

India's Emissions and Energy Future

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Presented at

TT10: Transforming Asia: Challenges and opportunities for green recovery toward net-zero emissions

Institute for Global Environmental Strategies

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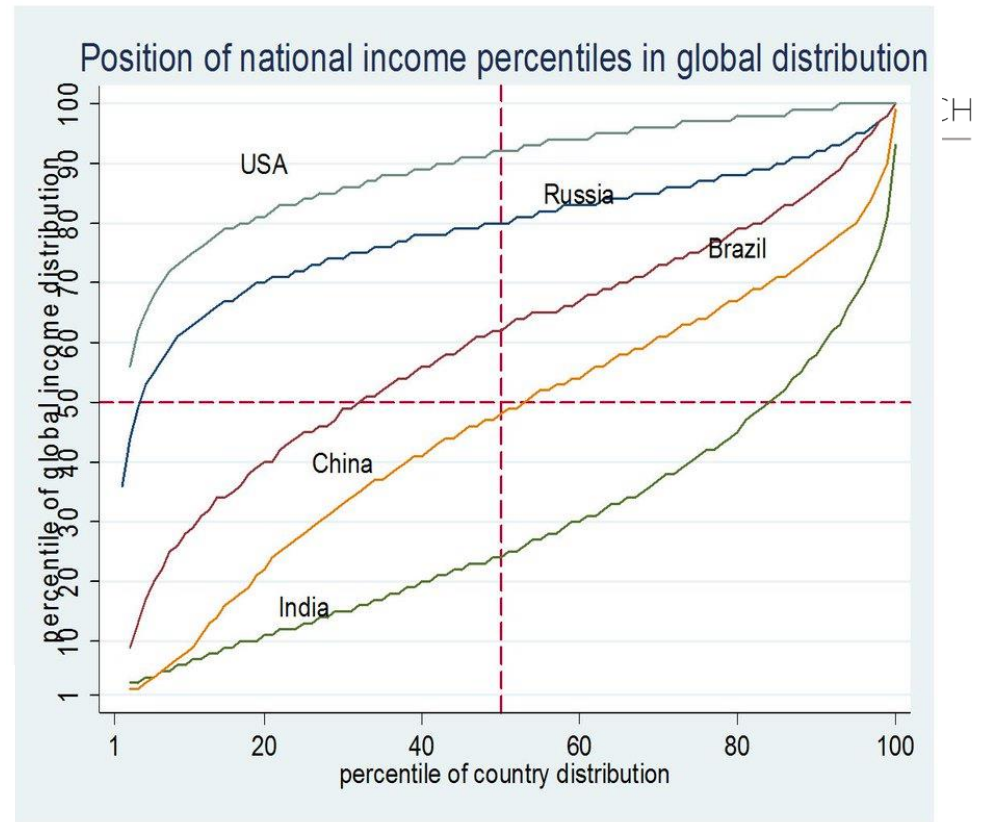
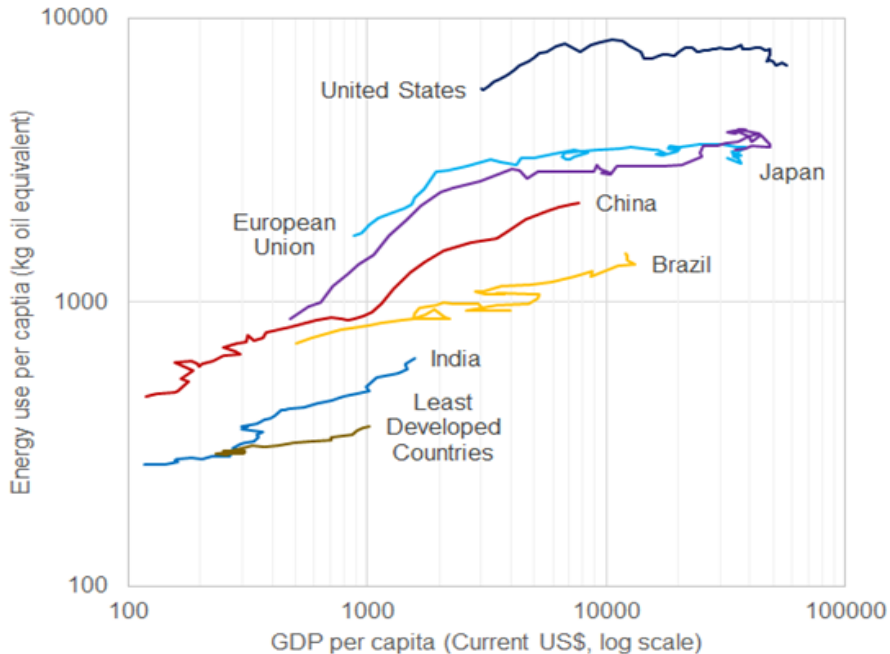
Outline

