

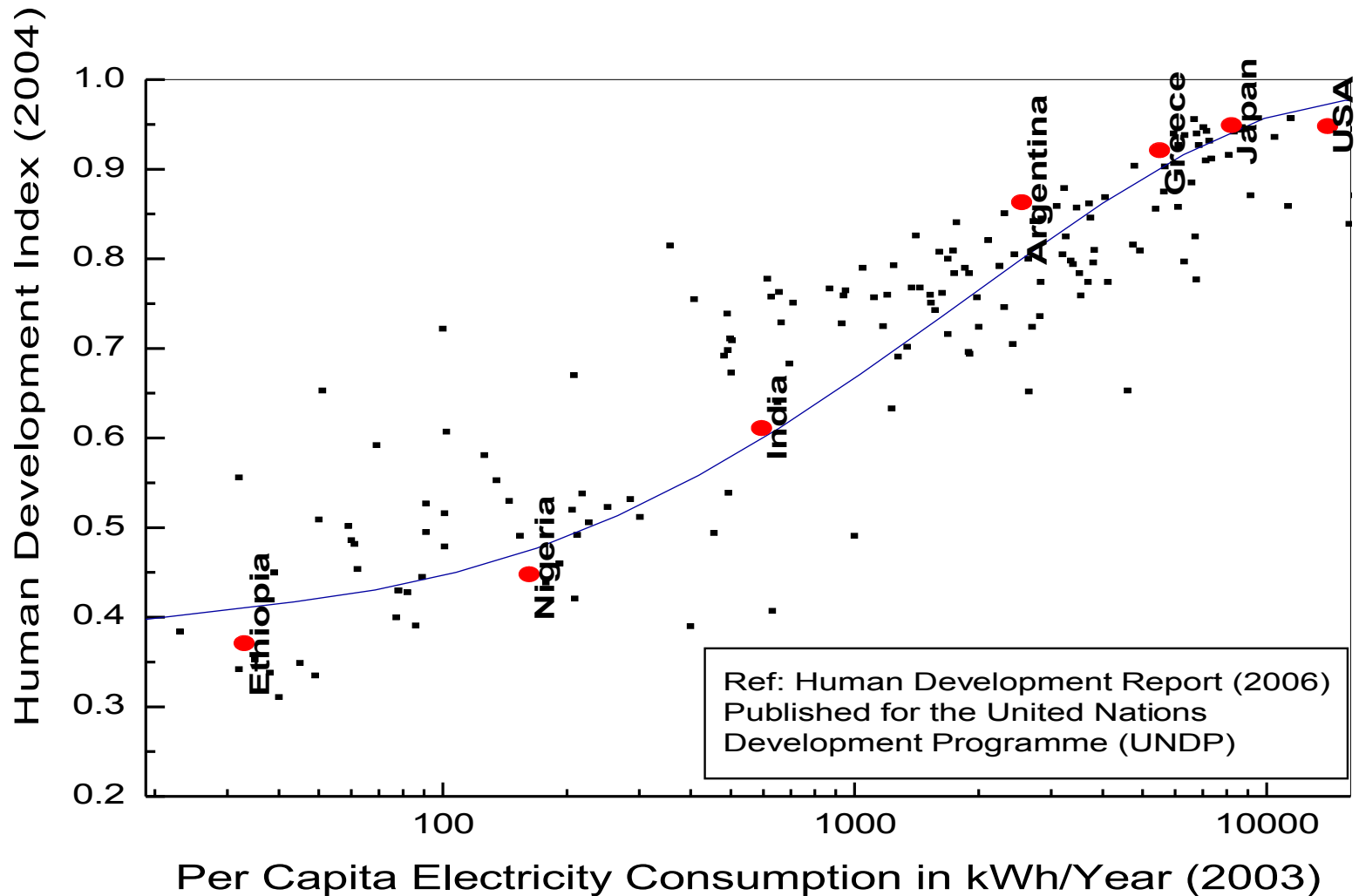
Fairness and Burden Sharing in Climate Change

Prodipto Ghosh, Ph.D
The Energy & Resources Institute
New Delhi
Potsdam: 28 May 2008

