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### **Main news**

#### **LNG: Processing**

- Chevron announced recently plans to build a fourth train at its Gorgon liquefied natural in Australia, adding the company also expected to make a final investment decision on the expansion in 2013.
- Encana Corp agreed to acquire a 30% stake in the planned Kitimat liquefied natural gas export terminal in British Columbia, Canada.
- Total agreed to buy a stake in Novatek and joining its Arctic gas project.
- Dominion is considering launching an export plant at its Cove Point Liquefied Natural Gas facility in Calvert County, with construction slated to begin in 2016.

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

- Morgan Stanley and Gas Natural will supply liquefied natural gas to Argentina's Puerto Escobar plant when it opens in June 2011. Morgan Stanley will supply 70 percent of the terminal's needs and Gas Natural the remaining share. The contract runs until December 2011, during the six months.
- Sinopec agreed to buy up to 4.3 million metric tons of liquefied natural gas from Gladstone project each year for 20 years and also buy 15% of the development.
- BG Group signed recently a sales agreement with Tokyo Gas Co. Ltd. for the supply of 1.2 million tonnes of liquefied natural gas a year for 20 years from 2015.
- Icon Energy signed a memorandum of understanding with Shantou SinoEnergy to buy 40 million tonnes of liquefied natural gas.
- Korea Gas Corporation agreed to buy 13.9 billion cubic feet per year of liquefied natural gas from Indonesia's Donggi-Senoro project.

#### **LNG: Storage**

- Petrobras will install a third offshore LNG terminal with capacity to regasify 14 million cu m/day. It will supply natural gas to the state of Bahia.
- Pertamina signed a joint venture agreement with Perusahaan Listrik Negara to build eight small LNG receiving terminals in the eastern part of Indonesia.
- The first liquefied natural gas receiving terminal in Thailand will be operational by July 2011.

#### **Natural Gas: Production**

- Petrobras will begin output at the Mexilhao natural gas field in March 2011, with a maximum production capacity of 15 million cubic metres per day.
- Israel's Knesset recently approved the first reading of a bill to implement recommendations on raising taxes on oil and natural gas production.
- According to the Oil & Gas Ministry's plan, gas output in Kazakhstan will rise to 42 billion cubic meters in 2011 from 37.4 billion cubic meters in 2010.
- According to data released by the EIA, natural gas production in the U.S. reached an annual record high of 26.85 trillion cubic feet in 2010.

#### **Natural Gas: Reserves**

- According to a Congressional Research Service report, U.S. proved reserves of oil total 19.1 billion barrels; reserves of natural gas total 244.7 trillion cubic feet.

### Natural Gas: Transportation - Distribution

- The Canadian National Energy Board approved the construction of the Mackenzie Valley natural gas pipeline.
- PetroChina started running the 420-kilometre Qinhuangdao-Shenyang pipeline, with maximum gas shipping capacity of 8 billion cubic metres per year.
- The final governmental approval to develop the onshore portion of the Corrib gas pipeline in Ireland has been granted.

### Natural Gas: Supplies- Imports - Exports

- Tehran will start its export of natural gas to Syria by the end of 2011.
- LUKOIL will supply Gazprom with natural gas from the Bolshekhetskaya Depression fields between 2012 and 2016.

### Natural Gas: Storage

- FERC authorizes Magnum to construct a storage facility containing up to 40 billion cubic feet of working natural gas in central Utah.

<b>LNG</b>	:	<b>Processing</b> p. 3-4 / Transport-Distribution p. 4-5 / <b>Supplies-Imports-Exports</b> p. 5-6-7 <b>Storage</b> p. 7 -8-9
<b>LPG</b>		Processing p. 10 / Transport-Distribution p. 10
<b>NGL</b>		Transport-Distribution p. 10-11
<b>GTL</b>		Processing p. 11
<b>Natural Gas</b>	:	Exploration-Discovery p. 11-12 / <b>Production</b> p. 12-13-14 / <b>Reserves</b> p. 15 Processing p.15-16 / <b>Transportation-Distribution</b> p. 16-17-18 <b>Supplies-Imports-Exports</b> p. 18-19-20 / <b>Storage</b> p. 20 Use for Power Generation p. 20-21



LNG

PROCESSING

**AUSTRALIA: Planned project – Expansion – CNR50/5/1**

**Chevron** company executives announced recently plans to build a fourth train at its **Gorgon** liquefied natural gas project off the coast of Western Australia, adding the company also expected to make a **final investment decision on the expansion in 2013**. Chevron's executive vice president of technology and services, Jim Blackwell, said "At the end of 2010, our estimated total resource is almost 60 trillion cubic feet". Blackwell added "We found enough gas for this expansion and plan to enter FEED in 2012. And we also have space for a potential fifth train" (March 15, 2011)

**AUSTRALIA: Planned project – Engineering – CNR50/5/2**

**McDermott International** announced recently that one of its subsidiary companies has been awarded a contract to perform **FEED** work for the offshore **Central Processing Facilities** for the **Woodside-operated Browse Liquefied Natural Gas (LNG)** Development. The Browse fields are located about 425km north of Broome off the

western coast of Australia. The **Central Processing Facility** is to be located approximately 325km from the coast in 100m deep waters, between the offshore fields and the onshore gas plant at the Browse LNG Precinct, 60km north of Broome. Work under the contract has already commenced and completion is expected in the fourth quarter of 2011. (March 15, 2011)

**CANADA: Planned project – Engineering – CNR50/5/3**

**Kitimat LNG** partners Apache Canada Ltd. and EOG Resources Canada Inc. announced recently that they have **awarded KBR the Front End Engineering and Design (FEED)** contract for the planned natural gas liquefaction and export facility on British Columbia's west coast. The partners expect to have firm sales commitments in place by the time a final investment decision is made near the end of 2011. Initial shipments of LNG are expected to begin in 2015. (March 4, 2011)

**CANADA: Planned project – Agreement – CNR50/5/4**

**Encana Corp** recently agreed to **acquire a 30% stake** in the planned **Kitimat liquefied natural gas export terminal** in British Columbia, Canada, and the **associated gas pipeline**. The proposed Kitimat LNG export development has planned initial capacity, from the first of two potential phases, of about 700 million cubic feet per day of

natural gas. The development includes construction of a new 36-inch diameter natural gas pipeline (Pacific Trail Pipelines) running 463 km from the Spectra Energy natural gas transmission system at Summit Lake, British Columbia to the planned Kitimat LNG export facility. Construction of the project is expected to begin in 2012, with exports potentially starting in 2015. (March 21, 2011)

**RUSSIA: Planned project- Agreement – CNR50/5/5**

**Total** became recently the **third major** to forge an alliance in Russia, agreeing to pay \$4 billion for a stake in **Novatek** and **joining its Arctic gas project**. "Russia is appealing for investors and this is particularly obvious on the back of events that are going on in the world," Total Chief Executive Officer Christophe de Margerie said. **Total signed a memorandum of understanding to acquire 12 percent in Novatek, with a view to raising its holding to 19.4 percent within three years**. Under a second memorandum, signed by de Margerie and Novatek CEO Leonid Mikhelson, Total will acquire a 20 per cent stake in Yamal LNG, becoming strategic. The Yamal LNG project seeks to develop the 418 billion cubic metres of gas and 15 million tonnes of condensate reserves in the South Tambey field, which is located at the 70th parallel on the Yamal peninsula. (March 4, 2011)

**RUSSIA: Planned project – Engineering – CNR50/5/6**

**Chicago Bridge & Iron (CBI)** has been recently selected by **Yamal LNG LLC** to provide front end engineering & design (**FEED**) services for the Yamal LNG project. The work is scheduled for completion in the first quarter of 2012. The Yamal LNG project consists of the production, treatment, transportation, liquefaction and shipping of natural gas and natural gas liquids from the South Tambey field on the Yamal Peninsula in Northern Siberia, Russia. Natural gas reserves in the South Tambey field are estimated at more than one trillion cubic meters. CB&I's project scope includes

**FEED development for the 16.5 million tonnes per annum LNG liquefaction plant**, including LNG storage and loading facilities. CB&I's FEED execution plan is based on engaging its international partners – Chiyoda and Saipem, as well as collaboration with Russian Design Institute (NIPGazpererabotka, to address local design and authority approval requirements. The FEED will provide a firm basis for the detailed engineering, procurement and construction phase, as well as project schedule and cost estimates to enable Yamal LNG to secure the final investment decision. (March 21, 2011)

**UNITED STATES: Planned project – CNR50/5/7**

**Dominion** is considering launching an export plant at its **Cove Point Liquefied Natural Gas facility** in Calvert County, with **construction slated to begin in 2016** if plans move forward. Cove Point LNG facility spokesman Dan Donovan said "We used to have some liquid facilities there before we opened the import facility". Donovan said the company would liquefy the gas in the summer and vaporize it again in the winter. Dominion is seeking out gas sources to import, focusing primarily on the Marcellus gas field. Many U.S. LNG import plants have been suffering in recent years, Donovan said, since foreign markets are willing to pay more for gas shipments. The Cove Point facility only brought in 15 shipments in 2010, down from 25 in 2009. (March 2, 2011)

