



## ENVIRONMENTAL TAX: PRINCIPLES AND IMPLEMENTATION IN INDONESIA

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### INFORMASI ARTIKEL

Diterima Pertama  
[15 Januari 2021]

Dinyatakan Diterima  
[31 Maret 2021]

KATA KUNCI:  
*Environmental Tax, Tax Base*

KLASIFIKASI JEL:  
Q580

### ABSTRACT

*The Covid-19 pandemic, accumulation of waste and pollution, and the failure to achieve tax targets over the past 5 years prompted the need for immediate resolution effort. Environmental tax can be an option for state revenue. This study lists the advantages and challenges of implementing environmental taxes in Indonesia. Apart from that, this research also tries to examine the regulations that might encourage the implementation of environmental taxes in Indonesia. This study finds that the environmental tax applied in Indonesia has not met the criteria generally accepted in the international community.*

### ABSTRAK

Pandemi Covid-19, penumpukan sampah, penambahan polusi, dan tidak tercapainya target pajak selama 5 tahun terakhir mendorong perlunya upaya penyelesaian segera. Pajak lingkungan kiranya dapat menjadi salah satu opsi penerimaan negara. Penelitian ini mendata kelebihan dan tantangan dalam penerapan pajak lingkungan di Indonesia. Selain itu, penelitian ini juga mencoba menelaah peraturan-peraturan yang sekiranya dapat mendorong penerapan pajak lingkungan di Indonesia. Kajian ini menemukan bahwa pajak lingkungan yang diterapkan di Indonesia belum memenuhi kriteria-kriteria yang diterima secara umum di dunia internasional.

## INTRODUCTION

### 1.1. Background

The impact of the Covid-19 pandemic continues through all countries in the world. This pandemic indirectly affects economic activity. Whether we realize it or not, this has a direct impact on state finances. In Indonesia, all business sectors experienced negative growth compared to the previous year, which was certainly followed by a decrease in tax revenues. It was recorded that in August 2020, there was a contraction in tax revenue by 14.1% compared to last year (Kemenkeu, 2020)

As an impact, tax revenue in Indonesia is facing more challenges than already is. Without any economic downturn, Indonesia could not reach its tax revenue target in the last 12 years. Tax revenue from 2014 to 2019 only 92.04%, 83.29%, 83.48%, 91.23%, 93.86%, dan 86.55% (BI, 2020) even though Indonesian government already implied tax policy that could boost tax revenue, such as asset revaluation (Kemenkeu, 2015) and *tax amnesty* (Setneg, 2016).

There are a lot of options to increase tax revenue, such as [1] increasing the public trust in the government, [2] simplifying the tax service policy, [3] digitalizing tax procedure, and [4] looking for a new tax base (Estevao, 2019). The government has been trying to increase public trust by developing public services as well as public facilities. The government also provides more simple tax services by opening electronic services. From registration to the reporting process, there is an interaction option for the taxpayers to the tax authorities by using 3 popular channels with the branding of 3C, *Click, Call, Counter* (DJP, 2020). However, tax authorities need to consider new authority policy, i.e. looking for a new tax.

The tax base consists of 2 groups, central government tax and regional tax. Along the way, there are many discussions about the implementation of a new tax basis, especially central government tax, in the form of the type of the tax and/or the tax object thereof. However, there is no realization of those taxes. So far, the Indonesian government has been implementing some of the central government tax to the local government, such as Land and Building Tax (PBB) for rural and urban sectors (P2) and Fees for Transfer of Rights to Land and Buildings (BPHTB) (Setneg, 2009a). Some of the discussion about tax/customs are related to plastic excise (Kemenkeu, 2019; Yustiani & Maryadi, 2020), carbon tax/excise (Haryanto, 2016; Sutartib,

2020), or sweetened beverage tax (Rosyada & Ardiansyah, 2017).

