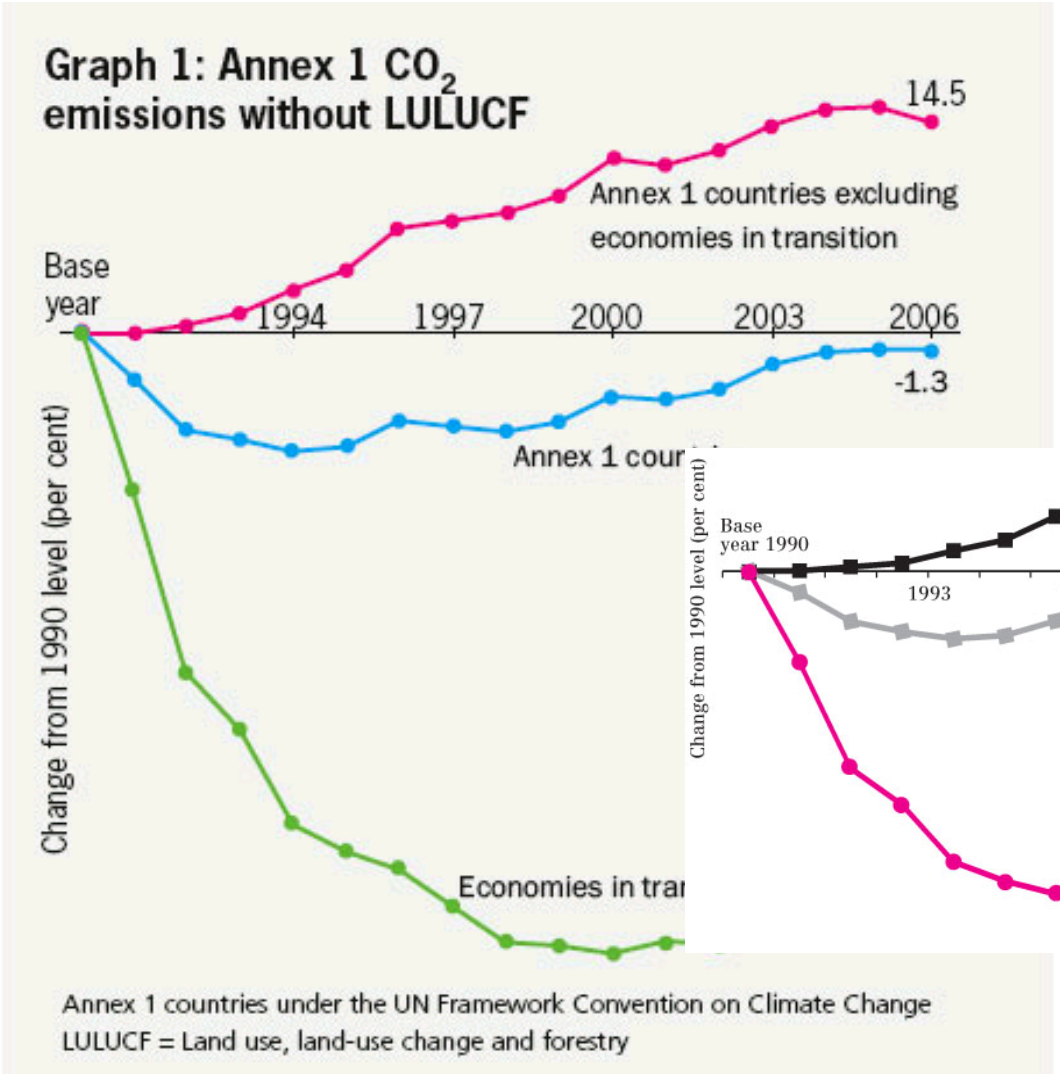
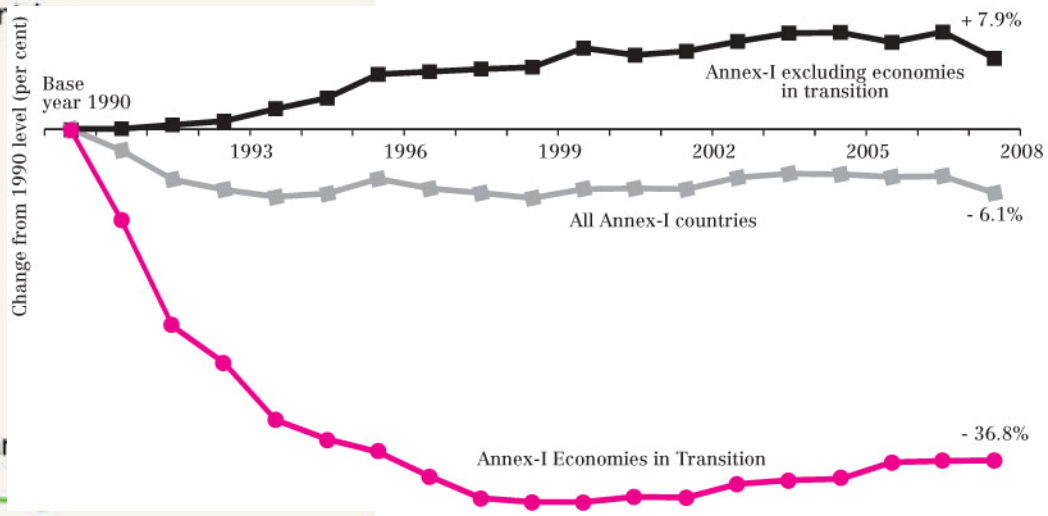
The challenge of a low carbon economy: why and what?

