

India:

Domestic Climate Change Actions after Durban

インド: ダーバン後の国内気候変動行動

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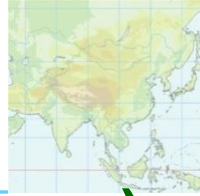
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July 24-25, Yokohama, Japan

Durban Platform for Enhanced Actions

更なる行動のためのダーバンプラットフォーム



(Building on the Bali Action Plan, Copenhagen & Cancun Agreements)

- 20 to 25% Emissions Intensity Reduction from 2005 to 2020 (1.5 - 1.9% decoupling)
- Per Capita Emissions Below OECD Average (for ever)
- MRV/ICA (International Consultation & Analysis) of Domestic Actions (Cancun)

Domestic Actions (Guided by National Climate Change Action Plan)

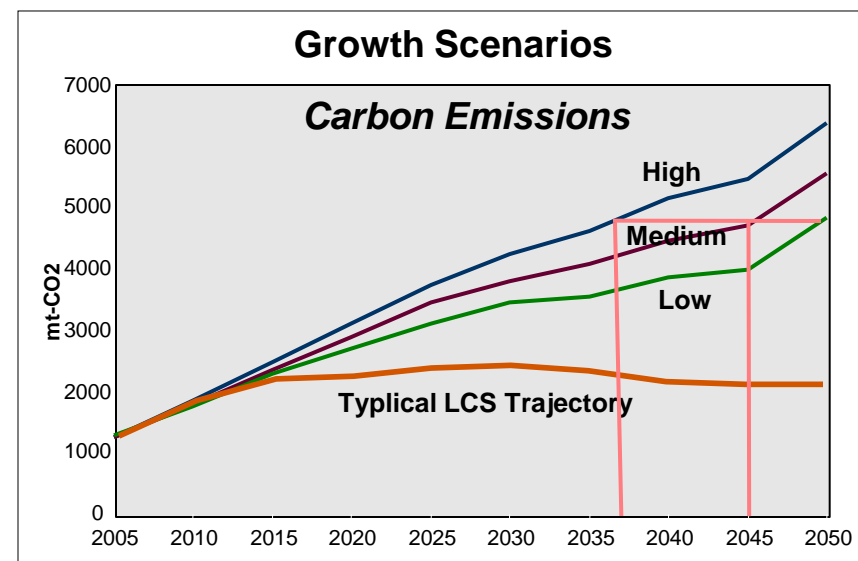
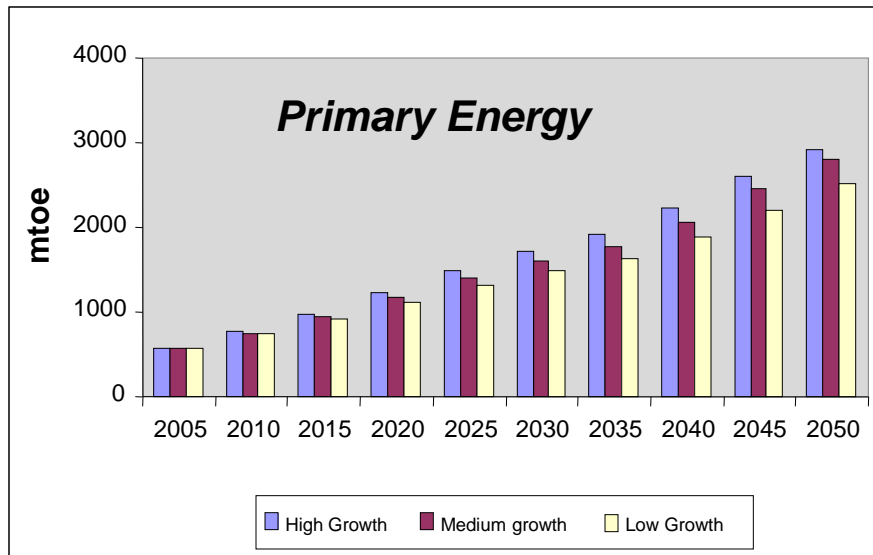
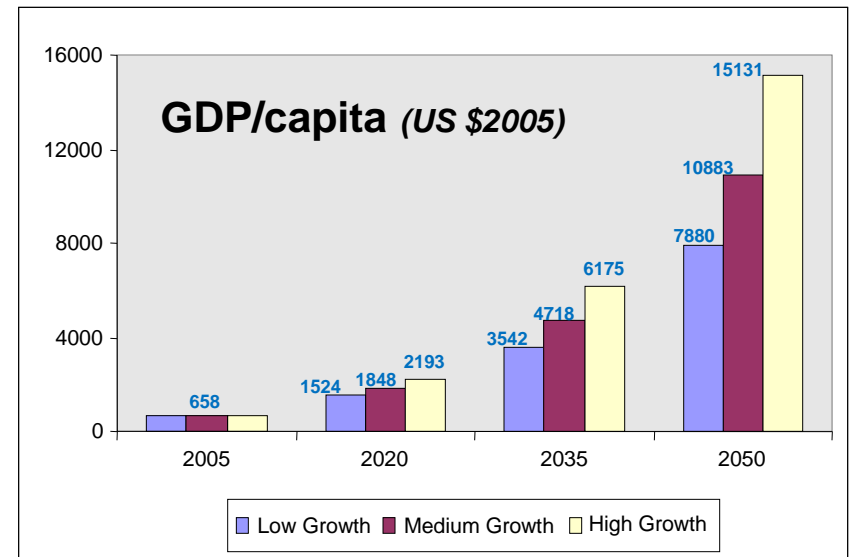
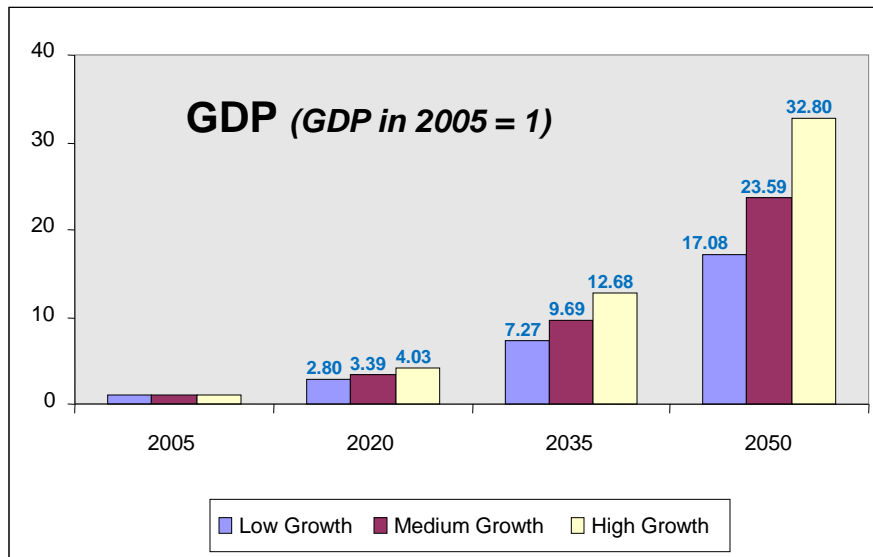
- Enhanced Energy Efficiency measures (e.g. PAT with EE Certificates, CAFE)
- Renewable Energy Push (e.g. 20 GW Solar PV Target by 2022, RE Certificates)
- Mission on Sustainable Habitat (e.g. Building Codes, Low Carbon Cities Planning)
- Coal tax (\$1 per ton) and recycling of tax funds for clean energy

