

Well Being for All in A Climate Stable World

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Sustainable Well Being

- ▶ **Physical sustainability** – Resources must be there
- ▶ **Economic sustainability** – Profitable, incentive to maintain
- ▶ **Social sustainability** – benefit all sections and be inclusive

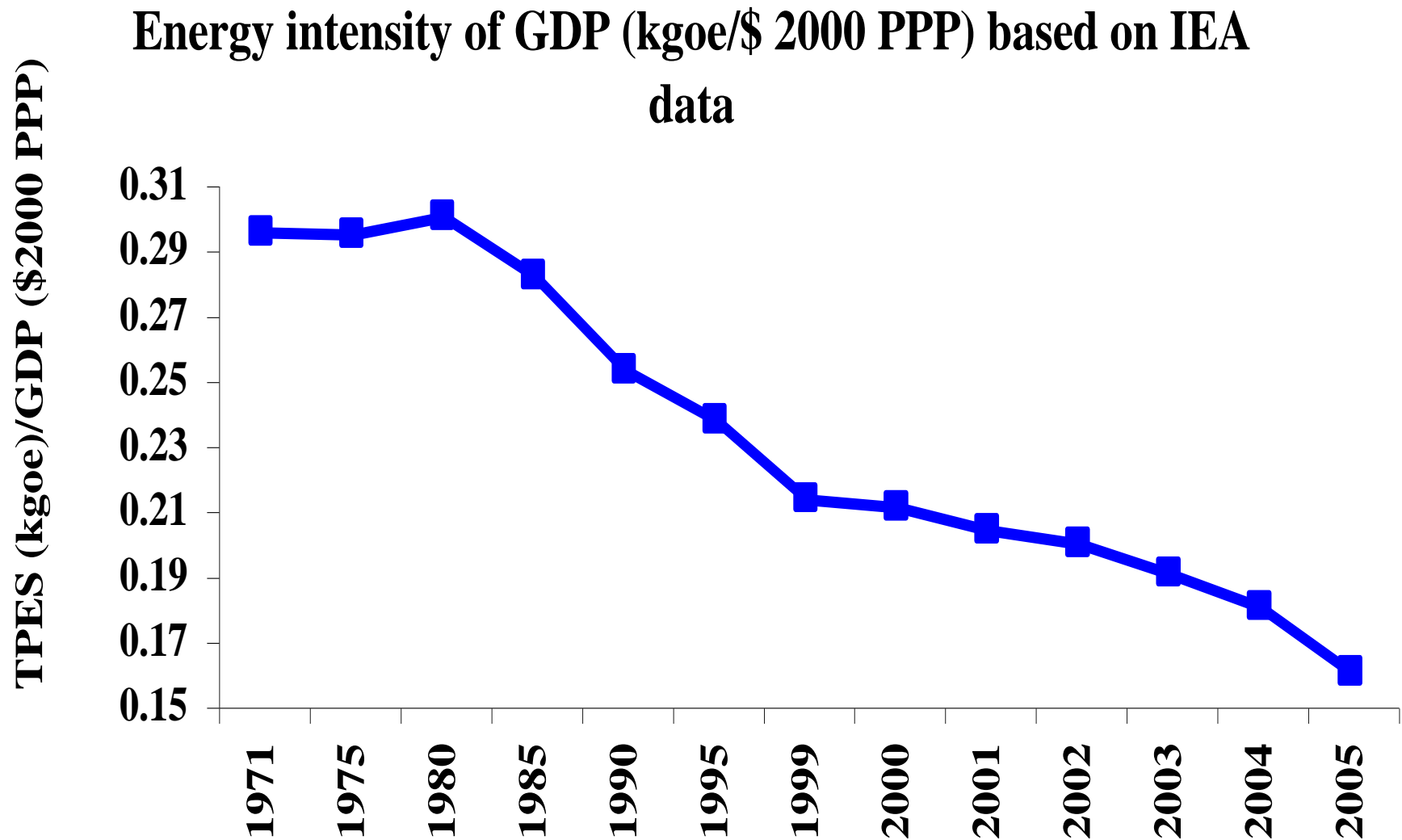
Local Environmental Problems

- ▶ Air Pollution, Water Pollution, Waste Management, Bio-Diversity, Etc
- ▶ A country can take care of by itself
- ▶ BUT Global problems of Climate Change and Oceans' Ecology needs global action
- ▶ Must be based on Common But Differentiated Responsibility

