

## Challenges of Mexico's Environmental Policy in the Light of the Circular Economy

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**Abstract:** The circular economy in México has a novel theme and little known on the margins of public policies, its dissemination obeys to the production and sale of goods that represent it. Individuals who approach it directly and indirectly, do not see its international significance immersed in a new stage of economic and social life.

The challenges to be assumed by the governments in turn, condition its reception within the country, in view of the legislative, regulatory production and programs that allow its development in the Mexican economic.

Under this order of ideas, the actions of the environmental policy group the scenarios that enable its development, attentive to its specific competences that enable it to carry out prevention and controls in favor on the environment.

Many tasks are required to adopt international standards that guide the management of the circular economy between civil society and the state. We are attentive to the mandates of public entities that inform and instruct us in a new environment culture and use of goods and products that affect the conservation of natural resources.

Currently, individuals and society as subjects with environmental responsibility: it is up to them to assume their duties that lead to the maintenance and prolongation of life of the goods of nature, through the programs of the environmental policy as holder of these state assets.

The necessary link is made latent in this topic, with the purpose of environmental extrafiscality, with allude to the decision-making of fiscal policy, faced with the scenarios of taxpayers who emit externalities to the environment, such as taxpayers in regimes that for the goods and services that make up the basis of their taxation, cause environmental problems.

**Key words:** policies; environment; economy; external taxation; administered

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### 1. Introduction

At present it's up to Mexico to face and design new scenarios that guide the lives of citizens, they in order to provide a better quality of life, and comprehensively conjugation of elements in a plane of equality as the environment, economic growth, personal development, quality of life, among others totaling the union of interests protected by the State, in view of its teleology that justifies its existence in society.

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We must return to the traditional elements of that: people, territory, legal system, and the common good; In light of new roles that it exercise in its sovereignty and linkage with the exterior, been backed in the globalized schemes, which have addressed the private and public relations in the last two decades.

The “laissez-faire” in favor of the private economy has marked various tendencies of the nation-state, in the light of constitutional premises that establish lifestyle of citizens, in agreement with their fundamental rights and guarantees, past these Human Rights.

Economic freedom deposited in civil society, has set the pace to live an institutional restructuring that affects less favorably on the overall progress of the individual. Thus, we see the effects that are present in the elements of nature, that condition healthy lifestyle for environment and people.

Now it's up to public policies, establish the bases and levees this gigantic economic and productive interaction, to mitigate the damage to nature, essential to our daily lives.

In other words, the government in charge of the economy, in use of its constitutional and regulatory competences, has the task of seeking mechanisms to reconcile these policies, which in a degree of equity propitiate tasks to acculturate the population, in being an active part of the current scenarios of countries with a more consolidated economy, which are going from a period of production of goods and services to the detriment of the environment, to that which marks the route in the use of harmonic products for the environment and the health of the people.

They are addressed as an object of study in this investigation, environmental policy, first order, to identify legislative powers and administrative provisions necessary to protect nature. Similarly, we identify the contributions regulations and programs in this area we lead to the implementation of circular economy in Mexico. And shares issued by the Fiscal Policy as an aid in the conservation of the environment, based on the decline occurring in the tax field, via the business activities tax.

Based on the foregoing, we point out the following approach: Does Mexico currently, through its environmental and fiscal policies, provide the basis for the development of a circular economy?

It is therefore our objective to analyze the environmental and fiscal actions of the federal government, leading to the application of the circular economy in national territory.

In order to comply with the above, we refer to a guiding deductive methodology in this investigation, given the approach made to the proposals derived from the Government Plan, in the Environmental and Fiscal Policy, as the basis for the subsequent work that leads to the proposal of social programs and modifications to the regulations of those areas.

Also invoke the methods of knowledge that allow us to develop each of the paragraphs cited -Supra-, via the analysis of the purposes underlying the exercise of environmental actors, facing the delegation of the powers of the state in protecting the environment, equal importance we turn to the description, exegesis and systematization of tax charges, as an adjunct to the highest constitutional, legislative means which regulates taxpayers to cause externalities to goods of nature.

The methodological steps outlined allow develop the content of this product partial scientific, consistent with the research project entitled: “environmental sustainability within a circular economy strategy: proposals on financial and tax instruments” in process with the University of Castilla-La Mancha, Spain.

