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ARTICLE/ARTÍCULO

Advancing the SDGs through Fiscal Strategies for a Circular Economy: Climate Neutrality and Responsible Production and Consumption

La consecución de los ODS mediante estrategias fiscales de economía circular: la neutralidad climática y la producción y consumo responsables

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ABSTRACT

This paper examines the close relationship between the Sustainable Development Goals and the circular economy (CE) model, highlighting how both approaches contribute to sustainable development across its economic, social and environmental dimensions. The CE aligns coherently with several SDGs, particularly in combating climate change and promoting responsible consumption and production. Within this relationship, fiscal and finance law plays a crucial role – taxation can become a powerful driver for achieving the SDGs, especially regarding environmental sustainability and social equity. Two of the most relevant strategies in the field of circular economy in Spain – climate neutrality and responsible consumption and production – serve as examples through which to analyse this relationship.

KEYWORDS: circular economy; sustainable development goals; taxation; climate neutrality; sustainable production; responsible consumption.

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RESUMEN

Este trabajo pretende poner de manifiesto la estrecha relación entre los Objetivos de Desarrollo Sostenible y el modelo de economía circular, destacando cómo ambos enfoques pueden contribuir al desarrollo sostenible en sus dimensiones económica, social y ambiental. La EC se alinea de manera coherente con varios ODS, particularmente en áreas como la lucha contra el cambio climático y la promoción de la producción y consumo responsables. En esta relación, el derecho financiero y tributario juega un papel crucial, y la fiscalidad puede convertirse en un potente motor para la consecución de los ODS, especialmente en lo que respecta a la sostenibilidad ambiental y la equidad social. Dos de las estrategias más relevantes en el ámbito de la economía circular en nuestro país, como la neutralidad climática y la producción y el consumo responsable, nos sirven de ejemplo para analizar esta relación.

PALABRAS CLAVE: economía circular; Objetivos de Desarrollo Sostenible; fiscalidad; neutralidad climática; producción sostenible; consumo responsable.

1. Introduction

The close relationship between the Sustainable Development Goals (SDGs) and the circular economy (CE) model contributes to sustainable development across its economic, social and environmental dimensions. The implementation of the CE not only facilitates the optimisation of resources but also responds to the urgent need to mitigate environmental impact and promote sustainable economic development. Through the reduction, reuse and recycling of resources, the CE aligns consistently with several SDGs, particularly in combating climate change and promoting responsible consumption and production.

Furthermore, financial and fiscal law has been identified as playing a crucial role in the transition towards a circular economy. Taxation – through incentive policies and appropriate fiscal measures – can become a powerful driver for achieving the SDGs, especially regarding environmental sustainability and social equity. Accordingly, it is essential that fiscal policies align with the objectives of the 2030 Agenda, contributing not only to ecological sustainability but also to the reduction of economic and social inequalities.

The intersection of these three elements – circular economy, taxation and the SDGs – presents an effective framework for incentivising the transition to the CE whilst advancing the fulfilment of some sustainable development goals, given the established linkages between them. With this understanding, this paper focuses on two principal strategies for transitioning to the CE – climate neutrality and responsible consumption and production – to analyse existing measures and propose improvements.

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1.1. SDGs and the CE: Two Agendas with Common Goals

Almost a decade has passed since the United Nations (UN) General Assembly approved the 2030 Agenda on Sustainable Development. It comprises 17 SDGs reflected in 169 targets, aimed at eradicating poverty whilst simultaneously advancing strategies that promote economic growth and address a series of social needs such as education, health, social protection and employment prospects, all whilst combating climate change and protecting the environment. In other words, the goals combine the three dimensions of sustainable development: economic, social and environmental.

The concept of CE to which we refer is that of a new environmental protection system – which uses resources more efficiently – in which the value of products and resources is maintained in the economy for as long as possible and waste generation is minimised. This concept emerges in contrast to the linear economic model (García Calvente, 2018; Soto Moya, 2019), bringing together different philosophies grounded in the recognition of this model's unsustainability and the need to find alternative solutions that make economic, social and environmental development compatible with one another (Rodríguez-Antón, 2019). Although a sufficiently consensual concept of the CE remains elusive, there is agreement on the need to move towards a model different from the prevailing axioms of production and consumption, and we believe that this transition should be governed by the value of justice.

