Environment Tax Law to Save the Planet?

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Abstract

The EU and Member States of the EU have introduced a number of new fiscal policy measures aimed to combat climate change in the past three years and will introduce more in the coming three years, including but not limited to (national) carbon taxes, airport taxes, plastic taxes, and likely a carbon border adjustment tax and taxation of aircraft fuels. To what extent can measures of fiscal nature standalone aid in preventing climate change in the EU by changing producer's or consumer's behaviour? Or in other words: could Environmental Tax Law Save the Planet?

Keywords: environmental taxes, carbon taxes, airport taxes, plastic taxes.

1 Introduction

The European Union (EU) and Member States of the EU have introduced a number of new fiscal policy measures aimed to combat climate change in the past three years and will introduce more in the coming three years, including but not limited to (national) carbon taxes, air passenger taxes, plastic taxes, and likely a carbon border adjustment tax and taxation of aircraft fuels. For taxes introduced in the past three years, in this article, the author reviews what behavioural changes can be identified as a consequence of the fiscal policy measures introduced in the past three years – effective, ineffective, side effects or evasion – and identifies what factors of the tax structure of these new measures – e.g. taxable person, rates, exemptions – are likely to have contributed to these effects. Combined with a view beyond borders – examples from other parts of the world and if need be, in other fields – the author assesses to what extent the currently proposed measures are expected to have effect, and what type of effects are expected – e.g. effective, ineffective, side effects or evasion. The author concludes whether and under what conditions fiscal policy could help in changing either producer or consumer behaviour, or perhaps both, in the light of preventing climate change and whether and under what conditions fiscal policy could be successful standalone or should ideally be assisted by other (non-fiscal) measures in order to be more effective. To what extent can measures of fiscal nature standalone aid in preventing climate change in the EU by changing producer's or consumer's behaviour? Or in other words: *could Environmental Tax Law Save the Planet?*

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2 Recent Developments and Article Scope

2.1 Recent Developments in EU Environmental Tax Law

The EU and Member States of the EU have introduced a number of new fiscal policy measures aimed to combat climate change in recent years and will introduce more in the coming years, including but not limited to (domestic) carbon taxes, airport/air passenger taxes,[1] plastic taxes,[2] and potentially a carbon border adjustment mechanism (CBAM)[3] and taxation of aircraft fuels.[4] Not all of these initiatives are part of the EU Green Deal,[5] but all are considered or implemented with an aim to overcome climate change and environmental degradation within their own area of existential threats.

In this first paragraph, three measures are discussed in more detail: the EU CBAM, the Dutch air passenger tax and the Spanish excise tax on single-use plastic packaging materials. These measures are selected and considered for a further detailed review for the following reasons:

- Each measure aims to overcome climate change or environmental degradation, however,
- in different fields of play, meaning reduction in carbon emissions (CBAM), reduction in fossil fuel use (air passenger tax) and reduction in (single-use and/or virgin) plastic packaging materials (plastic packaging tax or PPT);

1 For example the Dutch air passenger tax that was (re)introduced as of 1 January 2021: www.belastingdienst.nl/wps/wcm/connect/bldcontenten/belastingdienst/business/air-passenger-tax/dutch-air-passenger-tax/dutch-air-passenger-tax.

2 For example an excise duty on single use plastic packaging materials as entered into force in Spain as per 1 January 2023: https://sede.agenciatributaria.gob.es/Sede/en_gb/impuestos-especiales-medioambientales/impuesto-especial-sobre-envases-plastico-reutilizables.html.

3 For example, the proposal for an EU Carbon Border Adjustment Mechanism: Proposal for a Regulation of the European Parliament and of the Council establishing a carbon border adjustment mechanism, 14 July 2021, COM(2021)564 final.

4 As part of the EU Green Deal, proposals were drafted to subject (certain) aircraft fuels to standard levels of taxation currently applicable to motor fuels and electricity in gradual increments for 10 years: Proposal for a Council Directive restructuring the Union framework for the taxation of energy products and electricity, 14 July 2021, COM(2021)563 final.

5 See: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en.

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- All measures are bound by international law, Union law and international and Union principles, albeit,
- The specific rules and restrictions vary depending on the legislator, as the Spanish (plastic) and Dutch (air passengers) legislators are bound by additional/different rules than the Union legislator (CBAM);
- Each measures aims to 'nudge' – either consumers or businesses – towards better climate or environmental behaviour, by either attempting to increase consumer pricing, to increase costs for businesses or to increase the compliance burden for businesses when associated with unpreferred climate/environmental options (i.e. emit less carbon, use less plastic, fly less, or pay more);
- All measures have entered into force or are expected to enter into force between 2019 and 2025.[6]

2.2 Article Scope

Following a descriptive introduction of the respective measures and considering the aforementioned similarities and differences, the identified (if available) and potential or expected effects are compared to the proclaimed objective of the measure in order to establish the effectiveness of the measure. In particular, this article will focus on imminent risks that the legislation or its scope may cause tax subjects to respond to it in a way other than initially intended by the legislative objectives. Such responses can be distinguished as 'avoidance' or 'evasion'. For the purpose of this article, avoidance is considered to be a legally permitted response, that includes behaviour aimed at reducing the tax burden by other means than envisaged to reduce environmental damage. Evasion, including tax fraud, is considered the illegitimate equivalence of avoidance and therefore this will not be discussed further in this article. For each measure, specific design elements that may either contribute to or oppose/complicate meeting the proclaimed objective of the measure will be highlighted and analysed. The article will conclude to what extent the current legislative structures could contribute to the reduction in environmental damage and where required, improvements are suggested.

