ISSN: 2642-9020

Review Article

Journal of Marine Science Research and Oceanography

Purification of Water and Air is Promoting Global Warming and Country Decline

Shoichiro Ozaki*

The Institute of Physical and Chemical Research 2-1 Hirosawa,Wakoshi Saitama Japan

***Corresponding author**
Shoichiro Ozaki, The Institute of Physical and Chemical Research 2-1 Hirosawa,Wakoshi Saitama Japan

Submitted: 31 Jan 2020; **Accepted**: 03 Feb 2020; **Published**: 05 Mar 2020

Abstract

Burning of fossil is increasing. Production of CO_2 and NOx is increasing. Increased CO_2 and NOx promoted the CO_2 assimilation. Most produced CO_2 is fixed by CO_2 assimilation. But developed countries started purification of water and air by elimination of NOx and NP at around 1980. 6 billion tone NOx and 2 billion tone NP are eliminated. NOx is main nitrogen fertilizer and NP is main nitrogen and phosphorous fertilizer. Therefore plant growth is retarded. CO_2 fix is retarded. CO_2 is increasing. Food like grain, fish, and meat production is retarded. DGP increase rate decreased. Global warming and country decline are progressing. If developed countries stop NOx elimination by ammonia and close waste water purification station, global warming will stop and country decline will stop.

Keywords: Purification of water, purification of air, GWPR, global warming protection ratio, plankton, NOx elimination, NP elimination, CO_2 assimilation

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.

$$CO_2 + H_2O + 114\ kcal \xrightarrow{CO_2\ assimilation} 1/6\ C_6H_{12}O_6 + O_2$$

$$CO_2 + H_2O + 114\ kcal \xleftarrow[Burning]{} Fossil + O_2$$

GWPR (Global warming protection ratio) = Produced CO_2/Fixed CO_2

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. About 30% of produced CO_2 is fixed by land plant CO_2 assimilation at land. About 70 % of produced CO_2 is fixed by plankton CO_2 assimilation at sea.

CO_2 concentration is increasing 2ppm every year. 140 billion tone CO_2 is increasing every year. Fixed CO_2 is 370 billion tone. Therefore global warming protection ratio is 510/ 370 = 1.38 we must decrease produced CO_2 and increase fixed CO_2 to lower GWPR. 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.

CO_2 assimilation by plankton is most important reaction to control climate. Plankton grow by eating CO_2, H_2O, nitrogen and phosphorous by Redfield ratio C: N: P 105.4: 16: 1 or 6.6: 1: 0.06. Plankton asks more N and P than normal plant. Ratio C: N: P 25: 1: 0.06. Officials of 7 developed countries consider NP as pollution substances and started NOx, NP elimination at around 1980. Then CO_2 assimilation is retarded. Food like grain, fish production is retarded. CO_2 fix is retarded. I am insisting NOx NP elimination should be stopped many times. In this paper, I wish to tell NOx, NP elimination is gibing very bud effect for the economy, global warming [19].

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

When 140 billion tone fossils 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. About 140 billion tone CO_2 must to reduced. Most of CO_2 can be reduced by CO_2 assimilation. We must promote CO_2 assimilation. We must provide enough NP fertilizer. NOx and NP in waste water are best sources of NP fertilizer. Officials of developed countries put emphasis of toxicity than utility of NOx, NP. 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 billion tone of the world. To destroy one nitrogen fertilizer with one other nitrogen fertilizer is giving tremendous loss.

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

CO_2em (CO_2 emission), NOx (NOx production), NOxc (NOx concentration at exit gas), GWPR (global warming protection ratio), GDP (GDP increase ratio) of 13 countries are shown in Table 1

Table1

Country	CO_2 em	NOx	NOxcon	Area	FixableCO_2	GWPR	GDP
	bill t	bill t	g/kWh	1 km^2	bill t	Inc	Ratio
World	420	16.8					
China	106.4	4.25	1.6	1.0x 10^7	100	1.0	6.9
USA	51.0	2	0.5	9.5x 10^6	95	0.53	1.48
India	24.6	1	1.6	3.2x 10^6	32	0.76	7.1
Japan	12.5	0.5	0.1(2018)	3.8x 10^5	3.7	3.4	1.03
Russia	19.6	0.63	1.6(1980)	3.2x 10^6	32	0.61	0.8
Germany	7.8	0.31	1.0	3.5x 10^5	3.5	2.2	1.83
Iran	6.3	0.25		1.6x 10^6	1.6	3.9	2.6
Canada	5.6	0.22	1,3	1.0x 10^8	100	0.06	1.44
Indonesia	5.0	0.2	1.6	1.9x 10^6	19	0.3	5.2
U. K	4.0	0.16	1.3	2.4 x 10^4	2.4	1.7	1.8
Turkey	4.0	0.16		7.8x 10^5	7.8	0.5	-2
Italy	3.5	0.14	0.5	2.0x 10^5	3.0	1.2	0.88
France	3.3	0.13		6.4x 10^5	8.4	0.4	1.2

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

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 6x 25 = 150 billion CO_2. Therefore if developed countries stop NOx elimination, 150+ 10= 160 billion tone CO_2 emissions is reduced and global warming can be protected.

