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Shaping The EU Climate Change Policy For Energy-Intensive Sectors Considering The Lisbon Strategy

Resumo

The Lisbon Action Programme put a high priority level on strengthening competitiveness in the European economy and keeping the EU leadership towards sustainable development, with special emphasis on fighting climate change. To attain this goal the regulation of the energy sector is crucial. However, the current climate change policy mix addressed at this sector shows poor co-ordination with potential relevant efficiency costs associated. In this paper we provide some insight into possible changes to introduce in the legal framework to improve the *status quo*.

1. Climate change policy and the Lisbon Strategy

The Lisbon Summit in March 2000 was designed to mark a turning point for EU enterprise and innovation policy. European Union Heads of States and Governments agreed on making the European Union 'the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion'. To achieve this goal, an overall strategy should be applied, aimed at preparing the transition to a knowledge-based economy and society by better policies for the information society and R&D, as well as by stepping up the process of structural reform for competitiveness and innovation and by completing the internal market; modernising the European social model, investing in people and combating social exclusion; and sustaining the healthy economic outlook and favourable growth prospects by applying an appropriate macro-economic policy mix[1].

However, nearly half-way through the implementation period, many critics complained that not much progress has been made on achieving these ambitious goals. In its Spring Report, which served as a basis for the Spring Summit in March 2004, the European Commission set out to assess the progress made towards the Lisbon goals. This report, as well as the Implementation Report of the Broad Economic Policy Guidelines 2003-2005, the Joint Employment Report, and the Implementation Report on the Internal Market Strategy, provided a dark picture of the state of the EU's competitiveness.

Marking the half-way point for the Lisbon Action Programme, the spring European Council of 22-23 March 2005 placed renewed focus on growth, innovation and employment and encouraged the strengthening of social cohesion and the mobilisation of national and community resources in the Strategy's economic, social and environmental dimensions. Simultaneously the European Commission named sustainable development as the general framework for the Lisbon strategy. Europe was urged to continue to take a lead in addressing the causes of climate change by improving energy efficiency and showing that alternatives can be found through market-based solutions[2].

[1] Presidency Conclusions of the Lisbon European Council of 23 and 24 March 2000, available at http://ue.eu.int/ueDocs/cms_Data/docs/pressData/en/ec/00100-r1.eno.htm.
[2] COM(2005) 12 final, 26 January 2005, pp. 4 and 9.

The Kok Report, presented to the European Commission and the European Council at the beginning of November 2004, though putting the main blame on the lack of political will by the Member States, named "an overloaded agenda, poor co-ordination and conflicting priorities" as the cause of a "disappointing delivery". Such flaws are evident as far as the climate change policy mix addressed at the energy sector is concerned.

The EU climate change policy is a relevant variable in the process of innovation, technological development and creation of employment. The EU has set ambitious environmental goals to increase energy efficiency and reduce greenhouse gas emissions by at least 20 per cent by 2020, and to promote renewable energy sources. Environmental industries in Europe are at the global forefront on technologies generating a turnover of approximately 2.2 per cent of EU GDP, and employing 3.4 million people. To overcome regulatory and other obstacles, which can prevent the full exploitation of the new market opportunities, a range of policy tools including market based instruments and well designed regulation are needed[3].

Within the EU climate change policy programme, energy-intensive sectors, which include heavy industry and the energy sector, are specially targeted by regulation. Since January 2005 these sectors have been regulated by the Energy Taxation Directive (2003/96/EC) and the EU Emission Trading System (ETS) Directive (2003/87/EC). Community minimum taxation levels for the consumption of energy products and electricity are set out in the Energy Taxation Directive (2003/96/EC). Member States can comply with the Community minimum taxation levels by taking into account the total charge levied in respect of all indirect taxes which they have chosen to apply (excluding VAT). The implementation of the Community framework for the taxation of energy products and electricity are a matter for each Member State to decide.