When discussing the proclaimed or published objectives, it is important to remember that all tax measures, by nature, already have a dual objective. Next to potentially preserving, protecting or improving the quality of the environment, tax measures always have a side-objective of collecting state revenue in order to cover collective expenditure. Most tax legislation, however, that is proclaimed as an environmental tax is not aimed at maximising state revenue. Referencing the examples to be discussed in this article, the scope of CBAM is limited and state revenue maximisation would have had CBAM applied to all imported goods and not to a designated few. The scope of Dutch air passenger tax is again limited as it does not include transferring passengers and furthermore, compared to the overall ticket pricing, the tax rate is rather low (even following the increase in the rates per 1 January 2023). And finally, the scope of Spanish excise tax on single-use plastic packaging materials is limited to single use and plastic and also, the tax rate is rather low. As such, it is considered highly unlikely that many factors of these taxes are designed in order to maximise state (or in case of CBAM: EU) revenues. For the purposes of this article, state revenue is therefore not considered a 'main' objective of the measures introduced or proposed.

At the same time, even if only a side-objective, a state revenue objective is by nature conflicting an environmental objective. That is, as and when environmental tax law is successful, environmental damage may reduce, but so will the state revenue associated with the previously 'taxed' harmful activities. This is referred to as the 'excise paradox', and the reason why an environmental objective and a state revenue objective can never coexist as main objectives for the same tax legislative measure.

2.3 EU Carbon Border Adjustment Mechanism

2.3.1 Introduction

As part of the COVID-19 recovery plans[7] of the EU, the European Commission has published a proposal[8] to introduce a CBAM. This mechanism requires importers of designated basic materials to buy carbon certificates upon import into the EU, compensating for the greenhouse gas emission that is associated with the production of these materials outside the EU. CBAM should create a level playing field for non-EU manufacturers and EU manufacturers, provided that the latter would have to compensate their greenhouse gas emissions in the EU by way of purchasing certificates in the EU Emission Trading System (ETS). For a comprehensive and detailed overview of the CBAM proposal, reference is made to Schippers and De Wit.[9]

2.3.2 Scope and Tax Structure

Prior to the draft CBAM proposal, six different CBAM design options were assessed against a dynamic framework, including World Trade Organization (WTO) law and international commitments. These six design options included:

- Introduction of an import carbon tax, based on the EU price of carbon and a default carbon intensity of the products.
- Introduction of a system similar and parallel to EU ETS on imports, based on default carbon values.
- Introduction of a system similar and parallel to EU ETS on imports, based on actual carbon values (this is now included in the CBAM proposal).

6 This period is considered to be approximately three years back and three years forward, as of the moment this article was initiated.

7 Conclusions of the European Council, 17-21 July 2020 (COVID-19 recovery plan and multiannual financial framework 2021-2027), EUCO 10/20.

8 Proposal for a Regulation of the European Parliament and of the Council establishing a carbon border adjustment mechanism, 14 July 2021, COM(2021)564 final.

9 M.L. Schippers and W. de Wit, 'Proposal for a Carbon Border Adjustment Mechanism', 2022, 17(I) *Global Trade and Customs Journal* 10.

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- Introduction of a system similar and parallel to EU ETS on imports, based on actual carbon values, but with a 10-year phased transitional period, allowing gradually decreasing free allocations.
- Introduction of a system similar and parallel to EU ETS on imports, based on actual carbon values throughout the value chain, i.e. also including carbon-intensive materials used to produce semi-finished and finished products.
- Introduction of an excise duty on carbon-intensive materials, covering both domestic and imported products.

The third option outlined above was converted into the CBAM proposal. Based on that proposal, the CBAM is payable by way of the purchasing of CBAM certificates that are reflecting the greenhouse gas emissions embedded in the materials imported. The certificates have to be surrendered by the authorised declarant, i.e. the person or entity in whose name the customs declaration is lodged. According to Article 5(3)(d) of the CBAM proposal, the authorised declarant is required to request authorisation in the Member State in which it is established, implying that the declarant is required to be established in the EU. This would also be parallel to the requirement for the declarant to be established in the EU in parallel according to the Union Customs Code (UCC). The taxable event is the importation into free circulation of designated goods, according to Article 4 of the CBAM proposal, and the goods and their respective CN codes are included in Annex I. The goods are limited to rather primary forms of cement, iron, steel and aluminium, fertilisers and electrical energy. Upon import of these goods, classified under these CN codes, the authorised declarant must surrender CBAM certificates equal to the greenhouse gas emissions embedded in the goods imported, i.e. the greenhouse gas emissions released during the production of the respective imported goods. For goods that originate in Iceland, Liechtenstein, Norway, Switzerland, Büsingen, Heligoland, Livigno, Ceuta and Melilla, no CBAM certificates would have to be surrendered. These are countries that are linked to the EU ETS and therefore exempt from CBAM. Future countries (partially) exempt from CBAM may be added in future, should these countries develop a system similar to EU ETS or also be linked to EU ETS.

2.3.3 Targeted Climate Change

Both the CBAM proposal and the Explanatory Memorandum[10] refer to the legal basis of CBAM to be Article 192(1) of the Treaty of the Functioning of the European Union (TFEU). Article 192(2) TFEU forms a derogation from the decision-making procedure provided for in paragraph 1 and applies to provisions primarily of a fiscal nature. This implies that the CBAM proposal was not considered to be a measure primarily of a fiscal nature by the European Commission but was actually presented as part of a policy with an objective to preserve, protect and improve the quality of the environment, or to promote measures at the international level to deal with regional or worldwide environmental problems, and in particular to combat climate change as per Article 191(1) TFEU.