International Instruments

- UNFCCC Instruments
 - CDM and NAMAs
 - UNFCCC Funds (e.g. Green Climate Fund)
- Bilateral Actions
 - Tech Transfer (e.g. CCS)
 - JVs (e.g. Transport: High Speed Rail, Freight Corridors)

GDP, Energy, Emissions: Indian Scenarios

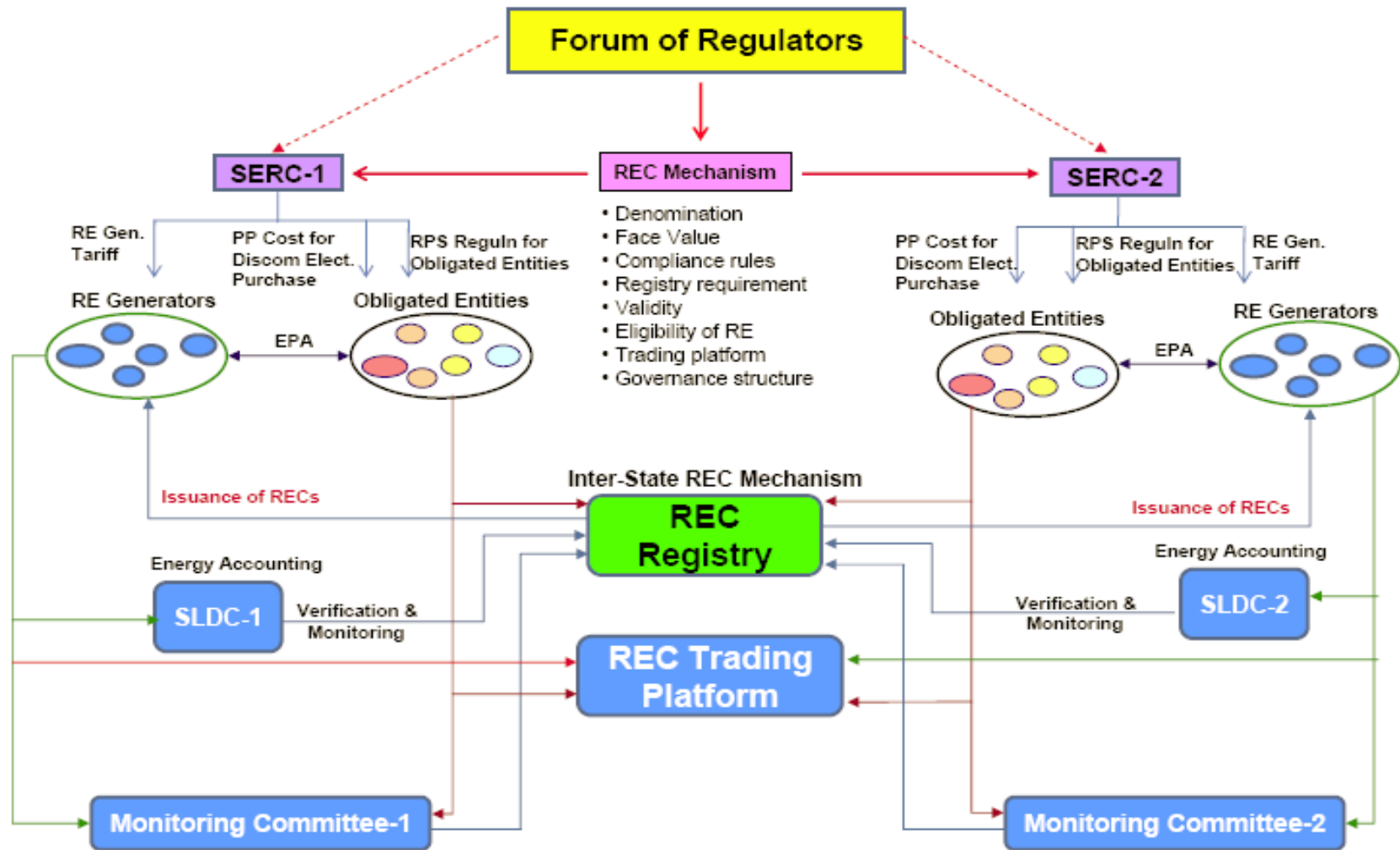
GDP、エネルギー、排出量：インドのシナリオ



Renewable Energy Certificate Mechanism:

Institutional Framework at National Level

再生可能エネルギー：国レベルの制度枠組み



NATIONAL MISSION ON ENHANCED ENERGY EFFICIENCY (NMEEE) エネルギー効率の向上に関する国家ミッション(NMEEE)

Four New Initiatives under NMEEE

As per National Action Plan on Climate Change (Para 4.2):

- A market based mechanism to enhance cost effectiveness of improvements in energy efficiency in energy-intensive large industries and facilities, through certification of energy savings that could be traded. **(Perform Achieve and Trade)**
- Accelerating the shift to energy efficient appliances in designated sectors through innovative measures to make the products more affordable. **(Market Transformation for Energy Efficiency)**
- Creation of mechanisms that would help finance demand side management programs in all sectors by capturing future energy savings. **(Energy Efficiency Financing Platform)**
- Developing fiscal instruments to promote energy efficiency **(Framework for Energy Efficient Economic Development)**

Perform, Achieve & Trade (PAT) Mechanism 省エネ達成認証(PAT)メカニズム

(The market based mechanism through cost effectiveness approach for improving energy efficiency in energy intensive sectors)

Methodology:

- **Specific Energy Consumption (SEC) reduction targets for the 685 energy-intensive units which are designated consumers under the Energy Conservation Act**
 - Targets would be % reduction of current SEC
 - Percentage reduction requirement based on:
 - Sectoral targets to achieve the national goal
 - Current SEC as a ratio of the best in the sector/ groups within a sector
 - Unit specific diversities (Next Slide)
 - Target setting for the power generation and fertilizer sectors through the existing tariff-setting processes
 - SEC measurement and verification by BEE through designated verifiers

Sector	No. of Identified DCs*
Aluminum	11
Cement	92
Chlor-Alkali	21
Fertilizer	22
Pulp & Paper	70
Power	154
Iron & Steel	110
Textiles	197
Railways	8

