

IPCC Results on Mitigation in the Industry Sector

Some results from India

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IPCC Results on Mitigation in the Industry Sector



emissions

CO₂ from: industries (90% of industrial CO_{2e} emission)

- Energy Use of fossil fuel
- Non energy use of fossil fuel for chemical processing and metal smelting
- non-fossil fuel sources, for example cement and lime manufacture.

Non-CO₂ from: Industrial processes

N₂O and HFCs from **chemical processing**

PFCs from aluminium, magnesium, and semiconductor production

SF₆ from electrical switchgear

CH₄ and N₂O from **food processing**



Overview

- **Between 1971-2004 industrial sector's share of total global primary energy use declined from 40% to 37%**
- **In 2004, industrial sector energy-related CO2 emissions were divided as follows:**
 - **Developed nations: 35%**
 - **Transition economies: 11%**
 - **Developing nations: 53%**
- **Developing nations now produce:**
 - **78% of world cement**
 - **58% of world fertilizer**
 - **50% of aluminum**
 - **42% of world steel**

Key Findings

- 85% in the energy-intensive industries
- Iron and steel, non-ferrous metals, chemicals and fertilizers, petroleum refining, minerals (cement, lime, glass and ceramics) and pulp and paper.
- Large industries dominate globally these sectors
- SMEs are important in developing countries: metals, chemicals, food, paper and pulp.
- Challenge is Small may not have economic and technical capacity



Mitigation Options

- Sector-wide options
- Process-specific options
- We list examples of technologies
- Operating procedures
- Energy Efficiency
- Fuel switching
- Power Recovery
- Renewables
- Feedstock change
- Product change
- Material efficiency
- Non-CO₂ GHG control
- CO₂ sequestration



Mitigation Potential

Mitigation potential and cost in 2030 have been estimated through an industry-by-industry assessment for energy-intensive industries and an overall assessment for other industries.



Mitigation Potential

The largest mitigation potentials are located in the steel, cement, and pulp and paper industries and in the control of non-CO₂ gases.

