Mitigazione dei cambiamenti climatici: politiche, strumenti e misure per ridurre le emissioni di gas serra

IPCC Working Group 3

V Rapporto di valutazione sui Cambiamenti Climatici

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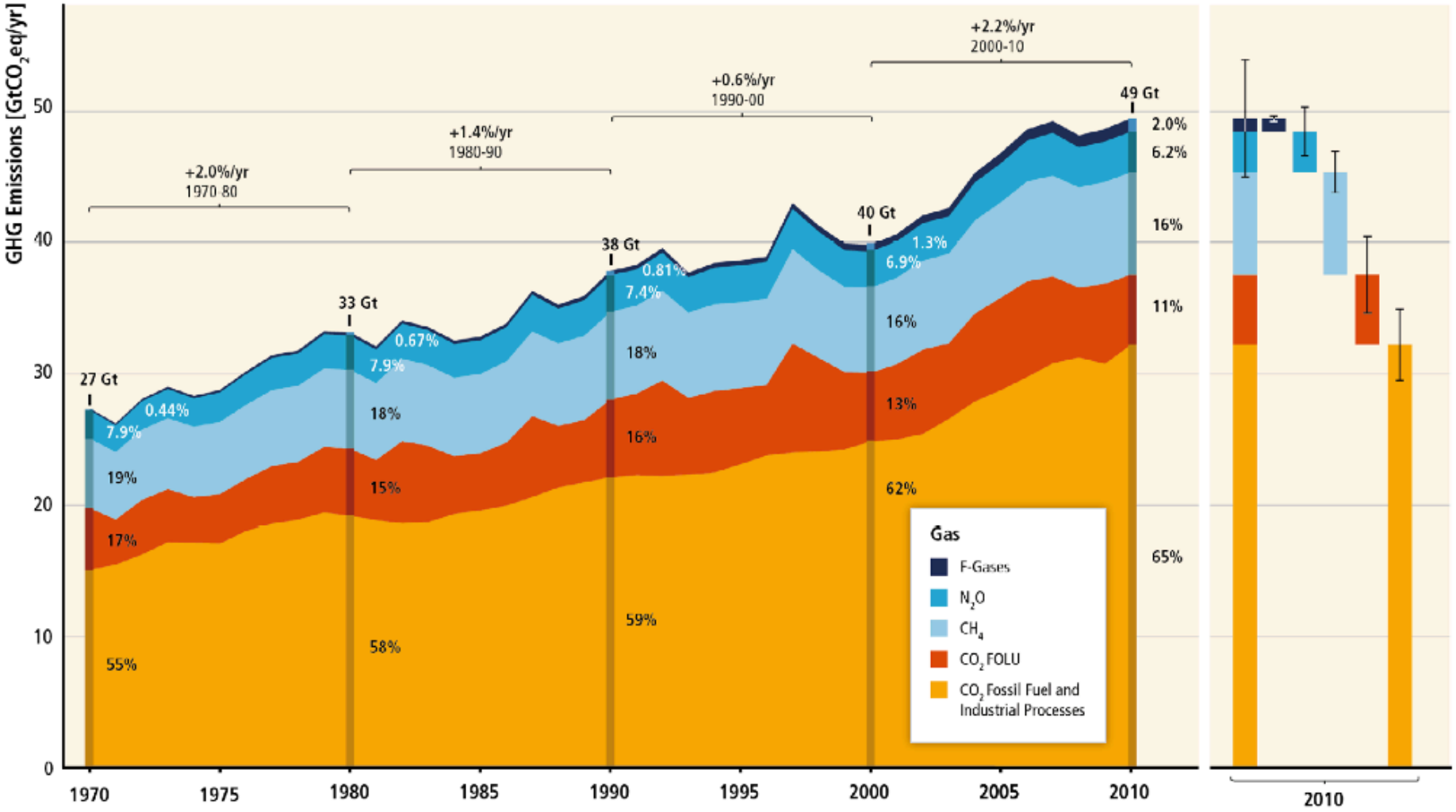
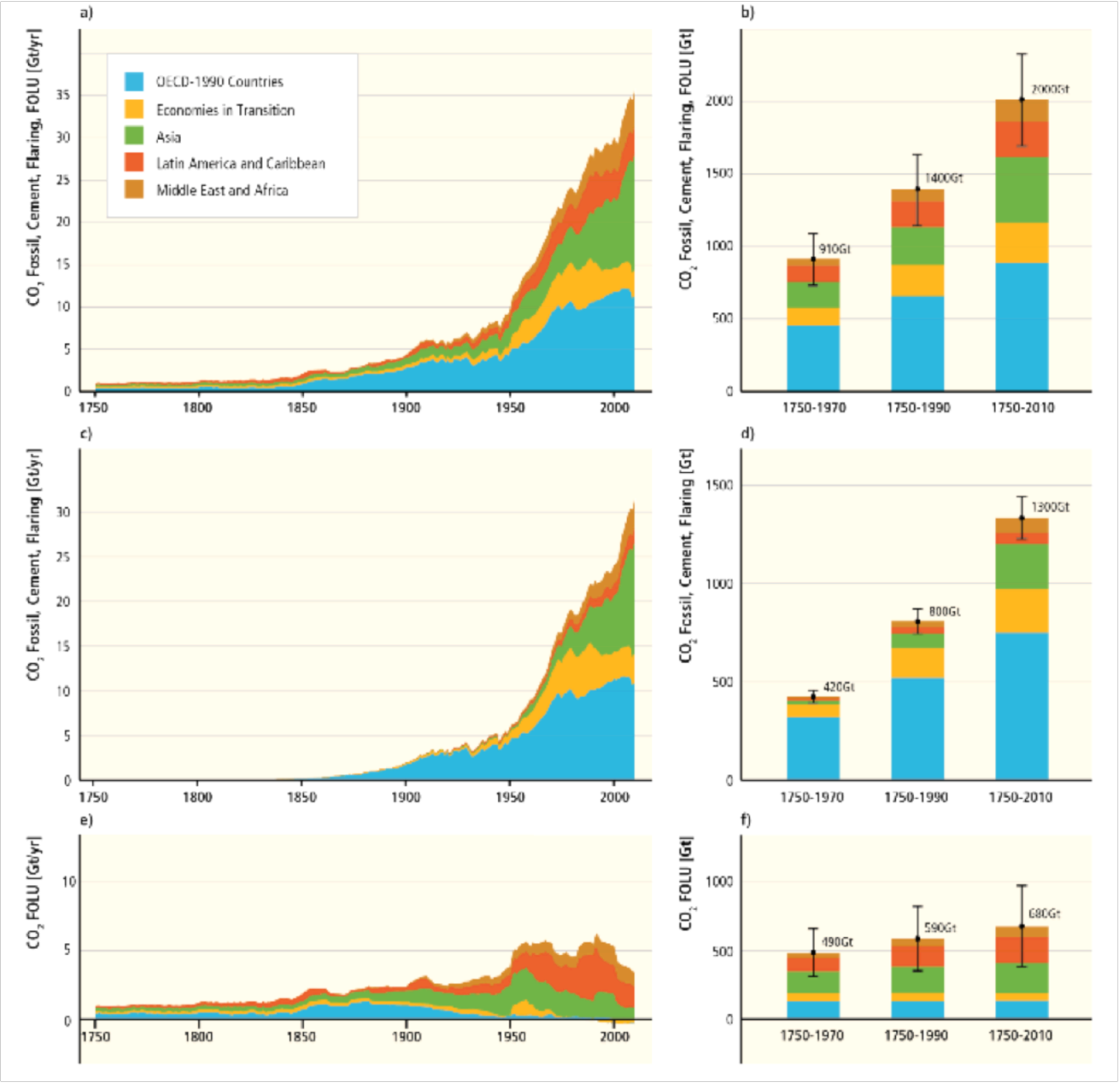
Centro Euro-Mediterraneo sui Cambiamenti Climatici

