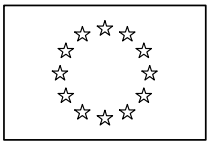

COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 16.1.2009
SEC(2009)53 final

COMMISSION STAFF WORKING DOCUMENT

analysing the replies to the Green Paper on market-based instruments for environment and related policy purposes

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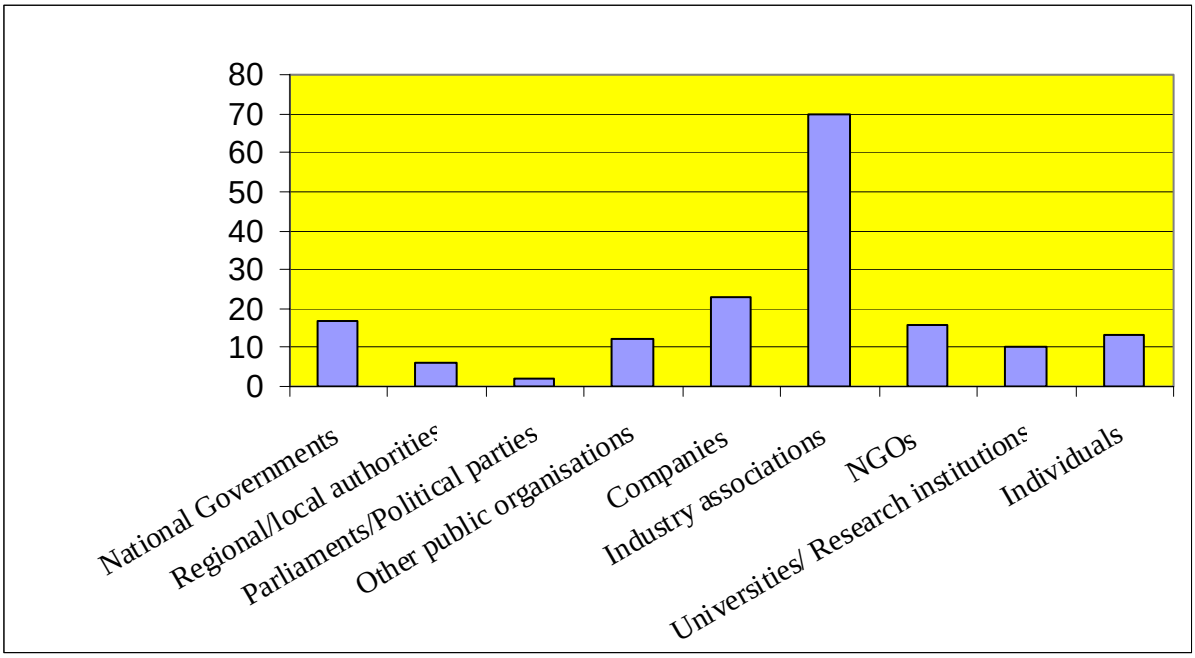
1. INTRODUCTION

Market-based instruments (MBI) such as taxation, tradable permits, charges and targeted subsidies are increasingly used in environment and related policies alongside regulation as cost-effective tools to achieve policy objectives. The EU's 6th Environment Action Programme also advocates applying MBI in EU policy. On 28 March 2007, the Commission adopted a Green Paper on market-based instruments[1] to explore options for further developing MBI and to help Commission staff develop their thinking on the subject.

The Green Paper launched a consultation between March and July 2008 which yielded 172 replies. Industry associations and individual companies taken together account for more than half of these, but respondents also include 17 Member States and a number of NGOs, regions, municipal governments, public organisations, researchers and individuals. The answers hence provided quite a broad perspective of the points of view of different stakeholders, industrial sectors and Member States.

Figure 1: Number of Respondents per Category



The responses showed a broad spectrum of opinions on the issues raised. Overall, they favoured greater use of market-based instruments. It was argued that they have the advantage of using market signals to address market failures, where markets for environmental assets

[1] COM(2007) 140 and SEC(2007) 388

either do not exist or do not sufficiently take into account the "true" or social cost of economic activity.

The consultation discussed general issues related to further developing the use of MBI, and their potential impact on competitiveness, income equality and public revenue. The Green Paper also requested opinions on issues related to the implementation of environmental tax reforms, the reform of environmentally harmful subsidies and how MBI might influence energy use. On the latter point in particular, it explored possible ways forward with the Energy Taxation Directive (ETD) to make it more supportive of EU energy and environment policies. The consultation also included questions about using MBI to help tackle the impact of transport, water and waste management, protect biodiversity, and address air pollution, Finally, a new forum to promote and facilitate exchanges of experience and best practice between Member States on the use of MBI and co-ordination of national approaches was suggested.

The remainder of this paper analyses the replies received during the consultation. It is divided into sections reflecting the order in which the options were presented in the Green Paper.

2. USING MARKET-BASED INSTRUMENTS FOR COMMUNITY POLICY PURPOSES

2.1. Market-based instruments in the EU context

What are the areas and options for the further use of market based instruments at EU or national level? Could market based instruments be used in a way that promotes competitiveness, and does not impose an undue burden on consumers, in particular citizens with a low income, but at the same time ensures revenue for public budgets? Should the EU more actively pursue taxation to further Community policy purposes (in addition to fiscal objectives)? Is this the right response to current global challenges and the fiscal needs of national budgets?