Under the Kyoto Protocol, the EU committed itself to an 8 per cent reduction in its greenhouse gas emissions by 2008-2012 compared to 1990 levels. The EU15-target was broken down into targets for individual Member States in the subsequent Burden-Sharing Agreement[4]. The EU ETS Directive created a market where European companies can buy and sell the 'right' to emit carbon dioxide (CO_2). The ETS does not imply new environmental targets, rather, it seeks to achieve compliance with existing targets under the Kyoto Protocol at least cost by enabling participating companies to buy or sell emission allowances.

The central element of the EU ETS is the National Allocation Plan (NAP), which each Member State develops autonomously and then submits to the European Commission. The Directive provides that the NAP shall state the total amount of allowances in each period and how these allowances will be allocated to individual installations covered by the system according to the activities listed in Annex I of the EU ETS Directive.

Through the EU ETS Directive, the EU has hence put a cap on CO_2 emissions from some types of installations. Companies covered by the EU ETS must surrender allowances for their greenhouse gas emissions. The companies either receive their allowances for free at the beginning of each trading period or purchase them at auctions and/or on the market. In the first trading period (January 2005 to December 2007), Member States were obliged to allocate at least 95 per cent of the allowances for free (Art. 10). This amount dropped to 90 per cent in the second trading period (2008-2012).

Since the overlap between instruments might involve high potential efficiency losses, the coordination of EU climate change regulatory instruments is a condition for a macro-

[3] European Commission, Renewed EU industrial policy in times of climate change and globalization, Memo/07/273, Brussels, 4 July 2007.

[4] Decision of the EU Environment Council, 16 June 1998, reaffirmed by joint ratification of the Kyoto Protocol on 31 May 2002.

-economic policy mix able to implement the Lisbon Strategy. Though the implementation of this strategy requires caution regarding all the sectors and instruments covered by the EU climate change policy, special caution is recommended regarding highly regulated sectors that are exposed to international competition such as energy-intensive industries operating in the internal market.

Energy-intensive industries covered by the EU ETS Directive are regulated through a cap-and-trade system and a price system. There might be a substantial excess cost of this overlapping regulation since both regimes impose constraints on the decision-making process and activity of the companies involved. Firms subject to the EU Emissions Trading Scheme which in addition face domestic energy or carbon taxes might abate too much while other firms within the EU ETS will benefit from lower international emission permit prices. In essence, unilateral emission taxes within the EU ETS are ecologically ineffective and subsidise net permit buyers[5].

The price system we are comparing with the emission trading system is a carbon tax, an energy tax or a tax with both components. As far as taxation is concerned, the carbon dioxide cost is set either by an autonomous CO_2 tax or the component of the general energy tax which is calculated according to carbon-content of the taxed energy products. Moreover, it is the full energy tax burden laying on energy products which use causes CO_2 emissions that increases the undertakings' costs of CO_2 emissions.

The rational for criticising the referred regulatory overlap is applicable to a CO_2 tax as well as to other kinds of energy taxes within the EU ETS. The Energy Taxation Directive makes no difference between different kinds of indirect taxes. For the purpose of the Directive "level of taxation" is the total charge levied in respect of all indirect taxes (except VAT) calculated directly or indirectly on the quantity of energy products and electricity at the time of release for consumption (Article 4(2)).

2. Shortcomings of the current regulatory framework on EU energy-intensive sectors

EU energy-intensive sectors are double regulated (though not double burdened) by the EU ETS and national energy taxes. It is not possible to justify this regulatory overlap with an economic rationale. It is explained rather by the political constrains which hindered a more effective emission trading system and the fiscal concerns Member States hold. However, this situation might portray an attempt to correct a State failure through another State failure. The cumulative use of national energy taxes and the EU ETS to regulate the same sector entails potential efficiency costs. And Member States are unable to take action at the national level to deal with the problem,

The economic rationality test

EU Member States are obliged to apply two sets of regulation to its energy-intensive sectors, namely national energy taxes which can take different forms and the EU ETS. Taxes can be used in the presence of tradable permits as a means to reduce compliance cost uncertainty or to capture windfall rents from permit allocation. And these objectives are not mutually exclusive[6]. However, energy taxes raised according to energy consumption, as required by the Energy Taxation Directive, are not able to fulfil any of such objectives.

