

ADDRESSING AIR POLLUTION VIA THE PRINCIPLE OF POLLUTER PAYS*

Abstract

Air is an indispensable necessity of man's life on earth. Clean air is fundamental, deprivation of which makes life on earth unbearable and can lead to death. Air pollution can be traced to the abnormal intrusion of foreign particles into the atmosphere, inhalation of which can trigger serious health challenges. The polluter pays principle aims to make perpetrators pay for their environmentally vitiating activities in Nigeria. This paper seeks to analyze the polluter pay principle and examine how far it has been entrenched into the Nigerian legal system to become enforceable. It does not matter how beautifully constructed a statute is, if air pollution continues to permeate into the atmosphere that law is a failure. The doctrinal method would be used with the resort to books, encyclopedias, legal precedents, journals, statutes, and other useful legal and non-legal articles. This paper seeks to address incessant air pollution by individuals and companies, through the instrumentality of environmental laws and the polluters' pay principle, to guarantee reparation for persons who have suffered from air pollution damage, polluters found wanting should be made to face the consequences of their actions. In conclusion, this paper found out that if the polluter pays principle can be applied and statutes emphasizing the principle are used, the problem of air pollution will be half-solved coupled with other alternative measures for cleaner air which have been suggested.

Keywords: Air Pollution, Polluter Pays Principle, Environmental laws, Perpetrators, Atmosphere.

1. Introduction

The spirit of God has made me; the breath of the Almighty gives me life.¹ Air is essential for life; it is a natural resource that supports life on the globe. The air is a mixture of about 78% of nitrogen, 21% of oxygen, 0.9% of argon, 0.04% of carbon dioxide, and very small amounts of other gases.² Air pollution causes 1 in 9 deaths and has been evaluated as one of the greatest environmental health risks of our time.³ Air pollutants are responsible for about one-third of deaths from stroke, chronic respiratory disease, and lung cancer, as well as one-quarter of deaths from a heart attack.⁴ Porritt claims that 'one day's breathing in Bombay is equivalent to smoking 10 cigarettes.'⁵ Air pollution is one of the global commons owned by none but used by all. It is a source of O₂ which is vital to most living creatures including human beings, good air is necessary for good health.⁶ Man's individual daily consumption of air is about 351b, scientists have told us that if life on earth is to be sustained, the envelope of air surrounding the earth containing a delicate mix of gases that sustain us cannot be materially upset or radically changed.⁷ Deterioration of air quality over the years steadily mounted in intensity and volume and now pollution can no longer be tolerated,⁸ air pollution was found to be associated with increased incidence and mortality from coronary stroke in a study carried out in 2011.⁹ Atmospheric particles when inhaled through the respiratory tract may damage health, large particles can be retained in the nasal cavity and the pharynx while small particles enter into the lungs and are retained in the lungs. Recently, in Nigeria the skyrocketing price of gas and petroleum has made people to resort to the old conventional method of cooking using coal and firewood which is known to cause lung cancer and asthma.¹⁰ Exposure to particulate matter (PM) is associated with respiratory and cardiovascular illnesses and mortality,¹¹

This paper analyzes the possibility of full applicability of the polluters pay principle in developing countries like Nigeria, to achieve maximal air pollution reduction. In the United States, polluter pays principle (PPP) played a major role in enacting the 1970 Clean Air Act. These acts insist that polluters meet set environmental standards at their own expense and the acts are enforced strictly. In Nigeria, the Nigeria Environmental Standard and Regulation Enforcement Agency (NESREA 2007), National Oil Spill Detection

***By Ivie Deborah NWOSU, PhD (NNAMDI AZIKIWE UNIVERSITY)**

¹ King James Bible. Job 33vs 4

² Air is a mixture of gases. <https://www.toppr.com/ask/content/concept/air-is-a-mixture-of-gases-235340/> accessed on November 8, 2021

³ United Nations Environmental Programme. <https://www.unep.org/explore-topics/air> accessed November 10, 2021

⁴ Ibid.

⁵ S. Wolf and Stanley, *Principles of Environmental Law* (3rd ed Britain: Cavendish Publishing Limited, 2002) p 249.

⁶ JM Okuo, Air Quality and Quality of life- The nexus, The Urban-Rural Dichotomy- 251st Inaugural Lecture, *University of Benin Nigeria* p. 18

⁷ R Aston, *Environmental Law for Engineers and Geoscientists*, (USA: Lewis Publishers) p.3

⁸ Ibid.

⁹ FJ Mateen, & RD Brook, 'Air Pollution as an Emerging Global Risk Factor for Stroke'. [2011] 305(12) *JAMA* 1240- 1241

¹⁰ M Fidelis, *Trees Felling on the Rise as Cooking Gas Price Skyrockets*. Daily Trust.com 17th Nov 2021

¹¹ Ibid.

and Response Agency (NOSDRA 2006) and several others have been borne out of consideration of the (PPP) principle as provisions of the various act insist on polluters bearing the cost and clearing up of hazardous wastes which are the underlying factors causing air pollution and environmental degradation. The Petroleum Industry Act (PIA) makes the flaring of gas illegal which is a major cause of air pollution, yet it creates a series of exemptions that ensures the same gas flaring regime continues literally unchecked. It provides for the utilization of gas flare fines in more income yielding investment without any special consideration for the communities suffering the impact of gas flaring.¹²

2. Definition of Key Terms

Pollutants: -Can be classified as any substance which can cause detrimental effects. They can be chemical (toxic) metal, radionuclides, organophosphorus. compound (gas), geochemical substance dust, sediment, biological organism or product or physical substance (heat, radiation,) that is released intentionally by man into the atmosphere with potentially harmful, unpleasant, effects. Categories of Pollutants are: (i) *Persistent Pollutants* which are chemicals bound to remain in the environment for a long time in the form in which they were deposited into the environment such as plastic, pesticides, and others. Pollutants can be in the form of solids; (ii) *Non-Persistent Pollutants* which can be broken down into simple forms and can be referred to as biodegradable pollutants. Mary Douglas explores how pollution is something that is deemed to be out of place and not normal.

