



# **THERMAL POWER INDIA 2**

## **PRESENT STATUS, TECHNOLOGY DEVELOPMENT, FUTURE PROSPECTS & STRATEGIES**

Technical Session 6  
**LEGAL & REGULATORY ISSUES**  
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# OVERVIEW

- **Technical Sessions... Thermal Power Issues**

- Energy Availability Scenario
- Technologies for power generation
- Environment Management
- Options ....environment management, disposal of ash and emission control, installation of pollution abatement technologies, CDM issues
- Project Financing, Legal & Regulatory

- **Focus of Sessions**

- Present status
- Future prospects & strategies

- **Technical Session 6 - Legal & Regulatory Issues**

- Key Issues which need to be debated & addressed for enhancing viability Thermal Power Plant market with due consideration to issues, viz. environment, climate change and consumer interest



# Conventional Energy Sources

## *Dependency & Concerns !*

- **India Scenario**

- 4<sup>th</sup> largest resource worldwide of coal (248 billion tones)
- Existing Generation capacity ....*dependent largely on Conventional Sources*
  - Coal, Lignite, Natural Gas & Diesel : 64%
  - Large hydro : 25.8%
  - Nuclear : 2.9%
  - Renewables : 7.1%
- Thermal power .....expected to dominate power generation scene to meet projected demand of 78000 MW by 2011- 12

- **Concerns**

- Availability of Coal
  - Likely to be over in 45 years ... assuming 5% growth rate( *Report of Expert Committee on Integrated Energy Policy*)
  - Demand Supply Gap Statistics....projected Coal demand vs Production leaves a gap of 103 MT at the end of 11<sup>th</sup> Plan (*Planning Commission*)
  - Future demand requires fall back on imported coal (*UMPPs*)
- Quality of Coal
- Emission of Green House Gases ...inhibits transmission of sun's energy<sub>3</sub> from the earth's surface to the outer space leading to climate change!



# Conventional Energy Sources

## Challenges

- **International Initiatives**
  - **United Nations Framework Convention for Climate Change (UNFCCC)**... Entered into force on March 21, 1998
    - Combat global warming & stabilize concentrations of GHGs
    - Annex I countries (developed countries & economies in transition) obliged to reduce emissions of six GHGs to a safe level
    - India...ratified UNFCCC on 01.11.1992.... No primary obligation
  - **Kyoto Protocol**
    - Countries listed in Annex B (essentially the countries listed in Annex I to the UNFCCC) obliged to reduce/ limit GHGs emissions (based on their 1990 emissions levels) by the conclusion of the first compliance period (from 2008 until 2012)
    - India accepted the Kyoto Protocol .... 26.08.2002 (*came into force in February 2005*)
- **Challenges**
  - Falling back on Thermal Power for bridging the demand supply gap without compromising obligations under International conventions and protocols and applicable law
  - Legal and regulatory regime creates a market for TPPs



# The Sustainability Debate

## Challenges

- **Sustainable Development**
  - World Commission on Environment and Development Report (1987)....showed policy makers the preferred approach and path in its definition of Sustainable Development:
    - *“the means to satisfy the needs of present generations without compromising the resources of future generations.”*
- **Challenges... Policy, Legal & Regulatory Framework**
  - Does it assure “development” which is “sustainable”?
  - Does it create a market for Thermal Power ?
    - State’s burden discharged if policy and law balance the key issues
    - Demand & Investments
    - Competition
    - Regulation ...Pricing, Procurement, Consumer interest
    - Efficiency
    - Environment & sustainability

*Insight into Environment & Electricity Laws !*



# Environment Protection *Initiatives*

- Constitutional sanction given to environmental concerns (*42<sup>nd</sup> Amendment, 1974*) leading to insertion of Art.48-A and Art.51-A (g) (*Directive Principles of State Policy and Fundamental Rights and Duties*)
  - **Article 48-A** reads as follows:
    - *The State shall endeavor to protect and improve the environment and to safeguard the forests and wild life of the country.*
  - *Article 51-A(g)* casts a fundamental duty of every citizen of this country and reads as under
    - *It shall be the duty of every citizen of India - (a) ... (g) to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures; (i) to safeguard public property and to abjure violence*
- Article 21 of the Constitution is a fundamental right which reads as follows:
  - *"No person shall be deprived of his life or personal liberty except according to procedure established by law."*



# Environment Protection *Statutory Initiatives*

- 1972 .... Impetus for a developed framework on “environment” came after the UN Conference on the Human Environment (Stockholm, 1972) ..... **National Council for Environmental Policy and Planning, Department of Science and Technology** was set up in 1972.
- Council later evolved into a full-fledged **Ministry of Environment and Forests (MoEF)** in 1985
- Since the 1970s....extensive network of environmental legislation have been enacted
  - The Water (Prevention and Control of Pollution) Act
  - The Air (Prevention and Control of Pollution) Act 1981
  - The Air (Prevention and Control of Pollution) Rules, 1982
  - The Environment Protection Act, 1986
  - Hazardous Wastes (Management and Handling) Rules, 1989
  - Manufacture, Storage and Import of Hazardous Chemical Rules 1989
  - The Forest Conservation Act, 1980
  - The Forest (Conservation) Rules, 1981
  - The Wildlife Protection Act, 1972
  - The National Environment Tribunal Act, 1995
  - The National Environment Appellate Authority Act, 1997
  - Energy Conservation Act 2001