[5] Böhringer, Koschel and Moslener (2006), 'Efficiency Losses from Overlapping Economic Instruments in European Carbon Emissions Regulation', Project tax/benefit systems and growth potential of the EU (TAXBEN).
[6] OECD (2002), *The benefits and costs of using tradable permits*, Report prepared by Nick Johnstone (OECD Environment Directorate), OECD, p. 14-20.

As long as energy taxes apply to undertakings covered by the EU ETS and both pursue the same objective, i.e., a reduction of CO2 emissions at the minimum cost, there is double regulation, which harms the good functioning of the EU ETS[7]. This system is a trade-and-cap system. It puts a cap on CO2 emissions from the installations covered, which must surrender allowances for their greenhouse gas emissions. These allowances are either grandfathered by the national government at the beginning of each trading period (at least 90 pct of the allowances in the period 2008-2012, according to Art. 10 of the EU ETS Directive) or bought in auctions and/or on the market.

Taxes cannot raise levels of environmental compliance in such a system. Regulatory overlap will not affect the level of CO2 pollution generated within the system, because in the absence of trade restrictions any further reduction in emissions induced by taxes will raise the supply of allowances in the market. It will therefore only affect emissions trading and provide a subsidy to net allowances buyers, raising compliance costs, since for emissions reduction to be achieved at the lowest possible cost, all emitters have to face the same cost per emission unit.

An energy or carbon tax on national CO2 emission levels by the participating sectors cannot be environmental effective as these levels are fixed by the NAP. Effects will be restricted to domestic emissions and, therefore, to emissions trading by such sectors. This can raise a further issue. The Commission has approved national allocation plans submitted under the EU ETS Directive, and thereby accepted a certain level of CO2 emissions in each Member State. To require such Member State to maintain its CO2 tax would de facto amount to requiring it to lower its emissions further under such NAP. However, the Commission must be considered to have lost that possibility when it accepted the emission level that would follow from the approved NAP.

A joint application of taxation and emissions trading will not affect the total emissions within the trading scheme, since the total level is given by the amount of allocated allowances, and any surplus of allowances will be sold on the market and lead to an increase in emissions in another part of the system. However, it will affect the marginal cost of emission reductions and thus the total cost of achieving the emission reduction target. This will lead to emission reductions being inefficiently distributed throughout the trading scheme, and as a result the total cost of achieving the EU emission reduction will increase. Emissions will be reduced at a cost that exceeds the market value of the reduction. This inefficient way of allocating resources results in a welfare loss, that is, a cost to society. In the longer run, the distortions will affect the investments and thus the location of future production capacity within the sectors covered by the trading scheme. Consequently, the competitiveness of European enterprises on the international market will deteriorate.

The allocation method used in the initial distribution of allowances does not affect the environmental outcome but it affects competition in the common market. Moreover, with grandfathering there will only be partial compliance with the Polluter Pays Principle, since though a behavioural incentive will be provided as long as there is a positive opportunity cost associated to using allowances, society will not be compensated by damages caused by pollution. Based on this principle, grandfathering can be criticised by providing a wrong price signal to polluters whilst allowing them windfall rents equal to the value of the allowance allocated.

To recover some of these windfall rents, taxes can be applied in conjunction with the ETS. Such a tax shall be complementary to tradable permits, and to any penalties charged

[7] C Dias Soares (2007), 'Energy tax treatment of undertakings covered by emissions trading', EC Tax Review 16.4, 184.

for non compliance, and not a substitute as is the case with taxes which serve as permit price caps explained next. Irrespective of the permit price, the tax will have to be paid. However, if this is the objective pursued, the amount paid should not be proportional to emissions/energy consumed but to the market price of allowances. A lump-sum tax will avoid distortions of marginal behaviour.

