

## NDRC implements Energy Conservation Law in association with other 11 departments

The National Development and Reform Commission (NDRC), and other 11 departments jointly issued 'Implementation Notice of the China Energy Conservation Law' recently and announced they will support qualified enterprises to issue corporate bonds on energy-saving; implement enterprise income tax exemption of energy conservation equipment investment and value-added reduction of energy-saving and pollution reduction equipment, improve and perfect resources tax, study the feasibility to collect environment tax, choose the opportunity to launch fuel tax.

According to the notice, China should consummate related regulations and standards of the Energy Conservation Law, pay close attention to formulate (revise) the Regulations on Energy Conservation Evaluation and Review of Fixed Assets Investment Projects, Energy Conservation Management Regulations on Key Energy Users' (Amendment), Management Regulation on Energy Conservation Supervision

and Management Regulation on Energy Efficiency Identification (Amendment), and other corresponding laws and regulations and to speed up the establishment and improvement of energy conservation product certification system.

The government will also work out the "Development Blueprint of Resource Conservation and Comprehensive Utilization and Standards Between 2008-2010" and draft energy consumption standards of coal, oil, nonferrous metal, chemical, building material, and other high-energy-consuming industries, as well as the energy efficiency standards of electric power transformers, high efficiency energy conservation electrical products.

The joint notice demonstrates that China is determined to seriously value the Energy Conservation Law and further implement it, additionally, income tax exemption policies are also good news for enterprises.

## China oil majors alter crude pricing standard to cut tax burden

Chinese oil majors China National Petroleum Corp (CNPC) and Sinopec have altered their crude pricing standard in a move to reduce their windfall tax bill, the China Business News reported.

It is estimated that the decision could allow CNPC to save as much as 1.6 bln Yuan in "special levy" payments every year. Since May, CNPC has been using

the Indonesian "Cinta" benchmark to determine its crude oil sales prices, while Sinopec has adopted the "Duri" benchmark, switching from "Cinta", the paper said. Cinta is a medium and low-sulfur crude oil standard with a lower price than CNPC's previous standard, according to the newspaper. Since March 2006, the Chinese government has collected a windfall tax of 20 pct on revenues earned when

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oil prices are higher than 40 USD per barrel. The rate rises to 40 pct if the oil price is above 60 USD per barrel.

Sinopec paid a 16.5 bln Yuan "special levy" in the first half, up from 3.29 bln a year earlier, while PetroChina paid 47.8 bln Yuan, up from 14.9 bln last year. Jiang Jiemin, chairman of PetroChina, said that the company has been lobbying regulators for a higher windfall tax threshold. We are waiting for government to decide.

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China Gas Report is a bi-weekly professional report focusing on gas field providing related issues and updated market information in China and main Chinese gas enterprises' activities overseas both in electronic and printing edition. With this report you could know the latest information of Chinese gas market including policy, project, strategy, law and regulation, new equipment and technology, etc. Our readers are from decision makers in government, industry associations, regulators, design and research institutes, utility operators, energy companies, investment banks and other relative gas enterprises.

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## PetroChina builds natural gas empire

PetroChina announced on September 8 that its Yulin gas field in Shaanxi Province reached 1400 cubic meters in gas production, marking the birth of another gas field with an annual capacity of 5,0 billion cubic meters in Changqing Oilfield following Jingbian and Sulige gas field.

"PetroChina has controlled the gas supply of main cities in China by expanded market exploitation and building densely covered gas pipelines nationwide, further establishing its dominant position in China's natural gas market", according to an high-level official at Sinopec Consulting Company.

"Owing to the Take-or-Pay Contract, most of the gas markets alone the pipeline in the country have been in the grasp of PetroChina, thus the monopoly comes into being," he added.

## Changqing Oilfield has another 5-billion-cubic-meter gas field

Yulin gas field in Shaanxi Province on September 8 reached 1400 cubic meters in gas production, marking the birth of another gas field with an annual capacity of 5,0 billion cubic meters in Changqing Oilfield following Jingbian and Sulige gas field.

Yulin gas field is one of the major gas supply sources to Beijing in Changqing gas field.

The central and northern parts are the Changbei Cooperation Zone jointly developed by CNPC and Shell, and, the southern parts is self-developing area. The production capacity of Changbei Cooperation Zone broke 10 million cubic meters in September this year, reaching an annual production capacity of 3 billion cubic meters.