The CE emerged when environmental concern was reconciled with the economistic approach through promotion of the 3Rs rule: reduce, reuse and recycle (*ibid.*). Subsequently, additional Rs have emerged in the same vein, each adding distinct nuances – repairing extends product lifespan, redesigning facilitates reuse and recycling, whilst rethinking transforms production processes to consume fewer resources and generate less waste.

The importance and recognition that the CE has achieved has been accompanied and boosted by actions carried out by public administrations and, equally, private institutions (*ibid.*). There is no doubt that the European Union is the main driver of CE in the international arena. The connection between the SDGs and CE begins in 2015, a key year for raising awareness and implementing the CE at EU level thanks to the Action Plan that introduced a package of reforms fundamentally affecting waste (Sedeño López, 2023). It was also the year in which the UN General Assembly approved the 2030 Agenda. The first Circular Economy Action Plan has been followed by a second in 2020 and the European Green Deal in 2019, which highlights the relevance of circular production and consumption patterns as a decisive factor in achieving the SDGs of the 2030 Agenda.

The CE therefore seeks to combine the optimal use of available resources with a transformation of the productive system, thereby supporting planetary sustainability alongside the economic development necessary to generate wealth

and employment. These goals are perfectly compatible with the SDGs. Although the CE has a much more specific and limited dimension than the SDGs, there exists a deep relationship between the two, allowing the implementation of a CE model to facilitate the achievement of some of these objectives. In this way, the CE is an economic model that drives the SDGs. Specifically, authors such as Rodríguez-Antón (2019) conclude, after detailed comparative analysis, that the implementation of the CE can accelerate progress on ten of the seventeen SDGs. Rationalising consumption of commodities in general – or natural resources such as water in particular – helps reduce hunger and poverty whilst directly impacting climate action and improving access to resources like electricity and water. Furthermore, reuse and recycling, two defining actions of the CE, help to achieve sustainability. In the following section, we examine how fiscal measures can serve as a link between the CE and the SDGs.

1.2. Financial and Fiscal Law as an Instrument of Social Transformation

The third pillar in this triangular relationship is finance, a key element both for achieving the SDGs and for promoting the implementation of the CE. A joint interpretation of the Spanish Constitution (SC) and Act 58/2003 of 17 December on General Taxation (LGT, from its Spanish initials) underscores the need to conceive the tax system not only in relation to the principle of economic capacity but also in connection with other constitutional objectives. The public policies adopted in application of the CE concept possess a strong incentive character, protected by safeguards provided in the SC: Article 45 urges public authorities to protect and improve quality of life, as well as to defend and restore the environment, whilst Article 11 of the Treaty on the Functioning of the European Union (TFEU) integrates environmental protection and the promotion of sustainable development into EU policies and actions. Furthermore, guiding principles such as social and economic progress, equitable income distribution and full employment (Article 40 of the SC) and the modernisation and development of economic sectors (Article 130 of the SC) underpin the case for a CE. The LGT itself establishes in its Article 2.1 the non-fiscal function of taxes.

In the 2030 Agenda we find various statements concerning the importance of taxation as one of the principal means of achieving efficient, sustainable and socially equitable economies. Tax rules can be deployed as incentive measures for certain types of actions, such as those related to the CE (Soto Moya, 2019). Although the concept of CE may appear, *a priori*, to be exclusively associated with the environmental dimension of sustainable development, it also contributes to social and economic development and can therefore help reduce economic inequalities.

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2. Achieving the SDGs through Circular Economy Fiscal Strategies

As societies embark on the critical phase of transitioning towards the CE, strategically designed public policies can serve as catalysts for achieving the SDGs. This premise underpins numerous fiscal measures that simultaneously advance the CE whilst facilitating SDG fulfilment. To illustrate this relationship, we examine two pivotal CE strategies – climate neutrality and responsible consumption and production – both characterised by extensive legislative measures which have proved to be of varying effectiveness.

2.1. Decarbonisation and Climate Neutrality

This first strategy centres on reducing CO_2 emissions and slowing down climate change, whilst also directly supporting SDGs 7 (affordable and clean energy), 13 (climate action) and 15 (life on land).

Given that the circular economic model is inherently low-carbon, fiscal measures targeting emission reductions naturally advance environment-related SDGs. To this end, it is essential to recognise that greenhouse gases are the primary driver of global warming, with CO_2 alone being responsible for approximately three-quarters of total emissions. These emissions stem primarily from combusting energy products and incinerating solid waste, thereby positioning decarbonisation as the cornerstone of energy transition. As Calviño (2024) observes, sectoral measures are spearheaded by an energy revolution characterised by:

> [...] economic growth is rapidly decoupling from carbon dioxide emissions, owing to advances and innovation in clean energy generation and efficiency technologies that combat climate change whilst fostering competition.

