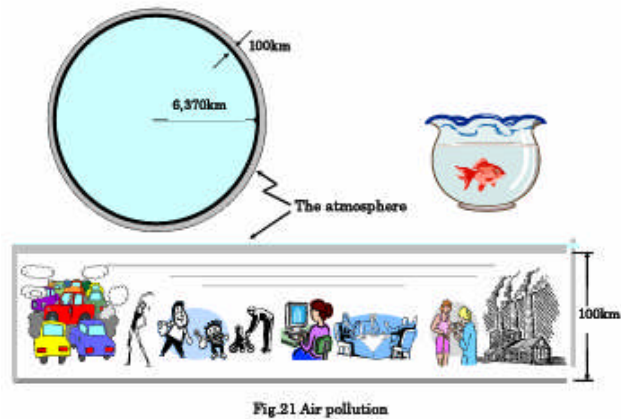
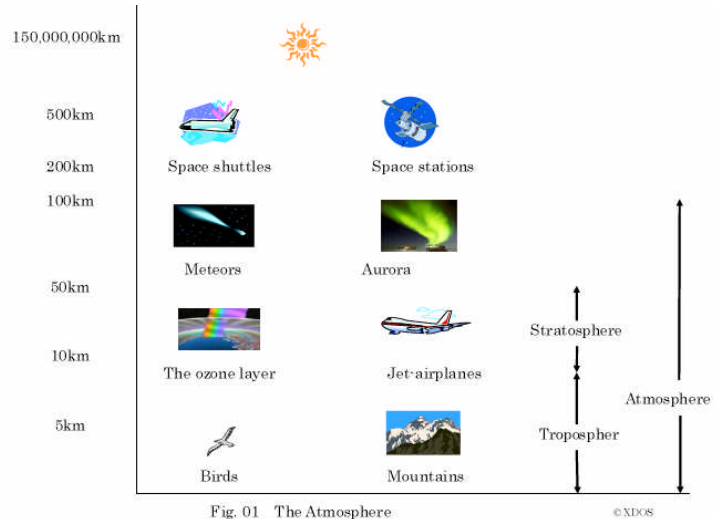


Air Pollution Control

2007.11.17 Homma

Good afternoon, Ladies and Gentleman.
 It is my great pleasure to share with you this afternoon my thoughts on CCS or Carbon dioxide Capture and Storage.
 I would like to first share with you some background information before going on straight to the subject.
 As shown in this slide, the thickness of the Atmosphere is only about 100km.
 It is one-60th of the radius of the Earth.



Our living space is limited just like the living space of a gold-fish is limited, as shown here.
 We human beings have been emitting a great deal of waste gases into this limited space of the Atmosphere.
 Especially after the Industrial Revolution in the 18th century, we have consumed a plenty of fossil fuel and have discharged waste gases of fossil fuel to the Atmosphere for more than 150 years.
 As the result, the density of CO₂ in the Atmosphere has been increased from the level of less than 300ppm (in 1880) to more than 400ppm (in 2000).
 The amount of CO₂ in the Atmosphere is estimated to be about 750 Gt.
 (Besides, the amount of CO₂ which is dissolved in the Sea Water is estimated to be about 39,000 Gt.)
 Today 24Gt of CO₂ are added annually to the Atmosphere by the human activities.
 About 50% of the emitted CO₂ is estimated to be absorbed in a few years by the land plant thanks to the photosynthesis and by the ocean as the result of the absorption to the sea water.
 And the other half of the emitted CO₂ will remain in the Atmosphere over the years and increase the density of CO₂.
 The increase of CO₂ in the Atmosphere is considered to be the main cause of the Global Warming according to Mr. Al Gore and IPCC (the Inter-governmental Panel on Climate Change).
 Both of them received Nobel Peace Prize this year.
 However some other experts claim that the increase of CO₂ is not the cause but the result of the Warming.
 Whether the increase of CO₂ is the cause or the result of the Warming, I believe it is important to reduce the density of CO₂ in the Atmosphere which is increasing day by day
 The effort to reduce the emission of CO₂ has been maid by KP (Kyoto Protocol) Economies.

In Japan also, we are endeavoring to reduce the emission of CO₂ according to the Kyoto Protocol.

But it seems to be very difficult for Japan to clear the target.

One of the reasons is the earthquake which occurred on 16th July 2007.

Because of the earthquake, Kashiwazaki nuclear power station which is one of the major nuclear power stations in Japan had to stop the operation.

There are 54 nuclear power stations in Japan, and many of them are not efficiently operated today because of some kinds of troubles. I think it is necessary to reduce the CO₂ density of the Atmosphere directly.

Carbon dioxide Capture and Storage or CCS is one of the most useful methods to reduce CO₂ density in the Atmosphere.

IPCC estimated that the economic potential of CCS could be between 10% and 55% of the total carbon mitigation effort by the end of this century.

Now, let me introduce you to “Carbon dioxide Capture and Storage in Japan”.