

Developing Better Policies in the Indian Coal Sector

Ananth Chikkatur & Ambuj Sagar

Belfer Center for Science & International Affairs
Kennedy School of Government, Harvard University

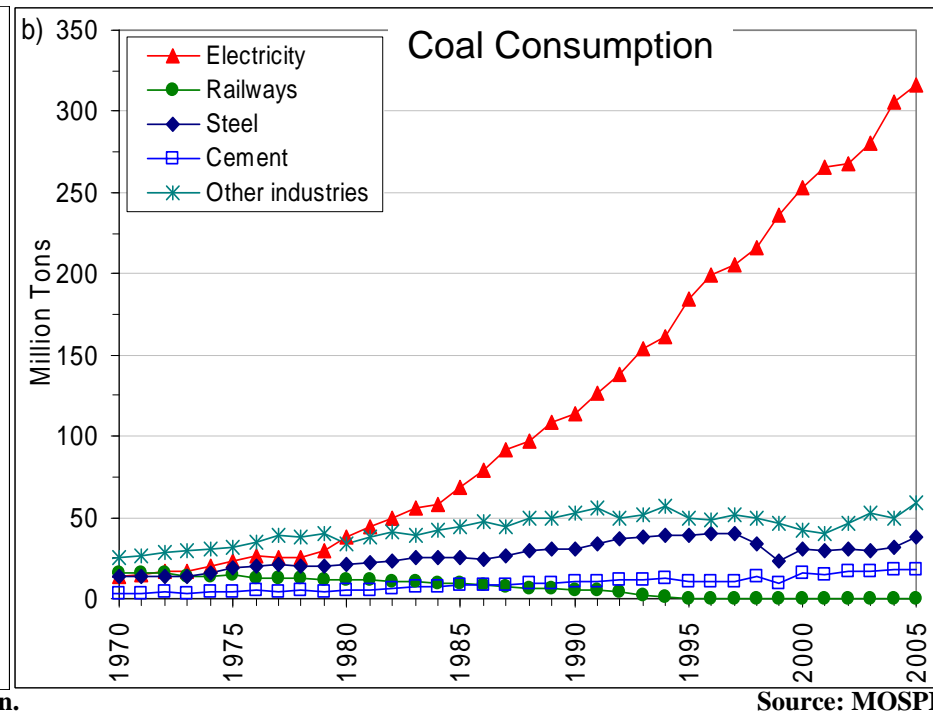
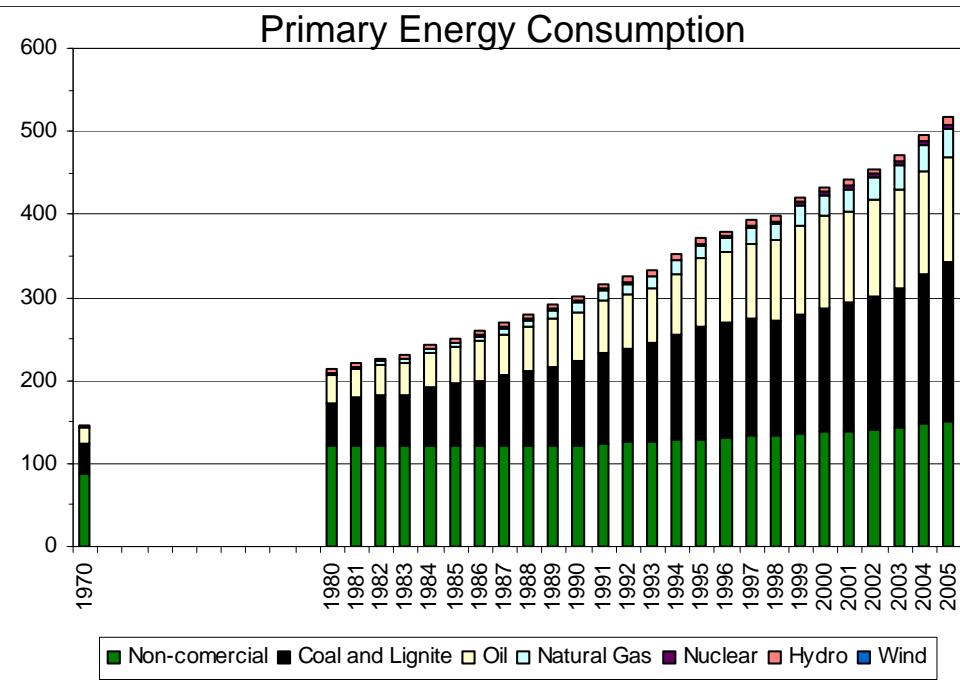
Conference on Managing the Social and
Environmental Consequences of Coal Mining in India