2.1.1. Energy Taxation

The European Green Deal, closely aligned with SDG achievement, constitutes an action plan to promote efficient resource use through transitioning to a clean, circular economy, restoring biodiversity and reducing pollution – with the ultimate aim of rendering Europe the first climate-neutral continent by 2050. To meet the decarbonisation goals established in the Paris Agreement, an intermediate target has been proposed: reducing greenhouse gas emissions by 55% relative to 1990 levels by 2030. This "Fit for 55" package encompasses various measures, including a proposed revision of the Energy Taxation Directive, which we examine below.

The EU seeks to discourage consumption of the most polluting energy products through a process termed energy transition. We concur with López Rodríguez (2024) that, in this transition, the taxation of energy products and electricity – harmonised at Community level – is positioned to play a pivotal future role. However, any Europe-wide initiative must contribute to preserving and strengthening the internal market. Moreover, environmental taxation, whilst guided by the "polluter pays" principle, risks diverging from the principle of economic capacity, potentially imposing disproportionate burdens on vulnerable taxpayers.

To ensure energy products are taxed according to their environmental performance, a proposal to revise the Energy Taxation Directive was adopted on 14 July 2021 as part of "Fit for 55". This proposal principally aims to align energy product taxation with EU energy and climate policies, promoting clean technologies whilst eliminating exemptions and reduced rates that currently incentivise fossil fuel consumption. The proposed reforms centre on restructuring rate frameworks and expanding tax bases, alongside eliminating many existing exemptions and reductions (Bertrán Girón, 2024).

Regarding rate structure, the proposal shifts the basis for taxation from volume to the actual energy content and environmental performance of fuels and electricity. Minimum rates derive from energy content, incentivising more efficient and environmentally sound decisions, as the new system ensures higher taxation of the most polluting fuels. This would enable businesses and consumers to make cleaner, more climate-friendly choices. For instance, electricity from renewable sources would benefit from highly favourable treatment, given its non-polluting nature, low cost and absence of consumables required for generation. However, renewable electricity faces limitations in storage capacity and management complexity, as generation depends on external factors such as solar irradiation and wind conditions. Green hydrogen represents another significant energy product, as its production and consumption are climate-neutral and generate no polluting emissions. Unlike other renewable sources, hydrogen possesses storage capacity – either as pressurised gas or in liquid form. Taxation should therefore promote its consumption, alongside that of renewable electricity and advanced sustainable biofuels (López Rodríguez, 2024).

The proposal further provides for the gradual elimination of certain product exemptions and reductions. Additionally, the classification of products for tax purposes would be simplified, ensuring that environmentally harmful fuels bear the highest tax burden. Aviation kerosene and marine fuel oil for intra-Community transport will be taxed for the first time; following a transitional period, these fuels would no longer remain entirely exempt from energy taxation. This levying of taxes on such fuels reinforces the intention to promote more sustainable practices across these sectors.

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As López Rodríguez (2024) demonstrates, this reform must be implemented whilst preserving Member States' revenue-generating capacity. Energy product taxation must minimise adverse impacts on the competitiveness of strategic economic sectors whilst simultaneously preventing the relocation of industry to other jurisdictions with more permissive CO_2 emissions regulations. Crucially, the proposal requires unanimous EU Council approval for adoption.

For the energy transition to succeed, however, it must be both swift and equitable, protecting resource-constrained households who face heightened vulnerability to global warming dangers and the distributional impacts of green transition policies, particularly as emerging technologies disrupt traditional industries and established business models.

2.1.2. Sustainable Transport

The transport sector represents both a cornerstone of necessary energy policy transformation and an engine of economic growth, requiring the integration of technological development with ecological transition criteria aligned with Europe's climate neutrality targets for 2050. Regarding road mobility, the 2030 Agenda mandates, in accordance with the Paris climate goals, emissions reductions of 45% by 2040 and 85% by 2050. This necessitates a transition towards clean and sustainable mobility through the adoption of electric vehicles powered by cleaner energy sources (Patón García, 2024). The EU framework[1] calls for a 55% reduction in emissions by 2030, whilst the European Parliament established in February 2023 a target of zero CO_2 emissions for new passenger cars and vans by 2035 as part of its "Fit for 55" package.[2]

Achieving this objective requires financial and fiscal measures encompassing direct financing to the electric vehicle industry, consumer subsidies for vehicle acquisition and tax incentives for their purchase. These measures can be complemented by public investment in charging infrastructure, subsidies for domestic chargers, electric public transport, public procurement of electric vehicles and indirect consumer incentives, such as preferential bus lane access, free or preferential parking, low-emission zone access, complimentary public charging and toll exemptions (*ibid.*).

