

# **Environmental Costs versus Human Benefit: Striking a Moral Balance for Sustainability**

Bill Clark

Harvard Kennedy School



# **RIO+20**

**United Nations  
Conference on  
Sustainable  
Development**



# World Commission on Environment & Development (1987)

- “Environment is where we live; and development is what we all do in attempting to improve our lot within that abode. The two are inseparable.... “
- “Humanity has the ability to make development sustainable: to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs.”

# Last half century sees big improvements in human well-being

- Life expectancy at birth up: 46  $\rightarrow$  70 y
- Infant mortality down: 13%  $\rightarrow$  4%
- Access to safe drinking water: <35%  $\rightarrow$  65%
- Literacy rate up: <50%  $\rightarrow$  80%
- GDP/capita up: 5+%/yr
- > 3 billion people improve living standards.































# Economic growth without environmental protection...

- Kills the people development is meant to benefit
  - *Pollution leads to ~100 million years of life lost each year (number of people \* years of life lost per person)*
- Limits our ability to produce essential food
  - *“Brown clouds” from biomass burning combined with climate change to significantly reduce growth of rice yields in Asia*
- Undermines economic growth itself...
  - *Pollution and resource degradation cost the median country around 1.5% points of its GNP growth/yr, with more than ¼ of countries losing >5% points of GNP/yr.*



## What's to be sustained? What's to be developed?

- Nature
  - Earth, biodiversity, ecosystems
- Life support
  - Ecosystem services, resources, environment
- Community
  - Cultures, groups, places
- People
  - Child survival, life expectancy, education, equity, opportunity
- Economy
  - Wealth, productive sectors, consumption
- Society
  - Institutions, social capital, states, regions

What ought to be the human use of the earth?

# The IPAT framework...

- Impact (on environment) =
  - Population (e.g. people / area)
  - Affluence (e.g. consumption / person)
  - “Technology” (e.g. junk / unit consumption)
- As growth rates...
  - $I = P + A + T$
- For the world carbon over last half century
  - $P = 1.5\%/yr$ ,  $A = 5\%/yr$ ,  $T = -2.5\%/yr$
  - $I = 1.5 + 5.0 - 2.5 = 4\%/yr...$
  - A doubling of Impacts every 20 years...



# What ought to be ~~the human~~ **my** use of the earth?

- $I = P + A + T$ 
  - $I = 1.5 + 5.0 - 2.5 = 4\%/yr \rightarrow I = 0\%/yr ?$
- Population?
- Technology?
- Affluence? / Consumption?

# Two Harvard Sagas...

- Energy use / Greenhouse gas emissions
  - President's initiative to reduce 30% by 2016...

