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Relation of London Dumping Convention and Global Warming. If Developed Countries Stop NP and NOx Elimination, CO_2 Assimilation Increase and Global Warming Will Stop

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Abstract

Burning of fossil is increasing. CO_2 is increasing 2 ppm. 140 billion tone annually. Dumping of wastewater is inhibited by London dumping convention 1972. Developed countries are eliminating NP in wastewater by activated sludge process using much electricity. NOx in burned gas is eliminated by ammonia. 6 billion tone NOx and 2 billion tone NP are eliminated. CO_2 assimilation is retarded by the insufficient supply of NP. Plankton growth is retarded. CO_2 fix is retarded. CO_2 is increasing. Global warming is accelerating since 1972 Grain and fish production are retarded. DGP increase rate decreased. Developing countries do not eliminate NOx and NP and are using NP and NOx as fertilizer to increase grain and fish production. DGP of these countries is increasing. If developed countries stop NP and NOx elimination, CO_2 assimilation increase, CO_2 increase stop and global warming will stop.

Dumping of radioactive substance is inhibited by London dumping convention. Japan is producing much CO_2 for the treatment of radioactive substance avoiding dumping. But it would be better to dump radioactive substance without harm to other countries and do not produce much CO_2 for the protection of global warming.

Keywords: CO_2 assimilation; Global warming; London dumping convention; NOx elimination; Plankton; Wastewater dumping

Introduction

The earth is warmed by the fossil fuel burning releasing CO_2 and heat. The plant is growing by CO_2 assimilation absorbing CO_2 and heat producing carbohydrate and oxygen.

Global warming come from the fact that burning is predominant than CO_2 assimilation. heat is over than absorption of heat by CO_2 assimilation. If we can compensate the generation of CO_2 and heat with the generation of CO_2 and heat with the absorption of CO_2 and heat by CO_2 assimilation, GWPR (Global Warming Protection Ratio) become 1, and global warming can be protected.

About 510 billion tone CO_2 is produced by burning of fossil and respiration of animals. CO_2 concentration is increasing 2ppm every year. 140 billion tone CO_2 is increasing every year since 1970. Therefore, global warming is progressing. We must increase fixing of 140 billion tone CO_2. To increase fix of CO_2, we must increase CO_2 assimilation. To increase CO_2 assimilation, we must increase the supply of NP. We must increase NP concentration of sea. To increase NP concentration, we must stop N.P elimination by dumping wastewater to sea. And stop the reaction of NOx with ammonia. [1-35] If developed countries stop NP and NOx elimination, CO_2 assimilation increase and global warming will stop.

London Dumping Convention is Promoting Global Warming

Official of developed countries consider NOx as pollution substance and started elimination of NOx by ammonia. Large amount of NOx and NP are eliminated since 1980. Then CO_2 assimilation is retarded. Food like grain, fish production is retarded. CO_2 fix is retarded. Mainichi newspaper reported at top page that Seto inland sea in Japan is too clean. [36] Sand lance(Ikanago) production at Hyougo prefecture decreased from 8000 tone in 1980 to 1500 tone in 2016 by decrease of N concentration from 12 micro mole to 1 micro mole/l. I advised to the official of Hyogo prefecture dumping of wastewater at Naruto channel when tide of going to Pacific Ocean. But the official said that ocean dumping is prohibited by London dumping convention. Therefore, ocean

dumping of excreta is not possible. Developed countries constructed many wastewater purification centers. and eliminating NP by activated slugs process using much electricity and producing much CO_2. As the result CO_2 assimilation is retarded and fish industry and agriculture are retarded and global warming is accelerating. If developed countries do ocean dumping against London dumping convention. CO_2 assimilation will progress and 510 billion tone CO_2 will be fixed and global warming will not happen.

