China Coal Sector Update

- New trends in the coal sector
  - Coal Production: 3.68 billion tons in 2013, increased 0.8% on the year-on-year basis; and 1.82 billion tons in the first half of 2014, decreased 1.8% on the year-on-year basis.
  - Consumption of coal is 3.61 billion tons in 2013.
CMM drainage
- CMM drainage volume increased from 2.2 Bm$^3$ in 2005 to 12.6 Bm$^3$ in 2013, increased by 10.5% compared with that in 2012.
- CMM drainage volume reached about 6.56 Bm$^3$ in the first half of the year 2014, increased by 7.7%.
Key Areas of CMM drainage

- The top 10 provinces with CMM drainage are Shanxi, Guizhou, Anhui, Henan and others in first half year of 2014, see following figure
- Drainage volume of CMM in Shanxi Province is 2.71 Bm³ in the first half year of 2014, and accounts for 41.3% of total drainage volume in China.
CMM utilization

- The volume of CMM utilization are 4.25 Bm³ in 2013 with the utilization rate of 34.1%.
- The volume of CMM utilization in the first half year of 2014 reached 2.18 Bm³ with the utilization rate of 33.2%.
Key Areas of CMM Utilization

- Utilization volume of CMM is 0.96 Bm³ in Shanxi Province in the first half year of 2014, and accounts for 43.5% of total utilization volume in China.
- The recovered CMM was mainly used as fuels of power plants, households, industries, etc.

Top 10 Provinces with utilization volume of CMM in the first half year of 2014

<table>
<thead>
<tr>
<th>Province</th>
<th>CMM Utilization Volume/10⁸m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shanxi</td>
<td>9.55</td>
</tr>
<tr>
<td>Guizhou</td>
<td>3.25</td>
</tr>
<tr>
<td>Chongqing</td>
<td>1.89</td>
</tr>
<tr>
<td>Anhui</td>
<td>1.49</td>
</tr>
<tr>
<td>Henan</td>
<td>1.12</td>
</tr>
<tr>
<td>Sichuan</td>
<td>1</td>
</tr>
<tr>
<td>Liaoning</td>
<td>0.94</td>
</tr>
<tr>
<td>Hebei</td>
<td>0.47</td>
</tr>
<tr>
<td>Heilongjiang</td>
<td>0.4</td>
</tr>
<tr>
<td>Shaanxi</td>
<td>0.4</td>
</tr>
</tbody>
</table>
China Coal Sector Update

- Regulatory Update
  - Guideline on Further Accelerating the CBM/CMM Exploitation and Utilization issued by the State Council of P.R. China in Sep. 22, 2013.
    - Increase Government Funds Support
    - Increase Indirect Financial Incentives
    - Encourage Private Investment in CBM/CMM
    - Market Pricing Mechanism
    - Encourage Power plants to use CBM/CMM as fuel
China Coal Sector Update

- Implementation of national plans/directives
  - The planned volume of CMM drainage and utilization is 14 Bm$^3$ and 5 Bm$^3$ separately in 2014.
CMM Project Outlook

- Emission reduction projects in China:
  - 92 CDM projects have been approved, therein, 58 projects were registered and 30 projects with CERs issuance in use of CMM up to September 15, 2014.
  - GMI has the total grants of USD$ 2.17 million for 11 CMM projects in China from 2006 to 2013
CMM Project Outlook

- Approaches to overcoming challenges
  - 9 projects of CMM utilization are in validation as voluntary emission reduction projects in NDRC up to the end of August 11, 2014, nine up to the end of September 28, 2014.
CMM Project Outlook

- Anticipated or planned projects
  - Low Quality CMM Utilization (Concentration <30%): Enrichment and purification with PSA for civil use or power
  - Comprehensive Utilization Project of Low Quality CMM and VAM
  - CCII submitted application for the R&D project – *Synthesis and its reaction kinetic model research of novel Pd-based monolithic catalysts for ventilation air methane to be funded by the National Science Foundation in 2013.*
CMM Project Outlook

- Anticipated or planned projects
  - Recovery and Utilization of Abandoned Coal Mines
  - CCII submitted application for the Project - Policy recommendations to improve China’s Abandoned Mine Methane Recovery and Utilization to be funded by Prosperity Fund of UK.
CMM Project Outlook

- **Infrastructure development**
  - **CBM/CMM Transportation by Pipeline**
    - 5 CBM/CMM pipelines have been built, and transportation capacity is 10.2 B m³.
    - 3 CBM/CMM pipelines are under construction, and transportation capacity is 3.4 B m³.
Welcome you to join us at

2014 14th International Symposium on CBM/CMM and Shale Gas in China

Landmark Hotel, Beijing, P.R. China

December 16-17, 2014

Supporters: EPA, USA
State Administration of Coal Mine Safety, China
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