energy portfolio.
- The first production platform on Israel's offshore Tamar gas field has been inaugurated, with first deliveries expected this April.

Natural Gas: Transportation - Distribution

- The prospect of natural gas from Algeria being piped via Sardinia to Northern Italy and onward to Europe is still uncertain as the date for making a decision regarding its viability has been delayed once again.
- Gazprom has started construction and assembly work on the western section of the Southern Corridor gas pipeline in Russia, that will feed into the South Stream gas export pipeline.

Natural Gas: Supplies- Imports - Exports

- Qatargas recently announced the signing of a long-term LNG Sales and Purchase Agreement (SPA) between Qatargas 3 and PTT Public Company Limited of Thailand.

Natural Gas: Storage

- Iran will inaugurate its second natural gas storage facility by the end of the current Iranian calendar year (March 20, 2013), aiming to boost gas storage capacity to 100 million cubic meters per day.

Natural Gas: Consumption

- Greece's natural gas reserves are rapidly dwindling and Public Gas Corporation (DEPA) is considering asking electricity-producing plants that operate on natural gas to reduce their output so as to cover the needs of households first

LNG	Production p. 3 / Processing p. 3 / Transportation-Distribution p.3-5 / Supplies-Imports-Exports p. 5-6-7-8 / Use as Automotive Fuel p. 8-9 / Companies p. 9 Consumption p. 9-10
LPG	Supplies-Imports-Exports p. 10
Natural Gas	Exploration p. 10-11-12 / Production p. 12-13-14 / Reserves p. 15 Transportation-Distribution p. 15-16-17 / Supplies-Imports-Exports p. 17-18-19 Storage p. 19 / Use For Power Generation p. 19-20 / Use as Automotive Fuel p. 20 / Companies p. 20 / Consumption p. 20-21/ General Information p. 21-22



LNG

PRODUCTION

AUSTRALIA: Cooperation agreement – CNR52/1/1

BG Group just borrowed \$1.8 billion from the US Export-Import Bank to **close the funding gap in its Queensland Curtis Island Liquefied Natural Gas project**. Cost blowout has escalated to \$20 billion that BG had to source additional funding for the resource venture. BG is expected to produce its first gas from the Curtis Island project in 2014. It is, however, within the Great Barrier Reef World Heritage area. BG insisted that it is constructing the project in an industrial port at the extreme southern part of the reef which would have no impact on the environment. (January 2, 2013)

MOZAMBIQUE: Planned project – Production forecast – CNR52/1/2

Commercial production of LNG is scheduled to begin in 2018 as Eni and Anadarko will jointly develop the 10-train Afguni LNG Project in Mozambique. Competition in world LNG markets is about to get a lot more exciting with the signing of a heads of agreement (HOA) between Anadarko Petroleum Corp. and Eni for the development of **100 Tcf to 175 Tcf of natural gas reserves offshore Mozambique**. The initial development will include four LNG trains, each with a capacity of 5 million metric tons per year (MMmt/y), with first delivery of LNG set for 2018. The addition of 20 MMmt/y of LNG would rattle world markets even more with increased competition for customers. Development of these huge East African reserves could have an impact on proposed LNG projects in Australia, Canada and the US. If nothing else, the additional LNG could lead to a buyer's market, resulting in lower LNG prices. The HOA is among the first steps in

facilitating development of offshore Area 1, operated by Anadarko, and Area 4, operated by Eni along with common onshore LNG liquefaction facilities in the Cabo Delgado province of northern Mozambique. A final investment decision is expected in 2013. While exports will be prioritised and production deals are expected to be signed, the government hopes other downstream developments will come soon after. "We want more than just LNG. We have huge reserves and we want to see how we can use the gas in the local, regional and international market," Minerals Minister Esperanca Bias said. Companies from South Africa, Germany, Japan, India and South Korea among others have expressed interest in setting up gas-to-liquids, methanol or fertiliser plants or in processing gas for power generation or production of steel and aluminium. If all the projects were realised, they would require 2.4 bcf of gas per day or capacity equal to three LNG trains the draft plan showed. (January 3, 2013)

PROCESSING

RUSSIA: Planned project – Engineering - CNR52/1/3

Gazprom announced **that engineering surveys are in the final stage for development of LNG facilities at the Shtokman field**. Preparation for front-end engineering and design document should be released for a national review by 2013, the company stated. "As part of the onshore facilities design development, tender documents have been prepared in order to hold a bidding procedure in 2013 for designing a liquefied natural gas plant," a Gazprom statement read.

During the summer, partners to Shtokman - Gazprom, Total and Statoil - postponed investment decisions on the project in part because of market considerations brought on by shale natural gas developments in the United States. The plant would produce around 30 million tons of LNG per year. The field has an estimated 134 trillion cubic feet of gas. Some gas was designated for markets in the Atlantic basin, including the Nord Stream pipeline to Germany, Gazprom said. (December 17, 2012)

TRANSPORTATION-DISTRIBUTION

AUSTRALIA: Supply project – Delay - CNR52/1/4

Gas tanker owners face **falling profits over the next few years as delays to Australian gas projects leave new ships unemployed**, though the tankers will earn more than other commercial vessels at least until 2016, analysts said. The liquefied natural gas tanker market has been the only bright spot in an otherwise depressed shipping sector after a global surge in the demand for gas, led by Japan in 2011,

boosted trade and tied vessels to longer routes, stretching the capacity of the global fleet. Gains in spot LNG tanker day-rates have lost momentum in recent months, after quadrupling in the years since 2010, and are likely to decline further in 2014 and 2015 given gas project delays and rapid fleet growth, the source said. (December 14, 2012)

BELGIUM: Planned project – Approval - CNR52/1/5

Fluxys signed deals to load 200 small LNG vessels from a new jetty due to open in 2015, a latest sign that LNG use for transport is picking up. The new jetty in Zeebrugge LNG terminal will be able to receive vessels with a capacity as small as 2,000 cubic metres, also known as bunker ships that supply larger vessels with LNG used as

fuel. "The Zeebrugge LNG terminal is paving the way towards becoming a hub for small-scale LNG use. This means using LNG as an alternative fuel for ships and long-haul trucks," Fluxys said in a statement. Ports around the world have already announced plans to supply LNG as transport fuel and Belgium's Zeebrugge is the latest one to join competitors from Rotterdam to Singapore. (20 December 2012)

INDIA: Ongoing project – Completed works - CNR52/1/6

State-owned GAIL India has completed work on Phase I of pipeline that will connect the upcoming liquefied natural gas import terminal at Kochi to consumers in Kerala. Petronet is building 5 million tonne per annum LNG import terminal at Kochi. The facility is likely to be completed in first quarter of 2013 after dredging of the navigational port is done. The Phase-I of the pipeline will connect the Kochi terminal to Fertilizer and Chemicals Travancore's (FACT) plant, Minister of State for Petroleum and Natural Gas, Panabaka Lakshmi said. The 879-Km Phase-II pipeline to Mangalore and Bangalore in Karnataka is under implementation and the actual physical progress of the project is 64%. "Phase-II of pipeline is passing through the states of Kerala (501 Km), Tamil Nadu (312 Km) and Karnataka (66 Km). As per GAIL's Board approval, schedule date of completion of the project is December 2012 but the project has been delayed," she added. (December 18, 2012)

INDIA: Planned projects – Delay - CNR52/1/7

New LNG import terminals in India are being hit by delays, even as the country faces a gas shortage because of dwindling domestic output and rising demand from power plants. State-controlled importer Petronet's 5mn t/yr Kochi LNG facility in the south Indian state of Kerala is ready for operations but will not be able to start until fellow state-controlled firm Gail completes a pipeline connecting the regasification plant to customers. Gail has only completed about 50km of pipelines in phase 1 linking the terminal with nearby industrial plants. A 1,185km section which supply users in Bangalore, Mangalore and a NTPC power plant, is delayed because of difficulties acquiring land in Kerala. Petronet's much-delayed 5mn t/yr Dabhol LNG terminal. Monsoons from May to October and rough seas will initially allow the terminal to operate for only

six months of the year and at a maximum of 30pc capacity. A tender to build a breakwater facility, which may take up to three years, is yet to be awarded. The Ratnagiri Gas and Power project at Dabhol includes a 1,967MW power plant that operates at about 25pc of capacity because of a lack of gas. India's largest gas-fired power plant was allotted gas from private-sector Reliance Industries' KG-D6 block, but dwindling supplies from the east coast field have left the plant idle. And state-controlled IOC's proposed 5mn t/yr LNG terminal at Ennore in Tamil Nadu state has also been delayed by a year to 2016. India imports more than 39mn m³/d of LNG, accounting for about a quarter of gas consumption. Supplies may rise to 115mn m³/d in 2014-15, exceeding domestic production of 113mn m³/d, according to the oil ministry. (January 4, 2013)

TURKEY: Planned project – Talks - CNR52/1/8

Turkey will discuss building a **liquefied natural gas terminal with Qatar** on its Aegean coast to help meet rising domestic needs and as Turkey's role as an energy supplier to Europe grows. The planned terminal on the Gulf of Saros, an inlet in European Turkey, would have an **annual capacity of 5 billion to 6 billion cubic metres** and could help supply Bulgaria and Greece as well as help Turkey meet its own rising LNG demand, Energy Minister Taner Yildiz said recently. Turkey is becoming an increasingly important player in global energy markets, both as buyer and as transit hub linking producers to its south and east with European economies keen to diversify supplies. (January 7, 2013)

