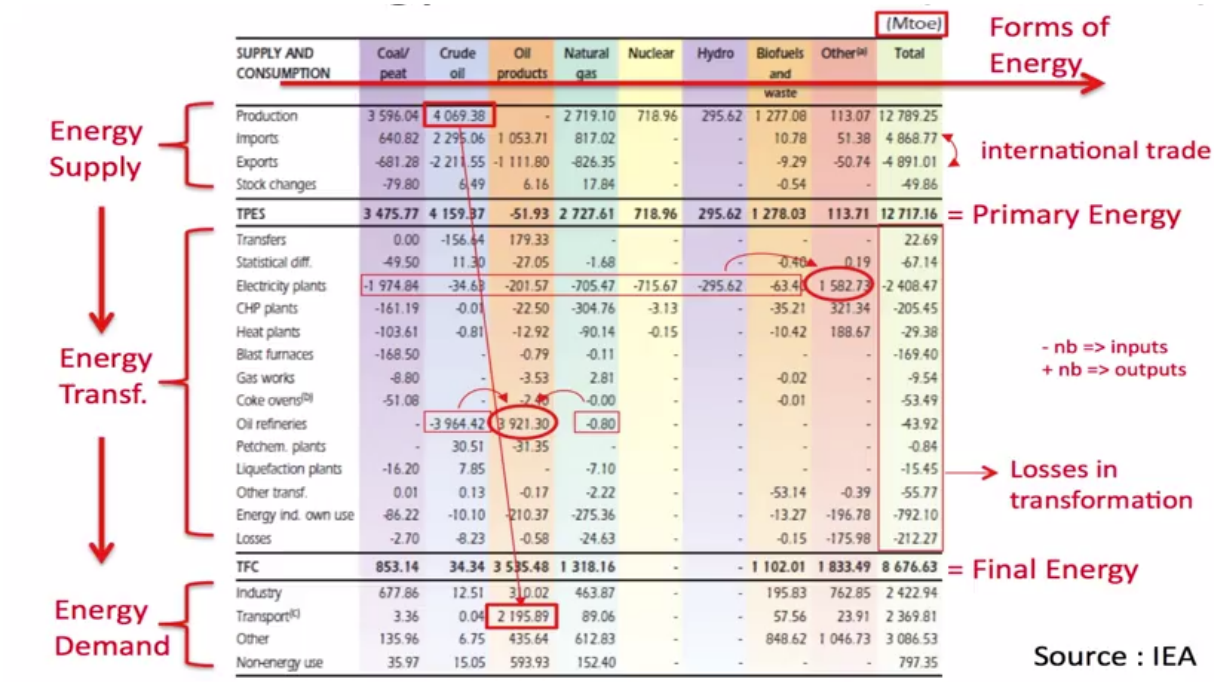
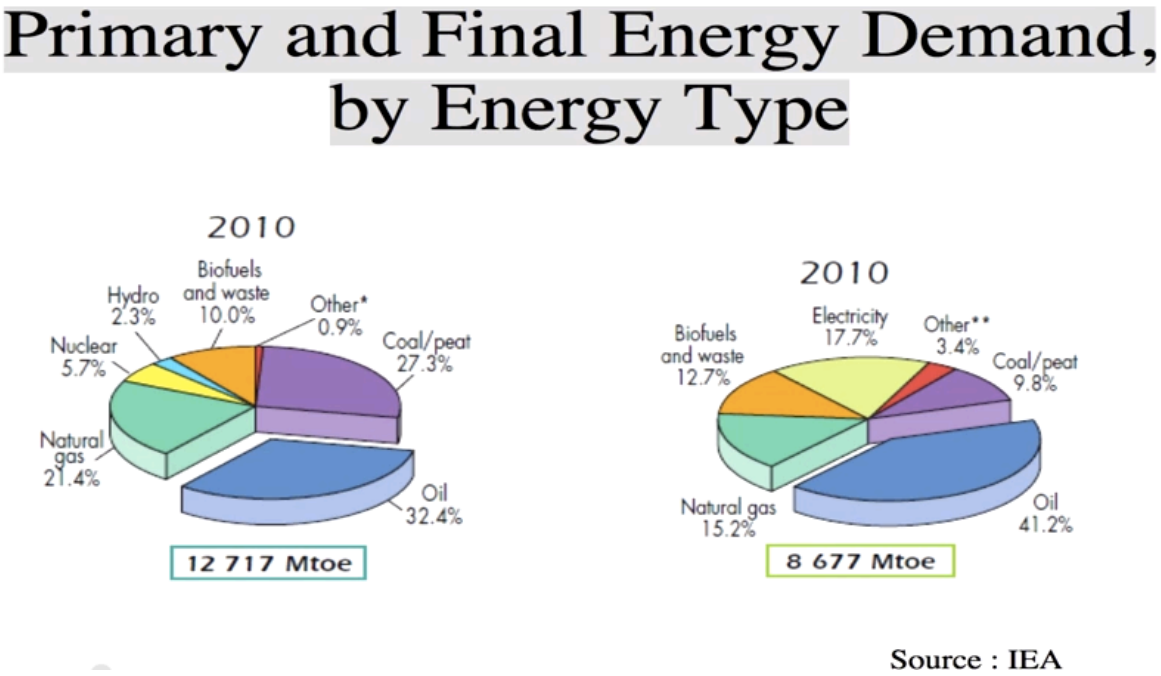
Climate Change Science and Negotiations: Lecture 5 Graphs

