Unconventional Gas Development in China

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Outlook for Unconventional Gas Development in China

- China’s apparent consumption of natural gas reached 129 BCM in 2011, more than 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 >

- **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
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 a large scale in the future, the regulatory framework in the 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.