

Research Article

Environmental Taxation and Sustainable Development in Digital Pollution in México

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Abstract

Environmental taxation represents an opportunity to encourage technological changes between society and the government, to avoid damage to climate change. The main objective of this work is to contribute to the care of the environment through environmental education, although environmental taxes represent an opportunity to reduce pollution, and some countries are committed to labeling environmental taxes, it would give them greater transparency about the destination of that money raised. Digital pollution has been increasing in recent years, and as a result of the global confinement and isolation of the COVID-19 pandemic, so the UN 2030 Agenda represents a great opportunity to analyze the importance of implementing a fiscal policy environment as a basis for the development of all countries in the care of the environment and sustainable development. The synthetic method was used to analyze the different bibliography in addition to the analytical and documentary method of the proposals of International Organizations and Mexican Laws on the environment. Green taxes must be on the agenda, their implementation and evaluation by governments that translate into federal, state and municipal public policies to advance care for the environment in the future.

Keywords

Environmental Taxes, Customs Taxation, Environmental Taxation, Sustainable Development, Digital Pollution

1. Introduction

The present work is developed as a result of the importance that sustainable development currently holds as an integral part of the 2030 Agenda and the 17 Sustainable Development Goals. It focuses on the significance of Environmental Taxation in the context of digital pollution, where two situations converge: environmental care and environmental pollution, both of which impact sustainable development.

It is worth noting that among the 17 sustainable development goals of the 2030 Agenda are ending poverty, zero hunger, affordable and clean energy, industry, innovation and infrastructure, climate action, and partnership to achieve the

goals, all of which directly affect the environmental impact of each country, hence the development of this topic.

Under the motto of “leaving no one behind”, all countries committed, rich or poor, to join efforts and under their responsibility promote the development of these 17 goals within their nations by the year 2030.

It is an extremely difficult and complex issue because environmental taxation, unlike other taxes or tariffs, establishes fixed rates that sometimes do not accurately measure the amount of pollution generated by companies or entities obligated to pay taxes and, on the other hand, innovate the form

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procedures, and products used in their companies.

Efforts made within the framework of international discussions, where organizations like the Organization for Economic Cooperation and Development (OECD) decisively promote changes in the present to improve the future for future generations, are commendable.

There is still a long way to go, and it can be said that environmental taxation is one of the most recent issues. The reality of global warming, environmental deterioration is evident, despite the COVID-19 lockdowns, which gave the environment a respite globally. The reality is that much more needs to be done from society's awareness.

The increase in the use of information technologies, telecommuting, mobile phones, and the lack of awareness of the total digital pollution that exists, along with the impact and lack of socialization on how it should be used, make it the phenomenon that is currently causing the most harm to the world.

Regarding the concept of customs taxation, it refers to "a set composed of multiple levies, some of a tax nature or purely tax, others are non-tax and those of a punitive nature, which justify the term "levy system", originating from imports of goods and to a lesser extent, exports". [1]

Customs taxation, then, can be differentiated in that there are some with taxes, others that do not generate taxes and those that result from the import of goods or services and their export.

Another definition is the one made by Andrés Rohde: "customs law is the set of institutions and principles that are manifested in legal norms that regulate the customs activity of the state, the relationships between the state and the individuals involved in said activity, the violation of regulations, their corresponding sanctions and the means of defense of individuals against the state." [19]

This definition regulates customs activity and the relationships that arise between the State and individuals who are dedicated to this branch. In turn, it indicates that whoever fails to comply with the law will be punished and also indicates how individuals can defend themselves against any arbitrariness against the state.

Within customs law there is fiscal or tax customs law, it is worth clarifying that not all customs law is fiscal law, but a part of customs law belongs to fiscal or tax law [17], that is, the payment of taxes, taxes in customs law is part of fiscal law.

Customs taxes have been evolving, and if at first, they were considered a state tax, today, they are considered a supra-state tax of International Organizations. Customs taxes have been evolving and transforming over the years; it is precisely the International Organizations that decide how taxation is configured regarding exports and imports.

On the other hand, in foreign trade, in terms of customs, it is important and necessary to point out that if it is not followed up promptly and, if it is not sanctioned, it can give rise to the black market.

