

# Securing low-carbon growth strategies in India: Understanding potential policy incentives and barriers through expert analysis

**VENKATESH DUTTA, NATHAN HULTMAN**

SCHOOL OF PUBLIC POLICY, UNIVERSITY OF MARYLAND

**PURNAMITA DASGUPTA**

INSTITUTE OF ECONOMIC GROWTH, DELHI

**July 30, 2012/ICRIER, New Delhi**



MacArthur  
Foundation

**Stakeholders Conference: Strategic & Economic Capacity  
Building Programme**

# Aspirations of India's climate and development policy

## Climate Policy

- NAPCC targets & missions: securing energy & resources, arresting ecosystems degradation and climate change
  - Adaptive capacity & mitigations
- Commitment of reducing emission intensity of economy
- Advocating UNFCCC's Article 2 and Article 3.1 (C-DR)

## Development Policy

- Sustaining a rapidly developing economy
  - Macro-economic Issues
  - Globalisation and International Trade
- Inclusive Growth
- Poverty alleviations

# India's emission outlook

- Emits 4.9% of global GHG e-, lowest per-capita in the world - 1.18 tonnes of CO<sub>2</sub>e, 1/4<sup>th</sup> of global average of 4.38 tCO<sub>2</sub>e, less than 1/10<sup>th</sup> of those of most developed nations.
- India becomes third largest emitter around 2015. However, India's contribution in global cumulative emission from 1900-2005 is only 2% (China- 16%, US 25%, EU27-18%).
- CO<sub>2</sub> emission jumps from 27 Gt to 42 Gt (Reference Scenario) from 2005 to 2030 globally. China and India account for 56% of this increase (IEA, 2010).
  - In the alternate scenario (efficiency improvements, structural changes in economy and fuel-switching), it becomes around 34 Gt in 2030.
  - India reduces e- by 0.9 Gt.
- In 2030, per-capita e-will double from 2005 level, but will remain only 1/5<sup>th</sup> of the OECD (WRI, 2012).

# Development reality

- Raising QoL of almost half a billion people to decent levels
  - 1/3rd of global poor
  - 300 million survive on less than 1\$ a day, 69% people make only 2\$ a day (World Bank, 2012)
- Energy – ‘quality’ and ‘access’ is a big challenge
  - Per-capita use of electricity is 700 kwh, less than 1/4<sup>th</sup> of global average of 2752 kwh
  - Bridging the demand-supply gap – 400 million no electricity, peak dd deficit of 13%, T&D losses 30%
  - need 300GW in next 5 years
- Dependence on imported fossil-fuels up by 40% at the end of 12<sup>th</sup> FYP

## Expert opinion on low-carbon inclusive growth in India

Section 1	General issues
Section 2	Inclusive growth and low-carbon development
Section 3	Domestic actions and capacity
Section 4	Barriers to low carbon growth
Section 5	International partnerships and support
Section 6	Policy options for low-carbon growth

Senior experts from following organizations were interviewed: DFID, MoEF, TERI, CII, FICCI, Winrock International India, CSTEP, DHI, Prayas, Ecolibrium)

(Government: 12%; Research and Policy think tanks: 36% , Academia: 32%, Industries: 20%)

# Inclusive growth

- **There is no consensus on definition of inclusive growth –**
  - The concept is vaguely described, and there are no guidelines as to how it can be made operational.
  - the contribution of low-carbon initiatives being undertaken on inclusive growth is currently unclear.
- **Low-carbon initiatives don't sufficiently exploit co-benefit opportunities of climate mitigation and inclusive growth**

# Development vs Climate Change

- **More than one third of the experts felt that poverty and lack of basic infrastructure are the top two most serious problems constraining India's growth.**
- **About 63% of the respondents feel that India should first focus on developmental needs regardless of restricting carbon space as development needs are huge.**
- **About 16% respondents feel that a determined effort to bring down carbon intensity will impose a high cost burden on India's economy and constrain growth.**
  - **21% remain neutral and 63% disagree.**