Totale delle emissioni di gas serra di origine antropica per tipi di gas 1970-2010



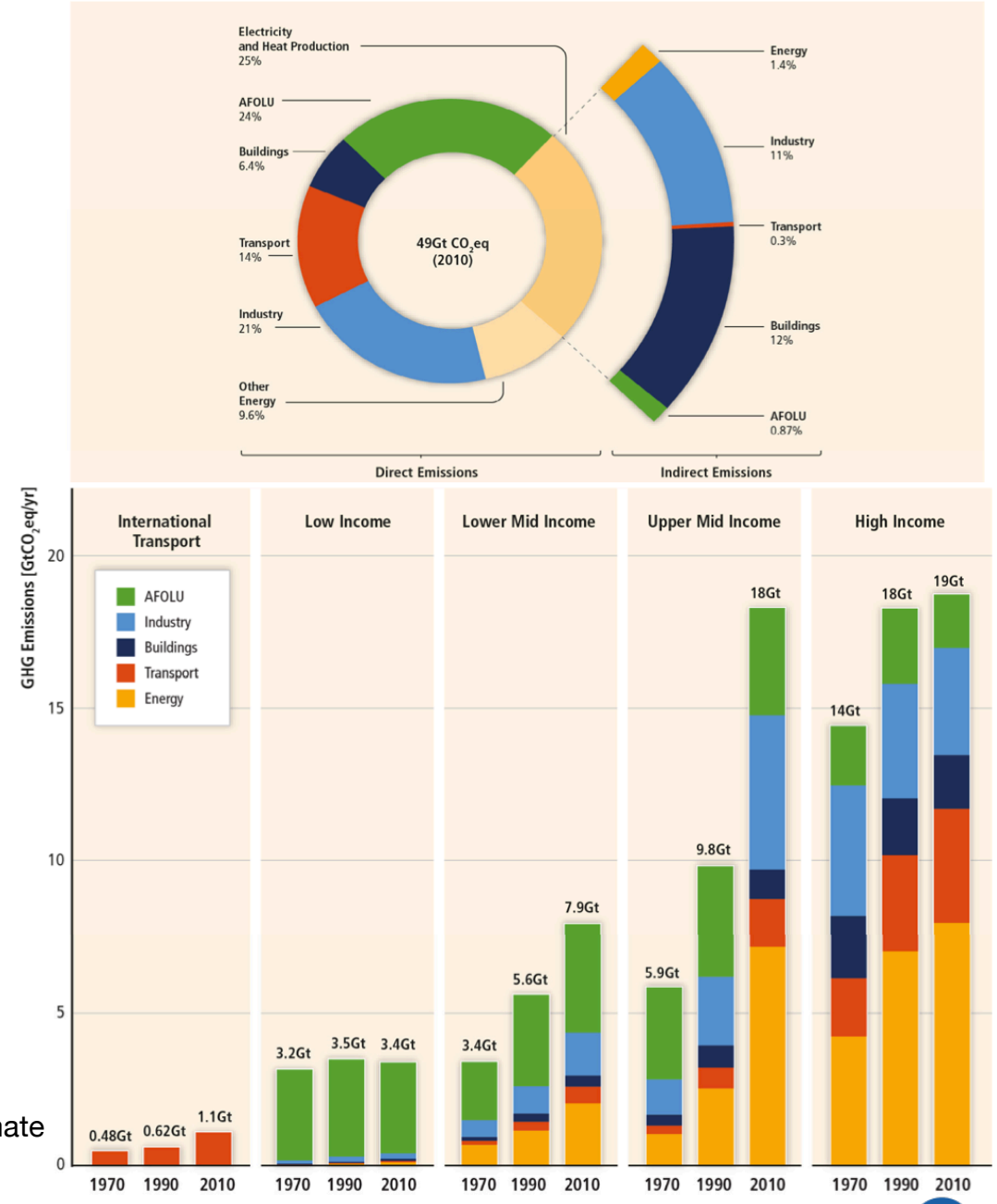
Source: IPCC AR5 - WG3 "The Mitigation of Climate Change" Summary for Policy Makers, 2014

Total anthropogenic CO_2 emissions from