As the state budget continues to struggle to meet the needs of economic recovery due to the pandemic, there is a positive side that is felt by the environment unconsciously. The river looks clearer and the sky looks brighter (Gardiner, 2020). Unfortunately, this does not apply to solid waste (Nurhati, 2020). The Covid-19 pandemic encourages individuals to refrain from activities outside the home. However, humans adapt and online shopping platforms ultimately bring together demand and supply. This event is good for the economy but has an impact on the environment. The economy heavily influences the tax base, but when the economy is in a sluggish state budget like it is today, something has persisted, namely consumption, human activities, and their residues, such as waste and pollution in any form. If human consumption and activities can form the basis of taxes, can the residues be levied?

### 1.2. Problem Formulation and Research Objectives

Less than optimal tax revenue and sustainable environmental problems, both before and during the Covid-19 pandemic, require complementary policy options. The discourse on adding an environmentally based tax/excise base is thought to be a complementary policy tool. Apart from being a source of revenue, global climate change also requires each country to issue policies that consider the environment (Casal, 2012). **Based on this background and assumptions, this study aims to review the principles of environmental taxes and their application in Indonesia.**

### 1.3. The Scope of Research

This study is limited to reviewing the literature related to **environmental taxes** and describing its application in Indonesia.

### 1.4. Research Methodology

This research is a **qualitative research using the literature study method**. The search for data was carried out with the keywords "*pajak lingkungan*", "environmental tax" or other related sources from Google Scholar. This step is done in order to achieve research objectives to review the principles of environmental taxes and their implementation in Indonesia.

## 2. LITERATURE STUDY

### 2.1. Definition of Environmental Tax

There is no specific definition of environment tax<sup>1</sup>, but practitioners and researchers have the same understanding about tax implied to preserve the environment (Markandya, 2012). In addition, it can be defined as a tax based on a physical unit that negatively affects on the environment (Eurostat, 2013). On the other side, the OECD (2005) defines environmental tax as a tax based on a unit that is proven to have an impact on the environment.

There is another approach to identifying a type of tax as an environmental tax or not. This approach is stated in one of the regulations in the United Kingdom. It is noted that a tax is said to be an environmental tax, namely: [1] taxes collected relating to government objectives related to the environment, [2] can change/encourage positive individual behavior in an effort to preserve the environment, or [3] imposition of it with the aim of environmental preservation<sup>2</sup>. However, the use of criteria for selection of definitions and criteria according to (McEldowney & Salter, 2016) is essential in the policymaking process because different definitions affect the contribution of environmental taxes to total tax revenue.

In Indonesia, the explanation of article 43 paragraph (3) letter b of Law Number 32 of 2009 concerning Environmental Protection and Management (UU PPLH) shows the definition of environmental tax.

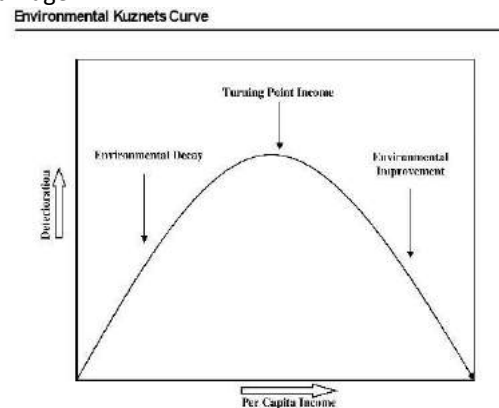
“what is meant by “environmental tax” is a levy by the central government and local governments on every person who utilizes natural resources, such as the tax on underground water extraction, the tax on fuel oil and the tax on swallow’s nest” (Setneg, 2009b)

The explanation regarding the word environmental tax in Law 32/2009 appears to be narrower in scope than the definition on Eurostat (2013) or Markandya (2012), where they prefer to use the word “utilization of natural resources” rather than “environmental damage”.

### 2.2. Hypothesis of *Environmental Kuznet Curve* (EKC)

The relationship between environmental damage and economic growth has been the

subject of discussion and research for a long time, but existing research results do not show uniform results. One theory often used as a basis is a hypothesis of the Environmental Kuznet Curve (EKC). EKC Hypothesis shows a relationship between environmental damage and economic curve with an inverted U-shape (Selden & Song, 1994). EKC Hypothesis shows a positive relationship between environmental damage and the economic curve. However, the relationship will be negative at some point, where the higher the revenue, the lesser the environmental damage.



