

# U-Gas News Report

## Unconventional Gas Activities in the World

www.cedigaz.org

Published by Cedigaz

Edited by Thierry Rouaud

N° 41 — January 2010

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### **COALBED METHANE & COAL SEAM GAS**

#### **EXPLORATION DISCOVERIES**

##### **ZIMBABWE : Government to invest in development of Lupane CBM field.— UG<sub>41-1</sub>**

The government is expected to invest US\$450 million in the development of the coal bed methane gas project in Lupane. The development of the project with a capacity to produce 300 megawatts of power is expected to take place within the next two years. According to the new three-year Macro-economic Policy and Budget Framework covering 2010 to 2012, apart from generating power, the project will also include gas field exploration, power station construction and pipeline construction. The Lupane coal bed methane gas project was granted National Project Status by Government in 2007. The Industrial Development Corporation, which has been spearheading the project, signed a memorandum of understanding with an

Indian company in respect of the project in 2006. However, the commencement of the project has been stalled by delays in securing an investor to partner the IDC in the project. Another company that also has interest in the area, Zambezi Gas, which owns the Entuba claim in Hwange, is also expected to start exploiting its gas reserves. The company recently indicated that it would start with coal mining within the claim in order to raise the capital needed to exploit the gas reserves. Zimbabwe has the largest untapped gas reserves in Southern Africa. Apart from the Entuba gas reserves, the Lupane area is estimated to have 665 000 cubic metres of methane gas deposits. (The Herald, January 6, 2010)

#### **PRODUCTION**

##### **AUSTRALIA : WestSide may become second CBM producer in Queensland. — UG<sub>41-2</sub>**

WestSide said recently it has entered a conditional agreement to acquire Anglo America's stake in the Dawson Seamgas CBM gas assets and may also buy Mitsui's stake in the assets subject to the consideration of pre-emptive rights. The proposed acquisition would result in WestSide acquiring a stake of 100% in the producing Dawson Seamgas CBM fields (PL<sub>94</sub> and ML gas rights) and up to 50% in two adjoining tenements (ATP 602P and ATP 564P/PL<sub>94</sub> North sublease). The producing Dawson Seamgas fields include a range of CBM assets including a petroleum lease, as rights in mining leases and gas pipeline infrastructure connecting to the main Queensland commercial network. These fields currently produce about 12 terajoules of gas per day. Under the deal, WestSide would acquire up to 212 petajoules of proven and probable gas reserves and 514 petajoules of proven, probable and possible reserves. The company said if successful, the deal is expected to transform WestSide into the second largest dedicated CBM producer in Queensland. (Upstream Online, December 31, 2009)

**AUSTRALIA : Bow Energy plans up to 52 wells in 2010. — UG41-3**

Bow Energy recently revealed that the company will begin its 2010 coal seam gas exploration, appraisal and production drilling programs of up to 52 wells. The company's reserves targets for the end of 2010 are 2,750PJ of 3P and 450 PJ of 2P increasing from the current 1447 PJ of 3P and 55 PJ of 2P. The long term lead items for Bow's 100% Blackwater 30MW power station have been ordered and the approvals processes have commenced. Bow is currently in negotiations for a number of gas offtake agreements with potential customers and is targeting firm pathways to gas sales in excess of 30 PJ per annum by the end of 2010. (Oilvoice, January 15, 2010)

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**CHINA : Arrow Energy acquires stake in Luilin block CBM project. — UG41-4**

Arrow Energy acquired recently a major stake in a highly prospective coal seam gas block in China. Arrow Energy subsidiary Arrow Energy International (AEI) has signed an agreement with Fortune Oil subsidiary, Fortune Green Energy (FGE), to acquire a 35 percent stake in Fortune Luilin Gas (FLG). Fortune Luilin Gas' sole asset is a 50 percent participating interest in the Luilin Coal Bed Methane block which has been the subject of considerable exploration activity since 1999, and is one of the most advanced CBM prospects in China. The block has certified 3P reserves of 89 petajoules (PJ). Arrow's net interest will be 15 PJ of certified 3P reserves once the transaction is completed. Arrow expects further reserves certification within the next two years. The Luilin block covers 198

km<sup>2</sup> and is located 35 km from Luliang (Lishi) and 500 km south-west of Beijing within the south-east Ordos Basin in Shanxi Province. There are three target coal seams with high gas content and saturations. In February 2009, the Luilin block was designated a State Special Pilot Project enabling the acceleration of the exploration and development program. Arrow, Fortune and CUCBM, the Chinese counterparty to the Production Sharing Contract (PSC) covering the transaction, will be working collaboratively to achieve commercial gas production from the block within 12 to 18 months. The project is expected to be the first of a series of co-operations in China that combine Arrow's upstream expertise with Fortune's gas distribution capabilities in China. (Oilvoice, December 21, 2009)

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**RUSSIA : Gazprom reviews Taldinskoye CBM project. — UG41-5**

The Gazprom Headquarters hosted recently a meeting dedicated to the current status of and prospects for the project on coalbed methane pilot production and commercial utilization. Gazprom had arranged CBM pilot production from coal deposits of the Taldinskoye field for the first time in Russia's history. At present, top priority is given to arranging comprehensive CBM utilization as a motor fuel and gas delivery to the Unified Gas Supply System and to heat and power generating facilities. The meeting pointed out the need to prepare a project for pilot commercial supply of natural gas to consumers over a triennial period taking into account the potential build-up in CBM production and utilization. The Taldinskoye CBM field is located in the central part of the Erunakovsky geological-economic area of the Kuznetsky basin within the Novokuznetsky and Prokopyevsky Districts of the Kemerovo Oblast 65 kilometers to the north of the city of Novokuznetsk. C<sub>1</sub>+C<sub>2</sub> gas reserves approved in May 2009 by the Russian Natural Resources and Ecology Ministry account for 45.8 billion cubic meters. In 2005 Gazprom established a test site for the CBM production technology development at the Taldinskoye field in Kuzbass. In 2009 seven exploratory wells with the depth ranging from 600 to 1,000 meters were drilled in the eastern sector of the Taldinskoye CBM field. Gazprom dobycha Kuznetsk, a fully-owned subsidiary of Gazprom, is the license owner. (Gazprom press release, January 15, 2010)