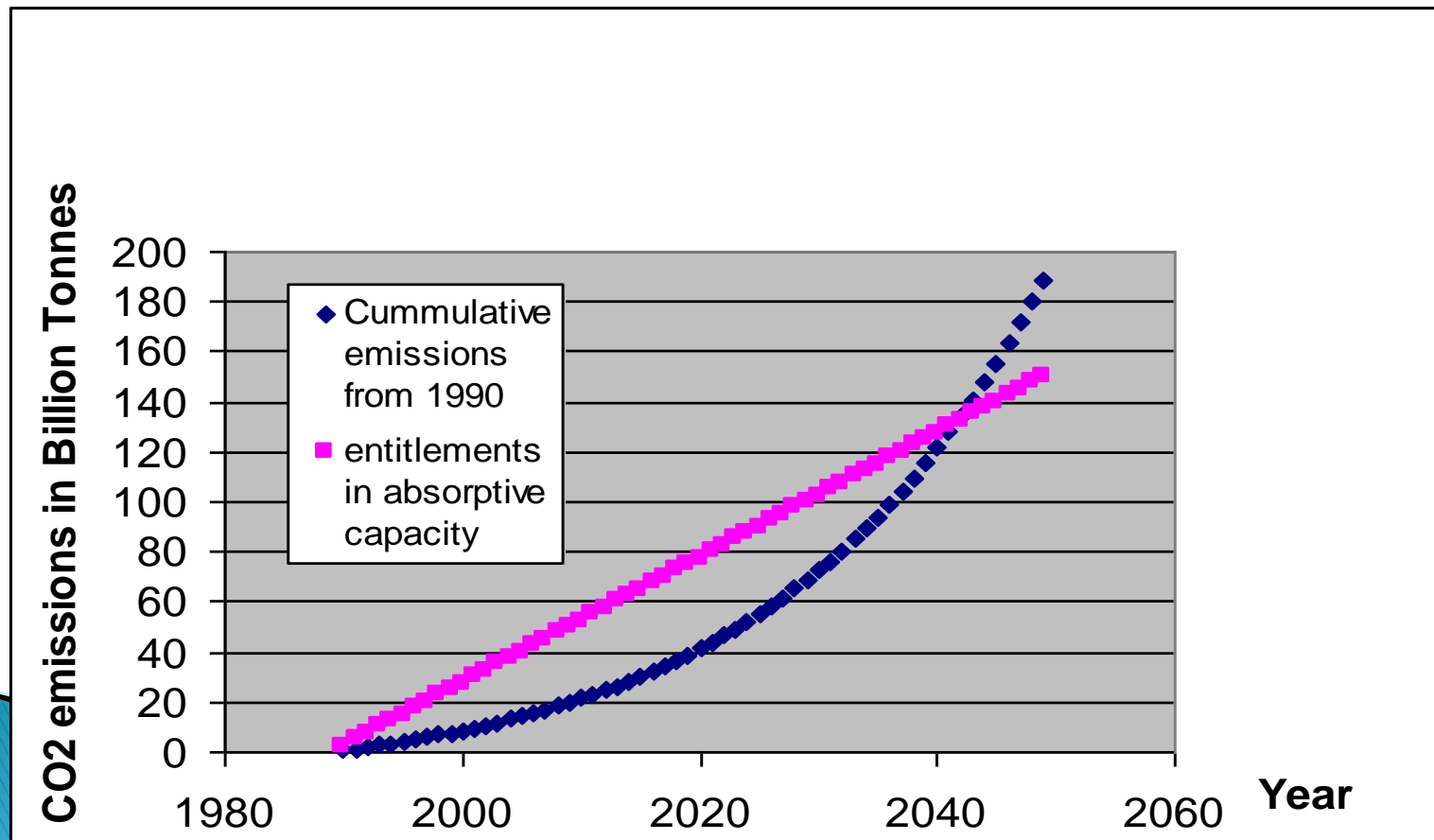
India's Responsibility and Actions

- ▶ India's CO₂ emissions in 2008 were 1.3 tonnes per capita. Global average 3 times, China's 4 times, the US's 14 times and the EU (27)'s 6 times as much as India's.
- ▶ Global environment absorbs 15 billion tonnes of CO₂e per year in oceans, etc. Thus each person would be "entitled" to emit around 2 tonnes per year.
- ▶ India's emissions are only just reaching 2 tonnes per capita and so have not contributed any thing to the build up of GHGs.