Market-based instruments — a more cost-effective policy framework

The majority of the replies suggested expanding the use of market-based instruments (MBI) as an environment policy tool. They agreed that MBI could lead to a more efficient regulatory framework, smarter resource use and lower environmental impacts. However, a number of respondents, in particular from industry federations, also expressed concern about putting a greater burden on energy-intensive industries, the risk of 'carbon leakage' to countries outside the EU, and the uncertainty that MBI could create for businesses, e.g. the volatility of carbon prices under the EU emissions trading scheme (EU ETS). Many replies emphasised that MBI should be set up after sound research and impact assessment with regard to environmental performance and economic cost, competitiveness, equity issues, and fiscal policy. Some business associations remarked that MBI should only be used for activities and products where alternatives to environmentally harmful practices were available or could be developed. In some cases it was, however, acknowledged that it is the policy objective, not the

instrument, that entails costs. Industry federations also stressed that MBI should preferably be harmonised and streamlined, predictable, and easy to administer. They should be implemented as part of a policy mix including regulatory and administrative measures.

Decision making at EU or national level

Opinions differed on decision-making powers for introducing MBI in environmental policy. Some argued for EU-wide solutions to deal with cross-border policy issues and to avoid distortions of the internal market and competitiveness that might otherwise arise from unilateral policies. Other replies emphasised that Member States were better equipped to decide on the most appropriate mix of policy instruments taking into account specific social and environmental circumstances, and should retain flexibility over taxation issues and control over spending revenue while coordinating the implementation of MBI at EU level. It was also argued that the principle of subsidiarity should be observed and that there was no need to change the division of responsibilities between the Member States and the EU on MBI.

Potential for market-based instruments

A wide range of possible areas for further development of MBI emerged from the consultation. In addition to the transport and waste sectors (see Section 4), an MBI was proposed in the construction sector, to improve energy efficiency in buildings, and in the food industry, as an incentive to develop green chemistry, e.g. bio-refineries.

A few Member States specifically mentioned the possibility of reducing VAT for “green” behaviour, for example to encourage consumers to buy highly environment-friendly appliances.

Several respondents suggested introducing financial incentives that would reduce the environmental burden while enabling businesses to maintain international competitiveness. Examples are green investment funds, financial support for technology transfer, investment and R&D tax deductions, and targeted loans for environmental projects.

Use of taxation to further Community policy

Despite the general opinion in favour of making more use of market-based instruments, several respondents were cautious about the introduction of new tax schemes, arguing that the Commission needed a very good justification for expanding taxation at EU level for non-fiscal reasons. However, energy and climate change (or similar common EU concerns) may provide this justification. They stressed that the Commission must also show that taxation is the right instrument for the purpose, and that an alternative — perhaps politically less sensitive — instrument would not be more appropriate.

The Member States, however, repeatedly stressed the need to bear in mind that the main objective of taxation was to generate revenue. Another point made repeatedly (by the business sector, but also Member States) was that the environment should not be used as pretext for raising taxes. Nevertheless, some Member States favoured the use of environmental taxes and most of them, in general, would welcome some form of informal involvement by and guidance from the Commission. The majority of industry respondents were against the EU more actively pursuing taxation to further Community policy purposes. These respondents would prefer a review and modification of existing measures without imposing new taxes. The strongest call for environmental tax reform came from a number of NGOs.

The impact of MBI on competitiveness and social equity

Opinions on how MBI would affect competitiveness were sharply divided. Replies from certain sectors confirmed that theymight well benefit from environmental MBI, for example those developing green products (energy efficiency, lead technologies in household appliances, etc.) or those that might perform better than their competitors (for example, railway transport might suffer less from emission charges than road transport). Representatives from other sectors suggested, by contrast, that they might suffer more from certain market tools, like taxes and charges, and hence saw their competitiveness at risk if other countries did not apply similar policies. For example, it was argued that the energy sector and energy-intensive industries might be greatly affected by energy taxes especially if emissions and energy efficiencies were already at the 'best available technology' level and could not be improved further.

Replies from governments and NGOs suggested that well-designed market-based instruments would need to take social equity into account to be more beneficial in the longer term. As one instrument alone cannot be expected to incorporate all these considerations, applying market-based instruments for environmental purposes should be accompanied by other targeted instruments addressing distributional concerns. This could be done, for example, by using revenue from environmental taxation for income tax rebates or financial incentives for low-income households to move towards using energy- and carbon-efficient technologies.

2.2. The case for environmental tax reforms

Should the EU more actively promote environmental tax reforms at national level? How could the Commission best facilitate such reforms? Can it for example offer some kind of coordination process or procedure? How does the need to reduce the tax burden on labour in many Member States fit with the objective to promote innovation and to support research and development in order to shift towards a "greener" economy? How can this be achieved while at the same time respecting budgetary neutrality? Would a more significant tax shift towards environmentally damaging activities be the right answer?

Many replies from governments and NGOs suggested that the European Commission should play an important role promoting a more consistent approach to environmental tax reforms in the EU, but opinions varied as regards the policy instruments that should be used and the

intensity of cooperation at EU level. On the other hand, a clear majority of industry representatives was against the EU more actively promoting environmental tax reforms at national level.

Some respondents argued for further harmonisation to create a level playing field across the EU and to avoid market distortions. Others stressed that taxation was mainly the responsibility of the Member States and the EU should only issue recommendations or do nothing.

Those favouring a more active role for the Commission proposed a number of specific actions such as shifting a fixed share of taxes from labour to pollution and resource use; developing guiding principles for the implementation of MBI in the Member States, introducing a coordination process, and creating a Green Tax commission for this purpose; facilitating exchanges of experience and best practice; and offering technical assistance.

Some replies also emphasised that further research and evaluation should be carried out on the results of environmental tax reforms.

The replies suggested various options for using the revenue from market-based instruments. Some argued that it was important to maintain budgetary neutrality where the revenues from market-based instruments would be used to decrease labour taxes leading to improved economic efficiency via the so-called double dividend. It was suggested that revenues could alternatively be geared to improving competitiveness, in particular for energy-intensive businesses, through financial support measures.