## 2. Environmental Policy Purposes

In the aims of the Environmental Policy, we find the work that the National Executive has estimated to carry out those programs that have as an objective the care of the environment. It is a matter of following a series of tasks and strategies aimed at preventing damage from the execution of acts and services.

Its task is to seek harmony between citizens and the environment.

However, the goals will therefore depend on its vision correlated to the national and international mission in this social field.

Constitutionally healthy environment is guaranteed by the State, responsibility with individuals, their care is extensive in society and access to human rights in Mexico. This regulation is due to preventive measures “damage and nature conservation” (Const., 2019, Art. 4).

To this foundation, we add Mexico’s supranational participation in the Confederations<sup>1</sup> it has been part of, to establish within them, the principles that govern the protection of the environment, in view of the present demands that give basis to the diagnosis and goals to be fulfilled in the short and long term in its defense (Planelles, Manuel, 2015).

We crown these ideas with the quotation from the Jurisprudential Thesis, which alludes to the role of the authorities in the respect and application of Human Rights, in the face of the Pro-Personnel Principle, regulated in numeral 1, in fusion to the access to a healthy environment, as a right belonging to that group that weaves the guarantees to those immutable Rights. Furthermore, these foundations are correlated with the commitments emanating from the international commitments in Rio de Janeiro. In this way, a comprehensive jurisprudential position can be observed, which combines constitutional contents, in the light of the authorities in fulfilling Human Rights, in an extensive way to the environment, inserting such criterion in the international context.

The thesis of jurisprudence XXVII.3o.9 CS (10a) sustained by the Third Collegiate Tribunal of the Twenty-seventh Circuit is guiding, visible on page 1840 of Volume II, published in the Judicial Weekly of the Federation in December 2016, Tenth Period, whose text alludes to environmental protection:

**Principio de precaución de derecho ambiental. Su fundamento en las obligaciones de protección y garantía del derecho humano a un medio ambiente sano para el desarrollo y bienestar de las personas y elementos que le son propios.** De los artículos 1o., párrafo tercero y 4o., párrafo quinto, de la Constitución Política de los Estados Unidos Mexicanos (1)deriva que todas las autoridades, en el ámbito de sus competencias, tienen la obligación de promover, respetar, proteger y garantizar los derechos humanos, entre ellos, el derecho de toda persona a un ambiente sano para su desarrollo y bienestar. Así, con base en una interpretación progresiva de las obligaciones anteriores, en especial las de protección y garantía, el principio de precaución que rige en esa rama del derecho, previsto en el principio 15 de la Declaración de Río sobre el Medio Ambiente y el Desarrollo, de la Conferencia de las Naciones Unidas, encuentra fundamento interno; de ahí que cuando haya peligro de daño grave o irreversible al medio ambiente, la falta de certeza científica absoluta no deberá utilizarse como razón para postergar la adopción de medidas eficaces (de acción o abstención) en función de los costos, para impedir la degradación de aquél. Por tanto, son elementos de dicho principio: i) la dimensión Inter temporal; ii) la falta de certeza científica absoluta del riesgo ambiental; iii) los riesgos tendrán que ser graves e irreversibles; y, iv) la inversión de la carga de la prueba al infractor (Tercer Tribunal Colegiado del Vigésimo Séptimo Circuito, 2016, p. 1840).

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<sup>1</sup> Así podemos enunciar la Cumbre París 2015, como corolario de sus precedentes, en retomar las recomendaciones vertidas en la Cumbre de Río y demás homólogas, elpais.com. COP21: La Cumbre de París cierra un acuerdo histórico contra el cambio climático, París, 12 de diciembre de 2015. Conferencia de Naciones Unidas sobre Desarrollo Sostenible: Río+20, ecodes.org, Qué es Río+20-Ecología y Desarrollo, España, 2012.

As can be inferred from the above quotation, Mexico acquires by means of a Jurisprudential Thesis the Precautionary Principle of Environmental Law, to avoid risks in the natural elements. The authorities of the country, as recipients of this judicial criterion, have to comply with it in their respective jurisdictional enclosures, due to the priority that our Maximum Court has throughout the country.