- Challenges of projecting energy and emission futures and implications for net zero
- Reflecting on India's Green Recovery Self-Reliance Package
- IGES Proposals: Critical Reflection

India's Challenges

- **~10 million** new jobs needed per year

Energy and economic growth from 1961-2017



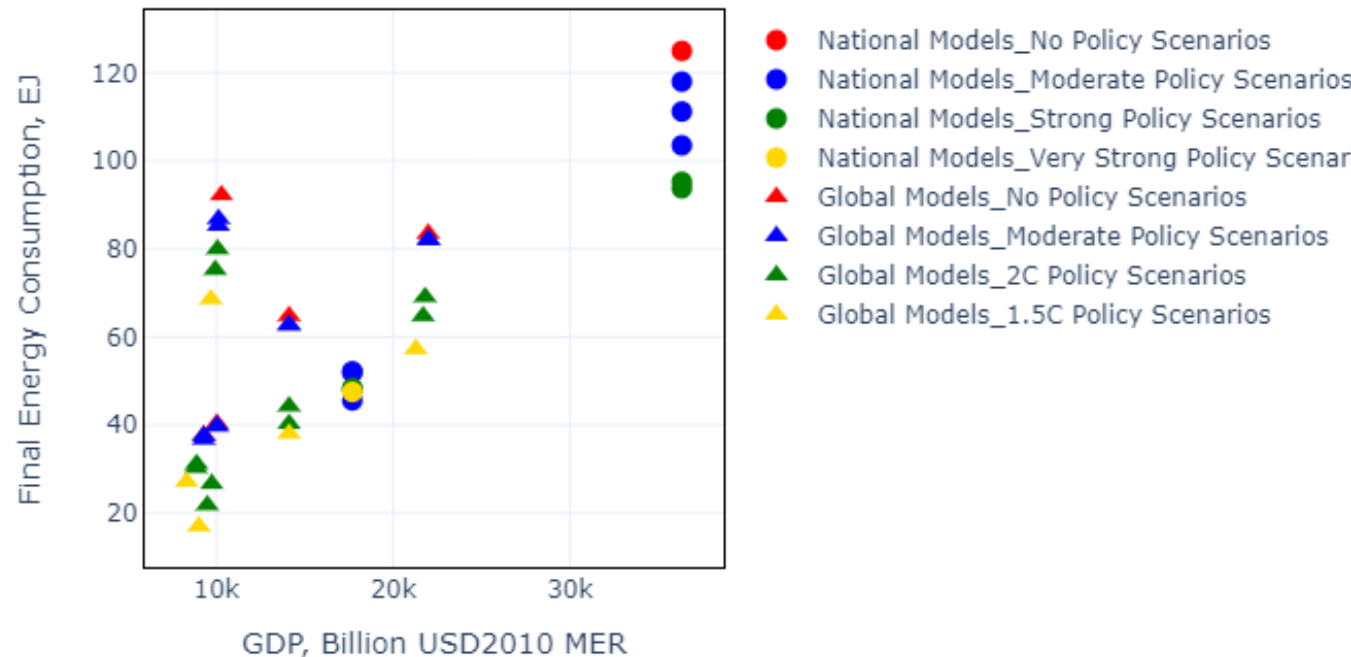
2.5 t/cap GHG emissions vs. world average of 6.7 (2014)

Image sources: 1. Branko-Milanovic (2013),
 2. CPR using World Bank data with data sources: PWC (jobs), WRI CAIT (emissions)

