

“Green” Taxation as Mechanism of Environmental Protection: A Review of Country Initiatives

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I. INTRODUCTION

Environmental degradation, which results in climate change, has been an urgent concern of both government and non-government institutions as well as international organizations that seek to reverse the alarming and deteriorating condition of the environment. The reason for which can be explained as “the result of human behavior that is considered unethical or immoral.”¹ People pollute the environment because “they lack the moral and ethical strength to refrain from the type of behavior that causes environmental degradation.”²

To control said destructive behavior, alternative policies have been utilized by governments to supplement the more traditional activities of environmental protection. In particular, fiscal instruments, specifically taxes, are gaining ground in the environmental policies of countries of Europe and the Asia-Pacific Region, as well as the United States (U.S.), as mechanisms for protecting the environment.³ Although taxes have been traditionally utilized for revenue purposes, they do not preclude the attainment of other

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1. BARRY C. FIELD & MARTHA K. FIELD, ENVIRONMENTAL ECONOMICS: AN INTRODUCTION 3 (4th ed. 2006).
2. *Id.*
3. Jean-Philippe Barde, ‘Green’ Taxation, THE OECD OBSERVER, June 1997, at 8.

purposes which are proposed to be accomplished through taxation. Other economic, social, and political objectives in which tax policy figures a major role include the curtailment or encouragement of consumption and redirection of productive resources.⁴ Thus, taxes and associated fees and charges levied by governments have various purposes and effects: to recover public sector costs, to achieve social equity, or to modify taxpayer behavior.⁵

This Essay reviews the experiences of countries that have adopted green taxation as a mechanism for environmental protection in addition to more direct and traditional activities to curb pollution. It likewise examines the fiscal policy initiatives of the Philippine government relative to safeguarding the environment to help decelerate its degradation. In general, this Essay evaluates existing literature, studies, and articles that have been written regarding green taxation. In the case of the Philippines, the documents reviewed are existing laws. Specifically, the analysis seeks to explain the development and status of green taxation. Moreover, the analysis will evaluate existing government policies and contribute to formulating new initiatives.

II. THE KYOTO PROTOCOL VIS-À-VIS GREEN TAXES

In December 1997, the Kyoto Protocol⁶ was adopted by 160 nations that agreed to cut back emissions of carbon dioxide (CO₂) and other greenhouse gases. While ratified by a number of countries so far, the Kyoto Protocol calls for industrial countries to reduce their average emission during the period of 2008 to 2012 to about five percent below the 1990 level. Some countries pledged to go further: the European Union (EU) set an eight percent target, while the U.S. and Japan agreed to cut emissions by seven and six percent, respectively. The Kyoto Protocol also allows some industrial countries to modestly increase their emissions in the near term, while special terms apply to members of the former Soviet Union. Since developing countries face potential technical and economic constraints, the Kyoto Protocol does not oblige them to cut back on their emissions.⁷

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4. EDUARDO Z. ROMUALDEZ, SR., ET AL., PHILIPPINE PUBLIC FINANCE 219-20 (1973).
 5. Ralf Buckley, *Green Taxes: Legal and Policy Issues in Using Economic Instruments for Environmental Management*, 2 REVENUE L.J. 27, 29 (1991).
 6. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Mar. 16, 1998, 37 I.L.M. 22.
 7. John Norregaard & Valerie Reppelin-Hill, *Controlling Pollution Using Taxes and Tradable Permits*, available at <http://www.imf.org/external/pubs/ft/issues/issues25/index.htm> (last accessed Sep. 14, 2009).

Even after questions about the Kyoto Protocol and its associated costs are resolved, domestic policy choices for meeting targets and timetables will still require further consideration. No international agreements exist yet on this policy menu, but policy makers basically have a choice between two types of economic instruments — environmental taxes and tradable permits — to supplement more traditional policy instruments in the form of direct intervention and regulations, the so-called command and control measures.⁸

Country experiences provide a number of lessons on the design and use of both types of instruments. It is observed, however, that so far most countries have relied more heavily on taxes than on permits and charges to control pollution and other forms of environmental degradation. Nevertheless, there seems to be little consensus among tax authorities on really what constitutes an environmental tax. Current definitions of green taxes can include one or more of the following:

- (1) Emission taxes that set their rates according to the amount of emissions and extent of environmental damage (known as “Pigouvian taxes”);
- (2) Indirect taxes on production inputs or consumer goods which use can damage the environment (for instance, excise taxes on gasoline);
- (3) Environment-related provisions in other taxes; and
- (4) Accelerated depreciation provisions and lower tax rates for equipment and production methods that save energy and reduce pollution.⁹

The lack of a generally accepted definition of what green taxes are has therefore complicated any consistent classification.