Nov 20, 2007, New Delhi

Outline

- Role of Coal in India's energy sector
- Key Challenges
 - Demand for coal
 - Environmental and Social Issues
- Institutional and Governance Issues
- Key Policy Focus areas

Role of Coal in India's Energy Sector



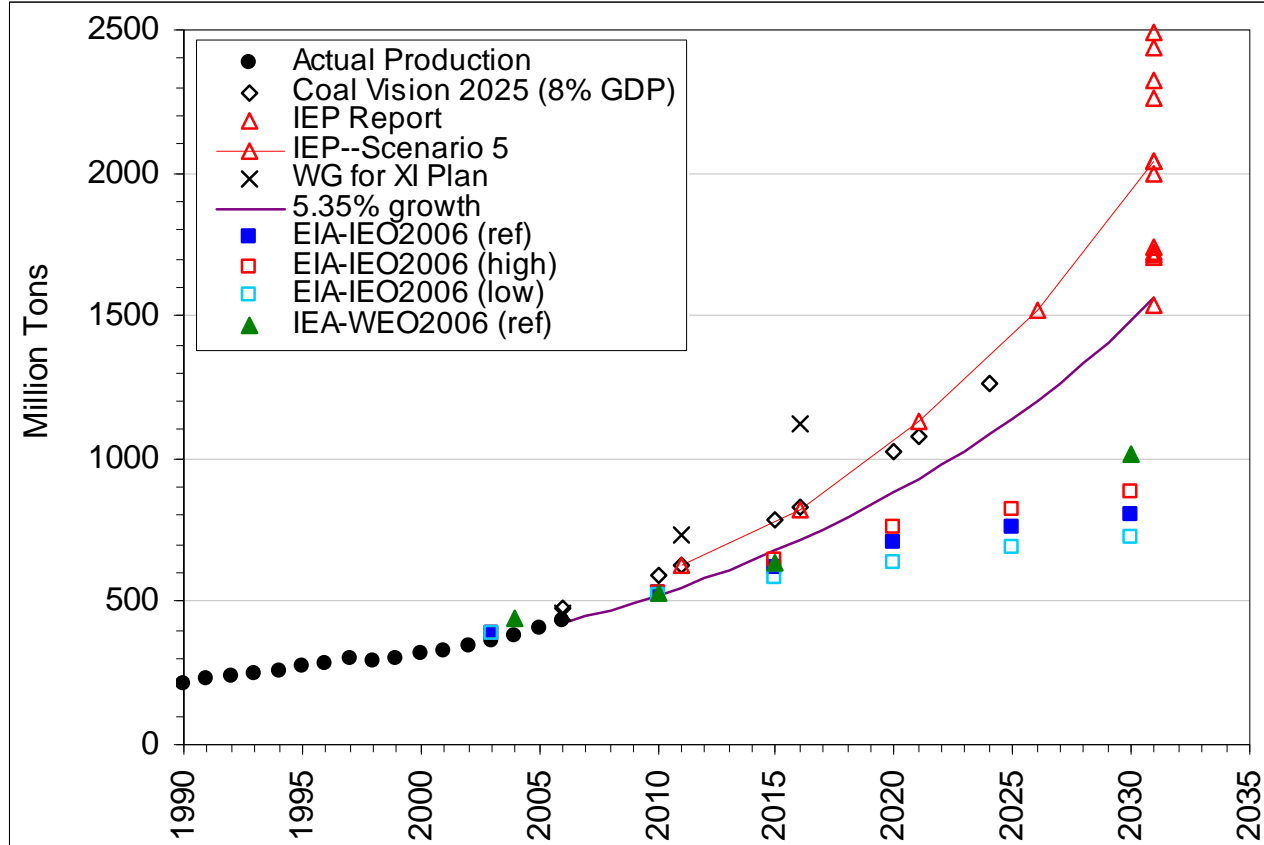
- More (and better use of) energy is critical for India's development
- Coal: 53% of commercial energy; 71% of electricity generation
- 80% of domestic coal is used for electricity