Ocean Dumping of Excreta Is Essential to Promote CO_2 Assimilation

Excreta was dumped to ocean, wood, field and agriculture field before 1972 [12,21,22]. After London dump convention was established in 1972, London dump convention is convention on the prevention of marine pollution by dumping of wastes and other matter. Ocean dump of pollution matter was inhibited. Excreta contain urea and ammonia. Urea is best nitrogen fertilizer. But wastewater was assigned as pollution materials. Many developed countries stopped dumping of excreta. They started purification of wastewater by activated sludge process. Typical example is Setoinland sea in Japan. Setoinland sea changed dramatically. Since 1980. Concentration of NP of sea water become very low. Plankton do not grow. Nori (Sea weed) do not grow, Kaki do not grow, decreased. CO_2 assimilation decreased Setoinland sea became dead sea [4,5,19]. CO_2 fixing decreased and global warming is progressing. If we dump wastewater to the ocean, plankton growth is accelerated and CO_2 fix is accelerated and 510 billion tone CO_2 will be fixed and Paris agreement will pass and global warming will stop.

Effect of NOx, NP elimination on GWPR (Global Warming Protection Ratio) and GDP

When 140 billion tone fossil is burned 420 billion tone CO_2 and 16.8 billion tone NOx are produced [7,13,16,19,30,33]. About 380 billion tone CO_2 is fixed by CO_2 assimilation. But about 140 billion is remaining every year. We must reduce 140 billion tone CO_2 by CO_2 assimilation. We must promote CO_2 assimilation. We must provide enough NP fertilizer. NOx in burned gas and NP in wastewater are best sources of NP fertilizer.

Developed countries put emphasis of toxicity than utility of NOx. They started elimination of NOx by ammonia.

$$4NO + 4\,NH_3 + O_2 \longrightarrow 4N_2 + 6\,H_2O$$

Amount of NOx 16.8 billion tone is so much. 7 times of synthetic nitrogen fertilizer 2.4 billion tone of the world. To destroy one nitrogen fertilizer with one other nitrogen fertilizer is giving tremendous loss. If we stop this reaction, global warming will stop.

NOx and NP are very effective promotor of CO_2 assimilation. Therefore, the production of grain and fish increased proportionally by the increase of CO_2 and NOx. In 1900, 20 billion tone CO_2 is emitted and 20 billion tone CO_2 is fixed. In 1960, 100 billion tone CO_2 is emitted and 100 billion tone CO_2 is emitted and 100 billion tone CO_2 is fixed. In 1980, 200 billion tone CO_2 is emitted and 180 billion tone CO_2 is fixed. In 2016, 360 billion tone CO_2 is emitted and 220 billion tone CO_2 is fixed. Amount of CO_2 fix is 140 billion tone less than emission. This is caused by the elimination of NOx and NP.

By the elimination of NOx, NP, CO_2 assimilation is retarded. Agriculture and fish industry of developed countries are declining.

CO_2 em (CO_2 emission), NOx (NOx production), NOxc (NOx concentration at exit gas), W dump (Wastewater dumping), GWPR (Global Warming Protection Ratio), GDP (GDP increase rate) of 13 countries are shown in Table 1.

Country	CO_2 em	NOx	NOxcon	W Dump	Area	Fixable CO_2	GWPR	GDP
	bill t	bill t	g/kWh		km^2	bill t		inc rate
World	510	16.5						
China	106.4	4.25	1.6	do	1.0×10^7	100	1	6.9
India	24.6	1	1.6	do	3.2×10^6	32	0.76	7.1
Indonesia	5	0.2	1.6	do	1.9×10^6	19	0.3	5.2
USA	51	2	0.5	no	9.5×10^6	95	0.53	1.48
Japan	12.5 (2018)	0	0.1	no	3.8×10^5	3.7	3.4	1.03
	5.5 (1980)	0.22	1.6	do		3.7	1.5	7
Russia	19.6	0.63			3.2×10^6	32	0.61	0.8
Germany	7.8	0.31	1	no	3.5×10^5	3.5	2.2	1.83
U. K	4	0.16	1.3	no	2.4×10^4	2.4	1.7	1.8
Italy	3.5	0.14	0.5	no	2.0×10^5	3	1.2	0.88
France	3.3	0.13		no	6.4×10^5	8.4	0.4	1.2
Canada	5.6	0.22	1,3	no	1.0×10^8	100	0.06	1.44
Iran	6.3	0.25			1.6×10^6	1.6	3.9	2.6
Turkey	4	0.16			7.8×10^5		0.5	-2

