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"Sustainable Development" Strategic Panel

Presentation on DEVELOPING COUNTRY (INDIA) PERSPECTIVE

by

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INDIA: PRIMARY ENERGY

- Total primary energy supply: India 5th in world after USA,
 China, Russia & Japan
- TPES per capita in kgoe: India 520, China 1090, USA 7800

Energy profile (Mtoe): Growth GDP 8% Energy 6%

| | 2004-05 | | 2031-32* | | Remarks |
|-------------------------|---------|------|----------|------|--|
| Coal | 175 | 52% | 660 | 48% | Import dependency 66% to 75% despite efficiency improvements |
| Oil | 125 | 37% | 420 | 30% | |
| Gas | 28 | 8% | 160 | 12% | |
| Hydro | 8 | 2% | 50 | 4% | Max 150,000 MW |
| Nuclear | 2 | 1% | 90 | 6% | Max 60,000 MW |
| Solar +Wind | | | <1 | | |
| Total | 338 | 100% | 1380 | 100% | China in 2004=India in 2031 |
| Firewood/ Dung cakes | 109 | | | | *Integrated energy policy draft report- Planning Commission, Dec., 2005 |

FOSSIL FUELS

Coal: Reserves (billion tonnes) 40 vs 92 (BP Stats)

: Max domestic production: 220 mtoe

: Imports from Australia/S. Africa, Limits?

Oil: Fungible commodity – world prices-fear factor

: Equity oil – competing with China

Gas: Large domestic discoveries

: Larger import requirements

: Sources surround India: Turkemistan, Iran,

Bangladesh, Myanmar

: Acceptance of risks involved

INDIA AND THE WORLD

Storylines

- Transition: most desirable
- International security of supply: more likely

What can make a difference: Technology

- Gas hydrates: "Joides Resolution" now in India
- Underground coal gasification: Russia/India
- Worldwide R&D, co-operation- Lunar mission mode