Reflections on sustainable taxation [1]

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Título
Reflexiones sobre la fiscalidad sostenible

Resumen
A lo largo de este artículo, nos adentraremos en la historia de la insostenibilidad, comenzando por el análisis del diverso arsenal de medidas fiscales y el papel indirecto de la fiscalidad como instrumento para acelerar los cambios tecnológicos, sociales y económicos que son necesarios para combatir el cambio climático. Analizaremos las diferentes técnicas que pueden utilizarse para acelerar el cambio de comportamiento, así como las limitaciones a las que nos enfrentaremos. Asimismo, propondremos nuevas normas que se utilizarán para ajustar la carga fiscal atendiendo a la capacidad de pago. Por último, propondremos algunos mecanismos de toma de decisiones que permitan la formulación de normas mundiales que, hasta cierto punto, también podrían aplicarse para que se produzca un cambio efectivo.

Palabras clave
Insostenibilidad, fiscalidad sostenible, medidas fiscales, cambio climático, cambio de comportamiento, normas mundiales.

Abstract
Throughout this article, we will review the history of unsustainability, starting by analysing the very diverse arsenal of tax measures and the indirect role of taxation as an instrument to accelerate the technological, social and economic changes that are necessary to fight climate change. We will discuss different techniques that can be used to accelerate behavioural change as well as the limitations that we will face. Also, we will propose some new standards to be used to bring this burden sharing in line with the ability to pay. Finally, we will propose some decision-making mechanisms to allow the formulation of worldwide rules that to a certain extent could also be enforced, so that effective change is realised.

Keywords
Unsustainability, sustainable taxation, tax measures, climate change, behavioural change, worldwide rules.

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1. What's on our plate?

In this paper we will briefly look into the history of unsustainability, its main causes and in particular to CO_2 emissions as the major cause of climate change. Starting from the impressive and very diverse arsenal of tax measures we will discuss the indirect role of taxation as an instrument to accelerate the technological, social and economic changes that are necessary and inevitable to fight climate change. We will discuss the various techniques that can be used to accelerate behavioural change as well as the limitations that are inherent to the use of taxation as an instrument of social engineering. We will address two major issues in the use of taxation, i.e. the distortions of competition caused by these tax instruments and the role of the principle of the ability to pay in distributing the tax burdens for climate change. We will propose some new standards to be used to bring this burden sharing in line with the ability to pay. Finally we will propose a some decision making mechanisms to allow the formulation of worldwide rules that to a certain extent could also be enforced, so that effective change is realised.

2. The history of sustainability

Before the industrial revolution human societies were indefinitely sustainable. The lion's share of human activity was in agriculture and at the time almost all agricultural waste was organically degradable. Mobility on land was based on animal and human energy. Mobility at sea was based on wind and mobility in the air did not exist. CO_2 emissions from heating were based on burning wood and for a small part on burning coal. History teaches us that lifetime of civilisations was calculated in millennia as witnessed by the cultural monuments of civilisations like the Egypt, Rome, China and the Muslim Caliphates. However, compared to present day civilisations, living standards of the average citizen in those civilisations were rather poor and few of us would really want to live under the average conditions of those days long past.

All that changed radically with the start of the industrial revolution. The industrial revolution started a different area of production of goods, but also of services which resulted in a radically different area of consumption of raw materials, energy and the production of waste. It took humanity almost two centuries, before it became aware of the impact of this change on the ecosystems of the world. The report, Limits to Growth of the Club of Rome in 1972, was the first document indicating that there were physical limits to economic growth. Until this report, there was a general belief that, in spite of growing demand on finite resources, nature was boundless and the planet earth could sustain unlimited economic growth. In courses of economics it was taught that air and water were «free goods» not subject to the supply restrictions of the market. At the time, the findings of the Club of Rome were severely criticised by leading economists like Robert Solow, the Nobel prize in economics in 1987.

The report «Limits to Growth» mainly dealt with the exhaustion of natural resources, because climate change at that time was not yet an issue. As the 20$^{th.}$ century came to an end, gradually more and more metereological statistics became available pointing to an accelerating process of global warming. In 1992 the United Nations Framework Convention for Climate Change was concluded. Art. 2 UNFCCC stated as an objective to stabilise greenhouse gasses in the atmosphere at a level that would prevent dangerous anthropogenic interference with climate change. The Kyoto protocol which was signed in 1997 and entered into force in 2005 confirmed the global warming trend of the atmosphere and the fact that this trend was very probably caused by emissions coming from human activity. The Kyoto protocol established by treaty the unsustainable character of our modern lifestyle. The Millenium Declaration of 2000 contained only one reference to climate change, but the UN 2030 agenda set in 2015 contained no less than four specific sustainable development goals (SDG's) with a clear shift in focus to environmental objectives of climate change.