**YEMEN: Production forecast – CNR50/5/8**

The **Yemen LNG** consortium recently announced that output of liquefied natural gas at its facility **will reach full capacity in around August 2011**. Yemen LNG's commercial and shipping manager, Jean-Pierre Cave, said that the company expects production to reach full capacity in around six months' time, up from 95 per cent currently. Under sales agreements signed in 2005, Yemen LNG supplies gas to Korea Gas (Kogas), GDF Suez and Total Gas & Power. In October 2010, GDF Suez agreed to supply 2.5mn tonnes of its own LNG allocation to Kogas by 2013. The company has also signed a four-year supply deal with China National Offshore Oil Corporation starting in

2013. China is already scheduled to receive 11 cargoes from Yemen LNG in 2011 as part of a mid-term agreement lasting around three years. According to current schedules, deliveries to Asia will increase from 43 in 2010 to 57 in 2011. Of these, 44 are due to be sent to South Korea. Cave said that Yemen LNG could increase its market share in Korea from 5.6 per cent in 2010 to up to 10 per cent in 2011 as a result of the increased numbers of cargoes. The Yemen LNG terminal is located at the port of Balhaf on Yemen's southern coast and consists of two trains, with a **total capacity of 6.7mn tonnes per annum**. (February 27, 2011)

**TRANSPORTATION-DISTRIBUTION**

**JAPAN: LNG carrier – Engineering – CNR50/5/9**

**Mitsubishi Heavy Industries, Ltd.** received recently an order from **Nippon Yusen Kabushiki Kaisha (NYK)** for a liquefied natural gas carrier capable of marked reductions in fuel consumption. The vessel is the first of its kind to adopt "**MHI Ultra Steam Turbine Plant**" (UST), a new turbine plant which enables approximately 15% higher fuel efficiency than conventional steam turbine plants. **The LNG carrier is scheduled for completion and delivery in 2014**. The Eco-LNG carrier on order will measure 288 meters (m) in overall length, 49m in breadth and 26.8m in depth. It will have capacity to carry a total of 145,400m<sup>3</sup> of LNG using four MOSS type spherical storage tanks. (March 02, 2011)

**WORLD: LNG carrier- Availability – CNR50/5/10**

**Shipper Golar LNG** said recently that a lack of available liquefied natural gas tankers helped push charter rates up and continues to hamper trade for smaller players without access to tonnage.

Golar launched Golar Commodities, its trading subsidiary, in May 2010 to market and trade LNG cargoes, but after a couple of deals earlier in the year transactions have been hard to come by. **The company said that activity in the fourth quarter was limited to "residual" deals from the previous three months.**

According to ship broker Fearnleys LNG, there was about one tanker available for charter at the beginning of 2011, down from about 15 last summer. Conversely, shipping rates doubled from less than \$30,000 a day to over \$60,000 over the same period. **"Vessel availability has now reached a level of tightness not seen in the market for several years,"** Golar said. Spot tenders have been won almost exclusively in recent months by major players with their own fleets. New players have been limited to more peripheral, riskier trades like re-exporting cargoes from the U.S. Gulf to Europe and Asia. (March 1, 2011)

## **SUPPLIES - IMPORTS - EXPORTS**

### **ARGENTINA: Supply contract – Agreement – CNR50/5/11**

**Enarsa** announced recently that **Morgan Stanley and Gas Natural** have won a contract to supply liquefied natural gas to Argentina's Puerto Escobar plant when it opens in June 2011. Morgan Stanley will supply 70 percent of the terminal's needs and Gas Natural the remaining share. **The contract runs until December 2011 and will supply 60.9 million British thermal units during the six months,** Enarsa said. The Enarsa statement also said it had awarded contracts to deliver 21 LNG cargoes to the country's Bahia Blanca terminal, with the first delivery due between April 4 and May 2. The last delivery is due by Oct. 24. U.S.-based Excelerate Energy, which is 50 percent-owned by German utility RWE, was awarded four of the cargoes, Spain's Repsol nine cargoes, Gas Natural another seven and Japan's Marubeni, one. (March 15, 2011)

### **ARGENTINA: Import forecast – CNR50/5/12**

A spokesman for **Enarsa** said recently **Argentina expects to import between 45 and 50 liquefied natural gas cargoes in 2011.** Argentina will boost its LNG import capacity with a second terminal, under a deal between Enarsa and Excelerate Energy. "There will be between 45 and

50 ships arriving this year because the Escobar regasification terminal will come on stream in the first few days of May and will allow us to double the number of ships arriving into the country," Enarsa spokesman Carlos Davidson said. (February 24, 2011)

### **AUSTRALIA to CHINA: Supply contract – CNR50/5/13**

**Sinopec** agreed recently buy up to **4.3 million metric tons of liquefied natural gas from Gladstone project each year for 20 years** and also **buy 15% of the development,** Conoco and Origin said in a joint statement. The stake purchase would reduce Conoco and Origin's holdings in the Australia Pacific LNG project, slated to ship its first cargo in 2015, to 42.5% each. The Sinopec deal to buy up to 4.3 million metric tons a year of LNG will underpin the first of APLNG's two foundation LNG processing units estimated to have a combined production capacity of 9 million metric tons. (February 25, 2011)

### **AUSTRALIA: Exports forecast – CNR50/5/14**

The Australian Bureau of Agricultural and Resource Economics and Sciences (**ABARES**), said recently in a report that Australia's **liquefied natural gas exports are expected to more than double from 18 million tonnes in 2009-2010 to 41 million tonnes in 2015-2016.** Australia's LNG

export growth will be fuelled by several new projects including the 15 million tonne per annum Gorgon project, which will come online in 2014-2015 and the 7.8 mtpa Gladstone LNG and 8.5 mtpa Curtis LNG, both due online in 2014-2015. (February 28, 2011)

### **AUSTRALIA to JAPAN: Supply contract – Agreement – CNR50/5/15**

**BG Group** signed recently a sales agreement with **Tokyo Gas Co., Ltd.** concluding negotiations announced in March 2010 for **the supply of 1.2 million tonnes of liquefied natural gas a year for 20 years from 2015.** Under the agreement, Tokyo Gas will be supplied with LNG from the Queensland Curtis LNG facility on Curtis Island, near Gladstone, and from the Group's global LNG portfolio. The agreement is the first fully termed sales agreement for supply to Japan of LNG sourced from coal seam gas. In addition to the LNG

sale, under the terms of the related agreements executed today: **Tokyo Gas will acquire a 1.25% equity interest in the reserves and resources** of certain BG Group tenements in the Walloons Fairway of the Surat Basin in Queensland. **Tokyo Gas will become a 2.5% equity investor in QCLNG Train 2**, the second of two liquefaction trains which will form the first phase of the QGC-operated QCLNG development. (March 7, 2011)

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**AUSTRALIA to CHINA: Supply contract – Agreement – CNR50/5/16**

**Icon Energy** signed recently a memorandum of understanding with Chinese gas company **Shantou SinoEnergy** to buy **40 million tonnes of liquefied natural gas** converted from coal seam gas, **over 20 years**. Icon, along with Beach

Energy, is drilling for CSG in the Nappamerri trough of the Cooper Basin. Icon's plan is to take CSG from this field and pipe it to Port Bonython near Whyalla in South Australia and then export it to Shantou in China, where it will be regasified. (March 2, 2011)

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**INDIA: Supply contract – CNR50/5/17**

**Reliance Industries** Ltd, in a deal with **BP**, signed recently a two-year contract with Hazira LNG Pvt Ltd to import a spot liquefied natural gas from April 2011. The sources said under the deal, **Reliance would import a cargo every month from April and buy regasified LNG equivalent to a spot cargo from the Hazira terminal**. Reliance needs gas for west India based Jamanagar refining complex that can process 1.24 million barrels per day and its petrochemical plant. (March 1, 2011)

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**INDIA: Planned supply – Talks – CNR50/5/18**

The **Punjab Board of Investment and Trade (PBIT)** recently held a meeting with industry executives, business leaders, professionals and delegates of international LNG suppliers to **discuss LNG import**, the PBIT said in a statement. Import of the gas would reduce the

demand and make natural gas available for industries and consumers, PBIT Chief Executive Saadat Muzafar said. The objective of this initiative is to generate economic activity and improve quality of life for the people, he added. (February 25, 2011)

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**INDONESIA to SOUTH KOREA: Supply contract – Agreement – CNR50/5/19**

Chief executive of **Pertamina** said recently that **Korea Gas Corporation** agreed to **buy 13.9 billion cubic feet per year of liquefied natural gas from Indonesia's Donggi-Senoro project**. Donggi-Senoro is slated to produce 92.7 Bcf of LNG a year from 2014. Two Japanese power companies, Chubu Electric Power Company and Kyushu Electric Power Company, have already reached basic agreements over long-term LNG supply with Donggi-Senoro LNG, to buy a total 60.2 Bcf a year for about 13 years starting in the second half of 2014. (March 1, 2011)

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**UNITED STATES: Supply contract – Regulation – CNR50/5/20**