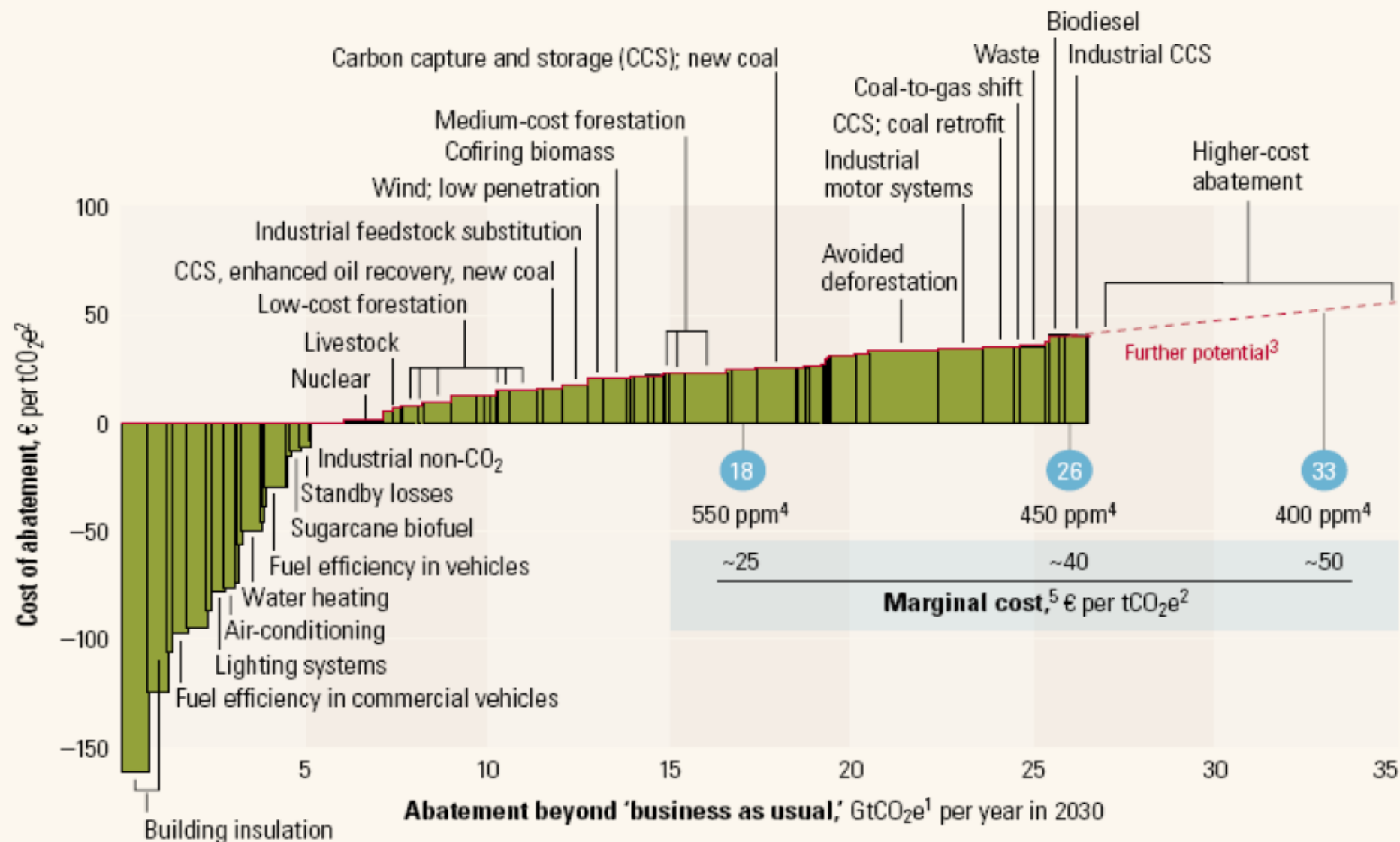


# Supply curve for GHG abatement in 2030

(McKinsey 2007)

Global cost curve for greenhouse gas abatement measures beyond 'business as usual'; greenhouse gases measured in GtCO<sub>2</sub>e<sup>1</sup>

● Approximate abatement required beyond 'business as usual,' 2030



# Two Harvard Sagas...

- Energy use / Greenhouse gas emissions
  - President's initiative to reduce 30% by 2016...
  - What's not included and what we can/ could/ ought to do about it...
- Food consumption
  - Food Literacy Initiative, Organic lawns, Gardens
  - We have met the enemy...
- “Sustainable Consumption”?



# “Sustainable Consumption”?



# “Sustainable Consumption”?



## Common Threads Initiative

- Reduce
- Repair
- Reuse
- Recycle
- Reimagine...



# Sustainable Walmart ?

- Worldwide goals to ...
  - Be supplied by 100% renewable energy
  - Create zero waste
  - Sell products that sustain people and the environment
- Huge impacts on supply chain, China, etc.
- A model for sustainable development?
  - Why? Why not?
  - What ... and who.. needs to change?



## **Franklin Roosevelt:**

“The test of our progress is not whether we add more to the abundance of those who have much; it is whether we provide enough for those who have too little.”