Source: Panayotou (1993)

Many studies have been conducted to prove the EKC hypothesis, to assist policymakers determine pro-growth or pro-environmental policies. If seen from its definition, environmental tax is a pro-environmental policy. Susanti (2018) concludes that with the 30 years of data (1986-2015), the EKC hypothesis has not yet been proven in Indonesia. It means that Indonesia's economic growth is still having an impact on the environmental damage in the research time range. By looking at Susanti's research, it seems that the Indonesian government needs to implement policies that are pro-environment, such as environment taxes.

However, Alam, Murad, Noman, and Ozturk (2016), who used a data set from The World Development Indicator (WDI) in the range of 1970 to 2012, found a different result. In addition, Alam et al. (2016) found out that the number of emissions will be lower in Brazil, China, and Indonesia, so they recommend that the policy implemented does not affect the revenue. This result has been strengthened by the research of Sugiawan and Managi (2016). They found that the EKC U-turn is when Indonesia reaches 7.729 USD per capita revenue.

### 2.3. History of Environmental Tax

Environmental tax is not a new tax. The idea of this tax was firstly introduced in Denmark in 1917 (Markandya, 2012), not long before Value

<sup>1</sup> Some countries using green taxes

<sup>2</sup> For example, the more pollutants an industry produces, the greater the tax rate or the amount of taxes paid

Added Tax (PPN) was first introduced in the 1920s (Schenk, Thuronyi, & Cui, 2015). This kind of tax growth was initiated along with the environmental movement/green movement in that same year (Markandya, 2012). Existing literature mentions this type of tax, specifically related to water pollution, was first implemented in France in 1959 (McEldowney & Salter, 2016). In 1970, the OECD recommended the concept of "Polluter Pays" where those who dispose of the residues of their economic activities (pollutants) must pay to ensure that the environment is ideal. After being first initiated in 1917 and recommended by the OECD in 1970, countries worldwide began to adopt the concept of environmental taxes, such as Denmark, Sweden, Netherlands, and Norway (EEA, 1996).

The Netherlands is one of the countries in the world that apply the environmental tax. Environmental taxes have been in place since 1972. The country has gradually adopted several other types of taxes, such as the 1992 carbon tax, the solid waste tax, the groundwater tax, the pesticide tax in 1995, the waste and fuel tax in 2008, and the granting of incentives for low-emission vehicles from 2010 to 2015. The Netherlands is one of the countries that has successfully implemented environmental taxes (Freestone & Hey, 1996). They have successfully decreased the national level of CO<sub>2</sub> emissions by 1994 (EEA, 1996).

Unlike the United States, although it only implemented an environmental tax in the 1970s, in 1893, America had implemented tax incentives for fossil fuels. It was not until 1970 that a tax on gasoline was introduced, and in 1978 a tax on the use of gas was introduced. In this period, incentives for renewable energy were introduced to stimulate the industry to use non-fossil energy. Since awareness of human dependence on the environment has developed, along with the proliferation of sustainable economic movements in the 1980s (Kusumaningrum & Safitra, 2020).

The concept of "polluter pays" applied to international law in 1992, known as the Rio Declaration. One of the Rio Declaration principles is the internalization of environmental costs or other economic instruments burdened to the polluter (OECD, 1992).

## 2.4. The Type of Environmental Tax

In its application, there are several concepts of the form of environmental tax, [1] compulsory levies (the polluter pay principle), or [2] tax credit. The polluter pay principle concept was first introduced in 1972 (Cordato, 2006; OECD, 1997).

It adheres to the philosophy that as human beings, we must respect all people and their rights. If a person leaves a residue of his economic activities, he must pay other parties' social costs.

OECD (2005) classified environmental tax as: [1] energy tax<sup>3</sup>, [2] transportation tax<sup>4</sup>, [3] pollution tax<sup>5</sup>, and [4] resources tax<sup>6</sup>. In imposition, it must be clear that it can be distinguished from the payment of rent or the purchase of environmental services.

By taking into account the type of environmental damage, environmental taxes can be categorized into several forms or categories, namely: [1] taxes on emissions or waste, [2] taxes on products, and [3] taxes on natural resources (Estevao, 2019).