Another important concept in the present is the meaning of customs taxes, which according to the author Pardo points out that they are: "all the exactions of a tax nature that are collected due to the foreign trade operation, different from internal taxes". [16] So, the purpose of the customs tariff, in this case, is the tax paid for the import or export of goods.

The Organization for Economic Cooperation and Development speaks of two important characteristics of environmental taxes: static and dynamic. Static is when emissions are taxed at a tax rate for all sources, which means that all pollutants have the same marginal cost. On the other hand, dynamic refers to a continuous incentive to try to reduce reduction costs of pollution.

Taxes tend to continually encourage companies not to pollute, using innovations when producing that are cleaner and with better technologies, and as an incentive for consumers, they pollute less. This creates awareness in companies, if they pollute less, they pay less taxes, and this, in recent years, has been professionalized through the strengthening of the use of more advanced technology.

The author Smith, for his part, mentions another advantage, in the sense that: "a tax system has the advantage of not requiring detailed information about the individual polluter to achieve a certain level of general pollution with a minimum economic cost". [21]

The fact that there are green taxes to minimize pollutants means that companies are continually innovating and thus reduce pollution to a minimum, thereby avoiding paying higher taxes, in addition to contributing to the care of the environment, as a way of helping the environment, compliance with the UN sustainable Development Goals.

Another important concept is sustainable development, born from sustainable development, which was made known by the Brundtland report, which refers to: "development that meets the needs of the present, without compromising the ability of future generations to satisfy their own needs" [20].

If the previous concept is broken down, one part corresponds to meeting the needs of the poorest around the world and placing them in first place, and the second, establishing social and technological limitations for the environment and its capacity for the present and future.

For the environment, it is important that the instruments influence the behavior of economic agents, and the payment of the tax must be linked to the environmental problem. [6] Finally, it is very important the administrative mechanisms for the economic instruments must be taking care of the environmental and the fundamental rights.

State governments in Mexico should be the ones who in principle institute and administer the green taxes. They are the ones who must carry in the creation of a new tax reform about ecological. [8] In the other hand, the governments have to learn to design an efficient tax that can mitigate the externalities caused in their environment.

2. Materials and Methods

The methodology of this research is through the synthetic method, it was used to try to summarize and synthesize the data obtained from the different bibliographic sources, likewise, the analytical method is used to review what is happening in the world and in the case of Mexico. documentary method for collecting information through information sources regarding the analysis of proposals from International Organizations and tax laws in Mexico such as the Federal Tax Code and the Income Tax Law.

3. Results

3.1. Legal Framework of Environmental Taxes in Mexico

In the case of Mexico, the legal framework responsible for regulating the environment is derived from the North American Environmental Cooperation Agreement, along with the Trade Agreement between Mexico, the United States and Canada known by its acronym TMEC.

The Political Constitution of the United Mexican States, in terms of taxation contains the article 31, Section IV, which establishes that the following is the obligation of all Mexicans: “IV. Contribute to public expenses, both of the Federation and of the Federal District or the State and Municipality where they reside, in the proportional and equitable manner provided by law”.

Article 27, which refers to state environmental protection as the state's duty to conserve and protect natural resources. The legislation that has been in place since 1971 on environmental matters, starting with the Federal Law for the prevention and control of pollution, the Federal Law on Environmental Protection, the General law on Ecological Balance and Environmental Protection with the reforms that have been implemented over the years.

It is from 1999 when article 4 establishes the right to an adequate environment as part of individual guarantees and in article 25 sustainable development as one of the guiding principles of the Mexican economy.

Articles 25, 26 and 27 of the Political Constitution of the United Mexican States support the duty of the state to protect the environment, its preservation and restoration of ecological balance at the 3 levels of government.

There is also the Environmental Tax Law in Mexico published in 2003, General Law of Ecological Balance and Environmental Protection. Some of environmental taxes in Mexico: noise, CO₂ emissions, management of land, natural resources, vehicles, electricity, electricity production, air transportation and oil. [7]

Martha Villar, Professor of Financial and Tax Law comments: “Ecological taxes or setting of the tax system can and should help achieve the objectives of sustainable development,

but wisely combined and complemented with sanctioning or economic measures and coordinated with other policies. [22]

The above establishes a clear line, green taxes are not enough if they are not accompanied by the political, economic and sanction part. It is through taxes that governments can obtain income to generate better public policies.