In the absence of its legal basis, the CBAM cannot exist. That also means that its effects should contribute to meet one or more of the environmental objectives outlined in Article 191(1) TFEU. A detailed reading of the explanatory memorandum however uncovers a number of other objectives than those merely aimed at preventing environmental damage. A couple of examples are discussed in Section 2.3.4.

The press corner of the European Commission provides for a brief FAQ[11] on why the CBAM is proposed, what CBAM is and how it will work in practice. In that press corner, it is explained that CBAM will ensure equal treatment for products made in the EU and imports from elsewhere and avoid carbon leakage, by ensuring that importers pay the same carbon price as domestic producers under the EU ETS. That suggested impact does not appear to have a mainly environmental objective, but moreover an equality or 'fair play' objective. While EU legislation would have to honour the fair play principle, it has historically not served as a side-objective to introduce new legislation, up to the introduction of CBAM now. For legislation with more than one objective generally it is more difficult to pass the effectiveness test, as these objectives may not always be served by the same choices in (tax) structure or in scope. The suggested scope for CBAM is a very good example thereof, as that scope intends to simulate that the products manufactured by non-EU producers attract the same amount of carbon costs as the EU producers would owe under EU ETS. While, at the same time, that limited scope may not provide for sufficient 'nudging' to actually reduce carbon emissions on a global level, as the evasion opportunities are easy to achieve – perhaps easier than collecting relevant data on embedded carbon emissions.

2.3.4 Limited Initial Scope of Materials and Production Levels

As outlined above, the scope of CBAM is limited to the goods and their respective CN codes as listed in Annex I. According to the considerations, these goods were carefully selected based on an analysis including their relevance in terms of cumulated greenhouse gas emissions, risk of carbon leakage in the corresponding ETS sectors, while limiting complexity and administrative burden. In particular, the actual selection considers basic materials and basic products covered by the EU ETS. The scope of EU ETS has been ruled on by the European Court of Justice (ECJ), upon objection by certain industries, claiming that the principle of equal treatment was infringed by the selection of the sectors included in and excluded

10 Explanatory Memorandum to the Proposal for a Regulation of the European Parliament and of the Council establishing a carbon border adjustment mechanism, 14 July 2021, COM(2021)564 final.

11 See: https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_3661.

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from EU ETS.[12] The ECJ ruled however that the margin of appreciation that Member states have is bound by Union law, including the principle of equal treatment. That means that in the selection of sectors in and outside the scope of EU ETS, it must consider objective criteria based on technical and scientific information. In the *Société Arcelor Atlantique* case, the ECJ acknowledges differences between the chemical sector and the non-ferrous metal sector and has found these sufficient to conclude that the principle of equal treatment was not infringed, as it simply concerned unequal sectors – albeit both contribute to greenhouse gas emissions in their own way. Similar considerations can now be found in the impact assessment done for the CBAM proposal, including for example the statement that

> the fact that a CBAM is initially introduced on imports of a few basic materials and basic material products results in large businesses being the main impacted ones. Therefore, the practical impact of import related measures would have little practical impact on SMEs, even though that impact would be relatively higher than for large businesses if compared on the amount imported.[13]

Whether this limited scope of materials and production levels would contribute to less damage to the environment by way of reduction in carbon emissions, rather than evasion and carbon leakage, remains to be confirmed. That answer can only be provided after changes in production locations, production levels and import levels before and after the introduction of CBAM have been monitored. What is clear upfront is that any limited scope that does not cover all goods may cause non-EU manufacturers or EU-authorised declarants to respond to the introduction of CBAM in the way other than initially intended. There are a couple of responses that are imaginable:

- Source materials from locations not in the scope of CBAM, i.e. within the EU or Norway or Switzerland. Considering the base level of materials in the scope of CBAM (see below), this option is limited to the domestic production capacities of these materials and eventually, the level of natural mining resources available in these countries.
- Import materials into the EU at a different production level, i.e. in the case of CBAM, mostly at a more advanced production level. This option may cause (primary) production to relocate from locations inside the EU to locations outside the EU and may therefore not necessarily reduce but merely relocate carbon emissions. This is generally referred to as 'carbon leakage' and may apply to a broad scope of situations. For example, iron and steel products are only included in the scope of CBAM up to subheading 7311, while Chapter 73 continues to subheading 7326, including goods like stranded or barbed wire, robes and cables, metal cloth, netting, fencing, chains, anchors, nails, screws, bolts, springs, stoves, radiators and anything further processed than subheadings 7301 to 7311. As according to the proposal, only direct emissions are required to be reported and compensated, an EU-authorised declarant may be inclined to request non-EU manufacturers to supply at a later production stage (i.e. tubes and pipes rather than sheets, for example), if possible, even up to the point that the respective production level is outside the scope of CBAM (subheading 7312 and beyond). As a result, the limited scope of materials included in the CBAM proposal may not necessarily lead to the overall reduction in greenhouse gas emissions, but moreover to shift in manufacturing from inside the EU to locations outside of the EU – at least until such other locations look into taking carbon measures too.
- Replace materials in the scope of CBAM with materials not in the scope of CBAM. This option is highly dependent on replacement suitability of the specific materials within the specific production process and therefore expectedly limitedly applicable.
- Interchange imports with existing 'green' production equivalents. For example, if a multinational company has production facilities in the United States of America (US) as well as Canada to cater both the North American and the EU market. The Canadian facility has significantly higher carbon emission footprints compared with the US facility. The Canadian facility currently serves the EU market due to the Canada-EU Free Trade Agreement (FTA), while the US facility currently serves the US and other Northern America markets. In this example, depending on the value of the loss of the Canadian FTA benefits, the manufacturer may consider supplying the EU market from its green(er) US facility and supplying the US market from its grey(er) Canadian facility, instead of investing in production with lesser carbon emissions in Canada. As a result, the net global emissions will remain similar than prior to the introduction of CBAM.