3. Priorities for worldwide development

Global warming and recycling waste are the most immediate and fundamental challenges of our planet. Worldwide, the younger generation, who will have to meet this challenge, is highlighting by climate actions and demonstrations the extreme urgency of the unsustainability of our present lifestyle. That sense of urgency points to two absolute priorities among the SDG's of the UN 2030 agenda: (1) carbon free energy and (2) a fully recycling economy.

The reason for this absolute priority is that historically hunger, extreme poverty, the absence of health care, the lack of quality education and inequality based on gender undoubtedly have brought a lot of suffering and misery to an incalculable number of people in the world, but these challenges never constituted a mortal threat for the survival of mankind as a whole. The same challenges have been known and continued for thousands of years and mankind has survived in spite of these challenges. The time to meet the challenge of carbon free energy and a fully recycling economy is not measured in thousands of years but in less than one single century, the 21st. century, the first century of the new millennium. The most convincing arguments for this absolute priority are the following.

Climate change will hit developing countries first and disproportionally, so that achieving other development goals in these countries will become wishful thinking, if we don't stop or at least mitigate global warming. Right now the impact of excessive droughts and flooding is already worse in the Sahel and the Indian subcontinent and air pollution exceeds alarm levels in megacities like Beijing and New Dehli. The second reason is that as predicted sea levels rise, major ports that are hubs of economic activity in developed and emerging parts of the world will be submerged: Shanghai, New York, Djakarta, London, Antwerp and Rotterdam and all low lying industrial areas in Asia, Europe and North-America. Without these ports and the economic resources form their activities it will be impossible to achieve the non-climate development goals of the UN 2030 Agenda. The conclusion is clear: it is in the interest of developing as well as developed countries that in the short run all our intellectual as well as our physical efforts should be focused on the objectives of carbon-free energy and a fully recycling economy.

4. Taxation as an instrument to achieve a sustainable world

4.1. The main role of taxation

The main role of taxation is to raise revenue for the government. Jean-Baptiste Colbert, the Minister of Finance of Louis XIV, expressed that function graphically: «The art of taxation consists in so plucking the goose as to obtain the largest (amount) of feathers, with the least possible hissing.» The most common taxes worldwide are on wealth, income, consumption, imports and exports, legal documents and public permits, and more recently on environmental harmful behaviour. As such however, the objective of taxation is not to determine human behaviour. However, because of the nature of taxes as a financial burden, taxpayers will tend to avoid the behaviour that is subject to the financial burden of a tax.

4.2. The use of taxation as an instrument for non-tax purposes

Because of this tendency of taxpayers to avoid financial tax burdens, taxation can also be used as an instrument to achieve non-tax purposes, like changing harmful environmental behaviour. However the role of taxes as instrument of social engineering is always subject to a trade-off that exists between the revenue function of a tax and its function in changing human behaviour. The reason is that if taxes would be fully successful in reaching their goal of eradicating harmful environmental behaviour, they would cease to fulfil their revenue function, because the object of the tax would disappear. The classical

example are excise taxes on tobacco, alcohol, sugar and petrol. Excessive increases of taxes on those items, do indeed reduce the consumption of those products, but also results in a loss of revenue. The revenue function of a traditional tax determines the limit on its capacity for behavioural change.

Therefore, if society wants to radically eliminate unacceptable behaviour the most effective way to prohibit such behaviour is to make such behaviour a criminal offence, and sanctioning this prohibition by prison sentences and criminal fines. The conclusion is that a tax is not the adequate instrument to eliminate harmful environmental in an absolute way. Taxes are also a very inaccurate instrument to achieve specific targets. Particularly in climate change non-tax experts like to set precise targets and deadlines. Using a tax as an instrument gives no guarantee that you will achieve the target within the deadline. The impact of a tax on behaviour is always approximative.