## 2.5. Polluter Pay Principle

On the polluter pay principle, there are several things to be concerned about. First, who is the polluter? Polluters can be individuals or corporate on the production line and contribute to environmental pollution (Alder & Wilkinson, 2016). The simplest example is when there is pollution due to a motorcycle, the owner or the motorcycle driver is the polluter. The problem that arises whether the one who bears the environmental costs is always the polluter? Or is it entirely charged to the consumers in the form of price in goods and services?

What is paid by the polluter is a form of responsibility by "paying" the cost of environmental prevention and management which is assessed or reflected by the output and/or residue resulting from the production process. (Meyer, 2017). Then what is covered by the polluter? Polluter is responsible for the cost of prevention of pollution and control measures which measured by government authorities in the form of: [1] the cost of controlling the control system on environmental pollution, [2] license, or [3] monitoring of emissions (OECD, 1992)

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<sup>3</sup> This can be seen in the form of a gas levy that was applied in the UK in 1981 and it was revoked in 1998 (McEldowney & Salter, 2016) or VAT on fuel in Indonesia.

<sup>4</sup> For example, air freight charges in the UK (McEldowney & Salter, 2016) and VAT on flights in Indonesia also apply.

<sup>5</sup> Can take the form of carbon excise or plastic/waste excise.

<sup>6</sup> In Indonesia, it is in the form of non-tax revenue for natural resource exploration and partly in the form of PBB P5L Sector

The next principle is that the fees paid by polluters are allocated to protecting the environment. Thus, it is necessary to have clear regulation in state finances that provide signs for the use of the budget. There are several types of taxes in Indonesia that can be categorized as environmental taxes such as the OECD classification, but it is still a homework to apply this principle. This is because the government's budget earmarking, both central and local, has not been implemented optimally.

## 2.6. The Advantages of Environmental Tax

One of the advantages of the environmental tax is the existence of a new source of revenue. Environmental taxes are triggered on individual units of pollutants such as carbon or solid waste. These two things are difficult to avoid nowadays where industry and various tools are used daily still depend on fossil fuels and materials such as plastic. However, this advantage is still debatable because many researchers and policymakers view environmental taxes as an excise, a policy tool to reduce economic activity's negative externalities (Fullerton et al., 2008; Markandya, 2012; Nellor, 1995).

The next advantage of implementing the environmental tax is encouraging industrial competition to develop environmentally friendly technology. This is an incentive to the industry by not being taxed if the technology used does not produce pollutants (Fischer, Parry, & Pizer, 2003; Fullerton et al., 2008; Markandya, 2012). However, close supervision must accompany this advantage. If there is no control, non-compliance leads to unmanageable damage.

In addition, some of the reasons for implementing environmental taxes include: [1] reducing environmental damage, and [2] changing behavior (Nellor, 1995). Environmental problems occur when human activities generate social costs that are higher than the benefits. This occurs due to market failures (eg negative externalities from an industry) or policy failures (eg, subsidies on pesticides that cause pesticide use to increase). To offset the social costs of market or policy failures, the imposition of environmental taxes as a regulatory tool is one of the recommended policy instruments by Nellor (1995). It is often considered to have a double advantage, namely preventing the social costs of environmental damage and reducing other social tax rates (Fullerton, Leicester, & Smith, 2008).

## 2.7. The Challenges of Implementation of Environmental Tax

The environmental taxes have several challenges. First, compliance issues. Referring to the deterrence effect theory, tax rates, sanctions, and the possibility to be audited influence tax compliance (Allingham & Sandmo, 1972). This concept states that the right tariffs, harsh sanctions, and ideal monitoring mechanisms can improve compliance. However, this could be the opposite when it comes to environmental tax. Fullerton et al. (2008) concluded that when the tax policy on waste was implemented, the amount of waste entering landfills decreased dramatically but encouraged some to dispose of waste illegally. The volume of waste disposed of may not be large, but illegal disposal causes uncontrollable damage. This action creates new social costs when compared to waste managed in landfills. (Fullerton et al., 2008).