It is noted though that the Organization for Economic Co-operation and Development (OECD) is working with other institutions to try to address the problem. Initially, the OECD has put together a comprehensive database with information on environmentally-related taxes in its member countries.¹⁰ In the case of Asia, its two leading economies — Japan and China — are now considering the adoption of carbon taxes as a mechanism for environmental protection. In the case of Japan, for instance, for the last few years, many members of the National Diet of Japan have wanted to launch an environmental tax shift, but the industry sector has opposed it.

8. *Id.*

9. *Id.*

10. *Id.*

Conversely, China is working on an environmental tax restructuring directed towards discouraging the use of fossil fuel. According to an official of the National People's Congress, "taxation is the most powerful tool available in a market economy in redirecting a consumer's buying habits. It is superior to government regulation."¹¹

III. STATE INITIATIVES

In controlling people's destructive behaviors that cause environmental degradation, fiscal and quasi-fiscal instruments have been implemented by governments worldwide as an alternative mechanism for protecting the environment. Said fiscal and quasi-fiscal instruments are now referred to as green taxation. These basically refer to charges and taxes; charges are normally the payment for a specific service (for instance, refuse collection and disposal or waste water treatment), whereas the revenue from a tax is not used for any one specific purpose.¹²

There are economic and social arguments for advocating green taxation and its related economic instruments. The economic argument states that, "in the right circumstances, economic instruments should be able to achieve a given level of environmental quality at a lower total cost than regulatory or technological instruments. This applies only if information, metering, transaction, and administration costs are low, however."¹³ The social argument holds that

[g]reen taxes provide incentives for socially desirable behavior without removing individual freedom of choice. Therefore, by designing appropriate economic incentives for good environmental management, [the] government can allow many development decisions to be made by project proponents, rather than passed [on] to [the] government. Some types of policy instrument can also act to transfer administrative workload from public regulatory agencies to private-sector insurance and finance industries and the courts.¹⁴

European countries are at the forefront when it comes to the use of green taxes as a mechanism for environmental protection. For instance, Germany's ecological tax reform went into effect on 1 April 1999 with the introduction of a new electricity tax and a hike in the country's existing

11. Lester R. Brown, *From Income Tax to Environmental Tax: Time for a Shift*, available at <http://www.progress.org/2006/tax05.htm> (last accessed Sep. 14, 2009).

12. Barde, *supra* note 3, at 8.

13. Buckley, *supra* note 5, at 28.

14. *Id.* at 29.

petroleum tax.¹⁵ The main goals of the program are “to generate incentives for energy savings and accelerate industrial change, to fund renewable energy programmes, and to increase employment by reducing the burden of labour taxation.”¹⁶ At the first stage of the reform, electricity was taxed at two Pfennigs a kilowatt, fuel taxes were raised by six Pfennigs a kilowatt liter, the tax on heating oil by four Pfennigs a liter, and the tax on natural gas by 0.32 Pfennigs a kilowatt hour.¹⁷ Between 2000 and 2003, tax rates were increased gradually, thus, the tax on fuel was increased by six Pfennigs a liter and the tax on electricity by 0.5 Pfennigs a kilowatt hour.¹⁸ Moreover, an additional tax of three Pfennigs per liter on fuels that contain more than 50 ppm of sulfur took effect on 1 November 2001.¹⁹ This ceiling however was lowered to 10 ppm as of 1 January 2003.²⁰

Moreover, Germany’s ecological tax offers financial incentives for conserving energy as well as for harnessing renewable energy sources. Thus, electricity generated using renewable energy sources, such as wind power, solar energy, geothermal heat, water power, landfill gas, and biomass, is not subject to the electricity tax.²¹ The objective of this policy is to redirect the production and consumption of electricity using fossil fuels to resources that are renewable and environment-friendly.