However taxes are very useful as an instrument to accelerate changes in behaviour with respect to climate change. As an accelerator taxes may be used in two directions: (1) as a disincentive to accelerate reduction of harmful behaviour and (2) as an incentive to accelerate useful behaviour. That function as a social accelerator is only successful, when there are clear technological alternatives to harmful behaviour that need financial support, or when the tax measure is used in conjunction with public promotion campaigns supported by scientific data.

4.3. Examples of tax measures for climate change

Examples of environmentally inspired tax measures abound in what is truly a huge arsenal of very diverse tax measures: taxes on batteries, plastic packaging, CO_2 emissions and greenhouses gases, mineral extraction, nuclear fuel, road taxes and tax incentives for home isolation, solar panels, electric cars, e-bikes and many more. Indirect or consumption taxes may be used as a disincentive to change the price relationship between goods and services in the market, by imposing an additional charge on certain goods and services, increasing substantially the price of harmful behaviour. In that sense changes in excise taxes have already been successful, as witnessed, by the dramatic shift in the use of diesel and gasoline, reducing substantially , but not eliminating, demand for diesel cars. A tax shift to electric cars has been less successful, because of remaining technical handicaps of electrical cars and a much bigger price differential. In the area of aviation and heavy freight transport, electric planes and electric trucks are not yet commercially available and therefore it is impossible to establish a tax differential between harmful and less or no-harmful alternatives. However increasing the charges on fuel for airplanes and trucks would indirectly change the transportation cost in comparison with electric railways.

Granting an exemption, deduction or tax credit in taxes on wealth, income, gifts and inheritance can act as an incentive to undertake certain activities, in particular in the area of research for carbon-free sources of energy or mechanisms of full recycling, or in investing in equipment necessary for these purposes.

These disincentives or incentives do not change the nature of these traditional taxes as revenue raisers, i.e. providing environmental incentives or disincentives through these taxes should not hamper these taxes in their revenue raising capacity. In that sense the common wisdom in designing taxes is to keep things simple with a broad base with few exceptions and a simple rate structure. These taxes must retain their main function of raising revenue and environmental and other objectives should remain subordinate to this revenue raising efficiency. Finally a tax can always serve a desirable climate objective by spending the revenue raised by the tax. When the revenue raised from a traditional tax is spent directly by the government on an environmental objective, the impact is almost always more direct and effective than when a tax acts as an incentive to change the behaviour of individual taxpayers.

4.4. The need for sunset clauses on disincentives and incentives

The integration of environmental rules in systems of taxation and subsidy should be regularly monitored in particular for subsidies and tax measures containing specific incentives or disincentives.

Technological innovation can make tax incentives obsolete very quickly and change a tax incentive into a tax privilege. Therefore well targeted tax incentives or disincentives or subsidies should end when objectionable behaviour ends or when innovation resolving the problem becomes competitive in the market. Special subsidies or tax regimes should disappear. Because it is very often difficult to abolish useless tax incentives or subsidies, special tax regimes and subsidies should always have time limits and be subject to «sunset legislation» ending the special regime automatically after so may years (5-10), unless parliament specifically decides to continue the specific regime.

4.5. Environmental charges are always paid out of income or wealth

Finally the bottom line is always that any special charge or subsidy for climate change in the end needs to be financed out of wealth or income, which are the ultimate sources for financing the whole system. When the burden of these special levies or subsidies exceeds the net income (after payment of income, wealth and consumption taxes) not only the objectionable environmental behaviour will disappear, but all economic activity will disappear and it will become utterly impossible to achieve any climate objective. Therefore it is essential to keep always an eye on the bottom line.

5. Ability to pay and tax incentives and disincentives for climate change

In the distribution of the tax burdens for climate change the ability to pay plays of course an important role. The ability to pay plays a role at two levels: between individuals at the national level and between states at the international level.

5.1. Ability to pay at the national level

Ability to pay in the national context is important, because otherwise the shift to a zero CO_2 emissions circular economy will widen the gap of inequality between individuals, which already has been growing worldwide. That is a particular challenge in countries were the inequality in income and wealth is already very high[2]. The shift towards a zero carbon and circular economy is going to require a massive contribution from all members of society in all countries of the world and it is inevitable that in relative terms by far the biggest part of this contribution should come from members of society who by their production and consumption behaviour are the cause of the highest CO_2 emissions and other forms of pollution. Those members of society are those with the highest income and the highest wealth.