Opinions on shifting taxation from labour to environmental taxes also varied. Some saw environmental taxation as an important opportunity to reduce the environmental impact of economic activities, promote economic efficiency, achieve employment gains and decrease energy dependency. While some warned that the yield from market-based instruments could decrease if they were successful in changing the behaviour of producers and consumers, and thus should not be relied upon as a source of long-term revenue or to produce a tax shift, others pointed out that environmental tax reforms would bring behavioural change only in the long term, and that the tax base would thus remain relatively stable.

Other respondents, in particular from the business sector, were more cautious. They argued that the double dividend of decreasing environmental impacts and increasing employment through lower labour taxes would not work or would be uncertain, and that environmental taxes should first of all have environmental, not fiscal objectives. In order to generate enough revenue for an impact on the labour market, the environmental taxes would have to be increased significantly. Environmental taxes would thus form too small a base for reducing labour taxes. These replies suggested that lower labour taxes should be financed through economic growth and reducing non-sustainable public expenditure. The majority of industry respondents, in particular, did not support shifting taxation towards environmentally damaging activities. Some argued on the basis of competitiveness issues, others were concerned by redistributional effects.

Some respondents emphasised that to achieve environmental objectives there should also be a shift on the expenditure side, increasing spending on environment and energy efficiency, and expanding green public procurement.

Regarding the promotion of innovation and research, several respondents suggested specific measures besides environmental tax reform, such as reducing the tax burden for investment in environmental technologies, using revenues from environmental taxes for R&D subsidies, and providing funds to accelerate the adoption of new technologies in the later stages of development.

2.3. Creating an MBI Forum

Would the establishment of the abovementioned MBI Forum be useful to stimulate exchanges of experience/best practice on Environmental Tax Reform between Member States? How could it be organised in an optimal way? How should it be composed to avoid potential overlap with existing structures?

The replies showed clear and almost unanimous support for an interdisciplinary exchange of information and promotion of good practice between Member States. A more 'joined-up' approach of this sort was considered to provide added value and to help Member States to design their policies in a cost-effective manner. Most respondents considered an MBI Forum to be a useful instrument for this purpose.

While many supported setting up a new horizontal forum that would "*help environmental economists to talk to tax lawyers*", a number of Member States suggested that it could be linked to existing forums and institutions, both inside the EU and beyond, e.g. at OECD level. Specific needs for information exchange could be met by organising ad hoc conferences or meetings of high-level experts.

Those supporting the creation of the MBI Forum made suggestions about its design and membership. Some suggested limiting its scope to specific issues, such as water, waste management and biodiversity, while others saw it as suited to discussing broader political issues, such as environmental tax reforms, with subgroups for specific issues. The Forum would also allow Member States to provide information on recent changes in policy and the law. Such a task could be supported by a special homepage and the results could be made public.

As for the composition of the forum, the question was discussed whether to include stakeholders. While some saw it as a group consisting of officials of Member States and the Commission, others suggested extending membership to experts from academia and science, international partners, NGOs and industry, who could provide practical experience and recent research findings.

The Commission's role in the Forum was seen by respondents as being to advise on and coordinate the work, provide analysis of the effects of (existing and planned) MBI and inform Member States about developments. This could be based on the OECD/EEA database on MBI plus a database on good practice with reference to evaluation exercises. It was also suggested that the Commission should propose methods of making progress on the use of MBI.

2.4. Reform of environmentally harmful subsidies

What is, in the light of national experiences, the best way to advance the process of reforming environmentally harmful subsidies?

A majority of respondents emphasised that the review of environmentally-harmful subsidies should be conducted to remove policy inconsistencies. Some argued that the definition of environmentally-harmful subsidies should be clarified to include subsidies that *distort the market by discriminating against environmentally-sound products and services.* Several requested an analysis of existing subsidies and their impact on the environment. Some, however, questioned the use of the term "environmentally-harmful subsidies" and asserted that some of the subsidies represented a trade-off between different objectives, e.g. tax reductions for energy-intensive industries were necessary for competitiveness, and should thus be maintained or reformed taking into account these varied objectives.

The main sectors proposed for the review of environmentally harmful subsidies were agriculture, including the Common Agricultural Policy, regional policy (including the Structural Funds), energy, transport (including lower fuel tax on diesel, and exemptions for aviation fuel and maritime transport fuels), and foreign trade. More specifically it was suggested that subsidies to enterprises should be dependent on the environmental quality of their products and processes. However, some respondents also emphasised that instead of abolishing financial instruments in other policy areas, environmental considerations should be better taken into account when granting subsidies. Transitional periods and regular reviews would be useful in phasing out harmful subsidies.

Respondents also suggested that environmentally harmful subsidies should be reformed by means of appropriate legislation in the Member States with mandatory monitoring and evaluation and that the reporting by the Commission on state aid could be improved. It was also considered important to raise awareness and improve information on the issue.

3. OPTIONS FOR FURTHER APPLICATION OF MBI IN INFLUENCING ENERGY USE

As regards the revision of the Energy Taxation Directive, the responses to the Green Paper reflect a wide spectrum of opinions on the various approaches and possible amendments that the Commission put forward for discussion.

Most governments welcomed the suggested amendments to the Energy Taxation Directive essentially as a means of clarifying the interaction between emissions trading and energy taxation and making the two instruments more consistent while respecting their different objectives. The proposed revision was also welcomed as an opportunity for Member States to better reflect environmental considerations and, in many cases, to adjust the minimum EU tax rates. Stakeholders from the business sectors were, in principle, prepared to support the revision of the Directive, provided that it would help to avoid imposing a double burden on business by ensuring more coordinated application of the various EU instruments.