Second, the environmental tax will be an additional cost for the industry or in other words have a competitive effect (OECD, 1997). On the contrary, countries seek to accelerate economic growth by attracting foreign investment and building industry/business in the country. In the carbon tax, an industry will prefer countries that have concessions or even do not collect tax on carbon (Fullerton et al., 2008).

Third, Morley (2012), in his research on Europe proved that the reduction of pollution is due to the use of technology that suppresses pollutants from existing industries. The imposition of environmental taxes, especially on energy use, does not significantly affect energy consumption even though it has a statistically significant negative relationship to the volume of pollutants produced.

Fourth, environmental taxes are less suitable to apply in times of economic instability. Tariffs on environmental taxes will boomerang compliance if inflation is high. This event implies that not all countries are qualified to apply environmental taxes (Nellor, 1995). In addition, there is a potential for conflict between environmental purposes and tax revenue. However, the trade-off of these two matters can only be seen on a case by case basis.

Fifth, justice is difficult to obtain in the application of environmental taxes. People with less income tend to bear more costs, or in other words, this type of tax is regressive (Wier, Birr-Pedersen, Jacobsen, & Klok, 2005), or there is a distribution impact (OECD, 1997). We can see around us where the plastic diet movement is being encouraged. Some small businesses have

difficulty finding substitutions from packaging their products to packaging with environmentally friendly materials without increasing production costs. Or another example is where people with economic capacity can more easily buy environmentally friendly modes of transportation, such as electric cars, than those who cannot.

Furthermore, there are challenges in ratifying the regulations. The public generally agrees more with this type of progressive tax so that the application of regressive taxes is less popular with policymakers (Lansley & Gowan, 1994). There are ways to reduce environmental taxes' regressiveness by providing exemptions or subsidies, but some groups such as retirees, single parents, or unemployed (Casal, 2012).

The challenge that is commonly faced by countries that impose environmental taxes is that the taxes collected are not used for conservation or environmental problems. Ideally, in the polluter pay principle, an ear-marking treatment simply means that a country's income can be allocated specifically for particular interests and is budgeted separately, either on a regional or national scale. (Porter & Walsh, 2006).

## 2.8. Tax and Excise

The different definitions between taxes, excise, and levies have essential implications in the formulation of environmental tax regulations. One of the considerations is who will manage it, the central government or local governments (Weier, 2006). There are many opinions about the definition of a tax. Weier (2006) provides keywords for the definition of a tax, namely [1] is coercive, [2] increases state revenue, [3] is used for the public interest, [4] does not receive feedback/services for payment, and [5] is not arbitrary.

Excise is imposed based on the rate imposed on an item's value or quantity (Weier, 2006), charged on certain items (McCarten & Stotsky, 1995). Goods that are worn generally have several characteristics, such as [1] being a source of state revenue, [2] suppressing the impact of negative externalities, [3] to improve. Both types of levies can be applied to the environmental tax concept by taking into account their characteristics. If it is related to behavior, the terminology of excise can be used.

## 3. THE IMPLEMENTATION OF ENVIRONMENTAL TAX

### 3.1. Regulation of Environmental Tax in Indonesia

Indonesia started to arrange the environmental related policy through the enactment of the Law No. 32 Year 2009 about the Environmental Protection and Management. This law aims to protect Indonesia from pollution and environmental damage, guarantee the safety of human beings and all of the living things, control the use of natural resources wisely, promote sustainable growth, and anticipate global environment issues. According to the law, there is an economic instrument in the environment sector. It can take in forms of incentives and disincentives. Incentives can be in the form of tax credit or tax facilities while disincentives can take a form of implementation of taxes or sanction to the lawbreakers.

The environmental tax initiation begins with the concept of "you pollute you pay", in which the subject is a business with an annual turnover of over Rp300 million. The tax object is natural resource processing activities that produce residues, such as waste and pollution. The rate charged is 0.5% of the production cost (Pratiwi & Setyawan, 2014). However, this concept has yet to be determined. Even so, Government Regulation Number 46 of 2017 (PP 46/2017) has been issued, which deals with environmental tax issues (Setneg, 2017) as a derivative of the PPLH Law.

