

UNEP/UNF-World Bank Three-Country Energy Efficiency Project

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India - Energy Efficiency Sector Policy Development

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Economic Growth and EE

- ◆ GDP growth:
 - 7.1% (2004-05)
 - ~ 8.0% (2005-06)
- ◆ Per-capita commercial energy consumption:
 - 350 kgoe in 2004/05
 - Projected to increase to 450 kgoe by 2010
- ◆ Electricity Supply Demand Gap
 - Peak 13%
 - Normal 8%

EE would be key for sustainable economic performance

Environmental Issues

- ◆ Concerns from using coal:
 - Transport bottlenecks
 - High ash content >40%

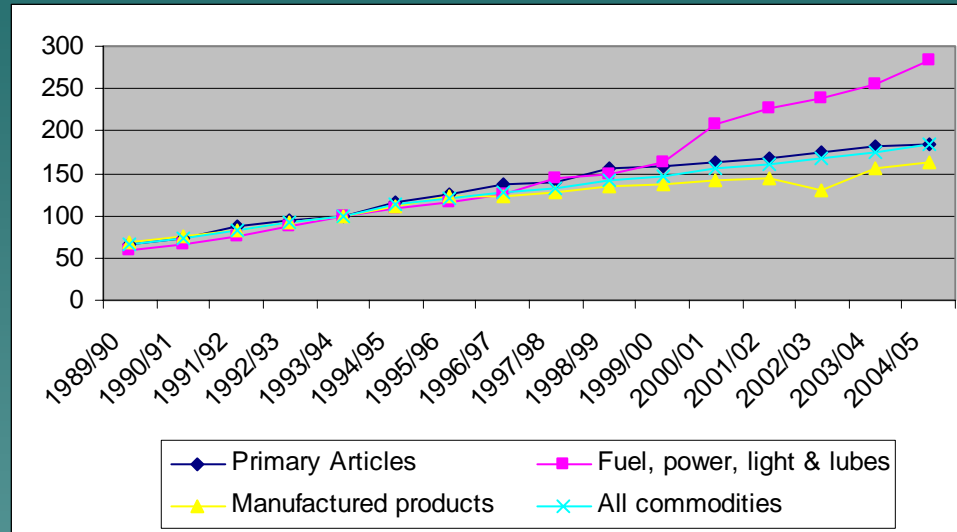
GHG Emissions (million tons CO₂e)

- 1229 base year 1994 NATCOM (2004)
- 1994 in 2025

- ◆ Rising eco-restrictions on setting up large hydro projects
- ◆ Impact of other RE marginal
- ◆ Other environmental implications (water, soil, non-GHG gases etc.) of energy production / conversion / storage / handling / transportation / consumption as well

EE seen as one of the important way
to reduce pressures of the environment

Energy Pricing



EE would play a key role in reducing the impact of rising Energy Prices

EE Potential (High level estimates)

- ◆ Sector level estimates by Planning Commission:
 - Agriculture: up to 30%
 - Industry: up to 25%
 - Commercial: up to 20%
 - Residential: up to 20%
 - Transport: up to 20%
- ◆ Industry level estimates by CII:
 - Pulp & paper: 25%
 - Textile: 25%
 - Glass & ceramics: 20%
 - Sugar: 20%
 - Cement: 15%
 - Fertilizer: 15%
 - Petrochemicals: 15%
 - Aluminum: 10%
 - Iron & Steel: 10%
 - Refineries: 10%

EE Policy Developments

- ◆ 1979 – Energy Efficiency Cell set up in NPC
- ◆ 1983 – Interministerial Working Group Report on EE
- ◆ PCRA set up
- ◆ 1987 – Advisory Board on EE in PMO
- ◆ Fiscal and Monetary measures incorporated in budget documents
- ◆ Instituting Energy Management centre
- ◆ National award scheme (estimated 4000 MW savings)
- ◆ 2001 – Energy Conservation Act
- ◆ 2003 – Electricity Act

Energy Conservation Act - 2001

- ◆ Effective since March, 2002.
- ◆ Bureau of Energy Efficiency (BEE) set up in 2002.
- ◆ Primary objective - To reduce energy intensity of the Indian economy.
- ◆ Thrust on self-regulation and market principles
- ◆ Institutionalizing and strengthening of delivery mechanisms of energy efficiency services

Thrust Areas

Thrust Areas identified for the implementation of the Act for the initial years:

- Indian Industry Programme for Energy Conservation
- Demand Side Management
- Standards and Labelling Programme
- Energy Efficiency in Buildings and Establishments
- Energy Conservation Building Codes

Thrust Areas

- **Professional Certification and Accreditation**
- **Manuals and Codes**
- **Energy Efficiency Policy Research Programme**
- **Energy Efficiency and Conservation in School Education**
- **Delivery Mechanisms for Energy Efficiency Services**

Electricity Act 2003

- ◆ Captive generation free from controls
- ◆ Mandates creation of Regulatory commissions
- ◆ Restructuring of Electricity Boards
- ◆ Open access to distribution in phased manner
- ◆ Gradual phasing out of subsidies

Distribution Sector Reforms

- ◆ Accelerated Power Distribution & Reform Programme (APDRP)
- ◆ MOU/ MOA with States
- ◆ Rating of SEBs / Utilities
- ◆ Reliability Index
- ◆ Training of about 30,000 distribution personnel