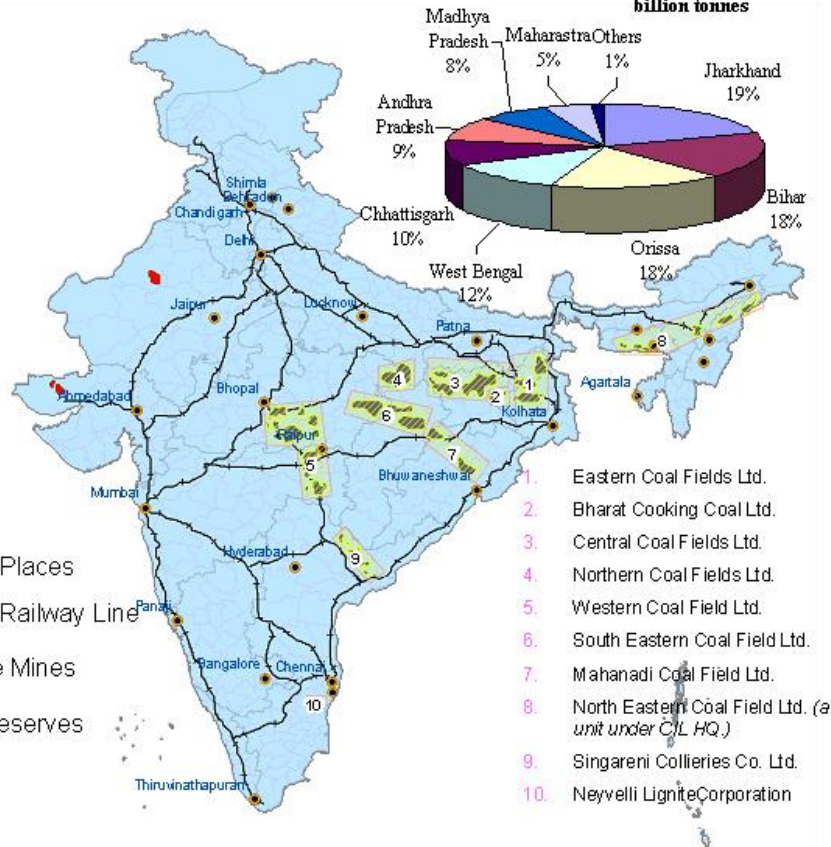
*DCs: Designated Consumers

Infrastructure Alternatives: Coal by Wire

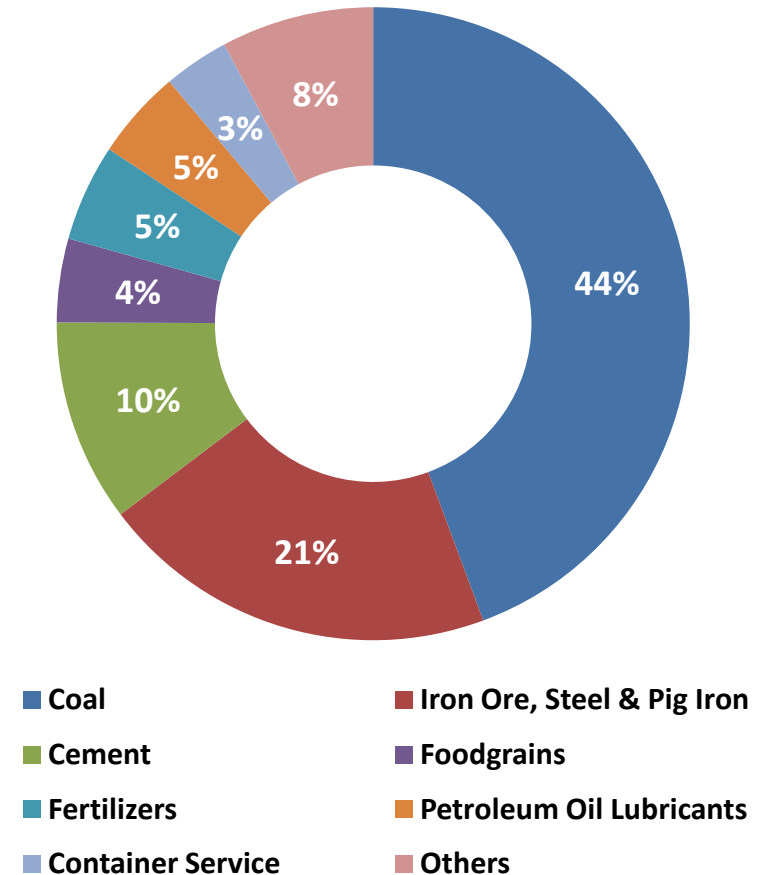
代替社会基盤(インフラ):石炭産地での発電と送電

State Wise Coal Reserves

Total Proven Reserves 959 billion tonnes

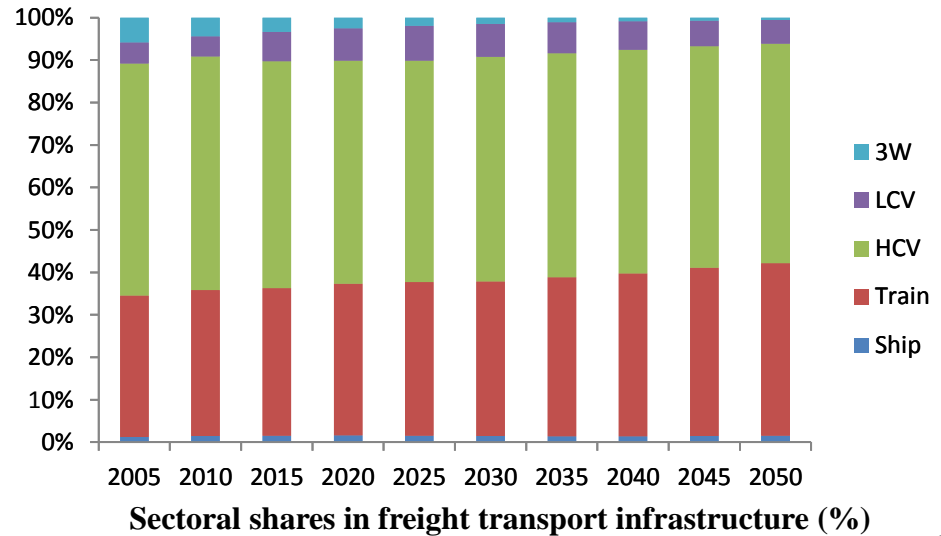
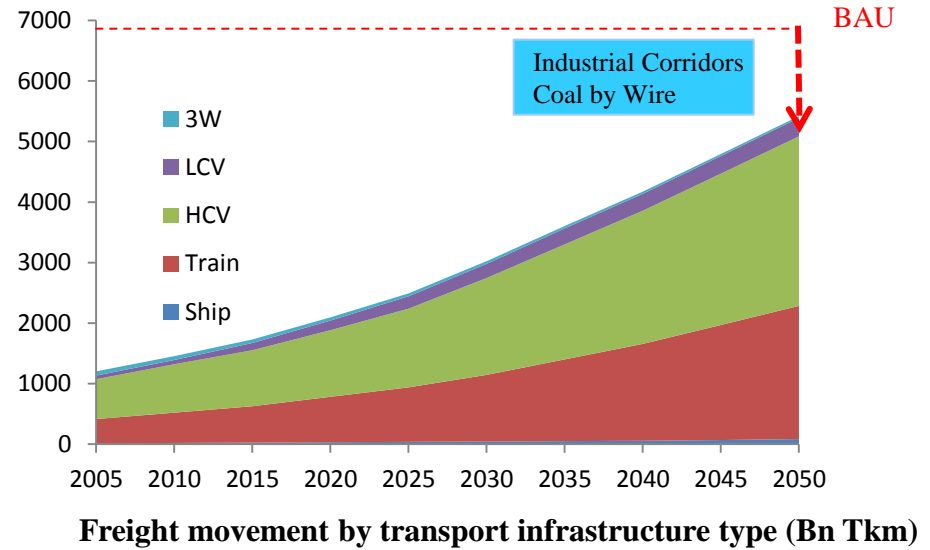
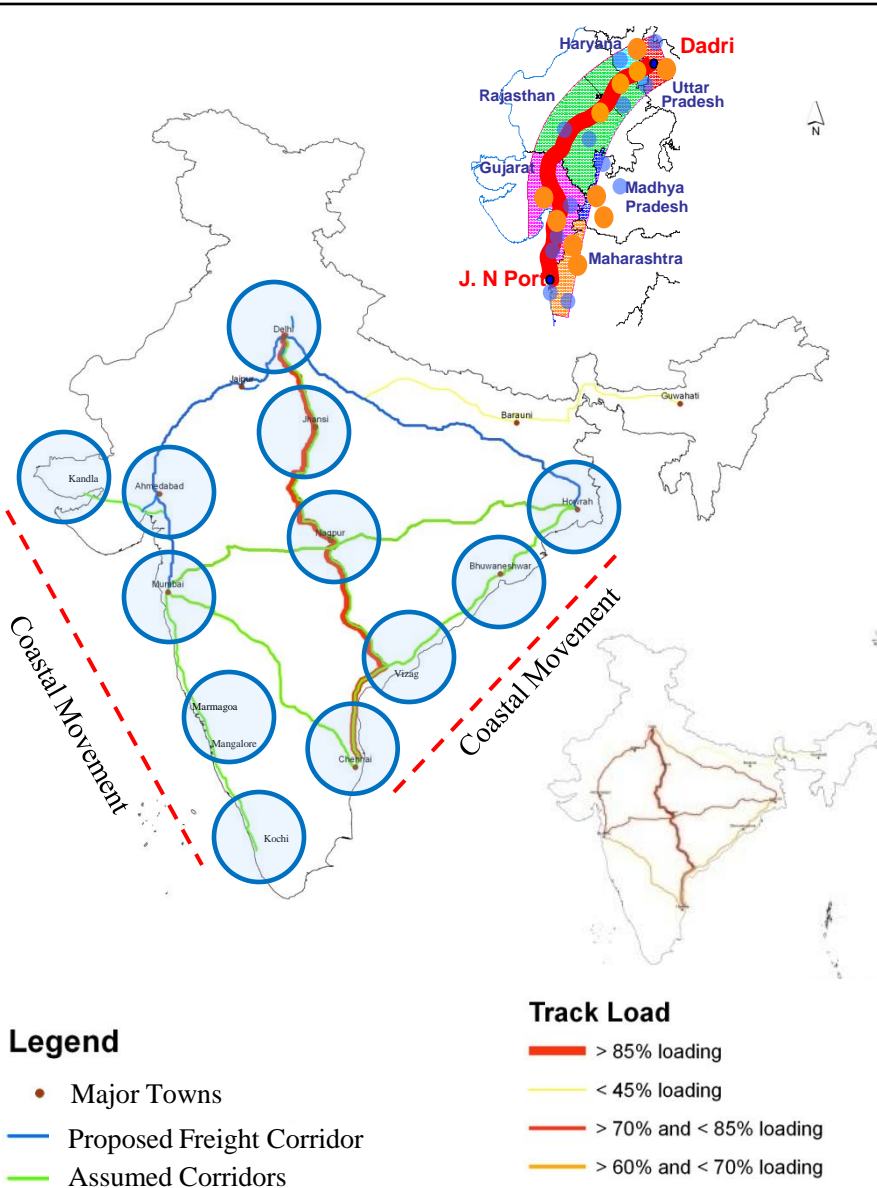