Air Pollution

This can be referred to as the release of toxic particulate matter into the air that are detrimental to human health and the planet as a whole.¹³ Air pollution, an environmental phenomenon resulting from the dynamic interplay of atmospheric processes, such as the interaction of an assortment of gases, organic compounds, and liquid aerosol particles with meteorological conditions ranging from temperature inversions, hot weather, and humidity.¹⁴ Air can be polluted by gases, dust particles, soot, fumes odour, and chemical sprays. This can cause respiratory diseases, cancer, stress on the heart, a bronchial condition, impairment of the lungs, systematic toxicity, and altered immune defense.¹⁵ Depletion of the ozone layer leads to global warming, blindness, and mortality when inhaled in an intense proportion. Air pollution can be attributed to human activities ranging from industrial activities, fuel combustion (industry and transportation), and generation of electricity to mention a few. Air pollution could be indoor or outdoor pollution; other sources include cook stoves, kerosene lamps, wildfires, sand, and dust storms. Dame Mary Douglas was one of the most important writers to explore the concept of pollution in the twentieth century. She considered the nature of pollution ideas in the context of traditional native cultures concerned about ritual cleanliness.¹⁶ The word 'pollution' emerged first during the fourteenth century and originates from the Latin word *poluere* which means soil or defile.¹⁷ Air pollution contributes to global warming. Historical attempts to regulate air pollution date back to 1865 in the case of *St. Helens Smelting Com. Tippling*. The concept of air and pollution was made reference to by Justice Holmes in the famous *Georgia v. Tennessee Cooper co Smelters Case*.¹⁸ In the case of *Georgia v. Tennessee Cooper Co*,¹⁹ the state of Georgia obtained injunctive relief against the Tennessee Cooper Company the company decided to put the waste product into the production of sulfuric acid.

In the case of *Chicago v. Commonwealth Edison*²⁰ there were claims that the activity of air pollution was a nuisance by the city of Chicago various factors were weighed to determine whether there was an unreasonable interference with the right to clean air for example,

1. What was the extent of harm or injury to the safety, health, peace and comfort of the public?

¹² Paul Omorogbe, Why Environmentalist are Unhappy with PIA State of Biosafety in Nigeria. Tribune, Thursday 15 July 2021, p12.

¹³ J. Mackenzie et al, Air Pollution: Everything You Need to Know Available at <https://www.nrdc.org/stories/air-pollution-everything-you-need-know> accessed November 13,2021

¹⁴ E. Miljkovic, Air Pollution in Mexico. Department of History, University of Houston <https://doi.org/10.1093/acrefore/9780199366439.013.969> accessed November 15, 2021

¹⁵ AN Nwachukwu et al, A Survey on the Effects of Air pollution on Diseases of the People of Rivers State, Nigeria, [2012] 6(10) *Africa Journal on Environmental Science and Technology*, 371-379.

¹⁶ M Douglas, 'Purity and Danger: An Analysis of the Concept of Pollution and Taboo, 1966.

¹⁷ R Barnhart, *The Barnhart-Concise Dictionary of Etymology*, (1995) at 582.

¹⁸ [1968] HLC, 642, (1907), 206 U.S, 230, 238

¹⁹ [206] U.S 230 (1907)

²⁰ [1974] N.E. 2d 412(111App.)

2. What is the measure of the company's operational methods as compared with local, state, and federal governmental outlines?
3. What is the suitability of the industrial location?
4. What is the net result in balancing the harm done to the public as mentioned against the utility of the defendants business to the community as a whole? The air pollution continued unabated because it was justified under standards of the day.
5. In contrast to Edison in the case of *Reserve Mining Co. v. EPA*,²¹ the court upheld a claim of public nuisance where asbestos fibers were being released into the air in violation of Minnesota air quality standard posing severe danger to the people of the area. In the case of *U.S v. Shell Oil Co*,²² the defendants agreed to resolve the U.S civil claims against them by paying a \$678,000.00 civil penalty and performing injunction for air pollution claims levelled against them.

Polluter Pays Principle

The polluter pays principle is generally accepted as one which compels producers of pollution to bear the cost of such pollution in terms of clean-ups and monetary implications which may rise as a result of such reprehensible acts of pollution which are environmentally damaging. In the context of air pollution, polluters who desecrate the atmosphere making it injurious for inhalation should be made to bear the brunt of their actions. Principle 16 United Nations Declaration 1992 (UNCED), Agenda 21 is a general principle of international environmental law, which essentially allocates the cost of pollution to the polluting sources.²³ Polluter pays principle states that polluting entities are legally and financially responsible for the harmful consequences of their pollution.²⁴ The idea of polluter pay principle is that the polluters should bear the expenses of carrying out measures decided upon by public authorities' state.²⁵

3. Sources of Air Pollution

When the rate at which the natural capacity of the environment can dissipate and absorb emitted substance is exceeded, air pollution occurs affecting economic, aesthetic and health factors. Major sources of air pollution include domestic industrial wastes, industrial emission, use of fuelwood, and vehicle exhaust.