Nevertheless, the ecological tax legislation of Germany still contains a number of exceptions²² that have been criticized by some as incompatible with the tax’s environmental goals. In the government’s view, these exceptions were unavoidable because of the need for structural changes in energy consumption and of the limited progress in harmonizing energy

15. MICHAEL KOHLHAAS, *ECOLOGICAL TAX REFORM IN GERMANY: FROM THEORY TO POLICY I* (2000).

16. ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, *ENVIRONMENTALLY RELATED TAXES IN OECD COUNTRIES: ISSUES AND STRATEGIES* 52 (2001 ed.) [hereinafter OECD].

17. *GROWTH: THE CELTIC CANCER* 132 (Richard Douthwaite & John Jopling eds., 2004).

18. *Id.*

19. Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety, *The Ecological Tax Reform: Introduction, Continuation, and Development into an Ecological Fiscal Reform*, available at http://www.bmu.de/files/pdfs/allgemein/application/pdf/oekost_en.pdf (last accessed Sep. 14, 2009).

20. *Id.*

21. KOHLHAAS, *supra* note 15, at 5.

22. *Id.* at 21-22.

taxation in Europe. Without the exemptions, the increased cost of energy would impair German industries' competitiveness. Consequently, special arrangements for lower environmental tax rates have been made for companies in the manufacturing, agriculture, and forestry sectors. Similarly, lower tax rates apply to local transportation and for vehicles that run on natural gas.

Prior to Germany's green tax initiatives, Denmark, Sweden, Norway, and Finland introduced their own ecological tax reforms in the early 1990s. In fact, they have reformed their tax systems to rely increasingly on green taxes as a source of government revenue.²³ Sweden, for instance, has already attempted to limit energy use previous to the imposition of the carbon tax, and therefore carbon emissions, by directly taxing the rate of oil and electricity.²⁴ In 1991, however, Sweden introduced a strict revenue neutral measure geared towards ecological tax reform. In particular, the Swedish government restructured its energy taxation by lowering energy taxes levied on industries and broadened its value-added tax (VAT) base thereby reducing income taxation.²⁵ The "lost" income, however, was offset by new environmentally related taxes on CO₂ and sulfur. Energy taxes levied on industry were also reduced. Nevertheless, a decade later, Sweden increased taxes on diesel, heating, oil, and electricity but not without combining them with tax cuts and lower income taxes and social security contributions.²⁶ Specifically, the bold 10-year environmental tax shift was designed to convert 30 billion kroner (\$3.9 billion) of taxes from income to environmentally destructive activities. Much of this shift of the \$1,100 per household is levied on cars and trucks, including substantial hikes in vehicle and fuel taxes. Electricity is also being taxed more heavily. This tax restructuring is an integral part of Sweden's plan to be oil free by year 2025.²⁷ It is also observed that Sweden's energy taxes are some of the highest in Europe. For instance, gasoline taxes comprise 68.5% of the price of gasoline. Yet, its government has no desire of lowering the overall tax level.²⁸

23. Norregaard & Hill, *supra* note 7.

24. Gareth W. Osborn, Can eco-taxation be effective in reducing carbon emissions?, *available at* <http://www.colby.edu/personal/t/thtieten/eco-taxation.htm> (last accessed Sep. 14, 2009).

25. OECD, *supra* note 16, at § 11.

26. *Id.*

27. Brown, *supra* note 11.

28. Osborn, *supra* note 24.

Similarly, Great Britain has automatically raised its fuel tax by six percent every year since 1993, on an open-ended basis. In 1996, the United Kingdom introduced a landfill tax to reduce social security contributions. In April 2001, it taxed industry and business use of energy in what was called the “climate change levy.” Similarly, a “road fuel duty escalator” was to tax virgin sand, gravel, and rock in 2002, but this was abandoned in 2000.²⁹

In 1998, Italy also adopted a number of environmentally related taxes including a phased-in CO₂ tax on mineral fuels, a landfill tax, and nitrogen oxide (NO_x) and sulfur dioxide (SO₂) taxation. The revenues from these taxes reduced the rates of social security contributions on labor by 60.50% and compensation measures by 31.10%. The Italian government, however, was forced to cut excise taxes on oil products and postpone its tax reform because of rising oil prices since 1999.³⁰