UNITED STATES: Planned project – Agreement - CNR52/1/9

Teekay LNG Partners L.P. recently announced that it has entered into an agreement with Daewoo Shipbuilding & Marine Engineering CO., LTD., (DSME) of South Korea for the **construction of two 173,400 cubic meter Liquefied Natural Gas carrier new buildings, with options to order up to three additional vessels.** The Partnership intends to secure long-term contract employment for both vessels prior to their delivery in the first half of 2016. The new buildings will be constructed with M-type, Electronically Controlled, Gas Injection (MEGI) twin engines, which are expected to be more fuel-

efficient and have lower emission levels than other engines currently being utilized in LNG shipping. "The delivery of these vessels is timed to coincide with the next wave of increased demand for LNG carriers which is expected when a large number of new LNG export projects come on-stream commencing from late-2015. They are also among the largest LNG carriers that will be able to transit the Panama Canal after its expansion project is complete, which makes them ideal for U.S. LNG exports. The recent U.S. Department of Energy study supported the export of LNG from the U.S.," commented Peter Evensen, Chief Executive Officer of Teekay GP LLC. (December 13, 2012)

SUPPLIES - IMPORTS – EXPORTS

ANGOLA: Planned project – Supply forecast - CNR52/1/10

Angola LNG is expected to **start regular exports of LNG in first quarter 2013** and will target buyers in Europe and Asia, oil minister Jose Maria Botelho de Vasconcelos said. The venture, a 5.2 MMtpy LNG project led by Sonangol and Chevron, was supposed to begin commercial shipments earlier in 2012. However, the start of exports has been delayed several times, although some shipping tests have been conducted in recent months. BP, Eni and Total each hold a stake of 13.6% in the project, while Sonangol holds 22.8% and Chevron 36.4%. (December 13, 2012)

ARGENTINA: Planned project – Supply contract- CNR52/1/11

Gas Natural Fenosa has entered the race for large LNG contracts to supply Argentina despite strong opposition from Repsol, one of Gas Natural's main shareholders with a 30% stake, reports expansion in its internet edition.

Earlier this year, Argentina expropriated a 51% stake in YPF from Repsol. Through its state run companies Enarsa and YPF, Argentina is expected to buy more than 80 LNG cargoes next year, with a market value of some \$3.3 billion, according to Dow Jones Newswires. (December 18, 2012)

AUSTRALIA/INDIA: Planned project – Supply forecast - CNR52/1/12

Petronet LNG Ltd's proposed LNG terminal at Puthuvype will get fuel from Western Australia by 2014. The construction work of the infrastructure facilities to supply liquefied natural gas to the terminal is under way. By the time the terminal reaches its full capacity to produce 5 million tonnes of LNG a year, the gas supply from Australia is expected to kick off. Petronet LNG Ltd (PLL) is also holding talks with US-based companies, but the fuel from there would only be available by 2016. During the initial stages after the commissioning of the terminal, fuel would be supplied from Qatar. (December 17, 2012)

CANADA: Export forecast- CNR52/1/13

According to a report released recently, **Canada has the potential of becoming the world's second largest liquefied natural gas supplier** in the near future, largely driven by demand of emerging markets. This report, compiled by the Conference Board of Canada, examines the economic contribution that the natural gas industry will make to Canada's economy between 2012 and 2035. Demand for Canadian gas will double over the next 24 years, driven by both

LNG exports to Asia and increased use of natural gas domestically. In order to export LNG, several companies have announced plans for LNG liquefaction plants, pipelines, export facilities in British Columbia, the report said. In all, natural gas industry investments are projected to total 392 billion US dollars. Overall production growth is expected to contribute a cumulative 586 billion dollars to Canada's economy, supporting 129,000 jobs per year. (December 18, 2012)

CHINA: Forecast – Domestic supply - CNR52/1/14

PetroChina will **import an additional 400 million cubic metres of liquefied natural gas from the spot market** for the first quarter to meet surging winter demand, parent company CNPC said recently. Recently, China had asked its energy firms to boost natural gas supplies as some parts of the country reported shortages. China typically sees a rise in demand for the cleaner-burning fuel for heating needs from November through March. More purchases by China would further boost Asian LNG prices, which have been rebounding sharply since hitting 17-month lows in a post-summer lull through early October, rising from \$12.5 per million British thermal units to around \$17/mmbtu earlier in December. China's LNG imports, mostly from Qatar, Australia and Indonesia, rose 20 per cent in the first 11 months of this year. The state-owned energy major, which accounts for more than 60 per cent of China's total gas production, is also raising output at its main gas fields, including Changqing and Tarim, CNPC said. (January 1, 2013)

EGYPT: Import forecast - CNR52/1/15

Egypt is in troubled waters. The nation is a natural gas exporter, sending gas offshore to markets in China, Chile, and other places. But **due to falling production and a restless economy, it could very soon begin importing gas.** "We are in discussions with many countries in emerging markets about LNG imports at the moment and Egypt is on the list," Shell Chief Financial Officer Simon Henry said last month. After the ousting of former president Hosni Mubarak, Egyptian gas

producers like BG Group Plc have cut down on production. Demand, over the same period, has expanded rapidly from electricity plants. Over the 2011-12 fiscal year, Egypt's natural gas exports rose to \$1.96 billion, up by 2.9 percent. But according to oil minister Osama Kamal, Egypt could begin importing gas in the second half of 2013, with import maximums set at 1 billion cubic feet per day, Bloomberg reports. (December 12, 2012)

JAPAN: Regulation - CNR52/1/16

With Japan's nuclear power future clouded by discoveries of active faults near atomic plants in Fukui and Aomori prefectures, liquefied **natural gas has become a critical resource and an area of great potential for strengthening relations with the United States.** From Alaska's North Slope to Louisiana and the Gulf Coast, American LNG reserves have increasingly drawn interest from Japan since the March 2011 megaquake and tsunami. With all but two of the nation's 50 nuclear reactors shut down, Japan has seen LNG imports surge. In fiscal 2011, LNG imports reached about 83.2 million metric tons (mmt), up 18 percent from the previous year. For fiscal 2012, which ends this March, total LNG imports are expected to reach 90 million mmt. Japan's LNG came from 17 countries in 2011, but almost two-thirds were from four countries: Malaysia (19 percent), Australia (18 percent), Qatar (15 percent) and Indonesia (12 percent). Alaska, the only place in the U.S. where LNG exports are currently allowed, along with eight other countries, accounted for just 7 percent of last year's imports. That is likely to change within the next decade.

Japanese firms have a specific interest in Alaska's North Slope, where there are plans to build a 1,280-km natural gas pipeline to the southern coast. The North Slope contains about 35 trillion cu. feet of proven gas reserves. In 2011, Japan received eight shipments of Alaskan LNG, totalling 15.27 billion cu. feet. "**Alaskan LNG has many advantages for Japan, starting with cost. Not only is the gas cheap, but so is transportation.** It only takes about a week for the tankers to arrive in Japan" says Kojiro Abe, trade representative for Alaska's Japan office. Resources Energy Inc., a Japanese consortium, hopes to have North Slope gas flowing to Japan as early as 2019 by building an LNG plant in the southern part of the state. In addition to Alaska, Japan hopes to buy up to **30 million metric tons per year of LNG from terminals in Louisiana, Texas, and Maryland.** Last summer, Osaka Gas Co. and Chubu Electric Power Co. announced they'd signed contracts with a Texas firm to liquefy 4.4 million tons annually of LNG that will start arriving in Japan from 2017, assuming the final approvals are granted by mid-2013, as expected. U.S. law also says private companies seeking to export LNG to a country without a free-trade agreement with the U.S., that includes a specific clause about exporting natural gas, must get approval from the U.S. Department of Energy for each shipment. For a U.S. ally like Japan, approval is almost automatic. (January 3, 2013)

LITHUANIA: Regulation - CNR52/1/17

In a press release, Lietuvos Dujos (Lithuanian Gas) said that the company supports initiatives to diversify sources of natural gas supplies to Lithuania and the other Baltic States. In particular, together with the Polish natural gas transmission system operator, it is making progress on the Gas Interconnection Poland-Lithuania project. Already in 2017 this interconnection may provide the Baltic States with access both to mainland Europe's gas market and, via the Polish LNG Terminal, to the global LNG market. Clearly, however, any

project for the diversification of natural gas supplies must be implemented in compliance with legislation and without distorting competition, it says. But **the Law of the Republic of Lithuania on the Liquefied Natural Gas Terminal and its secondary legislation bluntly violate inter alia European Union law and severely restrict and distort competition**, says the statement. Therefore, Lietuvos Dujos submitted a complaint to the European Commission requesting to initiate infringement proceedings, the company reported.

According to the company, among the LNG Law's provisions violating the European Union law are that gas companies importing gas via gas transmission pipelines are required to procure in each calendar year at least 25 percent of their gas supplies through the LNG Terminal and at least another 25 percent by importing via transmission pipelines. Also, Lietuvos Dujos say that the LNG law restricts the application of take-or-pay commitments in relation to contracts for gas imports into Lithuania through gas transmission pipelines but not in relation to contracts for gas imports via the concrete LNG Terminal advantaged by the LNG Law. Besides, it restricts the use of said LNG Terminal by entities of other EU member states.