Up to this point the foundations and ideas poured, frame the substantive function of the State in environmental matters — preferably as prerogatives in its favor — we link below three aspects that allow us to denote more precisely our object of study:

a) Economic leadership. We invoke it because it constitutes the source of the acts that the government plans for the development of the country. This has received changes that affect the reality that prevails today in Mexico, in light of the permits that have been introduced, via their adaptation to international scenarios, so we find the following stages: I. From 1950-1984. It remained linked to the constitutional guiding principles of a mixed economy, guided by the Federal Executive, based on national imperatives, with little influence from the private economy. II. From 1984-2000. The borders and dikes derived from the 1917 Constitution, which limited external influence and privileged development with national wealth, were opened. In this way the economic leadership acquires a strong connotation in support of foreign investments and becomes a market economy — due to globalization. III. From 2000-2018. The government is based on neo-liberalism applied by the intervention of transnationals, concessions and the use of exclusive materials of the Federation: fuels, hydrocarbons, energy — nuclear, reserve areas, seas, rivers, natural resources; in national and international companies (Tépach, Reyes, 2005).

Based on this preamble, and supported in this last period, Mexico through the administrative regulations, foreign investment and other laws that guarantee the exploitation of such patrimonies, has generated the public economic increase, at the same time that of businessmen at the cost of the damages that are lived in those natural elements, to the degree of disabling the use of rivers and some beaches, by the lack of implementation of sanitary controls in the lenders of real estate, tourist services and the own parastatal that has contaminated seriously the Southeastern region of the Country.

These aspects, and many others, have caused a great avalanche of acts that have a negative impact on the environment, without the administrative authorities having the structure to receive these services that are harmful to the environment and, worse still, to follow up on the tasks of rehabilitation and restoration of these deteriorated elements by businessmen who acquire the economic profits — by branches, establishments and shareholders — and live in their countries of origin far from the consequences that are spilt on the environment.

This is the problem that we are living, to compensate the damages caused in front of the economic interests that exclude the environment, by the progress finished in the capitalism and consumerism.

b) Secretariat of the Environment and Natural Resources. In this government agency are located the competences that are exercised in Mexico, to protect the natural goods in general; it is an administrative entity of federal rank, which assumes the challenges to keep safe the resources and goods of nature. It is developed through functions emanated from the General Law of Ecological Equilibrium and Environmental Protection (Ley General del Equilibrio Ecológico y la Protección al Ambiente, 2019) — as well as other relative ones — as well as in the programs it issues in areas that attend to environmental diversity. We also highlight the regulatory and economic instruments available to it to cover its development and apply these environmental prevention programs; thus, we find the tax link in the remunerations and sponsorships emanating from the Fiscal Policy, through taxes, decrees and incentives that finance such state work.

Development Plan 2018-2024. We also add as contributions to environmental protection in holding the circular economy in Mexico, the projection made by the Federal Government in its working document for this Public Administration, by recognizing a life of the country, based on collective development, encouraging agricultural areas, indigenous and producers, who as holders have harmony with natural resources, In addition, reference is made in parallel to business activities, which as such generate sources of wealth and work, but with the conditions in favour of the environment, in the decrease of their deterioration and increase of their capital, as actions adhered to the commitments of Agenda 2030 — sustainable development — and the Paris Summit of 2015.

The content of the aims of the Environmental Policy is woven through 10 Transversal Axes and 12 Thematic ones, which are the incidents in this National Project, which involves all actors in the conservation of the environment (Plan Nacional de Desarrollo 2019-2024).

### **3. Linking to Environmental Taxation**

a) Fiscal policy. Environmental protection (Const., 2019, Art. 4, paragraph 5) is not enough with the performance of a Department of State, we must extend it to other pairs that contribute to this collective work, social and economic impacts arising from environmental impairments.

Mexico must take on the task of prevention and continuity of environmental deterioration, which is why the taxes are used as economic instruments to strengthen this public function.

Thus, the (National Development Plan 2019-2024) Fiscal policy also must be added this task, through their actions and acts via transit contributions to protecting the environment.

Federal taxes — IVA, ISR, IEPS, AD VALOREM — are the action channel to amortize damages in nature, with the business activities of taxpayers.

b) Tributes. Thus, we find the obligation of tributaries that is extinguished with its payment, in parallel to the decreases that the environment receives.

Tributes may contain the basis for developing circular economy, profits, services, products, imports, exports and production assets subject to a collective benefit. This leads to a correlation with the Foreign Economic and Trade Policy, to harmonize the exercise of those activities with the attributes in the products transiting in the Mexican market.

c) Fiscal stimulus. This work also opens up the possibility of generating fiscal stimuli, in order to motivate the work of taxpayers that affect these environmental benefits.