The **American Public Gas Association** recently asked US regulators to **reject Cheniere Energy's proposal to export US-produced natural gas as LNG**. The trade group, which represents municipally-owned gas distribution utilities, said in comments to the Federal Energy Regulatory Commission that the shipments would destabilize US gas prices and threaten energy security. A subsidiary of Cheniere Energy Partners, Sabine Pass has proposed to build a liquefaction plant to export US gas from its import terminal in Louisiana. It asked regulators last fall for

authorization to ship up to 803 Bcf/year for 20 years. In addition to APGA's filing, the only other opposition has come from the Industrial Energy Consumers of America, which said **exports would raise prices, hurt manufacturing jobs and threaten energy independence**. APGA said "Since international markets are often less liquid, less transparent and less competitive, divided by national boundaries, and natural gas commodity prices are often indexed to crude oil, it is far more likely that exporting natural gas from the United States would tie domestic commodity prices to international fluctuations rather than tame the international market". (March 4, 2011)

### **WORLD: Production forecast – CNR50/5/21**

Andrew Pearson, Head of **LNG Research for Wood Mackenzie** said recently “Multiple new LNG supply projects have been commissioned in recent years and further new capacity has been sanctioned, which will largely meet growing demand out to 2015. But we expect that a decline in currently operational supply combined with robust demand growth will mean that around 40 new, average sized LNG trains will need to be developed in the next decade. This is equivalent in volume terms to two Qatari mega-trains being sanctioned every year”. **'We forecast that LNG trade will increase at an average rate of 6.5% a year out to 2025.** It's a significant prize to go after”. “Countries such as Australia, Russia, Nigeria and Iran have multiple discovered resource opportunities which currently have no binding sales agreements or firm development plan in place. Rising gas demand may encourage the NOCs or IOCs which control or hold the licence for these developments to overcome the political or geopolitical challenges which are currently preventing these from being developed. Australia looks to be the most likely source of future LNG development given its stable fiscal and regulatory system, but costs and partner misalignment may continue to stall some proposals”. “The future for new LNG supply is bright, but it will remain competitive and the challenge is being involved in the right project, at the right time, with the right partners and stakeholders said Pearson. (March 25, 2011)

## **STORAGE**

### **BRAZIL: Planned project – CNR50/5/22**

**Petrobras** reported recently it **will install a third offshore LNG terminal.** The Bahia regasification terminal (TRBA), with **capacity to regasify 14 million cu m/day,** will supply natural gas to the state of Bahia. **TRBA will be installed in the Bay of All Saints** and interconnect with a pipeline network at two sites: one in the Bahia network, at Candeias, and the other at kilometer 910 on the Cacimbas-Catu pipeline, a section of the Southeast-Northeast Gas Pipeline started up in March 2010. Petrobras said work will begin in

March 2012 with completion scheduled for August 2013. When the TRBA terminal comes online in September 2013, Brazil's total regasification capacity will reach 35 million cm/d. At the TRBA terminal, LNG will be transferred directly between vessels using side-by-side docking, which means that the regasification vessel will dock at a single-berth, island-type pier, said the company. Gas will then be injected into the pipeline network through a 28-in. pipeline that is 49 km long including a 15-km subsea section. (March 2, 2011)

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### **CHINA: Ongoing project – CNR50/5/23**

**PetroChina** started recently to build the **Tangshan receiving terminal** for liquefied natural gas in northern Hebei province. To be developed in two phases, phase one will have an annual receiving capacity of **3.5 million tonnes** expected for completion by **end of 2013,** expandable by another 6.5 million tonnes at phase two, a report of CNPC said. PetroChina is set to start operating its first two terminals in the coming few months, in east China's Rudong and northeast China's Dalian city. (March 24, 2011)

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### **CHINA: Planned project – CNR50/5/24**

Yu Rumin, chairman of **Tianjin Port Co** said recently that the company is negotiating with **China National Offshore Oil Corp** to establish a **liquefied natural gas terminal in the port.** “The

project will include an LNG dock and receiving station that can handle **3 million tons of LNG** imported from the Middle East” he said. (March 4, 2011)

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### **CYPRUS: Planned project – CNR50/5/25**

**Electricity Authority of Cyprus (EAC)** General Manager Stelios Stylianou said recently that possible natural gas reserves located in Cyprus' Exclusive Economic Zone should be incorporated in the initial planning for the use of natural gas for electricity generation.

Under the current planning for the use of natural gas as the main fuel for electricity generation, the government established the Natural Gas Public Company (DEFA). Under this planning EAC would **create a terminal in Vassiliko which would receive, store and regasify the LNG.** However with the news that block 12 in Cyprus' EEZ could hold up to 8 trillion cubic feet of natural gas, political parties suggested that **Cyprus should not commit to long-term contract for the provision of LNG before exploring the possibilities of natural gas extraction.**

"I believe we could combine the utilization of our own (natural gas) reserves with the current procedures mobilized by DEFA and EAC," Stylianou said. Pointing out that the natural gas EAC needs for the purposes of electricity generation in Cyprus is a mere fraction of the reserves believed to exist in block 12, Stylianou said "we need to find a way if we are to exploit these reserves to liquefy and export them". "Therefore there is a need for a terminal if we are to exploit our reserves" he added.

Sotos Savva said that the current DEFA planning guarantees that natural gas would be used for electricity generation purposes by late 2015 or early 2016. "For this reason, the DEFA process should not be terminated but we should find a way to incorporate the possibility of natural gas extraction to the agreements made by DEFA and EAC so that we would not delay the arrival of natural gas in Cyprus by 2015," he said. (February 28, 2011)

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#### **INDONESIA: Planned project – Agreement – CNR50/5/26**

**Pertamina** recently signed a joint venture agreement with **Perusahaan Listrik Negara to build eight small LNG receiving terminals** in the eastern part of the country, Pertamina's president director Karen Agustawan said. **The project may require a total 182,000 Mcf/d of gas** and both parties expect to secure LNG supply from the Bontang plant in East Kalimantan. The total capacity of the proposed LNG terminals is **expected to reach 1.4 million t/year**. Pertamina and PLN have agreed to build the project in three phases. In the first phase, both parties plan to build four small LNG receiving terminals across Bali, East Kalimantan and Southeast Sulawesi. The projects are expected to be on stream in 2012 with a total gas requirement of 95,000 Mcf/d, Agustawan said. The second phase is expected to come on stream in 2013. Both parties plan to build two small LNG receiving terminals in Nusa Tenggara Barat and South Kalimantan, which are expected to require 21,000 Mcf/d of gas, she added. In the final phase, Pertamina and PLN plan to build two small LNG receiving terminals in North Sulawesi and Maluku which are expected to be on stream in 2015 with gas required totalling 66,000 Mcf/d, according to Agustawan. (March 24, 2011)

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#### **JAPAN: Security of supply – CNR50/5/27**

**Tokyo Electric Power Co** said recently that its **four liquefied natural gas terminals** have been running normally and were **undamaged by the earthquake**. Tokyo Electric Power Co operates

LNG terminals in Higashi Ohgishima, Futtsu and Sodegaura. A fourth, in Minami Yokoyama, is operated jointly with Tokyo Gas Co, a company spokesman said. (March 14, 2011)

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#### **PHILIPPINES: Planned project – Agreement – CNR50/5/28**

**InterOil Corporation and Pacific LNG Operations Ltd** recently signed a non-binding memorandum with Energy World Corporation Ltd., which has a permit to construct an **LNG Hub Terminal** and a **300MW combined cycle gas turbine power plant** located on **Pagbilao Grande Island, Philippines**, to negotiate taking an ownership interest and establish an associated downstream gas sale, purchase, transmission and distribution services company. The LNG Hub Terminal is designed to be located adjacent to an existing power plant and consist of facilities for unloading, storage, regasification, and processing of LNG and/or regasified LNG of **1 bcf per day**. The CCGT power plant is being designed to consist of 2 x 150MW modules and planned to be built in two phases. The gas distribution services company would be established to purchase, transmit, distribute and sell LNG and/or regasified LNG on a wholesale or retail basis to the Philippine gas market. (March 23, 2011)

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#### **POLAND: Ongoing project – CNR50/5/29**

**Polish Prime Minister Donald Tusk** said at a recent ceremony held in **Swinoujscie**, laying the cornerstone for the future liquefied natural gas terminal "Poland will be a country secure in terms of gas supplies and a country able to trade it in case of surpluses". "Taking into consideration Polish natural gas deposits, the long-term contract with Russia, the long-term contract with Qatar and the infrastructure, investments in gas pipelines and interconnectors, as well as the increasingly

intensive and promising search of shale gas, we can believe that during the next three, thirteen or even thirty years Poland will not be a gas giant but a country secure in terms of gas supplies" the PM said. **The construction of the liquefied natural gas terminal should be completed in 2013**. The mechanical and technological launch of the terminal is expected to take place a year later. It should come into use on 30 June 2014. (March 24, 2011)



### **QATAR to TURKEY: Planned project – Talks – CNR50/5/30**

**Turkish Petroleum Corporation (TPAO)** and **Qatari Gas** signed recently a memorandum of understanding for the exploration and production of natural gas in Qatar. According to the agreement a joint meeting will be held to assess several matters including the shipment of liquefied natural gas from Qatar to Turkey, **the establishment of an LNG regasification plant in Turkey** and the establishment of a joint venture by TPAO and Qatar Gas for natural gas exploration and production in Qatar. In a previous statement, Energy Minister Taner Yildiz said Turkey is planning to sign a protocol to import around 4 billion cubic meters of LNG from Qatar. (March 15, 2011)

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### **SINGAPORE: Planned project – Forecast – CNR50/5/31**

A joint industry project on the **future small scale LNG value-chain in South East Asia** has identified noteworthy potential for LNG as fuel for ships in regional trade, and predicts a future market for LNG bunkering in Singapore. The joint industry project, which was initiated by DNV mobilised a consortium of 16 participants from all parts of the LNG value chain. The study identified multiple island regions in South East Asia where small-scale power plants fuelled by LNG would be feasible.