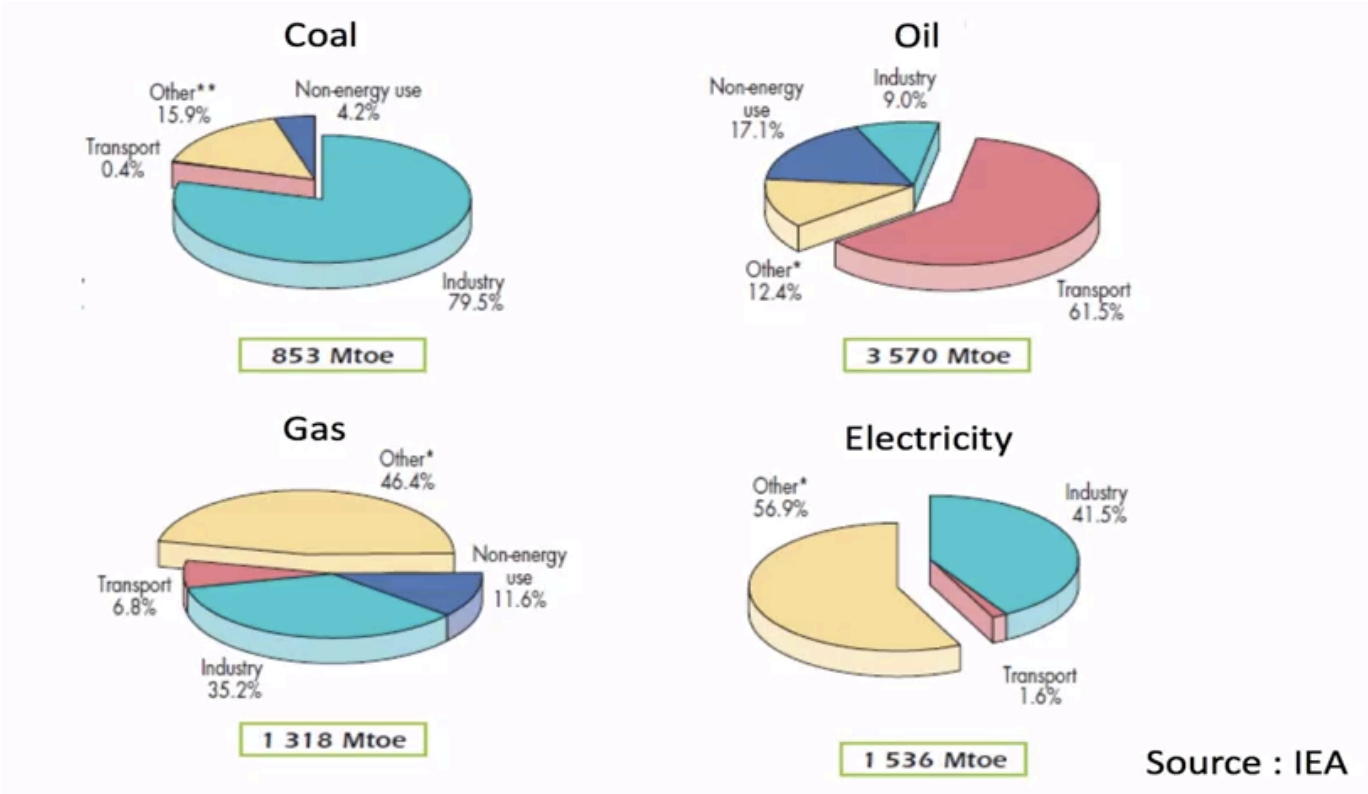
Chapter 1



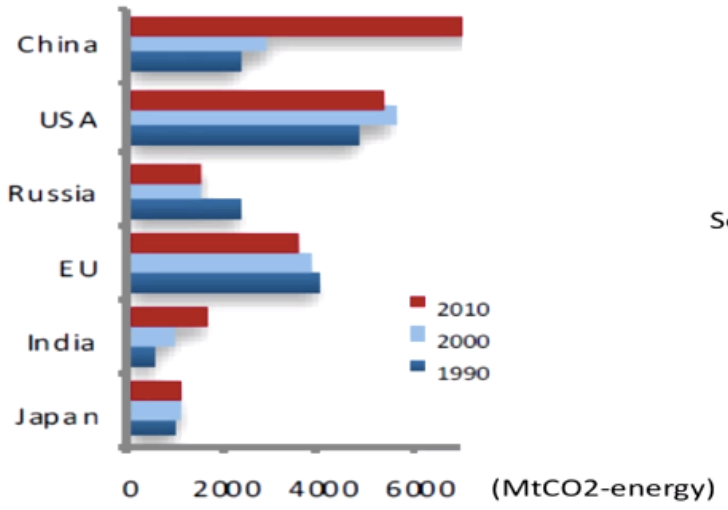
SUPPLY AND CONSUMPTION	Coal/ peat	Crude oil	Oil products	Natural gas	Nuclear	Hydro	Biofuels and waste	Other[a]	Total
Production	3 596.04	4 069.38	-	2 719.10	718.96	295.62	1 277.08	113.07	12 789.25
Imports	640.82	2 295.06	1 053.71	817.02	-	-	10.78	51.38	4 868.77
Exports	-681.28	-2 211.55	-1 111.80	-826.35	-	-	-9.29	-50.74	-4 891.01
Stock changes	-79.80	6.49	6.16	17.84	-	-	-0.54	-	-49.86
TPES	**3 475.77**	**4 159.37**	**-51.93**	**2 727.61**	**718.96**	**295.62**	**1 278.03**	**113.71**	**12 717.16**
Transfers	0.00	-156.44	179.33	-	-	-	-	-	22.69
Statistical diff.	-49.50	11.30	-27.05	-1.68	-	-	-0.46	0.19	-67.14
Electricity plants	-1 974.84	-34.62	-201.57	-705.47	-715.67	-295.62	-63.41	1 582.73	-2 408.47
CHP plants	-161.19	-0.01	-22.50	-304.76	-3.13	-	-35.21	321.34	-205.45