1 Km^2 green land can fix 1000 t CO_2. Fixable CO_2 of the country can be estimated by 1000 x area of the country.

Developing countries like China, India and Indonesia do no NOx elimination and do dumping. They can accelerate CO_2 assimilation. They can fix CO_2 produced at their countries. Therefore, GWPR is less than 1. GDP is over 5. China GWPR 1.0, GDP 6.9 India GWPR 0.76 GDP 7.1 Indonesia GWPR 0.3 GDP 5.2.

Developed countries like USA, Japan, Germany, UK, Italy, France do NOx elimination and do not dump. Then CO_2 assimilation is retarded. They cannot fix CO_2 produced at their countries. GWPR is over 1. GDP is less than 2. USA GWPR 0,53, GDP 1.48, Japan GWPR 3.4, GDP 1.03, Germany GWPR 2.2, GDP 1.83. UK GWPR1.7, GDP 1.8, Italy GWPR 1.2, GDP 0.88, France GWPR 0.4, GDP 1.2, Canada GWPR 0.06, GDP 1.44.

Japan produced 5.5 billion CO_2 and 0.22 billion tons NOx in 1980. Therefore, GWPR was 1.5 and GDP was 7.0. Japan produced 12.5 billion tone CO_2 in 2018. Japan do NOx elimination. Therefore, no NOx is produced and GWPR is 3.4 and GDP is 1.08.

Amount of NOx produced at world is 16.8 billion tone. Developed countries are eliminating about 6 billion tone NOx producing 10 billion tone CO_2. 6 billion tone NOx can fix 6x20 = 120 billion tone CO_2. Therefore, if developed countries stop NOx elimination, 120+10 = 130 billion tone CO_2 emission will be reduced and global warming will be protected.

NP Elimination in Wastewater Should Be Stopped

Dumping of waste water give large effect on CO_2 assimilation. Do waste water damping or do not do waste water dumping give big difference on CO_2 assimilation. China do waste water dumping and do not NOx elimination Then China can fix 106 billion tone CO_2 produced at China. GWPR of China is 1.0. Japanese government accepted London dumping convention 1972 too honesty and seriously, and set up law to inhibit wastewater ocean dumping. Japan constructed 2200 waste water purification stations to eliminate NP. Much CO_2 is produced for the construction of 2200 waste water purification stations.

I investigated Yamazaki waste water purification center at Yamazaki, Kamakura in Japan [31]. This center cover 96881 persons. Water 98287 m^3 containing Nitrogen 40 mg /l, Phosphorous 4.2 mg/l is treated by activated sludge process. Air is bubbled for ten hours to give water containing Nitrogen 7.5 mg Phosphorous 2.731 mg/l. Consuming 8841200 kWh electricity. This data showed that 7.34 Kg Nitrogen, 2.65 Kg Phosphorous is eliminated in one day at this center. This data indicates 7.34x120000000/96881x365= 3318 tone nitrogen, 318 tone phosphorous are eliminated in Japan in one year. Population of Japan is 1.2 billion. 8841200 x 120000000/96881= 110 billion kWh electricity is consumed in Japan for the treatment of waste water. This correspond 100880/ 110=1.11% of total electricity consumption 100880 kWh of Japan.

If wastewater purification is not done in Japan, 3315x20 = 6.63 billion tone CO_2 is fixed and 33 million tone plankton can grow and 33 million tone fish will be produced.

World is presumably eliminating N and P 20 times of Japan. 3318million tone x 20= 6.63 billion tone nitrogen and 119 x 20 = 2393 million tone phosphorus are eliminated at the purification center of. the world. 2393110 x 20 = 2200 billion kWh electricity is consumed for the treatment of wastewater of the world.