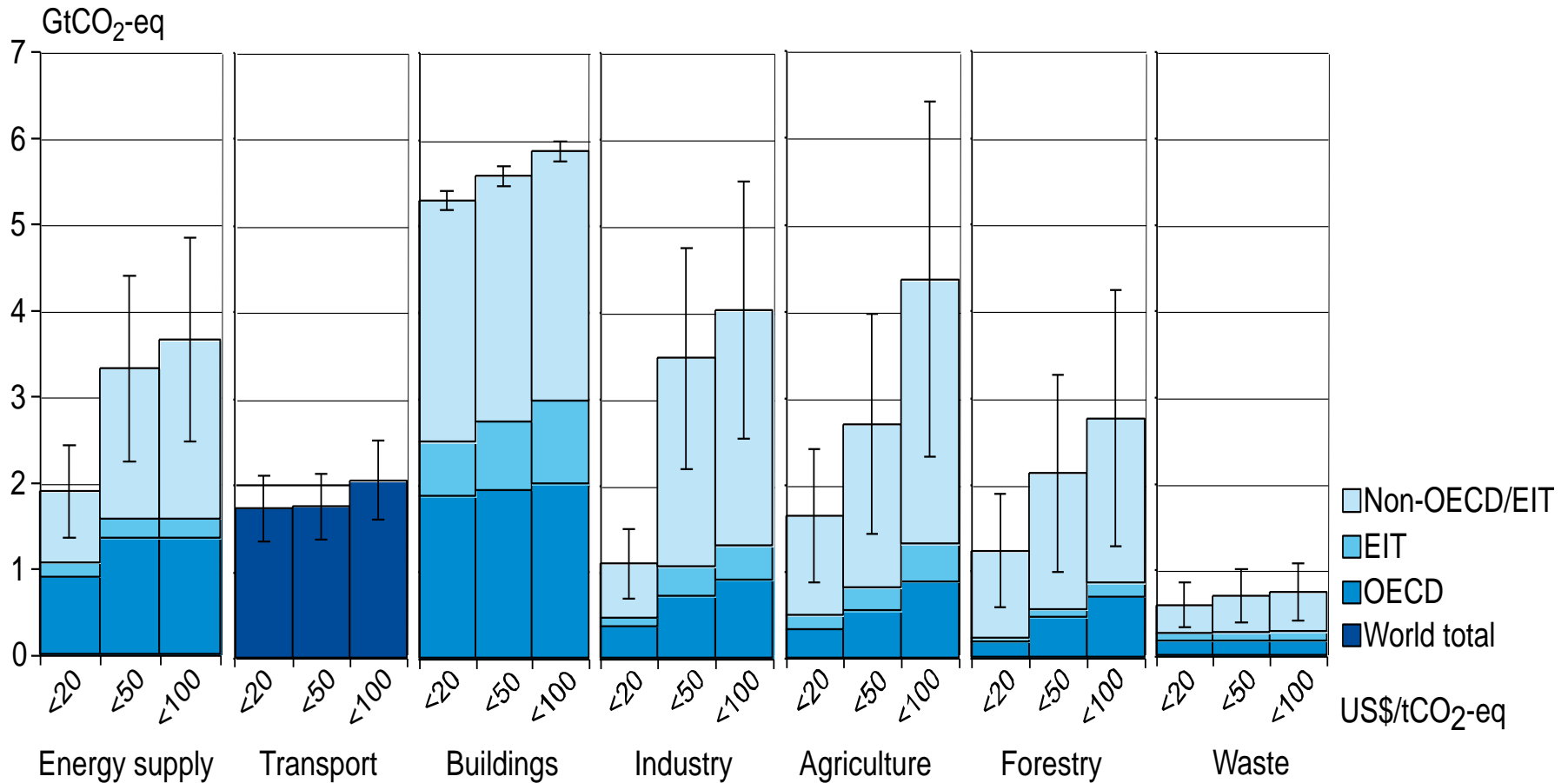


How can emissions from industry be reduced?

Sector	(Selected) Key mitigation technologies and practices currently commercially available.	Key mitigation technologies and practices projected to be commercialized before 2030. (Selected)
Industry	More efficient electrical equipment; heat and power recovery; material recycling; control of non-CO ₂ gas emissions	Advanced energy efficiency; CCS for cement, ammonia, and iron manufacture; inert electrodes for aluminium manufacture