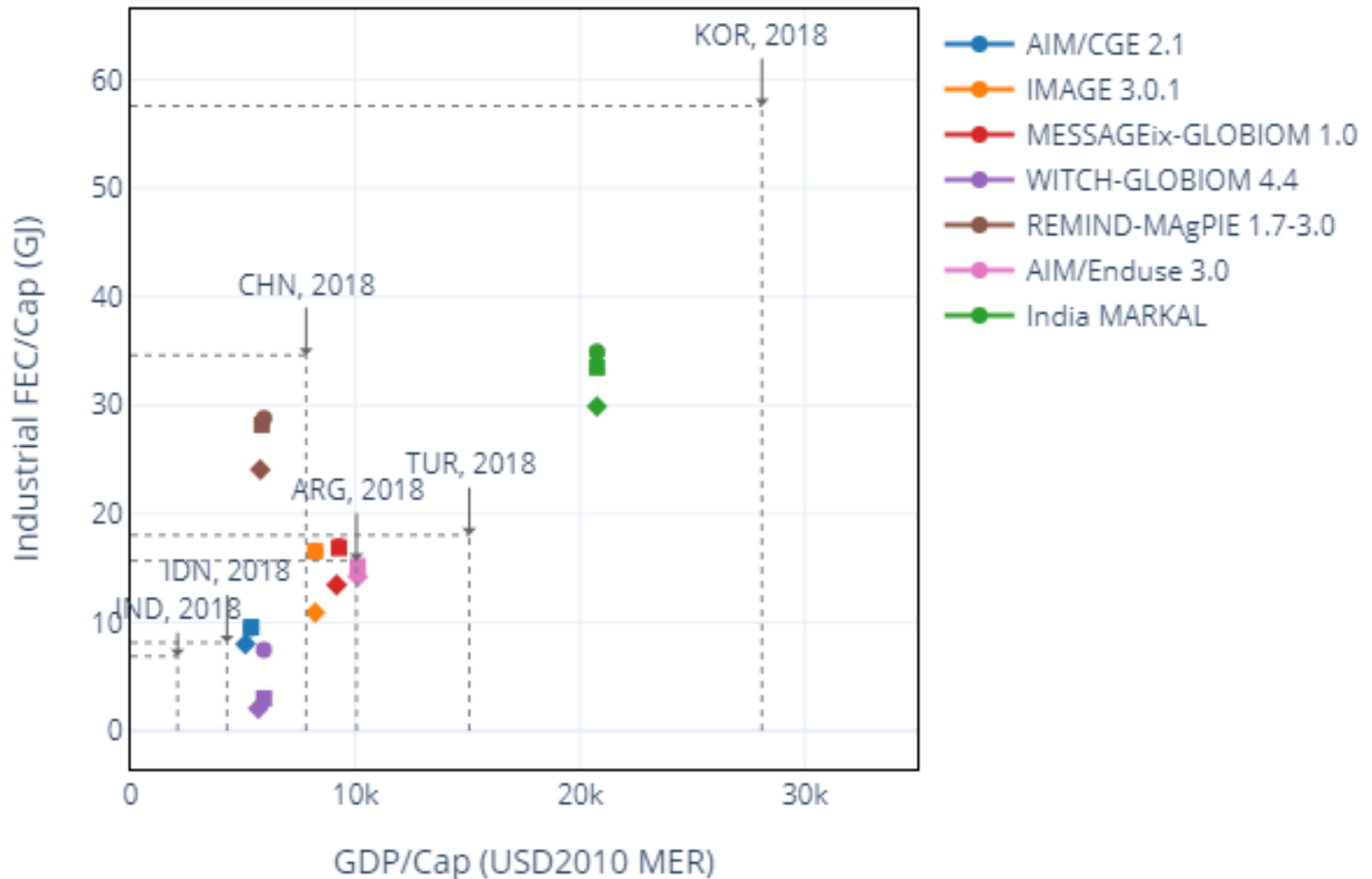
Projections of Future Energy Consumption Vary Widely

- Assumptions about macro structural attributes of growth
- Patterns of industrialization
- Patterns of urbanisation