In general, majority of EU member states have embraced the principle of gearing taxation to environmental considerations. Great Britain, for its part, automatically raises fuel tax by six percent every year since 1993, on an open-ended basis. Italy has also launched an ecological wage costs just like in Germany where they have fallen by 0.8%. In a similar fashion, the nations of Eastern Europe are also taking this path. Slovenia, for example, introduced a tax on CO₂ emissions in 1997. France also has an ecological tax on the drawing board and plans to increase its tax on gasoline by approximately one Pfennig a year. Although France’s planned tax is considerably lower than the increases in effect in Germany, CO₂ emissions generated by industry was subject to a tax of some DM 45/ton of emissions beginning 2001. This rate will increase to approximately DM 150/ton by the year 2010. Just like Germany, France also has plans to grant exemptions for energy-intensive sectors. The French tax is likewise intended to reduce non-wage labor costs.

In the U.S., the major tax issue is whether environmental cleanup costs and expenditures should be capitalized for tax purposes and depreciated over a period of years or expensed immediately. Environmental cleanup costs include “expenditures incurred for the assessment, mitigation, and/or remediation of environmental hazards”³¹ like water or soil contamination, chemical or oil spills, etc. In January of 1998, the Internal Revenue Service implemented a revenue procedure where taxpayers obtain private letter

29. OECD, *supra* note 16, at 52.

30. *Id.*

31. Larry Kreiser, et al., *The Taxation and Management of Environmental Cleanup Costs: A Growing Worldwide Concern*, TAXES — THE TAX MAGAZINE, May 1998, at 29.

rulings on the deductibility or capitalization of environmental cleanup costs incurred.³² In 1992, Australia also allowed deductions for environmental expenditures, especially for environmental impact studies and environmental protection expenditures.³³

IV. PHILIPPINE INITIATIVES

The policy that directly addresses the problem of air pollution is provided under the Philippine Clean Air Act of 1999.³⁴ The Act also formulates public policy along the lines of state responsibility and sustainable development.³⁵ One of the more significant provisions of the law is Section 13, which provides for an Emission Charge System as follows:

The Department [of Environment and Natural Resources], in case of industrial dischargers, and the Department of Transportation and Communications (DOTC), in case of motor vehicle dischargers, shall, based on environmental techniques, design, impose on and collect regular emission fees from said dischargers as part of the emission permitting system or vehicle registration renewal system, as the case may be. The system shall encourage the industries, and motor vehicles to abate, reduce, or prevent pollution. The basis of the fees includes, but is not limited, to the volume and toxicity of any emitted pollutant. Industries, which shall install pollution control devices or retrofit their existing facilities with mechanisms

32. *Id.* at 30.

33. *Id.* at 31.

34. An Act Providing for a Comprehensive Air Pollution Control Policy and for Other Purposes [Philippine Clean Air Act of 1999], Republic Act No. 8749 (1999).

35. *Id.* § 2. This section provides

The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature.

The State shall promote and protect the global environment to attain sustainable development while recognizing the primary responsibility of local government units to deal with environmental problems.

The State recognizes that the responsibility of cleaning the habitat and environment is primarily area-based.

The State also recognizes the principle that “polluters must pay[.]”

Finally, the State recognizes that a clean and healthy environmental is for the good of all and should therefore be the concern of all.

that reduce pollution shall be entitled to tax incentives such as but not limited to tax credits and/or accelerated depreciation deductions.³⁶

It is noted that tax incentives provided under the abovementioned Act are intended to encourage industries or business organizations to install pollution control devices or retrofit their facilities with mechanisms that would limit emission of pollutants with the end in view of reducing air pollution especially in areas where the industries or business organizations are located.