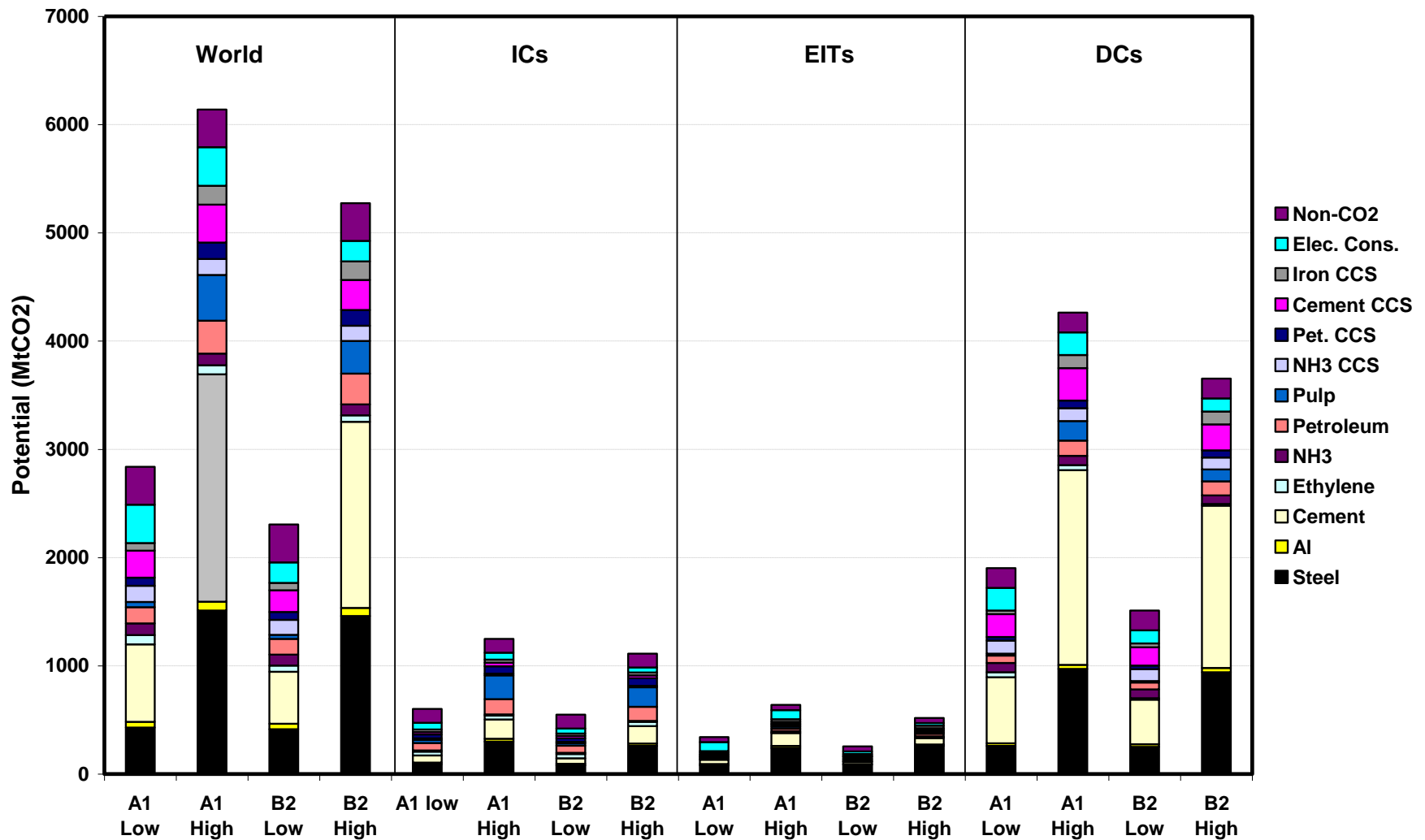


All sectors and countries have reduction potential



Source : IPCC 2007

IPCC AR4 Bottom-Up Industrial Sector Mitigation Potential Estimate: Results



Barriers to mitigation

- Scientifically issue is understood but there is
- Lack of market response as well as govt. actions
 - Need: appropriate incentive
 - Competing demands for financial and technical resources within the company
 - Capacity building and access to information
 - Slow capital stock turn over



GHG Mitigation is Only One Driver

- Industry decisions will continue to be driven by
 - Customer preferences
 - Costs
 - Competitiveness
 - Government regulation
 - Predictable policy needed



Achieving SD

Cleaner production without compromising employment

SMEs can be major players

High first cost of mitigation

Integration of SME with national development strategy



Co-benefits

- Health
- Reduction of dust
- increased production
- improved product quality, working environment, low maintenance cost
- decreased liability, improved public image and worker morale, and delaying or reducing capital expenditures



Additional economy wide gain
from efficiency scenario

Impact on GDP and Employment

Indian Experience



What is wrong in ET?

- Less demand
- Why?
- Given the existing policies we find polluting technologies relatively cheaper
- Lack of right kind of incentive
- We just need a regime change/paradigm shift through investment
- How ? more investment can come to supply the clean technologies



Wrong messages

- Less return in new technologies per se
- Studies show if we correct prices: include true cost of coal/oil/ dirty fuels.. ..or consider the social benefits of new technologies then return is much higher even more than 16-20%
- Change policies to make these profitable



Why not happening in ET?

Price correction

- **Enabling policies need to be global , negotiated**



Why not happening?

- Will hurt people
 - Will hurt consumers
 - Will hurt producers
 - Welfare will be reduced
-
- Political agenda more than scientific approach
 - Wrong notions of welfare as performance indicator for countries.

Need to come out of 'voluntary' action

Find innovative solutions for

Polluter pay principle

an alternative suggestion

Climate Debt Repayment

- Cap and trade for all
- Avoided Mitigation Fund : historical too

Time to Revisit CD “M”

- CDM helped in transferring in million dollar range
- AMF can generate trillion dollar transfer
- Avoids **Ethical question who owns the right to global common?**
- **Start a fresh agreement for 2012 and beyond on level playing ground with Total emission cap**

What should be there in new negotiation

- Negotiation on new global fuel price policies
- AMF
- New cap-trade regime

- NATCOM : Inventory of technology
- Reporting of R & D investment
- Reporting of Technology deployment
- Reporting of Corrections in fuel prices

Right questions

- Question to research and ask is how much in fuel prices we need to make correction?
- Movement should be to put pressure on policy makers and politicians to correct prices, incentives
- This SHOULD BE GLOBAL ACTION
- Negotiation : measurable action should be towards this.

Barriers to cooperation

- Partial approach
- What will happen to GDP production
- What will happen to Exchange rate
- What will be the relative gain and loss of the countries
- What happens to non compliance: Avoided Mitigation fund



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Thank you