Distr.: General
2 October 2018

Original: English

Committee of Experts on International Cooperation in Tax Matters
Seventeenth session
Geneva, 16-19 October 2018
Item 3(c)(vii) of the provisional agenda
Environmental tax issues

Note by the Secretariat

During the sixteenth session of the Committee of Experts on International Cooperation in Tax Matters (Committee), the coordinator of the Subcommittee on Environmental tax issues (Subcommittee), Ms. Natalia Aristizabal, made a recommendation for the work of the Subcommittee to initially focus on issues related to carbon taxation, while keeping other aspects of environmental taxation in its future work programme. Ms. Aristizabal also presented a proposed framework for the drafting of guidance on carbon taxation for developing countries, mentioning that an outline for such guidance was at an early stage of development. The Committee endorsed the recommendation by the Subcommittee, and the proposed programme of work presented by Ms. Aristizabal.

Within this framework, the Subcommittee drafted a summary outline, for the development of a paper containing guidance on carbon taxation. Such guidance would be primarily directed at developing countries which are considering the introduction of a carbon tax. Issues which will need further discussion within the Subcommittee are indicated in [square brackets] in the text below.

The summary outline can be found in the annex, for endorsement by the Committee.

Paper on Carbon Taxation - Summary Outline

I. Introduction

Environmental taxes are now on the agenda of many developing countries, not only for revenue purposes, but also for meeting these countries' commitments on climate change. These taxes figure prominently in the Addis Ababa Action Agenda (Addis Agenda) and have a key role to play in achieving the United Nations Sustainable Development Goals (SDGs).1 Further, the 2015 Paris Climate Agreement requires all parties under the United Nations Framework Convention on Climate Change (UNFCCC) to put forward their best efforts through nationally determined contributions and to strengthen these efforts to curb greenhouse gas emissions in the years ahead.

In response to the need for clearer guidance on policy and administrative aspects of designing and implementing environmental policy instruments and of deciding which of those instruments to implement, the United Nations Committee of Experts on International Cooperation in Tax Matters (Committee) has formed a Subcommittee on Environmental Tax Issues (Subcommittee). The mandate of the Subcommittee includes to consider, report on and propose guidance on environmental tax issues and opportunities for developing countries in particular, on the basis that it shall:

(a) identify and consider the most pressing issues where guidance from the Committee may most usefully assist developing countries in this area;

(b) pay particular attention to the application of carbon taxes by identifying, outlining and discussing on current country practices, policy considerations and administrative issues; and

(c) provide draft guidance on such issues as are approved by the Committee at its sessions. In undertaking its work, the Subcommittee shall consult broadly and seek to engage with others active in the field.

In line with the mandate, the Subcommittee has recommended, with endorsement from the Committee, to initially focus work on carbon taxation. In this paper, we present an outline of our continued work, to be discussed and endorsed by the Committee during its 17th session. The progress of our work along the lines approved by the Committee will regularly be reported to the Committee during its bi-yearly sessions.

Our aim is to present a final document, which could serve as a useful tool for those jurisdictions considering the introduction of a carbon tax. The scope of our work is confined to an analysis

[1] SDG 13 specifically deals with climate change, but environmental issues run through many of the SDGs, such as 6 on clean water and sanitation, 7 on affordable and clean energy, 11 on sustainable cities, 12 on responsible consumption and production, and 14 and 15 on life below water and on land, respectively.

of fiscal measures (carbon tax) to address the negative aspects of carbon emissions and does not consider nor address other measures, including other market-based measures (e.g., cap and trade system), which may be equally effective in achieving similar climate-related goals. As such though, this document should not be interpreted nor perceived as giving greater value to or advocating for the imposition of a carbon tax in addressing the impact of CO2 emissions over other measures or mechanisms.

A brief theoretical background to the concept of carbon taxation – as well as the more general concept of environmental taxation – will be included as a background in the final document2. However, we believe our mandate is best achieved by putting the emphasis on the practical aspects of designing and implementing a well-functioning carbon tax measure and addressing issues that need to be considered in that process.

In this respect, our outline on the practical application of a carbon tax is included below.