Sunita Narain, director, CSE

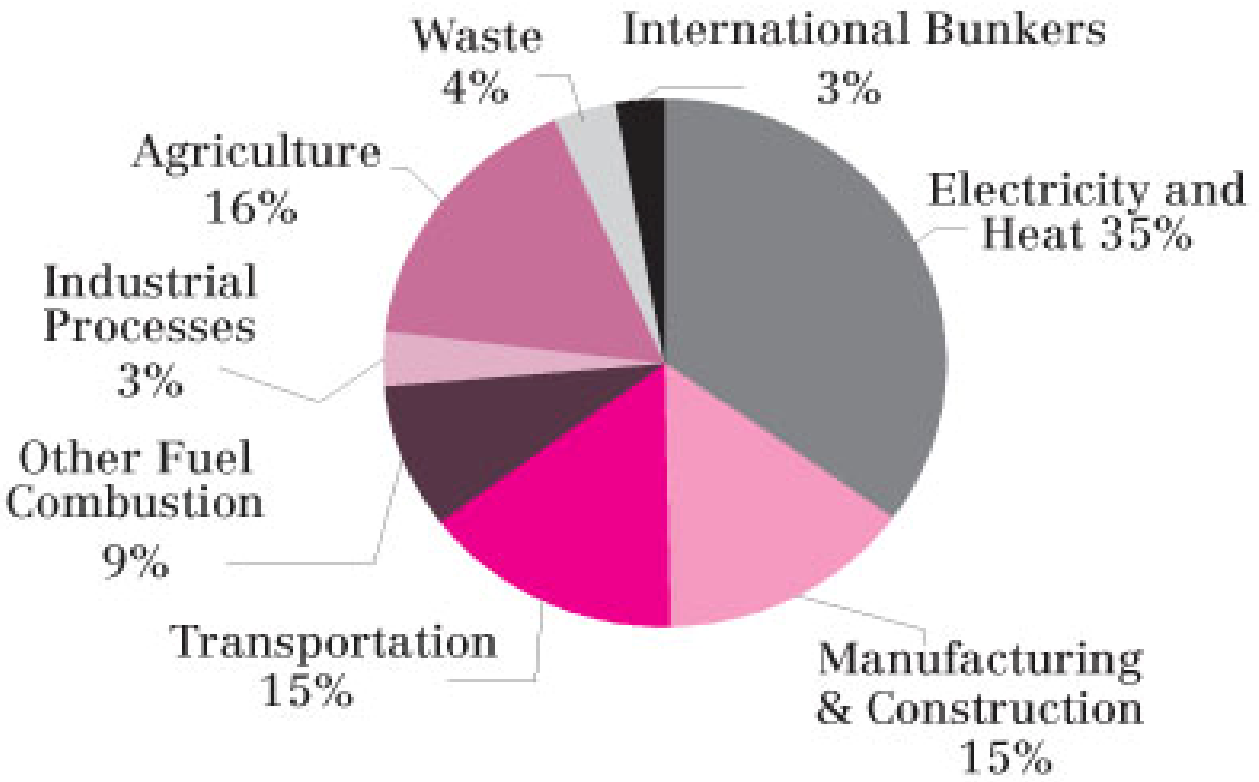
Annex 1: No cut in emissions. Hiding behind the decrease of Economies in Transition



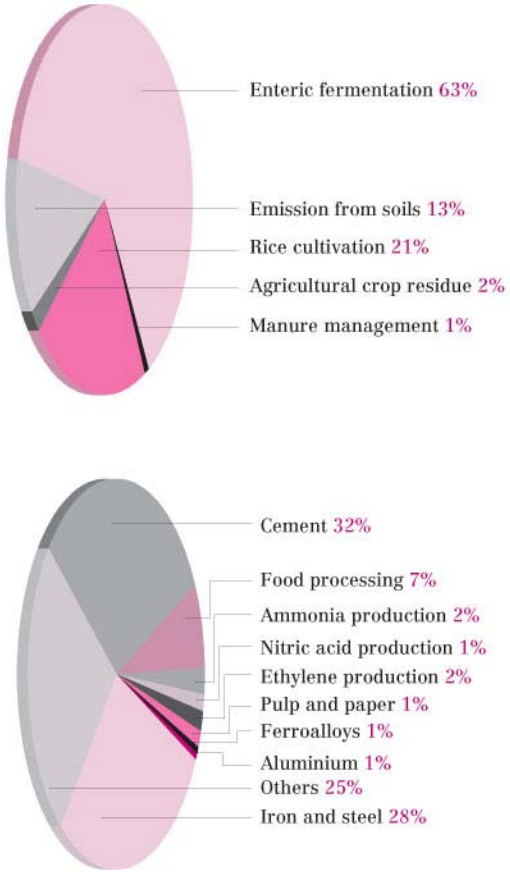


Related to economic growth

- Climate change linked to economic growth



Indian emissions are on the same trajectory



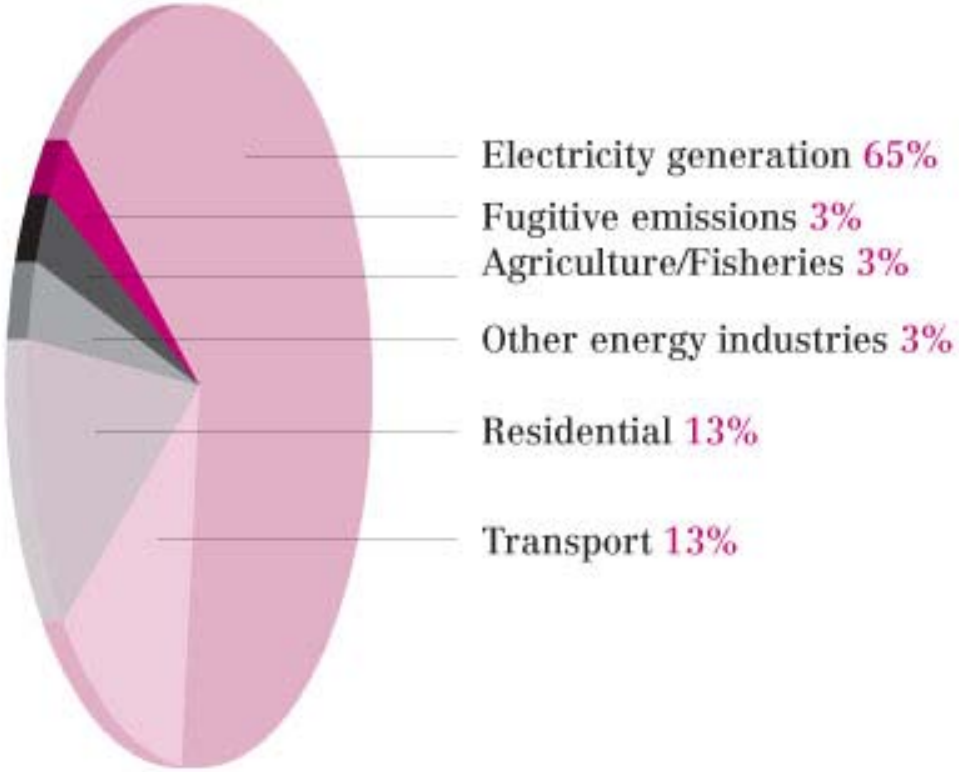
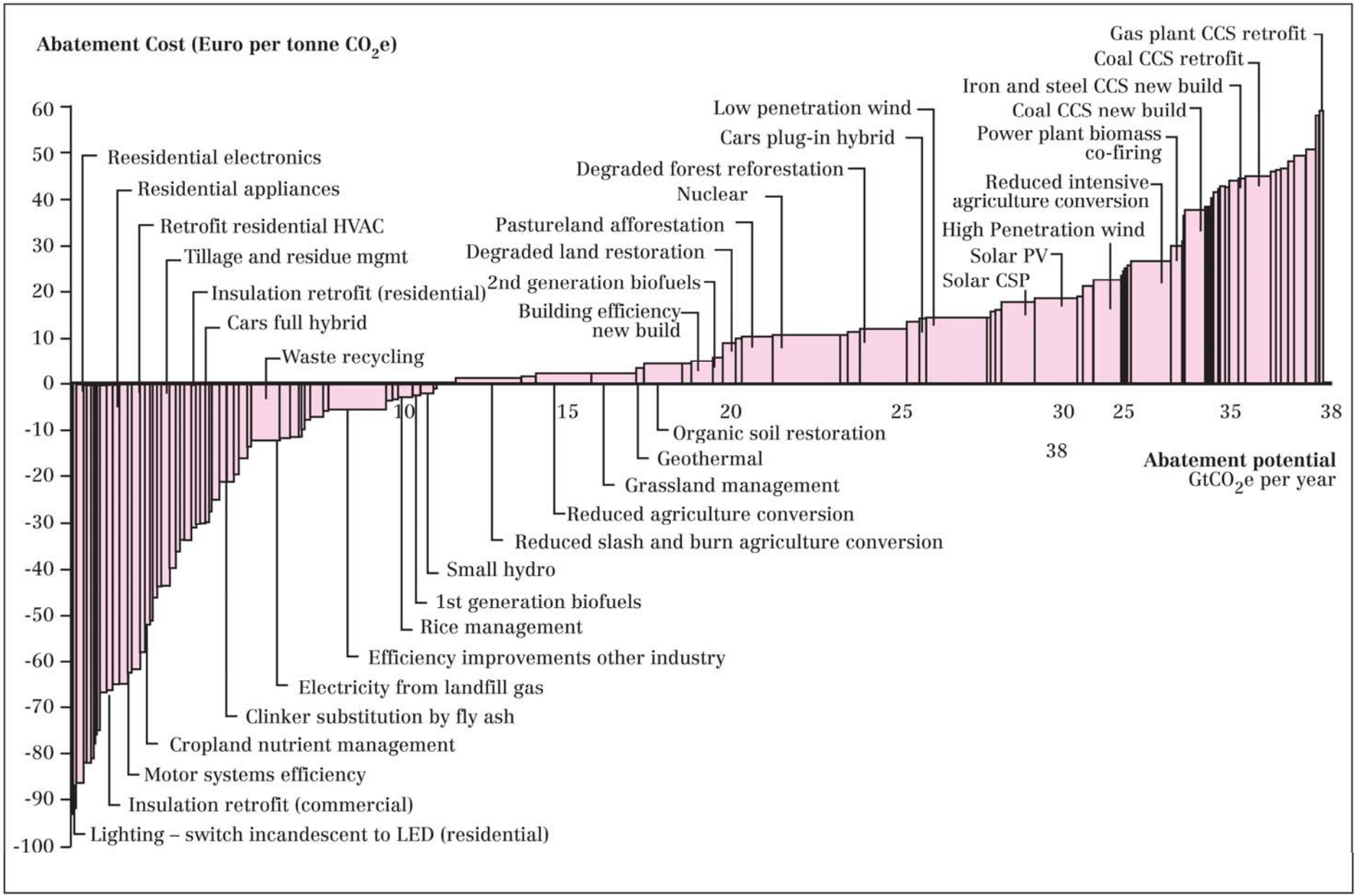