The distribution of LNG to these power plants would require close to **60 small scale LNG carriers** by 2020 if the full number of plants is built. Singapore is identified as the regionally preferred site for future LNG bunkering, due to large shipping volumes, calm seas for bunkering operations and the fact that infrastructure for LNG bunkering is already under construction. (March 22, 2011)

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### **SOUTH KOREA: Planned project – LNG carrier – CNR50/5/32**

**Korea Gas** Corp. has developed a design technology for the world's largest liquefied natural gas tank. The **tank has a storage capacity of**

**270,000 kiloliters**, up 35 percent compared with that of the largest existing tank, Kogas said in a statement. The company said it is considering building the tank in Samcheok. (March 21, 2011)

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### **THAILAND: Ongoing project – Commissioning – CNR50/5/33**

The **first liquefied natural gas receiving terminal** in Thailand will be **operational by July 2011**, a senior executive of PTT Public Company said recently. "We expect to have the terminal commissioning in May, and hope that it will be operational by July," said Pane Cutthroat, PTT's executive vice president of natural gas supply and marketing. The terminal facilities will comprise of one jetty and two tanks that can handle up to **5 million tonnes per year** of LNG. A second phase is planned that can handle another 5 million tonnes per year, Sutthirat said. (March 1, 2011)

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### **UNITED STATES: Planned project – Cancellation – CNR50/5/34**

The **Ninth Circuit Court of Appeals** invalidated recently a federal license for the **Bradwood Landing liquefied natural gas project**. The court found that the bankruptcy of developer NorthernStar Natural Gas put the project "in

**grave doubt**". But the court didn't answer the state of Oregon's question: whether the Federal Energy Regulatory Commission, or FERC, was wrong to approve the project before it had obtained state permits. The court found that question to be moot in this case. (March 2, 2011)

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### **UNITED STATES: Ongoing project – Approval – CNR50/5/35**

**Qatar Petroleum** said recently that the **US Federal Energy and Regulatory Commission** had granted "in service authority" for its **Golden Pass LNG terminal** in Texas and the Golden Pass Pipeline, which have started commercial operations. The Golden Pass LNG terminal has the capacity to deliver the equivalent of 2.5 Bcf/d of natural gas. Golden Pass LNG and the Golden Pass pipeline are a joint venture of Qatar Petroleum International (70%), a QP affiliate, ExxonMobil (17.6%) and ConocoPhillips (12.4%). The Golden Pass terminal and pipeline facilities include two berths for unloading double-hulled LNG ships, including the world's largest Q-Flex and Q-Max ships, five LNG storage tanks with capacity of 155,000 cubic meters each as well as vaporization equipment to convert cooled LNG back to natural gas. They also include pipeline facilities and equipment to transport the natural gas from the terminal to customers. (March 14, 2011)

LPG

PROCESSING

**UNITED STATES: Supply contract – Agreement – CNR50/5/36**

**NOVA Chemicals** entered recently into a MOU agreement to deliver ethane from **Caiman Energy's** Fort Beeler plant, a gas processing facility, in Marcellus Shale to Sarnia, Ontario petrochemical market. As per the agreement, Caiman Energy will **extend the gas processing**

**plant to ease ethane extraction from natural gas.** The expansion will enable NOVA to buy nearly 20,000 barrels of ethane per day. The purchase and sale contract is subject to finalizing a pipeline transportation deal for transferring ethane from West Virginia-Based Fort Beeler plant to Ontario petrochemical market. (March 11, 2011)

TRANSPORTATION-DISTRIBUTION

**UNITED STATES: Planned project – Agreement – CNR50/5/37**

**Nova Chemicals** signed recently definitive agreements with **Hess Corporation and Vantage Pipeline Canada Inc/Vantage Pipeline US LP** to purchase and transport ethane production from Hess' Tioga Gas Plant in North Dakota through a proposed pipeline to Alberta, Canada. Nova Chemicals has the right to purchase 100% of the ethane produced at the Tioga Gas Plant under a long-term arrangement. **The proposed pipeline, which is expected to start-up in the fourth quarter of 2012,** will be constructed, owned and operated by Vantage. The proposed pipeline design will allow for the transport of up to **60,000 barrels per day of ethane** and will be capable of further capacity additions if required in the future. (February 24, 2011)

**UNITED STATES: Planned project – CNR50/5/38**

**MarkWest Liberty Midstream & Resources, LLC,** a partnership between MarkWest Energy Partners, L.P. and The Energy & Minerals Group, and Sunoco Logistics Partners L.P. announced recently the development of Project Mariner West, a **pipeline project to deliver Marcellus Shale ethane** from MarkWest Liberty's Houston, Pennsylvania processing and fractionation complex to Sarnia, Ontario, Canada markets. Mariner West is anticipated to have a maximum capacity **to transport up to 65,000 barrels per day of ethane by the third quarter of 2012.** To

support deliveries to Canadian markets in 2012, MarkWest Liberty will make minor modifications to its natural gas processing complexes and will install ethane extraction facilities at its Houston complex to deliver ethane to Mariner West. In addition, MarkWest Liberty will construct a 25-mile pipeline from the Houston complex to an interconnection with an existing Sunoco Logistics pipeline at Vanport, Pennsylvania. The ethane will then be transported from Vanport to markets in Sarnia utilizing existing Sunoco Logistics pipelines, which will be modified for ethane service. (March 22, 2011)

NGL

TRANSPORTATION-DISTRIBUTION

**BOLIVIA : Planned project – CNR50/5/39**

**YPFB Transporte** will build a new network of pipelines in the south of the country to transport natural gas liquids. "This project started from this year's increased production and export of natural gas to Argentina from the San Alberto field, Itaú, Chad and Margarita. Bolivia will have greater availability of NGLs. Therefore, **we must create a new network with a transport capacity of over 25,000 bbl/d**" said YPFB Transporte General Manager Cristian Inchauste. Mr Inchauste explained that the project Southern Expansion Liquid System mobilised NGLs for the domestic market from the Chaco Tarija to Rio Grande in Santa Cruz to connect with YPFB's refineries. The product will integrate the departments of Tarija, Chuquisaca, Santa Cruz, and Cochabamba.

The engineering will be completed by mid-April 2011 after which the length of the pipeline network will be finalised. Currently approximately 200 km of 10–12 inch diameter pipeline has been proposed. Liquid-separations plants are being constructed in Rio Grande and Gran Chaco. YPFB is considering two options for the increased LPG production: exporting to Argentina or constructing a propane pipeline to Sica Sica, Bolivia and on to Ilo, Peru, and Arica in northern Chile. (March 15, 2011)

## GTL

### PROCESSING

#### **NIGERIA: Ongoing project – Expansion – CNR50/5/40**

**Chevron** said recently it would sign an engineering deal in the second quarter for the Phase 3B **expansion of its Escravos Gas Plant**. The 33,000 barrel per day plant, which is being developed jointly with the Nigerian National Petroleum Corporation (NNPC), will now be completed in 2013, instead of the 2012 earlier set date. The GTL plant originally scheduled to come

on stream in 2010 is now at 70 percent completion. Sasol, a 10 percent owner of the plant had confirmed in May 2011 that **the plant would not start up until 2013**. The Escravos site is located about 100km southeast of Lagos. The plant will make use of the rich gas resources of the Escravos field, which can now produce 340 million cubic feet of dry gas per day along with 1,200 barrels of condensate and 8,500 barrels of LPG. (March 1, 2011)

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#### **QATAR: Ongoing project – Start up – CNR50/5/41**

**Pearl GTL**, the gas-to-liquids plant at Ras Laffan, is in the start-up phase and the two trains will begin producing fuel in the '**coming months**', managing director Andy Brown said. Pearl GTL will be the world's largest source of gas-to-liquids products, producing **140,000 barrels of GTL products each day**. The plant will also produce 120,000 barrels of oil equivalent per day of natural gas liquids and ethane. (March 8, 2011)