The concept used in the imposition of environmental taxes in Indonesia is contained in article 2 letter j of the PPLH Law, which uses the term polluter pays. The meaning of polluter paying can be seen in the explanation of the PPLH Law which reads:

"What is meant by" the polluter pays principle "is that every person in charge whose business and/or activity causes environmental pollution and/or damage is obliged to bear the cost of environmental restoration."

PP 46/2017 regulates Environmental Economic Instruments. Taxes (and environmental charges) are mentioned as sources of funds for pollution and/or damage and environmental restoration managed by the central government or local governments. The imposition of taxes, levies or environmental subsidies is carried out in the form of imposition of central and local tax rates on parties who utilize resources based on the impact of environmental damage. On the other hand, levies are imposed on local governments' services in the provision of infrastructure for preventing pollution and/or environmental damage. The last one is non-energy subsidies, the implementation of which

has an impact on environmental improvement over a certain period<sup>7</sup>.

PP 46/2017 makes environmental taxes and levies as economic instruments in the goal of environmental preservation by encouraging environmental preservation, providing a monetary boost to carry out economic activities that have a good impact on the environment<sup>8</sup>, or impose a monetary burden to reduce economic activities that are bad for the environment<sup>9</sup>.

Economic activities subject to taxes / levies in Indonesia are listed in PP 46/2017, namely the extraction / use of: [1] ground water, [2] surface water, [3] swallow's nest, [4] non-metals and rocks, [5] ] fuel for motor vehicles, [6] motorized vehicles, and [7] other activities that comply with the environmental impact criteria. These other activities accommodate activities that cause resource depreciation (exploration), environmental pollution, and environmental damage.

To determine the amount of tax, the tax base is used in the form of the weight or rate of depreciation, pollution, or environmental damage regulated in other regulations. On the other hand, the amount of tariff for retribution depends on the type, character, volume, and cost of management facilities. PP 46/2017 also explains that the "carbon tax" has been accommodated in section 6 of PP 46/2017 concerning the Development of a Trading System for Waste and Emissions Disposal Permits.

In PP 46/2017, it is said that the source of funds related to disaster management and/or environmental damage and restoration comes from the APBN and APBD. This is not according to the polluter pays concept because the funds in the APBN / APBD are obtained by all parties including those not included in the polluter category.

In addition, the principle of ear-marking has not been applied in detail. In addition to the types of taxes mentioned in PP 46/2017 which are dominated by local taxes as stipulated in Law 38 of 2009 concerning Regional Taxes and Regional Retributions, there are several types of central taxes that are borne by polluters, such as taxes on products (VAT and Sales Tax on Luxury Goods - PPnBM) and Income Tax. However, these taxes are imposed on goods, services, or taxpayers in general and are not directly related to the

environment. In addition, specifically for PPnBM, there is special treatment for motorized vehicles.

Since 2013 through Government Regulation Number 41 of 2013 (PP 41/2013) concerning Luxury Taxable Goods in the Form of Motorized Vehicles Subject to Sales Tax on Luxury Goods, vehicles with environmentally friendly technology with the use of certain fuels are given an incentive to reduce the Tax Basis (*Dasar Pengenaan Pajak-DPP*) to 75 % and 50%. Even energy-efficient and affordable car types are subject to 0% DPP (Setneg, 2013). PP 41/2013 was changed to be more pro-green with Government Regulation Number PP 73 of 2019 (PP 73/2019), which regulates the amount of PPnBM rates based on the amount of fuel use or CO2 emission levels (Setneg, 2019).

### 3.2. Economic Instrument Related to Environmental

There are several economic instruments regulated in the PPLH Law as a means of protecting the environment (Sugianto, Agustian, & Basti, 2020), among others:

#### a. Tax and Environmental Subsidy

This form is often known as environmental tax terminology. Taxes are used as a disincentive for the use of economic products or activities that impact the environment. Examples of this type are the imposition of taxes on fuel, motor vehicle taxes, and motor vehicle PPnBM. There are also incentives if the economic products or activities carried out contribute to reducing environmental damage, such as the use of environmentally friendly technology in cars affecting the DPP from PPnBM imposition or PBB incentives on greenhouse concept buildings.