In general, dividing the minimum EU tax rates was considered a reasonable way of distinguishing between environmental and non-environmental goals of energy taxation and thus allowing some restructuring of environmental policy instruments given the existence and further extension of the EU emission trading scheme. However, some national governments in particular raised concerns regarding not only potential problems and risks to tax systems but possible distortions of the internal market, which must above all be avoided. The overriding majority of respondents considered that for both practical and policy reasons, the environmental part of the tax should only be linked to CO_2. There was also a clear indication that on economic and fairness grounds, the CO_2 part of the tax should be similar across the EU and should send similar price signals to the EU emission trading scheme. There was general concern about differentiated price signals for different sectors.

On electricity, the replies confirmed that no environmental tax was needed as long as the externalities were properly addressed by other measures. On renewable energy, the replies showed support for eliminating any distortions in the tax system that discriminated against renewables, but also suggested that more direct means of support were needed to encourage and promote renewable energy.

On energy-intensive users already included in the scope of the EU emission trading scheme, not all Member States agreed that changes to the tax system were needed to alleviate the burden imposed on them by the EU. This was, however, one of the points most forcefully made by the business sector. In conclusion, splitting the minimum EU tax rates was envisaged as a pragmatic option allowing the various objectives of the tax systems to be met, on the one hand, while, on the other, addressing to some extent the calls for more cost-effective environmental policies from the business sector, experts and some Member States.

3.1. Streamlining and developing the Energy Taxation Directive

Should the Energy Taxation Directive be reviewed to make a clearer link to the policy objectives the Directive integrates, in particular in the field of environment and energy? Would this make energy taxation a more effective instrument by better combining the incentive effects of taxation with the ability to generate revenue?

A clear majority of respondents, especially from national governments, favoured the proposed approach to establishing a closer link between energy taxation and environmental and energy

policy objectives. They also supported revision of the Energy Taxation Directive to this end, although some governments considered that in its current form the ETD already allowed favourable treatment of environment-friendly behaviour. Generally speaking, business sector respondents agreed that energy taxation legislation should be in line with policy priorities but their views on whether a change in the ETD was required were more mixed.

On the substance of the revision there was broad support from governments for an increase in minimum rates, which were considered too low to achieve a significant level of harmonisation, incentivise energy-efficient behaviour and combat climate change. At the very least it was felt they needed to be aligned with inflation. For the business sector, on the other hand, the overriding concern was to avoid an increase in the overall tax burden, i.e. to ensure revenue neutrality of any tax reform. They also called for a detailed analysis of the behavioural impacts of environmental taxation before any revision of the legislation concerned.

One Member State stressed that if a new legislative proposal was made, existing derogations under the current ETD would have to be reviewed. By contrast, several other Member States stressed the need to continue to be able to give special treatment to specific sectors, in particular energy-intensive businesses, for reasons of competitiveness. Also, several Member States' replies expressed concern about the impact on low-income households, calling for additional measures to avoid adverse effects on them.

The respondent Member States generally considered that clarifying the connection between EU environment and energy policy goals would make energy taxation more effective. However, a number of government and business voices saw limits to what taxation can contribute to more general policy goals such as energy efficiency. As for the balance between environmental and fiscal policy objectives, some Member States stressed that in any case finance ministries needed to secure revenue for the public budget and therefore any new ETD structure needed to allow Member States some degree of flexibility in implementation.

Is splitting the minimum levels of taxation between energy and environmental counterparts the best way for doing so? What would be the pros and cons and the main practical aspects of such an approach? Would the environmental incentive created by energy taxation be a sufficient and adequate response to reflect the objectives of the energy policy in the field of biofuels, including the creation of a market-based incentive for second generation biofuels?

The idea of a split between the energy-related and the environment-related parts of excise duties drew a mixed reaction from Member States. Quite a number considered the approach logical to achieve compatibility with the ETS by exempting ETS sectors from CO_2-related minimum taxes. However, some Member States were also critical of this idea, mainly because they thought it would complicate taxation structures unduly and restrict Member States' flexibility in designing the structure of their national taxation system. Some also reserved final judgment until the Commission comes up with more detailed proposals. One Member State commented that while a CO_2-related tax was a good idea in general it would have to be strongly harmonised from the beginning so as to avoid distortion of the internal market.

Reactions from the business sector on the introduction of an explicit environmental component to taxation were equally divided. A number of respondents from the transport sector (rail, alternative fuels) held that this was needed to level out the current advantages of road transport using conventional fuels. On the other hand, representatives of energy-intensive industries were generally more sceptical, fearing an increase in the overall tax burden. Those NGOs touching on this point tended to support a CO_2-based minimum tax but often stressed the need for more widespread internalisation of external environmental costs.

On the more specific idea of basing future minimum taxes for the energy-related part on energy content rather than volume (as is presently the case) a number of positive comments were received from national governments. This was considered a fairer base for calculation as otherwise fuels with a relatively low energy density, including biofuels, would be unfairly disadvantaged. Support for this idea was also expressed by respondents from those energy sectors for which the current system is considered in some way unfavourable (biofuels, natural gas).

Other comments on biofuels tended to favour positive tax discrimination to enhance their market take-up, either by according them a preferential rate for the energy-related part or by exempting them from the CO_2-related part of taxation. There was also a call for specific positive differentiation in favour of second-generation biofuels via the tax system. Another approach was simply to revise Article 16 of the ETD rather than change the structure of taxation. Some Member States stressed that they preferred support instruments other than preferential taxation such as direct subsidies, or at least regarded a combination of tax incentives with additional measures as necessary. Business and NGO responses covered a similar range of opinions, but there was also concern that tax incentives should not unduly favour one use of biofuels over another (e.g. transport over use for heat and power generation).

Is there a need for additional taxation addressing the remaining environmental aspects of electricity production (if any)? Is the proposed approach sufficient to favour uptake of electricity of renewable origin? What is the impact of such a Community framework for electricity of nuclear origin (bearing in mind the differing approaches at national level towards the use of nuclear energy)?