## NATURAL GAS

### EXPLORATION – DISCOVERY

#### **BOLIVIA: Exploration agreement – CNR50/5/42**

**YPF Bolivianos** said recently that it has signed **oil and gas exploration agreements** with **Petrobras and Repsol**. The two companies will explore six areas in Bolivia's southern Tarija region where most of the country's gas is produced, said YPF Bolivianos. Petrobras will

carry out exploration work in the Astillero and Sunchal areas, both in a producing zone, and in the frontier area of San Telmo, YPF Bolivianos said. Repsol has agreed to explore the Capiguazuti and Rio Saldo areas, both in a producing zone, and in the frontier area of Yuchan. (March 4, 2011)

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#### **COLOMBIA: Discovery – CNR50/5/43**

**Pacific Rubiales Energy Corp.** announced recently the results of the Apamate-1X exploration well in the La Creciente Block, **Lower Magdalena Basin**, Colombia. During the initial test the **well achieved a gas production in excess of 24 MMscfd** with a well head flowing pressure of 3730 psig, restricted by the flow capacity of the test facilities. The Company is making all the arrangements to begin the production facilities and the connecting line to the central facilities at La Creciente. The Company has already begun the work to expand the facilities at La Creciente to process up to 150 MMscfd in three modules of 50 MMscfd each. The Company is also well advanced in the gas-export project to the Caribbean where a potential market of 330 to 380 MMscfd has been identified. (February 28, 2011)

**INDIA: Discovery – CNR50/5/44**

**Oil and Natural Gas Corporation (ONGC)** made recently a significant **gas discovery** in the Northeastern state of **Tripura**. "The fresh discovery of gas was established after the drilling of a well up to a depth of 3,515 metres. On testing, one of its sand zone flowed gas at the rate of 113,400 cubic meters per day, through 8 mm bean," an ONGC spokesman said. "This

discovery of new hydrocarbon would help in meeting additional gas requirements for the under commissioning of the 726 MW capacity mega power project in south Tripura's Palatana," the spokesman said. ONGC's biggest commercial thermal power project is to be commissioned at Palatana and the first unit is expected to be operational by 2012. (March 15, 2011)

**RUSSIA: Planned project – Drilling campaign – CNR50/5/45**

**Gazprom** announced recently plans to start natural **gas exploration** on the country's western continental shelf in 2011, in the **western Kamchatka**. Gazprom has plans to drill two gas production wells in the area and start construction of an onshore processing facility in 2011. The design capacity of the Kshukskoye field for 2011 is estimated at 6.1 billion cubic feet per year. The Nizhne-Kvakchikskoye field has a design capacity of 20.3 bcf per year. Gazprom in a statement said the design of an 87-mile pipeline to sever the area is nearly completed. (March 10, 2011)

**THAILAND: Cooperation agreement – CNR50/5/46**

**Statoil** signed recently a Memorandum of Understanding with **PTT Exploration and Production (PTTEP)** of Thailand. Under the MoU, the companies will seek to **cooperate in the**

**areas of conventional and unconventional resources and liquefied natural gas** in a global setting. The MoU does not impose restrictions on the ability of either company to separately pursue other business opportunities. (March 18, 2011)

**UNITED KINGDOM: Discovery – CNR50/5/47**

**Maersk Oil** announced recently that an appraisal well confirmed a promising gas discovery in the British sector of the North Sea. The well was drilled about 145 kilometres **East of Aberdeen** to verify the extension of the original **Culzean discovery** well announced in 2008, Maersk Oil said. The well has been tested, and delivered a (constrained) rate of nearly 40 MMscf/d of gas in addition to 900 Bbls/d of good quality condensates (45° API). "The production test shows that the Culzean discovery has the potential to be one of the most promising HPHT (high pressure, high temperature) discoveries in the UK sector in recent years" Maersk Oil said. Maersk Oil and its partners have agreed to a further appraisal programme to assess the full extent of the field. Maersk Oil is operator and has a 49.99 percent stake in Culzean. Its partners are JX Nippon with 17.06 percent, Eni with 16.95 percent and BP with 16.0 percent, Maersk said. (March 10, 2011)

**PRODUCTION**

**AUSTRALIA: Planned project – CNR50/5/48**

**Origin Energy Ltd.** aims to decide on the **development of the Halladale and Black Watch natural-gas fields** in Victoria State in September 2011, a filing on the website of the government environment agency said recently. Origin is

targeting first gas in mid-2013 from the two offshore fields, which are located 300 kilometers southwest of Melbourne. Gas will be supplied via pipeline to either the Otway or Iona plant from the project, which is expected to operate for at least eight years. (March 11, 2011)

**BRAZIL: Ongoing project – First gas – CNR50/5/49**

**Petrobras** will begin output at the **Mexilhao** natural gas field in March 2011. The offshore field in the Santos basin will reach a **maximum production capacity of 15 million cubic metres per day**. A company spokeswoman said she could not specify when the field would reach its full capacity. Mexilhao was originally discovered in 2003 and has estimated reserves of 70 billion cubic metres. (March 3, 2011)

#### GHANA: Ongoing project – CNR50/5/50

The **Ghana National Petroleum Corporation** (GNPC) recently completed a well at the **Jubilee field** that could store gas for a period of two years while the gas plant onshore becomes operational

in 2012. The **reinjection of gas** into the reservoir is expected to start in March 2011 and expected to minimize the environmental concerns raised over gas flaring. (March 9, 2011)

#### INDIA: Production decline – CNR50/5/51

**Reliance Industries** is producing 50-51 million standard cubic meters of natural gas per day at its eastern offshore **KG-D6 fields**, which is about **15 per cent lower than middle of 2010**. "Currently, the quantum of natural gas production from block KG-DWN-98/2 (or KG-D6) operated by Reliance is about 50 to 51 mmscmd," Minister of State for Petroleum and Natural Gas R P N Singh said. He added "Directorate General of Hydrocarbons has asked the contractor (Reliance) to expeditiously drill more development wells in D1 and D3 fields as approved in the field development plan". (March 3, 2011)

#### INDONESIA: Planned project – Engineering – CNR50/5/52

**Technip** was recently awarded by **Chevron** a **front-end engineering design contract** for two **floating production** units located offshore Indonesia in the **Gendalo and Gehem fields**. The contract covers the hull, topsides, mooring systems and steel catenary risers of the two floating production units. The Chevron-operated Gendalo-Gehem project is located in the Makassar Strait offshore East Kalimantan. The

project will include two separate hub developments, each with its own floating production unit (FPU), subsea drill centres, export gas and condensate pipelines and an onshore receiving facility. Gas from the project will be used both domestically and also converted to liquefied natural gas at the Bontang LNG facility. Maximum daily production from the project is expected to be **1.1 billion cubic feet of natural gas and 31,000 barrels of condensate**. (March 23, 2011)

#### IRAN: Ongoing project – First gas – CNR50/5/53

According to the Islamic Republic of Iran Broadcasting, the **South Pars gas field's phases 15 and 16 development plan is currently 60 percent complete**. The mentioned phases will come on stream by the end of next Iranian calendar year (March 20, 2012). Development operations of the South Pars phases 15 and 16 started in January 2007. The project is aimed to produce 50 million cubic meters of refined natural gas per day as well as one million ton of liquefied petroleum gas and one million ton of ethane per year. It is estimated that some 75,000 barrels of gas condensates and 400 tons of sulfur will also be extracted from the phases per day. According to International Energy Agency, the field holds an estimated 50.97 trillion cubic meters (1800 trillion cubic feet) of in-situ gas and some 50 billion barrels of condensates. (March 2, 2011)

#### ISRAEL – Regulation – CNR50/5/54

The **Knesset recently approved** the first reading of a bill to implement the Sheshinski Committee **recommendations on raising taxes on oil and natural gas production**. Finance Minister Yuval Steinitz explained the proposed law to the Knesset plenum before the vote. The Sheshinski committee, headed by economist Prof. Eytan Sheshinski, examined Israel's fiscal and tax policy on natural resources, and **concluded that taxes**

**on profits from oil and gas production should be 52% to 62%**, he said. The law will not apply retroactively, Steinitz stressed, adding that the bill would be prepared quickly for its second and third readings. Steinitz said this Knesset and government would not see any major results from the bill, but the additional revenues would become significant in about 2015, and for about 30 years thereafter. (March 1, 2011)

#### KAZAKHSTAN: Production forecast – CNR50/5/55

According to the **Oil & Gas Ministry's plan**, gas output in Kazakhstan will rise to **42 billion cubic meters in 2011** from 37.4 billion cubic meters in 2010. Output in 2012 is projected at 42.5 billion cubic meters, the ministry said. Exports will rise to 9.2 billion cubic meters in 2011 from 9.1 billion in 2010, the ministry's figures show. The nation exported 7 billion cubic meters of gas in 2009. Four producers accounted for almost 90

percent of the nation's output, the ministry said. These were CNPC-AktobeMunaiGaz, Tolkynneftegaz LLP, Chevron Corp (CVX)-led TengizChevroil LLP and Karachaganak Petroleum Operating BV, the venture led by Eni SpA (ENI) and BG Group Plc. (BG/) Russia sent 48 billion cubic meters of gas through Kazakhstan, while Turkmenistan and Uzbekistan shipped 11.9 billion and 13.4 billion respectively in 2009, it said. (March 15, 2011)