## China's foreign oil dependence approaching the warning line

China's foreign crude oil dependence approached 50 percent, close in on the warning line, Cai Fengtian, researcher of Road of Science and Research Institute of the Ministry of Communications, has said recently.

China's crude oil imported a total of 90.53 million tons in the first half of this year, up 11% year on year.

Foreign oil dependence is a very important indicator reflecting energy safety in China. Under high

foreign crude dependence, rising prices of abroad-monopolized strategic materials will incur overall price hikes in the domestic market, bringing inflationary pressures to the country and threat to its economic and social stability.

Currently, China has not yet become an important participant and decision maker in the international oil market, the high dependence, unstable geopolitics, single source of oil imports, and violent fluctuation of high international crude oil prices make China's oil imports very uncertain.

## China largest coal-based DME project put into operation

The first-phase 200,000 tons/year methanol and 100,000 tons/year dimethyl ether plant of the 1.5 million tons/year methanol and 1 million tons/year dimethyl ether project that is funded by Shanxi Lanhua Sci-Tech Venture Co Ltd recently became

operational in Jincheng City of Shanxi Province, local media reported.

The plant adopts the world's most advanced two-step technique and is the largest coal-based dimethyl ether plant currently operational in China.

## PetroChina to cut 80,000 jobs

PetroChina is now making snap decisions to streamline its employees, beginning from gas stations, disclosed by an insider on September 3. PetroChina's Shanghai Branch is expected to adjust personnel until 2009. The northeast market of China, as the hinterland of PetroChina, will be reformed finally.

The interim report of PetroChina on August 28 showed that the profit before tax in first half of 2008 suffered a year-on-year decline of 39 percent affected by refining business loss and special oil gain levy.

Annual report of 2007 indicated that PetroChina operating expenses increased by 29.4 percent compared with 2006. The cash salary and other labor cost of staff increased by 22.5 percent on the same period last year. PetroChina said the main reasons are commodity prices rising, expansion of production and retail network and increased salaries.

Undoubtedly, the staff scale is still big despite PetroChina has already cut its jobs for several years. According to the data of CNPC website, there are 1.7 million employees in PetroChina including staffs in 120 subordinate enterprises in the field of exploration, refining & chemical and sales till the end of 2007.

"In fact, the staff reduction scheme has been decided on July 25. Tianjin and Hebei branches will carry out first. It is expected that nearly 10,000 employees will be laid off till the end of October in Beijing Branch," said the source.

## PetroChina Pipeline Bureau wins bid for pipeline projects in Uzbekistan

PetroChina Pipeline Bureau on August 25 won bid for construction of Stage B natural gas pipeline in Central Asia's Uzbekistan, the bureau will build the pipeline in terms of engineering, procurement and construction (EPC).

The Uzbekistan part of the Central Asia Pipeline begins from the Turkmenistan-Uzbekistan in the west and ends in the Uzbekistan-Kazakhstan borders in the east. With a total length of 994 kilometers and a pipeline diameter of 1,067 millimeters, the double line project plans to put single

pipeline into operation and open first station on December 31, 2009 and total functions will be realized by 2010.

According to the tender documents, Central Asia Pipeline in Uzbekistan has two stages, including the stage A near the border of Turkmenistan and stage B near the border of Kazakhstan. It is decided in the meeting of shareholders that Uzbekistan contractors assumes stage A and PetroChina Pipeline Bureau assumes stage B. The single length of stage B is 255.5 kilometers and double length is 511 kilometers.

## Indonesia to form team to renegotiate China LNG contact

A government team to renegotiate Indonesia's liquefied natural gas (LNG) export contract with China is expected to be formed in October, and to begin working before the first LNG shipment is made next year, National Development Planning Minister Paskah Suzetta said recently. The team would be led by the Coordinating Minister of Economic Affairs, Sri Mulyani Indrawati and include Energy and Mineral Resources Minister Purnomo Yusgiantoro.

The 20-year contract on LNG supplies from the BP-managed Tangguh field in West Papua to China was signed in 2002 during the Megawati Soekarnoputri presidency. The LNG price in

the contract was recently found to be inordinately low. Based on the government's calculations, the price would lead to a potential loss of Rp750 trillion or some US\$75 billion to the state.