Concerning electricity, the most commonly expressed view was that different measures to address environmental aspects of electricity generation already existed and any extra tax measure would have to be checked for compatibility with those measures. Still, some Member States suggested that tax rates for electricity should reflect the source of the electricity; at present taxation is levied on end use and therefore does not distinguish between different generation sources. Likewise, some respondents argued in favour of favourable tax treatment for renewable energy, although this was not in itself considered to be sufficient to guarantee the use of renewables in the electricity sector.

Relatively few respondents from the business sector commented on the specific impacts of environmental taxation on the electricity sector. Again it was stressed, mainly by electricity

producers and intensive users, that Community instruments addressing the environmental externalities of power production already existed, notably the ETS and the IPPC directive, and that the added value of another environmental tax component was therefore not obvious. Respondents from the railway sector argued for an environmental tax component for transport fuel but not for electricity as this was already covered by the ETS, a situation which in their view currently penalised rail against road and air traffic.

In general, there were very few remarks on the impact of the Community energy taxation system on nuclear energy, mostly reflecting the authors' attitude to this source of power generation.

3.2. Interaction of energy taxation with other market-based instruments, in particular the EU-ETS

Would the suggested changes to the Energy Taxation Directive and the proposed approach to its scope be the best solution for ensuring coherence between the Directive and EU ETS? Are there other options to achieve this objective?

Generally, respondent governments agreed that the changes suggested in the Energy Taxation Directive review were a good way of achieving consistency between the ETD and the EU ETS Directive and that the revision of the ETD was therefore a priority in this field. Nevertheless, several Member States stressed that in spite of the need for consistency between the two instruments they considered that the ETS and energy taxation pursued two distinct objectives: reducing emissions cost-effectively, on the one hand, and raising revenue, on the other. In consequence, the economic and social effects of the two instruments differed — one Member State drew attention to the effects on small businesses and households of the Energy Taxation Directive. In this sense it was essential to clarify whether potential points of conflict between the two instruments existed.

Most governments welcomed the suggested approach of setting the level of the tax burden in relation to environmental impacts as long as it was uniformly applied in all Member States and these would be able to cover sectors which were not yet included in the EU ETS (services, transport, households, etc.).

Splitting the EU minimum taxation levels between energy and environmental components was seen as a pragmatic solution: on the one hand, it would meet the various objectives of the Member States' tax systems, and, on the other, it would to a certain degree address the calls for more cost-effective environmental policies from the business sector, experts and Member States (i.e. avoidance of double regulation).

Not all Member States agreed that changes to the tax system were needed to alleviate the burden imposed by the EU on energy intensive users already included in the EU emission trading scheme. One Member State argued, for example, that minimum rates were too low to have significant impacts on energy-intensive industry. Others suggested that a combination of

the ETD and the EU ETS was acceptable as long as it did not exceed the external costs of CO_2 emissions because taxation ensured a minimum of internalisation of environmental costs irrespective of the market price of permits. On this point, however, there were strong reactions from the business sector calling on the Commission not to neglect the issue of competitiveness.

Reactions from business clearly reflected sector-specific concerns about energy taxation. In general, however, industry supported the approach presented by the Commission and recognised that all sectors of the economy should contribute to the overall emission reduction effort. Their main point was that the EU ETS and environmental taxation should be used in a complementary way in order to avoid not only overlaps and market distortions but also the imposition of an even higher burden on economic operators which would in turn harm competitiveness.

Other respondents — mainly NGOs — expressed concern about the exclusion of ETS sectors from the environmental component of the ETD since they considered this would weaken European climate change, environment and energy policies.

What are the potential options that should be explored in order to provide the necessary incentives to encourage the EU's trading partners to undertake effective measures to abate greenhouse gas emissions?

The replies were quite diverse on the question of how to encourage the EU's trading partners to take effective action to decrease greenhouse gas emissions. An international agreement on reducing greenhouse gases would ease concerns about the impact of unilateral CO_2 pricing instruments on competitiveness and carbon leakage. Replies suggested several measures to encourage the implementation of measures to cut greenhouse gas emissions worldwide.

Some Member States see border tax adjustments as a potential complement to the EU emissions trading scheme, while others regard this measure as a restriction on free trade: the question of compatibility with WTO rules was seen as crucial.

Those governments, that see a potential for the use of border tax adjustments, thus suggested studying the scope for their potential application to reduce carbon leakage and also pointed to other measures such as sectoral agreements in order to ensure trading partners' participation in a common effort to reduce greenhouse gas emissions and fight climate change.

Those Member States that were sceptical of measures such as border tax adjustments argued that they could prove unworkable and might lead to WTO disputes or even retaliatory measures against European goods. For the same reasons, the majority of industry respondents were rather sceptical about the application of border taxes.

Some trade associations replied that the present legal framework already enabled the EU to apply appropriate border mechanisms for equalising carbon costs. Still, the business sector

would welcome a broader discussion on this issue and supported the extension of the ETS to other countries.

Several suggestions aimed at encouraging the EU's trading partners to carry out measures to decrease greenhouse gas emissions were received from NGOs, researchers and academics. They expressed the hope that trade partners would be encouraged by the results of using MBI for environmental purposes in the EU and the Member States; the use of revenue from emission permit auctions to promote innovative technology and research might also provide an attractive example of how to achieve energy efficiency and meet renewable energy targets as the main strategies in fighting climate change. One respondent also suggested that energy efficiency considerations should be included in EU trade policy, especially in anti-dumping cases.

4. OPTIONS FOR FURTHER USE OF MBI IN ENVIRONMENT POLICY

4.1. Tackling the environmental impact of transport

What would be the best MBI to tackle emissions from shipping taking into account the specific nature of maritime transport? How could it be best designed?

A considerable number of respondents saw a need to address the growing level of emissions stemming from maritime transport, partly by use of one or more of the following MBI:

- differentiated port taxes based on tonne-kilometres and emissions,
- differentiated navigation charges, as the geographical effect of non-CO_2 emission varies,
- taxation of bunker fuel,
- subsidies for the adoption of more efficient technology,
- inclusion of shipping in the EU ETS.

