

# Energy Efficiency in Bangladesh: Issues, Problems and Possible Solutions

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## Why Energy Efficiency

- Global warming is a serious concern
- GHG emission reduction has become a prime target to mitigate climate change
- Promotion of Renewable energy is an important way of reducing GHG
- Enhanced efficiency can have a much larger impact in reducing GHG emission

## Important Energy Efficiency Sectors in Bangladesh

- Power : generation, transmission, distribution and consumer end
- Industrial heating: boiler, kilns, rerolling mills and other industrial heating
- Domestic heating: cooking

## Power Sector

- Generation side
  - Average Efficiency of generation is ~30% in Bangladesh; it can be raised to more than 40%
  - Combined cycle and heat recovery should be enforced (eff. >50%)
  - Penalty should be imposed on low efficiency generation. This will encourage regular maintenance of the generators

## Power Sector....

- Transmission side
  - Make sure that the transmission side transformers and transmission lines are not over loaded, terminal voltages are properly maintained
- Distribution side
  - Distribution transformers and lines must not be over loaded, voltage levels and power factor should be maintained
  - Illegal connections should be identified and dealt with. Free connections never encourage efficiency.

## Power Sector....

- Consumer end
  - The consumer end users are industrial, commercial and domestic
  - High efficiency gadgets must be encouraged. **Efficiency does not come free**, so it is important to make users understand that energy efficiency is less expensive in the long run. Examples: LED light, inverter driven good quality motors, refrigerators with quality insulation etc.
  - Tariff should be set in such a way that it encourages efficiency and conservation. Smart grid technology adoption is an effective way.

## Industrial Heating

- Heating is a major energy component in industries
  - Boilers
  - Kilns
  - Other form of heaters
- Most of the industrial heating has low efficiency, as they get gas at a low price
- Energy efficiency awareness is important as heating is a significant energy consumer

## Domestic Heating

- In Bangladesh cooking is the main heating component in the households
  - Efficiency of stoves are low: high efficiency stoves should be encouraged
  - Illegal gas connections still exist
  - Pressure cooker should be encouraged
  - **Cooking by electricity can enhance the efficiency significantly, although may not look realistic at this moment**

## Policy Adoption

- Enhanced generation from renewable energy sources
- Tax and duty incentives for better efficient equipments and gadgets
- Penalty for low efficiency energy consumers
- Appropriate tariff policy
- Awareness building

Thank you