Therefore the tax- and budgetary charges to change behaviour must be progressive with the volume of income, wealth, consumption or production, not only for individuals, but also for entities in accordance with the principle of «dissuasive equality». Dissuasive equality means that certain groups of society must not be allowed to «buy out» objectionable behaviour, because the price tag for that objectionable behaviour is lower to them in relative terms than to other groups of society. Progressivity in this sense means that levies should not only be progressive with the price of for example a cruise or a holiday flight , but also progressive with the frequency with which people go on cruise or a holiday flight within a certain period of time. In designing tax incentives in income and wealth taxes to promote desirable behaviour it is important to use tax credits rather than exemptions or deductions, because credits provide a greater boost for low income earners, than an exemption or a deduction for low income on which they don't pay tax anyway. Tax incentives are only effective if alternatives to harmful behaviour are readily available. Providing tax credits for promoting home work may be feasible for administrative officed employees, but not for workers on the assembly line of a factory.

2 See, Pikkety Thomas, Capital in the Twenty-First century, Belknap Press of Harvard University Press (2014), in particular pp. 304-376, the chapters on inequality of labor income and the inequality of capital ownership.

The challenge in applying the ability to pay principle is not to fall in the trap of detailed regulation, but to stick to broad categories of taxpayers that can easily be distinguished. Negative consequences of price increases due to indirect taxes for low taxpayers may be offset by increased subsidies to the same group of taxpayers promoting desirable behaviour. This will inevitably result in more public intervention, and more «state» weakening market forces. The purpose of applying tax measures for sustainability is to accelerate technological innovation and behavioural change, which by hypothesis would move at a slower pace under pressure of market forces rather than under state intervention.

5.2. Ability to pay at the international level

Because a large part of the expenses for climate change are borne by tax incentives or subsidies from public budgets, the difference in the budgetary capacity of countries also plays a role in their national ability to pay. Taking into account the differences between countries in making the climate shift, this means generally that there must be a shift of public budget burdens from developing to developed countries. Together with the pace of technological innovation this is the biggest challenge in climate shift, because without outside assistance the public budget of quite a number of developing countries is totally inadequate or even incapable to make that shift.

There is already a Green Climate Fund (GCF) within the United Nations Framework Convention for Climate Change (UNFCCC). The immediate objective of this fund is to finance climate action to the tune of 100 billion $ a year. At this stage the lion's share of that budget is provided by plegdes from the EU and the US. The total costs of necessary climate investments for the period 2016-2030 have been estimated by the OECD at 95 trillion $, or on average 6,3 trillion $ a year[3]. Even when these «climate investments» are financed by way of long term loans, it is clear that there is a huge finance gap between 100 billion $ a year and the sums necessary per year for the payment of interest and the repayment of capital on these loans. There are attempts to systematize contributions to the GCF with a Green Climate Fund Calculator 2.0, but at present contribution are largely made on a purely arbitrary basis, as ad hoc budgetary pledges by sovereign states. There is no relationship whatsoever between the amount of the contributions and CO_2 emissions[4]. Three of the most polluting countries, China, India and Russia are not on the contribution list. If at an international level it is not possible to come to an understanding on some basic principles to distribute the budgetary burdens for what is a collective and planetary effort, there will be no money available to effectuate a worldwide shift in climate behaviour and the countries which will suffer most will be developing countries. Therefore it is essential to elaborate some universal principles for financing climate change.

5.3. Principles for worldwide financing

The first financing principles could be, when countervailing duties are to be applied, such duties will be used principally or exclusively, not for the national budget, but to finance the GCF. The main purpose

3 Investing in Climate, Investing in Growth, a Synthesis, OECD report (2017) p. 13.

4 Excerpts from the table of contributions pledged, see Green Climate Fund, Wikipedia:

Country	Amount in $ pledged per capita	Tonnes of CO2 emissions per capita
United States	9,41	17
Japan	11,80	9
Indonesia	0	8
New Zealand	0,57	7
Sweden	59,31	6
France	15,64	5
Chile	0,16	5

of countervailing duties is to eliminate the competitive advantage in differences in costs of output, in case of absence of green taxes on input. The trade barrier of the countervailing charge in the country of importation has in fact its origin in the absence in the country of exportation of any effort in making the climate switch. Therefore it is logical that the yield of the instrument used to eliminate the competitive advantage is used to make that effort possible and in that way to restore over time the level playing field between the exporting and importing country. During the period of transition it is the exporting country, unwilling or incapable to make the climate effort, that will have to face the trade barrier. That redistribution mechanism should not be organised on a bilateral, but on a multilateral basis.