If wastewater purification is not done at developed countries, 6.63x20=132,6 billion tone CO_2 will be reduced.

As a total, 130 billion CO_2 (for NOx elimination) + 132.6 billion tone CO_2 (for wastewater purification) = 262.6 billion tone CO_2 emission is reduced and global warming will not happen.

Bon Fire Inhibition rule should be Abandoned

In Japan waste material must burn at incinerator. 0.4289 billion tone garbage (331 kg per person) is produced. Japan constructed 1243 garbage incinerators. Top number in the world.

Second is USA 351 third France 181. Japan reconstructed high temperature garbage incinerator in 2002. About 2 billion CO_2 is produced for construction of these garbage incinerator.

In Japan very special law about the garbage incinerator was set up in 2002 by the reason much NOx is produced at lower temperature. By this rule, incinerator must be burned at higher temperature than 800° C by adding excess fuel to keep higher temperature. Corrugated carton and fallen leaves must be burned at high temperature incinerator. Bon fire is inhibited by the reason bon fire produce much NOx. Burning of rice straw wheat straw at rice field is not possible. Big earth quake and tsunami happened in east Japan in 2011. Debris disposal was not allowed to burn on site. Debris disposal must transfer to far away district having high temperature incinerator consuming much fuel and money. Operation of this high temperature incinerator is using much excess fuel releasing much CO_2. There is Nagoshi clean center at Kamakura, Japan This clean center burn garbage 0.03 million tone at Kamakura producing 0.045 million tone CO_2. Exhaust gas contain NOx. By insertion of ammonia This center used 40.94 kg ammonia in 2018. This mean 40.94 x 30/17 = 72.256 kg NO is eliminated by ammonia at Nagoshi clean center. Population of Kamakura is 0.172 million. This data indicates 72.256x 120000000/172000 = 50.41 million kg NO is eliminated at burning of garbage in Japan. 40.94x 12000/17.2= 285.64 million kg NOx is eliminated by 255 million kg ammonia. 255 million kg ammonia is produced from 54 million kg H_2. If NOx elimination is not done 706 million kg CO_2 is not produced. 285 million kg NOx can fix 0.285 x 25 = 7.125 million tone CO_2.

The countries who use NOx, NP are growing and increasing population. The countries who eliminate NOx, NP are declining and decreasing population [32]. DGP, food and population can be increased by effective use of NOx and NP [7,17,20,22,33-35].

Ocean Dumping of Radioactive Substance

The London and London protocol inhibit the dumping of wastes with more than de minims levels of radioactivity. Japan was hit by earth quake and atomic energy facility released radioactive wastewater. And also much radioactive substance is produced by decommissioning of nuclear reactor. Damping of radioactive waste is not possible by London dumping convention. Therefore, Japan is producing large amount of CO_2 (presume 4 billion tone) for the treatment and storage making trouble imposing other countries. and Japan is criticized as most CO_2 increasing countries. Japan cannot eliminate to radioactivity Japan cannot export agriculture product to other countries. Because Japan keeping radioactive compound in Japan. Electricity generation by atomic energy of Japan is stopping. Japan has no way to eliminate radioactive substance. Only way is dumping of radioactive waste to sea. As other countries are dumping radioactive substance to sea. Sea is wide and deep and infinite dilution is possible. Japan must find method to dump radioactive substance giving no harm to other countries. Therefore, we dump radioactive substances and save the emission of CO_2 as possible as we can. If we can find method to dump radioactive substance without harm, this is much better than no dumping and produce much CO_2. By do dumping of radioactive substance to sea, we can save 20 billion tone CO_2 emission. Therefore, it would be better to dump radioactive substance without harm to other countries and do not produce much CO_2 for the protection of global warming.

Summary

Promotion of CO_2 assimilation by NP and NOx is most important. If developed countries stop NP elimination and NOx elimination, CO_2 increase will stop and global warming will stop.

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