Focusing on the environmental dimension of vehicle taxation, incentive mechanisms require revision across two distinct areas: vehicle acquisition and use.

In 2023 and 2024, within the Strategic Projects for Economic Recovery and Transformation (PERTE)[3] framework, connected electric vehicles (CEVs) have led sectoral transformation. Among the numerous points of action is the incentive plan for charging point installation, electric and fuel cell vehicle acquisition, and innovation in electromobility, recharging and green hydrogen (MOVES III), recently extended to 2025.[4]

This plan, approved by Royal Decree-Law 5/2023 of 28 June, includes Personal Income Tax (IRPF, from its Spanish initials) deductions for CEV acquisition and charging point installation. However, the deduction's legal regime[5] incorporates specific requirements and conditions that restrict its application. Regarding material scope, only new "plug-in" electric and fuel cell vehicles registered before 31 December 2025 qualify for the deduction, with sale prices not exceeding the maximum amounts established for each vehicle type in Annex III of Royal Decree 266/2021 of 13 April, calculated in the manner set out in said decree.

The deduction excludes vehicles used for economic activities; thus, vehicles intended for business purposes – whether by the acquirer or third parties – cannot qualify, regardless of ownership structure. The deduction can be used for only one vehicle per taxpayer, as specified in the sales contract. The maximum deduction base stands at €20,000 per vehicle, reduced by any public aid received for its acquisition. Applying 15% to amounts paid during the tax period for vehicle acquisition yields a maximum deduction of €3,000. The deduction can be applied in two different ways: either during the tax period when the vehicle is registered (before end-2025) or, for instalment purchases, when at least 25% of the price has been paid.

This measure is accompanied by a deduction for charging infrastructure installation representing 15% of amounts paid (excluding cash payments) between 30 June 2023 and 31 December 2025, with a maximum base of €4,000. The deduction applies in the tax period when installation is completed. This aid is complemented by local tax subsidies introduced in Royal Decree-Law 29/2021 of 21 December, adopting urgent measures in the energy field to promote electric mobility, self-consumption and the development of renewable energies.

This deduction functions as a powerful tool for incentivising behavioural change and widespread electric vehicle adoption. However, it must be accompanied by well-targeted fiscal and financial policies promoting more efficient and sustainable mobility.

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Sustainable mobility implementation remains contentious, as electric vehicles possess limitations that require further technological innovation – notably their range and battery technology. Consequently, electric vehicles require extensive public charging networks or, alternatively, the widespread development of domestic charging facilities. The Real Estate Tax credit for recharging infrastructure installation, which is applied by local entities, should enhance and accelerate development imminently (Patón García, 2024).

Regarding vehicle use measures, there are two principal taxes that may function as environmental policy instruments against climate change. The Hydrocarbon Tax can increase rates and eliminate the distortions created by its current configuration. However, such tax measures aligned with environmental objectives must consider potential joint effects on competitiveness and employment whilst weighing the proportionality of measures adopted for environmental protection, avoiding unwanted tax competition effects. Current economic conditions may not favour fuel tax increases; therefore, revising the configuration of taxation on vehicle acquisition and possession could yield short-term impact.

Within registration taxes – the Special Tax on Certain Means of Transport (IEDMT, from its Spanish initials) – and circulation taxes – the Motor Vehicle Tax (IVTM, from its Spanish initials) – elements based on potential emissions of each vehicle type have been introduced.

The IEDMT originated from revenue needs and the effects of automobile use on infrastructure and the environment. Specifically, Act 34/2007 of 15 November on Air Quality and Atmospheric Protection adjusted tax rates according to the CO_2 emissions of each taxed means of transport. This tax applies at vehicle purchase, with taxable amounts calculated based on sale price. Autonomous communities may increase the state-wide minimum rate, though this regulatory power has been rarely exercised. Four tax brackets apply to high emission levels (above 120 g CO_2/km), whilst energy-efficient vehicles benefit from a 0% rate. Currently, the IEDMT lacks tax discrimination between hybrid vehicles and pure electric vehicles – an aspect requiring correction to favour the acquisition of zero-emission vehicles. Combining direct aid to zero- and low-emission vehicles with a bonus–malus scheme in the IEDMT for progressive penalties on vehicles emitting up to 120 g CO_2 may prove beneficial (Patón García, 2024).