2.4 Dutch Air Passenger Tax

2.4.1 Introduction

As part of a national strategy ahead of the Fit-for-55 package, the Netherlands has introduced a national air passenger tax (translated as 'fly tax') as of 1 January 2021.

Member States of the EU are allowed to introduce other indirect taxes than those included in the Recast Horizontal Directive,[14] governing EU excise duty on alcohol, tobacco, mineral oils and energy, as well as the VAT Di-

12 ECJ 16 December 2008, C-127/07 (Société Arcelor Atlantique et Lorraine), ECLI:EU:C:2008:728.

13 Explanatory Memorandum to the Proposal for a Regulation of the European Parliament and of the Council establishing a carbon border adjustment mechanism, 14 July 2021, COM(2021)564 final, under 'Regulatory fitness and simplification'.

14 Council Directive (EU) 2020/262 of 19 December 2019 laying down the general arrangements for excise duty (recast), OJ 2020, L 58, p. 4.

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rective,[15] governing EU VAT. Member States are however not allowed to introduce (domestic) indirect taxes that apply to excise goods that are exempt under the Recast Horizontal Directive, also if these indirect taxes apply *indirectly*.

An example of an indirectly levied excise duty can be found in the Braathens case.[16] This Swedish national environmental protection tax was calculated on the fuel consumption and emissions of hydrocarbons and nitric oxide. The calculation of the emissions was done on the basis of the average fuel consumption and corresponding emissions of hydrocarbons and nitric oxide from the type of aircraft used on an average flight. This was found to be the most accurate method to approximate the actual polluting substances emitted by aircrafts taking off. However, the ECJ ruled that based on the characteristics of the tax and the tax structure, this tax must be regarded as levied on the consumption of fuel itself, albeit indirectly. Consequently, the Swedish national environmental protection tax is charged on products which must be exempt[17] from excise duty based on the Recast Horizontal Directive, and therefore not allowed.

The Dutch air passenger tax is not based on average emissions caused by the take-off of different aircraft types, but as per the below tax structure it is levied as a 'ticket tax', i.e. applicable only on passenger airline tickets that have Schiphol as their departing airport. It can therefore likely not be linked, also not indirectly, to the consumption of fuel itself and should therefore, contrary to the Swedish national environmental protection tax, be allowed based on the Recast Horizontal Directive. The same has however not be the subject of a preliminary ruling for the ECJ to decide upon (yet).

2.4.2 Scope and Tax Structure

The Dutch air passenger tax law is included in the existing Dutch law for 'taxes with an environmental base', that already includes tap water tax, waste tax, coal tax, energy tax and the Dutch carbon tax. It is short and only encompasses eight articles, from Article 72 to Article 79. Dutch air passenger tax is payable by the *airport operator*, e.g. Schiphol, and includes an obligation for airlines to report to the airport operator what flights with how many passengers have departed from Schiphol in order to allow calculation of the tax. From the explanatory memorandum[18] of the (amendment to the) law, it is also clear that it is the expectation that the tax is charged onwards from the airport operator to the airlines and from the airlines to the passengers (see below). The taxable event is the departure of a passenger on an airplane from an airport situated in the Netherlands. Most transit passengers (leaving the Dutch airport as part of the second or more leg of their journey) as well as all passengers below the age of two years and all onboard crew members are exempt from Dutch air passenger tax. The tax rate amounts to EUR 7,947 per in scope passenger, albeit the Dutch Parliament is currently debating an increase to approximately EUR 24 as per 1 January 2023. A motion to remove the exemption for transit passengers and instead introduce an exemption for each first flight (i.e. holiday flight) from the Netherlands, in an attempt to tax frequent (business) travellers.[19] Article 79(2) of the Dutch Environmental Tax Law provides for an obligation of the airline to pay any air passenger tax that is charged by the airport operator to the respective airline, to the extent the same amount is due by the airport to the Dutch Tax Authorities.

2.4.3 Targeted Climate Change

As outlined above, the Dutch Environmental Tax Law includes an obligation for the airline to 'reimburse' the air passenger tax to the airport operator.[20] While this does not entail an obligation for the airport operator to actually recharge the Dutch air passenger tax to airlines, and also not an obligation to charge all airlines, it is likely that in practice the Dutch air passenger tax will be rolled off from the airport operator to the airlines. The law does not include an obligation for the airlines to subsequently roll the Dutch air passenger tax off on their passengers, and also not to roll it off on the passengers whose departure is actually subject to air passenger tax. It is however presumed in the explanatory memorandum that the airlines do roll off these costs to the passengers. See below under 'rolling off and price impact'.

One of the most important objectives to introduce an air passenger tax as deriving from the explanatory memorandum is to increase the price of airline tickets and accordingly provide a competitive advantage to the prices of international train and bus tickets. A secondary objective is the compensation of environmental costs into the cost of an airline ticket, in the absence of excise duty on kerosene or VAT on international passenger transport. The current rate of air passenger tax does however not provide for a full compensation, but that has also not been an objective of the Dutch Parliament – mainly due to border effects expected from airports located close by. See below under 'proximity of alternative airports'. The difference between these two objectives – increasing airline tickets prices to provide for a competitive advantages to alternative transportation methods on the one hand, and compensation of environmental damage on the other, is very important for the justification of an air passenger tax as well as its tax structure and exemptions.

15 Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax, OJ 2006, L 347, p. 1.

16 ECJ 10 June 1999, C-346/97 (Braathens), ECLI:EU:C:1999:291.

17 Art. 14(1)(b) of the Energy Directive and deriving from the International Civil Aviation Organization (ICAO) Convention, Doc 7300/9; www.icao.int/publications/Documents/7300_9ed.pdf.