India's Energy Intensity Falling



India's Cumulative Emissions Compared with Fair Right in Global Environment's Absorptive Capacity will exceed only after 2040



India's Actions

- ▶ PM's statement at Heiligendamm – India's per capita emissions will not exceed those of industrialized countries
- ▶ PM's council on climate change has chalked out an action plan
- ▶ Aims to reduce emissions intensity of its GDP by 20–25 per cent by 2020 in comparison with 2005.
- ▶ Expert group interim report – 25 % reduction feasible, 35 % possible with a more aggressive effort and international support of finance and technology even when the economy grows at 8 to 9 per cent annually.

India's Actions – contd

- ▶ A tax of Rs 50 per tonne of coal, the proceeds earmarked to promote renewable energy.
- ▶ Both wind power and solar energy are promoted through various incentives.
- ▶ The Green India Mission focuses on expanding the forest and tree cover in the country by 10 million hectares over the next decade.
- ▶ The Energy Efficiency Mission aims to save by 2014–15, about 23 million tonnes of oil-equivalent of fossil fuel every year, along with an expected avoided electricity capacity addition of around 19,000 MW.
- ▶ Energy-efficient buildings are encouraged.
- ▶ Development of dedicated freight train corridors to shift goods movement from trucks to trains.
- ▶ Development of public transport systems in cities.

- ▶ **BUT INDIA BY ITSELF CANNOT REDUCE THE THREAT OF CC**

India's Need To Grow and Increase Energy Use

- ▶ India's economy needs to grow at 8 % to 10 % per year for two to three decades to meet its human development needs.
- ▶ Growth coupled with growing population puts significant stress on natural resources & environment.
- ▶ 84% of the 160 million rural households, 23% of the 72 million urban households cook with biomass based solid fuels
- ▶ Per capita consumption of energy in India is one of the lowest in the world. India consumed 530 kg of oil equivalent (kgoe) per person of primary energy in 2007 compared to 1480 in China, 7750 in the U.S. and the world average of 1820
- ▶ Needs to increase energy consumption

India Needs Space – A Global Compact is Needed

- ▶ The Industrialized countries have to make space for India and other developing countries
- ▶ **Instead they are occupying more and more Global Commons**
- ▶ The OECD countries' emissions over what they would have been had they fulfilled the Rio commitments exceed forty years of India's emissions assuming growth at 5 % a year
- ▶ **We need action by all**

The Challenge

- ▶ Annual global emissions must reduce from 50bn tonnes CO²e to below 35bn tonnes in 2030 and below 20bn tonnes in 2050 for holding temperature increases to 2°C above the 19th century
- ▶ All countries must embark on a different path now
- ▶ Make space for developing countries
- ▶ Help them grow in Low Carbon Ways

Provide Technology and Finance

- ▶ Solar Power
- ▶ Wind Power
- ▶ Smart Grids
- ▶ Storage Systems
- ▶ Clean Coal Technologies
- ▶ Second Generation Ethanol
- ▶ Electric Vehicles
- ▶ Public Transport Infrastructure
- ▶ Etc