Composition of Railway Freight Traffic (%): 2010



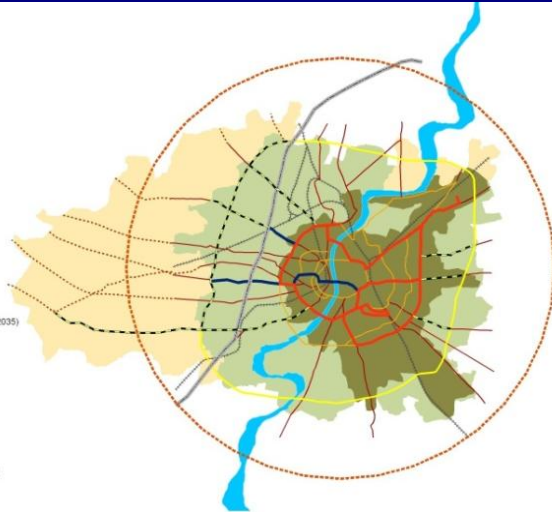
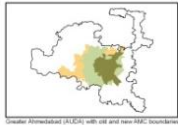
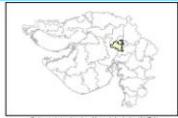
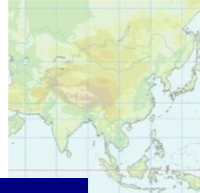
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交通基盤：ロック・イン（固定化）の回避



City Planning: Co-benefits

都市計画:コベネフィット(共便益)