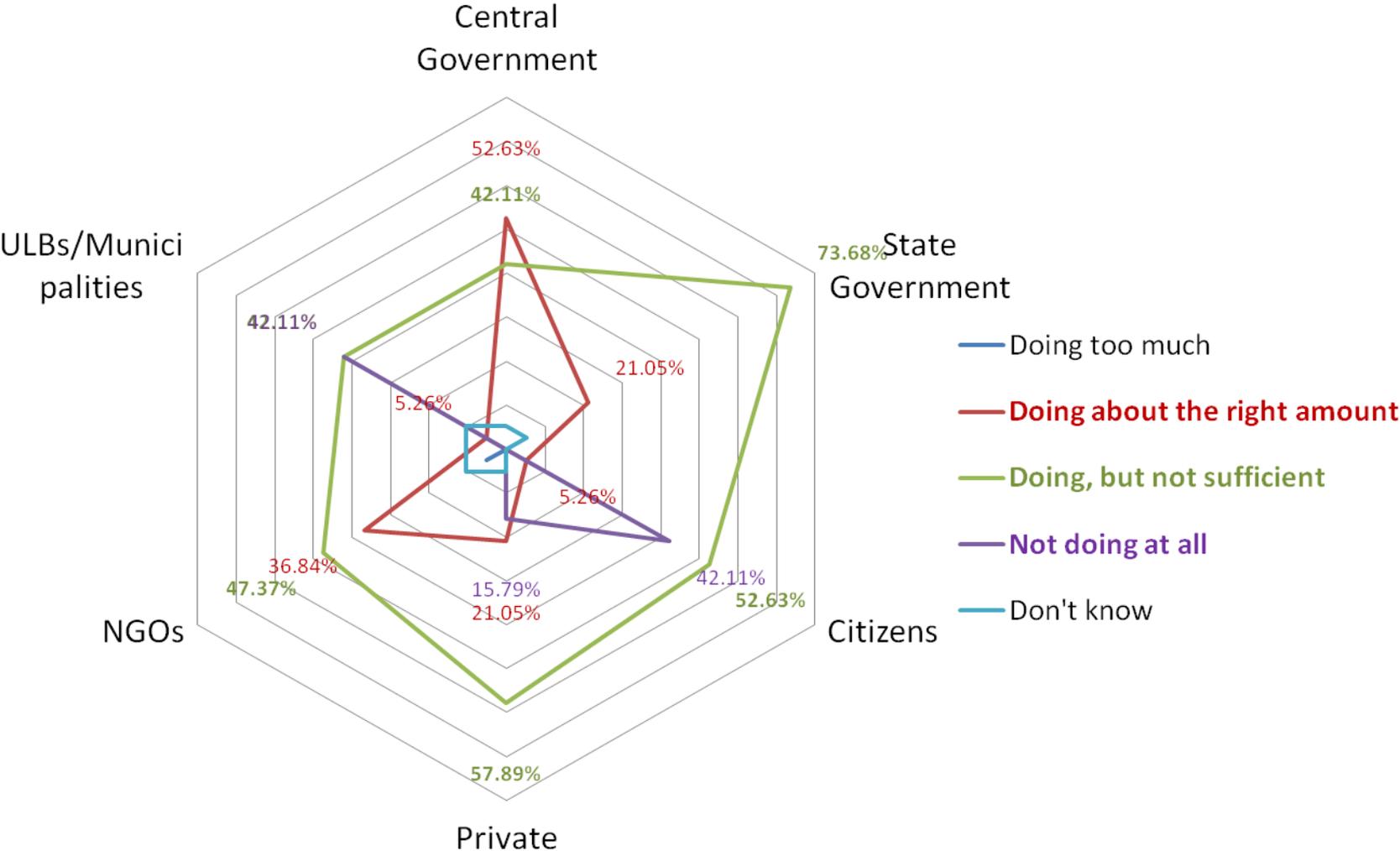
# Low-carbon inclusive growth

- About 73% of the respondents believe that low-carbon growth priorities can be integrated with inclusive growth for better development outcomes.
  - 27% respondents feel that it is better to focus them separately rather than integrate into one objective.
- About 60 % respondents feel that investment in low-carbon initiatives will bring about poverty reduction
  - 21% feel that it will reduce poverty more than marginally.
  - Close to 16% of respondents think that investment in LC will not cause poverty reduction.

# Institutional set-up to deal with climate actions

- Only 5% of the respondents observe that local bodies and city governments have adequate institutional set-up to deal with climate responsive strategies/actions.
  - 58% respondents felt there is insufficient institutional set up, while 32% feel that there is no institutional set up at all.
- Institutional crisis will expose the climate governance offering a chance for retrofitting and renewal.