Figure 1: McKinsey's global GHG abatement cost curve



Source: Pathway to a low carbon economy, version 2 of the GHG abatement cost curve, McKinsey & Company

Win-lose-answers

Looking for cheap answers:

1. Do not take tough domestic action
2. Shift the burden of transition
3. Look for ‘offsets’ – plant trees etc in others lands
4. Sell the dream of silver bullets – CCS and nuclear etc…something tomorrow

Co-benefits:
in our interest to act

- India 8 missions on climate change

1. **Solar**: ambitious; 1100 mw by 2013. Investing US$ 20 billion for 25 years
2. **Energy Efficient:** Perform, Achieve and Trade Scheme; CFL programme;
3. **Sustainable Urban Development**: Public transport (10 cities); guidelines for sustainable habitat standards for conditions under JNNURM
4. **National Water Mission**: Data on water in public domain; attention for groundwater augmentation; water use efficiency

8-Missions

- 5. Green India Mission: 10 million ha of increased forest cover (still under preparation)
- 6. Sustainable Agriculture: water use efficiency; water harvesting; improved soil management
- 7. Himalayan Mission
- 8. Strategic Knowledge Mission:

Low carbon growth options?

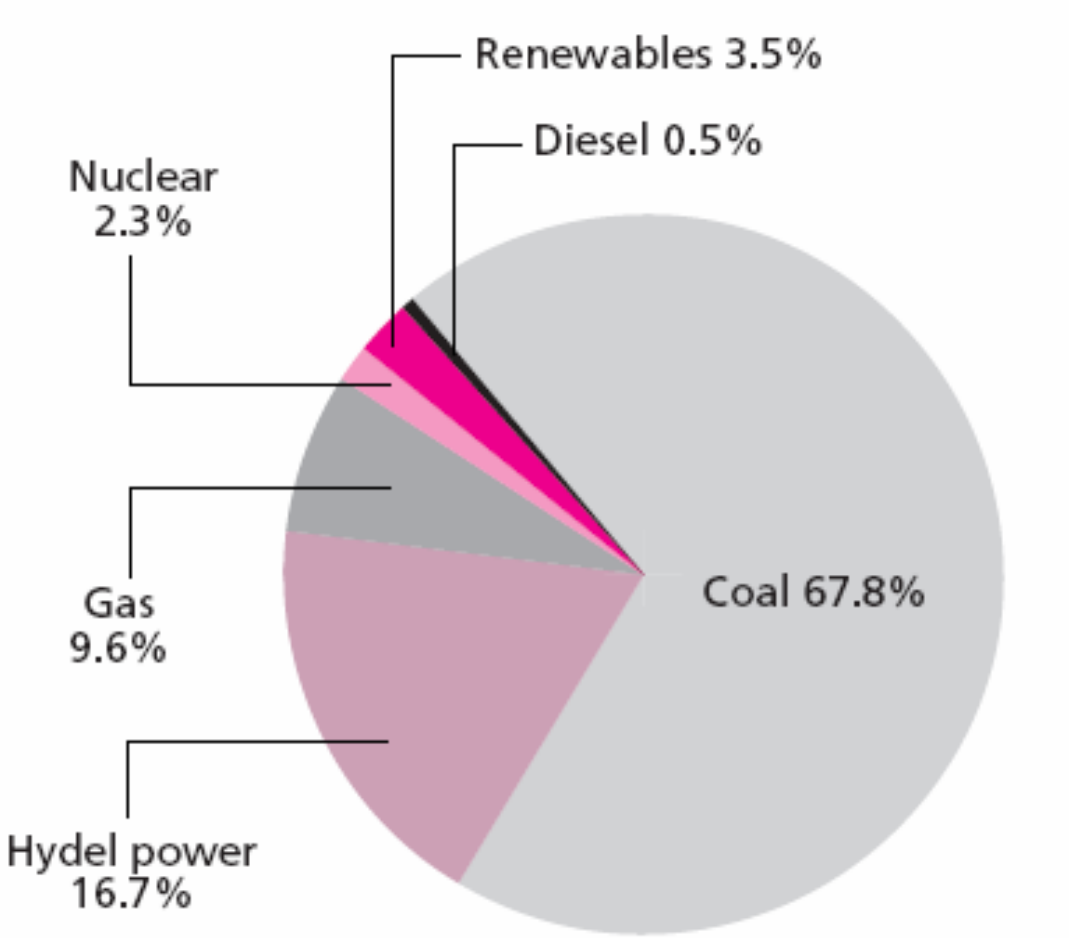
- Can we reduce emissions **substantially** when the world has not been able to do?
- What does low carbon growth mean?
- What will it cost?
- Can we afford it without a global deal to pay for our transition?