It is relevant to mention that gasoline tax is one of the most relevant taxes worldwide. In this regard, authors such as Huesca and López share that 80% of the price of gasoline are taxes and it is also one of those that impact the most on the environment.

In Mexico, it is starting in 1992, it is the beginning of the implementation of environmental policies in governments, as a way to raise awareness and stimulate the payment of taxes through fiscal stimuli for companies, which will try to use instruments and environmentally friendly technologies. [13]

In Mexico there are laws that are linked to the care of the environment, such as the General Law of Ecological Balance and Environmental Protection, which was published in 1996, however, progress has not yet been made in these areas although there are laws that go hand in hand with environmental issues such as the Special tax Law on Production and Services, known as IEPS.

For the year 2022, taxes were approved as published in the third article of the Special Tax Law on Production and services 2021, on the subject of quotas applicable to automotive fuels, fossil fuels and non-fossil fuels, as well as in the fifth article in relation to the quotas per unit of measurement in propane, butane, gasoline and airplane gas and jet fuel and other kerosene.

Fossil fuels represent a high content of contaminants, being animal or vegetable, in their concept the following is found: “they are those that come from the natural decomposition of organic matter such as plants, bacteria, microorganisms, algae, after a transformation process can last more than 600 million years”. [4]

You can see the serious damage that fossil fuels are causing in terms of environmental pollution, by letting time pass and therefore their decomposition manages to spread and harm many living beings, in addition to the time it takes to be completely eliminated.

Another of the national laws is the Law on New Automobiles ISAN, which little by little has to become more socialized in order to prevent the negative impact that is being generated on the environment and global warming.

Climate Change Law approved in 2013, which was reformed on July 13, 2018, in the article 2, establishes as its main objective, section one: “Guarantee the right to a healthy environment and establish the concurrence of powers of the federation, the federal entities and the municipalities in the development and application of public policies for adaptation to climate change and the mitigation of emissions of greenhouse gases and compounds”.

In this section, the commitment on the part of the government to enjoy a healthy environment and to be able to coor-

dinate actions between the 3 levels of government, including the municipalities, is established in order to avoid global warming with actions, try to reduce the gas emissions and the greenhouse effect.

The section II of the same articles states the following: "Regulate the emissions of greenhouse gases and compounds so that Mexico contributes to achieving the stabilization of their concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference in the climate system, considering, where appropriate the provisions of article 2 of the United Nations Framework Convention on Climate Change and other provisions derived from it".

In the section, the importance of the existence of laws and legal regulations that regulate those who emit greenhouse gases and compounds in Mexico and their reference to treaties and commitments signed internationally is highlighted.

Likewise, article 26 indicates the principles under which the national climate change policy will operate, such as sustainability, co-responsibility between the state and society, and precaution in the case of serious or irreversible damage.

Another of the principles is prevention to avoid damage, adopt measures that allow the public and private sector to have an economy with low carbon emissions, comprehensiveness, transversality and it is fundamental between the 3 levels of government.

Citizen participation appears as part of these principles that are integrated into the formulation, evaluation and monitoring of the national strategy, environmental responsibility for those who affect the environment, in addition to using economic instruments that restore and preserve natural resources.

Another issue that is also included in the principles is access to information, justice and transparency between levels of government, which can make the population aware of all the information related to climate change.

The commitment to economies so that through the achievement of sustainability they can face international markets through conscious use of their technologies, the conservation of ecosystems, taking care of mangroves, reefs and coastal lagoons that are vulnerable to pollution.

The author agrees with Huesca, in the case of Mexico has not managed to sustain an. Environmental tax reform that can counteract the environmental impact, in terms of reducing emissions and costs within the economy.

There have been years of making years of making visible the importance that climate change has in society, which grows day by day, and the damage is irreversible, therefore, the relevance of redoubling efforts in environmental policy, making it visible that having regulations clear, it allows, on the one hand, to encourage and collect green taxes, but greater fiscal transparency is required to encourage the payment of taxes.