The contract price was based on a formula using a crude oil price of only US\$38 per barrel while the price of oil now had surpassed the level of US\$110 per barrel. Previously, an oil industry observer, Kurtubi, had said it would be better for the government to cancel the contract, although Indonesia would then have to pay a penalty of US\$300 million. "But paying the penalty is better than the prospect of losing billions of rupiah over the next 25 years," he said.

## GE wins order for China's gas transmission

GE Oil and Gas announced on September 9 it won a bid to supply pipeline compression equipment for line two of China's west-east gas transmission project. The contract value tops \$100 million.

GE Oil and Gas will provide seven compressor units driven by gas turbine, including 30-megawatt PGT25+ mode gas turbine

and PCL 800 mode pipeline compressor. These equipments will be installed in two new booster stations in Xinjiang Uygur Autonomous Region and Gansu province. These compressor sets will be produced mainly in the factories of Florence, Italy and Cincinnati, Ohio, USA, shipped to the project locations from March 2009, and put into operation by the end of 2009.

## China, Iraq reach US\$3 billion oil service deal

China and Iraq have signed a US\$3 billion deal revising an earlier agreement for China's biggest oil company to help develop the Ahdab oil field. The deal restored a project canceled after the 2003 US-led invasion of Iraq, AP reported.

In addition, there are 526 prospective drilling sites in Iraq today, but just 125 of them have

actually been drilled, accounting for only 23 percent. Only 17 oil fields of the 80 found were exploited. The remains involve 11 new oil fields with an annual production of 150 million tons in South Iraq, 11 in North Iraq with an annual output of 25 million tons and three in central Iraq with an annual output of 15 million tons.

## Gazprom sees gas pricing deal with China in 2009

Russia's Gazprom expects to conclude pricing talks with China next year to start gas deliveries in 2013-14 and sees positive trends in the way China prices its energy imports, a Gazprom executive said on recently.

"There is a major positive factor that China not only realized (the need to switch to market-based pricing), but they have started to contract natural gas in liquefied natural gas (LNG) contracts based on the

prevailing market price," Gazprom Deputy Chief Executive Alexander Medvedev said. "We expect the same to happen to pipeline gas pricing," Gazprom agreed to build two pipelines to China and supply up to 80 billion cubic meters when the links reach their peak capacity, but talks have been slow as the two sides struggle to agree on the price of future deliveries.

Asked whether the Chinese were tough negotiators, Medvedev said

## Total to sign final LNG deal with China

Total SA may sign a final agreement by the end of 2008 to sell 1 million metric tons of liquefied natural gas a year to China and start supplies by 2010, LNG Intelligence said, citing Guy Broggi, Total's head of LNG supply. The company signed an initial agreement with China National Offshore Oil Corp. in July last year, the trade publication said. Total has not decided on the source of supplies.

## PetroChina completes drilling its first well in Amu Darya natural gas project

Chuanqing Drilling Company 50210 team of PetroChina Amu Darya Natural Gas Company completed drilling the first natural gas well Sam-53-1 on the right bank of Amu Darya Turkmenistan on September 7.

The completion of the well marks the Ashgabat gas field was awakened after a 15-year idling period from April 1993.

"As tough as the members of the Olympic team". But he said talks had accelerated after influential Deputy Russian Prime Minister Igor Sechin visited Beijing this year. There was a meeting in Moscow by the experts' group and the next meeting will be in China in October. It seems that there is still a long way to go.

## Sinopec Group to delay projects to reduce spending

China Petrochemical Corp., Asia's biggest oil refiner, will "resolutely" delay some projects as reduced earnings force the company to cut spending. Sinopec Group, as China Petrochemical is known, is struggling to boost profits and cash-flow, Wang Tianpu, president of Hong Kong-listed unit China Petroleum & Chemical Corp., said in a company newsletter on September 8.

Sinopec, as China Petroleum is known, will trim its 2008 capital expenditure by 8.2 billion Yuan

(\$1.2 billion) because of "cash-flow constraints," Chairman Su Shulin said last month. Its parent said August 28 a plan to bid for London-based oil and gas explorer and producer Imperial Energy Plc had been scrapped. First-half profit slumped 77 percent from a year earlier to 8.26 billion Yuan, while refining losses reached 46 billion Yuan, Sinopec said on August 24. The third and fourth quarters will be the most challenging period for Sinopec, Su said on August 26. "For a period of time to come, global crude prices may remain

high and the petrochemical industry may become even more competitive," Wang said. "To reduce investment risks, the group's management has decided to further optimize and slash this year's spending."

