

The Emergence of a Green Economy - A Case of India

Presented by

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INTRODUCTION:

Climate Change : A Major Global Challenge confronting humanity as a whole-

- Serious implications affecting areas of bio-diversity, natural ecosystem, food production, fresh water supply, health etc.,
- Global warming raising at 0.10C per decade over last 50 years.
- Inter Governmental Panel on Climate Projections : by 2100 1.4 to 5.8 degree Celsius
- The Real cause of Global Climate Change is Co₂ Emissions
- The global increase in Co₂ which accounted for 63 % of GHGs are primarily due to fossil fuels and land use change, Methane 24%, Nitrous oxide 10 %,
- Concentration of Co₂ :
 - In 2005 : 379 parts per million (ppm)
 - In 2008 : 385 ppm. Co₂ and other gases put together 450 ppm.
 - Projections for next 2 decades: 0.2°C even if GHGs are kept at 2000 levels.

Global Climate Change : Who is Responsible ?

- Human activities
- Historically Industrial Countries
- 7 out of 10 tonnes CO₂ emitted by Developed Countries
- Of late, developing Countries
- Poor walk with light carbon foot print
- Poor are highly exposed to climate change and less adaptable than the rich

Consequences of Global Warming

- Increase of Global air and ocean Temperature
- Melting of snow
- Rising Global Sea Level - 4 to 6 Meters
- Submerging of large areas
- Risks are irreversible
- Outcome → more malign than being benign
- The HDR 2007-08 - Climate change threatens Human Development for world's poor, long term dangers for all humanity

How to respond to the Climate Change

- One school of thought Urges “Rapid Action”
- Sceptics Advocate “wait & See” Wilfred Beckerman
- Nicholas Stern- If we don't act costs will be equivalent to losing 5% of Global GDP per year
- If wider range of impact is taken it is 20% of GDP, cost of action only 1% of GDP
- Climate Realists - Recommend the emissions divide between developed & developing countries

Impact of Climate Changes : Observed Changes in Climate and Weather Events in India

- Temperature Rise
- Sea level Rise
- Climate related Disasters
- Increase in precipitation
- Floods/ Drought
- Ground water depletion
- Shrinking of Gangotri Glacier
- Low productivity of forests
- Extinction of Plant & animal Species
- Decrease in crop Yield Net farm revenue Reduction

Weather Related Natural Catastrophes (India) :

- Tropical Cyclones in Bay of Bengal
- Flooding in low lying Coastal Areas
- Permanent Displacement of Millions of People
- Loss of Crop Yields - Inundation & Salinization
- Decline in Environmental Productivity
- Loss of Bio Diversity

Possible Impacts of Projected Climate Change :

- An annual mean surface temperature rise by the end of the century
- Extremes in maximum & minimum temperatures
- Net Farm Revenue Reduction
- Decline in per capita availability of fresh water
- Himalayan glaciers likely to disappear in 25 years
- Decrease in water flows in Ganges & Brahmaputra
- Increase in frequencies and intensity of tropical cyclone
- Increased risk of extinction
- Shifts in forest types
- Human Health Problems
- Fosters Gender Bias

Greening Initiatives for Sustainable Economic Growth in India :

- Shift From fossil fuel nuclear Industrial era to a greener information rich solar age
- Strategic Water management based on 3 R principles (Reduce, Re-use and Recycle)
- Only 60% of Municipal Solid Waste is collected
- Plastic Waste : 60% is collected
- 56.87% Bio-Medical Waste is treated
- E- Waste Expected to Exceed 8,00,000 tonnes by 2012
- 49% indiscriminate and unscientific disposal of wastes
- 50% of construction & demolition waste is currently recycled
- Nagpur recognized as one of the cleanest cities in the country

- Indian Jatropha is being promoted
- Indian coal efficiency programmes
- Solar photovoltaic
- Improved cook stoves
- Installed capacity of wind energy 10800 MW
- Potential for wind energy development (WISE) 100 GW.
- USAID Installation of 200 MW of sugar cogeneration plants to offset one million tonnes of CO_2 annually.
- Platinum LEED Rating for ITC Ltd. Gurgaon building
- Green buildings : India Ranks 2nd (next to USA)
- 12000 MW of power generation from renewable Energy
 - 6500 MW wind energy
 - 3500 MW bio mass
 - 2000 MW small hydro Projects

Steps Being taken up by Govt. of India :

- Tariff incentives to enhance efficiency. Thus promoting renovation & modernization
- Super-critical technology for power generation
- Coal India Ltd. initiatives
- Energy labeling programme 2006
- Energy Conservation Building code (ECBC) 2007
- Energy Audits - 2007
- The National Urban Transport Policy
- The BUREAU of Energy efficiency introduced 'Bachat Lamp Yojana'
- Separate Green Courts established
- A host of fiscal incentives and facilities for manufactures & users of renewable energy

Climate Changes : Challenges before India

- To maintain its growth rate in an ecological sustainable manner;
- To set a road map to deal with climate change;
- To reduce long term growth in GHG emissions;
- To adapt to the consequences and mitigate the causes of climate change;
- To play an active role in developing global environmental policies

India's Future Mission

- National Action Plan for climate change comprises 8 missions
- National Solar Mission
- National Mission for Enhanced Energy Efficiency
- National Mission for Sustainable Habitat
- National Water Mission
- National Mission for Sustaining the Himalayan Eco-system
- National Mission for Green India
- National Mission for Sustainable Agriculture
- National Mission for Strategic Knowledge for Climate Change

The focus to promote

- Promote understanding of climate change.
- Adaption
- Mitigation
- Energy efficiency
- Natural Recourse Conservation

Suggestions for Green Economy :

- Development of fast reliable Public Transport System
- To go in for subsidized procurement of residues for use as fuel in power plants
- Explore the use of wasted coal Bed Methane a clean fuel for power generation
- To deploy concentrated solar power and transport the electricity generated through long range high voltage DC cable
- Design for environment
 - tool should be encouraged.
- Manufacturing of electrical cars, powered with photo voltaic batteries
- India per capita R & D expenditure should be increased.
- 'Green washing' to be discouraged with Stringent penalty/punishments

- Adoption of cost effective, energy efficient technologies in electricity generation, transmission, distribution
- Shift to renewable energies
- Promotion of forest conservation and afforestation /
- Improved agricultural practices to reduce methane emissions
- Promotion of Multi-lateral International Co-operation to finance technology transfers to developing countries supporting a transition to low Carbon energy sources.
- Encourage participatory approach to resource use
- To promote and encourage Corporate Social Responsibility

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Hence, dealing with climate changes is lengthy, difficult, and a challenging task

Its dimensions are

- Cross border
- Cross sector
- Multi Dimensional
- Multi Disciplinary

There is no single solution- Needs co-ordinated & concerted effects from one and all

To Conclude

“We still have to learn how to live peacefully not only with our fellowmen but also with nature”

»Schumacher.

Thank you