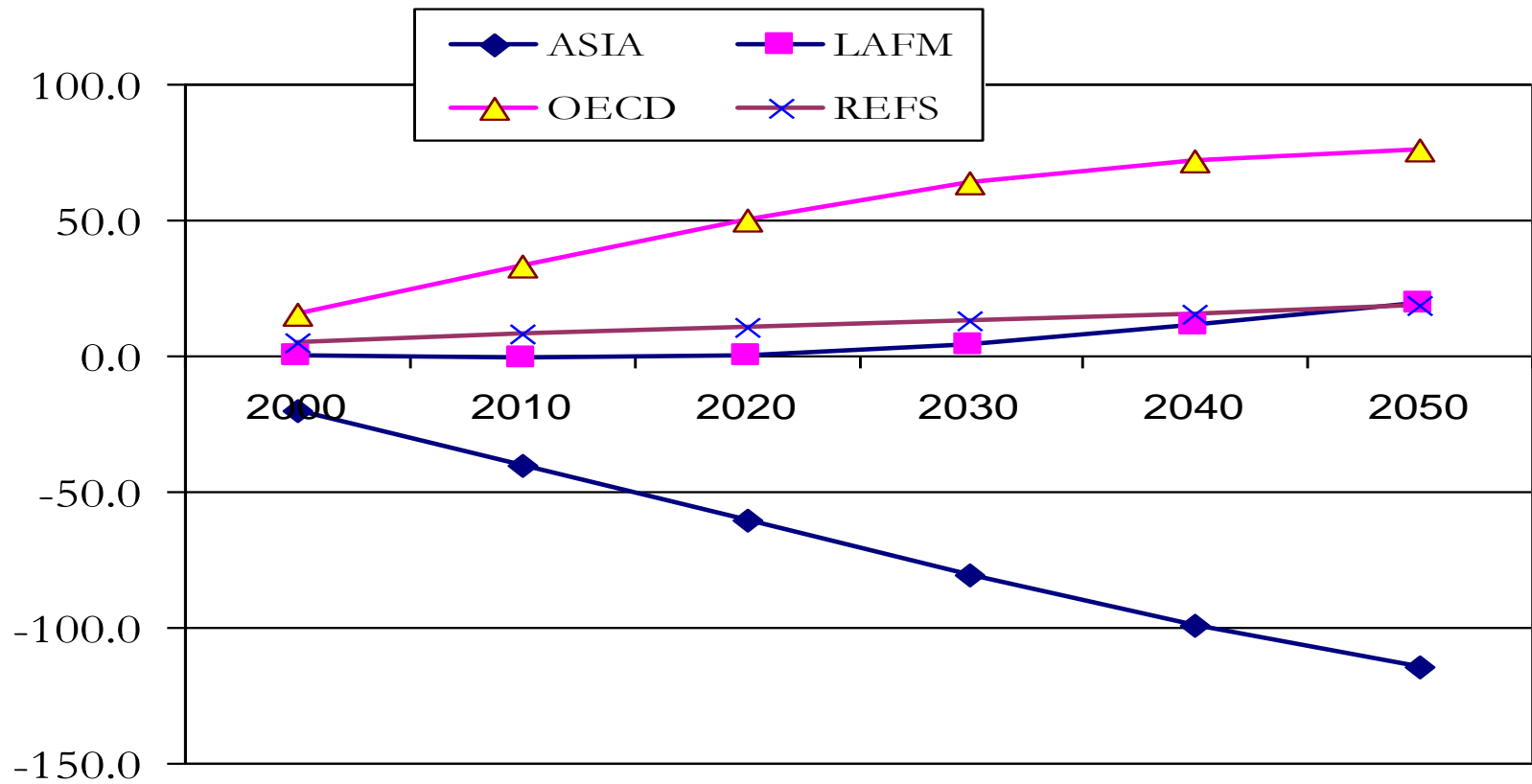
HOW TO INCENTIVISE ALL TO BEHAVE RESPONSIBLY

Incentive Mechanisms

- ▶ Equitable Allocation of Emission Quotas
- ▶ Provide transition mechanism from non-annex 1 to annex 1 so all take responsibility as per CBDR
- ▶ An alternative Mechanism – A Parking Place Model
- ▶ Charge a rent for every tonne of CO₂ parked in the global atmosphere every year cumulated from 1990 onwards
- ▶ All countries pay
- ▶ Proceeds distributed equally to the owners of these space, the citizens of the earth based on the countries' 1990 population

Advantages –Parking Place Model

- ▶ Rational – stock of GHGs causes climate change
- ▶ All countries involved –no distinction needed annex 1 and non-annex 1
- ▶ Incentivises all countries to be carbon efficient – the same opportunity cost of emissions.
- ▶ It also rewards negative emissions which play vital role in many long term global scenarios
- ▶ It provides a simple mechanism to transfer resources across countries with very little transaction cost and minimal bureaucracy.
- ▶ By increasing the rental rate with a cess, compensation for adaptation can also be factored in.
- ▶ The cess collection can be distributed to countries as per their population and in inverse proportion to their per capita emissions with a minimum amount given to all countries with small populations.



Net Rent Payable – Billion \$/Year at \$0.2/Tonne

Thank you