#### b. Incentives in the Environment

This incentive is given to those who have succeeded in reducing the amount of carbon or waste (pollutants). The concept applied is REDD + (Reducing Emissions from Deforestation and Forest Degradation), where there will be efforts to provide financial incentives to reduce emissions as a result of forest destruction. (DITJENPPI, 2020).

#### c. Payment for Environmental Services

There is a fee for environmental services related to waste management. An example of this instrument is a tourism area levy, or certain local government compensation to other local governments that provide landfills.

#### d. Eco-Friendly Label in Goods and Services

There are environmentally friendly product branding on consumer products. This instrument has received less public attention in Indonesia.

<sup>7</sup> This is an embodiment of Article 42 verse (2) of the PPLH Law

<sup>8</sup> Providing subsidies

<sup>9</sup> Imposing environmental taxes or levies

This behavior gives a signal that the company is starting to put in place that the environment needs to be protected. A packaged beverage product recently issued a product labeled "100% recycled Indonesian First Bottle Innovation for Cleaner Indonesia".

### 3.3. Types of Taxes Related to the Environment in Indonesia

There are several types of taxes in Indonesia, both managed by the central government and local governments, which can be categorized as environmental taxes. Here are some of these taxes:

Tabel 1: Classification of Environmental Tax/Levies based on OECD Criteria

1	Types of Tax	Implementation in Indonesia
1	Energy Tax	1. Tax on Petrol*   Province/Regional Tax
2	Transportation Tax	1. Tax on Vehicle*   Province/Regional Tax 2. Tax on Vehicle Registration   Province/Regional Tax 3. Sales Tax on Luxury Goods (PPnBM) on Vehicle   Central Government Tax
3	Pollution Tax*	1. Retribution for garbage/cleaning services <sup>10</sup> 2. Retribution for the provision and/or suction of the latrine 3. Retribution for wastewater treatment
4	Tax on Natural Resources	1. Tax on Surface Water*   Province/Regional Tax 2. Tax on Minerals Non-Metallic and Rocks*   Municipal/City Tax 3. Tax on Groundwater*   Municipal/City Tax 4. Tax on Swallow's Nest*   Municipal/City Tax

Notes: \* contained in PP 46/2017

Source: OECD (1997), PP 46/2017, and PP 41/2013 last modified with PP 73/2019

### 3.4. Environmental Tax in Indonesia Based on Generally Applicable Principles

There are several generally accepted environmental tax criteria as stated McEldowney and Salter (2016), Nellor (1995), dan OECD (1992), among others: [1] taxes collected relating to government objectives related to the environment, [2] can change/encourage positive individual behavior in an effort to preserve the environment, and [3] take the form of taxes on emissions or waste (pollution), taxes on products, taxes on natural resources, taxes on energy, or taxes on transportation. From several types of taxes that have existed in Indonesia, it can be identified whether the types of taxes that exist are in accordance with generally accepted criteria.

The first criterion is that tax revenues will be issued as expenses related to nature conservation activities. In general, environmentally related tax revenues go to central/regional government coffers and mix with other revenue sources. In this regard, the Indonesian government has issued Government Regulation Number 77 of 2018 (PP 77/2018) concerning Management of Environmental Funds related to the management of environmental funds that are "rotated" and can be sourced from environmental taxes (Setneg, 2018). However, when referring to PP 46/2017, the taxes in question are mostly managed by local governments. An in-depth study is needed whether these criteria have been applied. However, in the literature study, it was found that this criterion had been accommodated in existing regulations. Referring to PP 46/2017 article 27 paragraph (2), it is mentioned that the source of pollution countermeasures fund and/or the environmental damage can be taken from environmental taxes or levies.

Furthermore, the criteria can change/encourage positive behavior. The types of taxes contained in PP 46/2017 or the rules on PPnBM provide additional costs for each product or activity listed. Using the theory of supply and demand, the imposition of taxes encourages consumers to reduce their consumption of taxable products. Undoubtedly, this criterion has been met. Referring to PP 46/2017, it is mentioned as incentives and disincentives in article 3 letter c.