18 Parliamentary Documents (Kamerstukken) II 2018-2019, 35 205, no. 3, consultable in Dutch language only: https://zoek.officielebekendmakingen.nl/kst-35205-3.html.

19 Parliamentary Documents (Kamerstukken) II 2021-2022, 21 501-07, no. 1844, consultable in Dutch language only: www.tweedekamer.nl/debat_en_vergadering/plenaire_vergaderingen/details/activiteit?id=2022A02813.

20 Art. 79(2) of the Dutch Environmental Tax Law.

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Table 1 *Overview of ticket prices and travel details for different means of transport for travel from Amsterdam, Netherlands to London, United Kingdom*

From/to	To/from	Stops	Travel time	Transport mode	Ticket price
Amsterdam AMS	London LHR	0	1 h 20	Air (KLM)	EUR 182
Amsterdam CS – Brussels BRU	London LHR	5	10 h 37	Train & Air (AccesRail / Brussels Airlines)	EUR 147
Amsterdam CS	London St Pancras	1	4 h 42	Train (NS International / Thalys)	EUR 351
Amsterdam AMS	London City Centre	1	13 h 15	Bus (Flixbus)	EUR 66

Sources: https://www.google.com/travel/flights, www.nsinternational.com and shop.flixbus.nl; all economy or second class rates.

In light of compensation of environmental damage alone, it does not really matter what airline tickets would be exempt from air passenger tax. For example, the current exemption for transit passengers does not fit into that objective, as firstly transit passengers contribute to environmental damage in a way similar to non-transit passengers (i.e. boarding the same airplane, leaving the same airport), and secondly, compensation of that damage can be owed by anyone: the airport, the airline, the passengers or the companies using airfreight services on the same flight. Who eventually pays for the air passenger tax is however a lot more important in light of the price competition objective. In order to achieve that objective, it is important for the *right* ticket prices to actually increase, i.e. those for which passenger based on price can actually choose a different transportation mode. Either or both of the objectives will be discussed by way of the following practical examples.

2.4.4 Rolling Off and Pricing Impact

As outlined above, the Dutch Environmental Tax Law does neither include an obligation for the airport to roll off the Dutch air passenger tax on airlines nor for airlines to subsequently roll the Dutch air passenger tax off on their passengers, and also not to roll it off on the passengers whose departure is actually subject to air passenger tax. Tax, including air passenger tax, must be considered as part of the costs that companies can choose to absorb in their margin, compensate by an increased margin or reduce as much as possible. Provided that the airport operator is the taxable person and the airline responsible for the taxable event, there is a wide array of possibilities for the air passenger tax to be rolled off onto, other than the ticket prices it would be intended to increase.

Currently, the High Speed Rail Network of Europe connects the Netherlands with specific destinations in Austria, Belgium, Czech Republic, Denmark, France, Germany, Hungary, Italy, Portugal, Spain, Sweden, Switzerland and the United Kingdom. That means that, in order to have the best possible effect, airline ticket prices should increase (significantly) in particular to destinations close to those in reach of an international train station (e.g. Copenhagen, London and Frankfurt). As the current air passenger tax is rather low in terms of rates, and does not distinguish on the basis of these destinations and/or competition of alternatives, it is no surprise that officials and newspapers are reporting that effects of the introduction of the Dutch air passenger tax – in terms of a decreased demand for airline tickets – has so far not been identified.[21]

In order to reflect current price differences and by consulting Google Flights and train and bus operator websites, Table 1 is drafted for a trip from Amsterdam to London on 20 May 2022, and from London to Amsterdam on 21 May 2022.

It is clear from this overview that passengers that are looking for cheaper prices to travel relatively short distances within Europe would have to make significant concessions on travel times that do not appear relative to the price payable. Furthermore, lengthening the transport chain by combining rail and air transport seems to slightly reduce the price, while technically increasing carbon emissions even more. That is completely out of line with the objective to have an air passenger tax provide for a (negative) price incentive to encourage alternative transport modes, and correspondingly also out of line with the objective to compensate environmental damage in the price of any ticket.

The debated increase in the air passenger tax from EUR 7,947 to EUR 24 is expectedly not going to make much of a difference as this would merely increase the above first line item's price from EUR 182 to approximately EUR 198, expectedly not changing the behaviour of passengers wanting to travel from Amsterdam to London and back in response. As and where that price would closely be approximate or be significantly more expensive than the option by train is when passengers may start to consider spending close to 5 hours in a train rather than an hour and a half in an aircraft, more specifically as the latter would have to be increased with the time that passengers are advised to arrive prior to their flight departure time, which in case of European flights in normal circumstances is 2 hours.

21 See, consultable in Dutch language: www.taxlive.nl/nl/documenten/nieuws/vliegbelasting-waarschijnlijk-naar-24-euro-per-vlucht/#:~:text=Hierdoor%20kunnen%20sommige%20reizigers%20afzien,Financi%C3%ABn)%20aan%20de%20Tweede%20Kamer.

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Table 2 *Overview of ticket prices and travel details for air travel from different approximating airports in Europe to London, Heathrow, United Kingdom*

From/to	To/from	Stops	Travel time	Proximity to AMS	Ticket price
Amsterdam AMS	London LHR	0	1 h 20	0 km	EUR 182
Brussels BRU	London LHR	0	1 h 20	203 km / 2 h 01	EUR 161
Frankfurt FRA	London LHR	0	1 h 50	437 km / 4 h 22	EUR 194
Paris CDG	London LHR	0	1 h 20	485 km / 4 h 52	EUR 164

Sources: https://www.google.com/travel/flights and www.googlemaps.com, based on travel times to AMS by car with none to light traffic and economy fares.