Draft Report on Integrated Energy Policy 2005

- ◆ Coal to remain primary energy source
- ◆ Power Sector Reforms
- ◆ Rationalising Fuel Prices
- ◆ Energy Efficiency and Demand Side Management
- ◆ 15% savings to be achieved by energy conservation by 2012
- ◆ Provide electricity to all households in next five years
- ◆ Shift to more efficient fuels (LPG etc.) for cooking for all households in next 10-15 years

Implementation of EC Act – BEE Programme

- ◆ IIPEC – Cement, Fertiliser, Textiles, Paper & pulp operational (CIDA support)
- ◆ DSM – Pilot programme in few states (USAID support)
- ◆ Standard & Labelling – Developed for 4 appliances and launched for Refrigerator (USAID support)
- ◆ EE in buildings – Central govt programme
- ◆ EE building codes – Draft developed (USAID support)
- ◆ Certification & Accreditation- Energy Auditors, Energy Managers, Energy Audit Firms operational (GTZ support)
- ◆ School Education Programme – under development
- ◆ EE Delivery Mechanisms – Pilots launched (3CEE Project, GEF Project, US DCA CG Scheme)

Continued International support would play key role
in faster implementation of EC Act

Energy Coordination Committee

- ◆ Constituted in July, 2005 under the chairmanship of Prime Minister
- ◆ Terms of Reference:
 - Identification of key areas requiring energy policy initiatives
 - Energy Security aspects
 - Identify institutional mechanisms for implementing policies
- ◆ Five meetings held so far to discuss issues related to Coal, Oil and Gas and Power sectors

National Campaign on Energy Conservation 2005

- ◆ Primarily focused on creation of public awareness and understanding the significance of energy conservation
- ◆ Target Groups – General public, government agencies, state enterprises, private and educational sector
- ◆ Campaign through print & electronic media
- ◆ Award Scheme for Government & Commercial buildings launched
- ◆ Industrial units encouraged to announce Energy Management policy

Recent Initiatives

◆ National

- BEE agenda on innovative financing-action yet to be initiated
- GEF-IREDA
- SBI Uptech program
- Canara Bank
- BOB
- BOI

◆ International

- ADB EE PPTA Project- Instrumental in leading to the development of several pilots, particularly in the government sector (TRA Mechanism)
- WB-UNF 3 country project
- WB-GEF project for EE (Getting the commercial banks into the system)
- USAID-ECO projects
- USAEP-ASE -municipal sector
- DCA CG Scheme

Moving ahead-challenges

- ◆ Capturing collective learnings
- ◆ Establishing market transformation issues-all together
- ◆ Targeting markets & prioritisation
- ◆ Market development activities
 - Key issues
 - Who does it?
 - Campaign on a longer term-structured manner
- ◆ Continuous process

Implementation of EC Act, 2001

➤ Standards and Labeling

- ◆ Evolve minimum energy consumption standards for notified equipment and appliances.
- ◆ Prohibit manufacture, sale and import of equipment and appliances not confirming to standards.
- ◆ Introduce mandatory labeling to enable consumers to make informed choice

Implementation of EC Act, 2001

- Notification empowering manufacturers to affix energy labels is likely to be issued by July 2006 for Frost Free Refrigerators.
- Technical committees have been set up to design technical parameters for labeling, star rating plan etc. for air conditioners, refrigerators, agricultural pump sets , motors, lighting & ballasts and distribution transformers.
- Accreditation of laboratories is under progress.
- Rating plan for air conditioners and direct cool refrigerators has been finalised.

Implementation of EC Act, 2001

➤ Designated Consumers

- Three National Certification Examinations for Energy Managers and Energy Auditors have been successfully conducted.
- 64 energy auditing agencies have been cleared for accreditation. These auditors will provide professional energy auditing services to industries.

Implementation of EC Act, 2001

➤ Energy Conservation Building Codes

- Central Government to prepare guidelines on ECBC
- To be modified by States to suit local climatic conditions
- To be applicable to new buildings having connected load of 500 kW or more
- Data collection and stringency analysis is in progress. First draft of Energy Conservation Building Codes is expected shortly.

Implementation of EC Act, 2001

Energy Efficiency Improvement in Government Buildings

- Energy audit studies have been completed in 9 buildings including Rashtrapati Bhawan, Prime Minister's Office.
- Work on Rashtrapati Bhavan is complete and the other buildings are near completion.
- Phase II is to begin shortly with another set of Central Govt. buildings.
- Savings potential of 25 to 46 % has been identified in these buildings.

Implementation of EC Act, 2001

- Implementation plan through ESCO participation has been prepared.
- State Govts. have been asked to take up prominent office buildings for implementing energy efficiency measures.

Promotion of Energy Efficient Appliances

- Excise Duty on CFL has been reduced from 16% to 8% w.e.f. April, 2006.
- States are being encouraged to distribute CFL bulbs to Below Poverty Line (BPL) families under Rajiv Gandhi Gramin Vidyutikaran Yojana.
- Identification of Energy Efficient Equipment is being done for extending accelerated depreciation benefits.

Thank you