The provisions of the LNG Law violate not only the Treaty on the Functioning of the EU, which prohibits restrictions on trade between member states and regulates the issues of granting state aid, but also violate Gas Regulation No. 715/2009 and the Gas Directive 2009/73, which prohibit cross-subsidization between gas transmission and other activities, as well as prohibit restrictions on non-discriminatory access to the LNG Terminal and free trading in gas. (December 12, 2012)

LITHUANIA: Regulation - CNR52/1/18

Lithuania's new government said it would **reconsider a project to build a new nuclear power plant but continue to support a liquefied natural gas import terminal**. The former government, which lost elections in October, had signed a preliminary deal to build a nuclear power plant by 2020, but 63 percent of voters said "no" to the project in a non-binding referendum. However Lithuania must weigh costs and benefits of all options to meet its electricity needs, including plans for nuclear energy, the new government said in a programme approved by the parliament recently. The new government had previously criticised the project as too expensive for one of the poorest member states of the European Union. Japanese-U.S. joint venture Hitachi-GE Nuclear Energy was lined up to supply the 1,350 megawatt (MW) capacity ABWR

reactor. Lithuania's finance ministry has estimated the total cost of building a new plant at 6.8 billion euros, with 4 billion euros expected to come from loans.

The new government, meanwhile, has backed plans of the previous cabinet to build an LNG import terminal by end-2014 to reduce dependence on its sole natural gas supplier, Russia's Gazprom. Lithuania's state-owned oil company, Klaipėdos Nafta, has signed a 10-year contract with Norway's Hoegh LNG to charter a floating gas storage and regasification vessel (FSRU). Klaipėdos Nafta is looking to funding for the terminal

from commercial banks as well as the Nordic Investment Bank (NIB) and the European Bank for Reconstruction and Development (EBRD). (December 13, 2012)

PAKISTAN: Planned project – Tender- CNR52/1/19

The bidders' meeting for Pakistan's integrated liquefied natural gas import project took place on December 14, in London, according to a statement. This is the first of the planned LNG import projects and will provide 15 years supply of gas at an average rate of 400 MMCFD. Dr Asim Hussain, adviser to prime minister on petroleum and natural resources, said that a total of **18 companies have expressed interest in the project**, including a number of major international LNG players together with their Pakistani partners. The minister outlined how the government of Pakistan would provide direct support to the project through the provision of sovereign guarantees and the facilitation of approvals and consents required by the project developers, according to the statement. (December 16, 2012)

QATAR: Export forecast - CNR52/1/20

Qatar will reduce spot-market sales of LNG by at least 40 percent by 2014, curbing supplies available for Europe, Qatar National Bank (QNBK) said. According to the bank, spot volumes available for sale will drop to about 27 percent of total output this year from 28 percent, and to 16 percent by 2014 as long-term supply agreements go into effect and new ones are signed. "These new contracts are mainly to Asia Pacific and South America, meaning that Europe's share of Qatar LNG exports is likely to fall," the bank said in a report. A drop in Qatari LNG sales to Europe may boost dependence on Russian pipeline gas and push up prices on the continent nearer to Asian fees. Japanese LNG prices averaged \$17 per million British thermal units this year, 16 percent higher than last year. European prices rose 8 percent to \$11. "This provides a

price incentive for spot-market deliveries to be exported to the Asia Pacific, in addition to the rising number of long-term agreements, the bank said. Asian demand for LNG, has grown as nations seek more fuel for power generation. Japan has increased purchases since shutting almost all its nuclear capacity following the Fukushima reactor disaster in 2011, while U.S. imports have dropped amid a boom in domestic shale-gas output. (December 8, 2012)

UNITED STATES: Planned project – Agreement - CNR52/1/21

Cheniere Energy Partners LP entered into a 20-year LNG sale and purchase agreement with Total Gas & Power North America Inc. through Sabine Pass Liquefaction LLC, a subsidiary of Cheniere, for LNG exports, the company announced. According to the release, Total has agreed to purchase 91,250,000 million British thermal unit (MMBtu) of LNG annually plus 13,500,000 million British thermal unit (MMBtu) of seasonal LNG volumes upon the commencement of train five operations. These volumes represent approximately 2 million metric tons per year (MMmt/y) of the approximately 4.5 million metric tons per year (MMmt/y) of nominal capacity of Train Five being developed at Sabine Liquefaction.

Sabine Liquefaction is currently developing five liquefaction trains adjacent to the Sabine Pass

LNG terminal. The first two trains are under construction and the third and fourth trains are expected to commence construction in 2013. Under the agreement, Total will purchase LNG on a free-on-board (FOB) basis, under which LNG will be loaded onto Total's vessels, for a purchase price indexed to the monthly Henry Hub price plus a fixed component. The agreement has a term of 20 years commencing upon the date of first commercial delivery for train five, and an extension option of up to 10 years. Deliveries from train five are expected to occur as early as 2018.

The agreement is subject to certain conditions precedent, including but not limited to Sabine Liquefaction receiving regulatory approvals, securing necessary financing arrangements, making a final investment decision, and issuing a notice to proceed for train five. (December 18, 2012)

WEST AFRICA: Planned project: Partnership agreement - CNR52/1/22

London-listed Gasol **said recently it has signed a strategic alliance with Socar Trading in relation to its proposed LNG import project in Benin.** Under the terms of the alliance, Socar Trading will supply all LNG required for the project and assist Gasol with the provision of a floating storage and regasification unit (FSRU) in the port of Cotonou, on competitive terms, and will allow Socar Trading to build its presence in West Africa, Gasol said. "Our alliance with Socar Trading represents a major step towards our goal of bringing gas to Benin, Togo and Ghana, which remain significantly gas constrained in their power plants and industries," Alan Buxton, Gasol chief operating officer, said. According to Gasol, power stations in West Africa currently operate predominantly on diesel, light crude and jet fuel, but many of the plants are capable of using gas. Gasol plans to supply these customers with gas from the FSRU that will regasify LNG that will be subsequently sent into the West African Gas Pipeline. The West African Gas Pipeline, operated by Chevron, transports 474,000 Mcf/day of natural gas to Benin, Togo and Ghana. (December 20, 2012)

USE AS AUTOMATIVE FUEL

BELGIUM: LNG demand - CNR52/1/23

A barge powered by LNG has been bunkered for the first time in the Belgian port of Antwerp. The bunkering of the barge Argonon represents a further significant step towards more environmentally friendly shipping in the port of Antwerp. Antwerp Port Authority continues to lend support to those seeking to switch to LNG fuel, thus making the logistics chain more sustainable.

As part of its sustainability policy, Antwerp Port Authority seeks not only to facilitate but also to encourage the use of LNG as a fuel for ships and barges. It has undertaken to make LNG available in the port in a safe, efficient manner, in the same way as is already done for conventional fuels. The target date for this is 2015, when the stricter IMO sulphur standards come into force. (December 19, 2012)

CANADA: Planned project – Talks - CNR52/1/24

Encana Corporation and Ferus LNG, announced plans to build a 190,000 litre per day liquefied natural gas production facility in Alberta. The facility is strategically located in close proximity to high

levels of energy industry activity in northwestern Alberta and northeastern British Columbia. It is expected to be operational by the end of 2013 and will be among the first in Canada designed to produce high-quality LNG fuel specifically for high-horsepower (HHP) engines used in drilling rigs, pressure pumping services, and heavy-duty highway and off-road trucks. Other HHP applications for this LNG supply include rail, mining, and remote power generation. With this new LNG plant, Encana and Ferus LNG are meeting a growing market demand by helping diesel consumers in northern and western Canada make the switch to cleaner-burning natural gas to both save costs and reduce their emissions. (December 18, 2012)

CHINA: Planned project –Start-up - CNR52/1/25

New Times Energy said that its first **LNG/CNG station** to be acquired in Liupanshui City, Guizhou Province, has commenced operation on 28 December 2012. New Times Energy has conditionally agreed to acquire a series of integrated LNG projects in Liupanshui City, Guizhou Province back in mid-November 2012 and the first LNG/CNG station has commenced operation on 28 December 2012. The gas station has signed a sales contract with a local public transportation company to provide compressed natural gas to 41 public vehicles with a daily consumption of approximately 60 cubic meters per vehicle. The contract guarantees a definite amount of natural gas sales which ensures a steady income during the early stage of operation

of the gas station. **A total number of 17 LNG/CNG stations to be acquired will commence operation in 2013**, thereby strengthening the Group's LNG business in Guizhou Province.

Guizhou Province is the main coal production region in Southern China, securing the need for LNG/CNG stations for heavy duty trucks in long distance transportation. Along with the commencement of the China-Myanmar Gas Pipeline next year, one of China's 4 major oil & gas pipelines, an abundant natural gas supply will be available in Guizhou Province. The annual sale of the gas pipeline system in Guizhou Province is expected to reach 4.8 billion cubic meters by 2015, and increase to 6.8 billion cubic meters by 2020, thus supplying natural gas to over 70% of citizens in Guizhou Province. (January 2, 2013)

COMPANIES

AUSTRALIA: Planned project – Partnership modification - CNR52/1/26

BHP Billiton said recently it is selling its interest in the troubled Browse liquefied natural gas project to PetroChina International Investment Pty Ltd for \$1.63 billion. Browse LNG has been plagued by controversy over its proposed location at James Price Point on the north-western coast of Australia, which has been opposed by some project partners, environmentalists and Aboriginal landowners. BHP is the second joint venture partner to exit the \$30 billion project after Chevron agreed an asset swap deal in August that increased the stake held by Royal Dutch Shell Plc. The other partners are operator and majority shareholder Woodside Petroleum, BP, Japan's Mitsui & Co and Mitsubishi Corp. Woodside is scheduled to make a decision on whether to go forward with the James Price Point location by mid-2013. (Dec 12, 2012)