2.4.5 Proximity of Alternative Airports, Foreign Air Passenger Taxes and Pricing Impact

The explanatory memorandum also refers, albeit briefly, the risk that Dutch passengers will choose to depart from other airports outside but in countries neighbouring the Netherlands. The risk is described as expectedly lower than during the course of the former Dutch air passenger tax, that lasted from 1 July 2008 to 1 January 2010, considering that Germany has in the meantime also introduced an aviation tax. Belgium has recently introduced[22] an airline ticket tax, as per 1 April 2022 and hence not at the time of writing of the explanatory memorandum to the Dutch air passenger tax. The Belgian airline ticket tax is EUR 10 for all flights below 500 km, EUR 2 for all other (longer) flights with a European (EU, EER, UK and Switzerland) destination and EUR 4 for all flights with a destination outside Europe. The 500 km range would affect flights to Amsterdam, Frankfurt, Paris and London. The German aviation tax also differentiates the rate depending on destinations in three tiers amounting to EUR 12,77, EUR 32,35 and EUR 58,23 per passenger. The French air passenger tax also differentiates the rate depending on destinations in three tiers, amounting to EUR 5,70 to 7,95, EUR 10,80 and EUR 14,00 per passenger. A map reflecting other neighbouring countries and whether they have introduced or used to have an airport, air passenger or airline ticket tax is included in the explanatory memorandum and also included below.

Based on the aforementioned ticket tax prices, it could be reasonably expected that airline ticket prices to, again, London Heathrow would not vary greatly between the different departure locations in each of the countries that have introduced an airport or airline ticket tax. Table 2 reflects ticket prices and travel times again for a trip to London on 20 May 2022, and from London on 21 May 2022.

22 See, consultable in Dutch and French language: www.stradalex.com/nl/sl_news/document/sl_news_article20220331-2-nl.

Table 3 *Overview of ticket prices and travel details for air travel from different approximating airports in Europe to New York, United States of America*

From/to	To/from	Stops	Travel time	Proximity to AMS	Ticket price
Amsterdam AMS	New York JFK	0	8 h 05	0 km	EUR 2,797
Brussels BRU	New York JFK	0	8 h 20	203 km / 2 h 01	EUR 1,047
Frankfurt FRA	New York JFK	0	8 h 45	437 km / 4 h 22	EUR 918
Paris CDG	New York JFK	0	8 h 10	485 km / 4 h 52	EUR 2,403

Sources: https://www.google.com/travel/flights and www.googlemaps.com, based on travel times to AMS by car with none to light traffic and economy fares.

While the expectation is supported by the ticket prices, it does not completely match with the air passenger tax rates outlined above. For example, the Belgian airline ticket tax is approximately 2 euros more per passenger than the Dutch air passenger tax, but the ticket to London is 21 euros less expensive for passengers flying from Brussels.

Contrary to the table comparing train and air transport above, the price differences in the above table comparing departure from proximity airports are not likely to provide sufficient incentives for Dutch passengers to departure from an airport outside the Netherlands. The same cannot be concluded if the comparison is however done for travel to New York, United States. Table 3 reflects ticket prices for a trip to New York on 20 May 2022, and from New York on 21 May 2022, without layovers. These prices can in no way be related to the airport or airline ticket tax rates applicable in each country of departure, and therefore it is also clear that airline ticket prices – at least long distance, but also shorter distance – are based on many other factors than airport or airline ticket tax rates alone. Also, based on this comparison, it is significantly more likely that Dutch passengers would travel to Frankfurt to depart to New York from there for a third of the ticket price of a flight from Amsterdam, provided the travel time concession is made and not taking into account fuel costs to drive to and from Frankfort airport.

While concluding that the tax rate differentiation that is applied by Belgium is in line with the objective to have an air passenger tax provide for a (negative) price incentive to encourage alternative transport modes for short distance, and the tax rate differentiation that is applied by Germany and France is in line with the objective to compensate environmental damage in the price of any ticket, the overall airline ticket prices are based on other factors and costs as well. Therefore, all current rates of airport and airline ticket taxes applicable in the Netherlands, Belgium, France and Germany do not meet the objectives of providing for a price incentive to steer passenger behaviour towards more environmentally friendly travels – in some cases even the opposite.

2.4.6 Airport Slot Retention

During the course of the COVID-19 pandemic, many newspapers[23] reported on the 'ghost flights', i.e. empty flights that would depart from, particularly German, airports completely or near-empty.

The reason for departure would be suggested to the Slots Allocation Regulation.[24] This Regulation, more in particular Article 10(5), prescribes that where airlines are unable to demonstrate 80% usage of the series of slots allocated to them, all the slots allocated to that airline would be placed back in the slot pool and thereby become available to (all) other airlines. The European Commission reportedly reduced the allocated slot usage threshold to 50% in January 2022.[25] If an airline rather chooses to have an aircraft depart (near-)empty than to lose its allocated slots, the value of retention of allocated slots is apparently of such a significant importance that it should be considered while evaluating existing or future (tax) measures to reduce or compensate environmental damage caused by departing aircrafts.

2.5 Spanish Plastic Tax

2.5.1 Introduction

As per 1 January 2023, Spain introduced a PPT that is aimed at providing businesses a financial incentive to use recycled plastic materials in the manufacturing of plastic packaging that is used to bring goods to the Spanish market.

Member States of the EU are allowed to introduce other indirect taxes than those included in the Recast Horizontal Directive (see Section 2.4.1 above). The Spanish PPT is not considered to (indirectly) apply to excise goods that are exempt under the Recast Horizontal Directive. Furthermore, the tax is not understood to give rise to EU border formalities, and therefore considered allowed based on the Recast Horizontal Directive.