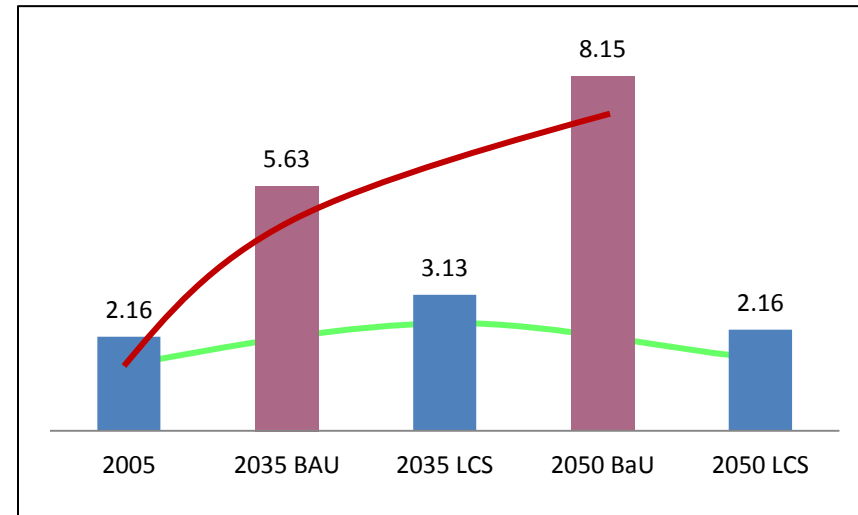


Note: Based on Ahmedabad Janmang Map, AMC 2010

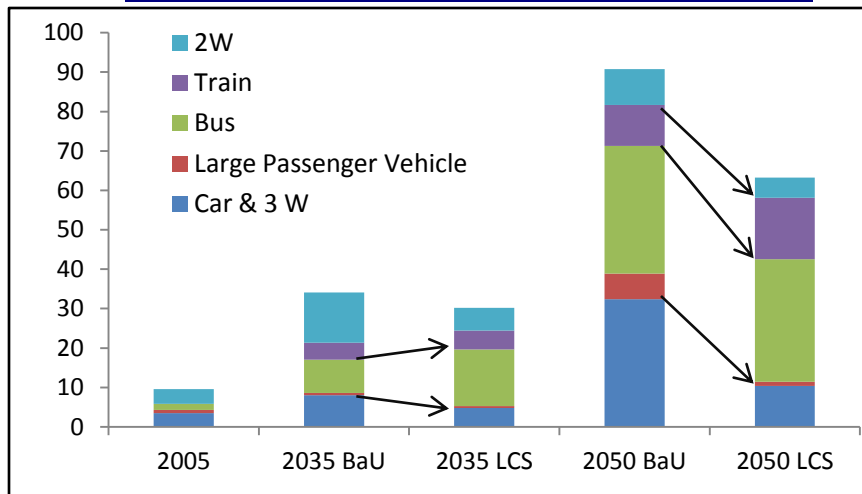
External boundaries not authenticated

Ahmedabad City: Pop. In 2010 - 5.5. Million

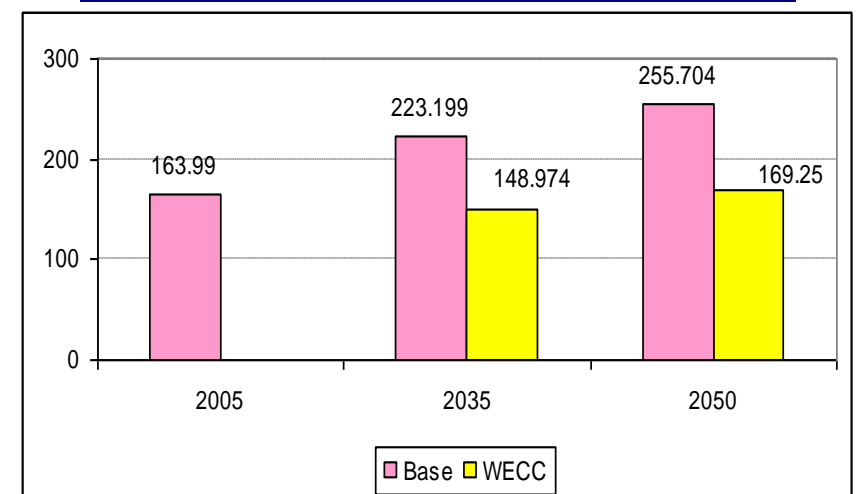
Per Capita CO2 Emissions (Ton)



Co-benefits: Transport Transitions



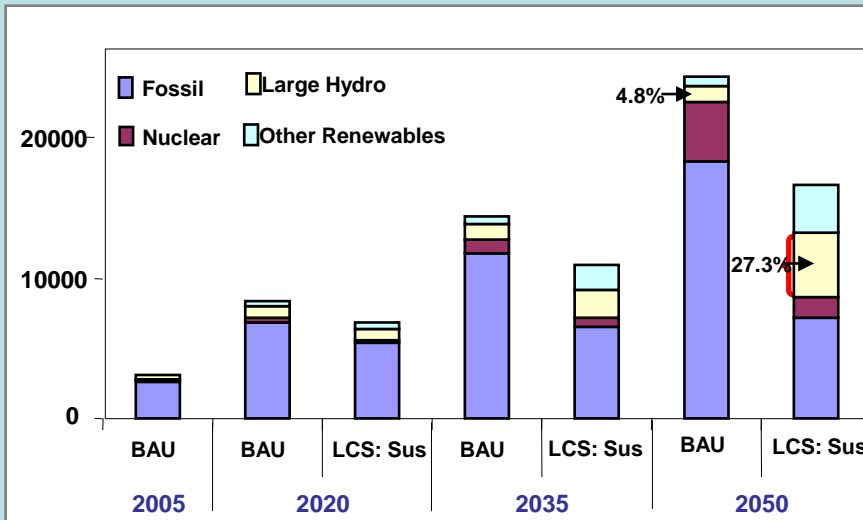
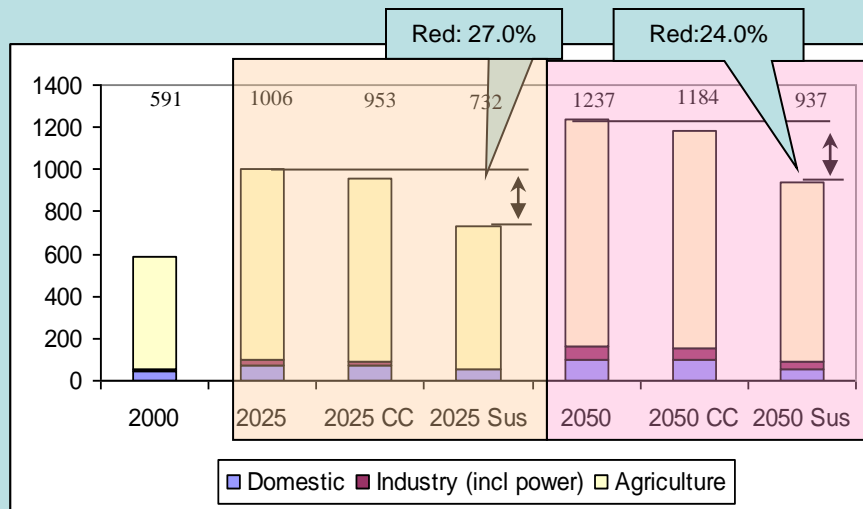
Co-benefits: Water per capita (ML/million)



Integrated Energy-Water Market: Co-benefits

統合的エネルギー・水市場:コベネフィット

INDIA: Water Demand (BCM)