The local tax system has undergone notable evolution. Originally, the IVTM and public transport taxes were designed purely as revenue-raising instruments based on economic capacity – measured by vehicle ownership or service consumption – without any consideration of environmental sustainability. However, this has changed as tax measures have been increasingly linked to environmental protection, with local tax regulations now incorporating sustainability objectives.

Currently, the IVTM is based on fiscal power, which considers engine cylinder number and cycle time. In most municipalities, the highest tax brackets apply to the most polluting cars, whilst battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) receive advantageous taxation. Additional provisions linking tax rates to CO_2 emissions (García de Pablos, 2023) or noise pollution levels would prove beneficial. For instance, municipalities could apply progressive multipliers ranging from 1 to 3 during the first three years, as proposed by ECODES and T&E (2019).

The IVTM includes two possible bonuses: (a) up to 75% based on fuel class consumed by the vehicle, reflecting the impact its combustion has on the environment; and (b) up to 75% based on engine characteristics and environmental impact. The first bonus typically applies to vehicles using alternative fuels (gas, biogas, methanol, hydrogen, etc.), possessing more specific and clearly environmental content with little discretion in its application. The second bonus applies to vehicles with special engine characteristics (electric, hybrid, solar energy, etc.).

Spain's sustainable mobility strategy is defined by the European objective of achieving substantial electromobility levels by 2035. The *White Paper on Tax Reform* (2022) argues that transport electrification and advanced biofuel use constitute vectors of ecological transition policy, accompanied by objectives including a reduction in the use of private vehicles, the delimitation of low-emission zones in major cities and the expansion of renewable energy use. We concur with Patón García (2024) that the current situation necessitates a comprehensive review of taxation affecting different vehicle-related aspects, with particular attention to environmental impact.

2.2. New Modes of Production and Responsible Consumption

With global population projections for 2050, nearly three planets would be required to provide the natural resources necessary to sustain current lifestyles (World Bank, 2016). The CE strategy to be adopted in this field must extend beyond waste and recycling, focusing on design and production to promote new consumption models that prioritise service-based access over ownership, reinforce consumer guarantees against planned obsolescence, enhance product repairability and eliminate food waste.

Therefore, in accordance with the European Circular Economy Action Plans and the 2030 Agenda – specifically *SDG 12 (responsible consumption and production)* and *SDG 2 (zero hunger)* – a new model of production and consumption must be promoted wherein the value of products, materials and resources is maintained in the economy for as long as possible, waste generation is minimised and unavoidable waste is utilised to the greatest extent possible (Sedeño López, 2021). In achieving these objectives, environmental taxation can facilitate the transformation of production and consumption patterns, prioritising recycled or reused products over single-use alternatives.

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2.2.1. The Right to Repair

In recent years, the "right to repair" has gained significant traction, with the EU taking steps to facilitate and encourage consumers to repair broken goods rather than dispose of them. Most measures comprise soft policies consisting of information requirements included in several ecodesign regulations and the Battery Regulation, alongside mandatory minimum requirements for the repairability of new products placed on the European market – notably Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC. Since 2021, manufacturers of a substantial proportion of electronic devices and household appliances have been required to ensure that components can be disassembled and spare parts are available for specified periods (Various Authors, 2024).

Regarding financial incentives, Regulation (EU) 2024/1781 – the Ecodesign for Sustainable Products Regulation (ESPR) – empowers the European Commission to establish mandatory EU-wide performance requirements for public procurement of certain products and to set targets for the proportion of environmentally sustainable products purchased, potentially providing significant incentives for manufacturers to produce more repairable products.

A direct approach to reducing repair costs involves lowering applicable taxation. The recently adopted Directive (EU) 2024/1799 on common rules promoting the repair of goods requires each EU Member State to develop at least one repair incentive, whether financial or otherwise.