23 For example: www.theguardian.com/environment/2022/jan/26/airlines-flying-near-empty-ghost-flights-to-retain-eu-airport-slots.

24 Council Regulation (EEC) No 95/93 of 18 January 1993 on common rules for the allocation of slots at Community airports, OJ 1993, L 14, p. 1.

25 See, consultable in Dutch language: www.europa-nu.nl/id/vlpdl8izbty8/nieuws/luchthavens_geen_noodzaak_om_met_lege?ctx=vg9pkzu1yryd&s0e=vhdubxdwqrzw.

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2.5.2 Scope and Tax Structure

The Spanish PPT is introduced by way of Law 7/2022 on Waste and Contaminated Soils (PPT Law) and its corresponding implementing regulations. The tax is payable by either the importer of plastic packaging materials in scope, by the acquirer of these goods when shipped from other EU countries or by the Spanish manufacturer. The taxable event is correspondingly either the import of in scope materials, the acquisition thereof when shipped from another EU country or upon the first supply to the purchaser in Spain. The rate amounts to EUR 0.45 per kilogram plastic material (by weight). Exemptions apply to the amount of plastic materials that is considered recycled (as per UNE-EN 15343:2008), plastic packaging used in the medical industry, plastic packaging components that are exported out of Spain, some designated plastic used in the agricultural sector and to any acquisitions or purchased that are destroyed, no longer suitable for use or returned for reuse or recycling. Furthermore, a registration threshold of 5 kilograms of plastic packaging per month applies to the intra-EU acquisition or imports. Importers or acquirers that remain below that threshold are not required to register for PPT, but they are however required to retain records allowing to prove that the threshold was not exceeded.

2.5.3 Targeted Climate Change

In the preamble of the PPT Law, reference is made to the first objective being 'to minimise the negative effects of waste generation and management on human health and the environment' – climate change and marine litter in particular. Furthermore, the policy must also aim to 'make efficient use of resources' in line with principles governing the circular economy. Particular references are made to Sustainable Development Goals number 12 (sustainable production and consumption), 13 (climate action) and 14 (life below water). The remainder of the preamble is extensive and refers to a number of specific goals in the light of the introduction of PPT, including 'to prevent waste' and 'to encourage the recycling of plastic products'. All objectives reviewed together can be summarised as:

- Prevent (plastic) waste, in particular those often found in waters/oceans.
- Internalise costs of recycling or cleaning (plastic) waste.
- Encourage recycling initiatives.

The PPT Law is understood to transpose both Directive (EU) 2018/851[26] (on extended producer responsibility) and Directive (EU) 2019/904[27] (on single-use plastics) into domestic legislation. With respect to the Single Use Plastics (SUP) Directive, Spain is one of the few countries, if not currently the only country, that has converted the associated obligations into an excise tax. The Spanish tax authorities are expecting the annual revenue from PPT to amount to EUR 780 million. Spain expectedly owes approximately EUR 528 million to the EU budget in the light of the EU plastic levy that was introduced in 2021.[28] The coverage of the expenditure to the EU budget is however not referenced by the preamble of the PPT Law as an objective to introduce a PPT nor to convert SUP Directive obligations into an excise tax.

2.5.4 Recycled (Non-Virgin) vs. Recyclable (Single Use)

The Spanish PPT basically provides for an exemption for recycled plastic materials and for plastic packaging that is reusable or recyclable. The amount (weight) of recycled plastic in packaging materials is outside the scope of Spanish PPT without any applicable thresholds. Furthermore, the entire plastic packaging is outside the scope of Spanish PPT in case it can evidently be reused, i.e. if it was 'manufactured, designed and marketed to perform multiple circuits or rotations throughout its life cycle, or to be refilled or reused for the same purpose for which it was designed'. This distinguishes Spanish PPT from for example the regime applicable in the United Kingdom since 1 April 2022. The UK exempts packaging components that are not predominantly (in weight) plastic and plastic packaging that comprises of more than 30% recycled content in weight. These two exemptions on the 'input' side of things provide for at least two perverse incentives: 1) to include unnecessary non-plastic packaging materials for the plastic to no longer be the predominant element and 2) to plan for 30% recycled content but not necessarily beyond that.[29]

By excluding both recycled content without a threshold and reuse of packaging materials, by scarcely applying exemptions and by including also semi-finished plastic packaging materials, the Spanish PPT actually entails a broad and extensive scope that is not unusually prone to evasive behaviour and may very well be effective when it comes to at least encouraging businesses towards recycling initiatives and preventing (plastic) waste.

2.5.5 Tax Rates and Compliance Burden

Such a broad, extensive and potentially highly effective scope however comes at a cost, and in this case that appears to be compliance. The abovementioned estimated revenue of EUR 780 million annually merely covers the cost of the PPT itself and not the compliance costs, both one-off and recurring, that companies would incur. The data that are required to comply with Spanish PPT may be extensive. Companies importing, acquiring or manufacturing plastic packaging materials may have to request information from suppliers that may be difficult to obtain, difficult to establish or difficult to provide in the light of confidentiality. Equally, businesses that are

26 Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste, OJ 2018, L 150, p. 109.

27 Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment, OJ 2019, L 155, p. 1.

28 www.politico.eu/article/france-germany-set-to-pay-the-most-under-eu-plastics-tax/.