II. Carbon tax definition

As a starting point, the subcommittee will use the World Bank definition of the concept "carbon tax", which "is a tax that explicitly states a price on greenhouse gas emissions or that uses a metric directly based on carbon (that is, price per tCO2e). (…) In the case of the industry, a carbon tax may induce investment in cleaner technology or switching to more efficient practice. To the consumer, they may be incentivized to invest in energy efficiency, change their lifestyle habits or where options are available, switch to cleaner forms of energy."3

[For information to the Committee: the Subcommittee will further discuss whether to create a new definition for carbon tax; and whether to include a section to provide a general overview of environmental taxation, to contextualise carbon taxes therein]

III. Brief historical of carbon tax introduction in different regions

The subcommittee will in its report present a summary of those jurisdictions, which already have introduced carbon taxation and the lessons learned, in terms of emission reductions as well as solutions found to various problems, that can be learned. An update of work carried out afterwards will be conducted as well as an overview of the discussions about carbon taxation presently carried out in different international fora. Some more in-depth analysis of selected countries will be presented. Committee members are invited to suggest relevant countries and help the Secretariat with necessary information.

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[2] Carbon taxes should be considered within the larger environmental tax framework and setting the baseline for future work by the Subcommittee. Under this section, the Subcommittee will briefly also consider the distinction between environmental and environmentally related taxes following the existing literature in the wider international framework.

[3] World Bank and Partnership for Market Readiness, "Carbon tax guide, a handbook for policy makers".

[For information to the Committee: the Subcommittee will further discuss which countries to analyse in more detail]

IV. Motives for introducing a carbon tax

Jurisdictions may have different policy objectives when introducing a carbon tax and the emphasis could be on one or more objectives. A number of objectives are domestic; however, some will be supranational. With this in mind, whilst acknowledging their sovereign right to determine domestic policy, we also recognise the need to coordinate national actions to help change the trajectory of the global economy and support countries towards achieving the SDGs within the framework of the Addis Agenda and the Paris Agreement commitments.

The Subcommittee believes it is important to further identify, outline and discuss the different motives for introducing a carbon tax, how they may interact and drive certain elements of the tax design. Greenhouse gas mitigation and the promotion of low-carbon development are key objectives, considering that a carbon tax is an environmental tax, aimed as an incentive to change behaviour and thus lower the consumption of fuels giving rise to emissions. Sectorial exemptions or different tax rates for different groups of society or types of fuels could be considered to address competitive issues, carbon leakage or distributional consequences. Border-tax adjustments and internal credits are measure that can be discussed as well. A carbon tax may also have environmental objectives that go beyond mitigating GHG emissions, such as for example incentivizing the development of a new economic green sector. Further, a carbon tax can generate considerable revenues, thus contributing to domestic resource mobilization.

[For information to the Committee: the Subcommittee will further discuss on the sectoral exemptions. In this respect, the Subcommittee will focus on what effect the exemptions may have]

V. Revenue use

A carbon tax will, at least in a short and medium-term perspective, raise revenues. One part of our paper will deal with issues in relation to the raising of revenues and the use of revenues, with reference to country examples. The desired objective may affect a range of design options, which are briefly outlined below.

A carbon tax can be used to raise revenue and, depending on how it is designed, it can be in a way that is relatively easy to collect. In some cases, such taxes are used to increase the tax/GDP ratio so there is more revenue to invest in social assets such as education, health and infrastructure. The question on how best to use the revenues as well as how the sectorial coverage and tax rate will influence any revenue-raising ambitions will be addressed in our report.

Other aspects to analyse are the pros and cons of a tax neutrality approach and the possibilities of improving the overall efficiency of the tax system by such an approach. For example, in jurisdictions with large informal sectors, like in many developing countries, reducing labour/income taxes while increasing upstream carbon taxes on fuel can increase the effective tax base, since the tax will be incorporated in the fuel price and, therefore, paid by both formal and informal business. Country experiences might be included to provide lessons learnt.

VI. Need for proper consultation and communication of carbon tax prior to introduction

After performing a comprehensive and detailed analysis as to the objectives and impacts of a carbon tax, it is critical to ensure that there is a clear Government framework to communicate and consult with different relevant sectors of the Government and affected stakeholders well in advance of implementation. This is an important aspect of a successful implementation process in any jurisdiction and will be addressed in the Subcommittee report.