Co-benefits of South-Asia Integrated Energy-Water Market

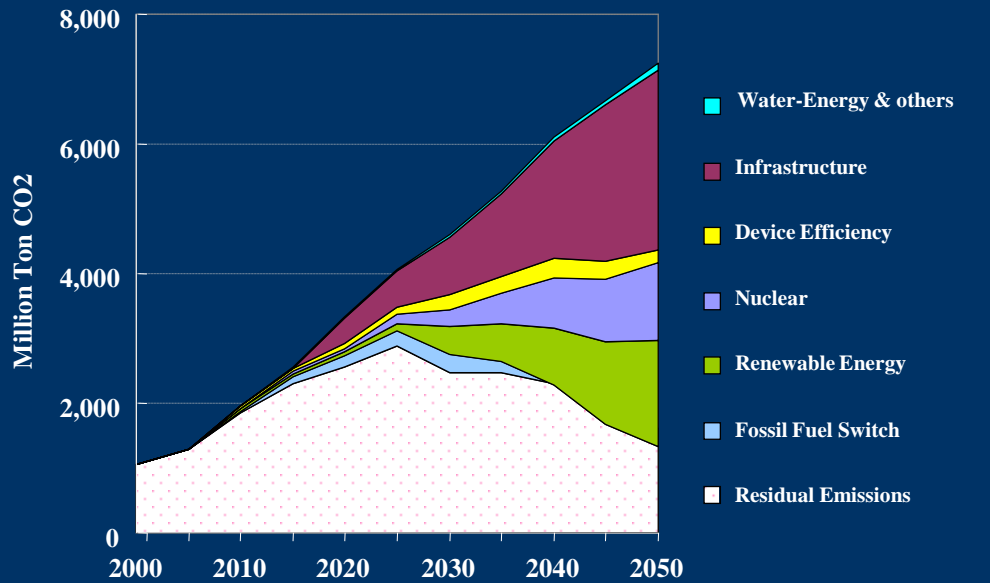
Benefit (Saving) Cumulative from 2010 to 2030		\$ Billion	% GDP
Energy	60 Exa Joule	321	0.87
CO ₂ Equiv.	5.1 Billion Ton	28	0.08
SO ₂	50 Million Ton	10	0.03
Total		359	0.9B8

Spill-over Benefits / Co-Benefits

- More Water for Food Production (MDG1)
- 16 GW additional Hydropower (MDG1&7)
- Flood control (MDG1&7)
- Lower energy prices enhances competitiveness of regional industries (MDG1)

2°C Stabilization: Mitigation Alternatives

2°Cへの安定化: 緩和代替手段



Conventional Approach: transition with conventional path and carbon price

- High Carbon Price
- Climate Focused Technology Push
- Top-down/Supply-side actions

Technology Co-operation Areas

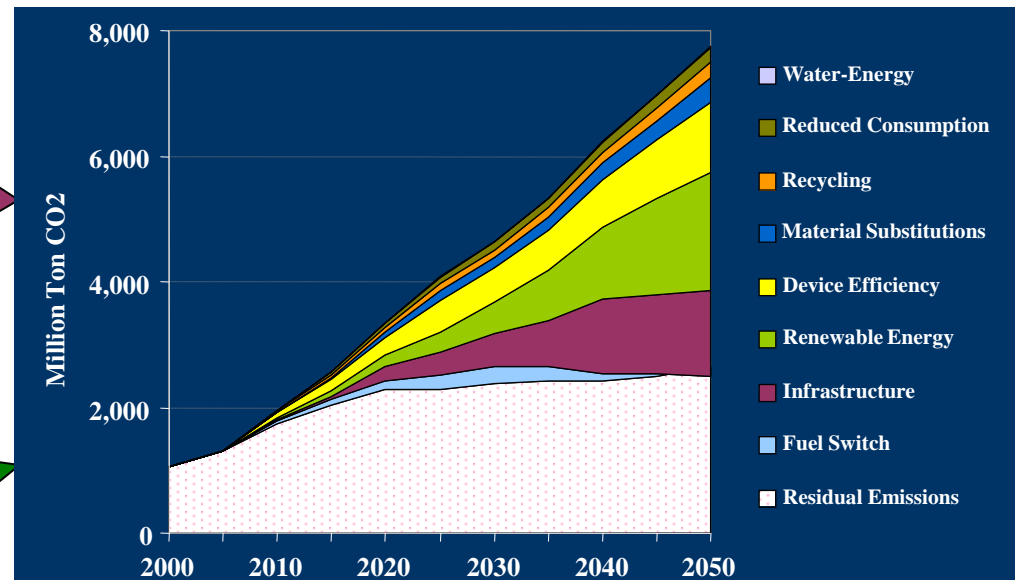
- Energy Efficiency
- Wind/Solar/Biomass/Small Hydro
- Nuclear/Low Carbon Infrastructure

Sustainability Approach: aligning climate and sustainable development actions

- Low Carbon Price
- Bottom-up/Demand-side actions
- Behavioural change
- Diverse Technology portfolio

Technology Co-operation Areas

- Transport Infrastructure Technologies
- 3R, Material Substitutes, Renewable Energy
- Process Technologies
- Urban Planning, Behavioral Changes