fossil fuel combustion, flaring, cement, as well as Agriculture Forestry and Other Land Use (AFOLU) by region from 1750 to 2010.



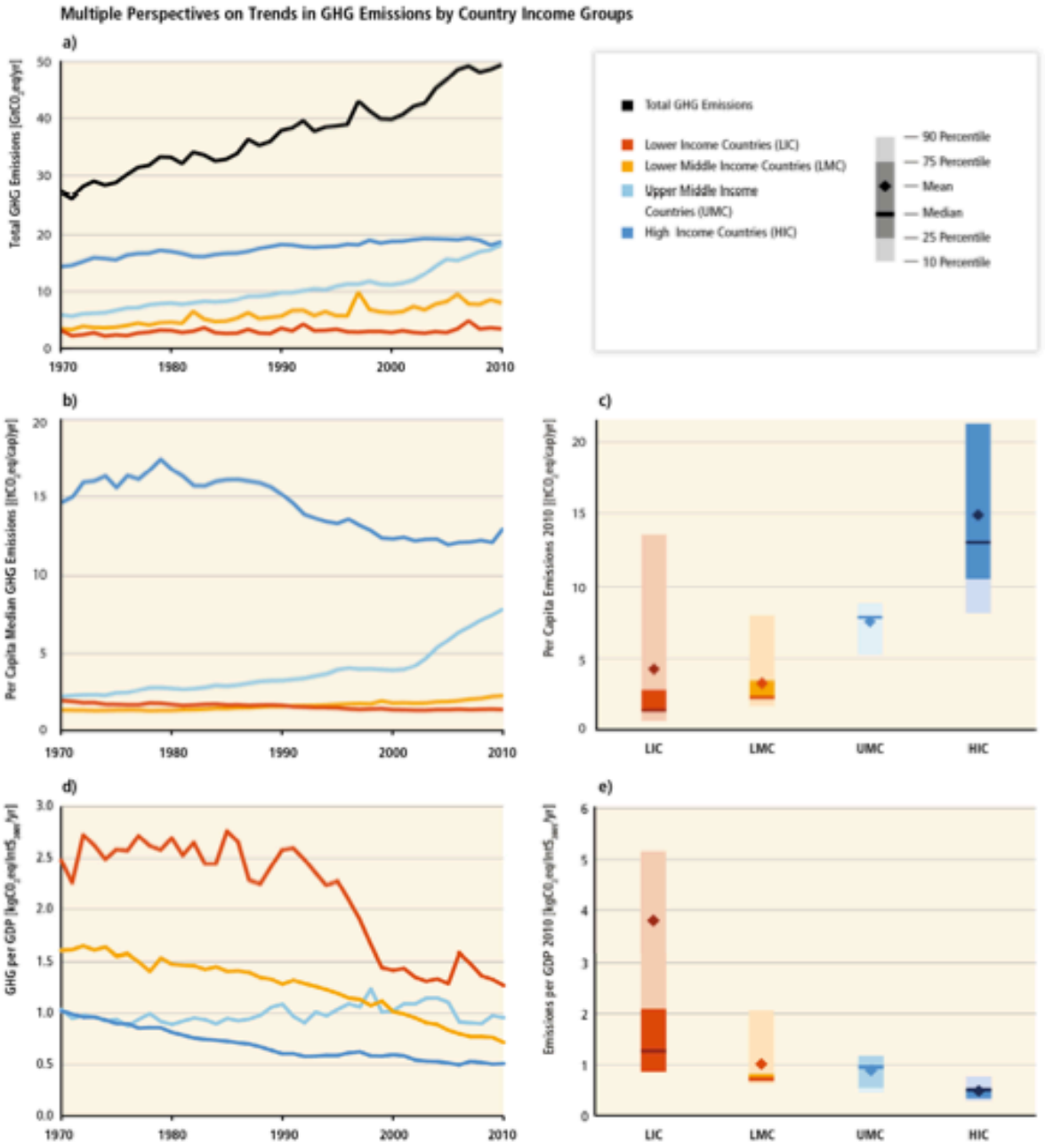
Source: IPCC AR5 - WG3 "The Mitigation of Climate Change" Summary for Policy Makers, 2014