Therefore, we find the fiscal stimulus regulated in Section 202 of the Law on Income Tax (2020), for taxpayers engaged in 2019, research and technological development. Here we locate the ends of the circular economy in relation to the obligation for Rent, where the authorized state tax credit for those conducting business activity by scientific innovation, that affect environmental benefit when products created meet the very categories that generate externalities to the environment.

This stimulus in our interpretation, shows the path that can go in addressing this incentive, placing therefore creative work in goods and products reach the quality levels expected in the field of embedded relationships in the economy circular.

#### 4. Environmental Strategies Against Circular Economy

In the competencies that the protective authority applies to the environment, it seeks to establish programs that improve the behavior of those administered.

We note below a list of products circulating within the national territory, whose manufacturing processes and materials are in compliance with environmental purposes followed in the circular economy; these products are classified according to their components and environmental linkages.





They are in the Mexican market, by private and business initiative; who have innovated in producing them, with recycled and alternative elements to be in balance with the environment.







This category of goods is mostly imported, is in its diffusion, being purchased by users.

We find therefore, the contribution of employers as an amendment to the environment, by the reduction in the use of plastic, development of new packaging in cosmetics and the introduction of footwear; made them with source in recycling.

The circular economy in this sense, begins to echo in the chain and movement of products, which I trade are already acquired by their domestic processing and import.

Below is a table with some of those products aimed at circular economy; they participate in new strategies introduced by the company for its production, who's the elements and components reveal harmony with natural resources.

Company name	Product	Description	Product image
<b>Biophase</b>	Avocado straws	Its products based avocado seed that can be buried in the ground and have a decomposition process as any fruit, straws that degrade in 240 days instead of almost a hundred years like plastic. Created by Scott Munguia from Guadalajara.	
<b>Niewana Alam Hijau (AVANI)</b>	Yucca bags	Paper straws or bags created from yucca starch which, on contact with water, dissolve in minutes and are also suitable for ingestion. From the Indonesian creator Kevin Kumala.	
<b>You adidas</b>	Tennis	Adidas alida at Parley for the Oceans has designed sneakers made from plastic recycled from waste dumped at sea, to protect and conserve the seas. Plastic waste found in coastal areas is collected and sent to recycling companies by Parley's partner organizations. There they are shredded and transformed into Parley Ocean Plastic™ which is the base material used to make the Adidas X Parley product.	
<b>Granutec</b>	waterproofing	Transformation of waste tires, into ecological products specifically in acrylic-based waterproofing, useful for Mexican families that also contribute to improving the environment.	

<b>Renovare</b>	shoes	The package contains 3 tin socks made in Mexico from 72% bamboo, 14% Nylon and 14% Latex. Bamboo is the fastest growing plant in the world. It is 100% biodegradable, does not need chemicals or pesticides and requires very little water to grow so it is one of the most sustainable materials.	
<b>Ecu</b>	Tines Bamboo Women	Recycling, Reducing and Reusing plastic bottles (PET) to create a unique and different footwear able to give a second life to a waste, using processed natural leather, with vegetable products, 7.5 bottles, of pet, for the elaboration of this footwear, besides that water based. Aadhatives are used, for the assembly of the cut and the sole, being not harmful for the one who elaborates it.	
	Shoes	With synthetic silk and vegan leather as well as recycled tire soles and designs inspired by indigenous art (the purpose of the original designs is to highlight the beauty of our culture and put the name of Mexico on high). Packaging made of blanket and cambaya fabric. Every 24 pairs of shoes, 1 tire is recycled in its entirety and 102 PET plastic bottles.	
<b>Natura</b>	Products with spare parts	Another development of Natura for the care of the environment is that common packaging contains 30% recycled PET in its composition, which represents a reduction of about 15% in its environmental impact. They require up to 50% less raw material for their manufacture.	
<b>Desplastificate</b>	Biodegradable products 14 days, refillable containers	A proudly Mexican brand with cleaning products that are filled at home or in ecologically responsible stores such as Alcachofa and Romero. Created by Karina González Ulloa.	
<b>Sargánico</b>	Notepads, napkins, cup holders	Turning seaweed into raw material for processing into practical, useful and aesthetic products.	