Transition will cost

1. India will invest in low-hanging fruit
2. Already making big efforts to reduce emissions: cost of energy is high
3. But this is not enough
4. In current growth paradigm technology-emission reduction trajectory is stagnant
5. Need changes in the way we do business

Take power sector

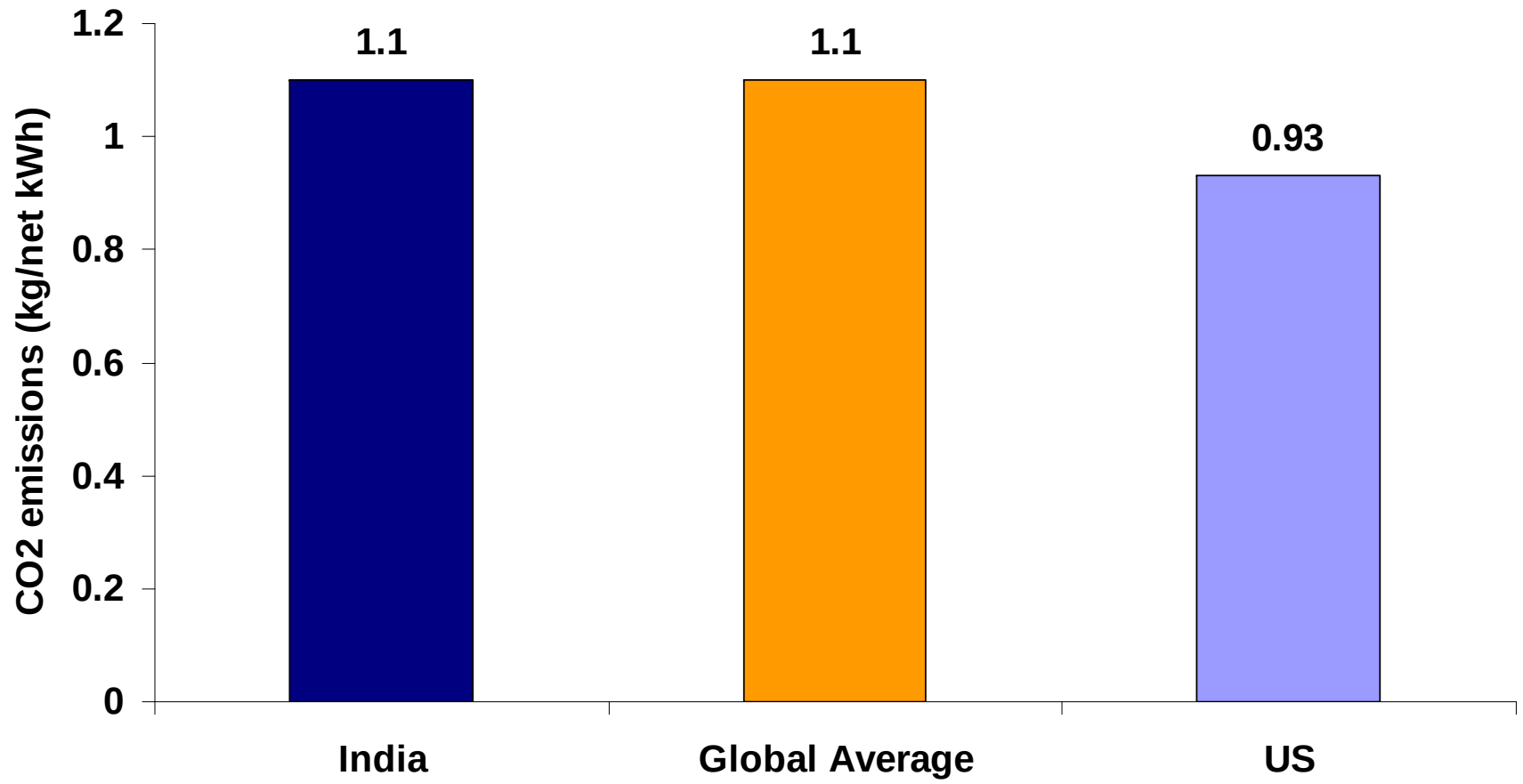
Generation: 2007-08



Coal and lignite plants

Power Sector

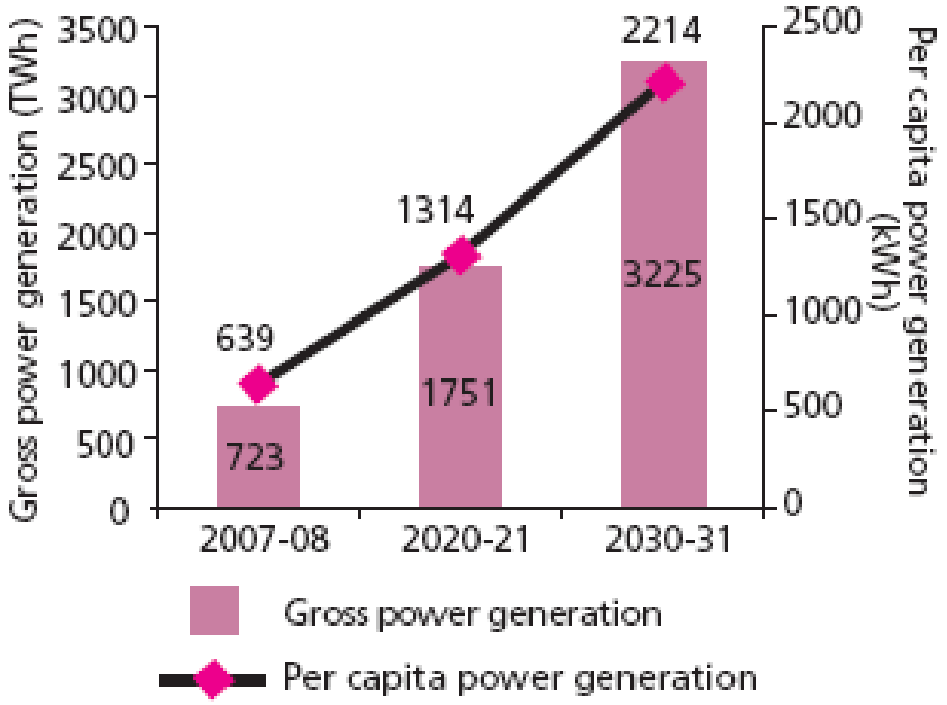
Specific CO_2 emissions



Power generation projection

Power Sector

- 8% growth rate – *Integrated Energy Policy*



- *India's per capita gross power generation in 2030 about one-seventh of **current** per capita power generation in the US.*