Ground Zero: The Energy Challenge

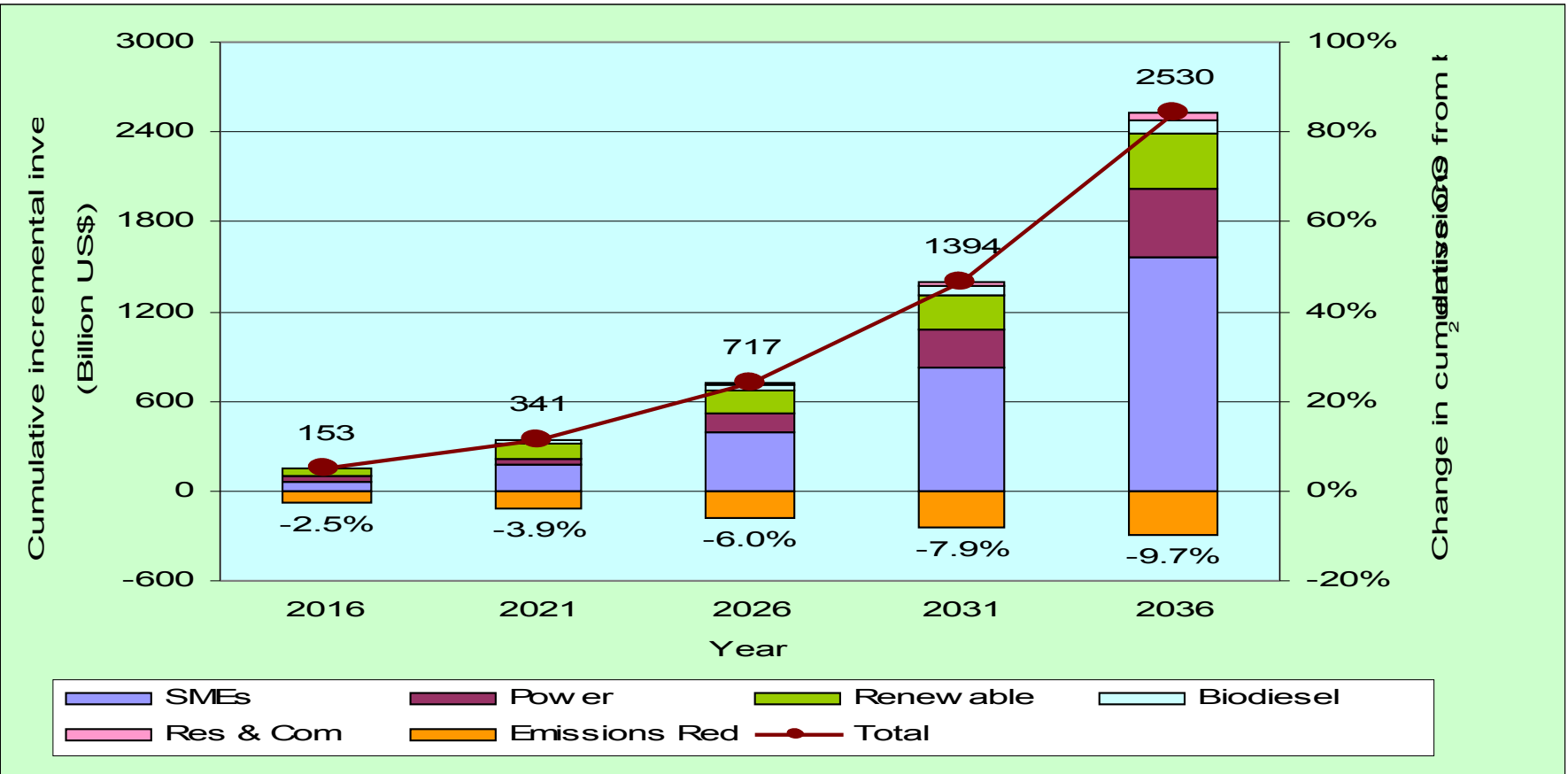
- Some 500-600 million fellow Indians live without electricity.
- Over 75% of household energy consumption is for the basic human need of cooking. Traditional biomass is the primary cooking fuel for over 700 million fellow Indians
- 34.7% and 79.9% population below income level of \$1 and \$2 a day respectively
- Lack of access to commercial energy leads to Illiteracy, Gender Inequality/Disempowerment, High IMR and MMR, Poor Health & and hence a low HDI.
- Over the next 25 years India needs to lift the bottom 40% of her citizens to an acceptable level of economic & social well being – this will not happen without providing modern energy to these fellow Indians.