The second principle could be that there should be some relationship between (1) the emissions of CO_2 per capita and (2) a country's share in worldwide CO_2 emissions on the one hand and the financial effort per country invested to make the climate switch on the other. The climate switch is a collective planetary endeavour, which can only succeed if the biggest polluting countries clean up their acts. The efforts of all the other countries with a smaller share in the worldwide pollution will not be sufficient to reach the goal. The proportional share per country in worldwide pollution and the volume of CO_2 emissions per capita are the two main indicators of the national effort to be made. Only six big countries contribute together to 58,8% of total CO_2 emissions. If they do not participate in the effort, the other 190 or so countries of the world have no chance. But there are also a few small countries that contribute disproportionally to CO_2 emissions, because of an extremely high emission per capita [5]. These countries should not escape from the effort, because their national volume in emissions happens to be rather small in size. Most of these countries are oil producing countries and belong to the richest countries in the world. So they have the means to initiate a vigorous programme to make the climate shift. These two parameters can be combined to calculate national emission targets and also the amounts in the national budgets that are to be spend to achieve climate change.

6. What about distortions of competition

The greatest threat to a sustained effort for climate change lies in competitive distortions in international trade. The competitive position vis à vis climate change is indeed very unequal among the approximate 200 countries in the world. There is inequality vis à vis the direct impact of climate change. Some low lying islands in the Pacific are immediately threatened to sink under the rising waters of the ocean. There is inequality vis à vis resources. Some countries have plenty of potential for hydro-electric power and can easily make the shift to exclusive power from electricity, while some other countries still heavily rely on coal or oil without readily available alternatives. But the biggest threat may be the worldwide inequality between countries in economic and social development. Generally economic growth is considered the universal remedy against social and economic underdevelopment, but the traditional ways of achieving economic growth do result in an unacceptable rise of CO_2 emissions, guaranteeing a real climate explosion.

Most competitive factors like the size of the market, the production cost of labour, the quality and productivity of labour, the exchange rate of the currency, the predictability of the rule of law and the efficiency of public administration and last but not least the national and international tax regime of a country are not directly related to climate change. Only a few factors do have a direct relationship with climate change: the local weather conditions (wind and solar energy) and the availability of natural resources as a source of energy (coal, oil, gas and hydro-power). Finally the competitive position with respect to CO_2 emissions and climate change is also heavily determined by technical breakthroughs. These technological breakthroughs may change the effect of these climate related competitive factors, but are difficult to foresee. They depend on efficient cooperation between government and the private sector and the availability of financial resources for research.

5 See Global Carbon Atlas 2018, annual CO2 emissions in tonnes per capita: Qatar 49,2; Kuwait 25,2; UAE 24,7; Bahrain 23,1; Saudi-Arabia 19,3.

Generally all factors that make a difference in competition are distributed unequally between countries. In assessing a level playing field in international trade under WTO and EU rules, attention is focused on tariffs, quality standards, tax regimes and monopolies and market shares. Therefore the focus on competitive distortions caused by the inevitable changes in the production chain for goods and services to achieve a carbon free and fully recycling economic activity will be on the trade and tax instruments currently used.

The most important rule in establishing a level playing field in the process of changing and adapting the production chain of goods and services to a world of carbon free and fully recycling economic activity is to eliminate the possibility of free riders. That means that all 200 or so countries in the world will have to achieve the same targets and standards before or at a common deadline, without any exception. That is an endeavour which in the history of mankind has never before been undertaken. This is a fundamental difference compared to, for example, the worldwide fight against tax evasion. In that fight there have always been a few obscure parts of the world making exceptions to the generally agreed behaviour. With respect to the measures of climate change such exceptions cannot be tolerated, because of the absolute priority and urgency of climate change argued under nr. 3. We do not have the luxury of allowing developing countries the same historical pattern of industrial development followed in the past in different stages by North-America, Europe, Russia, Japan and more recently China and India. We should skip the carbon burning stage in the economic development and transfer those countries directly to a carbon-free and fully recycling economy. That means that the final targets should be the same, with the same deadlines, although the time path for achieving these targets may be somewhat different. To put pressure on these different time lines to achieve the same climate targets in the end, countervailing duties should be applied to achieve a level playing field during the transitional period of change and adaptation.