2.2.2. Measures to Eliminate Planned Obsolescence and Taxation of Used Goods

Closely linked to the "right to repair" is planned obsolescence. In current markets, product lifespan and repair options are often constrained by manufacturer decisions and practices aimed at maximising profits. Planned obsolescence refers to situations wherein manufacturers deliberately determine a product's life cycle duration before it is introduced to the market. The underlying causes are purely economic: by reducing product lifespan, manufacturers compel consumers to purchase replacements.[6]

Electronic products generate substantial ecological footprints, being manufactured from precious raw materials using considerable energy. Extending their lifespan through repair therefore constitutes the most efficient means of reducing their environmental impact. As Sedeño López (2021) indicates, whilst this term is typically associated with electronics, it equally applies to other productive sectors such as the textile industry. Within a CE context predicated on the reuse and recycling of resources and extending a product's lifespan, planned obsolescence represents a practice that must be, if not eradicated, at least substantially reduced. The ESPR addresses these practices by requiring

ecodesign standards that ensure products do not become prematurely obsolete through design decisions, substandard components, software activation or similar mechanisms.

In this regard, the European Parliament resolution of 4 July 2017 on a longer lifetime for products: benefits for consumers and companies "encourages the Member States to explore appropriate incentives promoting durable, high-quality and repairable products, to stimulate repairs and second-hand sales, and to develop repairs training".

Paragraph 29 of Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste explains that:

> [...] Member States should facilitate innovative production, business and consumption models [...] that encourage the increase of the lifespan of products and that promote re-use including through the establishment and support of re-use and repair networks, such as those run by social economy enterprises, deposit-refund and return-refill schemes and by incentivising remanufacturing, refurbishment and, where appropriate, repurposing of products.

Annex IVa mandates Member States to implement various measures, including "fiscal measures or other means to promote the uptake of products and materials that are prepared for re-use or recycled". Whilst lacking explicit reference to specific tax instruments, the European legislation opens possibilities up for States and recognises their competence to implement such measures.

Spain has done so, albeit tentatively, through Act 7/2022 of 8 April on waste and contaminated soils for a circular economy (LRSCEC, from its Spanish initials), which transposes the aforementioned directive. Whilst the Spanish legal system cannot be said to provide an authentic guarantee of the right to repair, we concur with Sedeño López (2021) that progress has been achieved through provisions promoting circular, repairable and upgradeable products (Article 18.1 a, c, e), requiring repairability information (Article 18.10) and enabling future regulations against premature obsolescence (Article 18.9).

Focusing on strictly fiscal measures, Value Added Tax (VAT) constitutes the most appropriate instrument for achieving this objective. The current VAT regime is harmonised under Council Directive 2006/112/EC, whose Articles 97 et seq. establish applicable tax rates in Member States: alongside the standard rate of no less than 15%, one or two reduced rates of no less than 5% may be applied to the provision of goods and services listed in Annex III of the Directive – though the super-reduced rate below 5%, which applies in Spain and other countries, does not apply in this context. References to used goods or repair and renovation services are scarce, limited to Annex III on medical equipment for the exclusive personal use of the disabled; paragraph 2 of Annex IV relating to "renovation and repairing of private dwellings"; and paragraph 1 of Annex IV, which includes

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"minor repairing of (a) bicycles; (b) shoes and leather goods; (c) clothing and household linen (including mending and alteration)". Since 2022, following the review of VAT rates introduced in Council Directive (EU) 2022/542, applying the reduced rate has become possible; however, we are not aware of any Member State that currently does so (Sedeño López, 2021).

Analysing the differential effects between reduced rates and penalties, we favour reduced rates that guarantee VAT neutrality without limiting the deductibility of VAT paid.

In Spain, the aforementioned reduced rates are applied restrictively, their full potential remaining unexploited. Housing repair services are taxed at 10% (Article 91.One.1.10 of Act 37/1992 of 28 December on Value Added Tax), whilst repair services for vehicles and wheelchairs for persons with reduced mobility bear 4% (Article 91.Two.2.1). However, other repair services not mentioned in said article are subject to the general 21% rate under Article 90. This represents a missed opportunity. We agree with Sedeño López (2021) that "minor repairing of bicycles, shoes and leather goods, clothing and household linen" should be included amongst the services subject to the 10% rate under Article 91.One.2, as permitted by Annex III of Council Directive 2006/112/EC.

Regarding goods supplies, the "Special regime for taxable dealers" applies to used goods sales; insofar as the tax rate applies to profit margins, we understand this favours the circular economy by reducing prices and encouraging consumption of such goods.