HDI is strongly correlated with electricity consumption per-capita!



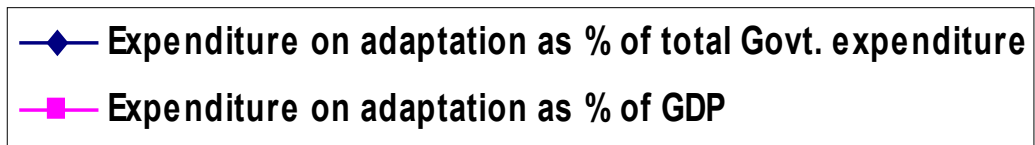
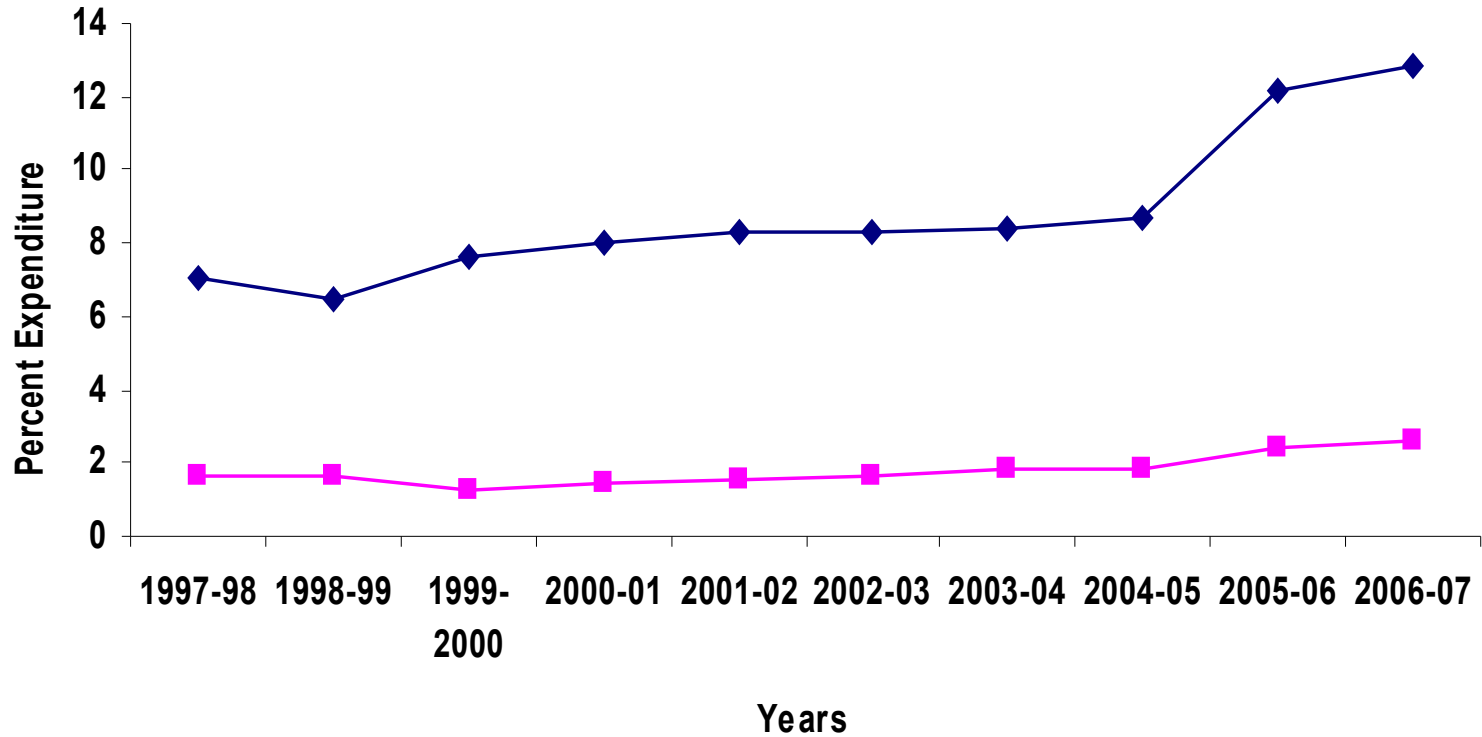
“Poverty is the greatest polluter”! Indira Gandhi, Stockholm, 1972

