

Unconventional Gas Development in China

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■ 国家发展和改革委员会能源研究所

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Outlook for Unconventional Gas Development in China



- China's apparent consumption of natural gas reached 129 BCM in 2011, more 4 times that of 2000. China is currently the fourth biggest gas consuming country in the world;
- Demand for gas in China will increase at a higher growth rate in a quite long period in order to cope with climate change, energy conservation and emission reduction as well as energy structure optimization.
- China is abundant with unconventional gas resources.
 - CBM reserves, no deeper than 2,000 meters underground in five major accumulated gas belts & forty coal basins, up to 36.8 TCM, including recoverable CBM reserves 11 TCM.
 - Shale gas resource assessment is underway in China. Generally agreed that China's shale gas resources are relatively abundant.
- CBM(coalmine gas) target by 2015:
 - the new incremental proven reserves: 1 TCM
 - CBM(coalmine gas) production: 30 BCM, to built the two CBM industrial bases (Qinshui Basin, the eastern margin of Ordos Basin).
- Shale gas: formally become an independent mineral; production will be around 6.5 BCM by 2015



Regulatory Framework and Policy

Incentives for CBM



- **Exploration right and mining rights review and approval**

Level-1 administration system is adopted for CBM exploration and mining registration. The MLR is responsible for the application review and approval.

- **Exploration rights royalty and mining rights royalty**

a system of paid use of exploration rights and mining rights is adopted by the registration management authority, all included in the national budget management.

Royalties for exploration rights & mining rights: exempted for the first year, 50 % deducted for the 2nd - 3rd year, 25% deducted for the period of the 4th -7th year.

- **Royalties:** annual outputs: < 1 BCM royalties exempted; 1-2.5 BCM 1%
2.5-5 BCM 2%; > 5BCM 3%

- **Resources taxes:** not levied for the time upon ground extraction of CBM.

- **Policies on subsidies to CBM development:**

CBM development enterprises ← RMB 0.2/m³ ↑ ?/m³ In future

- **Policies on subsidies to CBM utilization in power generation**

RMB 0.25/kWh → CBM development enterprises

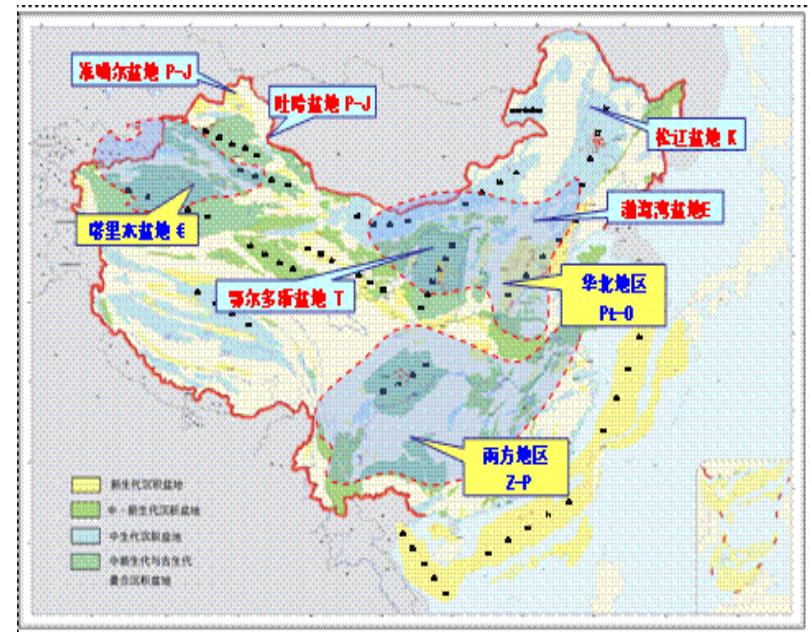
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Environmental Concerns in Shale Gas Development

- Pressure on the demand for water resources.
- Underground water protection
- Water recycle and utilization
- Waste treatment and waste disposal
- Pressure on land acquisition and land lease fees
- Restrictions on mining in forests and hills/alteration and destruction of eco-systems



Source: Zhao Qun

Conclusion

- For unconventional gas development and utilization on large-scale in future, the regulatory framework in gas sector should be refined.
 - The establishment of shale gas mineral rights management system,
 - To diversify investors for shale gas and CBM resources access,
 - The establishment of environmental regulations
 - To progressively implement the third-party access mechanism and strengthen midstream supervision
 - Positive fiscal policies and incentives for technological innovation.
- Unconventional gas will play an important role in China's gas supply in the future in terms of alleviating dependence on overseas resources and ensuring energy supply security.