Heat plants	-103.61	-0.81	-12.92	-90.14	-0.15	-	-10.42	188.67	-29.38
Blast furnaces	-168.50	-	-0.79	-0.11	-	-	-	-	-169.40
Gas works	-8.80	-	-3.53	2.81	-	-	-0.02	-	-9.54
Coke ovens[b]	-51.08	-	-2.46	-0.00	-	-	-0.01	-	-53.49
Oil refineries	-	-3 964.42	3 921.30	-0.80	-	-	-	-	-43.92
Petchem. plants	-	30.51	-31.35	-	-	-	-	-	-0.84
Liquefaction plants	-16.20	7.85	-	-7.10	-	-	-	-	-15.45
Other transf.	0.01	0.13	-0.17	-2.22	-	-	-53.14	-0.39	-55.77
Energy ind. own use	-86.22	-10.10	-210.37	-275.36	-	-	-13.27	-196.78	-792.10
Losses	-2.70	-8.23	-0.58	-24.63	-	-	-0.15	-175.98	-212.27
TFC	**853.14**	**34.34**	**3 535.48**	**1 318.16**	**-**	**-**	**1 102.01**	**1 833.49**	**8 676.63**
Industry	677.86	12.51	310.02	463.87	-	-	195.83	762.85	2 422.94
Transport[c]	3.36	0.04	2 195.89	89.06	-	-	57.56	23.91	2 369.81
Other	135.96	6.75	435.64	612.83	-	-	848.62	1 046.73	3 086.53
Non-energy use	35.97	15.05	593.93	152.40	-	-	-	-	797.35