The overall objectives of such a framework should be (amongst others) to offer a clear communication to the taxpayers as to the scope, rates and basis/applicability of the tax, align the tax measure with existing domestic policies and international standards and agreements; and ensure administrative simplicity and minimize the compliance burden.

VII. Designing a carbon tax

A major part of the upcoming final paper of the Subcommittee will consist of a thorough analysis and hands-on advice on how to design a carbon tax to serve as a cost-effective tool to achieve effective carbon emissions reduction. In this respect the Subcommittee aims to, for example, look further into the following areas.

i. Taxing power

Policy makers should take into account the competent legal framework and territorial organization: a supranational entity (like EU), several sovereign nations through an international agreement, a federal state, a subcentral entity or regional scope (federal state, autonomous community) or a municipality and be cognisant of the territorial limitations associated with introducing a carbon tax.

ii. Tax base

The most generally used choice of the tax base for a carbon tax is the carbon content of fuels, which give rise to emissions of CO2. The Subcommittee will elaborate on different ways to, with a sufficiently level of accuracy, design an administratively simple system (to determine, measure, report and verify the tax base) which serves the policy purpose of being a cost-effective instrument to reduce emissions.

Measuring actual emissions from points of emission would be one alternative. However, in order to achieve an administratively simple system many countries having introduced a carbon tax have rather relied on average emission factors expressed in terms of carbon content of fuels to calculate the tax. The actual tax to be paid can, to ensure administrative simplicity, be expressed in normal trade units (weight or volume).

Another aspect to deal with is whether the tax base ought to relate to the fossil carbon content of fuels (which is the way the current IPCC emission reporting is done today), or to carbon content in general, which also would include biofuels.

The alternative of basing a carbon tax on life-cycle analysis of the production of fuels could also be looked into, even if the main approach of the Subcommittee would be a simpler carbon tax, calculated on the basis of the fuels actual carbon content.

iii. Scope of the carbon tax and when to levy the tax

Another important aspect in designing a carbon tax is the determination of the scope of the tax. The Subcommittee suggests that primarily the following issues could be raised in this respect.

Which emissions to tax? Decisions need to be made about what sectors of society are to be targeted by the carbon tax. A commonly used approach is further to choose to tax certain types of fuels. A carbon tax on fuels can be applied upstream – to fuel producers, importers – or midstream – to distributors – and tax would, thus, be calculated based on carbon content of the fuels, not actual emissions occurring downstream. Jurisdictions may use the system already in place for excise taxes on fuels for the purposes of carbon taxes, which in most cases coincide with the taxable event occurring at the time of distribution. Another approach could be to target direct emissions. This approach may require jurisdictions to establish new systems for monitoring, reporting and verifying the volume/amount of emissions.

Taxing emissions from international transport: How to deal with emissions from international shipping and international air transport is another issue to be addressed when considering introducing a carbon tax. In this context the interaction with Article 8 of the UN Model Double Taxation Convention as well as initiatives on global measures aimed at reducing GHG emissions from international shipping and air transport and shopping may be considered.

At which point in the supply chain should the tax be levied? When deciding on at what point the tax ought to be levied, the possibility to achieve the desired behaviour effects by a price signal as well as administrative considerations should be considered.

iv. Tax rates

Setting the rates of a carbon tax is indeed in most cases a very controversial decision, depending very much on the prerequisites of the particular jurisdiction introducing such a tax. However, also a more technical approach can be considered, such as estimating social costs associated with the CO_2 emissions or a revenue target approach. As the issue of determining the tax rates indeed will have a major impact on the effectiveness of the tax, in relation to set objectives, the Subcommittee will discuss this issue in depth.

Some of the criteria to be covered in our analysis would thus be technical criteria, determining the development of the rate over time but also various political criteria, such as raising or reducing the rate or allowing for a differential rate structure to take into account economic and social considerations. In this context, it will be important to consider the implications on taxpayers that will be adversely affected by the carbon tax and the potential need for additional incentives (tax expenditures) to mitigate harmful economic consequences to e.g. heavy polluters or low economy households.