WORLD: Planned project – Agreement - CNR52/1/27

Shell Gas & Power Developments and the Technip Samsung Consortium (TSC) have signed a **heads of agreement to enhance collaboration on the design, engineering, procurement, construction and installation of future innovative FLNG facilities**. The agreement builds on the existing relationship, formed in 2009, to ensure the parties can capitalize on insights gleaned from the design and

construction of Shell's Prelude FLNG facility and expand the technology offering to the energy market. Global primary energy demand could double in the first half of the 21st century, and meeting this growth in demand will require large scale and sustained investment in all forms of energy. Natural gas, has an important role to play. Shell expects global natural gas demand to increase by 60% from 2010 to 2030, reaching 25% of the global primary energy mix and within that, strong growth in LNG. (December 13, 2012)

CONSUMPTION

WORLD: LNG demand - CNR52/1/28

Information portal Oil & Gas IQ said in a press release on December 13th that its special industry report, LNG Bunkering: Worldwide Trends 2013 and Beyond, has found that 80 percent of those it surveyed believe there is a **business case for using Liquefied Natural Gas as a marine fuel**. The report also found that most see

the lack of LNG infrastructure as one of the most prominent barriers to its adoption. The conclusions of the report were based on a survey of ports, shipping operators, and LNG providers. Additional findings include that economic feasibility is seen as the second greatest challenge facing LNG bunkering, 42% of new build dry bulk carriers are expected to be LNG-fuelled in 2015, and Singapore, North West Europe, and the Persian Gulf currently have the highest bunkering demand. (December 13, 2012)

LPG

SUPPLIES - IMPORTS – EXPORTS

IRAN: Forecast – Domestic supply - CNR52/1/29

European Union sanctions on natural gas exports from Iran may be having unintended consequences for the country's exports of LPG, according to analysis by Facts Global Energy. In 2011, said FGE, Iran exported about 3.4 million tonnes of LPG. FGE expects total LPG exports from Iran to reach only 2.7 million tonnes in 2012, and LPG exports in 2013 could fall to 1.6-1.7 million tonnes. FGE reported recently that five LPG cargoes were exported from Iran in October,

but exports for November could have dropped to a single cargo. South Korean distributors E1 and SK Gas, have been the main LPG buyers from Iran. Whether that continues to be the case, said FGE, increasingly depends on insurance coverage. SK Gas has stopped taking Iranian LPG because Japanese insurers refused to cover the cargoes. LPG trader Petredec, which has loaded cargoes from Iran, has also been hit with the same problem. FGE said the South Korean companies expect to secure the missing LPG from Middle Eastern suppliers. (December 14, 2012)

NATURAL GAS

EXPLORATION

ARGENTINA: Regulation - CNR52/1/30

Argentina's Pan American Energy has signed a deal with the government **to invest \$3.4 billion between 2013 and 2017 to boost natural gas exploration and production in exchange for being able to charge higher prices**. The company said it will boost its price for natural gas over a base level to \$7.5/MMBtu. Pan American said it had reached a similar deal as state-run oil company YPF. In November, YPF announced it would start charging \$7.5 MMBtu, more than three times what the company charged for its gas last year. The agreement with Pan American Energy will increase Argentina's annual natural gas production by 4.3%, adding about 4 MMcmd, the Argentine that will save the state \$4.3 billion and will decrease the capital outflows for gas imports by \$6.8 billion, the government said in a statement. The government hinted that other sectors could anticipate the government allowing them to raise prices if they make similar investment commitments.

The government tightly controls the domestic price of oil, gas and services such as electricity. The companies complain that those controls stifle investment. Argentina has struggled in recent years with stagnant oil and gas production while demand has soared, turning the country into a net oil importer. Now Argentina is on a major investment drive to develop what could be massive unconventional oil and gas deposits. (December 29, 2012)

AUSTRALIA: Discoveries - CNR52/1/31

Chevron has made two offshore natural gas discoveries in WA's Carnarvon Basin that could drive expansions of its two large gas projects in the North-West. The discoveries at Pinhoe-1 and Arnhem-1 are located further away from the coast than the oil and gas giant's Gorgon and Wheatstone liquefied natural gas projects in the Exmouth Plateau area of the Carnarvon Basin. The Pinhoe-1 exploration

discovery well encountered about 60 metres (197 feet) of net gas pay. The Arnhem-1 exploration discovery well confirmed about 45.5 metres (149 feet) of pay. Chevron has now announced 19 gas discoveries in Australia since mid-2009. Chevron Australia is the operator and has a 50 per cent interest in the two permit areas, with Shell the other stakeholder. (December 28, 2012)

Be Part of Brazil's Transforming Gas Industry



HOSTED BY



To download the latest brochure please visit:
www.cwcriogas.com



4th RIO GAS FORUM

GLOBAL GAS SERIES

5 - 7 March 2013 | Copacabana Palace | Rio de Janeiro | Brazil

For more information on:

Strategic
Forum

Top Level Petrobras
Representation

Exceptional
Networking

Please visit:

www.cwcriogas.com

Rio Gas Forum 2012 Sponsors & Supporters:



For more information contact Peter Bamford on
Telephone +44 20 7978 0349 or Email pbamford@thecwcgroup.com

BOLIVIA: Planned project – Tender - CNR52/1/32

BG and Petrobras have won bids to explore for natural gas in Bolivia. This country nationalised its energy industry in 2006 but has also been seeking more foreign investment to help tap its vast reserves. YPFB announced in a statement that the British and Brazilian companies had been awarded areas to explore for gas. It said their investments would help boost exploration efforts in Bolivia. (December 31, 2012)

EGYPT: Discoveries - CNR52/1/33

Dana Gas PJSC, the Middle East's first and largest regional private sector natural gas company, has announced that it has made two new **onshore gas discoveries in the Nile Delta Basin of Egypt**. Initial estimates indicate that together the two discoveries, known as Alyam-1 and Balsam-1, should increase the company's commercial reserves by between 17 (proved) and 95 (proved & probable) million barrels of oil equivalent (MMBOE). Appraisal drilling will be conducted on both discoveries which are located on the West El Manzala Concession, operated by Dana Gas. The company has already filed a declaration of commerciality and development plans for the two discoveries, which will be tied in to the nearby pipelines also owned by Dana Gas. The Balsam-1 well encountered 51 meters of net pay in a good-quality sandstone reservoir of the Qawasim formation at high pressure, indicating

high deliverability from the field. Production testing yielded 10 million standard cubic feet per day of gas on a 20/64-inch choke and more than 1,000 barrels per day of liquid condensate. The two new fields have the highest liquid yield of any gas field discovered in the area so far. **The estimated reserves for Balsam-1 are between 76 to 436 billion cubic feet (BCF) of gas with between 2.5 and 9.4 million barrels of condensate (MMBO). The estimated reserves for the Alyam-1 discovery are between 8 and 66 BCF and between 0.2 and 1.3 MMBO.** The higher range of the estimates within the vertical closure defined by fluid contacts, and assumes continuity of the reservoir, which will depend on the results of planned additional appraisal drilling. The Balsam-1 and Alyam-1 discoveries in West El Manzala are adjacent to the El Basant Field and its associated pipeline network, operated by Dana Gas. (January 2, 2013)

INDONESIA: Planned project – Expansion - CNR52/1/34

Indonesia last year approved **47 proposals for the development of oil and gas blocks**, from which it is likely to receive \$18.9 billion in revenue, a government agency said. The proposals involve a combined investment of \$21.3 billion and could produce 216 million barrels of crude oil, **4.1 Tcf of natural gas, and 7.6 MMbbl of liquefied petroleum gas**, SKMigas said in a press release recently. The government typically receives 85% of oil revenue and 65% of natural gas revenue. The remainder is shared among contractors. Indonesia wants to reduce the proportion it exports and increase domestic consumption, to reduce reliance on petroleum products.

SKMigas Deputy of Planning Widhyawan Prawiraatmadja said one approved proposal involves BP and a partner investing \$11.13 billion to develop a third natural gas liquefaction plant in the Tangguh gas field, with a daily capacity of 700 MMcfd. Pertamina approved proposal involves developing 26 blocks--the most last year from a single entity--to increase production on the islands of Java and Sumatra. Chevron will spend \$850 million to develop six areas: Petapahan Phase-1, Duri Area-8 Rindu, Duri Area-12, Sangsam, Duri Area 7 Rindu, and dan Sumur Jorang Deep-1. (January 2, 2013)

ISRAEL: Discovery - CNR52/1/35

AGR operated Aphrodite-2 well, off the coast of Israel, has reached a depth of 5,652 meters from sea level and **found significant signs of natural gas**. The rig drilling the Aphrodite-2 well has completed drilling the well and is expected to plug and abandon the well in the upcoming 2 weeks.