Starting Point 1: MARKAL model estimates of costs of GHG abatement Cumulative incremental investment requirements in India: 2001-2036



The total incremental investment for reduction of GHG in India by 9.7% from baseline in 2036 is \$ 2.53 Trillion!

Staring Point 2: India's Fiscal Expenditures related to Climate Variability



“Equal per-capita for *each person on earth*”!

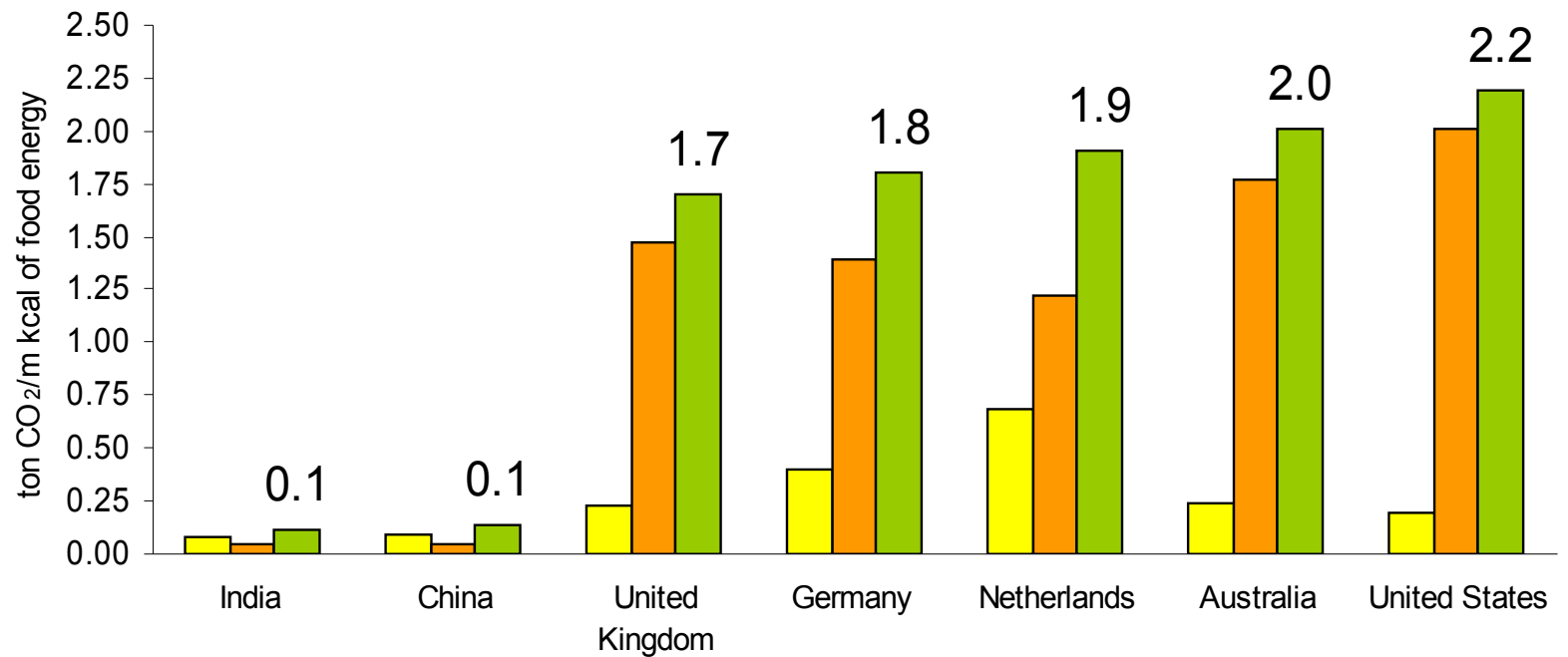
- Cannot be faulted as an ethical principle
- Cannot be directly operationalized!
- “Airline hostess paradox”
- Requires unit/plant/farm level global GHG emissions data: Perfect should not become enemy of Good!
- *International norms on lifestyles would address this powerful ethical concern!*