When we look at high GWPR countries, Japan 3.4 Germany 2.2, Iran 3.9, U.K 1.7, Italy 1.2, these countries area are narrow and they cannot fix produced CO_2 at his countries.

Growth rate of GDP of the countries who eliminate NOx are small as USA 1.46, Germany 1.83, Japan 1.03, Canada 1.44, U.K 1.6, Italy 0.88.

At China 4.25 billion tone. USA 2 billion tone, India 1 billion tone, Japan 0.5 billion tone NOx are produced. Japan eliminating this 0.5 billion tone. Butane 0.1280 billion is used for the production of H2 0.0606 billion tone and CO_2 0.7480 billion tone is produced. If Japan stops NOx elimination, 25 times of NOx 0.5x 25= 12.5 billion tone CO_2 can be fixed. By doing plankton CO2 assimilation at 3 times area of Japan land, 3.8x 10^5 Km^2 area,11.4 billion tone CO_2 can be fixed. 0.745 billion tone CO2 by stopping of NOx elimination can be saved. 0.5 billion tone CO2 by stopping NP west water purification can be saved. Total 11.4 + 0.745 + 0.5 = 12.645 billion tone CO_2 generations can be stopped. Japan can produce 0.3 billion fish and Japanese can enjoy anti-aging and long life. If Europa stop the elimination of 0.71 billion tone NOx and 0.2 billion tone NP, 10 billion tone CO_2 generation can be stopped. And 0.1 billion tone fish can be produced produced [26, 37-42].

China producing 106.4 billion tone CO2. Area of China is 1.0x 10^7 km^2
China can fix 100 billion tone CO2. GWPR = 106.5/ 100 = 1.0
Low area country Japan GWRP = 12.5/ 3.7 = 3.4

NOx elimination can be found by NOx concentration of exit gas. 1.6 g/kwh is no elimination. 0.1 g/kWh is complete elimination. No NOx elimination countries like China, India and Indonesia show low GWPR and high GDP growth rate. On the contrary, NOx eliminating country like Japan (3.4 1.03), Germany (2.2 1.83) UK (1.7, 1.8), Italy (1.2, 0.88) show high GRPR and low GDP growth rate.

Japan is eliminating NOx, NP most severely. NOx concentration at exit gas is 0.1 g/kWh.Then fish production decreased from 12 million tons in 1970 to 2 million tons in 1985 by NOx NP elimination policy. And DGP do not increase for 40 years from 1980.

Low doses of inhalation of nitric oxide have been reported to be clinically effective, and most current dosing recommendation does not exceed 40 ppm. At this dose, the little measurable short

term toxicity. Indeed, it is noteworthy that in the large randomized trials of inhalation of nitric oxide, major clinical toxicity (e.g. methemolobinemia) was observed only at dose>80 ppm [43, 44]. Therefore NOx has small demerit but not significant as big merit that NOx is essential for the growth of plant for the production of food for the promotion of health and long life. The ratio of merit / demerit is 10000/1. NOx elimination at exit gas of factory and garbage incinerator should be stopped.

NP Elimination in Waste Water Should be Stopped

I investigated how much CO2 is produced by the elimination of NOx and NP in Japan. Japan emit-ting 9.1 tone CO_2 per person [16, 19, 21, 32-36]. This value is too many in compared with France 5.6 tone, UK 5.7, Italy 5.7. I found that Japan producing 2 billion tone CO_2 for the elimination of NOx and NP in drainage and elimination of NOx at garbage incinerator exhaust gas [29].

Japan constructed 2200 waste water purification stations to eliminate NP. Much CO_2 is produced for the construction of 2200 west water purification stations.

