

# **Regulatory Drivers for Sustainable Development in the Energy Sector**

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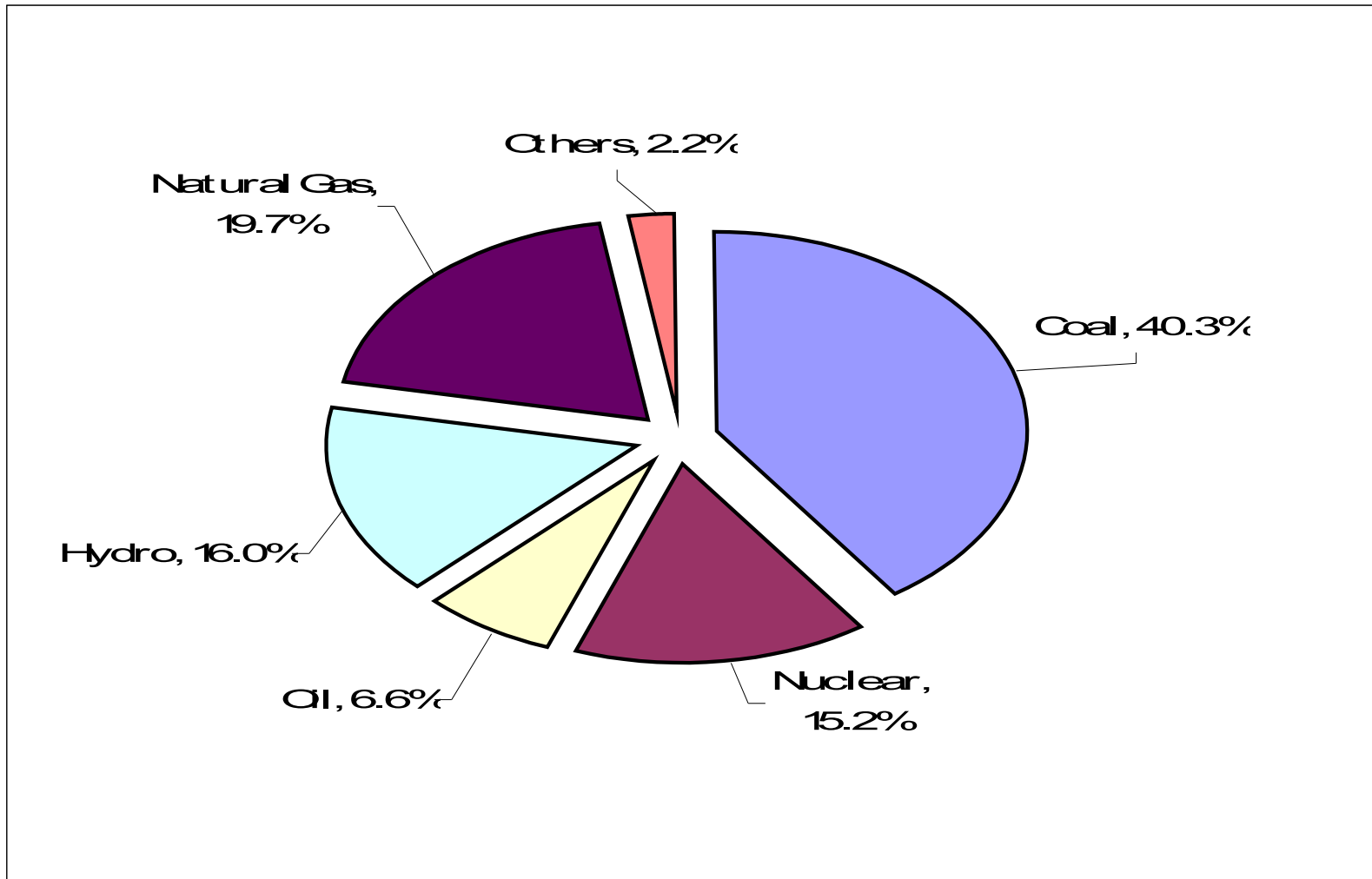
**CEO & Board Member - Lanco Anpara Power Private Limited**