3 inter-country comparisons:

- Energy inputs per unit of output
energy delivered through food
- Waste generation and recycling
- Energy & emissions per unit of
passenger transportation
movement

CO₂ emission from food sector--from Field (production) to Table (processed food)-*excluding cooking*

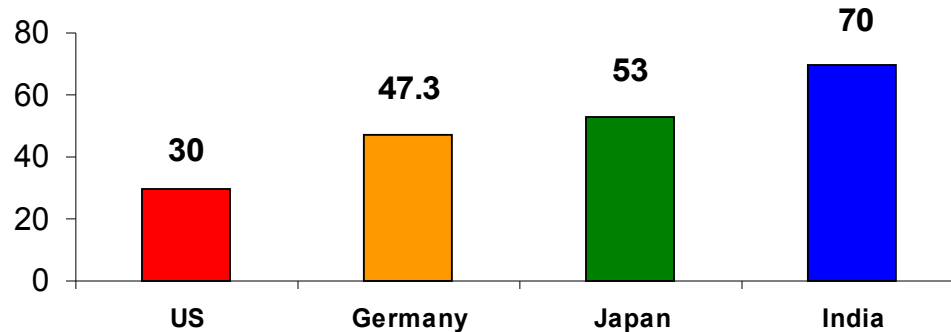
- Production related CO₂ emission (tonne CO₂/million kcal of food energy)
- Processing related CO₂ emissions (tonne CO₂/million kcal of food energy)
- Total CO₂ emissions (tonne CO₂/million kcal of food energy)



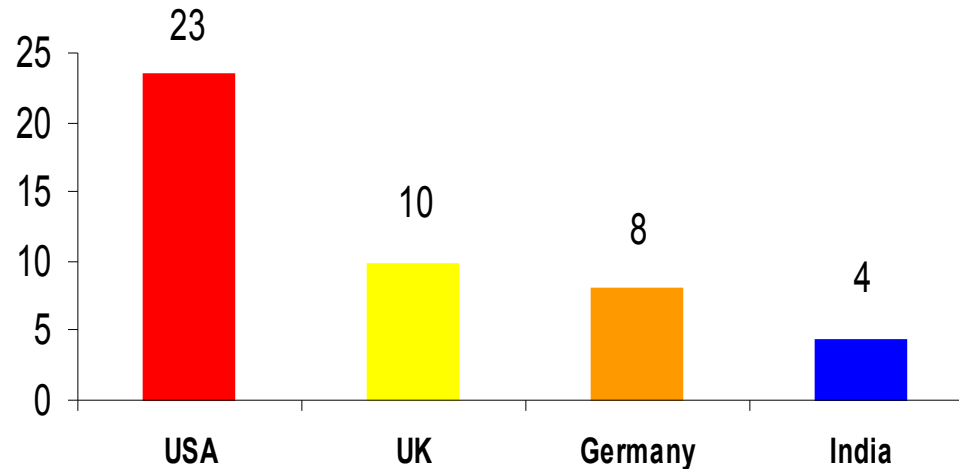
Source: TERI analysis (various data sources)