7. Countervailing duties

Countervailing duties are the instrument to eliminate the advantage of «free riders». In 4.b, the use of taxation as an instrument for non-tax purposes, it was argued that tax measures are not efficient in radically eliminating harmful environmental behaviour, but very useful in accelerating change in behaviour. In particular indirect taxation can be used to change the market price relationship between different sources of energy, to the disadvantage of traditional sources of energy to the advantage of green sources of energy. In addition tax revenue in general can be used to meet the supplementary expenses of acquiring and installing new technology. The application of these taxes to production processes in countries committed to switching from traditional sources of energy like coal, oil and gas puts these countries of course at a competitive disadvantage compared to countries that refuse to make the switch. The purpose of countervailing duties levied by countries that apply green taxes is to compensate for the competitive advantage of enterprises in countries benefiting from the cost advantage of using the old and cheaper technology. With respect to countervailing duties there are two questions to be answered: (1) is a countervailing duty allowed under WTO rules and the EU rules of non-discrimination of foreign products in comparison with domestic products, and (2) how is the correct amount of a countervailing duty to be calculated?

Under WTO rules only tariffs are allowed under certain circumstances as a reaction to distortion of competition. Quota and physical limitations are prohibited, but a countervailing duty is neither a quotum, nor a physical limitation. Art. VI GATT allows countries to protect domestic products through anti-dumping actions and art. XXI GATT specifically allows countervailing duties in case of dumping. Dumping occurs when products are sold below «the normal price» ànd the country undertaking anti-dumping actions has shown that damage has been inflicted on domestic industries. The countervailing climate duties would be applied as a sanction for not taking adequate action for climate change. However in most cases it will be difficult to demonstrate a clear link between the absence of green taxes for climate change and the «normal price of the product». Evidence of substantial damage to the domestic industry can in most cases only be submitted, some time after the damage has been done. It

is clear that this new type of «climate» distortion of competition did not exist in 1947, at the time that GATT was concluded. In the traditional framework of GATT, anti-dumping action often was the consequence of a bilateral trade conflict between two states or two trading blocs. The obligation to take action for climate change is a worldwide obligation following from a non-trade agreement, the Paris Climate Agreement of December 15, 2015 which has been signed by 195 states. Because of the specific characteristic of the climate problem that it can only be solved when all states, without exception cooperate, all states, parties to the Paris Climate Agreement, must also be entitled to take defensive action against distortion of competition in order to prevent that some states would gain a competitive advantage by not taking any climate action.

For the EU member states another defence measure may be available in the form of state aid rules. Member States not, or insufficiently taking action to meet the climate targets set by EU directives and regulations [6], can be considered to provide prohibited state aid to their domestic enterprises and can be subject to fines. For products imported from third countries the EU could impose uniform countervailing duties in accordance with WTO rules.

Like for anti-dumping charges the big problem with countervailing duties is how to calculate their exact amount. The calculation of countervailing import duties is more complicated than anti-dumping charges, because for anti-dumping charges the comparison is between identical or very similar products traded in the international market. The objective of countervailing duties is to compensate on importation the price advantage of the finished of semi-finished products at the end of the production chain, because of the absence of green taxes on inputs for these products at the beginning of the production chain. The competitive advantage following from the absence of green taxes is direct on the input side of the production chain, and only indirect on the output side of the chain, while countervailing duties can only be applied indirectly to the finished products on the output side of the production chain. The reason for this discrepancy is that in the present state of technology it is much simpler to calculate and tax the carbon content on the input side of the production chain than on the output side of the chain, because in most cases it is still impossible to calculate the carbon content of the final product. In addition, between the original input and the final output the production chain often crosses many national borders, with many different regimes with or without green taxes. In theory the countervailing duty should strictly compensate for the amount of green taxes that is not levied in the country of origin and should not be used as barrier to trade. The question is whether in the present state of technology the absence of equivalence between the competitive advantage in the country of origin and the countervailing duty in the country of destination, the risk of over-compensation in the country of destination can be justified. Between the fact that in the country of origin inputs are not subject to any green taxes or nominally low taxes and that it is difficult to determine the exact amount of that competitive advantage, the choice must be in favour of a countervailing duty during the transitional period. The choice is like the choice between a system without a break and one with a break that may turn out to be too powerful. The answer is that in doubt, don't take the risk.