The Aphrodite-2 well is the first well in the 'Pelagic licences'. The Aphrodite Prospect was estimated to have the potential for 3.7 TCF of natural gas in contingent and prospective resources, based on a resources report compiled by Texas-based petroleum consultant Ryder Scott in 2012. (January 3, 2013)

JAPAN: Planned project – Partnership modification - CNR52/1/36

Japan's JXNippon offshoot is preparing for major UK projects after agreeing to a set of significant asset purchases from Eni. In December, JX Nippon signed the **sale and purchase agreements with Eni covering the Italian company's entire interests in 17 producing fields and several discoveries** either being developed or close to development. One of the deals means JX Nippon now holds a 28.89% stake in

the Mariner field, where Statoil has decided to go with a \$7 billion (€5.3bn) development project. The Japanese conglomerate is also increasing its stake in the Andrew, Magnus, ETAP, Kinnoull and Merganser fields as well as increasing its holding in the Culzean gas condensate development from 17.07% to 34.01%. The deals also see JX Nippon establish a foothold in the Flotta Catchment Area including the Claymore field. JX Nippon said its UK subsidiary "will make a significant investment in the UKCS over the next several years that will raise equity production by the end of the decade to around 40,000- 50,000 barrels of oil equivalent per day". (December 27, 2012)

PAKISTAN: Regulation - CNR52/1/37

Dr Asim Hussain, adviser to the prime minister on petroleum and natural resources, has said recently that the government has brought in comprehensive **policy reforms to encourage oil and gas exploration in the country**, of which the Petroleum (Exploration and Production) Policy 2012 is a prime example. Pakistan Petroleum Exploration and Production Companies Association (PPEPCA) representatives briefed the adviser in a meeting regarding ongoing exploration projects and the ones in the pipeline after the announcement of the Petroleum Policy 2012. Dr Hussain emphasised on the exploration companies to take full advantage of the 2012 policy as it offers competitive prices and is based

on international best practices. PPEPCA should actively engage in deliberations on low volume gas policies, including shale gas, flared gas, marginal and stranded oil and gas fields, so that additional gas is inserted into the system, he said. The adviser said that the current energy mix, which is heavily dependent on conventional natural gas, has to be balanced out with inculcation of the liquefied natural gas, adding that the recently approved LPG (Production and Distribution) Policy Guidelines, 2012 are aimed at incentivising the LPG industry for enhancing local LPG production, as well as import of LPG and its utilisation in the automotive sector and in LPG air mix plants for provision of gas to the consumers, according to the statement. (January 4, 2013)

PRODUCTION

CANADA: Regulation - CNR52/1/38

The Alberta government is aiming **to attract major investment in its natural gas sector in 2013, as part of a strategy to develop a balanced and diversified energy portfolio**, a provincial government official said recently. Low gas prices in recent years have acted as a deterrent and resulted in producers shutting-in wells and reducing output. But, with prices projected to increase next year, the scenario could change, Justin Riemer, assistant deputy minister at the province's Department of Enterprise said. The department facilitates energy investment in Alberta and also acts as the province's prime economic development agency. "The Petroleum Services Association of Canada has recently forecast a 3% increase in natural gas utilization in 2013, compared with the current year, assuming an AECO price of \$3.25/MMBtu," he said, adding that an increase in gas demand in the province could potentially drive prices up further, to \$4/MMBtu. "The liquids content in the gas is attracting investments and we also expect to see increased demand for natural gas from the oil sands sector, particularly those projects that utilize steam-assisted gravity drainage technology to extract bitumen". Riemer said. His department is actively looking at ways to encourage more gas consumption for downstream processing. "We already have a gas-based downstream industry in the province and are now working on providing further value to the bitumen chain. Alberta regulator Energy Resources Conservation Board has projected natural gas utilization by the oil sands patch will total 1.13 Bcf/d in 2012, compared with 950,000 Mcf/d last year, with an increase to 2.36 Bcf/d by 2021. (December 13, 2012)

INDONESIA: Regulation - CNR52/1/39

The government says it wants to award a contract for the East Natuna gas field in the South China Sea before it awards the contract for the Mahakam block in East Kalimantan. Energy and Mineral Resources Deputy Minister Rudi Rubiandini said that the **government would still have time to evaluate Mahakam before awarding a new production sharing contract (PSC) for the block after the current concession expired in 2017**. The government was expected to approve a proposal to develop the East Natuna block from a consortium of oil and gas companies by the end of March, he said. The project to develop East Natuna, which has total proven reserves of 46 trillion cubic feet of gas, has endured several delays in recent years. The consortium, which includes state-owned PT Pertamina, US-based ExxonMobil, France's Total and Thailand's PTT EP, said that it wanted incentives from the government to develop the East Natuna block due to the high carbon dioxide level in the block. Finance Minister Agus Martowardojo previously said that the government had prepared an offer package for the consortium. While Agus declined to discuss the

package in detail, he said it would meet investor expectations. The decision to prioritize East Natuna will delay the certainty on the fate of the Mahakam block -reserves of 2.5 trillion cubic feet of natural gas-, the most anticipated of 29 concessions due to expire between 2013 and 2021.(January 2, 2013)

IRAN: Planned project – Production forecast - CNR52/1/40

Iran's natural gas production will **increase by more than twofold over the next three years**, Oil Minister Rostam Qasemi said. "According to our planning, the country's gas production capacity will reach 1.4 billion cubic meters per day

within the next three years". He further added that Iran will export gas to a number of neighbouring countries by 2015. Recently, Turkey said that it will continue to import Iranian oil and gas. Some reports said that Iran's daily gas exports to Turkey has hit a record of 31.5 million cubic meters. (December 2012)

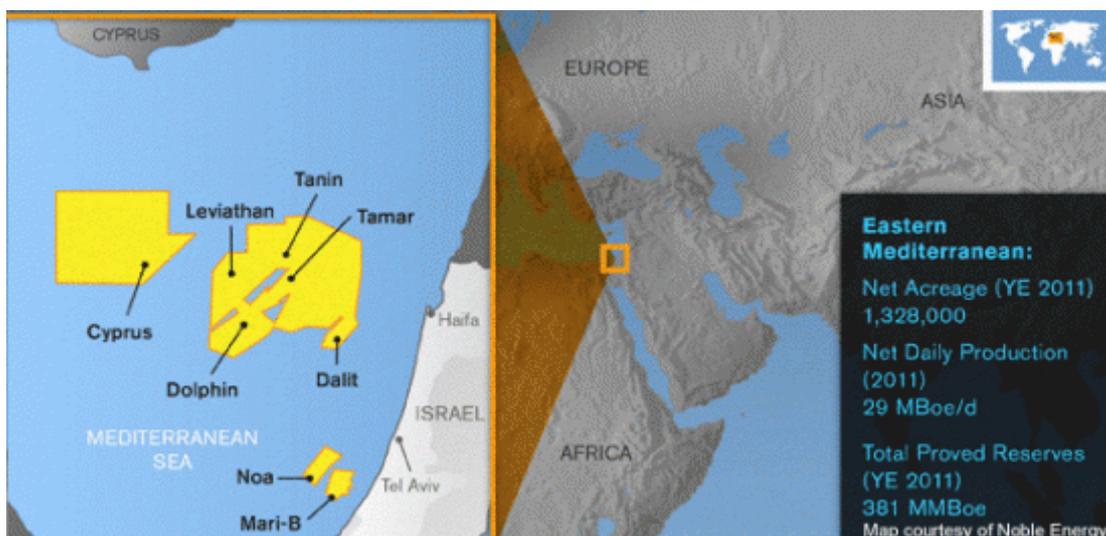
ISRAEL: Planned project – Production forecast - CNR52/1/41

Israel's **economic growth is seen being given a boost by the production of natural gas from next year**, with gross domestic product expected to grow 3.5% in 2013, up from a previous estimate of 3%, Finance Minister Yuval Steinitz said recently in a statement. In 2014, the economy is expected to grow 3.9%, according to the same source. Israel's large offshore Tamar gas field, which contains 9 TcF, is scheduled to begin production in 2013, and the companies controlling the field have already signed several supply contracts. The economy is on track to grow at least 3% in 2012, after having expanded 4.6% in 2011, according to data from the Central Bureau of Statistics. The economy, which relies heavily on exports, grew less this year mainly due to lower global demand. In addition to the Tamar field, Israel's offshore Leviathan field contains another 16 TCF, but this field is not scheduled to begin production for a few years. (December 17, 2012)

ISRAEL: Production start-up - CNR52/1/42

The first production platform on Israel's offshore Tamar gas field has been inaugurated, with first deliveries expected this April. The inauguration of the production platform heralds a new era for Israeli energy independence, said Yitzhak Tshuva, a controlling stakeholder in energy consortium Delek Group Ltd. "Natural gas will not only make electricity production more efficient, cleaner, and cheaper, it

is a giant step toward freeing us from dependence on foreign energy sources," said Israeli Infrastructures Minister Uzi Landau. Around 50 miles (80 kms) off the coast of Haifa in waters more than 5,600 feet deep, the Tamar field is expected to hold over 9.1 trillion cubic feet of natural gas. In 2010, American energy giant, Noble Energy, signed an agreement with the Delek group to develop the field. (January 3, 2013)



LEBANON: Planned projects – Tender - CNR52/1/43

More than 40 international oil companies are expected to bid in Lebanon's first gas tender in February 2013 after the government decided at the end of December the process would begin in the next two months in order to tap as much as \$700m in potential offshore gas deposits in the Mediterranean. The country could start gas extraction as early as 2014 and begin pumping gas by 2017, David Rowlands, the CEO of Spectrum company, which was conducted a 3-D seismic survey off the southern shore of Lebanon told the Beirut-based Daily Star. Spectrum estimates Lebanon has about 25 trillion cubic feet in the 3,000 kilometre square zone which puts the country's estimated findings ahead of Syria and Cyprus combined. (December 31, 2012)

NORWAY: Production start-up - CNR52/1/44

BP and its partners have announced commencement of production from the Skarv oil and gas field located about 210km west of the Norwegian coast in water depths of nearly 350m to 450m. The Skarv field is estimated to hold 100 million barrels of oil and condensate and in excess of **1.5 trillion cubic feet of rich gas**. The production on the field began on 31 December 2012. The field is expected to increase production and reach about 125,000 barrels of oil equivalent per day (boe/d) at a monthly average rate of

30,000boe/d net to BP within the first six months of production. It is also expected that the daily maximum rate of about 165,000boe/d (40,000boe/d net BP) will be reached by the end of 2013. For the field development, BP is using a new highly-advanced floating production, storage and offloading vessel (FPSO) for the harsh waters, five subsea drilling templates. It also connected an 80km and 26in gas export pipeline to the Gassled transportation system. (January 2, 2013)