One industry federation emphasised that, as fuel is the largest cost factor in shipping, creating an economic incentive to purchase clean fuels for transport shipping and providing an environmental credit linked to the engine emissions would be among the best inducements to engage in more ecological and energy-efficient fuels and technologies. Norwegian vessels running on liquefied natural gas (LNG) were mentioned as a good example.

These measures could be accompanied by regulatory measures, such as prohibiting the most polluting ships, raising fuel quality standards by, for example, limiting the sulphur content of marine diesel, and industry self-regulation. More generally, respondents pointed out that there should not be exemptions that reduced costs for some modes of transport, such as the current

exemption of bunker fuels from excise duties, and that currently maritime transport often does not pay the full cost of emissions and water pollution.

Some respondents cautioned that there could be unwanted side-effects, as increasing the cost of short-distance sea shipping could make road transport more attractive. It was also pointed out that shipping is dominated by small operators and that worldwide monitoring of ship movements, bunkering and fuel consumption is difficult. A holistic approach to air emissions from shipping would also be necessary, it was observed, as, for instance, reducing SOx and NOx could have an adverse effect on CO_2 emissions.

Finally, it was argued that binding regulations should ideally come from the International Maritime Organisation to ensure maximum worldwide harmonisation and avoid distortions to international competition.

How can infrastructure charging including considerations related to environmental costs best be applied to transport modes? Should this model apply to all transport modes or take into account specificities of each transport mode? To what extent should the Eurovignette directive be used in this respect?

Transport is an important and growing source of CO_2 emissions, air pollution, noise and congestion, and many replies therefore discussed various options for using MBI to lessen the environmental impact of land transport and internalise environmental, social and economic externalities.

Infrastructure charging and the Eurovignette Directive

Regarding the scope of the measures, several respondents supported harmonisation across the EU, and one transport sector federation was in favour of an integrated approach to infrastructure charging for all transport modes. Other respondents pointed out that measures should take into account the particularities of different modes of transportation and recognise differences among the Member States in line with the principle of subsidiarity. For instance, it was proposed that road pricing should be left to Member States to decide, as traffic density varies significantly between countries. Another transport sector stakeholder was not at all in favour of additional MBI.

Several references were made to the importance of developing a model of external costs at EU level as a basis for more comprehensive infrastructure charging. It was suggested that the environment, climate, land occupancy and accident costs of the different transport modes should be taken into account in pricing[2].

[2] The Commission has since published a communication *Strategy for the internalisation of external costs,* COM(2008) 435 and SEC(2008) 2207.

Several respondents argued that the Eurovignette Directive could be revised to include further external costs and that it could be extended beyond main roads, to avoid network shifts, and to all vehicles, including passenger transport[3]. Some respondents suggested that the Directive could be modified to make distance-based charges compulsory, but also argued that such a system could be administratively expensive to implement. Several other specific suggestions were made, such as more far-reaching harmonisation of the tax on diesel and regulating freight transport in the Alpine region through quotas.

A transport sector stakeholder proposed exemptions (or reductions) from road charges under the Eurovignette Directive for non-petroleum, clean-burning, low-CO_2 vehicles such as natural gas vehicles, which should apply to all types of vehicles and customers. Such a measure was not expected to have a large-scale impact on the revenue of local or national governments. Also, according to the machinery sector, the Eurovignette could impose higher rates in sensitive regions. Others argued that charges under the Directive only served to finance infrastructure and thus environmental components did not belong there. Some industry representatives argued that hauliers should be compensated for any increase in charges for road transport.

Tackling urban transport: experiences with congestion charging

In anticipation of the Commission's Green Paper on urban mobility[4], several respondents described positive experiences with the introduction of congestion charging in Stockholm and London. An energy federation suggested introducing congestion charges taking into account PM, NOx and CO_2 emissions. Others pointed out that the MBI could be supplemented by further regulation, for example, on zero emissions of small particles from trucks and noise performance standards for cars and trains.

However, some warned that congestion charging might only shift traffic to other areas and have an adverse social impact. Suggested alternatives to charging were greater incentives for purchasing clean vehicles and developing infrastructure (ring roads) to reduce the environmental impact of traffic in cities. Sustainable urban transport plans could be made mandatory for agglomerations over 100 000 inhabitants.

Inclusion of transport under the EU ETS

Opinions were divided as to whether to include transport in the EU ETS. A transport federation suggested that a thorough debate was needed as to whether GHG emission reductions were best achieved with amendments to the Eurovignette Directive or by including transport in the EU ETS. Several respondents emphasised the need for equal treatment among the modes of transport in the emissions trading system. However, one Member State argued that including land transport in the EU ETS would be premature. More support from several

[3] In the meantime, the Commission has submitted a proposal for the review of the Eurovignette Directive, see COM(2008) 436.

[4] Since published as COM(2007) 551.

Member States and NGOs was given to the proposal that aviation should be included in the EU ETS[5], and also supplemented by taxes on tickets, emissions or aviation fuel, especially as rail transport bore additional costs through energy taxation while aviation fuel was at present generally untaxed.

4.2. The use of MBI to address pollution and protect resources — water, waste management

How can the Commission most effectively ensure implementation of the water pricing policies set out in the Water Framework Directive? What options could be explored to reinforce the links between investments in national water projects and the introduction of corresponding water pricing to provide incentives for users and avoid distorting competition?

