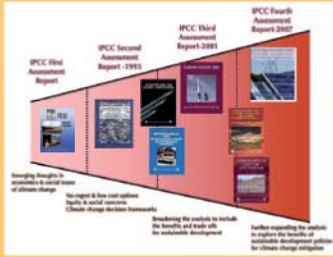


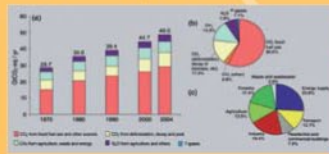
20 YEARS OF THE IPCC

Working Group III - Climate Change Mitigation

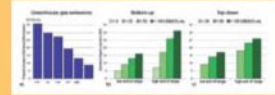


The Working Group III Assessment and Special Reports reflect an evolution of ideas regarding the economics and social dimensions of climate change mitigation

Between 1970 and 2004 greenhouse gas (GHG) emissions have increased by 70%



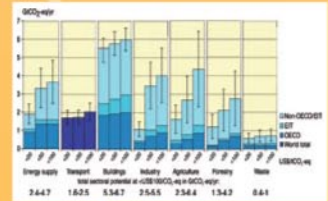
Mitigation is possible and a wide range of mitigation technologies are commercially available now and in the mid-term – but hard choices are needed



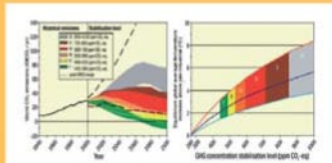
By 2025 GHG emissions are projected to increase between 25-90% (using IPCC SRES scenarios), but bottom up and top down studies indicate that there is sufficient economic mitigation potential over the coming decades to offset the growth in emissions.

All sectors can contribute, but the respective potential and costs differ within regions and among economic sectors.

- A large number of mitigation technologies are available now and in the near future
- An effective carbon-price signal could realize significant mitigation potential
- A variety of policies and instruments are available to create incentives for mitigation action
 - RD&D efforts and technology transfer
 - Investments in new technologies
 - Market creation
 - Tax credits and charges
 - Standard setting and regulatory measures
- Changes in lifestyles and behaviour patterns can contribute to climate change mitigation
 - Occupant behaviour, cultural patterns, consumer choices
 - Reduction of car usage, improved urban planning and more availability of public transport



Estimated economic mitigation potential as function of carbon price in 2030



Stabilization level (ppm CO ₂ -eq)	Global mean temperature increase at Equilibrium (°C)	Year global CO ₂ emissions to peak	Year global CO ₂ emissions back at 2000 level	Reduction in 2050 global CO ₂ emissions compared to 2000
445 – 490	2.0 – 2.4	2000 – 2015	2000 – 2030	-55 to -50
490 – 535	2.4 – 2.8	2000 – 2020	2000 – 2040	-60 to -30
535 – 590	2.8 – 3.2	2010 – 2030	2020 – 2060	-30 to +5
590 – 710	3.2 – 4.0	2020 – 2060	2050 – 2100	+10 to +60
710 – 855	4.0 – 4.9	2050 – 2080		+25 to +85
855 – 1130	4.9 – 6.1	2060 – 2090		+90 to +140

Short-term action matters to achieve stabilization targets in the longer term

Mitigation efforts over the next two to three decades will have a large impact on opportunities to achieve lower stabilization levels.

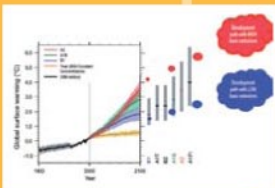
Costs depend on stabilization target and level, baseline, portfolio of technologies considered and rate of technological change

Stabilization level (ppm CO ₂ -eq)	Median GDP reduction (%)	Range of GDP reduction (%)	Reduction of average annual GDP growth rates (%)
500-550	0.2	0.6 – 1.2	< 0.06
550-600	0.6	0.2 – 2.5	< 0.1
600-650	Not available	0.2	< 0.12

Estimated global average macro-economic costs in 2050 (no benefits and avoided damage not included)

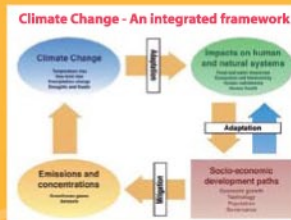
Suggested reduction targets for Annex 1 & non-Annex 1 Countries

Reduction category	Region	2010	2050
A-10% ppm CO ₂ eq	Annex 1	-20% to -40%	-20% to -30%
	Non-Annex 1	Substantial deviation from baseline in Latin America, Middle East, East Asia and Central Asia, and Africa	Substantial deviation from baseline in all regions
B-50% ppm CO ₂ eq	Annex 1	-10% to -30%	-10% to -20%
	Non-Annex 1	Deviation from baseline in Latin America and Middle East, East Asia	Deviation from baseline in most regions, especially in Latin America and Middle East
C-40% ppm CO ₂ eq	Annex 1	0% to -20%	-20% to -30%
	Non-Annex 1	Baseline	Deviation from baseline in Latin America, Middle East, and East Asia



There is a two-way relationship between climate change and sustainable development

- Climate change will worsen the gap in distributional goods and services between and within generations as the poor and disadvantaged will be the most affected
- An effective climate change strategy will require a portfolio of policies and measures that integrate development, equity and sustainability
- Linking sustainable development with climate change policies will make it easier to control climate changes risks
- Decision making in a sustainable development context would require broadening economic analysis of climate change, by including all co-benefits



Climate change policy alone will not solve the climate change problem

Decisions about other policies that seem unrelated to climate change can significantly affect emissions.

- **Macro-economic policy:** taxes, subsidies, other fiscal policies, structural adjustment
- **Trade policy:** “embodied carbon”, removing barriers for low-carbon products, domestic energy sources
- **Energy security policy:** efficient energy use, domestic energy sources
- **Access to modern energy:** bio-energy, poverty tariffs
- **Air quality policy:** clean fuel
- **Bank lending policies:** lending for efficiency/renewable energy, avoid lock-in into old technologies in developing countries

A broad range of policy initiatives is needed in energy, environment, trade, economics, banking and insurance.