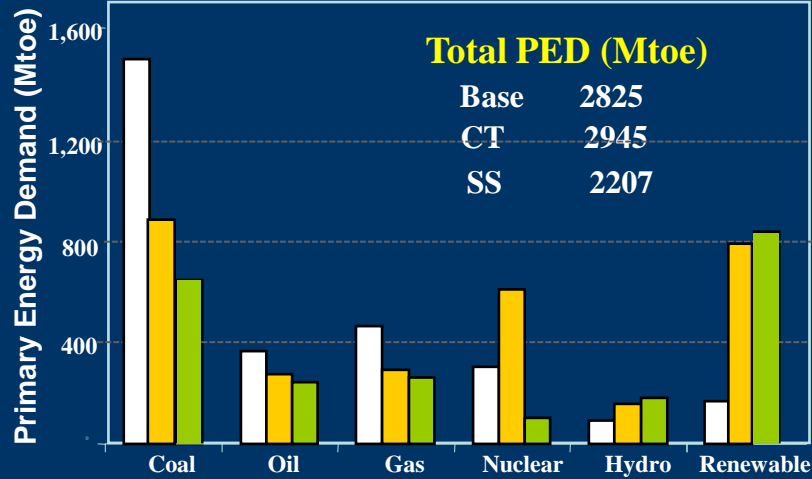


Co-benefits and Social Value of Carbon

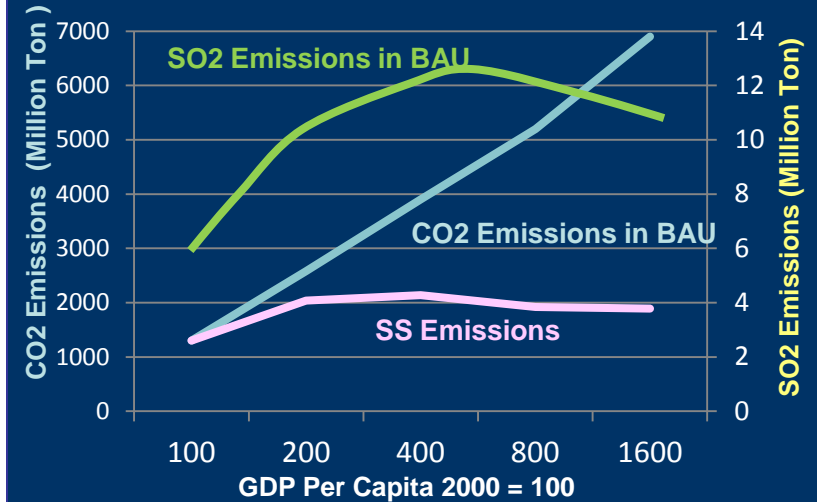
コベネフィットと炭素の社会的価値



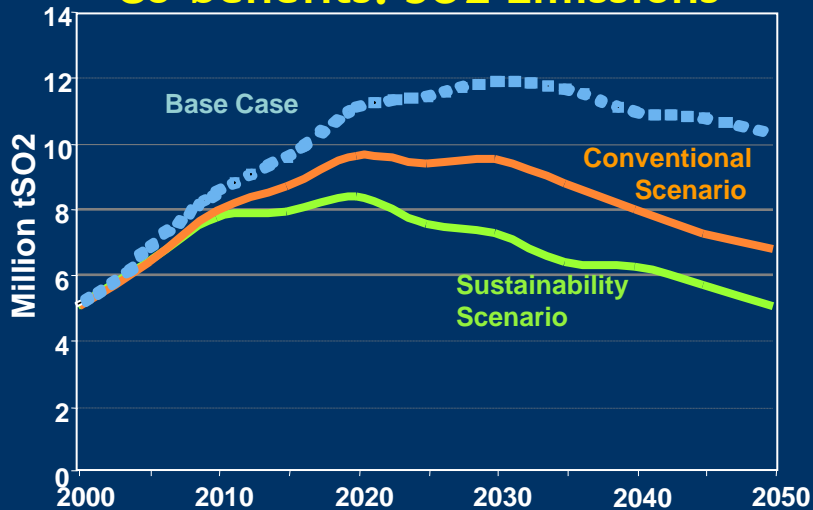
Co benefits: Energy Security



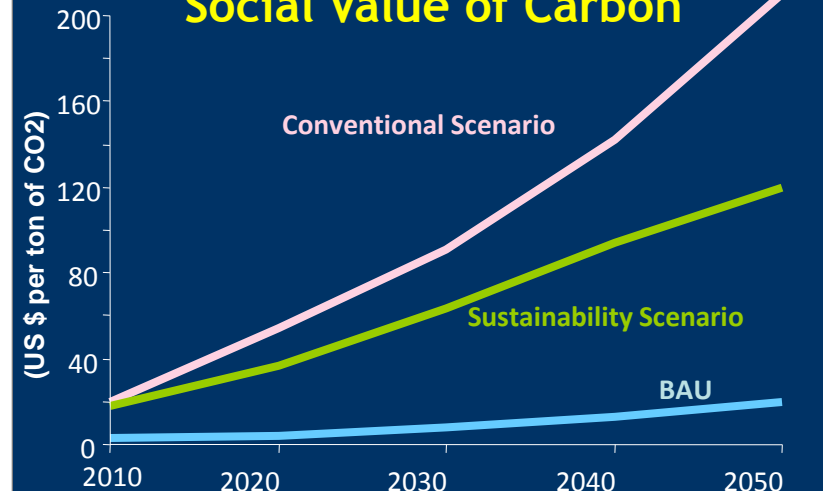
Emissions and Income



Co-benefits: SO2 Emissions



Social Value of Carbon



Conclusions 結論

India: Post-Durban Visions and Actions インドにおけるダーバン後のビジョンと行動

Long-term: Aligning CC & SD

1. Commitment to 2 deg. C Stabilization

- Early Actions for Global Peaking of Emissions

2. Green (and Inclusive) Growth

- Decoupling Economy from Energy Use and Carbon Emissions

3. Equitable Right to Sustainable Development

- Common but Differentiated Responsibility (CBDR)
- Long-term Cooperative Actions (Global/Multilateral)
- Technological (e.g. CCS, Rail Transport) and Financial Transfers

4. Avoid Long-term Lock-ins

- Investment in Infrastructures, human and social capital
- Enhance Adaptive Capacity

Conclusions

India: Post-Durban Visions and Actions



Short-term: Co-benefits and Capacity Building

1. National Missions to Deliver Co-benefits

- Clean Energy (e.g. Solar Mission)
- Energy Efficiency (e.g. Appliance Standards, Building code)
- Reduce, Reuse, Recycle (e.g. City Waste)

2. Cooperate with Multilateral Initiatives (e.g.)

- UNFCCC Flexibility Mechanisms (CDM)
- Asia Pacific Partnership on Clean Development and Climate

3. Preparedness for Adaptation (with Co-benefits)

- Assess Vulnerability in critical areas (e.g. Himalayan Ecology)
- Align CC Adaptation & other Risks (e.g. water stress, floods)

Thank you