In addition, for effectiveness, the abatement costs and cost curve are very relevant to consider in this respect. The Subcommittee will gather and include references and available information in this respect.

v. Taxpayer

The taxpayer may or may not be the polluter. There might be a link to the production or consumption chain, which would be more easily taxable from an administrative point of view. For example, it might be more feasible and consistent with existing regulation or administration to impose a carbon tax on the fuel producer or importer and not on the consumer. If the approach would be to measure direct emissions (e.g. by electric generation or industrial processes), the obligation will generally be levied on the legal entity producing those emissions.

VIII. Interaction of carbon tax with other measures

i. Interaction with other environmental policy instruments

Introducing a carbon tax may lead to conflicts with other measures, such as for example, if only certain parts of an industry are subject to CO_2 emission trading and additionally have to pay a carbon tax. For example, in the event an emissions trading scheme already exists, careful consideration should be afforded as to the design and implementation of a carbon tax to avoid the negative economic and/or legal consequences associated with the potential overlap of the two systems. The pros and cons of integrating a carbon tax with other environmental policy instruments will be addressed by the Subcommittee in its final report.

ii. Interaction with other relevant taxes

In most jurisdictions considering a carbon tax, other taxes already exist, not only on the same fuel products but other taxes, such as income taxes or corporate taxes, which are borne by the same economic operators that will face the carbon tax. There will be a need for the Subcommittee to analyse this interaction and come up with advice to jurisdictions on necessary considerations in this respect. Aspects to consider would include, for example, the overall effective tax rate applied to various fuels (a carbon tax on top of already existing fuel taxes), local level vs national taxation and overlapping policy instruments and counteracting policy instruments (e.g. carbon tax and vehicle fuel consumption subsidies).

iii. Interaction with tax subsidies and competition policies

Policy makers may use different strategies to face global or local environmental challenges. They range from the alignment, to the extent possible, of budgetary measures with the environmental objectives, or the review of the effectiveness of certain subsidies, to the creation of specific schemes for the assessment of environmental investments in order to proportionally adjust the public support needed (e.g. non-productive investments and public funding). As tax subsidies (tax expenditures) interfere with market activities, they would need to be coordinated with environmental taxes to avoid market price distortions. These kinds of interaction merit a specific analysis in the report of the Subcommittee. Guidance will also include the need to coordinate such measures with other government departments.

iv. Interaction with domestic pricing regulation

Consumption price subsidies in developing countries are not uncommon. When a country which has such consumption price subsidies in place is considering a carbon tax, the interaction between these two frameworks needs to be considered. Their interaction will influence whether and how a carbon tax can be introduced and what drivers can be considered.

v. Cross border tax issues

From a tax technical point of view, double taxation or double non-taxation can occur with carbon taxes. E.g. in case fuel imports are an important energy source but not included in the scope, a well-designed carbon tax will cater for such issues. In case these imports hail largely from countries where the fuels or their production is already submitted to a carbon pricing mechanism, the design may be different than if such imports have not included any carbon pricing at all.

Various instruments can be considered and a number of options will be elaborated to deal with [international] double taxation. In this context, mechanisms to deal with carbon leakage potential will also be considered, such as unilateral credits, exemptions or border tax adjustments.

IX. Administrative issues

Finally, the Subcommittee will address the issue of administration, both from the perspective of the tax payers and the public authorities. It is essential to establish a tax system that is easy to implement, fair and simple to administer, at low costs to authorities and taxpayers. This is particularly true if existing revenue collecting systems, such as systems for levying other excise taxes on fuels, are already in place. Lessons learned from jurisdictions having introduced carbon taxation shows that this can be done. One feature is that the carbon tax rates may be expressed in common trade units (volume or weight), not making it necessary to measure actual emissions.

Depending on national prerequisites, the tax may be collected from fuel producers or distributors upon extraction or import of the fuels or further down the fuel distribution chain. A well-designed carbon tax system would thus be of particular interest to developing countries as it raises revenues without requiring a market or the design of a complex monitoring system. This Chapter will also include some practical considerations on the administrative requirements for monitoring, reporting and verification systems required by taxpayers and tax authorities.