Total Final Energy Consumption Versus GDP, 2050



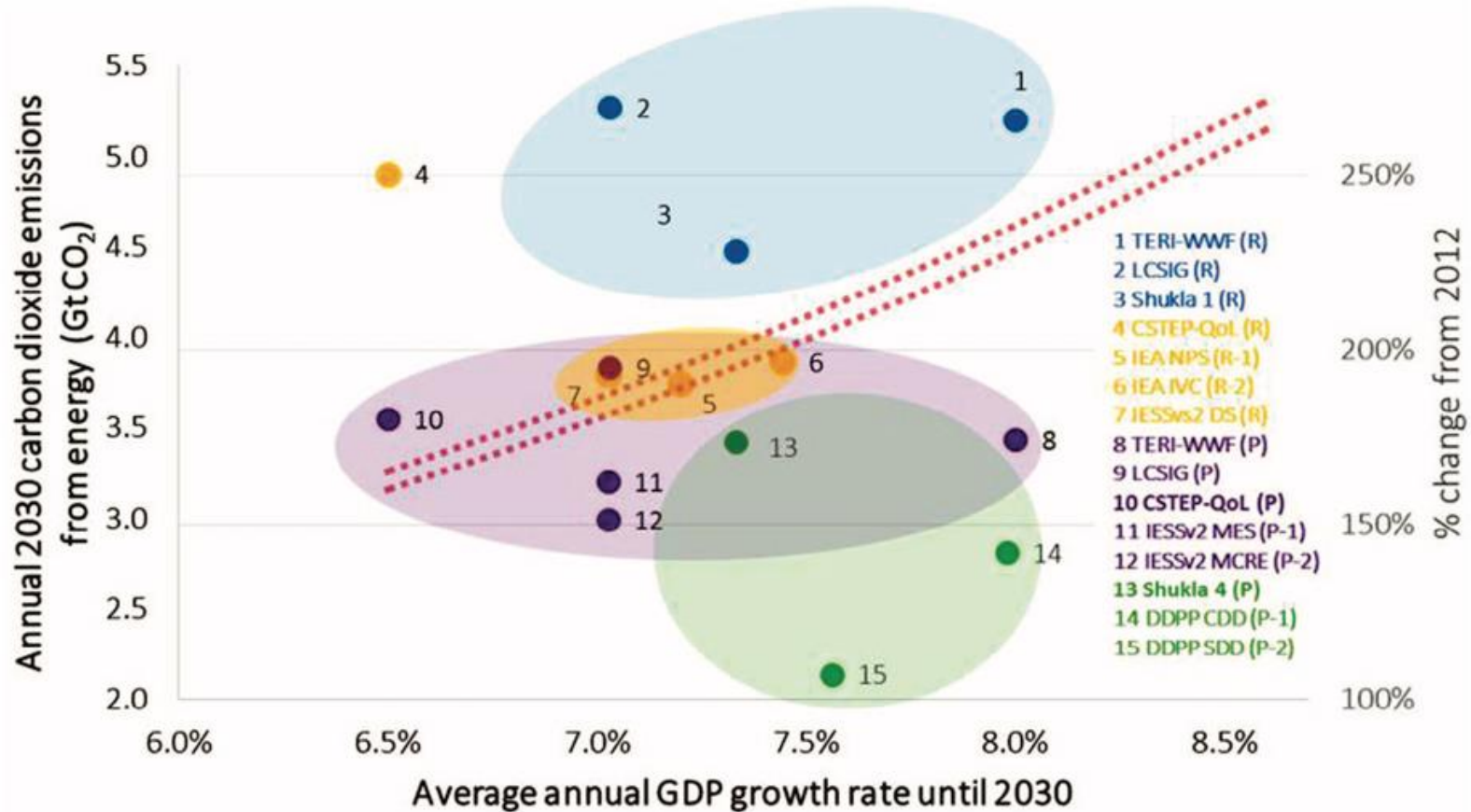
Industrial structure matters to energy and emission outcomes



Industrial Final Energy Consumption/capita, Scenarios for 2050 vs. historical benchmarks.

Source: Spencer and Dubash, work in progress

Emissions will Grow by 2030 But India is not the next China



- Reference Pre-2015
- Reference 2015
- Policy - National
- Policy - Hybrid
- INDC 33%-35% intensity reduction

Implications for Net Zero Targets?