I investigated Yamazaki waste water purification center at Yamazaki, Kamakura in Japan [31]. This center cover 96881 persons. Water 98287 m3 containing Nitrogen 40mg /l, Phosphorous 4.2mg/l is treated by activated sludge process. Air is bubbled for ten hours to give water containing Nitrogen 7.5 mg Phosphorous 2.7 31mg/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 indi-cate 7.34x 120000000/96881x365 = 140million tone nitrogen, 12.8 million tone phosphorous is 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 waste water purification is not done in Japan, 1.40x 25=35million tone CO_2 is fixed and 35 million tone plankton can grow and 35x 1/10 = 3.5 million tone fish will be produced.

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 incinerator. 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 incinerators.

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 Negoshi clean center [36]. Population of Kamakura is 0.172 million. This data indicate 72.256 x 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 0.285x 25 = 7.125 million tone CO_2.

The countries that use NOx, NP are growing and increasing population. The countries that eliminate NOx, NP are declining and decreasing population. DGP, food and population can be increased by effective use of NOx and NP [16, 19, 21, 32-36].

Summary

Complete recycle of N and P is essential for complete recycle of CO_2

1. NOx produced by burning should be released as it is. Do not eliminate NOx with ammonia.
2. Close up waste water purification center. Excreta should be released as it is. Ocean dump-ing, river dumping, field dumping, agriculture field dumping, forest dumping are recommended.
3. Garbage should be burned on site. Kitchen waste should be buried.
4. Bon fire, slash and burn agriculture should be encouraged.
5. NOx elimination law should be abandoned.
6. Waste water purification law should be abandoned.
7. Bon fir inhibition law should be abandoned.
8. Stop the unproductive spent of fossil fuel, like war, military exercise .auto race, leisure cruising and leisure trip.
9. Stop the unnecessary economy stimulus measure such as renewal of building, road.
10. Restriction rule of NOx emission of car should be loosened.

References

1. Ozaki Shoichiro (1993) Recycle of nitrogen and phosphorous for the increase of food production. New Food Industry 35: 33-39.
2. Ozaki Shoichiro (2016) Methods to protect global warming. Adv Tech Biol Med 4: 18.
3. Ozaki Shoichiro (2016) Methods to protect global warming, Food production increase way. New Food Industry 58: 47-52.
4. Ozaki Shoichiro (2016) Global warming can be protected by promotion of CO_2 assimilation using NOx. Journal of Climatology & Weather Forecasting 4: 2.
5. Ozaki Shoichiro (2016) Global warming can be protected by promotion of plankton CO_2 assimilation. Journal of Marine Science: Research & Development 6: 213.
6. Ozaki Shoichiro (2017) Method to protect global warming by promotion of CO_2 assimilation and method to reactivate fish industry. New Food Industry 59: 61-70.
7. Ozaki Shoichiro (2017) NOx is best compound to reduce CO_2. Eur J Exp Biol 7: 12.
8. Ozaki Shoichiro (2017) Protection of global warming and burn out of fossil fuel by promotion of CO_2 assimilation. J of Marine Biology & Oceanography 6: 2.
9. Ozaki Shoichiro (2017) Promotion of CO_2 assimilation supposed by NOx is best way to protect global warming and food production. Archives of Petroleum & Environmental Biotechnology 02: 110.