An examination of the Philippine tax system, as expressed in the National Internal Revenue Code (NIRC),³⁷ indicates that there are specific provisions in the tax code that are supposed to address the problem of environmental degradation even prior to its amendment in 2005. The reform undertaken by the Philippine government in 2005, however, further strengthened the tax system as a vehicle of protecting the environment, thus making it much “greener.” For instance, prior to its reform, the importation and sale of fuel oils were exempt from the VAT,³⁸ although a minimal excise tax was imposed on selected manufactured oils and other fuels³⁹ as illustrated in the table below. With the passage of Republic Act No. 9337⁴⁰ by Congress, the law removed the exemption of said products from the VAT.⁴¹ With the new law in place, importation and sale of fuel oils are now treated similarly like any other goods imported and sold in the market. In addition, the sale and exchange of services, which include among others, transportation services by common carriers, sales of electricity by generation companies, transmission, and distribution companies, and services of franchise grantees of electric utilities, are now covered by the 12% VAT.⁴²

Moreover, Section 14 of R.A. No. 9337 amended Section 117 of the NIRC by expanding the coverage of the percentage tax on domestic carriers and keepers of garages. Domestic carriers and keepers of garages, as provided

36. *Id.* § 13.

37. An Act Amending the National Internal Revenue Code, as Amended, and for Other Purposes [Tax Reform Act of 1997], Republic Act No. 8424 (1997).

38. *Id.* § 109.

39. *Id.* § 148.

40. An Act Amending Sections 27, 28, 34, 106, 107, 108, 109, 110, 111, 112, 113, 114, 116, 117, 119, 121, 148, 151, 236, 237 and 228 of the National Internal Revenue Code, as Amended, and for Other Purposes, Republic Act No. 9337 (2005).

41. *Id.* § 7.

42. *Id.*

in the Act, now include cars for rent or hire driven by the lessee, transportation contractors, including persons who transport passengers for hire and other domestic carriers by land for the transport of passengers (except owners of *bancas* and owners of animal-drawn, two-wheeled vehicle), and keepers of garages. Said activities are now taxed at three percent on their quarterly gross receipts.⁴³

Furthermore, the additional excise taxes on selected manufactured oils and other fuels were also revised by R.A. No. 9337.⁴⁴ The previous and new rates are presented below for comparative purposes:

TYPE OF OIL PRODUCT	PREVIOUS RATE	RATE UNDER R.A. NO. 9337
Lubricating oil and greases	₱4.50 per liter or kilogram	₱4.50 per liter or kilogram
Processed gas	₱0.05 per liter	₱0.05 per liter of volume capacity
Waxes and petroleum	₱3.50 per kilogram	₱3.50 per kilogram
Denatured alcohol to be used for motive power	₱0.05 per liter	₱0.05 per liter of volume capacity
Naptha, regular gasoline and other similar products of distillations	₱4.80 per liter	₱4.35 per liter of volume capacity
Naptha, when used as a raw material in the production of petrochemical products	₱0.00 (zero)	₱0.00 (zero)
Leaded premium gasoline	₱5.35 per liter	₱5.35 per liter of volume capacity
Unleaded premium gasoline	₱4.35 per liter	₱3.35 per liter of volume capacity
Aviation turbo jet fuel	₱3.67 per liter	₱3.67 per liter of volume capacity
Kerosene	₱0.60 per liter	₱0.00 (zero)
Kerosene used as aviation fuel	₱3.67 per liter	₱0.00 (zero)

43. *Id.* § 14.

44. *Id.* § 17.

Liquefied petroleum gas (LPG)	₱0.00 (zero)	₱0.00 (zero)
Asphalts	₱0.56 per kilogram	₱0.56 per kilogram
Bunker fuel oil	₱0.30 per liter	₱0.00 (zero) per liter of volume capacity

It is observed that an excise tax was previously imposed on some oil products, which are now zero-rated. These include kerosene, kerosene used as aviation fuel, and liquefied petroleum gas.⁴⁵ The excise tax on unleaded petroleum gasoline was, on the other hand, reduced from ₱4.35 per liter to ₱3.35 per liter of volume capacity.⁴⁶ The main reason for the reduction of the excise taxes on these products is to protect the interest of the consumers considering the imposition of the 12% VAT on manufactured fuels and oils, which were previously exempt from the VAT. The zero-rating or reduction of the excise tax on these products was to cushion the impact on prices. This is particularly apparent with regard to kerosene since this product is generally consumed by members of society who belong to the lower income bracket. Moreover, the lowering of the excise tax rate on unleaded premium gasoline from ₱4.35 per liter to ₱3.35 per liter is to induce consumers to change their consumption behavior from leaded, which is hazardous to health and the environment, to unleaded gasoline.