As long as pre-existing energy taxes are widely diverging by carrier, user and Member State, the cost-effectiveness of an additional cap-and-trade system is not guaranteed[8]. Taxing energy consumption by covered sectors will then contribute to a situation where companies in different Member States incur different costs for emitting CO2. Moreover, tax exemptions for installations covered by the ETS provided by only a few countries also do not guarantee the required uniformity. The optimal solution would therefore be the adoption of general guidelines at EU level.

The risk of legal uncertainty, which might follow from the opening of individual formal procedures against Member States by the European Commission due to infringement of State aid rules, is joined by other even more relevant arguments supporting a general approach to the problem rather than national action by Member States. Namely, the economic irrationality of double regulation already demonstrated and the necessity of a EU-wide intervention in this matter argue in favour of a block exemption or an EU energy tax for undertakings covered by the EU ETS.

Apart from the legal uncertainty associated to a casuistic approach, tax exemptions provided at the national level are also not recommended due to the rationale of the problem itself. As argued before, such casuistic approach would not guarantee emissions price uniformity as required by the economic rational. Appreciable differences in national levels of energy taxation are expected to subsist whilst the Community only establishes minimum levels of taxation. A general or EU approach could be taken either through the adoption of general rules regarding energy taxation of undertakings covered by the ETS or changes introduced in the EU ETS itself. Both these aspects are developed further in Section 3.

The Polluter Pays test

The Energy Taxation Directive (2003/96/EC) sets minimum taxation levels for the consumption of energy products and electricity with which Member States have to comply. The way national governments decide to comply, namely the kind of indirect taxes adopted, are a matter for each Member State to decide as long minimum tax levels are respected. Tax reductions below the minimum level are allowed under strict conditions set out in the Directive and the environmental guidelines.

In Article 17(2) and (4) of the Energy Taxation Directive, the Council authorised Member States to apply a level of taxation down to zero to energy products and electricity when used by energy-intensive businesses, subject to the condition that the latter enter into agreements, tradable permit schemes or equivalent arrangements which lead necessarily to the achievement of environmental objectives or increased energy efficiency, broadly equivalent to what would have been achieved if the standard Community minimum rates had been observed. Tax reductions below the minimum level are allowed under strict conditions set out in the Directive and the guidelines on state aid for the environment.

During the negotiation process conducting to the approval of the Directive, and close to finish line, the conflict between Member States who demanded mandatory exemptions to protect their heavy industries (e.g., Belgium, Portugal, Greece, Austria and Sweden) and Member States who wanted facultative exemptions for non-fuel use, dual use and

[8] Paul J. J. Veenendaal (2006), *The EU-ETS and existing energy taxes*, Project Tax/benefit systems and growth potential of the EU (TAXBEN).

mineralogical processes, unwilling to bear the price in terms of lost revenue and weaker environmental incentives (e.g., Denmark, Germany, UK and the Netherlands) put strong pressure on the Commission. States wanted the Commission to provide some sort of guarantee that exemptions made in accordance with the directive would be accepted also in terms of State aid.

The Directive expressly does not prejudice the outcome of any future State aid procedure that may be undertaken in accordance with Articles 87 and 88 of the EC Treaty. Moreover, the Commission agreed to "go to the greatest possible length to ensure that measures taken by Member States in accordance with the exemptions and tax reductions laid down in the Directive" would be considered "compatible with state aid rules" [9]. However, proposals for a straightforward compatibility were never accepted, even if temporary. Exemptions allowed under Article 17 were never proposed as 'mandatory'. As facultative exemptions, measures adopted pursuant to Article 17, as the ones pursuant to Article 15, are liable to be regarded as State aid and will have to be notified to and approved by the Commission (Article 26 of the Directive), with the resultant legal uncertainty both for Member States and for business.