4. Problems Caused by Air Pollution

Air Pollution is a threat to human health, respiratory illness such as asthma, and skin cancer. It is a threat to eco-system particularly damage done by acid rain. It causes climate disruption by global warming of the atmosphere with excessive levels of greenhouse gases – global warming has not only been linked to the increasing incidence of storms, drought, forest fires, floods, but global warming can also lead to the disruption of the ocean current system upon which the world's climate pattern depends for their stability.²⁶ The destruction of the ozone layer and the issue of global warming have brought home the truly awesome consequences of the combined effect of certain human activities.²⁷ In the case of *Gate Head Metropolitan Borough Council v Secretary of State for the Environment and Northumbrian Water*,²⁸ permission was refused because the applicant had paid too little to air pollution impacts of the proposal. The court held that pollution was a material consideration in the planning decision.²⁹ In the case of *St Helen Smelting Co v. Tippings*, it was stated that air pollution that can give rise to civil action on the tort of private nuisance may arise out of the defendants polluting activities which cause air pollution and even consequent damage on the claimants land.³⁰ Air pollution can also affect visibility- visibility can be affected when it becomes difficult to see clearly through a hazy polluted environment. A good instance is the air pollution experienced in Port Harcourt 2016, where visibility was overtaken by dark and hazy, and hazardous soot. Soot is the by-product, gas flaring and activities of illegal bunkering inside and outside the city and people had to put on nose masks.³¹

²¹ 514 F.2d 492 (8TH Cir. 1975)

²² No. 79-539- WDS S.D III June 20, (1997)

²³ UNCED 1992. Article 25 of the 1986 single European Act gives the legal basis to this principle.

²⁴ S Sommers, The Brownfield Problem: Liability for Lenders, Owners and Developers in Canada and the United States, 19 *Colo. Journal of Int'l Environmental law and policy* (2008) (259) 91.

²⁵ J Thornton and S Beckwith, *Environmental Law* (London: Sweet and Maxwell Limited, 2004) 44.

²⁶ S.Wolf, et al. *Principles of Environmental Law* (3rd ed. London: Cavendish publishers, 2002 UK, Britain.)

²⁷ S. Bell & Mc Gillivray. *Environmental Law*. (6th edition New York: Oxford University Press, 2006) p. 629

²⁸ (1995) ENVLR LR 37 JPL 432

²⁹ Wolf & Stanley, *Environmental Law* (6th edn. New York: Routledge, 2014) .351

³⁰ For example, airborne acidic deposits or fumes, 11 ER (1983).

³¹ T. Salami, the Strange Black soot: The City of Port Harcourt and 'the hanging black cloud' www.http//medium.com the strange-black-soot 2018. Accessed on the 19/12/ 2021.

5. Incidences of Air Pollution

In India, on December 1984 the Bhopal Gas Tragedy was a huge disaster. In that incident, the Supreme Court stated that 2,259 people died instantaneously, several suffered from several ailments. Also, in the case of *Union Carbide Corporation v. Union of India*³² leaked industrial vapor from the union carbide factory that killed more than 2,000 people and injured about 150,000 to 600,000. In the former USSR on April 2, 1979, near Sverdlovsk, there was an accidental anthrax leak from a biological warfare laboratory. This was one of the worst pollutions that have ever occurred resulting in ailments and over 66 persons died. In 1952 London experienced a deadly smog formation triggering cattle's at Smithfield to begin to suffer respiratory problems the smog penetrated into the popular Sadler wells theater stopping performance at once because of inability to see and breath. An estimated number of 4,000 persons lost their lives. The Beaver committee set up by the government recommended the introduction of legislation to eliminate particulate emission to forestall future occurrence.³³ While in America, over hundred persons died from air pollution in New York City.³⁴ The worst single incident of air pollution to occur in the United States of America occurred in Donora, Pennsylvania in late October, 1948, when 20 people died and over 7,000 were injured.³⁵ In 2016, the World Health Organization ranked some Nigerian cities, amongst them, Onitsha, amongst 20 of the world's worst-ranked cities for air pollution. In Nigeria, specifically in Port Harcourt, the incidence of soot in the air started in 2016 caused a lot of trepidation in the state, a lot of people suffered various respiratory trauma, and visibility was hampered in the city for some time. This occurrence was traced to the incidence of air pollution and was traced to the activities of illegal bunkering in the state and the activities of industries during gas flaring. Heavy metals found in the soot inhalation of polluted air from soot can be carcinogenic. A total of 23,000 people suffered respiratory-related diseases in five years. Around 22,000 people have been to the hospital for treatment of soot-related ailments.³⁶ Soot is non-discriminatory; it filters through the rooms, cars offices nowhere to hide from soot. This has continued till date. Research findings show that people living around the Niger Delta Region are likely to lose 6 years of life expectancy, if air pollution is not controlled.³⁷ In Lagos, research states that many people are paying with their lives for the city's worsening pollution, the problem can be traced to the fact that there is no operational system monitoring the air quality in the country, despite the increasing risk.³⁸