Total anthropogenic GHG emissions ($GtCO_2eq/yr$) by economic sectors and country income groups.



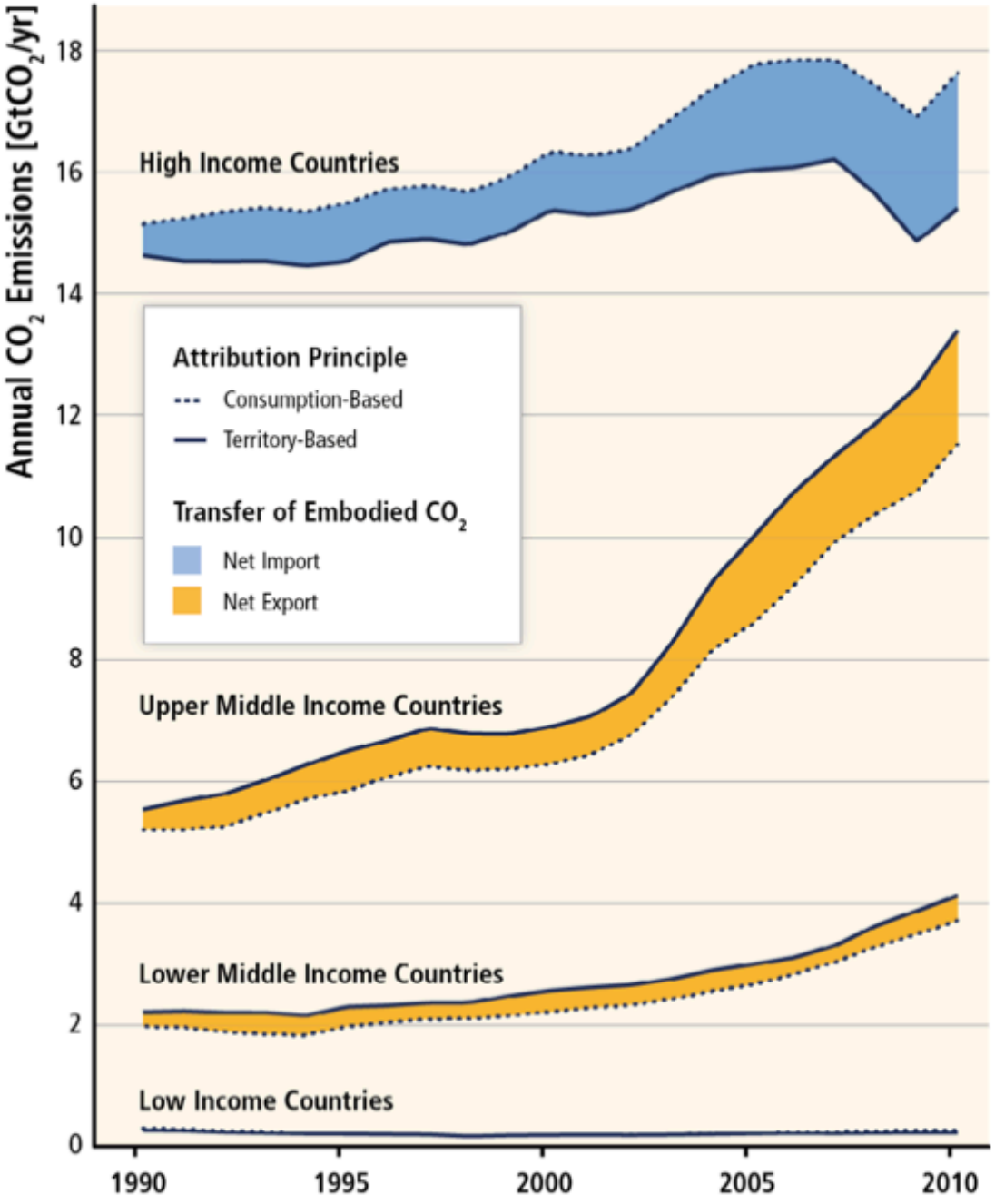
Source: IPCC AR5 - WG3 "The Mitigation of Climate Change" Summary for Policy Makers, 2014

Trends in GHG emissions by country income groups.