**CEO & Board Member - Lanco Amarkantak Power Private Limited**

# **Energy Sector - Electricity**

- **Most convenient and cleanest forms of energy for use in industrial, agricultural & domestic**
- **Vital input for socio-economic development & growth**
- **Per Capita Consumption of Electricity - Important yardstick to measure development**
- **Electricity is central to sustainable development and poverty reduction efforts**
- **Affects all aspects of development - social, economic, and environmental**
- **Access to electricity is a crucial enabling condition for achieving sustainable development**

# Global Electricity Generation – Fuel Mix



Others include geothermal, solar, wind, heat, etc.

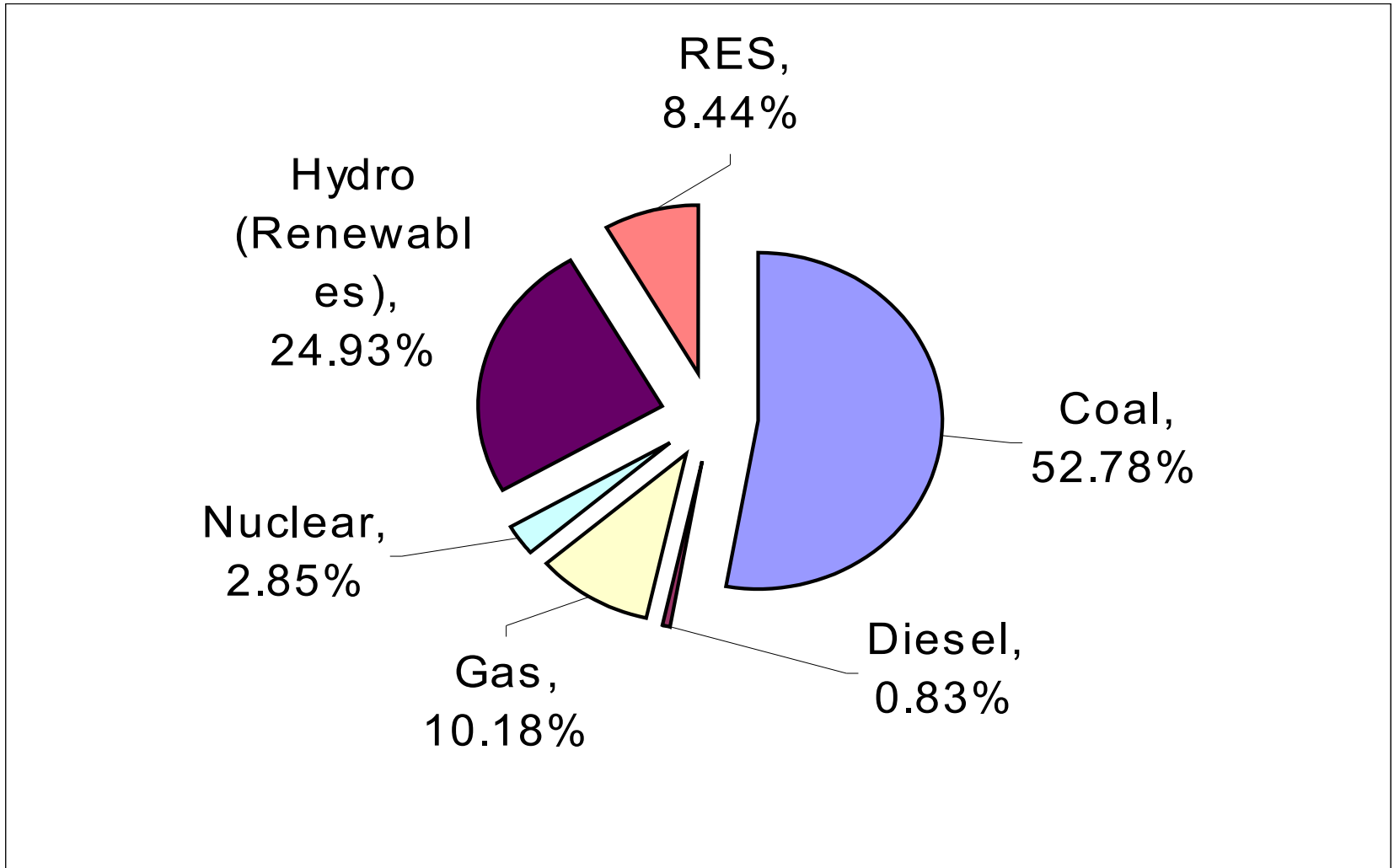
# Conventional Fuels

- **Result in global warming - environmental and social degradation**
- **Coal, gas, oil and nuclear fuel are non-sustainable**
- **Deplete over a period of time - limited availability**
- **Cause dislocation of economic development if alternatives are found**

# **Renewable Fuels**

- **Wind, solar and other renewable fuels are sustainable**
- **Environment friendly**
- **Only 2.2% of world electricity generation is from renewable**
- **Global capacity of wind power - 94,100 MW**
- **Global capacity of solar power - 154,000 MW**
- **Future electricity generation has to be from renewable**

# Installed Capacity in India



Clearly, more than 50% of the generation is from coal

# **Regulatory Drivers in Indian Energy Sector**

- **Introduction of IPP concept in 1991**
- **Introduction of Reforms in Electricity Sector in 1998**
- **Enactment of Electricity Act 2003**
  - **Consolidation Electricity Laws**
  - **De-licensing of Generation**
  - **Creation of Regulators at Central and State level**
  - **Introduction of Open Access**
  - **Promotion of competition and Market development**

# **The Electricity Act 2003**

- **Effective from June 10, 2003**
- **Establishment of Regulators in most of the States**
- **Tariff regulations by CERC in 2001 & 2004**
- **Transparent process & matured stage**
- **Tariff Policy and National Electricity Plan**