**UNITED KINGDOM : IGas targets full scale CBM production in 2010. — UG41-6**

IGas Energy revealed recently that the company has met its stated objectives for 2009, which keeps it on track for commencement of full scale UK Gas Production in 2010. The company said that despite severe weather conditions it continues to produce at Doe Green where it has three lateral and one vertical wells. One of these laterals (Doe Green well 2) has been in production for over a year, the other laterals and vertical are currently dewatering. Gas produced at Doe Green is being used to generate electricity, which is being sold via the electricity grid. In October 2009, IGas finalised the well design for its site at Keele University Science Park and the land agreements were in place. The company said that work started on the site as planned during December. The objective of this well is to produce gas from a lateral in the Great Row seam, which is at

a depth of 1,757 feet from surface and is around 11feet thick at this location. Planning has now been granted for a full production site at Ellesmere Port. In August 2009, IGas acquired 100% of PEDL 78-2, which lies to the south and west of the company's existing Swallowcroft area. This increased the company's total acreage by around 100sqkm. In December 2009, the company concluded an agreement with Nexen in which it increased its interest in each of the point of Ayr Licences to 75% and should assume operatorship. The increase in the company's percentage interests in the Point of Ayr Licences increases its exposure not only to the gas in coal but also to possible conventional and shale opportunities. IGas estimates that it has net 2C contingent recoverable resources of some 0.8 tcf. (Energy Business Review, January 14, 2009)

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**UNITED STATES : WellDog to export its water treatment technology to Australia.**

**— UG41-7**

WellDog announced recently that it has signed a memorandum of understanding with FarleyRiggs of Adelaide, South Australia, to begin establishing a joint venture that will provide WellDog's award-winning technical reservoir evaluation services to the Australian coalbed methane industry. WellDog's services have been used widely by North American producers to characterize accurately and completely potential CBM reserves, thereby enabling companies to produce more gas, faster, while reducing the environmental and economic impact of CBM development. WellDog is a privately held company that uses innovative technologies to evaluate in situ the geochemistry and geophysics of unconventional hydrocarbon reservoirs. (Marketwire, January 13, 2010)

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## ***SHALE GAS***

### ***EXPLORATION - DISCOVERIES***

#### **CHINA : Sinopec and BP in talks over shale gas exploration and development. — UG<sub>41-8</sub>**

LONDON, Jan 19 - The Financial Times recently reported that Chinese Sinopec is in talks with Britain's BP over potentially collaborating in the exploration and development of shale gas in China. Sinopec said in a company newsletter the talks with

BP were going "smoothly" and that any deal would help China use foreign technology accelerate the development of its shale gas reserves, the paper added. (Reuter, January 19, 2010)

#### **SOUTH AFRICA : Shell receives permit to study shale gas potential of the Karoo Basin. — UG<sub>41-9</sub>**

The South African Petroleum Authorities recently awarded Shell a Technical Cooperation Permit for a one-year study to determine the hydrocarbon potential in parts of the Karoo Basin in central South Africa. The permit covers an area of approximately 185,000 square kilometers. The study will provide a better understanding of the area's geology and shale gas potential, establishing the scope to pursue natural gas exploration. Shell will have the exclusive right to apply for exploration permits following completion of the study. (Oilvoice, December 16, 2009)

#### **UNITED STATES : Environmental Protection Agency has reservations about drilling plan for shale gas in New York State. — UG<sub>41-10</sub>**

The U.S. Environmental Protection Agency has "serious reservations" about allowing shale gas drilling in New York City's watershed, warning of a threat to the drinking water for 9 million people. "We have concerns regarding potential impacts to human health and the environment that we believe warrant further scientific and regulatory analysis," wrote John Filippelli, chief of the agency's Strategic Planning and Programs Branch. "EPA has serious reservations about whether gas drilling in the New York City watershed is consistent with the vision of high-quality unfiltered

water supply," he wrote in an agency's report. At issue is the controversial process of shale gas extraction known as hydraulic fracturing, or "fracking," in which a combination of chemicals, sand and water are blasted through rock to free trapped gas. Fracking is exempted from regulation under the U.S. Clean Water Act. The EPA was reacting to an environmental impact statement by the New York state Department of Environmental Conservation that recommended in September 2009 that energy companies be permitted to drill in the Marcellus. (Reuters, December 31, 2009)

### ***PRODUCTION***

#### **UNITED STATES : Chesapeake and Total in shale gas development deal. — UG<sub>41-11</sub>**

Chesapeake Energy declared recently the execution of an agreement for a \$2.25bn joint venture with Total E&P USA, a wholly-owned subsidiary of Total, whereby Total will acquire a 25% interest in Chesapeake's upstream Barnett Shale assets. Closing of the transaction, which is subject to regulatory approval, is anticipated by the end of January 2010. The assets subject to

the Chesapeake-Total joint venture include approximately 270,000 net acres of leasehold in the Core and Tier 1 areas of the Barnett, approximately 700 million cubic feet of natural gas equivalent per day of current net production and approximately 3.0 trillion cubic feet of natural gas equivalent of proved reserves. Chesapeake believes that its leasehold position will support the drilling of approximately 3,100 additional net locations with approximately 6.3tcf of unrisksed unproved reserves. (Business Wire, January 4, 2010)

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