Chapter 2



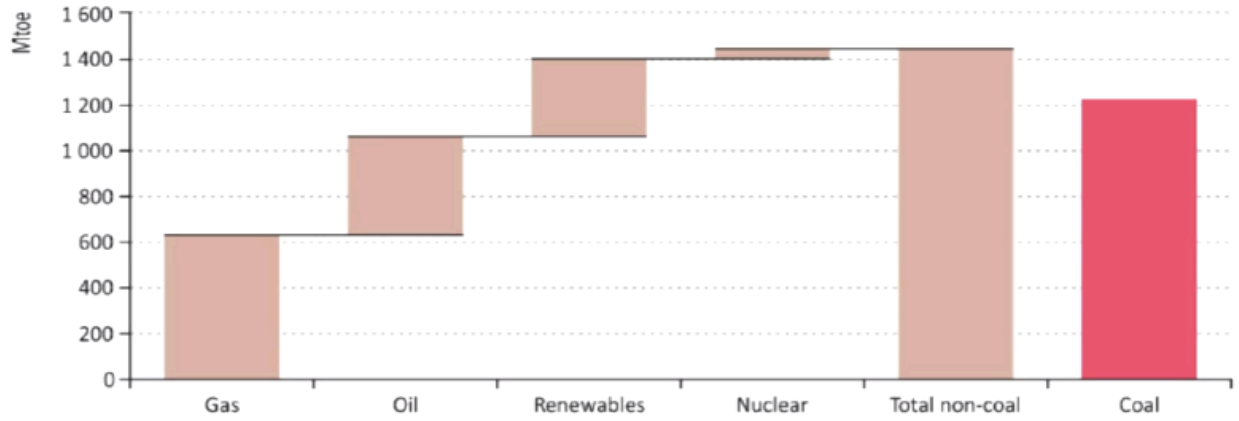


Trends in CO2-Energy Emissions 1990 – 2000 – 2010



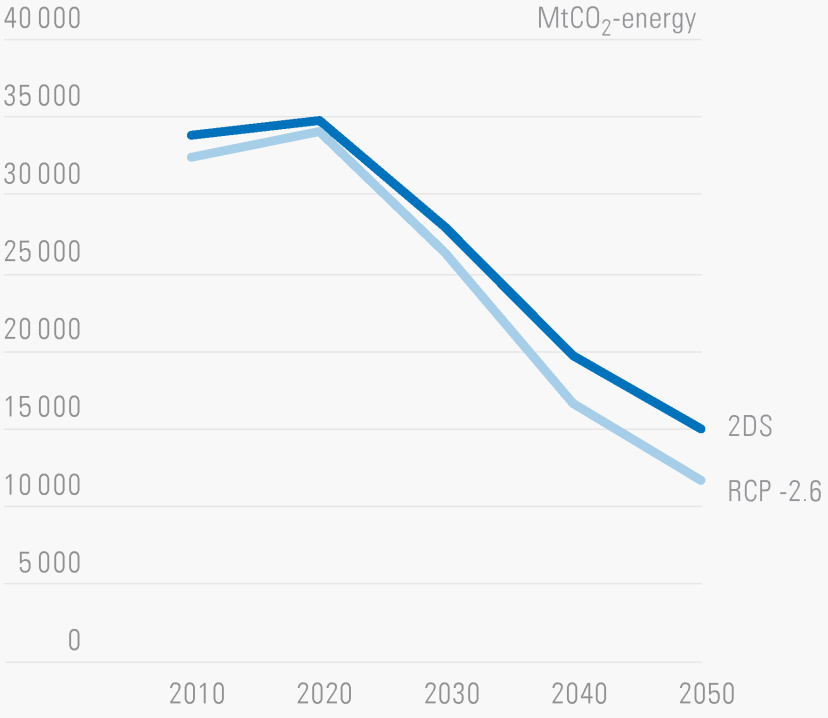