  - **assured prospects to developers**
  - **faster growth of Electricity Sector in last 5 years**
  - **economic growth of nation**

# **Sustainable Growth - Inputs**

- **Large Resources**
  - Availability of fuel, land & water
- **Large Investments**
  - Availability of funds and flexibility to bring in foreign investments
- **Latest Technology**
  - Advanced technology adopted in design & manufacturing of machinery
- **Sustainability of a Large Project depends upon**
  - Skilled manpower
  - Meticulous planning
  - Compliance with guidelines and
  - Law of the Land

# Sustainable Growth - Challenges

- **Land:**

- Location close to fuel
- Fuel transportation is easier than transmission of power
- Minimization of impact on environment
- Optimization of requirement – needs are growing but resource fixed
- R&R

- **Water:**

- New technology to optimize usage
- Recycling

# **Sustainable Growth - Challenges**

- **Fuel:**

- Maximize the output by optimum utilization of available fuel
- Use of large size plants with supercritical & ultra supercritical units

- **Finance:**

- Availability of funds is not an issue but the cost of funds is
- High inflation and large gestation period - increases risk and cost of power
- Affects supply to Agriculture and Domestic Sectors at affordable rate

# Way Forward

- **Sustainable development of Electricity Sector**
  - **By making all stakeholders as Partners to growth**
  - **With certainty in policies and regulations**
  - **By effective enforcement of law**

# **Our Experience**

- **Lanco Anpara Thermal Power Project**
  - **1<sup>st</sup> competitively bid project post enactment of EA 2003**
  - **Location: Sonebhadra, Uttar Pradesh**
  - **Land requirement optimized for the project below the standard**
  - **Adopts larger unit size to minimize burden on environment**
- **Lanco Amarkantak Thermal Power Project**
  - **1<sup>st</sup> coal-based IPP in the country**
  - **Location: Korba, Chhattisgarh**
  - **1<sup>st</sup> project to record many firsts in the Indian IPP history**
  - **Ready for commissioning**
- **Power from both the projects affordable to all**

**THANK YOU**