COALBED METHANE
POTENTIAL & PROSPECTS

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WHY CBM?

- Clean fuel
- Important role in energy balance
- A potent Green House Gas (GHG) - 23 times more harmful than CO$_2$
- Wasted asset if not extracted
- Energy, safety, economic & environmental benefits
RESOURCES BASE

- Tertiary Coal / Lignite Fields
- Gondwana Coalfield

COAL BEARING AREA : 35400 sq.km.
COAL & LIGNITE FIELDS : 44 (IN 12 STATES)
CBM RESOURCE BASE : 162 TCF

Andaman & Nicobar Islands

CBM RESOURCE BASE : 162 TCF
(4.6 TCM)
INDIAN INITIATIVE

- Formulation of CBM policy
- DGH made nodal agency
- MOU between MOC & MOP&NG
- Finalization of model contract & fiscal terms
- Delineation of CBM blocks
- Generation of data & preparation of Information Docket / Data package
- Award of blocks through open international competitive bidding system
CURRENT EXPLORATION ACTIVITIES

- Blocks Awarded under CBM-I & II : 16
- Area Opened-up for CBM Exploration : 7800 SQ.KM.
- CBM Resource in the Awarded Blocks : 820 BCM
- Production Potential of these Blocks : 23 MMSCMD

Exploration Commitment

- Core Holes : 121
- Test / Pilot Wells : 211
- Investment : US$ 150 Million
ACHIEVEMENTS

- Completed Phase-I activities in 5 blocks.
- Commercial potentiality of the identified fairways established
- Significant Discovery in central & eastern India.
- Total number of wells drilled so far:
  - Coreholes: 55
  - Test / Pilot Wells: 22
- Number of wells to be drilled in 2006-07:
  - Coreholes: 40
  - Test / Pilot Wells: 46

COMMERCIAL PRODUCTION OF CBM EXPECTED IN 2007-08
RESERVE ACCRETION THROUGH NEW INITIATIVES

<table>
<thead>
<tr>
<th>BLOCKS</th>
<th>OPERATOR</th>
<th>AREA (KM²)</th>
<th>GAS IN-PLACE (TCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sohagpur (East)</td>
<td>RIL</td>
<td>495</td>
<td>1.69</td>
</tr>
<tr>
<td>Sohagpur (West)</td>
<td>RIL</td>
<td>500</td>
<td>1.96</td>
</tr>
<tr>
<td>Raniganj (South)</td>
<td>GEECL</td>
<td>500</td>
<td>1.385</td>
</tr>
<tr>
<td>Bokaro</td>
<td>ONGC</td>
<td>95</td>
<td>1.2</td>
</tr>
</tbody>
</table>

TOTAL ESTABLISHED RESERVES = 6.24 TCF
CBM-III
NEW EXPLORATION OPPORTUNITIES

- No. of blocks offered : 10
- Area opened up (approx) : 6000 Sq.km.
- Expected production potential : 10 MMSCMD

EXCELLENT RESPONSE

- Bids Received : 54
- Bids from Indian Companies : 18
- Bids from Foreign Companies : 8

BLOCKS TO BE AWARDED BY SEPT. 2006
ROAD MAP

FOR

FUTURE EXPLORATION
EXPLORATION STATUS

UN-EXPLORED 62%

Exploration Initiated 22%

Identified for Expl. 16%

HIGHLY UNEXPLORRED
CHALLENGES IN DEVELOPMENT OF CBM IN INDIA

- Involvement of two Ministries
- CBM extraction in advance of mining
- Constraints in offering blocks in & around the coal mines.
- Availability of CBM specific reservoir data
- Technology, equipment and services
- CBM and oil & gas operation in the same block
Constitution of Task Force to accelerate CBM exploration

Formation of Mineral Exploration & Energy Committee

Synergy between coal producers and CBM operators

Policy guidelines and regulatory framework for simultaneous coal mining and CBM operation

CBM exploration in advance of mining

Incentives for attracting Carbon Credit under the Clean Development Mechanism of UNFCCC.

Establishing National CBM Clearinghouse

Open acreage principle should be adopted for development of CMM & AMM projects.
CONCLUDING REMARKS

- Highly unexplored with very low drilling density
- Good CBM prospectivity
- Ready market for CBM
- Positive climate for investment
- Public Private Partnership
THANK YOU