# Current levels of climate actions and programs being undertaken by different stakeholders



# Barriers to low-carbon growth

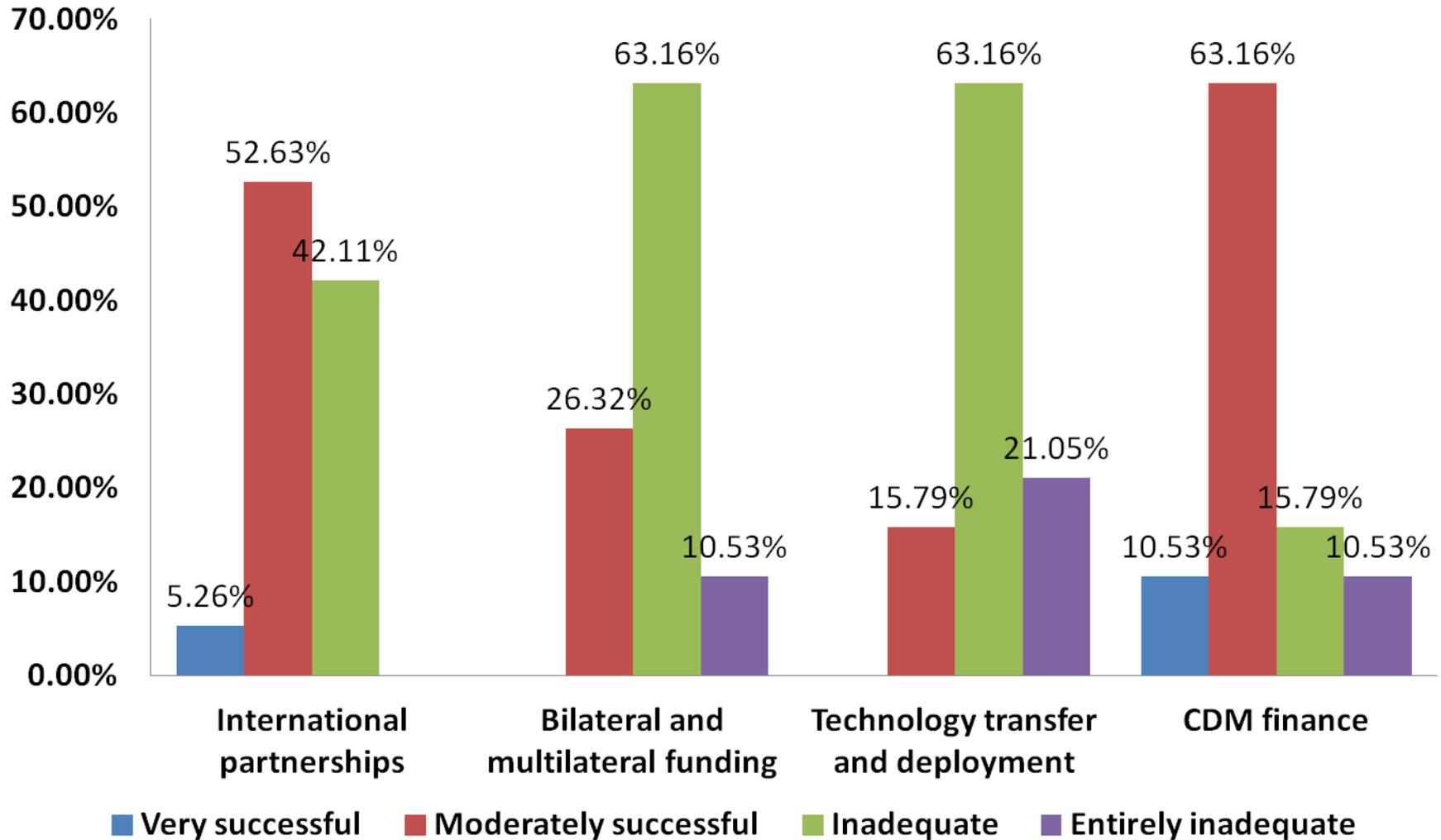
<b>A</b>	<b>High cost of cleaner and new technology – capital and O&amp;M</b>
<b>B</b>	<b>Limited access to private capital</b>
<b>C</b>	<b>Split incentives – cost/benefit mismatch</b>
D	Cleaner and new technology has negative externalities
E	Lack of clear regulation
F	Inadequate institutional mechanisms
G	CDM institutions are overburdened
H	Lack of knowledge and awareness about the seriousness of the problem