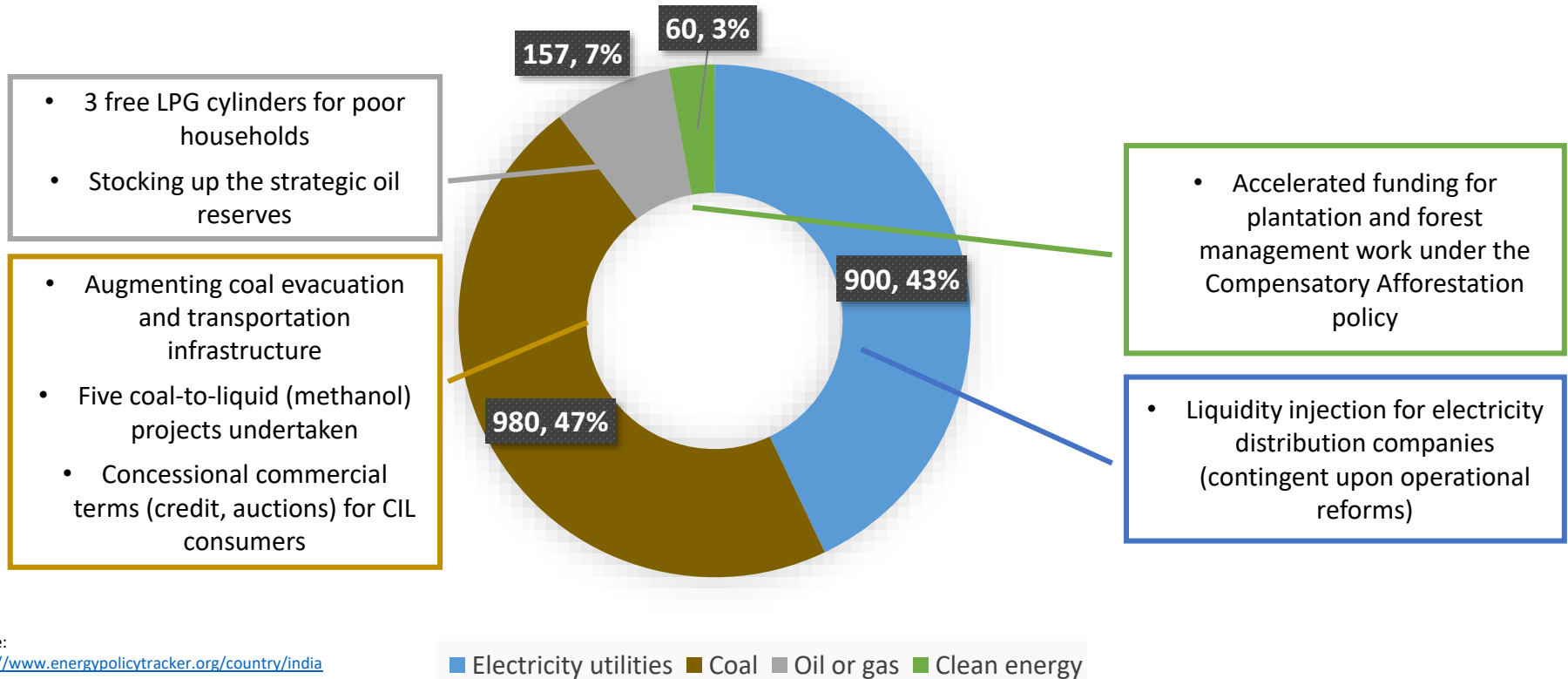
- Predictability of energy and emissions future is challenging in rapidly changing economies with high development needs
- Future net zero targets may be a limited guide to action today
 - Short-term visions informed by long-term goals implies strong institutional structure
- Focus on development co-benefits is more likely to drive shifts in energy policy and long-term strategy
 - Air pollution
 - Congestion in cities
 - Energy security
- Avoid lock-in to high carbon pathways today
 - Industrialisation patterns
 - Urbanisation patterns
 - Behavioural choices

India's COVID Recovery Package – How Green?