29 See also: www.ft.com/content/34de1931-3467-469c-bb69-5ba0e7d23308, in particular: 'A source from a large food company said the way the tax had been implemented was "*hugely contradictory* as there would be no incentive to use recycled content – the very aim of the plastic tax."'

entitled to a refund or exemption of PPT due to export, recycled content or (intended) medical use of the plastic packaging materials may have to collect details around the full supply chain, official certifications or intended use statements. Considering the current rate of the PPT, it would not be unthinkable that businesses would choose to, instead of incurring high compliance costs, simply pay the Spanish PPT and not change any behaviour towards the use of more recycled plastic materials. The combination of a high compliance burden and relatively low tax burden may cause the excellent nuances made in the scope as discussed in Section 2.5.4 to go to waste. As discussed in Section 2.4.4, also the Spanish PPT does not include an obligation for businesses to roll of the tax or the compliance costs to consumers. The legislation also does not include an incentive for the consumer to return plastic to the producer for recycling purposes. The legislation therefore seems to lack an important steering element towards the behaviour of consumers. Considering that one of the objectives of the PPT Law was to prevent (plastic) waste, in particular those often found in waters/oceans, and the legislation lacks clear incentives for consumers to return plastic packaging materials rather than to 'waste' those, producers may additionally have to look into developing an incentive to close this loop/circularity. As such, Spanish PPT legislation seems to solely rely on the response behaviour of producers, while in the supply chain of plastic waste from cradle to ocean, both producers and consumers play an important role.

3 Conclusions and Recommendations

3.1 Conclusions

The EU and Member States of the EU have introduced a number of new fiscal policy measures aimed to combat climate change in the past three years and will introduce more in the coming three years. In this article, the identified, potential and expected impact of the CBAM, the Dutch air passenger tax and the Spanish plastic tax are discussed in more detail, in particular the imminent risks that the legislation or its scope may cause tax subjects to respond to it in a way other than initially intended by the legislative objectives. This exposure to 'avoidance' impacts the effectiveness of the implemented or proposed measures.

Based thereon, conclusions can be summarised as follows:

1. Having more than one (main) objective – and especially if these are conflicting – drastically challenges the success of legislation passing the overall effectiveness test, both in terms of structure and scope. That is, bearing in mind that all tax measures in essence already have dual objectives, i.e. state revenue increases. When environmental taxation is successful, this automatically and negatively impacts the state revenue objective too, which is why these objectives are by nature conflicting and not suitable to coexist as main objectives.
2. Limited scopes lead to greater exposure to tax avoidance and are therefore considered less effective. Expanding the scope however generally conflicts with the legislative execution complexity. Environmental tax legislation therefore appears to be a compromise between preserving, protecting or improving the quality of the environment on the one hand, and executional on the other. In line with general expectations and referencing the excise paradox, states may consider to further expand the scope of environmental tax measures gradually. This would meet the aim of stabilising state revenue as well as a phased approach towards including sectors or companies having to comply with the legislation.
3. None of the environmental tax measures discussed in this article include a legal obligation to pass on the costs of the tax to the consumer exhibiting the 'taxed' environmentally harmful behaviour. As can be particularly concluded from the Dutch air passenger tax, the combination of the absence of a roll off obligation and (relatively) limited tax rates do not provide for a negative price incentive for airline ticket prices compared to transportation alternatives. The same could be concluded for the Spanish excise tax on single-use plastic packaging materials.
4. Tax exemptions lead to a greater exposure to tax avoidance and are therefore considered to reduce the effectiveness of the tax legislation. In particular the current exemptions for transit passengers and cargo with the Dutch air passenger tax do not appear to serve any of the proclaimed objectives of this legislation.

Due to either the limited scope, conflicting objectives, the absence of a pass on obligations and inappropriate exemptions, the CBAM, the Dutch air passenger tax and the Spanish PPT can expectedly win in terms of expected and identified preserving, protection or improvement of the quality of the environment. Standalone, each measure is – as is – expected to or identified as a measure to have a limited effect on changing producer's or consumer's behaviour. Greater effects may expectedly be available through necessary amendments of the existing or proposed legislation, or by combining such environmental tax legislation with other measures. Suggestions for further research are included below.

3.2 Recommendations for Further Research

In the light of future research, the following fiscal and non-fiscal measures may be further explored.

3.2.1 Minimum Airline Ticket Pricing

Austria has announced an intention to introduce a minimum ticket price for particular (short haul) flights of EUR 40. The level of minimum airfares may be explored in combination with rate differentiation based on environmental damage and in particular to (significantly)

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increase flights for which viable alternatives exist. Particular attention should be paid to Article 22 of the Air Services Regulation,[30] that prescribes that EU air carriers are allowed to freely set their air fares and air rates for intra-EU air services.

3.2.2 Packaging Deposit Schemes

Extension of current and introduction of new packaging deposit scheme, compensating (part of) the 95% value loss as a result of using packaging materials on the one hand, and providing for an economic incentive for consumers to correctly collect and offer for recycling their used packaging materials on the other. The latter may assist in overcoming the current challenge of collection, sorting and recycling of (plastic) packaging materials.

3.2.3 EU Carbon Tax

Replace the EU ETS and CBAM legislation with a single EU carbon policy, including minimum unit prices and an excise duty. The use of a minimum unit price has been successfully implemented by Scotland and Wales in the light of alcohol units and may be suitable for copying to embedded carbon emissions. The minimum unit price ensures that costs are recharged to the final consumers and not incorporated in other, 'green' products that better allow for premium pricing. The excise duty would allow for equal treatment of EU and non-EU manufacturers; however, the scope of products subject to carbon excise may have to be increased gradually to manage compliance burdens for industries affected.

30 Regulation (EC) No. 1008/2008 of the European Parliament and of the Council of 24 September 2008 on common rules for the operation of air services in the Community (Recast), OJ 2008, L 293, p. 3.

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