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How to Fix Carbon Dioxide Same Amount as Emission for the Protection of Global Warming

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Abstract

Fossil fuel is burned releasing CO_2 and heart. Released CO_2 is fixed by plant by CO_2 assimilation reaction absorbing heart. Burning reaction is reverse reaction of CO_2 assimilation. If we can compensate the generation of CO_2 and heart of burning with the absorption of CO_2 and heart by CO_2 assimilation, global warming will be protected.

Keywords: NOx; CO_2; CO_2 assimilation; Global warming; Paris agreement; Plankton

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CO_2 is increasing 2.0ppm annually. Total amount of CO_2 in the world is 2.83x 1012 tone. Total emission of CO_2 in one year is 3.6x1010 tone. Almost all CO_2 is used for CO_2 assimilation of plant. This means that all CO_2 in the world is replaced by new CO_2 in 7.8 years. Increase of CO_2 in one year is 2.83 x 1012 x 2/400=1.415 x 1010 tone (142 billion tones). Therefore 3.6 x 1010 -1.42 x 1010 = 2.18 x 1010 tone, 218 billion tones CO_2 is fixed in one year. If we can increase the fix of CO_2 1.41 x 1010 tone in year we can protect global warming. When fossil is burned, NOx is produced about 1/25 of produced CO_2. The ratio C/N=25/1 is same as plant composition ratio C/N=25/1. Plant eat CO_2 and nutrient N by the ratio C/N=25/1. 14.4 billion tones NOx is estimated to be produced when 360 billion tone CO_2 is produced.

Many governments consider NOx as pollution gas and eliminating NOx by the reaction with ammonia. Amount of NOx is so much, CO_2 assimilation is retarded very much. CO_2 fixing is retarded very much. And global warming is accelerated very much. For the production of ammonia, much fossil is used and much CO_2 is produced and global warming is accelerated so fast. 70 % of earth is covered by sea. 70% of CO_2 assimilation is carried out at sea. 16 billion years ago, fish was not appeared. Plankton grow and oil is formed as fossil of plankton. Plankton grows infinitively when nutrient N and P is present at any condition.

Sea water contains much N and P. These N and P are consumed by plankton and concentration of N,P at the surface became poor. Fish appeared at around 15 billion years ago. Fish grow by eating plankton. Fish grow at plankton rich, NP rich sea. World fish industry and CO_2 fixing changed very much since 1980 by the supply of NOx produced by burning of fossil.

World fish production in 2016 increased to 200 million tone, about double of 93 million tons in 1997. China, Indonesia, India, Vietnam do not eliminate NOx and do not do drainage treatment They use NOx and excreta as it is for production of plankton and fish. Therefore fish production increased remarkably at the district where no N,P supply by counter current of nutrient rich deep sea water with nutrient poor shallow sea water. China produced 16.77 million tone fish in 2002 and 79.38 million tone fish in 2016. This is huge Increase.

China produced 4 billion tones NOx. This NOx is released to air and dissolved in rain and give enough nutrient nitrogen to sea, lake and river to grow 16 billion tone plankton and 79.38 million tone fish .This 4 billion tone NOx became enough fertilizer for the production of 4.4 billion tone grain. And also this 4 billion tone NOx contributed for the growth of tree and grass. These three CO_2 assimilation action, plankton formation, grain production tree and grass growth, fixed 100 billion tones CO_2. The amount of NOx produced is around 14.4 billion tone in whole world.

Conclusion

To eliminate NOx 14.4 billion tone, ammonia 8.6 billion tone is used. To make ammonia 8.6 billion tone, 1.44 billion tone hydrogen gas is used. To make 1.44 billion tone hydrogen. Butan, 8.3 billion tone is used. As the result 25.3 billion tone CO_2 is released. If NOx elimination is stopped, 25.3 billion tone CO_2 release can be stopped and 14.4x 25=360 billion tone CO_2 can be fixed. Therefore if we stop the elimination of NOx, and stop the elimination of N,P in drain, we can stop the global warming.