Municipal solid waste

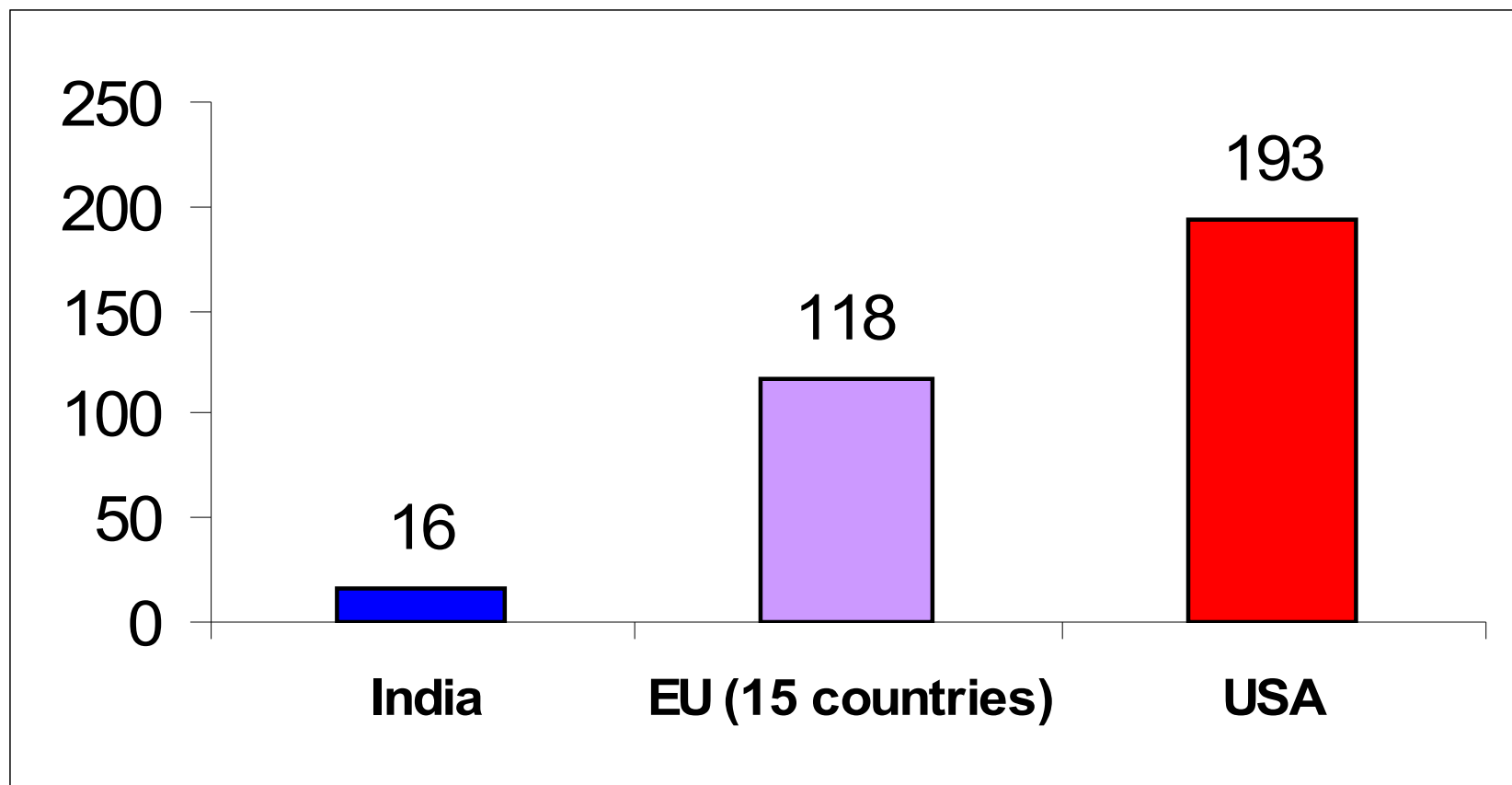
Average rate of recycling (%) (excl. re-use)



GHG emissions from waste (gm/'000\$GDPppp)