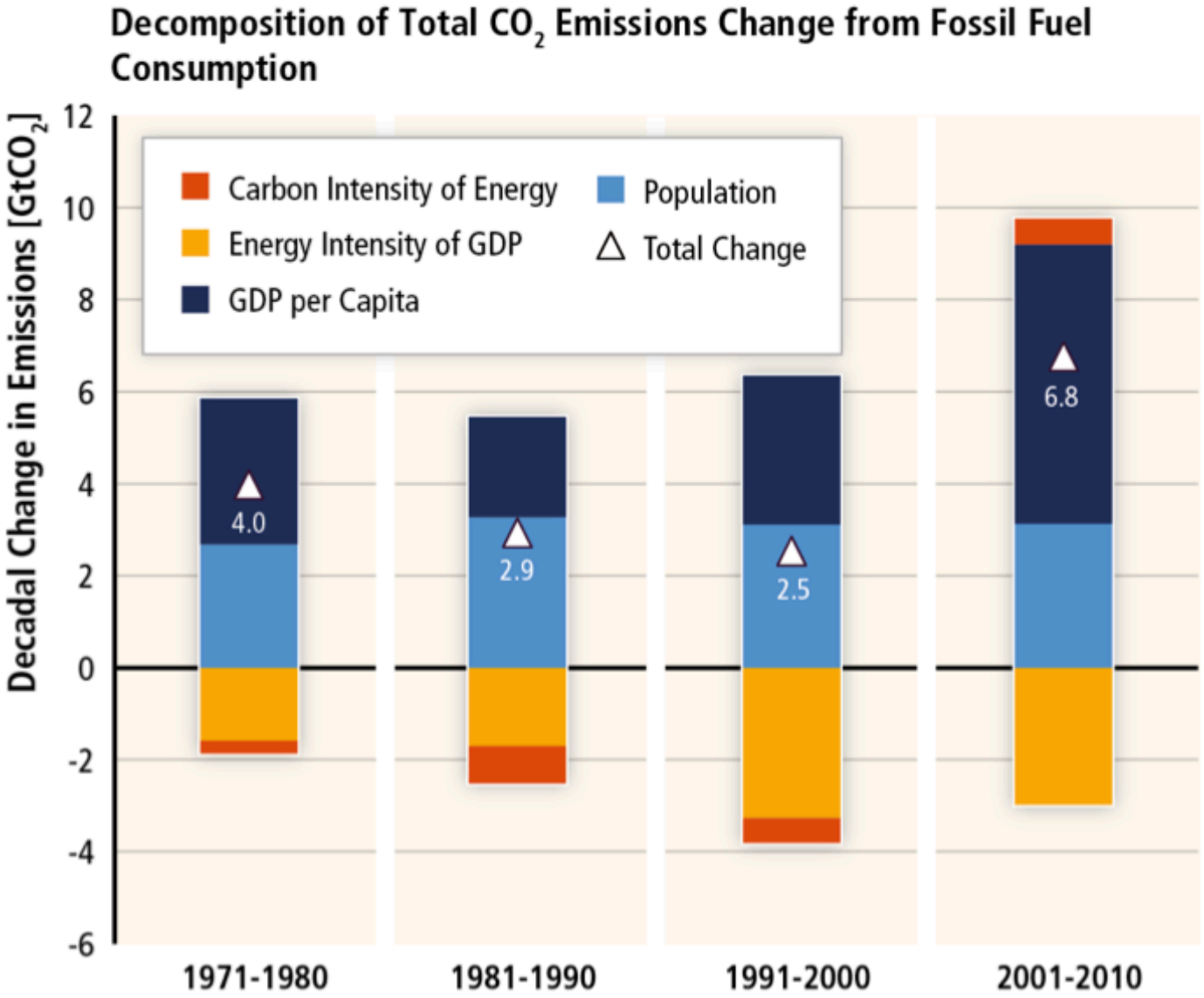
Source: IPCC AR5 - WG3 "The Mitigation of Climate Change" Summary for Policy Makers, 2014

Total annual CO_2 emissions ($GtCO_2$/yr) from fossil fuel combustion for country income groups attributed on the basis of territory (solid line) and final consumption (dotted line).