For there to be a real policy on the environmental issue, the combined efforts of government and society are required on the one hand, the educational awareness that damaging the environment hurts all people, by having a strong and harmful

impact on our ecosystem and does not attack the root problem, by only sanctioning.

3.2. Main Challenges Facing Environmental Taxation in Mexico and the World

In 2015 the Center for the Study of Public Finances of The H. Congress of the Union, in an informative note on environmental taxes in Mexico and the world, in its conclusions stated that in Mexico the environmental policy in tax matters is oriented to penalize the misuse of pollution, the environment and natural resources, and it is focused on reducing the gap between income obtained from environmental taxes with the costs of environmental degradation. [2]

On the other hand, the current example that has been increasing in recent years is about the use of the Internet and the pollution it generates; by having a Facebook, Youtube, twitter and email accounts, and impact is being generated that harms the environment.

While it is true, governments and International Organizations, as an important part of the 2030 Agenda of the 17 Sustainable Development Goals, are trying to coordinate efforts around the same objective to reduce the environmental impact, the issue of the digital carbon footprint. The use of the internet become relevant.

Alex Wissner- Gross, a physicist at Harvard University revealed in a study on internet search engines and their impact on the environment that just searching on a portal leads to several servers, which are located many kilometers away, fossil fuels are consumed.

A worker who sends 33 emails in a week generates 136 kilos of CO₂ per year, as a percentage, 2% of the total world pollution is generated by companies that are dedicated to information technology, which speaks of the issue,

During the confinement due to COVID-19, teleworking increased, sending emails, watching movies, online shopping, simply making video calls were daily actions, and they have had an environmental impact, they are wasting water and land, in addition to emit CO₂.

The case of facebook is looking for its systems to operate naturally, looking for countries where the geographical part helps them in wind energy, in Switzerland. The use of renewable energy represents an opportunity to advance the 2030 Agenda, and if giants such as apple, facebook and google commit, it is clear that more companies will join these causes in favor of caring for the environment.

The European Environment Agency has pointed out that, in the case of environmental taxes, if they are well applied, they can have repercussions in 4 areas of public policy: employment, environment, competitiveness and innovation and therefore in the tax system.

It is necessary and urgent to socialize the positive changes it generates, good use and care through platforms, internet, applications, turning devices on or off, use of windows to prevent the deterioration of the environment and prevent it

from having more impact on global warming.

It is necessary to strengthen, monitor and evaluate international treaties on environmental matters, the recognition of the problem is a step, however, there is still much to do, from awareness, environmental education in society and the socialization of damages by governments at all levels.

In 2019, a ruling from the Supreme Court of Justice of the Nation framed the following: “the tax system fulfills a priority social function in a democratic state, since the public treasury is formed from the contributions of citizens, that will serve to satisfy the needs of all its inhabitants: Thus, to fulfill this important collection function, the tax system must come closer, as much as possible, to real contributory capacity of people”.

This controversy arose in the State of Zacatecas and when analyzing the 4 environmental taxes in that state, it is not possible to identify the manifestation of wealth, and although the purpose of green taxes is not only obtained income from them, but an extra-fiscal purpose to protect the environment, which is why protection in tax matters does not come into play.

It also mentions that General Law of Ecological Balance and Environmental Protection gives governments and municipalities the power to establish taxes on environmental matters, in accordance with article 7. In turn, also the Political Constitution of the United Mexican States in its article 124 and 73 section XXXIX-G have the power to establish the fiscal part, both mechanisms and incentives, taxes or contributions that may have extra-fiscal or collection purposes.

At the end it is read that they are concurrent powers between the Federation and the States; that each contribution must be analyzed specifically according to the facts or circumstances that taxes are to be established, always in accordance with the Constitution with strict adherence and respect to its rules. In the conclusion it is stated that the power for contributions regarding the environment remains concurrent for states and the Federation.

The search for the final whereabouts of these taxes continues, due to the fact that there is no certain clarity on this issue, and it should be noted that each country has its different tax regulatory frameworks, which makes the theoretical and practical tax treatment that must be given difficult.