Source : IEA

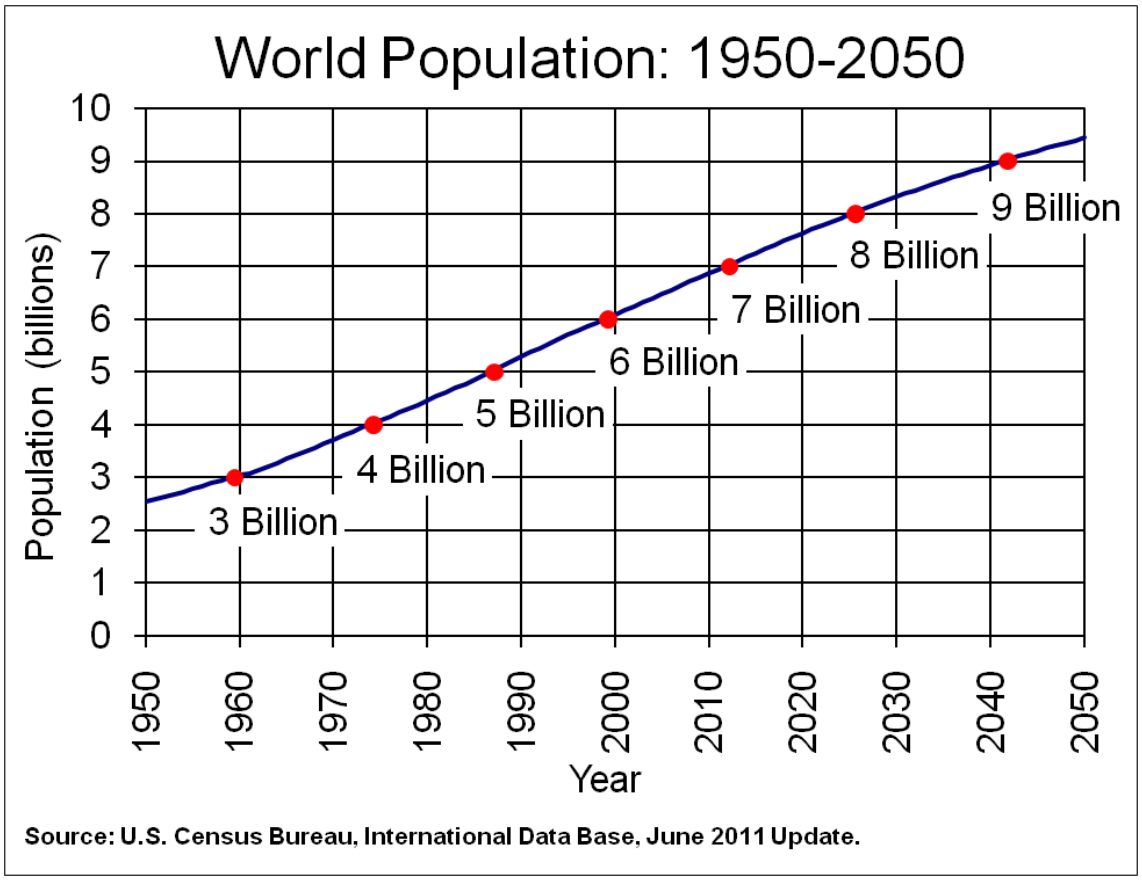
Incremental World Primary Energy Demand, 2000-2010