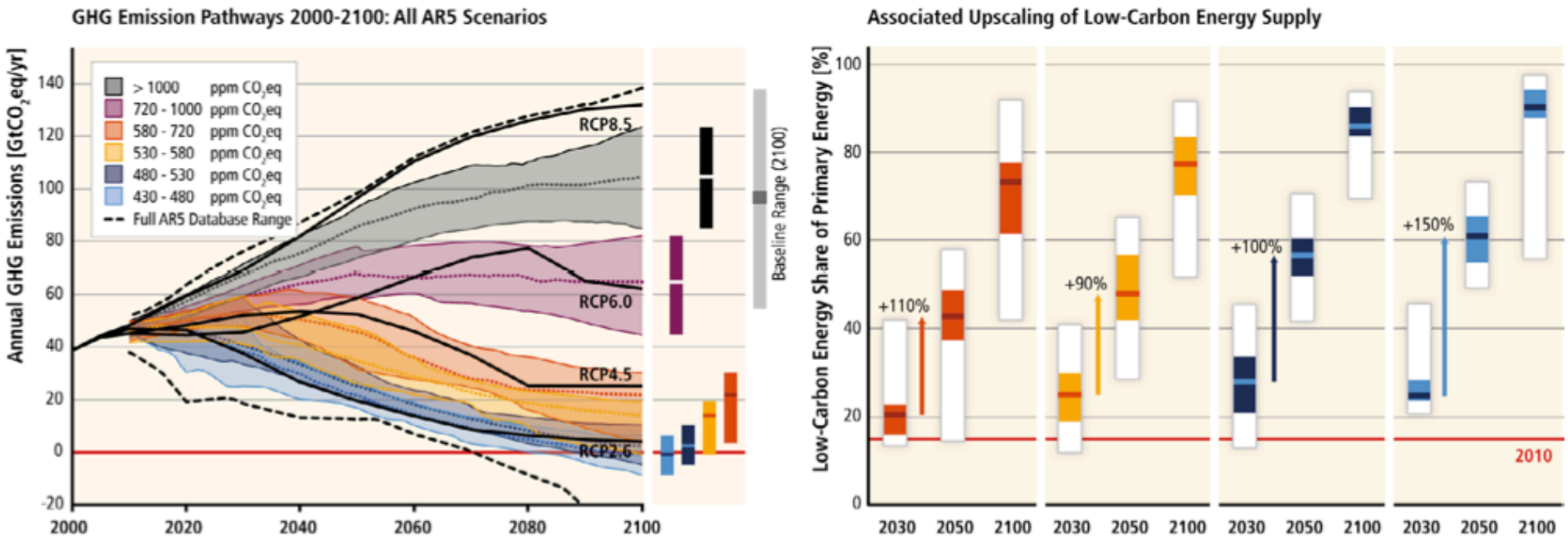
Source: IPCC AR5 - WG3 "The Mitigation of Climate Change" Summary for Policy Makers, 2014

Decadal absolute changes in total CO_2 emissions from fossil fuel combustion decomposed according to changes in four factors ($GtCO_2$/10years).



Source: IPCC AR5 - WG3 "The Mitigation of Climate Change" Summary for Policy Makers, 2014

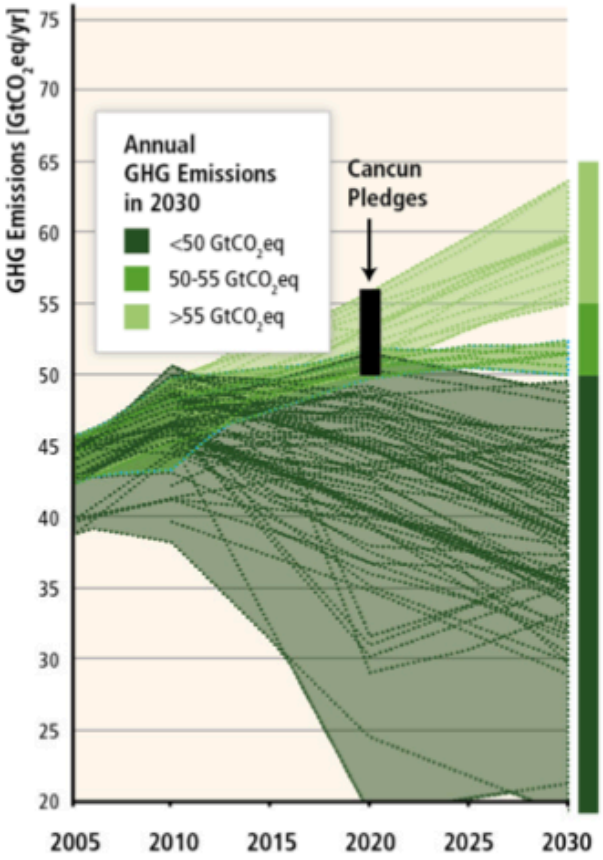
Evolution of global GHG emission ($GtCO_2eq/yr$) in baseline and mitigation scenarios for different long-term concentration levels (left panel) and associated upscaling requirements of low- carbon energy (% of primary energy) for 2030, 2050 and 2100 compared to 2010 levels in mitigation scenarios (right panel).