Benchmark oil prices in New York are 40 percent higher than a year ago. Crude for October delivery was at \$108.63 a barrel in after-hours electronic trade at 10:38 a.m. in Singapore. Sinopec's 2009 budget will focus on "key projects".

Linde Group, the world's second-biggest maker of industrial gases, will invest 100 million euros (\$141 million) to form a joint venture with a unit of China Petroleum & Chemical Corp., or Sinopec. The 50-50 venture will produce nitrogen, oxygen and argon, the Munich-based company said today in a statement. Fujian Linde-FPCL Gases Co. will be located in Quanzhou in the province of Fujian, Linde said.

Linde is expanding in Asia to take advantage of faster economic growth in the region and plans to

## Linde invests EU100 million in venture with Sinopec

spend \$180 million on building gas plants in South Korea, the country's Ministry of Knowledge Economy said last month. The German company is the market leader for industrial gases in China and is growing at least 10 percent a year in the country, it said today. "The collaboration is a further example of our long-term growth strategy in the emerging Asian nations, underpinning our position as number one in the Chinese gases market," Linde board member Aldo Belloni said in the statement.

The joint company is building two air separation plants on the Quanzhou site, which are nearing completion.

The plants will supply its main customer, Fujian Integrated Refining and Ethylene Project, with air gases via pipeline, as well as producing liquefied oxygen, nitrogen and argon for the regional market in Fujian. In addition to the liquefied gases business, Fujian Linde-FPCL Gases will set up a local gases centre, providing a gas supply infrastructure to various customers in the industrial park where it's based, the German company said.

Ethanol fuel imported from China is to be tested for retail use in Vietnam in September, 2008 at a lower price compared to other types of fuels, the local newspaper Young People reported Friday. The new fuel, a bio-fuel alternative and known as Gasohol E5, will be introduced at two gas stations in the capital city of Hanoi by a subsidiary of the state-owned PetroVietnam Oil Corporation (PV Oil).

"Our preparations are completed and after the launching, the fuel will be sold regularly in the market," said Vu Thanh Ha, general director of the PetroVietnam Biogas Joint Stock Company under PV Oil, which imports and supplies

## Bio-fuel from China to be retailed in Vietnam

the fuel. The fuel was initially imported from China and later will be produced in a domestic factory. The first locally-produced ethanol fuel will be available in the second quarter of 2010.

## West-East Gas Transmission Project to use coal bed methane from Qinshui Basin

PetroChina will build a 35-kilometer coal bed methane pipeline in Shanxi Qinshui basin, which is expected to transfer 3 billion cubic meters of coal bed methane annually, according to the Shanxi Coal Bed Methane Association on September 10.

PetroChina will also connect the pipeline with China's West-East Gas Transmission Project, the association said.

The pipeline starts from Jinfeng village, Qinshui county of Shanxi province to Qinshui booster station

of West-East Gas Transmission Project. Diameter of the pipeline is 610 millimeters, with a designed pressure 6.3MPa. Upon completion, the pipeline will collect Qinshui Basin's coal bed methane and supply the market.

The reserve of Shanxi coal bed methane is about 10 trillion cubic meters, accounting for one-third of the nation's total. But production is no more than 2 billion cubic meters now. It is estimated to reach 5 billion cubic meters till 2015 and 8 billion till 2020.

## 3rd line of West-East Gas Transmission Project starts argument

The third line of China's West-East Gas Transmission Project has started internal pre-feasibility stage and preliminary program will be announced early next year, said Yang Jianhong, deputy director of CPPEI Oil & Gas Pipeline Project Planning Institute at the LNG Asia Forum 2008 on September 4 this year.

The third line starts from Xinjiang Uygur Autonomous Region in the west and probably ends in Fujian province which was not involved in the first and second lines, according to Yang "And then Yangtze River Delta and Pearl River Delta areas will be supplied from Fujian", Yang added.

## Caofeidian crude oil terminal comes into use

Caofeidian 300,000-ton crude oil terminal came into use with the first tanker—"Haichang No.1" successfully berthed on August 31.

It is a new large crude oil import port of Sinopec in north China and will enhance the capacity of resources allocation and national

energy security. Also this project will promote local economy and industry structure adjustment and improvement.

Unloaded crude oil at the port will be transmitted to petrochemical enterprises through pipelines in north China.