In civil transactions between individuals, used goods are subject to the Property Transfer Tax (ITP, from its Spanish initials), though in practice settlements are limited to high-value acquisitions or goods requiring registration. Sedeño López (2021) proposes solutions regarding taxation of different digital platforms for second-hand sales, which would simultaneously incentivise the exchange of used goods. This would involve making ITP liability contingent upon registration on the platform, establishing an exemption threshold below which incidental transactions between private individuals remain untaxed. Provided registration is maintained, the tax would accrue annually and, at each year's end, it would be determined whether the exemption threshold has been exceeded – this threshold should be sufficiently high to avoid discouraging use of such digital platforms. Under the current report requirements of these platforms (López Martínez, 2023), the Tax Administration is informed of the total amounts paid or owed during each quarter by each user, enabling transaction volumes to be determined per taxpayer. Thus, the Administration would acquire valuable information for combating the shadow economy, whilst use of these platforms would be encouraged by removing from fraud listings all those acquiring goods on digital platforms without self-assessing the ITP.

2.2.3. Measures Against Food Waste

According to UN data, 13.2% of food is lost on the way from farm to consumer, whilst an additional 17% is wasted in households, food services and retail. Beyond the economic, social and food security implications of food waste, there exists a direct problem related to greenhouse gas production and inefficient use of energy, labour, water and other environmental resources, as highlighted by Sedeño López (2024b).

Food loss persists throughout the production-to-consumption chain, causing harmful effects with significant economic, social and environmental impact (Pablos Mateos, 2024). Preventing food loss is reflected in target 3 of SDG 12 ("Ensure sustainable consumption and production patterns"), which proposes halving per capita global food waste.

The measures adopted in this sector exemplify legislative initiative within the SDG framework and the CE's incentive-based public policies. Food donation can contribute to reducing food waste; therefore, creating incentives in this direction is necessary to offer alternatives to food destruction or disposal. Pending more concrete measures,[7] action in the fiscal sphere operates through two tax instruments. The first is VAT, recently modified to alleviate the tax burden for donors. The second operates at local level through reductions in public service charges or waste management fees.[8] The measures adopted within these taxes result from the LRSCEC, which includes food donation as a preventive measure against its definitive loss, prioritising donation for human consumption.

2.2.3.1. The Tax Regime for Product Donations in VAT

The VAT reform results from the Commission's recommendation to remove tax barriers hindering food donation, following indications in the 2017 Commission Notice entitled ***EU Guidelines on Food Donation*** (2017/C 361/01). The third final provision of the LRSCEC modifies the VAT legal regime to ensure donors do not bear fiscal costs that might obstruct decisions regarding where to donate food waste.

The reform comprises, firstly, specification of criteria for establishing the VAT tax base when donated goods have experienced value variation due to use or deterioration. It should be noted that these donations involve products that have suffered deterioration – particularly from a commercial perspective – whilst remaining suitable for consumption (Sedeño López, 2024b; Pablos Mateos, 2024). Secondly, a new 0% tax rate is established, whose application must be interpreted broadly – it applies both to products that have undergone deterioration and to new, unused or good-as-new products (Arana Landín, 2024).

Application of both measures requires two conditions to be met. Firstly, there must be a transfer of goods (an objective requirement). Secondly, the donated

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products must be used for general interest purposes as defined in Article 3, paragraph 1 of Act 49/2002 on the Tax Regime of Non-profit Entities and Tax Incentives for Patronage (a purposive requirement). These purposes include environmental protection and support for persons at risk of social exclusion for physical, economic or cultural reasons. The recipient must be a non-profit entity as defined in Article 2 of Act 49/2002.

Two relevant VAT aspects significantly affect this regime. The first concerns self-consumption: under Article 9 of the VAT Act, donations constitute external self-consumption and are therefore subject to taxation rather than exempt. Consequently, the entrepreneur or professional making the donation must bear the corresponding VAT cost. The second relates to tax base determination: rule 3 of Article 79 of the VAT Act establishes that the tax base shall be the value of the goods at the time of delivery. Following recent modification, this provision now presumes that donated goods are impaired, thereby establishing a zero tax base as the appropriate treatment for food donations.

The second measure establishes a 0% tax rate (paragraph two of the third additional provision of Act 7/2022 amending Article 91 of the VAT Act), which reinforces the impairment presumption and consequently the zero basis for VAT.

Whilst both measures succeed in eliminating fiscal barriers that the VAT self-consumption regime entailed for food donation, they have simultaneously generated problems related to tax system coherence. On the one hand, these constitute two repetitive measures – merely considering a zero tax base or applying a zero tax rate would have eliminated taxation. The latter proves more appropriate considering the negative effects that zero tax base determination causes on donation deductions under Personal Income Tax and Corporate Income Tax, as it cancels the deduction base by rendering assets worthless.