Replies were divided on the application of market-based instruments to water policy. Many respondents suggested using taxes, charges and subsidies to influence behaviour in water use. The following recommendations were made for further development of water policy:

- More careful use of water could result from introducing a unified pricing policy across the EU and a calculation methodology for charges.
- Water pricing should switch from regressive to progressive tariffs and should include all costs.
- Water pricing should be tailored to national and regional circumstances so as to take account of the affordability of water for poorer parts of the population, particularly in the new Member States.
- Agri-environmental measures could be used to support groundwater quality. Agricultural subsidies and exemptions that allow the use of water for less than its economic value should be progressively abolished.
- There should be a clear differentiation between general water use and water use for energy purposes, so that MBI do not worsen the incentives for renewable energy production such as hydropower.

Regarding revenue from water pricing, some respondents suggested that they should be used to support water projects, for example, investment due to demographic change, infrastructure improvements and leakage reduction, and the production of biogas and biomethane (examples in Sweden and Switzerland). In this context, a few respondents argued that grants for such investment projects from EU funds such as the Structural Funds should be linked to the introduction of water management agreements and water pricing in Member States.

[5] The Council has adopted a Common Position on this Commission proposal, see Council document 5058/3/08 of 18.4.2008.

To support the implementation of the Water Framework Directive, several respondents called on the European Commission to contribute to research on methodologies for water management, to introduce workshops and guidelines for setting water prices and calculating the external costs of water use, and to set up an information platform for the exchange of best practice. It was also suggested that Member States' obligations regarding cost recovery for water services under the Water Framework Directive (Article 9) be clarified.

Beyond the use of taxes, charges and subsidies, a few replies discussed the question of using tradable permit systems for water. While some suggested studying the issue further, as they saw it as a cost-effective instrument that could fulfil ambitions to internalise the environmental costs of water use, others opposed the use of tradable permits because it would have to be introduced at water-basin level where the number and volume of trades might be too limited to create a working market.

One stakeholder pointed out that the effectiveness of the Water Framework Directive measures should first be evaluated before introducing MBI. Further initiatives were also opposed as they could overlap with the Common Implementation Strategy (CIS) process. The CIS, it was noted, should also take into account all stakeholders and their water usage. Several replies stressed that further MBI were not necessary for water as the national systems already delivered cost recovery and the Polluter Pays Principle was already required by the Water Framework Directive, thus providing sufficient measures to introduce economic incentives. Instead, it was proposed, it was more important to ensure more competition in the sector.

If there is insufficient progress to divert waste away from landfill should the Commission consider proposing a harmonised landfill tax with EU-wide minimum rates?

Does the Community legal framework provide sufficient scope for Member States to use MBI to address waste management issues? Should the Commission facilitate the application of MBI in this area e.g. through supporting exchanges of information?

Replies also diverged significantly on waste management policy. About as many Member States, for instance, favoured a harmonised minimum landfill tax rate as opposed it.

The proponents referred to some experience at Member State level and argued that a harmonised landfill tax with EU-wide minimum rates would provide incentives for waste producers to find solutions for waste recovery, enhance recycling or re-use, and lead to a drop in the amount of waste produced. Most of the waste management industry federations that replied to the Green Paper supported the idea of an EU-wide tax, being in favour of harmonisation.

Respondents against a harmonised minimum tax argued that national circumstances varied and that a harmonised tax at EU level was thus not an adequate solution. In particular, about two thirds of the industry respondents were against harmonised EU-wide minimum rates, mainly on the basis of costs and competitiveness issues. Especially for waste categories for which there is no alternative to landfill (e.g. construction material and mineral waste), the landfill taxes were argued to have no steering effect and could instead lead to fly-tipping. A flat landfill tax would hinder the mix of incentives and flexibility needed at national or local

level to divert from landfill. It was also argued that the economic costs of waste landfills and population density differed among the Member States. For all these reasons, the choice of (one or several) market-based instruments in waste policy should be left to Member States. For example, United Kingdom employs both tradable landfill allowances and a landfill tax. More generally, opponents also warned that introducing new minor taxes should be avoided as it is contrary to deregulation and reducing administrative costs.

While higher landfill taxes would have more impact in Member States, which in the short term should develop alternatives to waste landfill, it was argued that, where waste treatment systems are well established, other instruments could be more effective, such as landfill bans or capacity restrictions. Specific national waste management systems could be jeopardised by harmonisation.

Several respondents suggested alternative options to agreeing minimum landfill tax rates. There could be a general requirement to introduce a landfill tax and criteria for establishing minimum rates to allow sufficient flexibility for the Member States. Another alternative would be to expand the market for waste, subsidising and promoting recycling, and introduce stricter, harmonised rules for landfill to lessen its environmental impact. Also, should a harmonised landfill tax be introduced, it was suggested that the revenue be reinvested in alternatives to landfill. Some also suggested addressing the problem of harmonisation instead through forums and information exchanges or recycling targets. However, it was also argued that a harmonised landfill tax is too narrow in scope, and a broader waste disposal tax with differentiated rates between treatment types should be introduced instead to promote recycling and re-use.

Another point raised in the replies was that market-based instruments in waste policy should also take into account equity issues, especially in the new Member States with less ability to pay. Harmonised rates might thus have social implications in the new Member States while being too low for the old ones.

Many of the stakeholders, especially in the industry, believed that the EU framework provides sufficient scope for Member States to address waste management issues. Some of them even argued that the scope was too wide, allowing Member States to impose discriminatory taxes in some cases and, potentially, affecting the free movement of goods. Others argued that such taxes had been useful to help establish recycling systems in Member States but were now kept only for fiscal reasons. Instead the revenues should be recycled to pay a premium for the best approaches to waste reduction. The Danish packaging tax mentioned in the Green Paper, for instance, was criticised by a few stakeholders who saw it as more expensive without producing better recycling results, while causing market distortions. A few others suggested other areas of MBI application instead, such as encouraging businesses which are recycling and producing biogas from waste. In particular, many stressed the usefulness of exchanges of information and experience to promote application of MBI in this area.