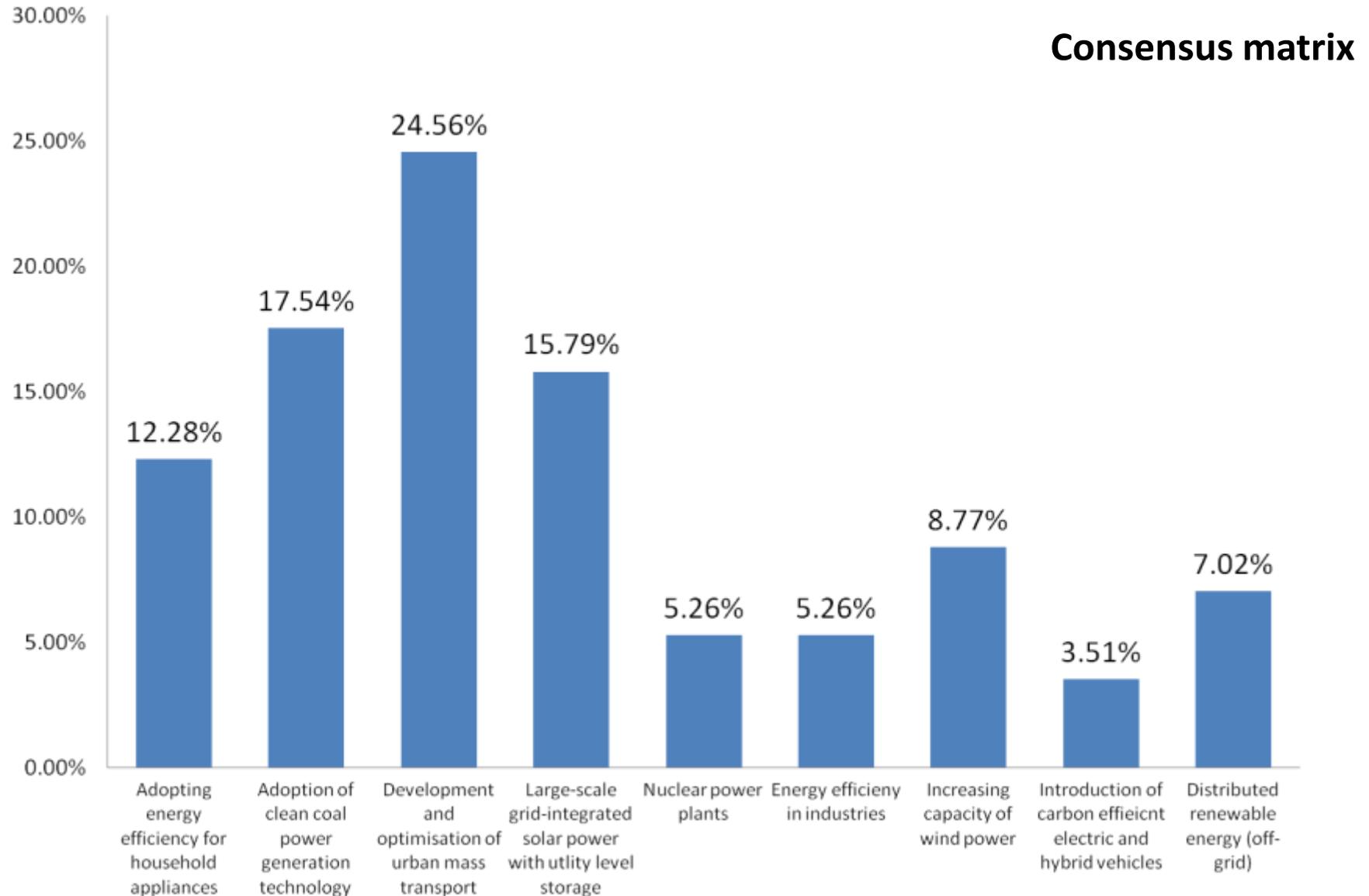
# International partnership and support

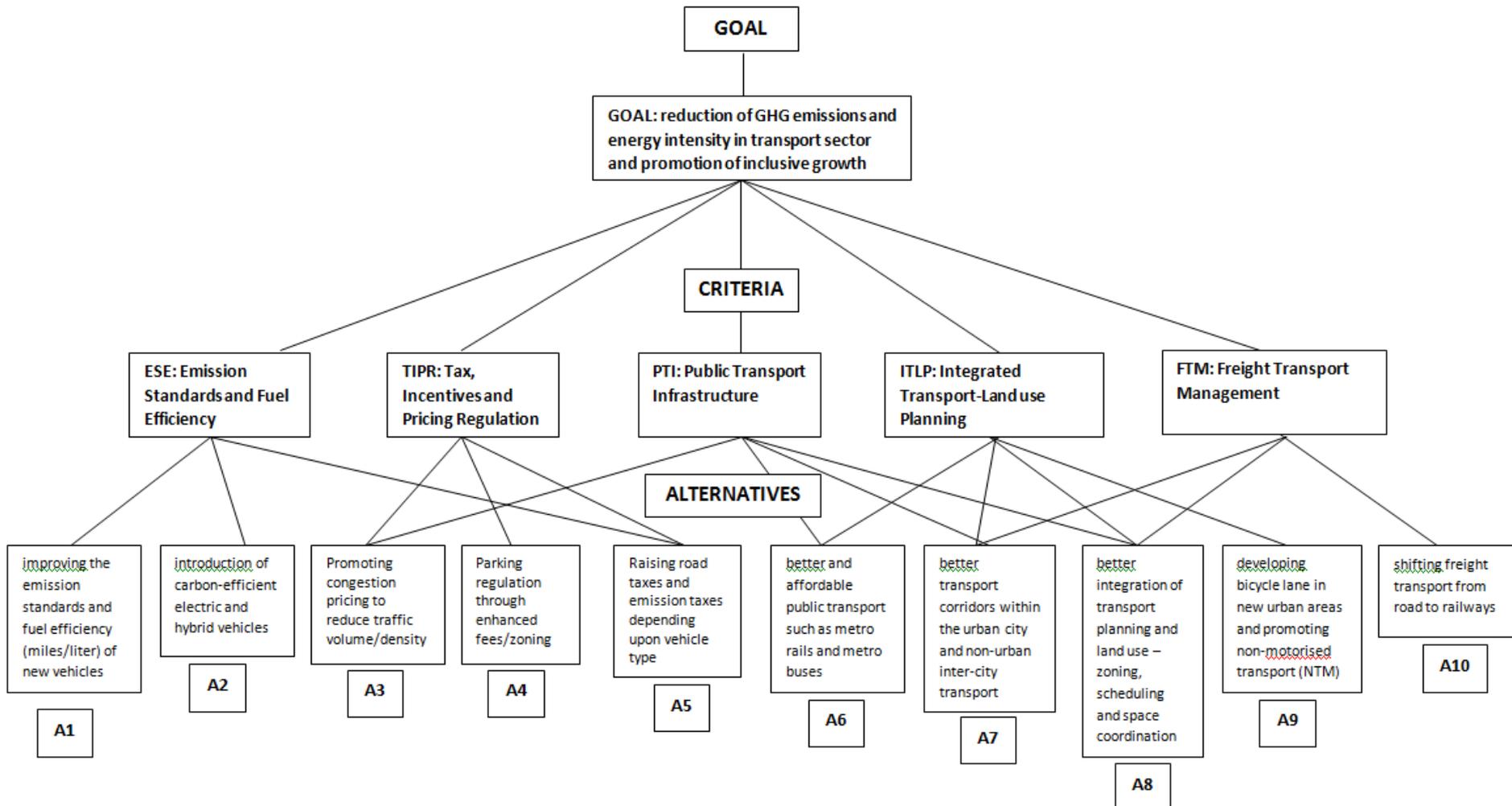
- 47% of the respondents disagree on a treaty that requires India to legally cut its emissions at the end of the second commitment period (2017).
  - 32% remain neutral while 21% support on binding agreements at the end of Kyoto's 2<sup>nd</sup> comm. period
- 80% of respondents support India's position on getting financial and technical assistance from Annex 1 countries on the basis of historic climate burden and equity.