4. Discussion

The objective of environmental taxation through environmental taxation through environmental taxes is to influence behavioral changes in subjects to improve their behavior towards the environment, making it less harmful. Additionally, it aims to enhance products with less environmentally damaging costs. [18]

Therefore, when discussing the Agenda 2030 and its progress toward its objectives, it is imperative to closely monitor digital pollution, its development, and the impact it is gener-

ating worldwide. While the aspect of awareness is crucial for society, governments, and those leading the technological aspect in large companies, as outlined in the present work, environmental taxes aim to change behaviors, improve them, and incentivize environmental care.

Environmental taxes, environmental taxation, face the greatest global examination of public policies in the coming decade. If countries opt for policies that reduce greenhouse gas emissions, for example, they will need to decide how to use environmental tax policies to address climate change. If taxes were to play the role of policy instruments, although the magnitude of nature reminds us it should be viewed [14].

Alternatively, companies should take responsibility for environmental care from a conscious standpoint, especially in the technological aspect, seeking locations where climatic conditions benefit them and their equipment. Cases like Google and Facebook are examples of companies trying to influence and set a global example of environmental care through the use of renewable energies.

In the area of the environment in development policy, the author Orduna Diez, points out the importance of coordinating public development and environmental policies based on responsible development where the environment is cared for. [15]

The above will only be possible if awareness is created about the care of the habitat, and the impact that actions have on sustainable development in the short and long term.

Some environmental organizations have defined Sustainable Development as: “a process of economic and social improvement that satisfies the needs and values of all interested groups, while maintaining future options and conserving the resources and needs of nature” [23].

All people participate from space and from the place where they are in caring for the environment, hence the importance of creating awareness throughout society. The Dublin European Council Declaration of 1990 states: “humanity is responsible for managing the natural environment, and must guarantee enlightened management of it for the benefit of this generation and future ones” [5].

It is precisely a team task, between governments of the countries, states, civil organizations, likewise, it is a priority to incorporate the topic of environmental education from the earliest years, to educate in care and respect for the environment as a way of collaboration in the preservation of the environment.

Environmental Taxation and Digital Pollution in the Use of the Internet

The 2030 agenda establishes 17 Sustainable Development Goals, within which it is important to highlight that each of these goals and these are based on the importance of working in a coordinated manner in each area to strengthen the local agendas of each country and achieve success through the sum of efforts at the international level.

In the case of the use of digital technologies, it is having serious problems for the environment, since it depends on

physical infrastructures where data centers are located, in addition to the cables that are used as forms of retransmission. In this case, digital pollution has been increasing in recent years, and as a consequence of global confinement and isolation.

Digital pollution, responsible for a total of 4% of greenhouse gases worldwide, is said to increase almost double by 2025 in carbon footprints [3]. It is observed that the global percentage of these gases is increasing considerably, even more so after the COVID-19 pandemic, due to increase in their use.

Another important case is the pollution generated by the transmission of data over the internet, between 25 and 35 thousand tons of carbon dioxide per day. These figures represent a serious danger for the world, however the lack of socialization of this issue is, in itself, one more aggravating factor, in the face of a changing and little-disseminated scenario regarding global problems.

The main problems of the fiscal treatment of taxes on environmental matters.

Taxes have disadvantages in environmental matters, there is no measurement of the effects of taxes, because the maximum level of pollution cannot be measured, it is difficult to evaluate, once the tax is established on a base its modification is very expensive both in the political, administrative and bureaucratic, this was pointed out by the author Lampreave in 1981 in his work *The Public Treasury and the Environment in Law and Environment*. [11]

The tax treatment for environmental taxes is different from other taxes, pollution does not have a specific way of being measured and evaluated, sometimes the lives of people who over the years have suffered diseases due to pollution are not returned without. However, today is a good time to encourage environmental care and awareness to prevent further damage from being done.

Some other factors that affect this problem are the different times of the year, the geographical area is also part of the key elements that in some way affect the companies that pollute, and that are difficult to measure and value individually and specifically.