SAUDI ARABIA: Planned project – Drilling campaign - CNR52/1/45

Aramco will also start gas production at its Midyan field in Tabuk, which was discovered in the 1980s, in 2013. The field has significant reserves, and the gas will be used for power generation. Gas from Midyan will be transported by pipeline to a power plant in the coastal town of Duba, 135 kilometres southwest of the field. Aramco will drill more wells to appraise the field, which is forecast to produce 75 million cubic feet a day of gas and 4,500 barrels a day of condensate for a 20-year period. Saudi Arabia plans to greatly increase gas production to meet domestic energy demand and free up crude oil for export. However, the country hasn't yet discovered non-associated natural gas in sufficient quantities to replace oil as the fuel for its planned electricity. Aramco, plans to **drill seven gas exploration wells in deep and shallow water in the Red Sea**, off the coast of the northwestern city of Tabuk, the firm's chief executive Khalid Al Falih said recently. The province has given indications that it is full of hydrocarbon wealth without giving a timeline for the exploration work according to Saudi Press Agency. (January 1, 2013)

UNITED STATES: Forecast – Domestic supply - CNR52/1/46

New York Governor Andrew Cuomo is weighing the **economic benefits of hydraulic fracturing against the environmental risks** from a technology that could unlock a vast domestic energy supply but also one that environmentalists say pollutes groundwater and the air. The natural gas drilling process known as fracking would not be a danger to public health in New York state so long as proper safeguards were put into place, according to a health department report that environmentalists fear could help lift a moratorium on the controversial technique. "Significant adverse impacts on human health are not expected from routine HVHF," or high volume hydraulic fracturing, the document concluded. The release of the document came as Cuomo's government continued to deliberate whether to

overturn a 4-year-old moratorium on fracking originally put in place to assess the effects of the drilling process. The Department of Environmental Conservation is the lead agency studying fracking, with contributions from other departments such as health. In late November, the Department of Environmental Conservation was granted a 90-day extension to its original deadline for completing a draft of fracking regulations in order for its environmental impact study to be reviewed by the state health commissioner and outside health experts. Since the preliminary assessment was put together nearly a year ago, was incomplete, and did not reflect the input of these experts, it does not reflect the final policy of the Department of Environmental Conservation, spokeswoman Emily DeSantis said. (January 3, 2013)

RESERVES

MEXICO: Investment opportunities - CNR52/1/47

Mexican oil and gas reserves potential "game changer" for Houston companies according to Houston Business Journal. The prolific Eagle Ford Shale play doesn't end at the Rio Grande border, and Mexico's apparent eagerness to tap into those resources could potentially be a boon to Houston's oilfield services companies. Mexico's

new president, Enrique Pena Nieto, has pledged to reform the country's government-controlled oil and gas company, Petróleos Mexicanos potentially opening it to additional private foreign investment. Nieto told The Financial Times recently that private investment is needed to boost development of Mexico's energy sector. (December 14, 2012)



TRANSPORTATION-DISTRIBUTION

ALGERIA: Planned project – Delay - CNR52/1/48

The prospect of natural gas from Algeria being piped via Sardinia to Northern Italy and onward to Europe is still uncertain as **the date for making a decision regarding its viability has been delayed once again**. The pipeline, known as Galsi, would provide an 800km, 8 billion cubic metre, link between Algeria and Europe. Algeria could increase production and start fracking for shale gas. However a series of delays have haunted the progress of the project since its conception ten years ago. First Italian officials deferred making a decision, and now Algeria's

partner in the deal, Sonatrach, announced it would not give final approval in November 2012 as anticipated, but will wait until May 2013. The delay has given rise to fears that the project will never come to fruition. Reuters has reported that Sonatrach is wary due to Italy's potential involvement in other giant natural gas pipeline projects, and wants to see what happens with the Trans-Adriatic and South Stream pipeline projects. Officials in Rome recently said that they will not make any decisions on the other pipelines until September 2013. In 2011 a spokesperson for Galsi said the first supplies of gas were unlikely to be delivered before 2015. (January 2, 2013)



CHINA: Ongoing projects – completed works - CNR52/1/49

The second branch of West-East gas pipeline is now operational. The branch of the world's longest gas pipeline to date has been successfully put into commission, CNPC has released a statement. The **8 704 km-long gas pipeline has eight regional pipelines** delivering natural gas from Central Asia to Shanghai in eastern China and Guangzhou and Hong Kong in southern China. The project worth \$22.57 billion crosses 15 provinces of China and provides gas to reported 500 million people. The gas pipeline runs from Khorgos on the Chinese-Kazakh border to Hong Kong in the south of the country. (December 31, 2012)

CHINA: Ongoing projects – Completed works - CNR52/1/50

China has fully commissioned the world longest natural gas pipeline. CNPC stated recently that the last section of the 8,704-kilometer west-east pipeline was completed. The pipeline cost \$22.5 billion to build and would serve 500 million people while traversing through 15 provinces. The pipeline would carry natural gas from central Asia to as far as Shanghai in east China and Guangzhou and Hong Kong. It starts from Huoerguosi, located on the China-Kazakhstan border in northwest Xinjiang Uygur region, and ends at Hong Kong. The pipeline's annual natural gas transportation capacity is 30 billion cubic meters. (December 31, 2012)

EUROPE: Planned project – Construction start up CNR52/1/51

The South Stream Pipeline, a €15.5 billion Russian gas pipeline to Europe, has received the final signatures authorising its construction. The pipeline will carry Russian natural gas to Europe with an annual supply of 15.75 billion cubic metres with an eventual full capacity of 63bcm by 2018. South Stream will split into two lines in Bulgaria where one will go

through Serbia, Hungary, and Slovenia to Austria and northern Italy, and the other will go through Greece and under the Adriatic Sea to southern Italy eventually to supply up 14 per cent of the Europe's natural gas needs. The line is intended to bypass Ukraine supply lines, and instead to travel under the Black Sea from Northern Russia. The gas will be supplied by Gazprom, and will compete with the Nabucco pipeline. (January 2013)

ITALY: Planned project – Environmental assessment - CNR52/1/52

Italy's government has **extended the submission date for an environmental assessment of the Trans Adriatic Pipeline (TAP) natural gas project** The project company now has an additional nine months, until September 2013, to complete the report. In a statement, TAP said it was continuing to receive feedback after information presentations and consultations with local communities along the projected route. TAP will transport natural gas from the Caspian region via Greece and Albania and across the Adriatic Sea to southern Italy, then further into Western Europe. TAP will open a new so-called Southern Gas Corridor to

Europe. Up to 353 billion cubic feet of natural gas per year could be channelled from Azeri territory to European consumers. (December 18, 2012)

KAZAKHSTAN: Cooperation agreement - CNR52/1/53

The China Development Bank (CDB) will provide a \$1.8 billion loan to finance a gas pipeline project in Kazakhstan, the KazTransGas company said recently. The loan will be allocated to Beineu-Shymkent Gas Pipeline LLP, controlled 50-50 by KazTransGas and CNPC. The project to build the Beineu-Shymkent gas pipeline, which will connect all major Kazakh pipelines into a single network, is being

implemented jointly by Kazakhstan's national oil and gas company KazMunayGas and the China National Petroleum Corporation (CNPC). The project was agreed by Kazakhstan and China in a **bilateral intergovernmental agreement**. The 1,475-km Beineu-Shymkent pipeline, which will link gas-rich western Kazakhstan to consumers in the south, is the second stage of the planned Kazakhstan-China Gas Pipeline. The first leg of the pipeline, Beineu-Bozoy, is set for completion in October 2013.

POLAND: Cooperation agreement - CNR52/1/54

The European Union has confirmed **financial assistance for the construction of four gas pipelines** in Poland. Krakow's Oil and Gas Institute, acting as implementing institution, co-signed the final agreements for EU support. The pipelines are: the Szczecin-Gdańsk Pipeline (265 km), Szczecin-Lwówek Pipeline (188 km), Rembelszczyzna-Gustorzyn Pipeline (176 km) and the Gustorzyn-Odolanów Pipeline (168 km). The documents were signed as a result of increased funding for pipelines built by Gaz-System SA. This was due to the securing of additional funds under the Operational Programme Infrastructure and Environment (OPI&E), and to savings made following the award of tenders for projects. The total amount financed by the European Regional Development Fund (ERDF) for these projects has increased from Polish zlotys 774 million (€189m) to PLN 1,016 million. (December 18, 2012)

RUSSIA: Planned project – Construction start-up - CNR52/1/55

Gazprom has started **construction and assembly work on the western section of the Southern Corridor gas pipeline in Russia**, that will feed into the South Stream gas export pipeline, Russia's natural gas monopoly said recently. The Southern Corridor system will also provide additional gas supplies to Russia's central and southern regions and help develop industries and utilities. The system's total length will be

2,506 kilometers with annual capacity of 63 billion cubic meters. The project is due to be completed in 2017. The western section runs from the Pisarevka compressor station in the Voronezh Region to the Russkaya station in Krasnodar Territory, totaling 880.6 kilometers. Russkaya will be the Southern Corridor's end point and South Stream's point of entry. Stage 2 of the project - the Eastern Section - which also terminates at Russkaya, will run 1,625 kilometers from Pochinki (Nizhny Novgorod Region). (December 28, 2012)