Based on the authorisation conferred by the Directive, some Member States have notified plans to grant CO2 tax exemptions to companies covered by the EU ETS. The Commission however understood that the compatibility of such measures with the Guidelines was not straightforward and opened formal procedures against those countries, stating its concern that such measures might distort competition by increasing tax differentiation in an area where the EU has harmonised taxes in order to create a level playing field between companies. Furthermore, the Commission questioned whether those measures might run against the Polluter Pays Principle, as companies participating in the EU ETS have received most of the emission allowances for free.

Two characteristics of the ETS, namely overallocation of allowances and grandfathering, should be taken into consideration when assessing whether full national energy tax exemptions for undertakings covered by the EU ETS advocated by some Member States are compatible with the Polluter Pays Principle.

In the period 2008-2012, about 90 per cent of pollution permits shall be given away to businesses free-of-charge, allowing them to accumulate windfall profits from selling their extra credits. In the previous period, 2005-2007, there was not enough use of auctioning in distributing allowances even within the authorised limit of 10 per cent of total allowances. On top of that generous carbon emission allowances in the same period led to massive surpluses and crashing carbon prices, risking undermining the scheme's credibility.

Carbon allowances were granted based on assumed future emissions instead of real historic emissions, giving big polluters an incentive to exaggerate projections. Official EU data published in May 2006 showed that a group of countries, including large polluters such as Germany, were left with 44.1 million tonnes extra CO2 allowances for the year 2005. Of the EU's major polluters, only the UK had emitted more than its quota, forcing it to buy over 30 million tonnes extra allowances on the EU carbon market. The supply surplus sent carbon prices crashing, calling into question the credibility of the EU ETS[10].

Concerning the interaction between energy taxes and the EU ETS, several scenarios are possible. Assuming there was grandfathering, if the national allocation plan was generous, and depending on the stringency of the initial allocation of allowances, a tax on energy consumption might not overlap with the EU ETS. If the initial allocation created 'hot air', businesses will be able to at least partially recover costs borne with the tax payment

[9] Docs. 14200/02 – FISC 286, 13.11.2002, 13253/03 – FISC 139, 07.10.2003, and 14140/03 ADD 1, 24.11.2003.
[10] EurActiv Newsletter, 16 May 2006.

by selling excess allowances. With 'hot air' undertakings will be better off with double regulation than with only energy taxes, though worse than with only the ETS. If the initial allocation matched the *status quo*, businesses will only fully comply with the Polluter Pays Principle whilst paying the tax.

For emissions covered by allowances, businesses will comply with the Polluter Pays Principle. Allowances have market value. Though, under strict NAPs, this value can only be realised at a cost to the company, either by reducing its output or increasing its investment in energy measures. However, it matters whether permits were grandfathered or auctioned. Also in economic terms, grandfathering and auctioning are not equivalent. In the first case, the polluter's payment is a mere cash-flow operation. Moreover, grandfathering allows common market distortions since it provides a benefit to undertakings receiving allowances for free.

Under the EU ETS undertakings will incur costs when using permits – only opportunity costs when permits were grandfathered or also explicit costs when they were auctioned. These costs, likewise the ones following the tax payment, provide the polluters with an incentive to reduce CO_2 emissions. A stimulus to control emissions further will be provided by the tax via the expectation to avoid tax payments and the ETS via the expectation to sell excess permits. This, double stimulus does not however necessarily involve a double burden for businesses, in the sense that they are paying twice for the same emissions. A 'double burden' problem exists when, either following auctioning or a rigorous initial allocation through grandfathering, businesses have to buy permits to cover emissions for which they cumulatively pay the correspondent energy tax.