## 2009 10th China international gas technology and equipment exhibition

Into the new 21st century, gas will be the fastest-growing worldwide demand for primary energy. According to state "stable East, the development of the west, opening up the waters west," the overall planning, development of China's gas industry has entered a new stage, with Beijing's successful Olympic bid in 2008 Olympics, China's entry into the WTO, which means that China is to opening to the world, but also in the development of the gas industry provides a golden opportunity. To strengthen trade exchanges and cooperation between, we will, "2009 10th China International Gas Technology and Equipment Exhibition," which will be 15-17 April 2009 in China, Beijing National Agricultural Exhibition Hall (the New Hall).

In order to expand the show's visibility and influence of organized units to take strong outreach program, the exhibition will be held during the international seminar, there will be many professional participants. The exhibition will be expected from all over the world more than 350 enterprises, showcasing their industry in the latest technology, products and equipment, the exhibition will showcase 21 international gas industry development trends and the latest trends, manufacturers welcome the positive at home and abroad for exhibitors. If you have interest to participate this conference you could log on the official website of this conference: [www.chinagasshow.com](http://www.chinagasshow.com).

## New exploitation for gas hydrate in Russia

Submarines-“Peace one” and “Peace Two” have discovered three oil exudation spots at two places. One is in the south of the largest gulf of Baikal, Barguzin, in the 850 meters deep, founded on August 7, and the other is in the deep Baikal, founded on August 26, according to Alek Christopher from Irkutsk Science

Centre of Russian Academy of Sciences on September 2.

Scientists are making the scientific experiments to find out the potential new future energy—gas hydrate. It is estimated that Russia experts will cooperate with Japan's to start this scientific experiments in 2009.

## New well logging method to identify the hydrocarbon zone in Qinghai

Qinghai Division of PetroChina Well Logging Group has explored and estimated 23 wells and the accuracy rate of identifying hydrocarbon zone has reached 87.5 percent by the end of August. The accuracy rate of identifying gas reservoir is above 90 percent in the eastern area of Qaidam Basin. Well logging coincidence rate is 1.8 percent higher compared with last year.

Despite complicated geologic conditions, the Qinghai division

has found out the new porosity difference ratio method based on the high argillaceous content and loose sandstone reservoir in this area. The method emphasizes comprehensive analysis on district formation comparing and geographical materials, utilizes new oily material to amend and complete the explanation standards, further improves explanation accuracy for those complicated lithology reservoirs with low porosity and hypotonic.

## Xinjiang, Australia Ai to jointly explore coal bed methane

Australian energy Ai limited company on September 8 signed an agreement with the Ninth Geological Team of Xinjiang Bureau of Geology and Mineral Resources, in an effort to jointly develop coal bed methane.

There are plentiful coal resources in Xinjiang with about 2.19 trillion tons in estimated reserve, representing 40 percent of the country's total. There are also lots of coal bed methane here with broad development prospect, said Li Jinghong, leader of the 9th team.

## CPC, CNOOC may expand exploration

Taiwan-based CPC Corporation is negotiating with China National Offshore Oil Corporation (CNOOC), the third largest oil company in the mainland, to expand joint oil exploration to the East China Sea and areas off Australia, Chad and Kenya.

'We are interested in oil exploration in any areas that could provide possible opportunities,' CPC's vice-president Chu Shao-hua said. Zhu also said that CNOOC is studying CPC Corporation's proposals and waiting for authorities' approvals. If they decided to establish a joint venture, Taiwan CPC Corporation will take minority stake in it.

DowJones and AFP reported that this was the first and material step for both sides on energy development after the Straits Exchange Foundation(SEF) and the Association for Relations across the Taiwan Strait (ARATS) agreed on joint exploitation mechanism in June in principle.

## China LNG Conference 2008

The 4th China LNG Conference 2008 will be held on Nov 26-28, 2008 at Mandarin Hotel, Xiamen, China. The organizer of this Conference is Guangdong Oil & Gas Association, which are supported by Energy Development Research Center ,China Investment Association, Shell (China) Limited, ECO Environmental Investments Limited, Towngas Group Company and Xinao Gas Holding. Also it we have got Natural Gas Utilization Research Center and South China University of Technology as our partners. If you have interest to participate this conference you could log on the official website of this conference: [www.oilgas.cc](http://www.oilgas.cc).