Increasing demand for coal

- Electricity generation expected to increase six-fold by 2030
 - Future growth of electricity in India to rely heavily on coal
 - Other sources are uneconomical or have insecure supplies or are complex to build
- ➔ Expansion of coal exploration, mining & use

Also consistent and high quality of coal needed

Future Coal Demand Forecasts



2004

China: 1.8 BT

U.S.: 1 BT

2030

China:

3.9--4.2 BT

U.S.:

1.3--1.6 BT

- Indian projections higher than IEA/EIA
- Domestic production might be unable to cope with demand
→ Rising imports

More coal mining → Better management of environmental and social costs

Environmental & Social Costs

- Loss of land → Large scale displacement
 - Mining (12%) is second compared to dams (77%)
 - 30 million people displaced from all development projects (Fernandes/Sethi)
 - 55% of displaced are scheduled tribes (Sethi/Bhusan)
 - Only 29% are 'rehabilitated' – 13 million uprooted
- Social Costs
 - Breakdown of social and economic structure
- Environmental Costs
 - Loss of forests and land degradation
 - Dust from mining operations
 - Impact on water resources (aquifer loss, runoff, acid mine drainage)
 - Adds to further forced migration
 - Impact of biodiversity and wildlife corridors

Institutional and Governance Issues

- **Government Dominance**
 - MoC controls nearly all policy related matters on coal
 - Others: MoP, MoM, MoEF, MoL, MoF, PC
 - Changes require agreement among many actors
 - Bureaucracy has resisted changes
 - Legislative changes difficult → reforming coal sector within existing framework leads to convoluted policies
- **Governance and Corruption**
 - Illegal mining
 - Lack of accurate data on depleted reserves
 - Fear of retribution and loss of private gains

Key Policy Issues (1)

Systems level perspective:

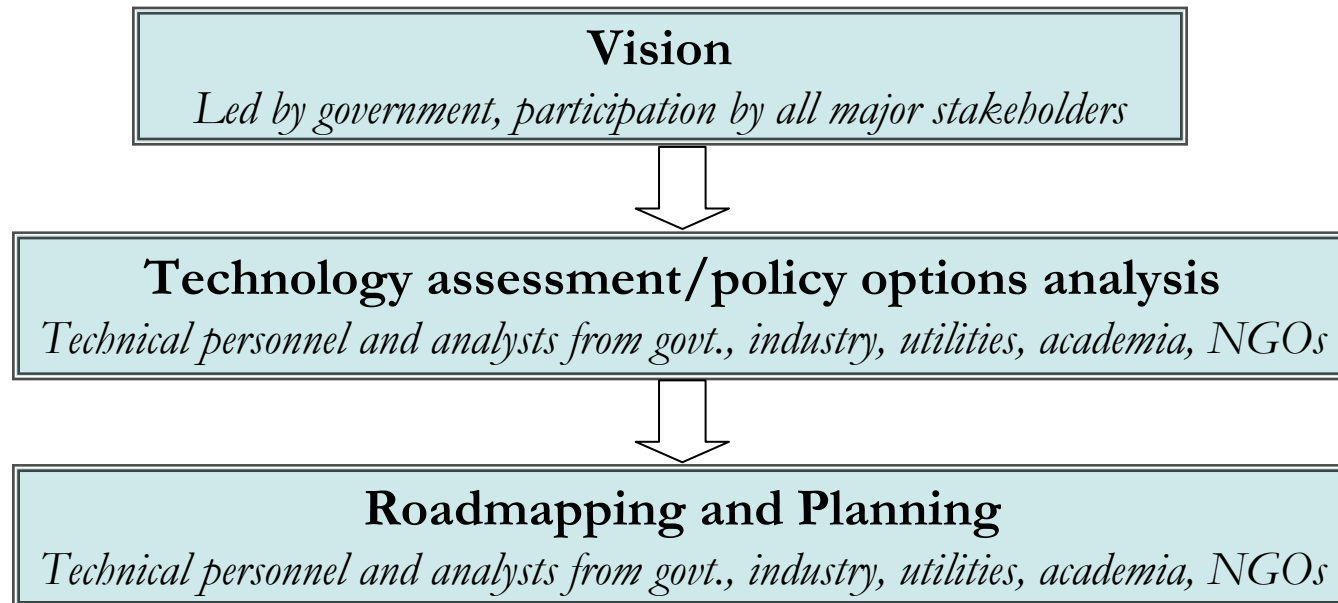
- Manage Coal Demand in Power Sector
 - Breathing room for coal sector to make changes
 - Efficiency improvement
 - Reducing T&D losses and theft
 - Demand management and end-use efficiency
- Better data collection and assessment
 - Some data available with CCO/CIL
 - Critical data missing
 - Economically mineable resources, depleted reserves, number of displaced people, abandoned mines, etc.
 - Important for improving efficiency of mining and R&R policy implementation

Key Policy Issues (2)

Role of coal mining technology – reducing environmental impacts

Technology and policy roadmapping process:

- Need for visioning exercise with stakeholders



- **Planning with people**, rather than planning *of* people or planning *for* people
- Technology development, acquisition, adaptation and deployment

Key Policy Issues (3)

R&R policy context

- Recent policies perceived to support industry, rather than affected people
- Policy formulation process has been contentious
- Big gap between CIL R&R policy and implementation
- SEZs have raised many flags on the land acquisition process
- Demand for jobs has been a show-stopper
 - Alternative economic activities and community development
- Locations of mines determined by geology
 - No siting flexibility
 - Some flexibility through mining technology and mine planning
- Atmosphere of mistrust exists between people/NGOs and coal companies
- NRR2007
 - Improvement, but questions remain on implementation

Key Policy Issues (4)

Environmental Impact Assessment

- Complex, laborious process – data intensive, takes time
- Extensive stakeholder input necessary
- Need to be performed by accredited agencies
 - Not directly funded by project proponent
- Problems with fraudulent EIAs
 - “cut-and-paste”
 - Incomplete data
- Project proponents:
 - Want timely action and clear guidelines
 - Clearance process is viewed as being arbitrary and not transparent
 - Public hearings agenda often dominated by R&R issues
- EIAs are now done after project preparation
 - Techno-economics and environmental assessment in parallel

Key Policy Issues (5)

New approaches

- Reclamation bonds (outside of CFoI)
- Green credits (afforestation)
- Revenue sharing between community and projects
- EIA and SIA prior to project formulation
- Involvement of local community in EIA preparation
- Use of satellite imagery to build data sets
- Land leasing, instead of acquiring

Need to experiment with new ideas

- Policies must allow space for that

Conclusion

- Mining of coal is bound to increase
- Impact mitigation requires both:
 - Managing coal demand
(coal per unit energy service)
 - Managing mining impacts
(impact per unit coal extracted)
- Process is critical in developing better policies
- Policy space needed for exploring new ideas