Furthermore, in Article 18.1 of the LRSCEC, the legislator exceeds EU recommendations by referring not only to food donation but also, as a separate category, to the donation of certain products such as electrical appliances, textiles and furniture. On the other hand, however, this extension to other product types represents an initiative that is consistent with the circular economy transition project, which must be applied across all possible sectors.

3. Conclusions

Throughout this work, the connection between the SDGs of the 2030 Agenda and the CE model in certain strategic sectors has been analysed, highlighting how these approaches are not only complementary but mutually reinforcing in achieving sustainable development. The CE, with its focus on reducing consumption and promoting reuse and recycling of resources, offers an effective pathway to meeting several SDGs, particularly those related to environmental sustainability, combating climate change and promoting inclusive and sustainable economies.

The transition to a CE can be approached from different perspectives and strategies, ranging from decarbonisation to sustainable production and consumption.

EU economic policies focus on transitioning to a clean and circular energy model; in pursuit of this goal, energy taxation plays a crucial role in the energy transition by incentivising cleaner energy sources whilst taxing those that pollute the most. The European Green Deal, framed within the European Union's climate goals, proposes revising the Energy Taxation Directive to encourage renewable energy use whilst discouraging fossil fuel consumption. However, ensuring a just transition requires balancing the momentum towards decarbonisation with measures protecting the most vulnerable households and sectors, preventing environmental policies from exacerbating inequalities.

Meeting climate targets also necessitates a transition to sustainable transport, especially as regards electromobility. This requires combining technological development with fiscal and financial policies to encourage electric vehicle use, both in terms of acquisition and ownership.

The problem of planned obsolescence represents a significant challenge to environmental and economic sustainability. Promoting product repair and reuse presents one of the most effective strategies for mitigating the ecological impacts of waste and reducing the carbon footprint associated with manufacturing and mass consumption. In this context, tax incentives – such as applying reduced VAT rates on repair services and second-hand goods sales – can serve as powerful tools for encouraging repair over new product purchases.

The global problem of food waste has also been addressed in Europe. Spain's LRSCEC has implemented fiscal measures incentivising food donation in line with the SDGs. The VAT reform facilitates food donation by eliminating the tax burden on the free delivery of food, whilst at the local level, the obligation to pay for waste generation as part of the waste service fee is intended to encourage a reduction in waste production at both domestic and business levels. In this

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regard, a bonus of up to 95% is established for companies in the food sector. However, since its application is voluntary, it depends on municipal decisions and could generate disparity in its implementation.

These measures exemplify current trends in Spain towards a transition to a circular economy, following European guidelines and perfectly aligned with the 2030 Agenda. Therefore, integrating the CE into public policies, supported by appropriate fiscal incentives, proves an effective strategy for meeting the SDGs and advancing towards an economic model that promotes social welfare, economic growth and environmental protection.

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Notes

1 Commission Notice COM (2021) 550 final.

2 This regulatory framework is completed by Regulation (EU) 2023/851 of April 2023, which prohibits the sale of new vehicles with internal combustion engines from 2035.

3 These constitute one of three mechanisms through which public administrations can access European funds (Sedeño López, 2024a).

4 Royal Decree-Law 3/2025 of 1 April, establishing the programme of incentives linked to electric mobility (MOVES III) for 2025 (*Official State Gazette* of 1 April). This plan will subsequently be replaced by the "Spain Auto 2030 Plan" for 2026, presented on 3 December (https://www.lamoncloa.gob.es/lang/en/presidente/news/Paginas/2025/20251203-spain-auto-2030-plan.aspx).

5 We are aware that other Personal Income Tax deductions exist for vehicles provided as benefits in kind, which predate Spain's Recovery, Transformation and Resilience Plan (PRTR).

6 There are two broad categories of planned obsolescence: objective and subjective (Ruiz Malbarez and Romero González, 2011). Whilst objective obsolescence is based on the inherent characteristics of the product, subjective obsolescence is linked to marketing techniques and the creation of perceived needs, leading consumers to regard a product as obsolete (psychological obsolescence).

7 The Draft Prevention of Food Losses and Waste Bill is currently under consideration, aiming to ensure SDG compliance, reduce food loss through proper food management and promote the circular economy.

8 Due to space constraints, further examination of this issue is beyond the scope of this paper.