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#### **NORWAY: Ongoing project – Start up – CNR50/5/56**

The **Vega field** in the North Sea was recently opened. The subsea field adds important natural gas and condensate to **Statoil's** production on the Norwegian continental shelf. Production on the Vega field commenced on 2 December 2010. Gas and condensate flow from three subsea templates to the processing facility on the Gjøa platform, which is operated by GDF SUEZ E&P Norway. Following unitisation of the two Vega licences,

Vega and Vega South, the partnership consists of Statoil (operator) (54%), Petoro (24%), Bayerngas Norge (10%), Idemitsu Petroleum Norge (6%) and GDF Suez E&P Norge (6%). Vega contains gas and condensate. **The recoverable reserves are estimated to be 18 billion standard cubic metres of gas and 26 million barrels of condensate.** At its height, production will be 7 million cubic metres of gas and 25,000 barrels of condensate per day. (March 18, 2011)

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#### **PAKISTAN: Planned project – CNR50/5/57**

**President** Asif Ali Zardari recently called for enhancing gas supply from existing gas fields and **reactivating the abandoned gas field in the province** to meet country's requirements. He was apprised that the quality of gas from the fields was not suitable for domestic consumers, but ideal for power generation. Nur and Bagla fields are located in district Thatta, while Jhakro in Sanghar and Sara West in district Ghotki. These gas fields are abandoned for various reasons including expiry of lease, ownership right under 18th Amendment. (March 14, 2011)

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#### **RUSSIA: Planned project – Agreement – CNR50/5/58**

Alexander Medvedev, Deputy Chairman of the Management Committee of OAO **Gazprom**, and Dr. Hans-Ulrich Engel, Board member of **BASF**, responsible for the Oil & Gas Division, signed recently a Memorandum which foresees **possible development on a parity basis of two additional sites of the Achimov deposits of the**

**Urengoy field.** The document also stipulates Gazprom will receive equivalent stakes in the Wintershall's exploration and production projects in the North Sea. BASF SE and Wintershall Holding GmbH are partnering OAO Gazprom in the development of the Yuzhno-Russky oil and gas field, in the testing of industrial use of the Block 1A of the Achimov deposits in the Urengoy field. (March 11, 2011)

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#### **RUSSIA: Planned project – Drilling campaign – CNR50/5/59**

**Gazprom** plans to drill two as production wells in 2011 on the Kirinskoye field, 28 km offshore Sakhalin Island in the Sea of Okhotsk. Output from the field will provide feedstock for the new Sakhalin–Khabarovsk–Vladivostok gas transmission system. **Gazprom also plans to start construction of an associated onshore processing facility.** FEED development is nearly complete for construction of a 140-km gas pipeline from the processing facility to the Sakhalin main compressor station. Gazprom estimates reserves at 100 bcm of gas and 11.4 MM tons of gas/condensate. (March 14, 2011)

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#### **UNITED STATES: Production forecast – CNR50/5/60**

According to data released by the EIA, natural gas production in the U.S. reached an annual record high of 26.85 trillion cubic feet in 2010. **That output was an increase of 3.22% above the previous record high in 2010.** Domestic

production in 2010 hit its highest level in almost 40 years, and 2011 will likely see another year of strong production. In its latest outlook, the **EIA saw U.S. production increasing by 0.8% in 2011**, while deliveries to consumers are expected to rise by 0.3%. (March 3, 2011)

## RESERVES

### **ISRAEL: Reserves – CNR50/5/61**

**Energtek** completed recently an evaluation of gas reservoirs in the licensed block in **Southern Israel**. Based on the analysis of seismic and geophysics data as well as a detailed analysis of the results of the production test, the geological team estimated that the **recoverable gas**

**resources** (contingent resources) of the reservoir at which the NirAm Gas1 was drilled amount to 1.7 BCF. In addition, the geological team identified three similar natural gas reservoirs in the Nir-Am block. Prospective gas resources from the identified reservoirs may total as much as 5 BCF. (March 11, 2011)

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### **RUSSIA: Estimated reserves – CNR50/5/62**

Jonathan Muir, CFO of **TNK-BP**, which owns the **Kovykta** gas field in East Siberia, said recently that **Gazprom had bought the field**. The field has estimated reserves of 2 trillion m3 of natural gas. Gazprom had originally agreed to buy Kovykta in 2007, but wrangling with TNK-BP over the price led to delays. (March 4, 2011)

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### **UNITED STATES: Reserves forecast – CNR50/5/63**

The **Congressional Research Service (CRS)** issued recently a report that claims that the US has far more recoverable reserves in oil and natural gas than previously thought. **U.S. proved reserves of oil total 19.1 billion barrels; reserves of natural gas total 244.7 trillion**

**cubic feet**, and natural gas liquids reserves of 9.3 billion barrels. Undiscovered technically recoverable natural gas is 1,162.7 trillion cubic feet. In the United States, proved reserves are typically measured by private companies, who report their findings to the Securities and Exchange Commission because they are considered capital assets. (March 10, 2011)

## PROCESSING

### **CANADA: Planned project – Agreement – CNR50/5/64**

**AltaGas** Ltd. announced recently that it has entered into a definitive agreement with **NOVA Chemicals** Corporation for the Harmattan Costream Project. The **processing agreement** is for an initial term of 20 years and has AltaGas deliver all liquids or co-stream gas products on a full cost-of-service basis to NOVA Chemicals. **The Costream Project will allow 250 million cubic feet per day of rich, sweet natural gas** sourced from the NGTL Western Alberta System to be processed using spare capacity at the Harmattan Complex to recover ethane and natural gas liquids.

The current throughput at the Harmattan Complex is approximately 150 Mmcf/d, or 30 percent of the 490 Mmcf/d licensed plant capacity. The Co-stream Project involves constructing and operating two new large-diameter high-pressure sweet natural gas pipelines and one small-diameter high vapour pressure product pipeline, as well as modifying existing equipment for processing gas at the complex. The project is expected to commence operations in first quarter 2012. (March 4, 2011)

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### **CANADA: Ongoing project- Start up – CNR50/5/65**

**Murphy Oil Corporation** had begun recently operation at the **Tupper West natural gas processing facility** in Northeastern British Columbia, Canada. The facility, which is located 20 km west of Dawson Creek, British Columbia, has a **processing capacity of 180 million cubic feet per day**. According to Murphy, production from the Tupper West area is expected to contribute over 85 million cubic feet per day in 2011 with year-end exit rates projected to be over 120 million cubic feet per day. (February 24, 2011)

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### **UNITED STATES: Planned project – Agreement – CNR50/5/66**

**SemGas** signed recently a deal with **Eagle Energy** to gather and process natural gas from its acreage in Region 1 of the Anadarko Basin in

Northern Oklahoma. **The deal will include the installation of a 30,000mcf/day cryogenic plant** at the company's Hopeton facility to support Eagle's drilling activities into the Mississippi and Hunton geological formations. (March 2, 2011)

### UNITED STATES: Planned project- Expansion – CNR50/5/67

**MarkWest Energy Partners** will construct its third plant at its **Arapaho processing plant** in western Oklahoma to serve increasing volumes of liquids-rich natural gas production from Granite Wash producers, including Newfield Exploration and Linn Energy. **The processing capacity at the Arapaho complex will increase by 60mmcf/d to a total of 220mmcf/d** following the completion of the facility expansions in the third quarter of 2011. The company said that its throughput volumes from the Granite Wash have increased to nearly 120 million cubic feet per day and are forecasted to continue increasing in 2011 and beyond. (February 24, 2011)

## TRANSPORTATION-DISTRIBUTION

### AUSTRALIA: Planned project – Approval – CNR50/5/68

**Liquefied Natural Gas Ltd.** received recently environmental approval from the **Queensland Department of Environment and Resource Management** for its wholly-owned subsidiary Gladstone LNG Pty. Ltd. to build a 21-km gas pipeline (PPL 161) from the Callide Infrastructure Corridor to its Fisherman's Landing LNG liquefaction project at Port of Gladstone. **The pipeline will initially be capable of supplying 483 MMcfd** to the 3 million tonne/year project, expandable according to the company's needs and regulatory approvals. The company is currently pursuing gas supply for Fisherman's

Landing from several coal seam gas companies, including Metgasco Ltd. LNG Ltd. said the existing Queensland Gas Pipeline and at least six other planned major gas pipelines, of which five have obtained environmental approval, will converge in the Callide Infrastructure Corridor supplying the LNG project. The six planned pipelines include the Blackwater Hub Gas Pipeline (Bow Energy), Central Queensland Gas Pipeline (Arrow Energy, AGL Energy), GLNG Pipeline (Santos, Petronas, Total, and Kogas), Queensland Curtis LNG Pipeline (BG Group, CNOOC), APLNG Pipeline (Origin, ConocoPhillips), and Surat-Gladstone LNG Pipeline (Shell, PetroChina). (February 25, 2011)