Finally, it takes the form of a tax on emissions/waste. This criterion is side by side with the class tax on pollution. If we look at table 1 and the concept of REDD+, economic instruments analogous to taxes on

<sup>10</sup> The object of retribution for solid waste services/contribution is more likely [1] to provide garbage disposal facilities such as garbage collection, [2] removal of waste from the source, or [3] provision of a waste disposal location (Setneg, 2009a)

pollutants/emissions are not reflected in existing instruments. Retribution is the cost incurred by polluters to obtain pollutant disposal facilities, while REDD+ is more inclined towards providing incentives. Studies related to taxes/excise on carbon emissions or plastic waste illustrate that Indonesia's environmental tax criteria have not been fulfilled.

In addition to the criteria presented by McEldowney and Salter (2016), other criteria need to be considered in the application of environmental taxes. This criterion is recommended by the ICC (1998), where the environmental tax determination must consider [1] simple application; [2] generally accepted globally; and [3] integrated with other environmental policies. Simple is the criteria for applying taxes in general. Given the principle that no one is willing to pay taxes, the complexity of paying gives an incentive for individuals to ignore the tax. In the end, the tax authority's energy will dwell on the tax compliance issue only.

The second criterion is needed so that there will be no shifting of industries that produce pollutants from one country that applies environmental taxes to other countries. In addition, its application is also for all types of industrial sectors. Each industry has a different resistance to accept additional costs in the production process. Consistency needs to be applied to maintain competitiveness between industries so that environmental taxes apply globally. The application of PPnBM to motorized vehicles adopts this principle. Vehicles that use fossil fuels that are more economical and/or produce fewer air pollutants are given a smaller tax basis. The same principle has been applied in European countries. For example, for hybrid or fuel cell electric vehicles, PPnBM is subject to 0% DPP. However, in Indonesia, PPnBM incentives for vehicles that are considered environmentally friendly do not make it as an environmental tax, considering that the PPnBM revenue for the purchase of luxury vehicles is not allocated for environmental expenditures.

Another criterion that needs to be considered is that environmental tax should ideally be an element of all country's integrated policies. Several countries in Europe have concluded that it is essential to integrate the application of environmental taxes such as landfill tax with other environmental policies (Wardana & Safitra, 2020). Slovenia has successfully integrated several regulations that promote environmental preservation, such as encouraging producers to choose environmentally friendly packaging, educating household members related

to waste separation, classification of types of waste that can enter landfills, and alternative power plants energy from the waste burning process. Slovenia consistently uses funds obtained from landfill tax to build a waste processing infrastructure that has succeeded in increasing recycled waste output and reducing the amount of waste that goes to landfills (Aleksic, 2013). In Indonesia, the application of several types of taxes is categorized as independent environmental taxes. For example, waste retribution managed by local governments is not integrated between local governments. This policy causes no change in behavior in the community in terms of managing their waste.

#### 4. CONCLUSION

Sustainable development requires economic growth to consider environmental sustainability. To achieve this balance, there are economic instruments that are used to change human or corporate behavior. In its implementation, Indonesia already has a set of regulations covering the enactment of environmental taxes. Of the several environmental tax criteria, taxes related to the environment in Indonesia have not met the three environmental tax criteria submitted by several researchers, namely [1] being paid by polluters to improve environmental conditions, [2] influencing behavior, and [3] in the form of taxes on pollutants. Several types of taxes that meet these three criteria do not currently apply in Indonesia, such as taxes/excise on carbon and plastics. In implementation in some countries, the use of the term environmental tax can use the term tax or excise. The usage of the term in Indonesia can be adjusted in the context of who will manage this type of tax.

This study still has limitations, such as using secondary data, no further information about how big Indonesia's environmental taxes are, and only examining criteria with applicable implementation in Indonesia. Recommendations for further research are to provide an overview of the implementation of tax/excise on carbon and/or plastics, which can provide recommendations for regulating and/or calculating the amount of tariffs that can be used as a basis for assessing the application of related taxes/excise in Indonesia as well as calculates the environmental taxes potential.

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