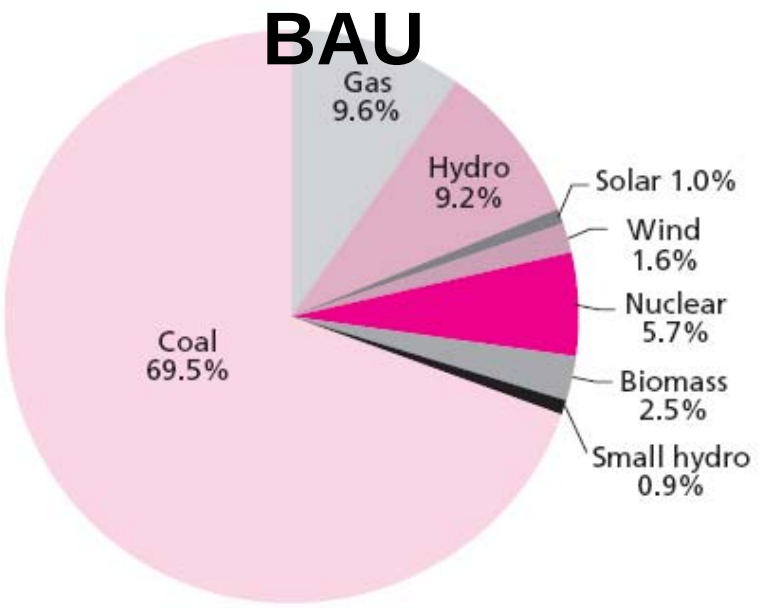
Installed capacity

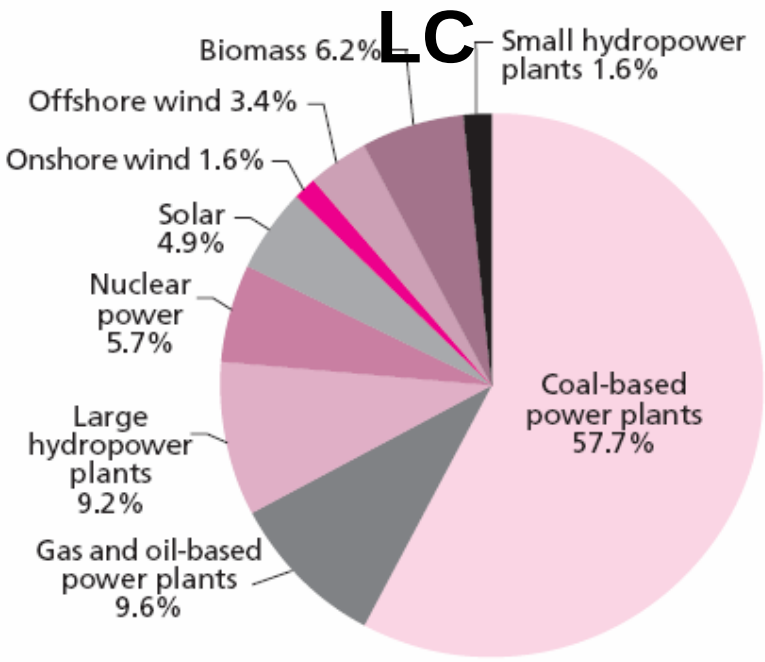
Power Sector

	2008-09 (in MW)	2030-31 (in MW)	
		BAU	LC
Coal-based power plants	81,606	3,40,000	2,80,000
Gas & oil-based power plants	18,256	50,700	50,700
Large Hydropower plants	36,885	84,500	84,500
Nuclear power	4,120	30,000	30,000
Solar PV	0	10,000	55,000
Solar thermal (CSP)	0	4000 – without storage 2000 – with storage	7,500 – without storage 15,000 – with storage
Onshore wind	10,891	40,000	40,000
Offshore wind	0	0	50,000
Biomass	1,752	20,000	50,000
Small hydropower plants	2,430	8,000	15,000
Total	1,56,000	5,89,200	6,77,700