UZBEKISTAN: Regulation – Gas price - CNR52/1/56

Uzbekistan has banned the road transportation of natural gas through its territory, a decision the government says is intended to protect public safety and the environment. The ban, announced on January 2, will mainly **affect neighbouring Tajikistan**. On December 31, Uzbekistan suspended gas deliveries via pipeline to energy-starved Tajikistan after both sides **failed to agree on gas prices** following the expiration of their contract. Uzbekistan, Tajikistan's only supplier of gas, routinely suspends gas deliveries to its neighbour amid complaints of non payment. (January 4, 2013)

SUPPLIES - IMPORTS – EXPORTS

QATAR: Supply contract – Agreement - CNR52/1/57

Qatargas Operating Company Limited recently announced the signing of a long-term LNG Sales and Purchase Agreement (SPA) between Qatar Liquefied Gas Company Limited 3 (Qatargas 3) and PTT Public Company Limited of Thailand. Under the terms of the agreement, Qatargas 3 will deliver two million tonnes per annum (MTA) of LNG for a period of 20 years beginning from 2015. The agreement marks PTT's

first long-term LNG SPA. In 2011, Qatargas delivered the first commissioning cargo to Map Ta Phut LNG Receiving Terminal, Thailand's first and only LNG receiving terminal. Since then, Qatargas has sold several spot cargoes to PTT. The current capacity of Map Ta Phut LNG Receiving Terminal is five MTA and PTT has plans to increase this capacity to 10 MTA. The terminal is currently compatible with Q-Flex vessels with plans to receive Q-max vessels in the future. (December 13, 2012)

RUSSIA - CNR52/1/58

Gazprom could lose its status of an export monopoly as Russian authorities have reportedly backed the idea to allow independent energy firms to sell LNG abroad. The country's Ministry of Energy, Ministry of Economy, Ministry of Natural Resources and the Federal Anti-Monopoly Service (FAS) approved the proposal by independent gas producer Novatek to abolish the gas export monopoly. The authorities are divided on what kind of energy companies should be granted the right to export gas. The Ministry of Economy proposed granting the right to a wide range of producers, while the FAS said it should be given to companies not associated with Gazprom. The Ministry of Natural Resources insisted that only companies that to date have obtained licenses for gas exploration. The Ministry of Energy has also proposed creating an

administrative body which would control gas exports by Gazprom as well as independent suppliers, and to resolve potential conflicts between independent and state-owned exporters. The ministry has also proposed to undertake these functions.

Currently Gazprom is the only company allowed by legislation to export gas from Russia. Independent producers have to strike deals for export with the gas holding companies. However, independent gas producer Novatek reportedly started gas deliveries to European clients through a Swiss trader in October. In August 2012 Novatek announced it had signed a 10-year contract with EnBW for the supply of about 2 billion cubic meters of gas a year. EnBW said it would spend about 600 million euros over 10 years for the gas. (20 December, 2012)

RUSSIA: Planned project – Production forecast - CNR52/1/59

Gazprom expects to produce around 500 billion cubic meters of natural gas in 2013, roughly flat year-on-year, Russian media reported recently citing the company's management committee deputy chairman Valery Golubev. In 2011, Gazprom's gas production came to 513.2 Bcm, according to the company's data. Additionally, in 2013, Gazprom plans to keep its gas imports from Turkmenistan at the current level, Golubev was reported. In 2011, Gazprom imported 11.2 Bcm of gas from Turkmenistan for further re-exports, up from the 2010 figure of 10.7 Bcm but down from 11.8 Bcm in 2009 (December 17, 2012)

RUSSIA :Regulation – Gas price - CNR52/1/60

Gazprom expects that Ukraine will pay an average annual natural gas price of \$352 per 1,000 cubic meters next year, and expects to deliver 40 billion cubic meters of gas to Ukraine in 2013, told a source familiar with Gazprom. The gas import price for Ukraine's national oil and gas company Naftogaz Ukrainy in the first quarter of 2012 totaled around \$416 per 1,000 cubic meters, second quarter - around \$425, third quarter - around \$426, and fourth quarter - forecast at \$417. The average annual price for Russian gas enshrined in the draft state budget for 2013 is \$421. The price of Russian gas supplies to Ukraine is currently calculated based on an 11-year contract signed between Gazprom and Naftogaz in January 2009. That price is

determined once per quarter based on the average price of petroleum products for the previous nine months on the European market. A 30% discount is applied to this price, but at an amount of no more than \$100 per 1,000 cubic meters, granted in 2010 for the extension of the lease of the Russian Black Sea Fleet base in Crimea for 25 years. In Ukraine's opinion, the base price of \$450 outlined in this formula is inflated, and it should be around \$250. However, the country's two years of attempts to amend the price have not met with success. Experts think that Russia could reduce the price in exchange for full or partial ownership of the Ukrainian gas transport system and/or Ukrainian membership in the Customs Union. (December 18, 2012)

RUSSIA/BELARUS: Regulation – Gas price - CNR52/1/61

Vladimir Putin has endorsed agreements on deliveries of natural gas to Belarus in 2013. The ratification act that Putin signed sets out the **formula for the price of gas Belarus imports for domestic consumption** in 2013 and subsequent years, tying it to the price of gas for consumers in Russia's Yamalo-Nenets Autonomous District, according to the document, published on Russia's official legal information website. It also defines the **tariffs for gas transportation** by Belarusian pipeline operator Beltransgaz – which is wholly owned by Russia's Gazprom - both on gas delivered to domestic customers and gas destined for export beyond Belarus. Under the agreements, Beltransgaz will transit up to 60 billion cubic meters of Russian gas in 2013, an amount representing 134.8 percent of the target for 2012, to its borders with Lithuania, Ukraine and Poland. (December 31, 2012)

RUSSIA: Regulation – Gas price - CNR52/1/62

Demand for natural gas in Europe has fallen this year as the economic downturn has forced consumers to cut back on expenditures. This desire to reduce expenses has led many nations to confront Gazprom, complaining of the high prices that it charges for its gas, prices that are way above the average price on the spot market. The state-owned energy company has bowed to pressure from customers and competitors and, according to a source from within **the company,**

will cut its long-term contract prices for next year down to levels that are comparable with the general spot market prices. Gazprom is set to sell its gas at around \$370 per 1,000 cubic metres, compared with the price of more than \$400 which it has been charging this year. As a result of the drop in price, Gazprom is expecting exports to increase from just over 140 billion cubic metres in 2012, to 152 billion cubic metres in 2013. (December 18, 2012)

TAJIKISTAN: Import forecast - CNR52/1/63

Tajikistan has imported 125 million cubic meters of natural gas from Uzbekistan since the beginning of this year, according to the Ministry of Energy and Industries (MoEI). The source notes that the wholesale price for Uzbek natural gas has not changed this year – 300 U.S. dollars per 1,000 cubic meters. For the first 10 months 2012, gas imports totalled 114.8 million cubic meters, 36.8 million cubic meters less than for the same period in 2011 (151.6 million cubic meters), the report says. Tajikistan began negotiations with Uzbekistan on natural-gas shipments for 2013 last month. According to information received from Tojiktransgaz (Tajik natural-gas distributor), Tajikistan is expected to buy 200 million cubic meters of natural gas from Uzbekistan. However, this volume may be lowered. Tajikistan has reduced considerably natural-gas imports from Uzbekistan in recent years due to high prices. (December 14, 2012)

STORAGE

IRAN: Ongoing projects – Completed works - CNR52/1/64

Iran will **inaugurate its second natural gas storage facility by the end of the current Iranian calendar year (March 20, 2013),** aiming to boost gas storage capacity to 100 million cubic meters per day, Oil Minister Rostam Qasemi said. He made the remarks on the sidelines of inaugurating the country's first natural gas storage

facility in Sarajeh, near Tehran, saying that the second facility will be established in Sarakhs, northeast of the country. The inaugurated facility will have capacity to store 30 million cubic meters of gas per day, he said. In November, IRNA news agency quoted National Iranian Gas Company Managing Director Javad Owji as saying that Iran will establish 40 gas storage facilities in the coming years. (January 7, 2013)

USE FOR POWER GENERATION

BRAZIL: Regulation - CNR52/1/65

Petroleo Brasileiro is **selling at a loss record amounts of natural gas for electricity generation as hydropower dams operate at the lowest water levels in more than a decade.** Petrobras increased imports of the fossil fuel to 11.9 billion cubic meters (420 billion cubic feet) last year through November, the most for any year since at least 2000, when Brazil's oil regulator started keeping records. Petrobras may be losing \$117 million a month by selling imported liquefied natural gas, at a discount of about \$6 per million British thermal unit, said Marco Tavares, chairman of research firm Gas Energy. Brazil's driest rainy season in a decade is affecting dams that provide about 85 percent of the country's electricity, prompting utilities to make up for the shortfall with gas-powered plants. Policies that force Rio de Janeiro-based Petrobras (PBR)

to sell fuel at subsidized prices have hurt earnings, disappointing investors and making the stock the worst performing major oil company in the past year. The government controls the price of gasoline, diesel and natural gas sold to distributors through a 50.2 percent voting stake in Petrobras, the country's only major fuel producer. (January 4, 2013)

MEXICO: Cooperation agreement - CNR52/1/66

InterGen announced recently the **financial close and funding of credit facilities for its 205 MW natural gas-fired San Luis de la Paz project** in San Luis de la Paz, Guanajuato. InterGen also announced the financial close and funding of credit facilities **for the Altamira Compression Station in Altamira**, Tamaulipas. The station will provide gas compression services largely for the Comisión Federal de Electricidad, the Mexican national utility, with additional capacity going to meet the needs of the new San Luis de la Paz project.