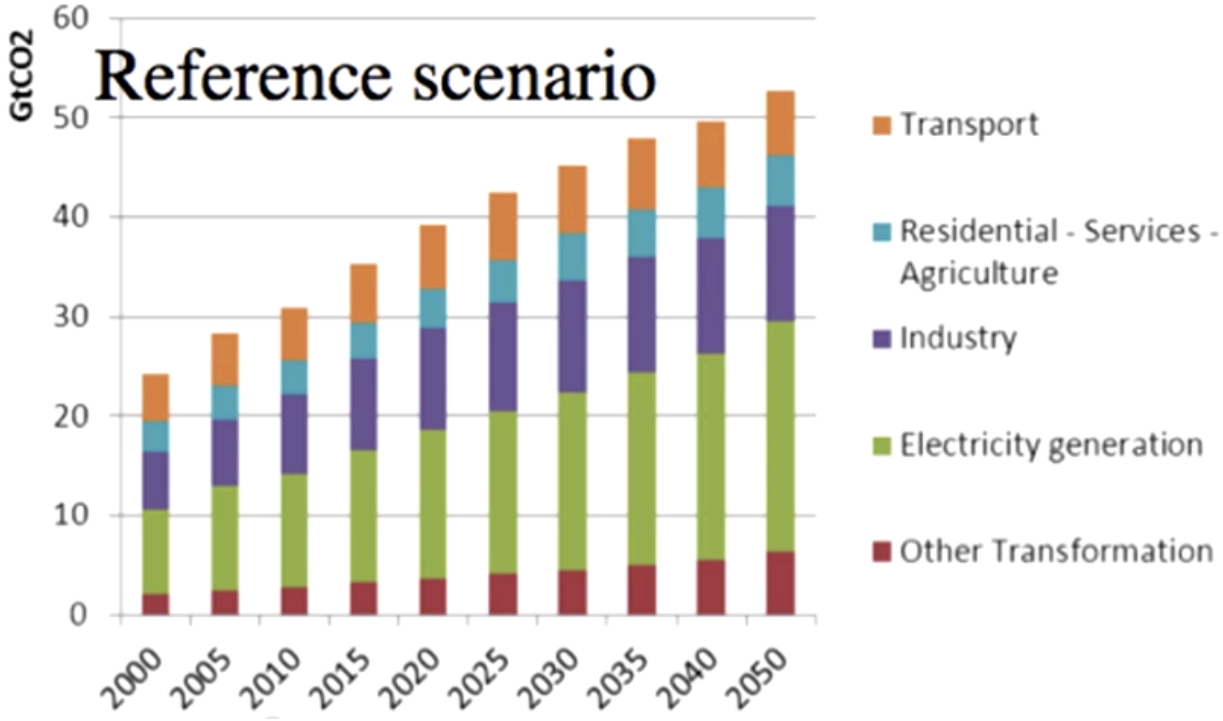
Chapter 3

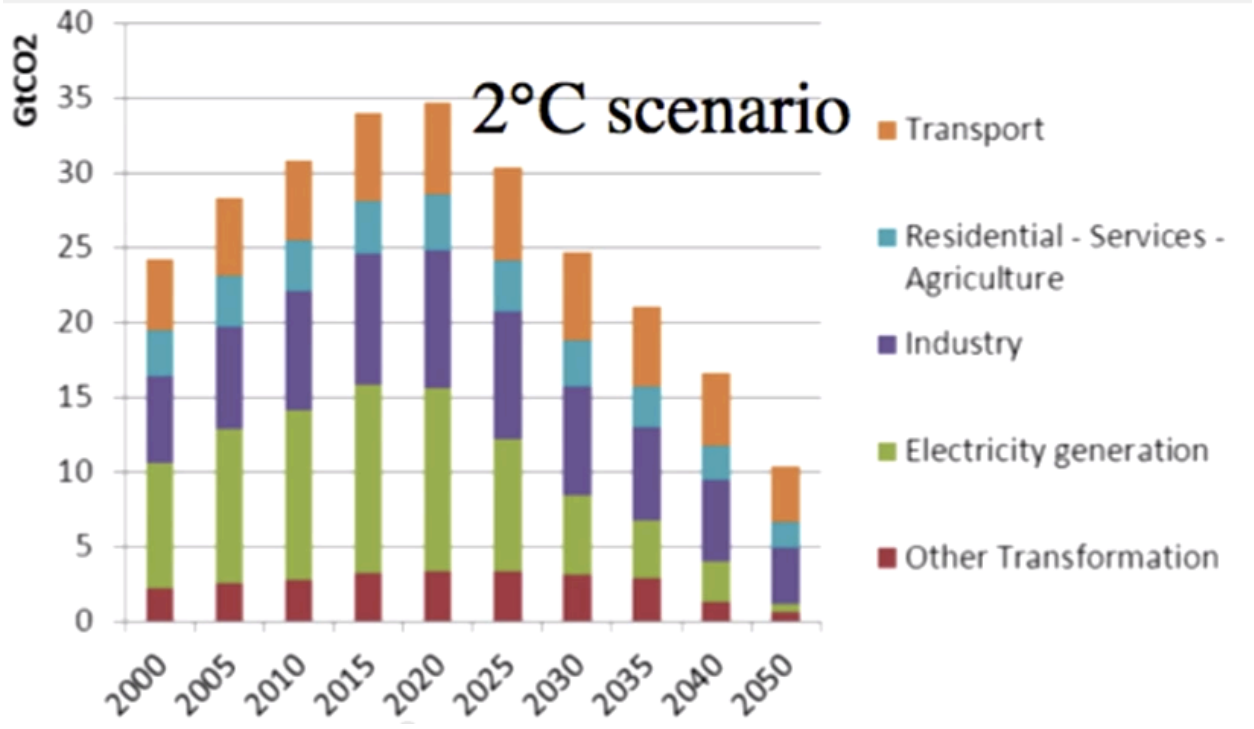
Figure 2.1. CO_2-energy emissions reduction trajectories for the IEA 2DS and RCP-2.6 scenarios, 2010 to 2050




World Population: 1950-2050
Population (billions)
Year
3 Billion
4 Billion
5 Billion
6 Billion
7 Billion
8 Billion
9 Billion
Source: U.S. Census Bureau, International Data Base, June 2011 Update.

Chapter 4


Reference scenario
GtCO2
Transport
Residential - Services - Agriculture
Industry
Electricity generation
Other Transformation



Global Mitigation Scenario