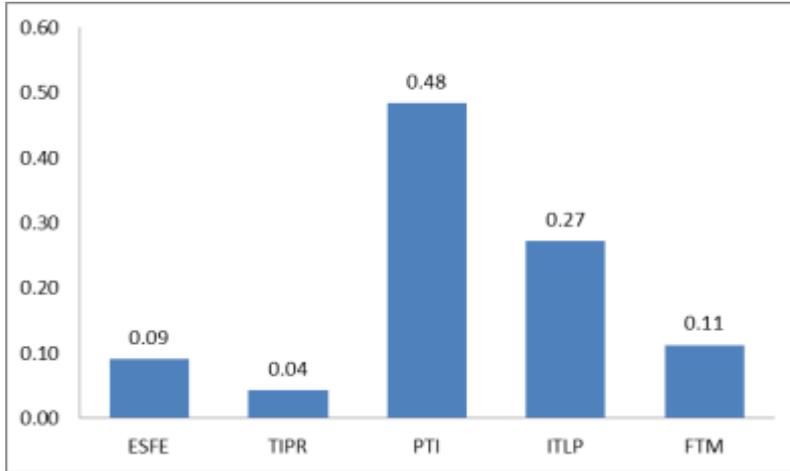
# Performance of international partnership and support in India's GHG mitigation efforts



## Top low-carbon options that India should adopt considering inclusive growth targets and carbon space requirements in the future







**Figure:** Weights of criteria for evaluation of the transport policy

**A1:** improving the emission standards and fuel-efficiency (miles/liter) of new vehicles

**A2:** introduction of carbon-efficient electric and hybrid vehicles

**A3:** promoting congestion pricing to reduce traffic volume/density

**A4:** parking regulation through enhanced fees/zoning

**A5:** raising road taxes and emission taxes depending upon the vehicle type

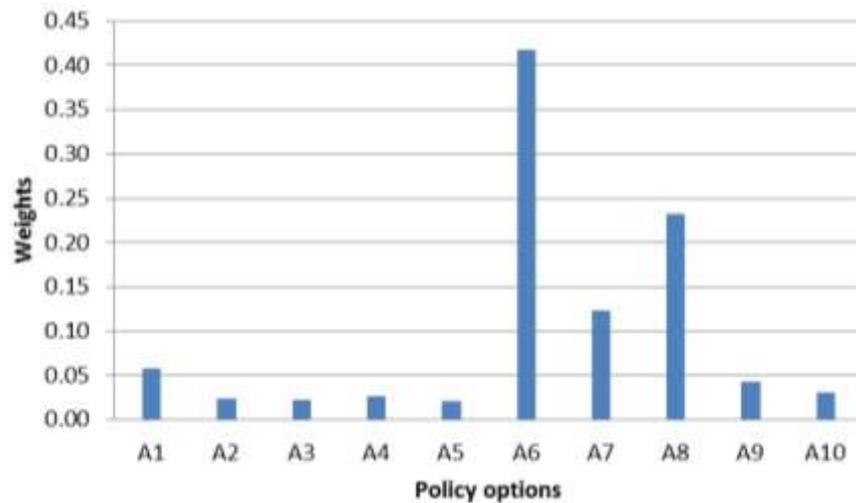
**A6:** better and affordable public transport such as metro rails and metro buses