Each project is being financed independently through senior term loan and working capital facilities and equity. The bank group for each project is comprised of BTMU, EDC, HSBC,

NordLB, Sumitomo and Scotia Bank. Credit facilities for the San Luis de la Paz project total approximately \$217 million. Credit facilities for the Altamira Compression Station total approximately \$118 million.

San Luis de la Paz will sell a majority of its power to a mining user in a neighboring state under a 20-year power delivery agreement. The remaining power will be made available to industrial users in the region. Each project has also signed contracts with Samsung Engineering Co., LTD. and its affiliates for the engineering, procurement and construction of the plants. Construction of the Altamira Compression Station is expected to be complete in 2014 and San Luis de la Paz is expected to be complete in 2015. (December 14, 2012)

USE AS AUTOMATIVE FUEL

UNITED STATES: Planned project – Regulation - CNR52/1/67

Surging gas production has led the drilling industry to seek out **new markets** for its product, and energy companies increasingly are setting their sights on the **transportation sector**. Touting natural gas as a cheaper, cleaner-burning alternative to gasoline and diesel, drillers, public utilities and government officials are trying to boost demand for natural gas buses, taxis, shuttles, delivery trucks and heavy-duty work vehicles of all sorts, while simultaneously encouraging development of the fuelling infrastructure that will be needed to keep them running. The economics are compelling. Natural gas costs about \$1.50 to \$2 per gallon equivalent less than gasoline and diesel. That can add up to tens of thousands of dollars in savings for vehicles that guzzle the most fuel. Fleet managers are taking notice. Companies as diverse as AT&T, Waste Management and UPS are converting all or parts of their fleets to natural gas, as are transit agencies, municipalities and state governments.

COMPANIES

CHINA: Partnership modification - CNR52/1/68

Fortune Oil Plc said it would sell its natural gas business to China Gas Holdings Ltd for \$400 million, giving it the option to raise its stake in China Gas and remain invested in its high-demand energy sector. Fortune Oil held an 18.4 percent stake in China Gas as of Nov. 16, primarily through a joint venture formed last year with one of the company's founders. China Gas, which sells liquefied petroleum gas and piped gas to residential and commercial users in China, will

pay Fortune Oil \$200 million in cash on completion of the deal and a further \$200 million as deferred consideration. Fortune Oil said it could elect to receive the deferred consideration in China Gas shares. A higher stake in China Gas could also potentially give it a say in the management of the company. China is moving to double the share of gas in its overall energy supply to more than 8 percent by 2015, when consumption is forecast to reach 260 billion cubic metres. (17 December 2012)

CONSUMPTION

EGYPT: Forecast – Domestic supply - CNR52/1/69

Egyptian Natural Gas Holding Company (EGAS) is set **to implement plans aimed at transporting gas to an additional two million homes throughout 2013-2014**, using investments totalling EGP 6bn. President of EGAS, Sherif Sousa, called on the private sector to serve as contractors in the transport of natural gas. He pointed out that private companies would only be responsible for implementing projects, while companies

affiliated with the Ministry of Petroleum would be responsible for serving its clients. The funds for providing natural gas for the extra two million homes would come from funds allocated to subsidise propane, adding that priority would be given to homes located in provinces in Upper Egypt. By 2014 the plan would provide gas to an additional 5 to 7 million homes in provinces throughout Egypt. (December 29, 2012)

GREECE: Forecast – Domestic demand - CNR52/1/70

Consumption of natural gas has reached an all-time high in December 2012 as more and more Greeks turn to this form of energy for their heating needs now that the price of heating oil has soared after the consumption tax hike in October. The need for other forms of heating has also resulted in a surge in the consumption of electricity for the operation of air-conditioners and heaters, pushing the country's energy system to its limits. Greece's natural gas reserves are rapidly dwindling and **Public Gas Corporation (DEPA) is considering asking electricity-producing plants that operate on natural gas to reduce their output so as to cover the needs of households first**

until new orders of gas arrive from Algeria. However, this would add more strain to the power grid as demands for electricity have surged to unusual levels for winter. But this surge in demand cannot be tackled with the output of PPC's lignite plants alone, as it cannot exceed a specific level due to the age of the plants and the low quality of the lignite. That would mean the natural gas-powered plants would have to contribute to cover demand, but they have to ration their gas consumption for priority to be given to household use. DEPA sources said that there is no reason for consumers to worry as the company has managed to bring forward the arrival of a large order of Algerian liquefied natural gas. (December 16, 2012)

UKRAINE: Planned project – cooperation agreement - CNR52/1/71

The Ukrainian government said it secured a loan from the Chinese government to **back a program aimed to substituting natural gas with coal**. The Ukrainian government said it could save as much as \$1.5 billion per year through a program that would **substitute about 140 billion cubic feet of natural gas with coal**. Russian energy company Gazprom supplies about 60 percent of the natural gas consumed in Ukraine, the country said recently it was cutting back on gas purchases from Russia despite a take-or-pay mechanism with Gazprom. Kiev has lobbied for a better natural gas deal since 2009 negotiations broke a brief supply disruption. (January 2, 2013)

UNITED STATES: Investment opportunities - CNR52/1/72

The North American natural gas boom has given a boost to a number of industries. From the chemical industry to the oil and gas drillers themselves, and from water companies to pipeline companies, industries related to or providing services to fracking have been revived by the boom. But there are also a number of industries benefiting from cheap natural gas. Utilities, for example, have shifted their focus away from coal and toward the cheap, abundant resource. **The production of cheap natural gas is breathing life into the North American steel**

manufacturing industry. For years, the industry has been in a slump, struggling amid Chinese competition, depressed prices, and slow demand. And coal was the main fuel used to purify iron ore. As it was in power generation, coal was a cheap and abundant fuel source for steelmaking. But now natural gas might be an even better solution. "That technology has been around 30 years, but for 29 years gas prices in the U.S. were so high that the technology was not economical," said Michelle Applebaum, managing partner at consulting firm Steel Market Intelligence in Chicago. "This is how steel will be built moving forward (January 2, 2013)

GENERAL INFORMATION

ALGERIA: Regulation - CNR52/1/73

New oil and gas exploration in Algeria has all but dried up in recent years because of international company disappointment with the terms on offer for exploring the country's vast conventional resources. Given the poor state of its new upstream activity, **Algeria started revising its hydrocarbon law at the start of 2012 in an attempt to encourage more international investment in exploration**. The law's amendments, which will apply to all new developments in the country, were approved in September last year by the government and are now before Algeria's national assembly for the final go-ahead. Since Algeria's oil law was last amended in 2006, the OPEC oil-producing state has held three exploration rounds, with only limited success.

According to the text of the law before the assembly, there are 12 key new elements to the country's hydrocarbon law. These are (partial list):

- The introduction of tax incentives to encourage activities related to unconventional oil and gas, small fields, deposits in under-explored areas, including offshore fields, and fields with complex geology and/or those lacking infrastructure
- A revision to the methodology for determining the tax rate on oil revenues so that it is based on a project's profitability instead of its sales
- The relaxation of certain conditions for exploration, research and/or production of oil and gas
- The introduction of new specific provisions to support research into and production of unconventional oil and gas
- Strengthening the involvement of state-owned Sonatrach in research activities
- Sonatrach to also have exclusive control of all oil and product pipeline transportation
- Priority to be given to the domestic market's oil and gas demand, in particular through a system requiring contractors to sell part of their production at international prices
- The possibility of paying taxes in kind
- A clarification of certain tasks to be carried out by Algeria's state oil and gas agencies
- The introduction of a provision requiring any entity wanting to be involved in oil processing or refining to partner with Sonatrach
- The introduction of a provision requiring anyone wishing to pursue refining activity to have their own storage facilities
- The introduction of a system of excess profit removal for companies that benefit from a reduced rate of tax on additional income.

A further examination of the amended law's articles give some additional details on how the legislation will be changed.

- For unconventional oil and gas, research permits will have a term of 11 years, the amended law shows
- Licenses for developing unconventional oil are set for 30 years and at 40 years for unconventional gas (January 2, 2013)

TURKEY: Imports forecast - CNR52/1/74

With or without Baghdad's approval, in all likelihood **Turkey will turn to Iraqi Kurdistan to feed a growing appetite for gas, and this will have enormous implications for the future of the energy-rich autonomous enclave.** As the Kurdistan Region's focus shifts from exploration to exports of its energy resources, Baghdad has stepped up efforts to block direct energy deals with the enclave by foreign companies and countries. Turkey currently imports more than 90 percent of its oil and gas, and its domestic energy production is in imminent decline. By 2025, Turkey's natural gas needs are expected to rise up to 90 billion cubic meters, more than double the current annual imports. Presently, Turkey is dependent on Iranian and Russian gas; but

Ankara is known to want to diversify its sources. Moreover, there is a possibility that Turkey could lose Iranian gas if the United States goes ahead with stricter sanctions against Tehran that would shut down energy imports by Ankara that are paid in gold.

Mehmet Sepil, the Turkish head of Genel said that his company wants to begin with oil exports from Kurdistan to Turkey, and start with gas in 2015. The KRG Prime Minister Nechirvan Barzani did not confirm any deal with Ankara, but made clear his hopes that Ankara would become more active in Kurdistan's gas and oil sectors, so that energy exports to Turkey – and worldwide – could become a reality. (December 16, 2012)



CEDIGAZ NEWS REPORT is an internal publication of CEDIGAZ, edited by Constancio SILVA with collaboration of Laïla LOSSON.

1 et 4, avenue de Bois Préau, 92852 Rueil-Malmaison Cedex, France

Tel. +33 1 47 52 60 12 - Fax +33 1 47 52 70 14

Website : <http://www.cedigaz.org> Contact : info@cedigaz.org