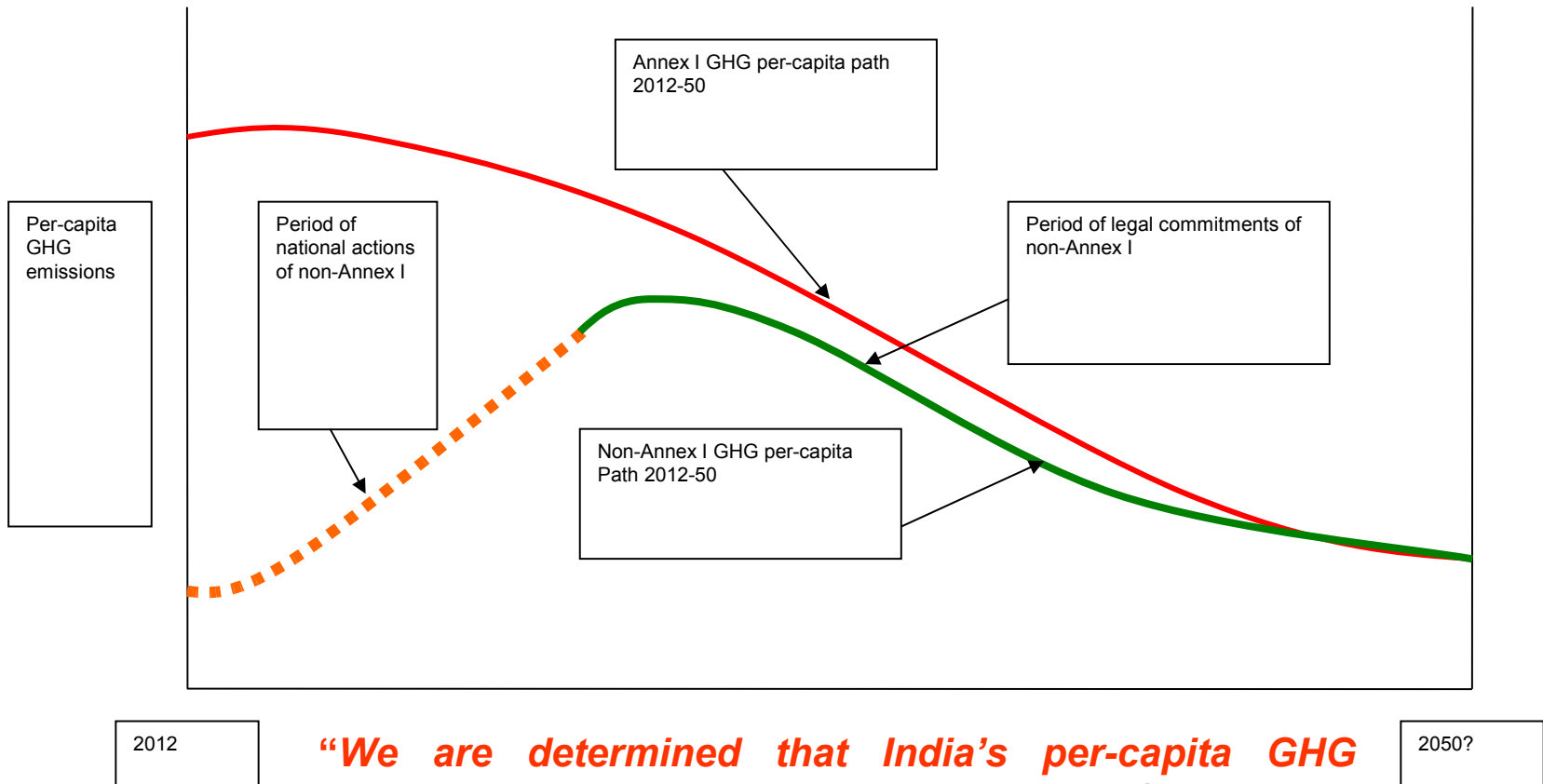


Estimated CO₂ emissions from passenger transport (gm/passenger-km)



Source: TERI Analysis, various data sources

An interpretation of PM Manmohan Singh's statement at Heilengendam, June 2007



“We are determined that India’s per-capita GHG emissions are not going to exceed those of developed countries even while pursuing policies of development and economic growth”, Dr Manmohan Singh, Heilengendam, 2007

Implications of Manmohan Singh's Heilengendam Statement:

- India's commitment: not to exceed per-capita GHG emissions of Annex I at any time (“you lead, we follow, you do the best you can, we’ll match it”)
- Embodies principle of equal per capita sharing of remaining environmental space
- Level of Annex I commitments determines aggregate global emissions path
- Enables retention of all Kyoto flexibility mechanisms
- Does not require detailed negotiations on interim (till convergence) GHG allocations
- No “Hot Air”!

Interpretation...

- Flexibility mechanisms may yield supplemental resources at multilateral/national levels to address Adaptation
- Substantially preserves development space for non-Annex I, essential to Adaptation!

Thank you for your attention!