If there was initial allocation through grandfathering but due to technological investment businesses were able to reduce their emissions avoiding the tax and/or being able to sell excess permits, it might be argued that to apply both instruments will still be in compliance, and not 'overcompliance' or 'double burden', with the Polluter Pays Principle. This is so since, for each emission, businesses will effectively only pay for emission costs or control costs.

With grandfathering the Polluter Pays Principle will though only be partially respected. This principle is a means and not an end in itself. Its rationale is to induce a behavioural change through a price signal and not to purely repair environmental damages or raise revenues. However, it includes a compensation feature. The polluter should pay for the costs created due to pollution. Based on this principle, grandfathering can be criticised by providing a wrong price signal to polluters whilst allowing them windfall profits instead of having the polluter paying. This is so in spite of the unquestionable compliance with the behavioural incentive associated to this principle as long as there is a positive opportunity cost associated to using grandfathered permits, i.e., as long as these have a positive price in the market.

If energy taxes apply to undertakings covered by the EU ETS there is double regulation, which harms the good functioning of the ETS. But there is only a double burden when the same emissions are covered by energy taxes and auctioned permits. Double regulation exists as far as energy taxation and emissions trading pursue the same objective, i.e., a reduction of CO_2 emissions at the minimum cost. An inexpedient double regulatory burden raises the risk of policy failure. Therefore, these instruments should in principle not apply to the same entity. Thus, some adjustment of energy tax rates for those entities participating in the trading may have to be considered. However, exempting all companies participating in the ETS as it is designed today from the CO_2 tax might not be advisable, since it could run against the Polluter Pays Principle to exempt companies which received emission allowances for free.

3. Discussing legal scenarios for the future

The hard-line policy against climate change supported by the European Union at international level and the ambition of its environmental and economic goals require caution. To keep its frontrunner position in the fight against climate change without compromising its economic goals, the European Union might have to re-think its policy mix, since there are economic arguments against the accumulation of two major instruments of the EU climate change policy, namely the EU ETS and national energy taxes, as explained above.

The Lisbon Strategy requires action to avoid the continuation of the regulatory overlap which can harm the competitiveness of the European economy without any relevant environmental benefit. But the EU legal framework in place in January 2008 inhibited Member States from taking unilateral action to avoid such accumulation as such action tends to run against the Community guidelines on State aid for environmental protection. So being, it will be necessary to address this issue through common action at the European Union level.

The 2008 EU Spring Council, under the Slovenian Presidency, intends to review progress on the re-launched Lisbon Agenda and examine Commission proposals for revised Integrated Guidelines to cover the period 2008 - 2011. Simultaneously, it is in the agenda of the European Union the revision of the environmental State aid guidelines (2001/C 37/03) and the Energy Taxation Directive (2003/96/EC). In upcoming negotiations on a Post Kyoto climate regime the distribution of real or perceived costs and benefits of reducing greenhouse gas emissions will play a crucial role. And the distribution of these costs depends to a large degree on the choice of the policy instrument for effectively reducing emissions.

Moreover, the European Commission has opened formal investigations against some Member States, like Denmark[11] and Sweden[12], to examine whether plans notified by national authorities to grant CO2 tax exemptions to companies covered by the EU ETS were compatible with EC Treaty State aid rules. Though, the Swedish plan was subsequently dropped by the Swedish government, in January 2008, the Danish one was still pending awaiting a decision from the European Commission. On top of that, some countries have adopted unilateral action to deal with the regulatory overlap without previous authorisation of the European institutions, like Portugal.[13]

Therefore, European institutions need to be able to reach conclusions regarding how the present regulatory overlap should be addressed some time soon. At the European Union level this discussion has been going on for a while and has ranged from conservative and/or internal approaches to radical and/or international approaches. Common to both has been the concern with the environment without compromising the competitiveness of the European industry, with special emphasis on firms operating in the world market which already support a relatively high share of the costs caused by the CO2 emissions they produce, such as the ones in energy-intensive sectors.