There is a relevant principle, known as: “the Polluter – pays principle”, it is based on the basic principles of justice fairness, that is, all people and entities are responsible for their actions, those people who cause harm must pay accordingly, in this case, try to encourage people to respond with the cost of their actions to make the economy more efficient. [12]

The objective of the above is that the use of the environment can be combined with the economic sphere, through price and the use of economic instruments, the perfect example is the extra charge for pollution. Although, in this case the payment of taxes is determined by the government, there are times in which the damage can be repaired, in others it cannot, such is the example, when there are species in danger of extinction, the monetary cannot restore the biological. In the end it is society itself that ends up paying the price.

The resilience of climate change demands an increase in productivity, reducing the impact on the environment, the challenge for business and government is to improve the structure of the environmental tax standard, adapt it, through a new paradigm, that there is an incentive economical for businesses to adopt and develop sustainable practices in business and another where the government does not affect the environment, a win win scenario [9].

The greening of a national tax system, refers to the greening of a National Tax System, this concept is used by International Organizations such as the OECD to express tax bases on the environment, the greening of a tax system is accepted by a public goal, however, methods are needed to evaluate and measure the progress of the goal, public policy makers prefer indicators that are easy to construct and interpret over complex ones.

Lawyers claim that green taxes are a way to end pollution, but sometimes the Green Tax reform only becomes and objective, having environmental taxes is not the only way to have an effective environmental policy. Care for the environment, another important issue is the environmental challenges that must be considered when making policy. [10]

The above details why, although there are green tax reform initiatives, in practice, they are not very feasible because there is no infrastructure required to implement actions that can evaluate and formally monitor sanctions for those who pollute and remain in written proposals.

5. Conclusions

Within the 2030 Agenda, it becomes urgent and necessary to strengthen ties with governments, international organizations, businesses, and society regarding the importance of raising awareness about internet usage and the impact it is having as a result of the isolation caused by the COVID-19 pandemic.

As developed in the present research, there are legal regulations both at the international level and in each country to regulate behaviors that attempt to harm the environment. While customs taxation has been the center of debates regarding its main function, whether to modify or condition it to prevent further pollution.

If one of its main purposes is to promote the protection and conservation of the environment, regarding the tax that those who pollute should pay, or alternatively to try to incentivize to avoid administrative sanctions that somehow impact improving the behaviors of polluters, always aiming for social welfare rather than economic benefit.

Regarding companies, it is a priority to invest in other types of energy, such as renewable energy like solar, wind or thermal energy, which directly impact one of the goals of the 2030 agenda known as affordable energy. It is important that the revenues obtained from environmental taxes be allocated to environmental care.

A priority agenda is to develop the 17 goals of the UN's

2030 Agenda with a humanistic and sensitive vision to all sustainable development goals, all of which are related to environmental care. To be effective, measures must include sustainable energy strategies, as well as building a new environmental fiscal policy with real post-COVID-19 needs.

Some suggested actions in favor of environmental care include turning off the camera in video calls, closing all unused tabs, compressing email attachments, trying to delete unused applications, disabling notifications, and avoiding search engines if you already know an email address.

Digital education, along with the impact of the actions described above, needs to be further socialized so that both the government and society recognize the importance of their daily actions and create awareness that everyone can contribute from wherever they are.

In environmental taxation lies the present of nations, where companies decide whether they want to pay taxes or reduce pollution through new choices regarding the type of products, processes, and environmentally friendly technologies, reducing costs on one hand and on the other hand, for governments the income from environmental taxes allows redirection to environmental care.

Green taxes remain on the agenda; however, there are limitations such as economic and human resources to make it a reality, and evaluation and a cross-administration monitoring that surpasses governmental policies at the federal state, and municipal levels, a permanent agenda to truly measure and advance in the near future.

Abbreviations

CO₂: Carbon Dioxide

UN: United Nations

SDG: Sustainable Development Goals

OECD: Organization for Economic Cooperation and Development

TMEC: Trade Agreement between Mexico, The United States and Canada

PCUMS: Political Constitution of the United Mexican States

IEPS: Special Tax Law on Production and Services

ISAN: Law on New automobiles

UN 2030 Agenda: United Nations 2030

TLCAN: North American Free Trade Agreement

Author Contributions

Reyna Araceli Tirado Gálvez is the sole author. The author read and approved the final manuscript.

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The author declares no conflicts of interest.

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Biography



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