6. Applicability of Polluter Pays Principle in Regulating Air Pollution in Nigeria

The Polluter pays principle is widely known as a general principle of international environmental law, and today has been incorporated and adopted by international institutions, national governments, laws, policies and regulations. The first visible use and development of the principle was traced to Arthur Cecil Pigou who was a renowned economist in 1971 in his book made mention of the polluter pays principle in his book 'Economics of Welfare.'³⁹ This was followed by the principle as used and established by the Organization for Economic Co-operation and Development (OECD) prescribes a quasi-regulatory regime of environmental taxation for the application of the polluter pays principles, where companies are taxed according to the level of pollution they produce,⁴⁰ including accidental pollution and cleanups. This brought the principle into the utility in 1972. The (OECD) as the foremost international instrument to refer to the Polluter pays principle (PPP). In 1992 polluter pays principle was laid down in principle 16 of the UN Declaration of Environment and Development laying down allocation of cost of pollution, prevention and control measures to encourage reasonable use of scarce resources, this includes accidental pollution and cleanup costs. Article 191(2) of the European Union treaty mention PPP as a principle of EU law and the permanent court of Justice declared: The essence of the principle is that reparation must as far as possible wipe out all the consequences of the illegal act and re-establish the situation which would in all probability

³² AIR (1992) SC 248 AT 256

³³ S. Ball and S Bell, *Environmental Law and* <https://www.historyandpolicy.org/policy-papers/papers/clearing-the-air-can-the-1956-clean-air-act-inform-new-legislation>.

³⁴ AN Maduegbuna, The Emerging Challenges of Environmental Problems in the face of Struggle for survival for Developed Countries. *International Journal for Environmental Issues*, 2(1&2) (2004) 2(1&2). 173

³⁵ D Devra, *When Smoke Ran Like Water: Tales of Environmental Deception and the Battle against Pollution Basic Books* (2002).

³⁶ A Godwin, Again, Soot Spike in the River raises fresh Health concerns. <https://www.TheGuardianNewspaper.ng> 2021

³⁷ Air Quality Life Index (2021) AQLI

³⁸ Y. Kazeem, Residents in Lagos are paying for the City's Worsening Air Pollution with their lives. <https://www.QuartAfrica.Com>, 12

³⁹ Arthur Pigou, *The Economist Welfare* (Macmillan (1924) 185

⁴⁰ Organization for Economic Co-operation and Development (OECD) May Council Document No (72) 128. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

have existed if that act had not been committed. Such are the principles which should serve to determine the amount of compensation due for an act contrary to international law, *Upper Silesi F.R.G.V. v. POL*.⁴¹

Before the polluter pays principle, which can also be termed ‘extended producer responsibility, the environment was given little attention in the areas of perfection and regarded as resources for all with minimal control if any, until the environment was eventually quantified and the value of exploitative gains realized this was followed by the need to protect and preserve the environment as an aftermath of exploration. Polluter pays principle is a model for allocating and abating environmental harm and requires firms, nations & industries to bear the cost of pollution. A correctly construed polluter pays principle would penalize those who injure other people by harming their persons, or by degrading their property.⁴² Most advocates of PPP rarely, if ever, talk about harm to people or individuals. Polluters are those who ‘damage’ or impose ‘cost’ on the environment. The principle of making polluter pay has been incorporated into the title of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 1980 from which the hazardous substance trust fund is now known as Superfund in the United States. The principle has been criticized as a skewed principle focusing on forcing corporations to bear the cost of cleaning up of designated hazardous waste disposal sites and not the compensation of victims of reckless environmentally degrading activities.⁴³ The PPP is part of a set of broader principles to guide sustainable development worldwide (formally known as the 1992 Rio-Declaration damage to the environment, through impact on climate change. There has been a link between human activities that have increased the rates of greenhouse gas emission gases not imposed on emitters, the costs are thus ‘externalized’ to society to bears the cost.⁴⁴ The PPP intends to guide the allocation of pollution prevention and control costs between the government and the private sector (OECD 1972). Stating that polluters are not the government or innocent citizens with a few notable exceptions, should bear the financial cost of reducing unacceptable levels of pollutant discharge, one of such exception includes the development of new pollution control technologies. This principle is reaffirmed under principle 16 of the Rio Declarations 1992 ⁴⁵ which states that ‘National Authorities should endeavor to promote the internalization of environmental costs and the use of economic instrument, taking into account the approach that the polluters should, in principle bear the cost of pollution with due regard to the public interest and without distorting international trade and investment.’⁴⁶

Functions of PPP

Prevention and control measures

Environmental Responsibility

Clean up cost

Internalization of external control

Integrated pollution control

7. Incorporating Polluter Pay Principle into the Environmental Legislation and Regulations

Petroleum Act⁴⁷- Section 9(1) (b) provides authority to make regulations on operations for the prevention of air and water pollution. The Minister may make regulations prescribing anything required to be prescribed for this act;

(b) Provided generally for matters relating to licenses and leases granted under this and operations carried out thereunder include: (iii) The prevention of pollution of watercourses and the atmosphere. (c) Regulating the construction, maintenance, and operation of installations used in pursuance of this Act. Section 106 (1)-

Any person who-

(a) commits a breach of any of the provisions of these regulations; shall be guilty of an offence and be liable on summary conviction to a fine not exceeding #50,000 or to imprisonment for a term not exceeding six months or to both, and when the offender is the holder of a license granted under these regulations his license may be canceled by the Director-General.