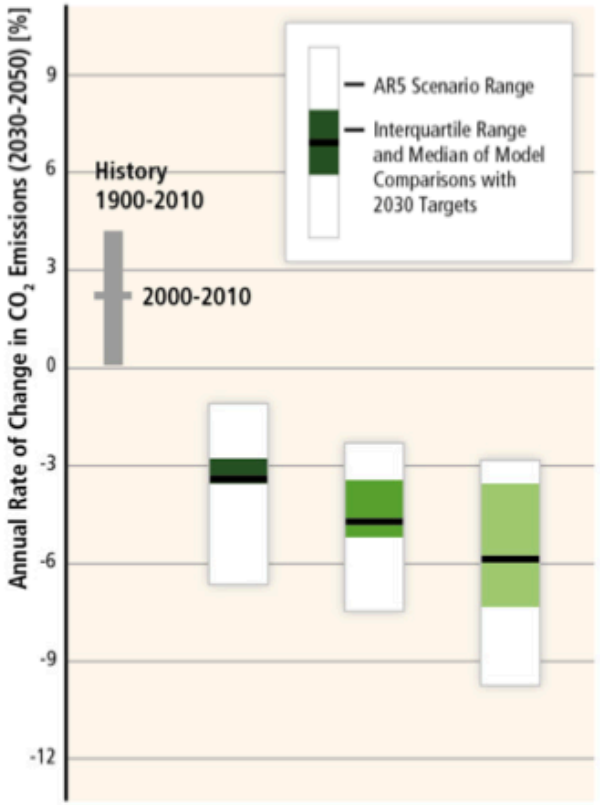
Source: IPCC AR5 - WG3 "The Mitigation of Climate Change" Summary for Policy Makers, 2014

The implications of different 2030 GHG emissions levels for the pace of CO_2 emissions reductions to 2050 in mitigation scenarios reaching about 450 to 500 (430-530) ppm CO_2eq concentrations by 2100.

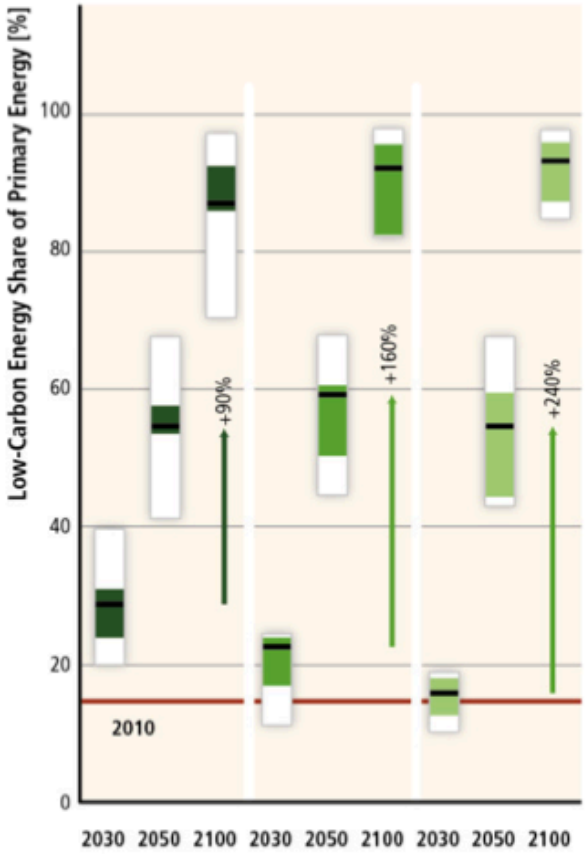
GHG Emissions Pathways to 2030



Implications of Different 2030 GHG Emissions Levels for the Pace of Annual Average CO_2 Emissions Reductions from 2030 to 2050



Implications of Different 2030 GHG Emissions Levels for Low-Carbon Energy Upscaling