10. Ozaki Shoichiro (2017) Promotion of CO_2 assimilation supported by NOx is best way to protect global warming. J Marine Biol Aquacult 3: 2.
11. Ozaki Shoichiro (2017) Stopping of NOx elimination is easy way to reduce CO_2 and protect global warming. J Environ Sci Public Health 1: 24-34.
12. OzakiShoichiro (2017) Stopping of NOx elimination is clever way to reduce CO_2 and to increase fish production. J of Cell Biology 6 Immunogy 1: 102.
13. Ozaki Shoichiro (2017) Effective uses of NOx and drainage are clever way to protect global warming and to increase fish production. Oceanography & Fisheries 4: 1-4.
14. Ozaki Shoichiro (2017) NOx Elimination and Drainage NP Elimination should be stopped for the production of fish and for the protection of global warming. J of Fisheries and Aquaculture Development 125.
15. Ozaki Shoichiro (2017) Let`s enjoy civilized life using limited amount of fossil fuel. Journal of Aquaculture & Marine Biology 6: 00158.
16. Ozaki Shoichiro (2017) Method to fit Paris agreement for protection of global warming. International Journal of Waste Resources 7: 1000318.
17. Ozaki Shoichiro (2018) Method to protect global warming and to produce much fish by promotion of plankton growth. New Food Industry 60: 88-94
18. Ozaki Shoichiro (2018) Method to protect global warming by promotion of plankton CO_2 assimilation. Rikuryou Science 61: 23.
19. Ozaki Shoichiro (2018) Effect of NOx elimination on electricity price, fish production,GDP and protection of global warming. International J of Waste Resources 8: 1000328.
20. Ozaki Shoichiro (2018) How to fix carbon dioxide same amount as emission for the protection of global warming. Research & Development in Material Science 3: 314-315.
21. Ozaki Shoichiro (2018) Stop of NOx elimination and stop of wast water purification are easy methods to protect global warming. J of Immunology and Information Diseases Therapy 1.
22. Ozaki Shoichiro (2018) Climate can be regulated by effective use of NOx and wast water NP. Biomedical Research and Reviews volume 7: 33.
23. Ozaki Shoichiro (2018) Promotion of Plankton CO_2 assimilation by effective use of NOx and NP is best method to produce much fish and protect global warming. J of Marine Science Research and Oceanography 1.
24. Ozaki Shoichirou (2018) Promotion of plant growth by NOx is best method to reduce CO_2 and to protect global warming and to get best climate. International J of Earth and environmental Science 3.
25. Ozaki Shoichiro (2018) Promotion of plant growth by NOx is best method to reduce CO_2 and to protect global warming. Current Trends in Oceanography and Marine Science 1: 1-4.
26. Ozaki Shoichiro (2018) Fish is best food to get anti-aging and long life. NOx elimination should be stopped to produce much fish and to protect global warming. Jacobs J of physiology 4: 17.
27. Ozaki Shoichiro (2018) Fish is Best Food to Get Anti-Aging and Long Life. J of Aging and Neuropsychology 5:1-10.
28. Ozaki Shoichiro (2018) NOx and NP in waste water fix CO_2 and control global warming and climate. International J of Biochemistry and Physiology 3.
29. Ozaki Shoichiro (2019) Why global warming is progressing. Promotion of CO_2 assimilation is best method to protect global warming. Rikuryou Science 62: 16-18.
30. Ozaki Shoichiro (2019) The effect of of increase of NOx and CO_2 on grain and fish production, protection of global warming and climate. International Journal of Earth Science and Geology 1: 6-10.
31. Ozaki Shoichiro (2019) Complete use of NOx and NP is essential for the increased production of food and protection of global warming. Inter J Innovative Studies in Aquatic Biology and Fisheries 3: 1-6.
32. Ozaki Shoichiro (2019) Increase of CO_2 and NOx promote CO_2 assimilation, CO_2 fix and food production. Advances in Bioengineering & Biomedical Science Research 2:1-6.
33. Ozaki Shoichiro (2019) Promotion of CO_2 assimilation by effective use of NOx and NP is best method to produce much fish and protect glow warming. EC AGRICULTURE 5: 492-497.
34. Ozaki Shoicjiro (2019) Why fish production of Japan decreased. Why global warming is progressing. New food Industry 61: 787-793.
35. Ozaki Shoichiro (2020) In pure water no fish can live. Water purification promote global warming, decline of countries. Rikuryou Science 63.
36. Ozaki Shoichiro (2019) NOx elimination and NP elimination are promoting global warming. EC Agricalture 6: 1-8.
37. Ozaki Shoichiro (2015) Synthesis of antiageing reagent: Sulfo disaccharide co-working with antiaging gene. Archeves of Medicines 7: 1-5.
38. Ozaki Shoichiro (2015) Sulfo disaccharides co-working with Klotho. Studies on structure, structure activity relation and function. World J of Pharmacy and Pharmaceutical Sciences 4: 152-175.
39. Ozaki (2015) Shoichiro Nutrition for good health, anti-aging and long life. Hyaluronic acid,glucosamine and chodroitin. Maternal and Paediatric Nutrition Journal 1: 102.
40. Ozaki Shoichiro (2016) Food containing hyaluronic acid and chondroitin is essential for anti-aging. International J of Aging & Clinical Research 1: 101.
41. Ozaki Shoichiro (2016) Toward anti-aging and long life. Jacobs Journal of Physiology 2: 12.
42. Ozaki Shoichiro (2016) Secret of anti-aging: Anti-aging food containing glucosamine, hyaluronic acid and chondroitin. Jacobs Journal of Physiology 2: 13-17.
43. Davidson D, Barefield ES, Kattwinkel J, Dudell G, Damask M, et al. (1998) Inhalated nitric oxide for the early treatment of persistent pulmonary hypertension.The 1-NO/PPHN Study Group. Pedriatrics 101: 325-334.
44. Barry Weinberger, Debra L Laskin, Diane lE Heck, Jeffrey D.Laskin (2000) The Toxicity of inhaled Nitric oxide.Toxicology Science 59: 3-16.