Power generation

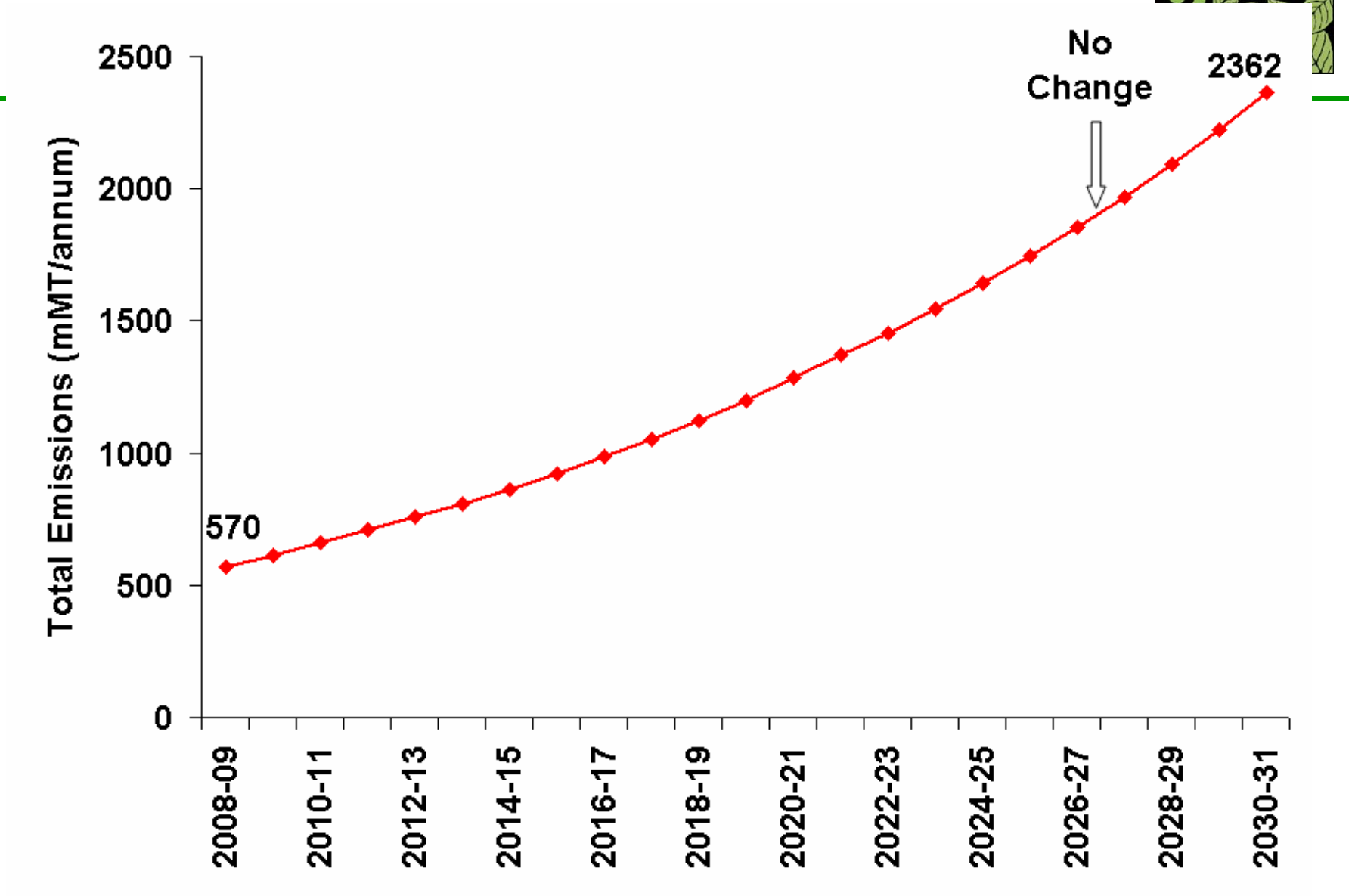
Power Sector





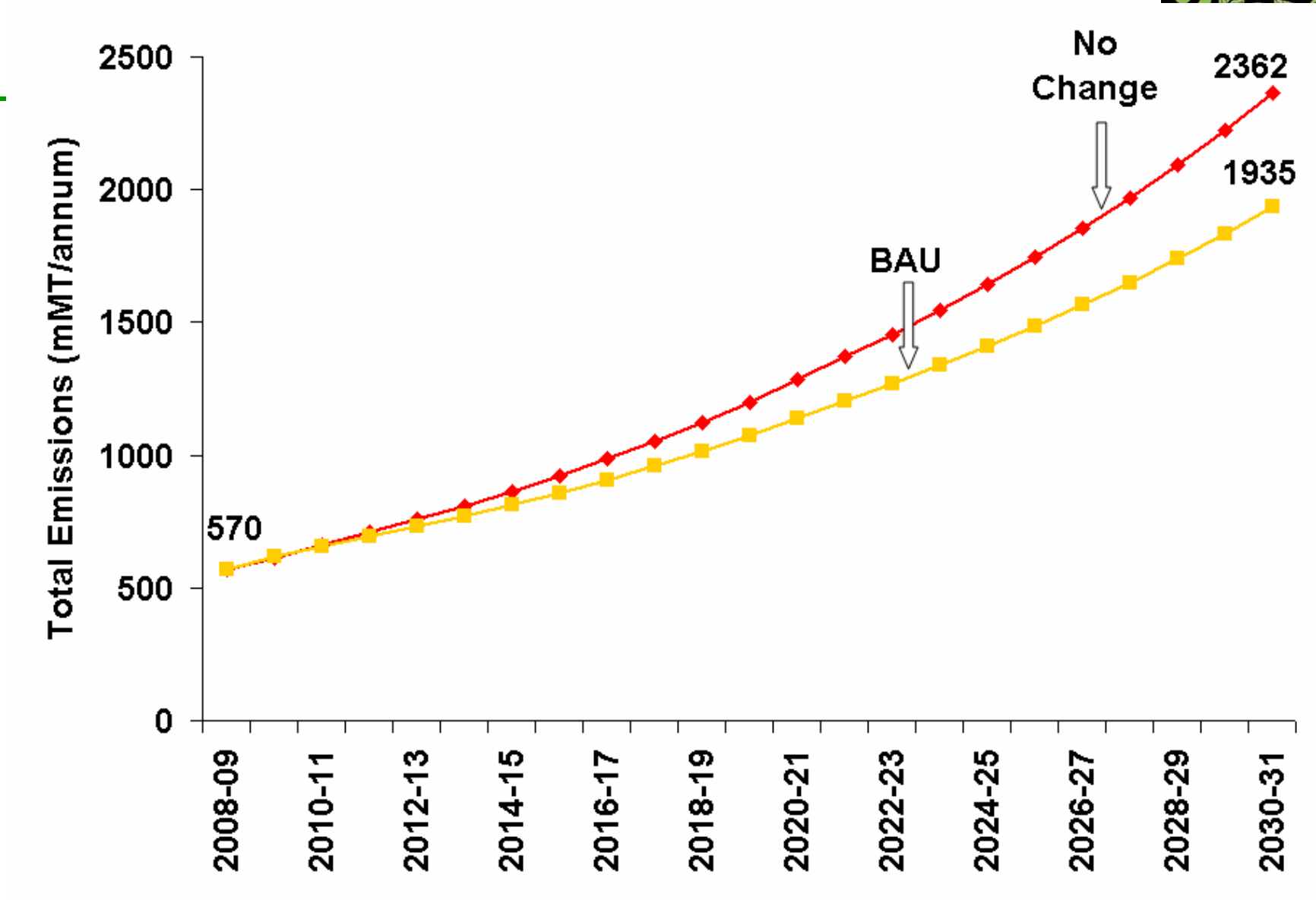
Emissions trajectory

Power Sector



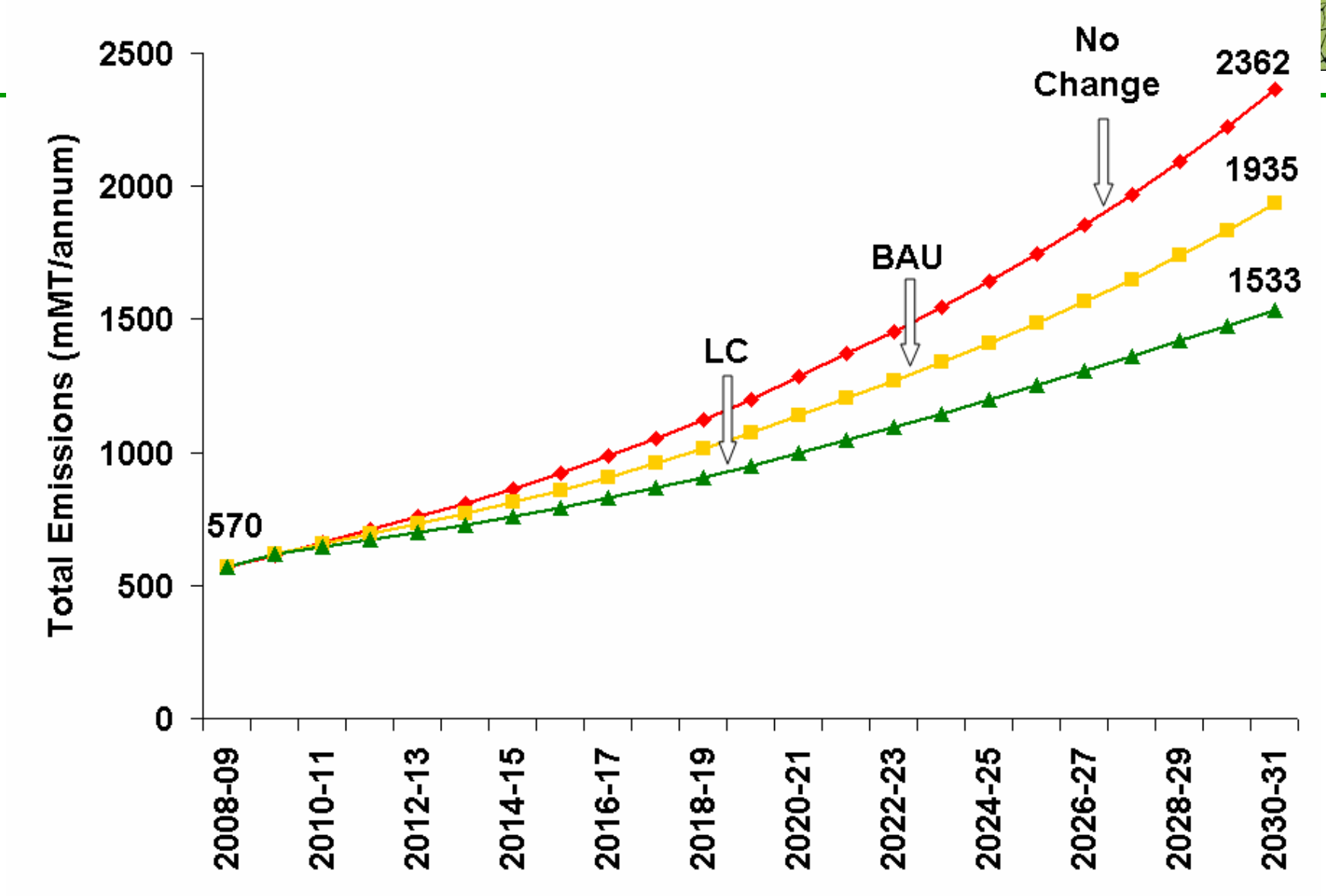
Emissions trajectory

Power Sector



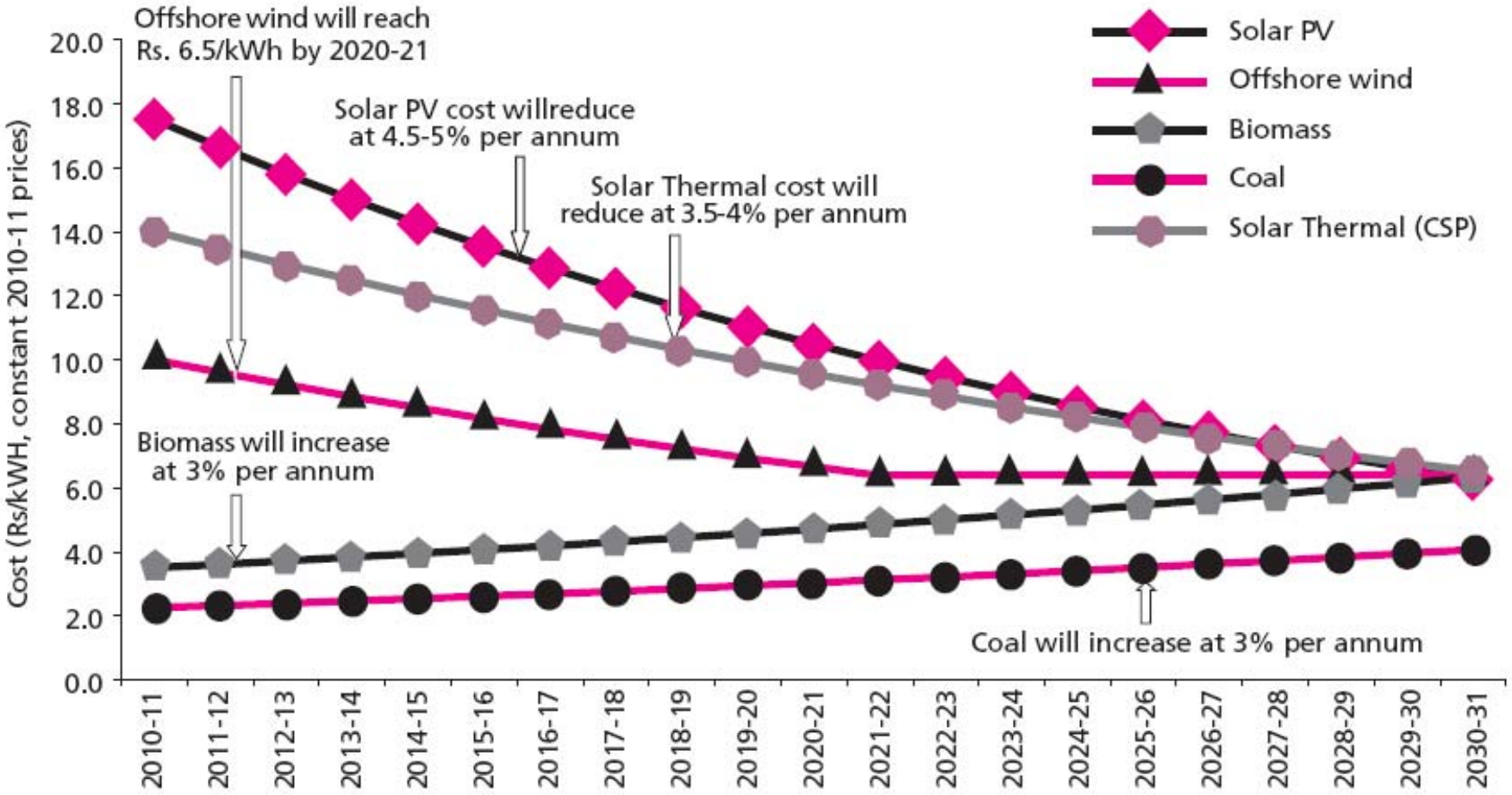
Emissions trajectory

Power Sector



Cost of low carbon

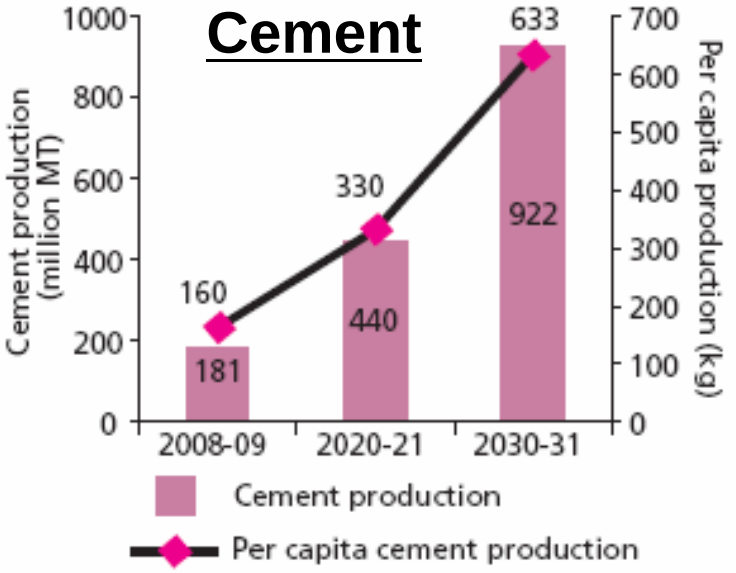
Power Sector

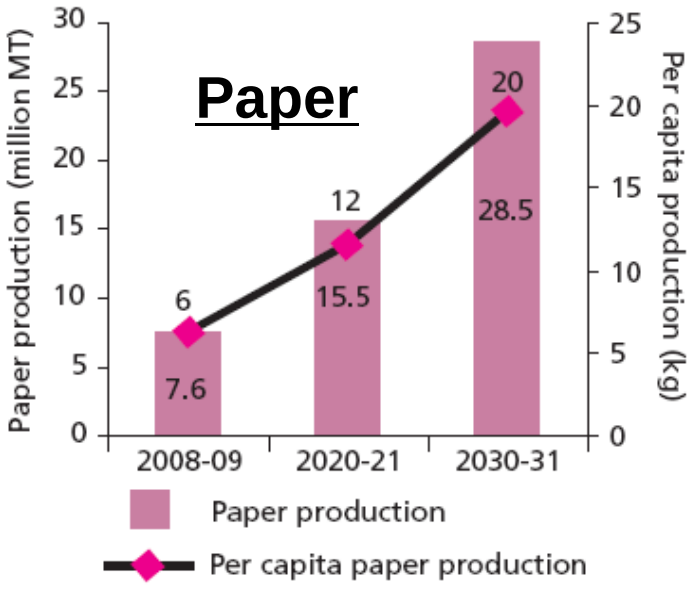


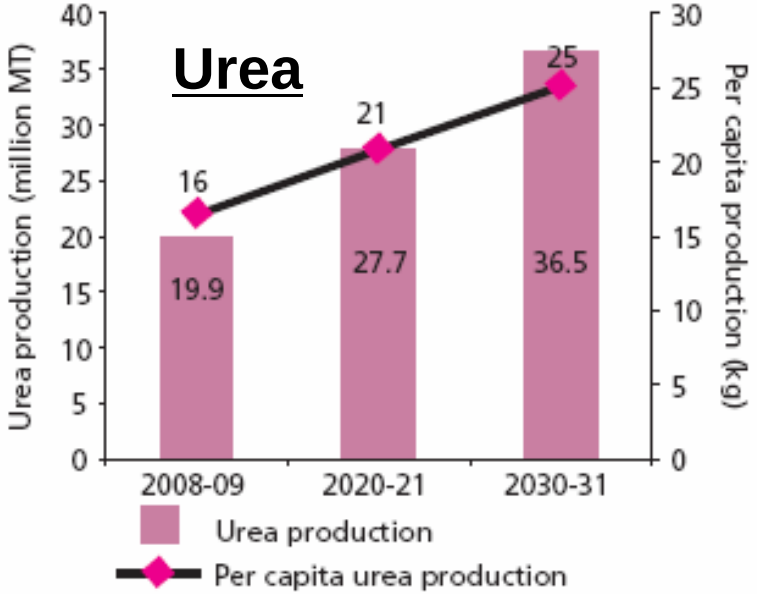