⁴¹ (1928)(PCIJ)p.337

⁴² R.E Cardato, The Polluter Pay Principle: A proper Guide for Environmental Policy. Institute for Research on the Economics of Taxation Studies in Social cost, Regulation, and the Environment No. 6 p 1.

⁴³ VO, Aigbokhaevo, International Environmental Law principles: Sustainability Challenges [2010] 1(1) *Journal of Private and Property Law, University of Benin*, 153

⁴⁴ Available at <http://www..se.ac.uk/granthaminstitute/exptainers/what-is-the-polluter-pay> assessed on 31 November 2021.

⁴⁵ Rio Declarations on the Environment and Development UN Doc a/ Conf 151/26 (vol.1), 31 ILM 874 (1992)

⁴⁶ United Nations Conference of Environment and Development, UNCED Doc A/ CONF, 151/5/Rev. 1 31 ILM 974 (1992)

⁴⁷Petroleum Act, 1969 (Cap 350 LFN 1990)

The implication of this is that polluters are made to face the consequences of their polluting activities on the environment.

Environmental Impact Assessment Act⁴⁸- This law sets out the procedures, principles, and methods of environmental impact assessment in various sectors of the environment, particularly directed at regulating the industrialization process about the environment. Section 1- no industrial plan/development/activity can be executed without prior consideration of the environmental consequences of such proposed action in the form of an environmental impact assessment act. There are three major goals of the Environmental Impact Assessment Act;

(a) Prior consideration of the environmental impact would have on ambient air and other parts of the environment before undertaking any activity likely to significantly affect the environment; (b) Promoting the implementation of the appropriate procedure to achieve the above goal; (c) Encouraging and development of a reciprocal procedure for notification, information, exchange, and consultation in activities likely to have significant impact trans-state (boundary) environmental effect. Section 2 states that ‘the public and the private sector shall not undertake or embark on or authorize projects or activities without prior consideration at an early stage of their environmental effects’. Section 60 states the offences and penalties: ‘Any person who fails to comply with the provisions of this act shall be guilty of an offence under this act and liable on conviction with the case of individual to 100, 000, 00 fine, or to five years imprisonment and in the case of a firm or corporation to a fine of not less than 500,000.00 and not more than 1,000,000.00’. Where no adverse environmental effects exist; the EIA is issued and the project commences with appropriate mitigation and monitoring. In the case of *Gates Head Metropolitan Borough Council v. Secretary of State for the Environment and Northumbrian Water*⁴⁹ the developers were denied permit to construct a clinic waste incinerator because of air pollution impacts of the proposal,

Criminal Code⁵⁰ has in some of its provisions attempt to control pollution which is an environmental challenge in Nigeria.⁵¹ Containing provisions for the prevention of public hazards and environmental protection, sections 245 to 248 deal with offences ranging from air pollution to the use of noxious substances and also criminalize certain environmentally damaging behaviour. Section 247 (a) provides that ‘Any person who vitiates the atmosphere in any place to make it noxious about the health of persons in a general dwelling or carrying business in the neighborhood or passing along a public way is guilty of a misdemeanor and is liable to imprisonment for six months’. The provisions contained in the criminal code are for the prevention of public health hazards and environmental protection. The criminal code aims at criminalizing activities of air, water, and land pollution to ensure perpetrators made to face the consequences of their actions which in most cases are detrimental to the entire populace.

National Environmental Standard Regulation Enforcement Agency (NESREA)⁵²

Section 7 provides that ‘Authorities should ensure full compliance with environmental laws, local, regional and international laws on environmental sanitation, and pollution prevention including air pollution. This can be achieved through monitoring and regulation measures’. Section 8(1)(k) empowers the agency to make and review regulations on air and water quality, effluent limitation control of harmful substances, and other forms of pollution and sanitation. Section 20(1) states that ‘the agency may make regulations setting specifications and standards to protect and enhance the quality of Nigeria’s air resources, so as to promote the public health or welfare and the capacity of the nation’s human, animal, marine or plant life in particular’. The agency promotes maximum essential air quality standard for human, animal, marine or plant health. It controls the concentration of substances in the air which separately or in combination are likely to result in damage or deterioration of property or the human and animal health. By section 20(2), the agency may establish monitoring stations or networks to locate sources of atmospheric pollution and determine their actual potential danger. Section 20(3) provides that ‘a person who violates the regulation made pursuant to subsection (1) of this section commits an offence and on conviction, be liable to a fine not exceeding #200,000 or to imprisonment for a term not exceeding one year or to both such fine and imprisonment and an additional fine of # 20,000 for everyday the offence subsists’. Section 20(4) states that ‘where the offences committed by a body corporate, it shall on conviction be liable to a fine not exceeding #2,000,000 and an

⁴⁸ Environmental Impact Assessment Act. 1992 (Cap E12 LFN 2004)

⁴⁹ (1995) Env LR 37; (1995) JPL 432

⁵⁰ Criminal Code (1990)

⁵¹ Criminal Code cap 77, 1990. cap C38 LFN 2004

⁵² National Environmental Standard Regulation Enforcement Agency 2007

additional fine of #50,000 for everyday the offence subsists'. Section 21 provides for the protection of the ozone layer, the agencies undertake data and recognize development in other countries regarding the cumulative effects of all substances, practices, processes and activities that may affect the stratosphere. Section 34 empowers the Minister to make regulations generally for the purpose of carrying out or giving full effect to the functions of the Agency under this Act. Some of these regulations on air pollution will be considered. Section 27 prohibits, without lawful authority, the discharge of hazardous substances into the environment. This offence is punishable under this section with a fine not exceeding N1, 000,000 (one million naira) and an imprisonment term of 5 years, and in the case of the company, there is an additional fine of 50,000 for every day the offence persists.