Total: USD265 bn (10% of GDP)

More realistic estimate = 2% of GDP, excluding central bank action, and existing measures

Major green/brown expenditures in recovery package (INR bn,%)



Source:

<https://www.energypolicytracker.org/country/india>

Key brown and green measures without quantifiable commitments

Brown measures

- Introduction of commercial mining in coal sector
 - entry of global players
 - immediate auction of 41 mine blocks
- Rebates for coal extraction ahead of schedule
- Coal bed methane (CBM) rights from CIL mines to be auctioned
- Roll back of environmental impact assessment regulations and coal washing regulations

Green measures

- Continued must-run status for RE
- Waiver of transmission charges for renewable energy over inter state transmission network till 2023
- Extension of safeguard duty on solar PV import from China, Thailand and Vietnam
- Accelerated funding to support plantation and forest management work (~INR 0.06tn)

Other relevant measures

- Privatization of distribution in Union Territories
- Temporary excise duty increase on petrol and diesel (primarily to raise funds for the Govt.)
- Policy signal towards reducing import dependence

Sources:

https://coal.nic.in/sites/upload_files/coal/files/curentnotices/PIB-Coal-20052020.pdf

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1624536>

<https://www.energypolicytracker.org/country/india>

Could India's COVID Recovery Package help Greening?

- Size: USD 265 bn (10% of GDP),
 - 2% of GDP more realistic estimate, excluding central bank action, and existing measures
- Overwhelming focus on protection
 - liquidity injection, especially for MSME sector and farmers
 - Emergency foodgrain provision
- Some support for renewable energy, but also support for coal
- Recognise fiscal limits
- Limited exploration of structural changes
 - Accelerated phase out of old coal-fired plants
 - Rural Employment Guarantee for ecological restoration
 - Shifts in cropping patterns toward more ecological sustainability

Reflections on IGES Proposals

- Integration of climate and development may not be sufficient, but it is necessary, and may yield more policy changes than abstract net zero targets
- Recovery packages should prioritize jobs, and structural changes that create green jobs
 - Market may not support efforts at coal promotion
 - Distribution sector reform more important than shovel ready projects
- Energy interconnection in Asia requires very strong basis for political cooperation that may not exist presently
- Collaboration around shared problems, especially air pollution, is promising
- RE integrated into a vision of 21st century urbanization
- Geopolitical elasticity: ambition gap PLUS implementation gap
 - net zero to plug an ambition gap
 - stronger institutions and sectoral shifts to plug an 'implementation gap'

Thank you

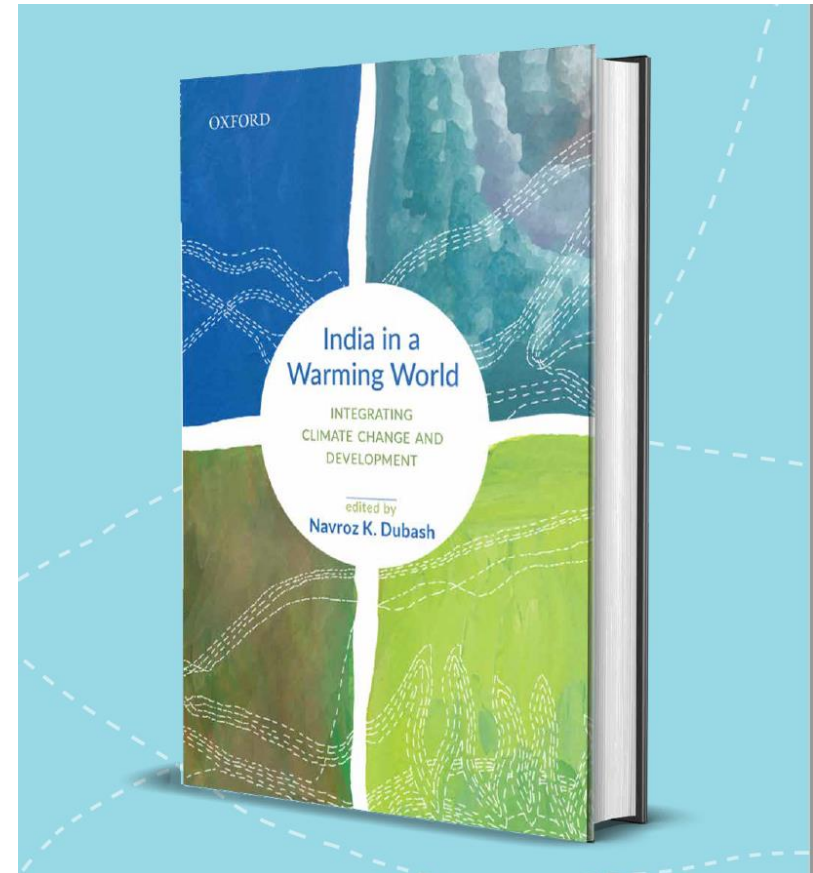
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