V. ANALYSIS

With the problem of environmental degradation resulting in climate change worldwide, several measures have been implemented by governments to arrest an impending catastrophe. Some are more direct (e.g., installation of machinery and equipments that limits carbon emission, total log ban) while others are indirect in nature. Recent policy developments utilize fiscal instruments to influence the behavior of consumers and producers to consume or produce certain goods and services (such as fuel oils and other non-renewable economic resources), thus limiting the pressure on the environment. As observed, most European countries, the U.S., and Australia have adopted and implemented green taxes as a mechanism for environmental protection. The types of green taxes imposed among countries, however, vary depending on the objective of the government based on the environmental problem being addressed.

The Philippines is not left behind when it comes to the adoption of public policies geared towards protecting the environment. The Philippine

45. *Id.* § 17.

46. *Id.*

Clean Air Act of 1999 is one policy measure passed by Congress that was intended to directly address the worsening air pollution in the country, most particularly the urban centers like Metro Manila. With regard to fiscal measures, it has been observed that the Philippine tax system has incorporated provisions in the NIRC that, in one way or another, would facilitate the protection of the environment even before developed countries have started reforming their tax system. The more recent development is the imposition of a 12% VAT on the importation, manufacture, and sale of fuel and oil products, which used to be exempt from the said tax. The additional excise tax on oil products has been continuously imposed, although there were products that became zero-rated or their tax rates have been lowered. The objective of imposing an additional excise tax on oil products is to alter the consumption behavior of consumers for goods that are more environment-friendly such as the use of unleaded gasoline for cars. Nevertheless, this is not to discount the fact that the reform was also intended to raise additional revenues for the government.

It is also evident that the Philippines has combined the use of both taxes and imposition of fees and charges to minimize the problem of environmental degradation. There are taxes imposed to influence the behavior of consumers on consumption of certain products or to provide incentives to certain industries that employ production process that are environment-friendly. Fees and charges are utilized to regulate the establishment of certain businesses or to penalize violators of government regulations. These are also imposed to limit the consumption of goods and services such as the use of cars and the provision of transportation services thus limiting or controlling emissions that pollute the air or water.

Although environmental policies are in place in the Philippines, what seems to be lacking is their comprehensive implementation. Unlike European countries where policies are strictly implemented by governments whereby violators are dealt stiff penalties and sanctions, the policies are violated blatantly and without regard in the Philippines. This is because government agencies that are mandated to execute the policies are lax in the application of the law, rules, and regulations. Compounding the problem of poor implementation is the fact that they do not stringently monitor the outcome of said policies so that there are very few databases and information would indicate whether policies have attained their objectives.

Moreover, what is remarkable about the policy reforms made by other countries is that green taxes were imposed as a substitute for their income tax which rates were significantly reduced. Thus, the increase in the imposition of green taxes resulted in a reduction on the reliance on income tax as a revenue source. This is particularly evident among countries like Germany

and Sweden. In contrast, the Philippine government primarily imposes green taxes (e.g., VAT and excise tax) to generate additional revenue. Said objective may not be surprising considering that the Philippine government has been experiencing budgetary deficits over the years. An examination of the objectives of the tax reform made on the VAT shows that the removal of the exemption of oil products from said tax is for the government to generate additional revenues, which were intended to fund various public services and projects geared towards alleviating the plight of the underserved members of the population.

VI. CONCLUSION

The environmental degradation experienced by countries around the world has brought about changes in government policies geared towards minimizing its catastrophic effects, particularly in the area of taxation. The Philippines is not far behind relative to the adoption of fiscal measures as instruments to protect the environment. Nevertheless, in contrast to European countries where green taxes protect the environment, Philippine VAT and excise taxes generate revenue.

What is more pressing, however, is for the Philippine government to strictly implement the policies passed by Congress. Government agencies mandated to implement the laws need to establish monitoring systems to measure and ascertain the impact of said policies. It is also necessary that a databank be instituted so that those who would like to undertake a study may be able to utilize the data resources. There is also a need to institutionalize an advocacy and public information program so that the citizenry is informed of the policies and thus become partners in the protection of the environment.