Countervailing duties cannot be considered as a strictly bilateral affair, like in the trade conflict between China and the US. Countervailing duties should be fixed in the context of multilateral cooperation. As long as we do not have the technology to calculate the CO_2 content of the final product, we are entitled to apply countervailing duties as an approximate correction to distortions in competition, because of different burdens in climate action.

6 Directive (EU) 2018/844 of the European Parliament and the Council of 30 May 2018 amending Directive 2010/31/EU o the energy Performance of Buildings and Directive 2012/27/EU on Energy Efficiency, OJ L/156, 19.06.2018; Directive (EU) 2018/2001 of the European Parliament and the Council of 11 December 2018 on the promotion and the use of energy from renewable sources, OJ L.328/82, 21.12.2018; Directive (EU) 2018/2002 of the European Parliament and the Council of 11 December 2018, amending Directive 2012/27/EU on Energy Efficiency, OJ L.328/210, 21.12.2018; Regulation (EU) 2018/1999 of the European Parliament and the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending older regulations and directives, OJ L.328/1, 21.12.2018.

8. International Cooperation

At the institutional level already two major institutions have been in place for quite a number of years: the Intergovernmental Panel on Climate Change (IPCC) established in 1988 and the United Nations Framework Convention for Climate Change (UNFCCC) established in 1992, with almost a worldwide membership. However both organisations lack a mandate to decide basic principles on how to distribute the burdens of climate change. The UNFCCC has a financing arm, the Green Climate Fund, but also lacks the legal authority to prescribe worldwide principles of financing the climate effort. The legal authority to decide policy measures promoting climate action still rests at the national level with the approximately 200 sovereign states that are members of these organisations. The only exception is the EU that has the authority to set binding climate targets by directive or regulation, but still needs the consent of all member states to back up these targets by EU green taxes and an EU budget.

The financing of climate action is still to a large extent considered as an economic problem of how to avoid distortions of competition. The international organisation in charge of international trade is the WTO, which also needs the consensus of all its sovereign member states. Lately the WTOt has not been very successful in preventing or mitigating international distortions of competition. The only «institution» which has been successful in taking action in international trade has been the G20 in close technical cooperation with the OECD. In particular in the field of international taxation, cooperation between the OECD and the G20 has resulted in abolishing the banking privilege, increasing cross border exchange of financial information and launching the 15 BEPS actions against international tax avoidance and evasion. Therefore the G20, which happens to group the biggest polluting countries in the world is the adequate forum to negotiate and to determine the basic principles to distribute the burdens of worldwide climate action. The OECD which has a wealth on expertise on international economic development can function as the expert body to hammer out the principles that, after debate in the G20, should be decided and enforced, just like the new principles of international taxation introduced in the recent past.

This requires an unusual cooperation between the UN institutions of the IPCC and the UNFCCC, which for decades have been «active» in climate change on the one hand and the OECD on the other which has been active in international economic development, but until now without much attention to climate change. The G20 is of course neither a world democracy, nor a world government, but it is certainly a forum with the most relevant players in the field of climate action and it is the only platform that happens to be available. The world cannot wait until we have established a worldwide, well balanced Western style democracy. For climate change we need to develop new forms of international cooperation between already existing institutions that are in a position to formulate and to enforce universally accepted principles of burden sharing and ways to finance climate action. In finding a solution there is no room for parallel and separate ways, via only the UN, only the OECD or only the EU. The challenge is immense. There will be lots of conflicts of interests and opinions and debates, but the call for peaceful international cooperation is imperative.

One way to facilitate this unique form of international cooperation is to use existing regional partnerships. The EU has already set climate targets for the whole Union and is now facing the challenge of backing these targets with financing mechanisms and tax measures. The differences in economic development and CO_2 emissions and climate situation between countries like Sweden, Bulgaria, Greece, Portugal and Finland, all EU member states, are quite large. There is no reason why other forms of regional cooperation like NAFTA, Eurasian EU, Caricom, Mercosur, APEC, ASEAN Gulf CC, EAC and COMESA would not be in a position to reach regional agreements in setting climate targets and regional forms of climate action within their territories. Such regional agreements could be the building blocks of a worldwide framework for concrete climate action, coordinated and enforced by the G20.