**A7:** better transport corridors within the urban city and non-urban inter-city transport

**A8:** better integration of transport planning and land-use zoning, scheduling and space coordination

**A9:** developing bicycle lane in new urban areas and promoting non-motorised transport (NMT)

**A10:** shifting freight transport from road to railways



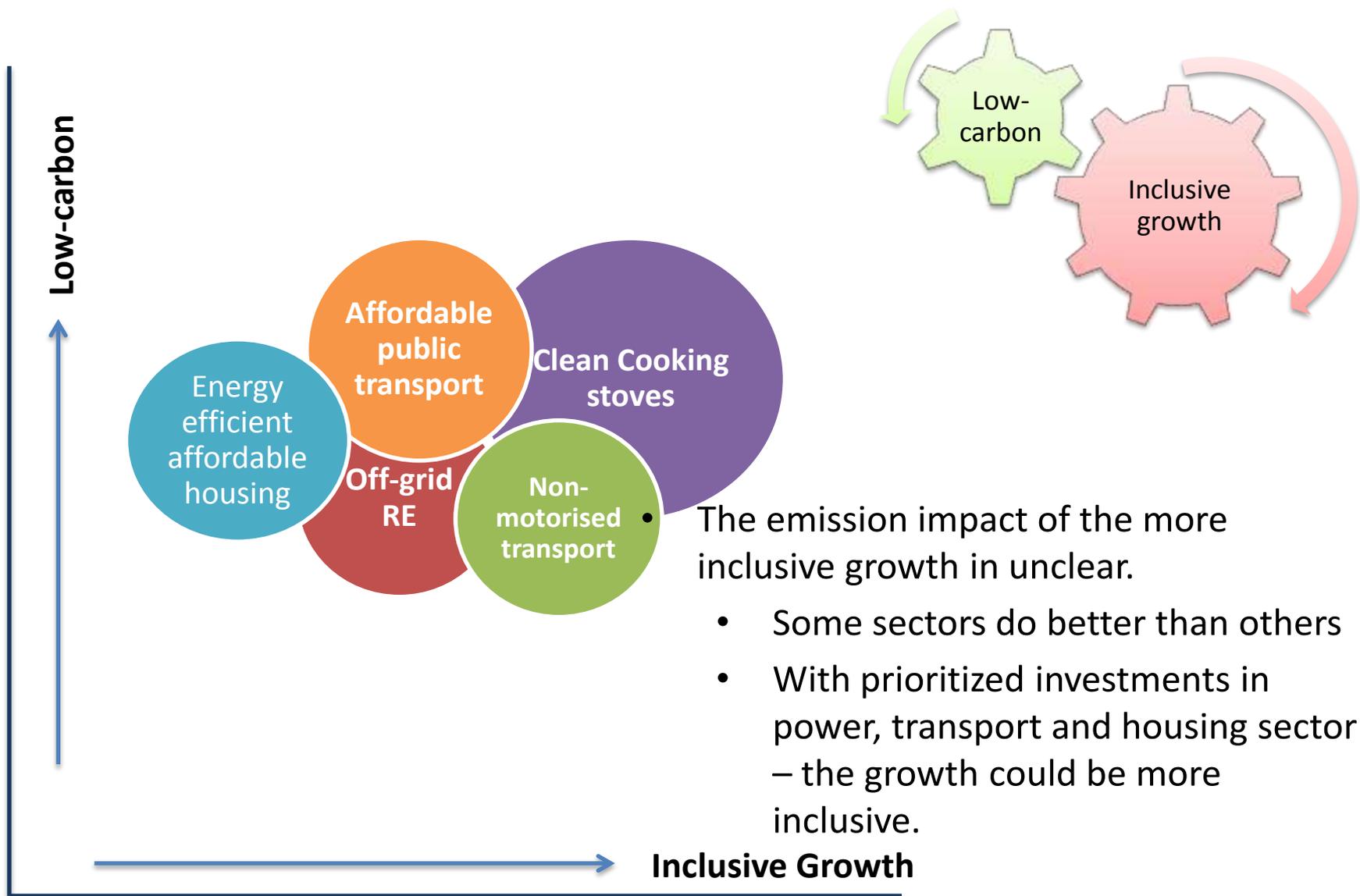
**Figure :** Relative priorities for alternate policy options for reducing emission and energy intensity in transport sector as well as promoting inclusive growth

# Conclusions

- India's low-carbon intensity in part is due to
  - Inherently low-carbon lifestyle patterns, high use of NMT and public transport, energy and infrastructure poverty
- India's energy-related emissions are basically subsistence emissions and need to grow to alleviate poverty and raise QoL standards
  - BAU trends don't favour inclusive growth.
  - Low-carbon initiatives don't sufficiently exploit co-benefit opportunities of climate mitigation and inclusive growth

- The trends of declining carbon and energy intensity will continue, however, weakened by unsustainable patterns of development
  - High growth of private vehicles, western life styles and models of growth, persistent inefficiency in the electricity supply
- Some promising initiatives have been taken to initiate low-carbon growth –
  - RES, EE, demand management
  - Sizable potential for low-carbon growth is yet untapped

# Low-carbon inclusive growth can reduce poverty and inequality



**Thank you!**

dvenks@gmail.com