



# **De-Centralized Generation - Unique Solution for Demand Management**

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- Meeting Peaking Demand and Energy Demand are two separate issues.
- Meeting Energy Demand can be done by adding Base load, Mega, Ultra-mega power stations etc.
- Meeting Peaking Demand requires unique solutions.
  - Building fresh capacity (Gas, Hydro based) dedicated for peaking applications.
  - Tapping unutilized capacity of Captive Plants
  - Demand Side Management (T.O.D. Tariff)
  - Load Shedding
  - Decentralized Generation

## ■ Concepts

- Electricity production near the load centre
- D.G. includes generation from R.E. technologies (Solar, Photovoltaic, small hydro, Biomass, Wind)

## ■ Benefits

- Electrical Reliability
- Improved power quality
- Lower cost (Capital and running)
- Economic benefits

- Energy Security
- Climate change issues (India 5<sup>th</sup> largest emitter of CHG)
- Electricity for all by 2012/ Technical and economic viability of supplying energy to rural remote villages
- Low gestation, fast track implementation
- Projects can be off grid, avoiding massive investments and burdening Transmission grid.
- Being in small size, capacity additions can be in phases to match demand and avoid surplus power
- Lower T&D losses

- Promising Technologies
  - Biomass Gasification
  - Waste to Energy Conversion
  - Micro Turbines
  
- Proven Technologies
  - Mini / Micro Hydro
  - Solar
  - Wind Turbines
  - Diesel – Generator Set

# Challenges



- Technology Selection and sizing
- Poor Institutional Capacity
- Developing viable business modals
- Weak commercial arrangements / securing finance
- Under developed Fuel Market (Bio-mass based power)

- D.G. is creating a new energy paradigm – i.e. the way customers see their energy options are changing
- Energy availability and reliability are becoming the main driving force. Non traditional sources of distributed energy is more economically viable than before.
- D.G. technologies most viable solution for meeting Power Demand, using innovative financing techniques (PPP – model)

PTC is committed to encouraging power generation through RE/DG to a significant proportion of its overall portfolio of tradable power

## ■ Intermediary

- Develop a market for short term surpluses in power.
- Promote development of long term capacity.
- Promote development of power from R.E. sources.
- Risk mitigator, offers payment security mechanism.

## ■ Advisory Services Provider

- Market structures, financing and risk management options
- Project developers' ancillary requirements
- Energy consumer's ancillary requirements

## ■ Equity Participation

- Promoting RE/DG through equity participation
- Credit Enhancement
- Facilitating credit worthiness

**Thanking you**

**If we cannot do big things,**

**Let us do small things in a great way”**

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