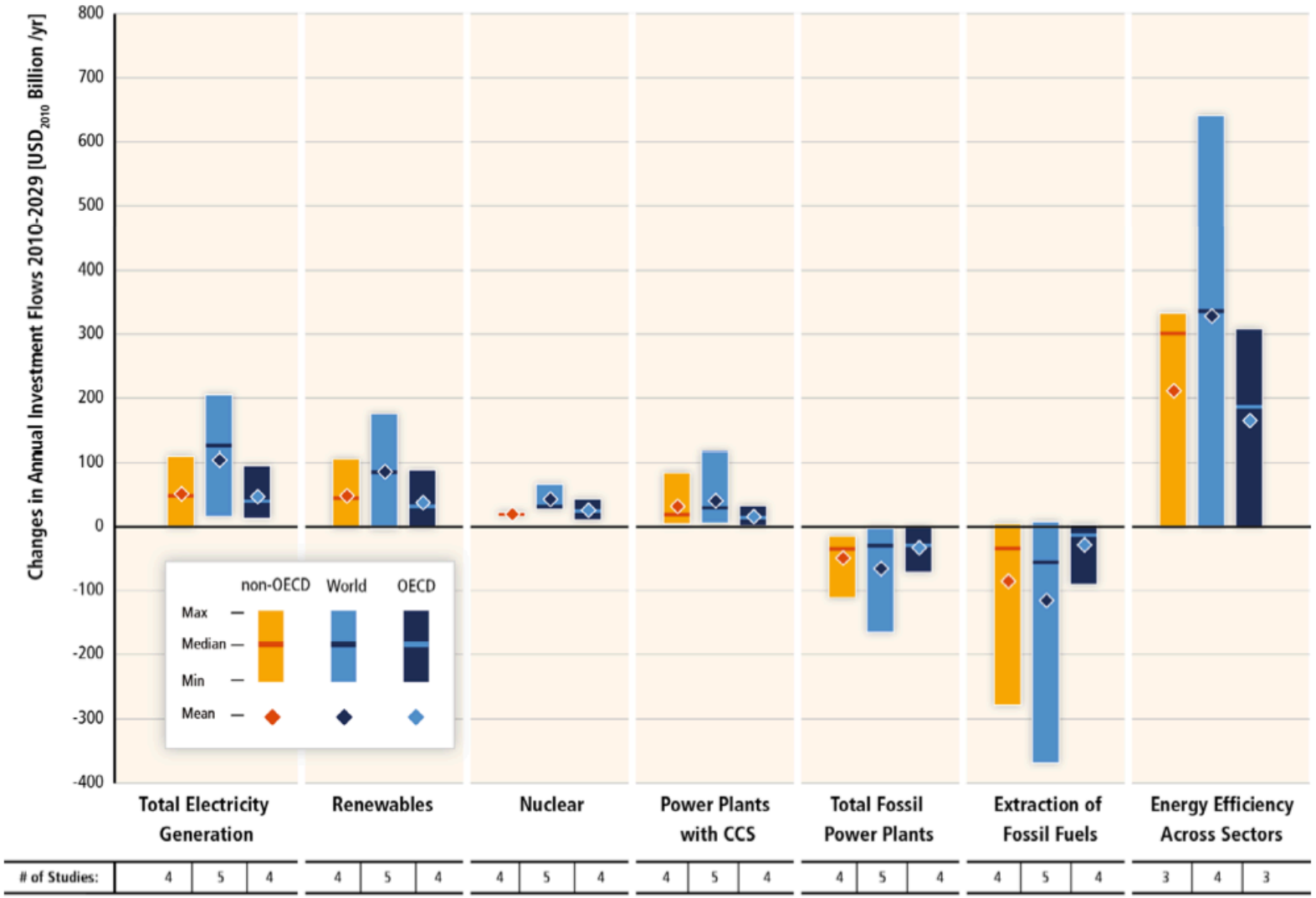
Source: IPCC AR5 - WG3 "The Mitigation of Climate Change" Summary for Policy Makers, 2014

Aggregate global economic costs of mitigation under different assumptions about technology and the timing of mitigation.

	Annual mitigation costs in cost-effective implementation scenarios [% reduction in consumption relative to baseline]			Increase in total discounted mitigation costs in technology constrained scenarios [% increase in total discounted mitigation cost (2015-2100) relative to default technology assumptions]				Increase in mid- and long term mitigation cost from reduced near term mitigation effort until 2030 [% increase in mitigation cost relative to immediate mitigation]			
				No CCS	Nuclear phase out	Limited Solar / Wind	Limited Bio-energy	<=55 GtCO2e		>55 GtCO2e	
2100 Concentration (ppm CO_2eq)	2030	2050	2100					2030-2050	2050-2100	2030-2050	2050-2100
450 (430-480)	1.7 (1.0- 3.7) [N: 14 (10)]	3.4 (2.1-6.2)	4.8 (2.9-11.4)	138 (29-297) [N: 4 (4)]	7 (4-18) [N: 8 (6)]	6 (2-29) [N: 8 (6)]	64 (44-77) [N: 8 (6)]	28 (14-50) [N: 34 (24)]	15 (5-59)	44 (2-78) [N: 29 (21)]	37 (16-82)
500 (480-530)	1.7 (0.6-2.1) [N: 32 (24)]	2.7 (1.5-4.2)	4.7 (2.4-10.6)								
550 (530-580)	0.6 (0.2- 1.3) [N: 46 (32)]	1.7 (1.2-3.3)	3.8 (1.2- 7.3)	39 (18-78) [N: 11 (9)]	13 (2-23) [N: 10 (8)]	8 (5-15) [N: 10 (8)]	18 (4-66) [N: 12 (10)]	3 (-5-16) [N: 14 (10)]	4 (-4-11)	15 (3-32) [N: 10 (8)]	16 (5-24)
580-650	0.3 (0-0.9) [N: 16 (12)]	1.3 (0.5-2.0)	2.3 (1.2- 4.4)								

Source: IPCC AR5 - WG3 "The Mitigation of Climate Change" Summary for Policy Makers, 2014

Change in annual investment flows from the average baseline level over the next two decades (2010 to 2029) for mitigation scenarios that stabilize concentrations within the range of approximately 430-530 ppm by 2100. CO_2eq



Source: IPCC AR5 - WG3 "The Mitigation of Climate Change" Summary for Policy Makers, 2014

Thanks

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