Petroleum Industry Act⁵³-The objectives of this Act are to promote transparency, good governance and accountability in the administration of the petroleum resources of Nigeria and foster a business environment conducive for petroleum operations. Section 104 states that 'A licensee, Lessee or marginal field operator that flares or vents natural gas except: (a) in the case of an emergency; (b) pursuant to an exemption granted by the commission or; (c) as an acceptable safety practice under established regulations, commits an offence under this act and is liable to a fine as prescribed by the commission in the regulation under this act'. Section 105 states that 'A licensee or lessee shall pay a penalty prescribed to the flare gas under Prevention of waste and pollution Regulation'.

Section 107 states that 'the Commission or the authority may grant permit to a licensee or lessee to allow the flaring or venting of natural gas for a specific period (i) where it is required for facility start up; and (ii) for strategic operational reasons including testing.

National Environmental (Mining and Processing of Coal Ore and Industrial Minerals) Regulation ⁵⁴- Section 1- The purpose of this regulation is to minimize pollution from the mining and processing of coal, ore and industrial minerals. Section 13(2) states that 'in the event of a pollution resulting in an impact on the environment whether socio-economically or health wise, the facility shall as specified be responsible for compensation plan to mitigate any potential adverse effect:'

- (a) the cost of clean-up
- (b) remediation (measures to be taken to offset damages caused by deposit to the habitat)
- (c) reclamation
- (d) compensation to affected parties,
- (e) and cost of damages assessment and control (polluters pay)

Section 28(4)(c) it shall be an offence if the facility fails to remediate the environment to the standard as prescribed by the agency.

Section 29(1) states that 'Any person who violates any of the provision of regulation 28 commits an offence and shall on conviction, in the case of an individual, be liable to a fine not exceeding two years or both such fine and imprisonment and an additional fine of N5,000 for every day the offence subsists'. Section 30(1) states that 'operators involved in mining and processing of coal ores and industrial minerals shall ensure that their activities conform with prescribed guidelines for sale level of air pollutants tolerable to human, aquatic organisms'.

National Environmental (Control of Bush/ Forest Fire and Open Burning) Regulations⁵⁵- This regulation is aimed at preventing and minimizing the destruction of the eco-system arising from indiscriminate burning of material which may result in forest burning and emission of hazardous air pollutants. Any person who goes contrary to the provisions of the regulation commits an offence. Regulation 21 if found guilty shall be liable and pay a fine not exceeding fifty thousand Naira or imprisonment for a term not exceeding 3 months or both. If committed by a corporate body they shall pay a fine of one million Naira and additional fine of twenty thousand each day the breach subsists.

National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations⁵⁶- Regulating emission from petroleum engine arising from new motor vehicles, It compels

⁵³Petroleum Industry Act 2021. Other acts include Factories Act Cap F1 LFN 2004, Section 7(1) (a) and 8(3) prohibit overcrowding which inhibits air circulation. There are also Associated Gas Reinjection (Amendment) Act, Cap A 25 LFN 2004, Harmful Waste (Special Criminal Provision) Act 1988 section 6, and Nuclear Safety and Radiation Protection Act.

⁵⁴ National Environmental (Mining and Processing of Coal Ore and Industrial Minerals) Regulation s.1 No 31 (2009)

⁵⁵ National Environmental (Control of Bush/ Forest Fire and Open Burning) Regulations s.1 No 15 (2011).

⁵⁶ National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations s.1. NO 20. (2011).

production of new technologies that will reduce and minimize vehicular emission through the imposition of strict limit values and penalties for the pollution so₂, Nox Co and unburned hydrocarbons. It is unlawful to install or replace the engine unit of any motor vehicle with a petroleum engine that emits pollutants in excess of the prescribed standard attracts fine not exceeding 50,000,00 or imprisonment for a term not exceeding 1 year and an additional one thousand everyday it subsists. 500,000.00 for a body corporate fifty thousand additional fine everyday it subsists.

National Environmental (Ozone Layer Protection Regulation)⁵⁷- Section 1(1) states that ‘No person shall import, manufacture import in whole or part, install or offer for sale or buy or refurbish facilities intended to be used for the production of any ozone-depleting substances (ODS) unless for the recovery and recycling of substance already in use’. Section 22(1) states that ‘any person who violates the provision of the regulation commits an offence and on conviction to:

- (a) A fine of not more than N200,000 and an additional fine of 10,000 for every day the offence subsists or
- (b) Imprisonment for a term not exceeding one year or both.
- (c) For a company the sum of 1,000,000.00 and an additional fine of N50, 000 for every day the offence subsists’.