Cost of low carbon

- Cumulative emissions avoided by opting for LC over BAU is 3.4 billion MT CO_2 @ US $60 / tonne CO_2 avoided
- This is 3 - 4 times the price of CERs under CDM

Growth imperative

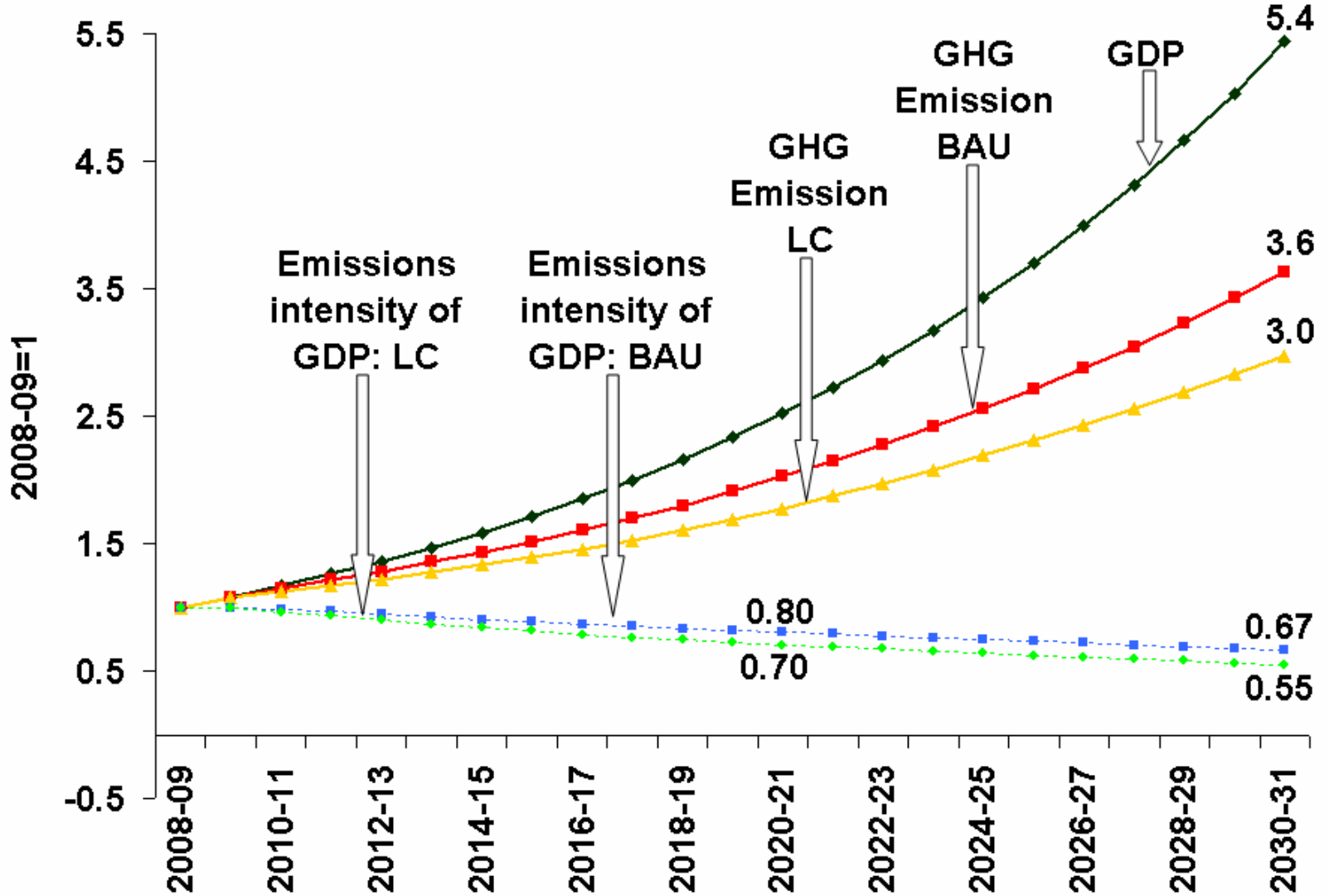






Emissions intensity of GDP

Low carbon growth



What this means?

By 2020, we exhaust all ‘low hanging’ options as well as high-end commercialized technologies.

Implications

a. Need for revolutionary technology development and deployment, which will in turn require drastic emission reduction targets in industrialised countries

b. Need to ensure that equity, remains the basis of negotiations

Future politics: Build agreement based on limits

- Assert principle of equity at all costs
- Assert need to share growth. Between nations and within nations
- Build on **tough** emission reduction targets
- Build on **tough** compliance mechanism

- Need new drivers for change in **new** world