# Judicial Initiatives

- Achievement of Sustainable Development requires a commitment & involvement of all arms....the legislature, executive & judiciary
- Judiciary played an active role in ensuring a fair balance between environmental, social & developmental issues and recognized the principles of Sustainable Development [ AIR 1980 SC 1622, AIR 1988 SC 2187, AIR 1996 SC 149, AIR 1996 SC 2715, (1997) 1 SCC 388 ]
  - **Precautionary principles invoked to protect Right to life** with human dignity
  - **Environmental measures by State must anticipate, prevent, attack causes of environmental degradation**
  - Supreme Court and various High Courts of the country have given a wider interpretation to the word "**life**" under Article 21 of the Constitution ....  
**.includes the right to a living environment congenial to human existence.**

*Need for taking forward the initiatives of the judiciary & address gaps (if any) in the legal and regulatory frameworks.*



# Electricity Sector

## Legal & Regulatory Regime

- The Electricity Act 2003 ... Regime promotes investments in RE & NC sector & casts obligations on ERCs
  - *To promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid ..... and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee [Section 86 (1) (e)]*
  - *Specifying the terms and conditions for the determination of tariff, & being guided by promotion of co-generation and generation of electricity from renewable sources of energy; [Section 61 (h)]*
- NEP ... promotes investments in RE & NC sector
  - *Adequate promotional measures be under taken for development of technologies and sustained growth of sources (Clause 5.12.1)*
  - *Progressively the share of electricity from non-conventional sources be increased as prescribed by State Electricity Regulatory Commissions. ( Clause 5.12.2)*
  - *Commission may adopt differential approach for pricing to promote technologies as these will take time to compete with conventional sources ( Clause 5.12.2)*
  - *Procurement by distribution companies shall be done at preferential tariffs determined by the Appropriate Commission. (Clause 6.4)*
  - *In the long-term, technologies would need to compete with other sources in terms of full costs. (Clause 6.4)*



# Electricity Sector

## Legal & Regulatory Regime

- Treatment of Thermal Power Plants
  - Electricity Act, 2003 does not have any provisions prescribing differential treatment for efficient & compliant Thermal Power Plants
- NEP.... *Treatment of Thermal Power & Efficient Technologies*
  - *Efficient technologies, like super critical technology, IGCC etc and large size units would be gradually introduced for generation of electricity as their cost effectiveness is established. Simultaneously, development and deployment of technologies for productive use of fly ash would be given priority and encouragement. (Para 5.6.2)*
  - *Even with full development of the feasible hydro potential in the country, coal would necessarily continue to remain the primary fuel for meeting future electricity demand. (Para 5.2.12)*
  - *Imported coal based thermal power stations, particularly at coastal locations, would be encouraged based on their economic viability. Use of low ash content coal would also help in reducing the problem of fly ash emissions. (Para 5.2.13)*
  - *For thermal power, economics of generation and supply of electricity should be the basis for choice of fuel from among the options available. It would be economical for new generating stations to be located either near the fuel sources e.g. pithead locations or load centres (Para 5.2.17)*



# Electricity Sector

## *Legal & Regulatory Regime*

- **NEP.... Treatment of Thermal Power & Efficient Technologies**
  - *Full compliance with prescribed environmental norms and standards must be achieved in operations of all generating plants (Para 5.10.6)*
- **Issues**
  - *No differential treatment for new Thermal plants which fall back on new new technologies*
  - *No differential approach viz. pricing to promote technologies taken recourse by Thermal plants*
  - *NEP acknowledges that Coal would continue to remain the primary fuel for meeting future electricity demand*

*Is there a need for a differential treatment of Thermal Plants which are sensitive to issues .... fundamental for Sustainable Development?*



# *Legal & Regulatory Regime*

## *Way Forward*

- Debate & discuss the need for a differential treatment for TPP under legal & regulatory regime
  - Incentivize recourse to innovative technologies (clean & efficient) by developers of Thermal Power
  - Ensure improvement in coal quality used in TPPs
  - Address issues of market, pricing, financing & tariff
- Need for an integrated approach for achieving the energy and environment goals
- Clarity on treatment of investments critical for a developer
  - Sustainability, Predictability & Transparency to investments
- Ensure bridging of the demand supply gaps by recourse to Thermal Power, without compromising issues pertinent for Sustainable Development



# Thank You

SHOULD YOU REQUIRE FURTHER DETAILS

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