Section 27(2) states that ‘The Agency shall in collaboration with other relevant agencies, embark on programmes for the control of any substance, practice, process or activity which may reasonably be anticipated to affect the stratosphere, especially ozone where such effects may reasonably be anticipated to endanger public health and welfare’. Subsection (3) holds that ‘Where an offence under subsection (2) of this section is committed by a body corporate, it shall on conviction, be liable to a fine not exceeding N2,000,000,00 and an additional fine of 50,000.00 for each day the offence subsists’.

National Environmental (Air Quality Control Regulations S.1.No 64)⁵⁸- Section 1 states that ‘the purpose of these regulations is to provide for-

- (a) for improved control of the Nation’s air quality to such an extent that would enhance the protection of the flora and fauna, human health, and other resources affected by air quality deterioration.
- (b) All users, the right to-
 - (i) Clean air
 - (ii) Utilize and benefit from all natural resources managed accordingly to the principles of sustainable development.
 - (iii) be informed of the nature and extent of the potential hazard of any activity undertaking and project and to be served timely notice of any significant rise in the level of pollution and the accidental or deliberate release into the atmosphere of the harmful or hazardous substance, and
- (d) The clean-up and rehabilitation of the affected area.

Section 12 provides for the prohibition to burn. ‘A person shall not burn or permit to be burnt standing biomass within its premises or neighborhood, except where it is authorized in accordance with the National Environmental (Control of Bush or Forest Fire and open Burning) Regulations, 2011’. Section 40 states the offences and penalties:’ A person who violated any of the provision of these regulations commits an offence and shall on conviction- (a) be liable to a fine of not less than one hundred Naira or to imprisonment for a term not less than 6 months or to both, such fine and imprisonment and an additional fine of not less than N10,000 for every day the offence subsists.

National Environmental (Control of Charcoal Production and Export Regulation)⁵⁹- The objectives of this regulation are to: (a) regulate the export of charcoal or charcoal production; (b) regulate felling of trees for charcoal production; (c) ensure improved domestic charcoal production; (d) regulate interstate trade in charcoal or charcoal products. Section 5(a) states that ‘A person shall not undertake or engage in any undertaking or activities relating to commercial charcoal production without valid permit’. Section 19 deals with offences and penalties. Section 19 (1) Any person who violates any of the provision commits an offence and shall be liable on conviction to a fine of not less than one million naira or a term of imprisonment of not less than 5 years, and an additional fine of ten thousand naira for every day the offence subsists.’

⁵⁷ National Environmental (Ozone Layer Protection Regulation 2009).

⁵⁸ National Environmental (Air Quality Control Regulations s.1 No 64.) (2014).

⁵⁹ National Environmental (Control of Charcoal Production and Export Regulation 2014).

National Environmental (Energy Sector) Regulation⁶⁰- Section (1) contains the purpose of the regulation which is to prevent or minimize pollution and encourage energy efficiency in all operations and ancillary activities of the energy sector in achieving sustainable development in Nigeria. Section 9(1) states that every facility shall put in place an organized system for the pollution control and it shall assign a pollution control manager (PCM) who oversees pollution control and prevention duties as specified. Section 28 provides for air sampling for analysis- measurement of air quality parameter shall take place at any facility downward and upward. Section 44 states that it is an offence for an operator or any power generating facility to fail to maintain the facility. Paragraph (f) states that anyone who fails to maintain the facility in an environmentally sound manner, commits an offence and is liable to pay a violation fine of N 200,000.00 or imprisonment for a term not exceeding one year or both, and an additional fine of 5,000 for every day the fine subsists, if committed by a facility a fine of N1, 000,000.00 and an additional fine of N50, 000 every day the offence subsists.

Hydrocarbon Pollution Restoration Project Unit, Ministry of Petroleum Resources⁶¹ This is a Subsidiary Legislation, main objective of which is to (a) develop and initiate work programme aimed at restructuring all Hydrocarbon impacted communities in Nigeria and any other matter that the Federal Government may from time to time assign to HYPREP; and provide useful guidance data to undertake remediation of contaminated soil and groundwater and surface water contamination. This also includes contaminated air.

National Environmental (Textile Wearing Apparel Leather and Footwear Industry) Regulation⁶²-The purpose of this regulation is to prevent and minimize pollution from all operations and ancillary activities from the sector to the Nigerian Environment. Section 19 (1) states that ‘The National Environmental Standards in relation to emission limitation for the sector shall be as set out in schedule v to the regulations’. Section 20(1) states that ‘A facility with any source or potential source may be require to measure the emission of everyday priority air pollutant emitted therefrom and to develop and implement a plan to control such emission in accordance with standards prescribed in schedule V to these regulations’. Section 47(a) states that ‘failure to comply with (a) Abatement measures; (b) Remediate the environment to the standard prescribed by the Agency shall on conviction be liable. Section 51(1) holds that ‘Any violation shall be liable to a fine not exceeding N200,000.00 or imprisonment for a term not exceeding two years or both such fine and imprisonment and an additional fine of 5,000 for every day the offence subsist’. Section 51(2) states that ‘where an offence under subsection 1 of the section is committed, by a facility, it shall on conviction be liable to a fine not exceeding N1,000,000.00 and an additional fine of N50,000.00 for every day the offence subsists’.

National Environmental (Food Beverages and Tobacco Sector Regulations) 2009- Section 5 contains the Polluter-pay principle.