4.3. The use of MBI to protect biodiversity

Should the Member States make a more intensive use of these types of instruments? Should in particular "payments for environmental services" be used more intensively to achieve environmental objectives? And should the scope for introducing systems of biodiversity offsets at Community level e.g. wetland banking be further examined?

Respondents agreed that MBI had the potential to be used in biodiversity protection to attach a monetary value to environmental impacts and biodiversity. However, they also argued that implementation of MBI could be difficult due to measurement and valuation problems. They therefore suggested carrying out robust studies, coordinating at EU level, and experimenting with pilot projects on a smaller scale.

Many respondents supported the use of Payments for Environmental Services (PES); however, some suggested that it should be linked to an assessment of ecological effectiveness and that resources for this purpose were often insufficient. Difficulties in assessing environmental costs could also hinder the implementation of PES. One respondent also noted that overuse of payments for environmental services could incentivise over-delivery of environmental services at the expense of alternative uses of the resources.

A relatively small number of industry stakeholders expressed an opinion regarding the use of MBI to protect biodiversity, and most of them were generally in favour of more intense use. It was pointed out that the German water industry already makes voluntary payments for environmental services in the form of bonuses for resource-protecting agriculture. Very good results had been achieved, it was noted, especially where these measures were handled directly on a contractual basis.

Several replies also supported the use of biodiversity offsets, such as habitat banking, which could lead to the creation of larger protected areas and thus improve connectivity, could increase the cost-effectiveness of nature protection measures and could involve wider private financing, thus getting the business sector involved in biodiversity protection. While experience with this instrument in the EU was limited mainly to Germany, it was suggested that US experience be drawn upon. Some respondents argued that it could be difficult to put into practice because of the differences between habitats and assessments of their value. It was suggested that local compensation of biodiversity loss was useful and important, particularly in cities, to ensure access for the local population, and that, in such cases, offsets in other areas were not adequate. Other replies were more sceptical and argued that ecosystems could not be moved and that recreation took time. Thus, the definition of appropriate criteria and units by which habitat value could be assessed and compared would be essential. Moreover, biodiversity offsets would not reverse declines in biodiversity from invasive alien species and pollution, for which other policy instruments would be required. Offsets should thus only apply to residual damage after other measures had been taken on-site.

Several replies suggested that the utility of this instrument should be further studied and reference was made to studies being launched in the UK. Such studies could improve the knowledge base and form the basis for an exchange of information.

Other MBI suggested for biodiversity protection were taxes and subsidies, including reverse auctioning for subsidies, and payments for environmental damages combined with calls for tenders on specific environmental projects, which might offer more environmental benefit and would be easier to administer.

4.4. The use of MBI to address air pollution

Do you see scope for using cross-border emissions trading schemes between groups of Member States to combat conventional air pollution through SO_2 and NOx? How should such a system be designed to fit with national taxes and charges that are applied in several Member States?

The question on the emission trading scheme for SO_2 and NOx was addressed by a relatively large number of respondents. Some stressed that experience with existing national schemes had been positive in EU Member States, especially the Netherlands, and in the US, but they were divided about developing cross-border emission-trading schemes for SO_2 and NOx emissions.

Some argued that SO_2 and NOx emissions trading should be considered at European level, as it had been effective in the US and it would achieve better results than taxation. They saw it as a useful policy instrument for Member States that are too small to develop a national system. Requirements for Best Available Technologies and emission limits should, however, be kept to ensure a minimum of abatement. It was pointed out that the definition of a ceiling is a key issue and should be in line with recent technology developments. Double burdens should, however, be avoided, and if enterprises were part of the trading scheme, they should be exempt from the relevant taxes and charges.

Many other respondents, including several Member States, were sceptical about the feasibility of an EU trading scheme because of the local nature of the impact of SO_2 and NOx emissions and costs of running such a scheme. It was suggested that harmonising legislation on maximum emission levels or applying best available technologies and standards would be a better approach. One (industry) respondent suggested that a pollution tax would be more efficient because establishing a trading scheme would introduce incentives to increase pollution in advance, but the responsibility for its introduction should remain with the Member States. Some Member States suggested that the control area for the trading scheme should not be the whole EU, that limits should be set on regional groupings, and also that Member State participation should be optional. This would help to deal with risk of the emergence of hot spots with excessively high levels of emissions.

A large number of industry respondents cautioned against the use of a trading scheme for NOx and SO_2, highlighting potential overlaps with the Integrated Pollution Prevention and Control Directive and Best Available Technologies, which already regulate these pollutants. This could mean there would be little room for trading. Concerns over possible damage to international competition and increased administrative burdens were also raised, and there was scepticism about the real effectiveness of emission trading systems. According to one stakeholder it was more important to implement the existing EU legislation on NOx and SO_2. It was in fact pointed out that, if an EU wide trading scheme for NOx and SO_2 were launched, it would benefit the late movers to the detriment of those who had already invested in reducing emissions. Only three industry federations supported trading schemes, while 21 were against.

5. CONCLUSION

The public consultation confirmed that there is considerable interest in further use of market-based instruments in many areas of environmental policy and that more transparency, information and even coordination would be needed within the EU, not only to make life easier for businesses that have to cope with often very different schemes across the internal market, but also to allow expertise and practice to spread across the borders.

In the light of the replies to the consultation, the Commission is undertaking a number of further activities in the MBI areas covered by the Green Paper:

- It is currently reviewing the Energy Taxation Directive to better reflect EU environmental policy objectives.
- It is analysing the possibility of allowing reduced VAT rates for energy-efficient equipment and services.
- It has launched studies to analyse the scope for tradable permit systems for air pollutants. It has also launched studies to evaluate different market-based instruments to enhance the conservation and sustainable use of biodiversity in general and to analyse the scope for the use of habitat banking for this purpose in particular.
- It is reviewing options for the design of the MBI Forum.