## When does the exploitation of combustible ice come into reality?

According to a report from the Ministry of Land and Resources' Guangzhou Marine Geological Survey, the Enrichment Regularity and Exploitation of Combustible Ice in South China Sea major science project has been approved by the 973 Project (national development project on key basic research), signaling the overall research start of substitute energy combustible ice.

Currently, international scientists said that total energy of combustible ice is 2 to 3 times of coal, oil and natural gas in total. However, combustible ice does not accompany natural gas anywhere. It needs at least three conditions to form (i) Low Temperature: The temperature in the deep sea usually is 2°C to -4°C, which is the best condition for the combustible ice to form. (ii) High Pressure: When it is at the 0°C, 30 atmospheric pressure is enough. (iii) Methane Resource: After the death of sea creatures and microorganism, their body is decomposed by bacterium to produce methane, ethane and other combustible gas.

According to the above conditions, there are two areas, where could find the combustible ices. One is the continental shelf with 0 to 1,500 meters in depth, and the other is high latitudinous frozen soil layer, like Singapore, Alaska in the US and Siberia in Russia. Russia has about 20 years experience of exploitation. The combustible ice has been discovered at the offing sea areas in the US, Japan, Caribbean, South Sea and East Sea in China. Experts estimate that there are also some combustible ice in the Huang Sea and Tibetan Plateau.

### Combustible ice exploitation in China

To resolve China's energy shortage, Guangzhou Marine Geological Survey in 1998 proposed for the first time the development of methane hydrate in the north of South China Sea.

The Guangzhou survey bureau finished a 500km deep-

water high-resolution and multi-track earthquake survey in October, 1999. It was the first time to get the BSR in the South Sea in China, and it was also the first time to show that there was combustible ice in China, symbolizing that the survey and research of combustible ice has been started in China.

From 1999 to now, China had finished 16 comprehensive surveys and researches in Dongsha, Shenhu, Xisha and the south-east of Hainan province, confirming the existence of combustible ice in China. According to the survey, the north of South China Sea has been pointed as the most important areas of combustible ice exploitation.

On May 1, 2007, China got some combustible ice samples with high purity in the Shenhu area in north of South China sea. Almost no pollution left after burning, a great news for the industry. Exploring shows that the combustible ice reserve in the north of South Sea only reached half of China's total terrestrial oil reserve. In addition, the combustible ice occupied almost 5,242 square kilometers in Xisha trough, with estimation of 4.1 trillion cubic meters in total.

### Combustible ice: Easy said than done

Combustible ice is widely distributed in natural world, with possible existence in continental shelf 0 to 1,500 meters below sea level, or the permanent frozen soil layer near the North Pole. Since 1960s, a total of 79 countries worldwide have discovered it.

Currently, every country has placed great hopes on developing the undersea gold mine. In 2002, with the great efforts from Japan, Canada, the US, German and India, the methane could be transferred from the combustible ice layer to the ground in Canada. In 2006, the study group in the University of Tokyo discovered the first combustible ice area above the sea floor in the east of Asia, which is close to the Niigata. On June 7, 2008, Japan and the US signed an

agreement to do combustible ice research and exploitation, bringing more hopes for Japan.

Although the combustible ice is highly expected, many countries and areas, including China's Taiwan, Japan, the US, Canada, India and the EU, have invested heavily in gas hydrates research and development and related technologies R&D. It is estimated that the commercial exploitation will come true by 2015, but there are still some barriers on the road.

The two main barriers are exploitation and pollution caused by the exploitation. Most of the combustible ice exists in the rock under the sea, indicating enormous difficulties in exploitation and transportation. Although its energy usage rate is higher than oil and coal, however, under current technology level, transporting combustible ice from the deep sea to the ground costs more energy than itself, as the combustible ice can't flow itself.

Meanwhile, another problem is that, we must consider the impact on environment if developing enormous methane from combustible ice. First of all, the gas hydrate decides the physical characteristics of the benthic sediments and directly impacts the stability of sea. It is stable under certain of pressure and temperature. Once the balance is broken, it might cause disassociation of gas hydrate and results in geological damage. Secondly, the exploitation of combustible ice will release lots of methane, which will have extraordinarily big negative impact on the environment, as the greenhouse effect of methane is much bigger than CO<sub>2</sub>.

Thus many insiders pour cold water on combustible ice exploitation. They foretell that it is just a ray of hope for all humanity. However, the economic development relies on the energy more and more at present, no country will give up this hope. On the contrary, they are paying more efforts on the exploration, as well as finding out the impact on the environment.