Domesticated International Laws, Protecting the Atmosphere from Air Pollution

1. United Nations Framework Convention on Climate Change (UNFCCC) (1992) Article 2.
2. The Montreal Protocol (1987) Article 5(1).
3. Vienna Convention for the Protection of the Ozone Layer (1988) adopted in 1985.
4. African Banjul Charter on Human and People’s Right (Article 24) 1981.
5. National Conference on Human Environment at Stockholm (1972).
6. Ozone Convention for the Protection of the Ozone Layer and Montreal Protection of Substances that deplete the Ozone Layer. 1985.
7. Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Waste within Africa (1998)

Alternative measures to curtail air pollution

1. Exploration of environmentally friendly alternatives such as renewable energy to the use of fossil fuel and use of steam power. Use of biogas instead of wood and biogas be subsidized.
2. Strict adherence to guidelines and provisions developed by the government for quality air, retraction for emission of hazardous gaseous and non-gaseous substances into the air.

⁶⁰ National Environmental (Energy Sector) Regulation cap 164 (2014) .

⁶¹ Hydrocarbon Pollution Restoration Project Unit, Ministry of Petroleum Resources, 2014

⁶² National Environmental (Textile Wearing Apparel Leather and Footwear Industry) Regulation 2009.

3. Optional use of public vehicles and car-pooling can reduce the number of vehicles emitting pollution from the exhaust into the environment
4. Prevention interventions are the best ways of controlling air pollution. A conscious effort by individuals, companies, and the government to keep the environment free from air pollution.
5. Constant electricity supply should be a priority to drastically reduce the use of gasoline generators which is a major cause of air pollution in Nigeria.
6. Installation of air fitness and protection in industries to ensure air is purified and appropriate agencies should check them periodically.
7. The most immediate method of improving air quality would be the use of bioethanol fuel, biodiesel, solar energy, and hybrid vehicle technologies

8. Conclusion and Recommendations

Minimizing air pollution and encouraging green technologies should be encouraged. Enhancement of existing legislation to guarantee appropriate air quality standards existing agencies such as NESREA should pay close attention to monitoring air quality standards by installing air quality standard equipment's so detection of compromise in air quality standards can be detected. In addition to government provision of basic amenities which includes food, water, shelter a healthy environment could be incensed into the shelter, shelter from polluted environment access to clean air free from pollutants should become a priority with the government. The government, through its agencies, should ensure that polluters' pay principles are enforced as a deterrence measure for intending air polluters. The polluter pay principle has been appropriately captured in some of the available laws such as section 14 National Environmental (Sanitation and Waste Control Regulations) section 13(2) National Environmental (Mining and Processing of Coal Ore and Industrial Minerals) Regulation s.1 No 31 (2009), giving it the necessary backing for enforceability. The cost such offenders, whether individual or corporate, are to pay should be exorbitant. The economic reality of this principle has attracted most policymakers as the economically viable market-oriented regulatory regime for environmental management. The improvement of electricity supply and use of alternative renewable sources could help reduce the use of gasoline generators, found invisible in every neighborhood and regular vehicular inspection by VIO (Vehicle Inspection Officers) to make sure those emitting too much smoke are taken off the roads and if they insist on using such vehicles be made to pay heavy fines. Several barriers need to be addressed to facilitate effective, long-term improvements in Nigeria's air quality. Since the issue of air quality involves various sources of pollutants from different sectors, a national regulatory body with the overarching power to address all types of air pollutants and coordinate the activities of different ministries is needed. Positive steps have been taken towards creating a stronger, overarching air quality policy. While Nigeria does not lack legislation concerning air pollution, ineffective implementation remains a key barrier to measures that put public health first. Nigeria's national air quality standards remain weaker than the WHO's guideline levels, which has implications for the health of the population. Inadequate monitoring means that the pollution problem is likely even more widespread than indicated.

Addressing air pollution should be given priority by the government of the day by promoting strict enforcement of acts and regulations that promote the polluter pay principle (PPP) principle. Failure to accord interest to this viable principle would harm the society giving rise to environmental degradation and damages. Environmental degradation, if not checked through PPP, costs the country billions of naira yearly because someone has to bear the cost, and this cost falls on the poor through taxation for the government to generate funds to initiate clean-ups therefore the strict sense of the application of PPP is enjoined. Inconsistent government policies that tend to downplay polluter-pay-principles should be avoided. All companies should operate on the same grand level when it comes to complying with PPP. The issue of bias, favoritism, or sentiment should be ruled out and all companies should comply with the same laid down environmental regulations. This should be monitored. Enforcement of air pollution legislation and defaulters should be made to face stiffer penalties. Professional and efficient waste collection measures should be adopted. This would ensure that waste is not burnt locally in every community and that it is not given time to decompose and emit odour polluting the air. Sensitization of promotion measures to ensure a clean and air-free environment. This can be done by educating the public on the ills of air pollution and the need to ensure that polluters who come into communities do not vitiate the atmosphere at the expense of others through the emission of deadly aerosols into the environment. Governmental timely response to the yearnings of the people, and ensuring those involved in illegal activities such as bunkering that cause serious air pollution should be used as proverbial scapegoats for others to learn. Government should devise more modern and technological methods in destroying hide-outs and facilities of illegal bunkering to prevent being part of polluters vitiating the atmosphere.