### AUSTRALIA: Planned project – CNR50/5/69

**Arrow Energy** announced recently **plans for a major pipeline** to connect its operations in the **Bowen Basin** to a liquefied natural gas facility at Curtis Island, off **Gladstone**. An Initial Advice Statement (IAS) which has been submitted to the Queensland Government. Arrow Energy CEO Andrew Faulkner said the pipeline is part of the Arrow LNG Project which would bring coal seam gas from both the Bowen Basin and the Surat Basin in the State's south east to Gladstone where it would be liquefied. (March 18, 2011)

### BELGIUM: Ongoing project – CNR50/5/70

In 2010, **Fluxys** had begun work to lay a new natural gas **transmission pipeline between Opwijk and Eynatten** (Raeren) on the German border. Fluxys is now gradually filling the section of pipeline between Opwijk and Oupeye with natural gas. The new pipeline will enable larger volumes to be imported from the East and from Zeebrugge into Belgium. **Some 5 billion cubic metres can flow through the pipeline annually.** The new pipeline (VTN2) has been laid in parallel

with the existing Zeebrugge/Zelzate–Eynatten pipeline (VTN1), which has been in service since 1998. Thirteen junctions have been built across its entire length between Opwijk and the German border, serving as interchanges between the two pipelines. The process of gradually filling the new pipeline between Opwijk and Oupeye will last until mid March 2011. By the end of summer, work on the pipeline between Opwijk and Oupeye will be complete. (March 3, 2011)

### CANADA: Planned project – Approval – CNR50/5/71

The **National Energy Board approved** recently the construction of the **Mackenzie Valley natural gas pipeline**. The Mackenzie Gas Project is a 750-mile proposed pipeline through the Mackenzie Valley of Canada's Northwest Territories that would connect a dozen potential northern onshore gas fields with North American markets. The lead partner in the project is Imperial Oil Ltd said the pipeline could start up in 2018. (March 10, 2011)



**CHINA: Ongoing project – Start up – CNR50/5/72**

**PetroChina** started recently **running** the **420-kilometre Qinhuangdao-Shenyang pipeline**, with maximum gas shipping capacity of 8 billion cubic metres per year; it connects PetroChina's Northeastern China and northern China gas networks. Shenyang is the capital of Northeastern Liaoning province and Qinhuangdao is in northern Hebei province. The Qinhuangdao-Shenyang line will later be connected to a proposed Shenyang-Harbin pipe, which would serve as a receiving trunk for possible Russia gas supplies. PetroChina also plans to open the Shenyang-Dalian gas pipeline in 2011. The Dalian LNG terminal is scheduled to start operation in April. (March 4, 2011)

**CHINA: Ongoing project – CNR50/5/73**

The **National Energy Administration (NEA)** said recently it would urge **CNPC** to gear up construction of the **Shenzhen-Hong Kong gas pipeline** so that gas supply to Hong Kong could be started through the West-East natural gas pipeline **before June 2012**. The east section of the second West-East natural gas pipeline, which

was approved by the National Development and Reform Commission (NDRC) in January 2009, is now under construction. The second W-E natural gas pipeline is designed to annually supply 11.2 billion cubic meters of gas to the Pearl River Delta area, including Guangdong, Hong Kong and Guangxi. (March 23, 2011)

**CROATIA: Planned project – Cooperation agreement – CNR50/5/74**

**Trans Adriatic Pipeline and Plinacro Ltd** recently signed a Memorandum of Understanding and Cooperation. As per the **three-year agreement, the two companies will exchange technical information and coordinate activities**. Under the terms of the MOUC, a joint working group will be established immediately to further evaluate areas of potential cooperation, ranging from the alignment of overall schedules and sharing of best practice, to facilitating the mutual understanding of each project's technical requirements. (February 25, 2011)

**IRELAND: Planned project – Approval – CNR50/5/75**

**Shell**, on behalf of the **Corrib Gas Partners**, applied in May 2010 for the approval to develop the onshore portion of the Corrib gas pipeline in Ireland, and **the final governmental approval has been granted**. Additionally, the Plan of Development for the Corrib gas field has been approved. Discovered 83 kilometers offshore the west coast of Ireland in 1996, the Corrib gas field

is expected to supply up to 60 percent of Ireland's gas needs. Field development for the Corrib project includes a subsea development and subsea pipeline, as well as an onshore pipeline and onshore gas processing facility at Bellanaboy Bridge in County Mayo. Shell serves as the operator of the Corrib project with 45 percent interest. Project partners include Statoil with 36.5 percent interest and Vermilion Energy with 18.5 percent interest. (February 28, 2011)

**RUSSIA: Planned project – Agreement – CNR50/5/76**

Alexey Miller, Chairman of the OAO **Gazprom** Management Committee, and Jürgen Hambrecht, Chairman of the Board of Executive Directors of **BASF SE**, signed recently a Memorandum of Understanding which will see the BASF subsidiary **Wintershall acquire a 15 percent stake in the company South Stream AG**. Gazprom will retain its 50 percent shareholding according to the agreement. The Memorandum of Understanding also stipulates the conclusion of new long-term gas supply agreements for the joint natural gas trading company WIEE (Wintershall Erdgas Handelshaus Zug) for its sales activities in southeast Europe. (March 21, 2011)

**RUSSIA: Ongoing project – CNR50/5/77**

**Stroygazmontazh** commenced recently construction of the sixth string of the **Ukhta-Torzhok Pipeline** on behalf of Yamalgazinvest. Stroygazmontazh will construct 486 km of the gas pipeline with its total length amounting to 972 km.

The 56 inch diameter pipeline will have an operating pressure of 9.8 MPa, with a designed output of **81.5 Bcm/a of gas**. The Ukhta-Torzhok gas pipeline will cross Vologda and Arkhangelsk regions. (March 15, 2011)

**SLOVENIA: Planned project – Agreement – CNR50/5/78**

Alexei Miller, board chairman of **Gazprom** and Marjan Eberlinc, president of Slovenian energy company **Geoplin** plinovodi signed recently **an agreement creating South Stream Slovenia LLC**. South Stream would move 2.2 trillion cubic feet of natural gas to Europe per year after it passes through the Turkish waters of the Black Sea. The pipeline would branch into two once it reaches Bulgarian territory. Turkey hasn't signed off on building South Stream through its territorial waters, however. Russian Prime Minister Vladimir Putin said LNG terminals could replace that section of the pipeline. (March 23, 2011)

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**UNITED STATES: Planned project – Agreement – CNR50/5/79**

**Southcross Energy** announced recently that the company has entered into a **long-term agreement with Swift Energy Company** to provide natural gas gathering, transportation and processing services for production from Swift Energy's acreage in McMullen County, Texas. Southcross will construct a 25-mile, 20-inch natural gas pipeline with related lateral gathering lines and convert an existing dry pipeline system

to rich gas service in order to gather the Swift Energy gas for processing. The McMullen extension will have **an initial, expandable capacity of 120 million cubic feet of natural gas per day**. The system, which is expected to be in service in mid-2011, will originate in McMullen County, Texas and extend to Southcross' CCNG Transmission pipeline for gas delivery to and processing at Southcross' processing plant near Gregory, Texas. (March 9, 2011)

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**UNITED STATES: Planned project – Agreement – CNR50/5/80**

**AltaGas** Ltd. announced recently an agreement between AltaGas, Provident Energy Ltd. and a major producer to construct a 25 km, 16 inch diameter natural gas pipeline. **The pipeline will connect up to 250 million cubic feet per day of additional supply** to the AltaGas operated Younger extraction facility (750 Mmcf/d capacity) at Taylor, British Columbia. The Younger facility is the only deep cut extraction facility in B.C. The facility should provide recoveries of greater than 80% of C2 and 99% of C3, C4 and C5+ products for all natural gas gathered on the Younger Septimus Pipeline. The pipeline is anticipated to become fully operational by the last quarter of 2011. (March 2, 2011)

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**UNITED STATES: Regulation – Safety – CNR50/5/81**

Dozens of industry officials, regulators and safety advocates testified recently before the **National Transportation Safety Board** as part of the hearing, which examined what led to the explosion that killed eight people and destroyed dozens of homes in San Bruno. Chairwoman Deborah Hersman said "There aren't any new problems, what we need is new solutions," she

said. "Many of these issues are fields that have been plowed before." **The network of natural gas lines includes many decades-old pipes that are not subject to a higher level of inspections or safety standards**, Hersman said. The large, high-pressure transmission pipeline that burst in California in fall was installed in 1956. An NTSB examination after the accident revealed it had a seam and inferior welds. (March 3, 2011)

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**SUPPLIES - IMPORTS - EXPORTS**

**EGYPT to JORDAN: Resumed supply – CNR50/5/82**

**Egypt** resumed recently **gas supplies to Jordan** after they were cut in February when saboteurs attacked a Sinai pipeline, Jordan's information minister said. "Egypt started today providing 70 million cubic feet from Taba to Jordan" Taher Adwan said. The interruption of supplies to Jordan, which imports **around 240 million cubic feet of Egyptian gas a day**, or 80 percent of its electricity needs, cost the economy some \$4.2 million a day, Energy Minister Khalid Tuqan has said. In line with a 2004 joint agreement, Egypt used to sell gas to Jordan at a discounted price (\$3 per million British thermal unit). The 2004 deal is valid until 2016, according to sources familiar with the issue. (March 15, 2011)

**INDIA: Supply contract – Agreement – CNR50/5/83**

**GAIL (India)** recently entered into a deal with **Reliance Industries Ltd. (RIL)** for **swapping natural gas** with imported liquefied natural gas. GAIL would divert from RIL's eastern offshore KG-D6 fields 2.594 million cubic metres a day of natural gas, which is now being supplied to consumers in western and northern parts of the country, to power plants in Andhra Pradesh, officials said.