## 5. Waste Programs and Products

Of the programs in charge of the owner of the medium — SEMARNAT<sup>2</sup> for the present year of government, they are verified in their digital platform, diverse schemes of environmental content, we mean the relative one to the recycling of the companies, whose objectives look for: to diminish the use of natural resources, educating the behavior of entrepreneurs and to spread the actions of this program in favor of the recycling (Organiza

<sup>2</sup> “Con el objetivo de diseñar acciones que permitan transitar hacia una gestión integral y sustentable de los residuos sólidos urbanos, en la que participen expertos, académicos y sociedad civil, la secretaria de Medio Ambiente y Recursos Naturales, Josefa González Blanco, inauguró [...]” el Foro para diseñar el Programa Integral de Manejo de Residuos. En el año 2015, se realizó otro Foro Internacional Sobre Valoración Energética de Residuos Urbanos.

SEMARNAT foro para diseñar el programa integral de manejo de residuos, 2019; Foro Internacional, 2015; Valorización Energética de Residuos Urbanos, 2017).

A great door is opened with the outlined approaches, which gives way to the environmental culture in the society, in the awareness of the managerial behaviors, which acquire economic advantages and at the same time they provoke externalities that demerit the common good.

The purpose of the program called Waste is the integral management of solid waste classified as special and hazardous: “This includes the prevention and reduction of its generation, its economic recovery, its maximum use and its adequate final disposal. These actions are complemented by strategies for education, training, communication and strengthening the legal and administrative framework. Thus, waste can be used as raw material for the productive sector and as a source of energy” (Residuos, 2017).

Linked to this national program, there is a comprehensive prevention and management of waste, to be developed in states and municipalities (Prevención y gestión integral de los residuos, 2017).

## **6. Conclusions and Proposals**

We believe, in accordance with the ideas outlined in previous chapters, that Mexico has to face great changes in the development and content of its public policies with regard to the circular economy, which must be observed in the various social areas.

The administrative and fiscal authorities represent the public entities in which the function of the State falls to coordinate the corresponding actions for the sake of the benefits derived from the protection and conservation of the environment.

Now, the circular economy as a prototype to follow for a new design of the enunciated policies, implies the joint work of individuals, businessmen and government, to incorporate it and its benefits, based on the processes of scientific, technological, agricultural, and food production; that provide the standards required to adopt the bases and strategies for the benefit of health and the environment.

In this order, it is required to promote the integration of the procedures that design and install the circular economy in Mexico, where entrepreneurs and producers raise their products to an optimal level for consumers and nature.

The Environmental Policy must be renewed and updated in its actors, by means of the implementation of programs and training of its administrators; attentive to the tendencies of environmental protection, facing the commitments derived from the Confederations where Mexico is part, in addition, to interact in the schemes of the OECD, with other peer developed countries, in benefits that are reciprocal to them for the increase of environmental conservation.

The programs regulated — to date — by the environmental authorities with regard to the circular economy, achieve the arrival of their objectives in a first level of application of their axes; due to the policies in the matter of recycling destined to the entrepreneurs who use the natural elements for the elaboration of their products.

These advances are not sufficient to achieve improvements in the use of natural goods and also reduce the elimination of natural resources in production, sales and consumption, as well as generate new products and services for recycling.

Society requires environmental education, which leads to the use of goods in the market with source in recycling. This brings as effects the informed acquisition of these goods, the weighting of their individual and



collective benefits.

Community altruism is needed to adopt such policies and legitimize them, according to sufficient sensitivity, to prolong the life of natural resources.

On the other hand, we add a great deal of these challenges to the Fiscal Policy, in view of its permanent relationship with the taxpayers, who deliberately contribute to the deterioration of the environment.

The creation of fiscal incentives does not guarantee the elimination of damage to the environment, the fiscal legislator does not intervene to establish taxes that link the payment of obligations with the reduction of effects on their business activities.

The following proposals are made:

- a) Generate greater channels of communication between fiscal and environmental authorities.
- b) To carry out joint programmed that have an impact on the production of recycled goods.
- c) Encourage the creation, disposal, import, export and consumption of recycled products.
- d) To adopt international perspectives on the circular economy in binding administrative legislation.
- e) Disseminate the collective benefits of using goods derived from recycling
- f) In Income, Value Added and Ad Valorem Taxes, the link to the circular economy can be introduced via the taxable base of each tax.
- g) Review the schemes of the Special Tax on Production and Services; by regulating its purpose in special matters and effects on the environment, attentive to the purposes sought in the circular economy.

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