The consumers, whose KG-D6 gas allocation would be cut, would be supplied imported LNG but at \$4.205 per million British thermal unit, the price at which they now get RIL gas. Power plants in Andhra Pradesh would pay the actual imported cost of LNG, which may be over \$10 per mBtu. GAIL will use the allocation of 2.594 mscmd from Reliance's Bay of Bengal fields for power plants in Andhra Pradesh and an equivalent volume would be sold to consumers in West and North, they added. KG-D6 gas is now transported from Kakinada on the Andhra Pradesh coast through a 1,395-km long pipeline to Bharuch in Gujarat and then through Hazira-Vijaipur-Jagdishpur and Dahej-Vijaipur pipeline to consumers. (March 17, 2011)

**INDIA: Supply contract – Agreement – CNR50/5/84**

**Gujarat Gas Company Ltd** recently entered into an agreement with **BG India Energy Solutions Private Limited (BGIESPL)** for the **purchase 1.7 mmscmd of regasified liquefied natural gas**. Gujarat Gas will purchase 0.7 mmscmd of gas for the period 1 April 2011 to 30 June 2011 and 1.0 mmscmd for the period from 1 July 2011 to 31 December 2011, on a firm basis, the company

said. The agreement will make available higher quantities of gas helping the company to maintain supplies to the company's markets. The agreement will also help the company compensate for the reduction in quantity under the existing 39 months firm gas contract with BGIESPL, from 0.5 mmscmd to 0.2 mmscmd effective 1 July 2011 in accordance with the contractual terms therein, according to the filing. (March 21, 2011)

**IRAN to SYRIA: Supply contract – Agreement – CNR50/5/85**

Mr Masoud Mir Kazemi oil minister of Iran said recently that **Tehran will start its export of natural gas to Syria by the end of 2011**. He said that the short term plan is to transfer gas to Syria through Turkey, and the long-term plan is transfer gas from Assaluyeh to Iraq and through Iraq to Syria and other nations. (March 14, 2011)

**IRAN to TURKEY and ARMENIA: Export – CNR50/5/86**

The **deputy oil minister** announced recently that Iran has exported about **nine billion cubic meters of natural gas during the past 11**

**months**. "From the beginning of this year (March 21, 2010) until now, about nine billion cubic meters of natural gas were exported to neighbouring countries such as Turkey and Armenia" Javad Oji said. (March 8, 2011)

**RUSSIA to ARMENIA: Security of supply – CNR50/5/87**

Georgia recently assured the Armenian government that the **possible sale of 25% of shares of North-South gas pipeline**, via which Russian gas is supplied to Armenia, will not anyhow affect the "general management of the gas pipeline". Armenian Minister of Energy and Natural Resources Armen Movsisyan said "In our opinion, the sale of 25% of the gas pipeline's shares does not pose a threat for Armenia," the Minister said. (March 2, 2011)

**RUSSIA: Supply contract – Agreement – CNR50/5/88**

Alexey Miller, Chairman of the **Gazprom's** Management Committee and Vagit Alekperov, President of **LUKOIL** signed recently an Agreement on Gas Supply from the Bolshekhetskaya Depression and the Northern Caspian Sea. Pursuant to the Agreement,

**LUKOIL will supply Gazprom with natural gas from the Bolshekhetskaya Depression fields between 2012 and 2016**. Gas will be fed into Gazprom's gas transmission system (GTS) near the Yamburgskaya compressor station. The document defines the amount of gas supply that is expected to reach **8.35 billion cubic meters in 2012**. (March 4, 2011)

### **TURKMENISTAN to CHINA: Supply contract – Talks – CNR50/5/89**

Baymurad Hodjamukhamedov, deputy chairman of Turkmenistan's cabinet of ministers, said recently that **the country already has a 30-year pact to supply 40 billion cubic meters a year of gas to China**, and the **two talking about raising volumes by a further 20 billion cubic meters**. "At the moment we are negotiating.

And if the Chinese are interested to buy additional gas, we are considering this. And this year we would know if we would be supplying additional gas to China," Hodjamukhamedov said. China's National Development and Reform Commission Wednesday said Turkmenistan had agreed to supply the additional volumes and that an inter-governmental pact on this will be signed in the second half of 2011. These exports will rise to 20 billion cubic meters in 2012 under the current agreement, and will be raised gradually to the full 40 billion cubic meters over the years, he said. (March 3, 2011)

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### **UZBEKISTAN to KYRGYZSTAN: Resumed supply – CNR50/5/90**

Kyrgyzgaz spokeswoman Djaynagul Maximova said recently that **Uzbekistan resumed gas supplies in Kyrgyzstan**. "The pressure in the pipeline was normalized, force majeure is exhausted. In the near future Bishkek HEP will

also resume using gas," she explained. That force majeure has been caused by severe weather conditions that forced Uzbekistan to suspended gas production and supply it to Kyrgyzstan. (March 4, 2011)

## **STORAGE**

### **NETHERLANDS: Planned project – Engineering – CNR50/5/91**

**GL Noble Denton** signed recently an agreement with **TAQA Energy BV**, a subsidiary of Abu Dhabi National Energy Company PJSC (TAQA), to provide a business-critical **Gas Management System** for the commercial operations of its **Bergermeer Gas Storage** facility near Alkmaar. Bergermeer Gas Storage will offer more than four billion cubic meters of seasonal gas storage capacity when it begins operations in 2013. (March 21, 2011)

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### **UNITED STATES: Planned project – Approval – CNR50/5/92**

**Magnum Gas Storage, LLC**, announced recently that it has accepted the **certificate of public convenience and necessity** issued recently by the **Federal Energy Regulatory Commission** (FERC) under section 7(c) of the Natural Gas Act and Part 157 of FERC's regulations, authorizing construction and operation of Magnum's high-performance natural gas storage facility in central Utah. The Magnum project is located in Millard County, north of Delta, directly adjacent to the 1800-megawatt Intermountain Power Project. The FERC 7(c) permit authorizes Magnum to construct

**a facility containing up to 40 billion cubic feet of working natural gas**, providing customers with up to 12-turn service. Magnum also received a Right-of-Way Grant from the Bureau of Land Management that allows the Company to build a header from its site in Delta to Goshen, Utah, as well as an Underground Injection Control permit from the State of Utah to drill its cavern wells. Magnum's customers will have access through backhaul and displacement arrangements to the Opal trading hub, which will provide access to the Northwest, CIG, Overthrust and Ruby pipelines. Commercial operations are expected to be available in 2013. (March 23, 2011)

## **USE FOR POWER GENERATION**

### **INDIA: Planned project – CNR50/5/93**

The **Railway Minister** proposed recently the setting up a **700-MW gas-based power plant** at Thakurli in Maharashtra. Announcing this, Ms Mamata Bannerjee also said in her Budget that a thermal power plant of 1,000 MW at Nabinagar in Bihar was at an advanced stage of construction while a second thermal power plant of 1,320 MW capacity at Adra in West Bengal was in the process of being set up. (February 25, 2011)

**PAKISTAN: Planned project – Engineering – CNR50/5/94**

GE won recently a contract from the **Government of Pakistan** to supply F-class gas turbines for a **750MW combined-cycle power plant** developed by the Pakistan Electric Power Company in Guddu. GE will supply two Frame 9FA gas

turbines and associated generators, which are expected to be shipped to the project site by the end of 2011 and installed by September 2012. The commercial operation of the full gas-fired power plant is **expected by mid-2013**. (February 24, 2011)

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**TURKEY: Planned project – CNR50/5/95**

Wartsila recently secured an order from **Odas Elektrik Uretim** to supply gas engines for a new power plant at Urfa in south eastern Turkey. The company will supply seven units of a **spark-ignited gas engine with a combined capacity of 135MW**. The power plant is expected to be completed in 2011 and will supply electricity to the national grid. (March 4, 2011)

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**UNITED KINGDOM: Planned project – Approval – CNR50/5/96**

The UK **Department of Energy and Climate Change** (DECC) approved recently the proposals of RWE npower to build a **2,400MW gas-fired power plant** at Willington in South Derbyshire. The facility will include up to four CCGT units,

each around 500MW in capacity, and four open-cycle gas turbine generating units with a combined capacity of 400MW. Construction of the new power station will take about three years. (March 7, 2011)

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**UNITED STATES: Planned project – Approval – CNR50/5/97**

The **Shaw Group** has received recently full notice to proceed on a **new 620MW gas-fired combined-cycle** unit at Duke Energy's Dan River steam station in North Carolina, US. The new generating unit, which will replace two older units at the facility, is scheduled to start operation in late 2012. (March 2, 2011)



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