Different means to deal with the potential negative competitiveness effects for businesses emerging from unilateral policy action by the European Union have been discussed. Among the proposals named are tax responses through reduced tax burden on labour, distinguishing labour intensive businesses vis-à-vis energy intensive businesses, as well as corporate income tax investment incentives for R&D. Positive incentives with direct subsidies to sectors mostly exposed to carbon leakage and 'no policy' options (involving the exclusion of certain sectors) have also been suggested as ways of addressing adverse competitiveness impacts.

[11] State aid n. C 41/2006 (ex N 318/a/2006). IP/06/1274, 28 September 2006.
[12] State aid n. C 46/2006 (ex N 347/2006). IP/06/1525, 8 November 2006.
[13] State Budget Law 2008, Law 67-A/2007, 31 December 2007.

More controversial means to deal with competitiveness losses emerging from the front-runner position of the European Union in taking action against climate change include external measures, such as sectoral agreements, border tax adjustments and addition to customs tariffs, which might start a trade conflict at the World Trade Organisation.

In the discussion regarding the EU post-2012 climate change policy programme, there has been some concern towards the fact that there is an actual risk that European companies will be put at a competitive disadvantage compared to countries with no similar climate change objectives, causing 'carbon leakage', whereby companies move their activities to third countries in order to keep prices down. But there has also been a careful approach to avoid any action that might threaten to unleash a trade war.

There is concern that any carbon equalisation system should seek to put EU and non-EU producers on a comparable footing by applying to importers of goods requirements similar to those applicable to installations within the EU, by requiring the surrender of allowances. Importers would be required to purchase emission allowances under EU ETS before their products can enter the EU market. However, the scheme is unlikely to be successful because of concerns over legal challenges at World Trade Organisation level, as well as the complexities involved in calculating the price an importer would need to pay. There is also a possibility that a refund of allowances to exporters could be thought of.

This idea, discussed informally by EU ministers during the 22-23 November Competitiveness Council, was not expected to get the approval of a majority of EU member states, even if WTO compliance could be assured. EU businesses fear that other countries might introduce retaliatory measures on their exports, while importing companies with environmentally-friendly production methods could be eligible to receive EU ETS credits, making their imports cheaper.

The Commission advisor group High-Level Group on Competitiveness, Energy and the Environment also considered imposing a tax on imported goods from countries which do not impose a CO2 cap on their industry ('tax border adjustments')[14]. A French proposal to impose a tax on imports of industrial goods from countries with less stringent environmental regulations met with scepticism from EU ministers in November 2007, with voluntary sectoral agreements to reduce CO2 emissions seeming to be gaining favour instead[15].

Though there are a number of measures under consideration in order to avoid putting European companies at competitive disadvantage compared to countries with no similar climate change objectives, it seems none will be taken immediately. It is suggested that the Commission should present a review of the situation by 2011 at the latest, identifying energy-intensive industrial sectors that are likely to relocate outside the EU. Energy-intensive industries which are determined to be exposed to significant risk of carbon leakage could then benefit from a higher amount of free allocation or from a carbon equalisation system.

Next we take a conservative approach and focus our analysis on the two main policy instruments available to deal with climate change, namely taxes and emissions trading, discussing ways to shape their design according to the challenges posed by the Lisbon Strategy[16]. At the EU ETS level the way might be through the introduction of rules for allocating emission allowances different from the ones approved by the EU ETS Directive; whilst at the energy tax level changes might be introduced in order to set a harmonized EU energy tax.

[14] Draft paper seen by European Voice (5-11 October), according to EurActiv Newsletter, 10 October 2006.
[15] Comments made by EU Enterprise Commissioner Günter Verheugen in a 19 November speech to the Parliament's Temporary Committee on Climate Change.
[16] C Dias Soares (2007), 'Energy tax treatment of undertakings covered by emissions trading', EC Tax Review 16.4, 184.

3.1. Changes at the EU ETS level

The allocation method and degree of stringency used in NAPs explain why the double stimulus provided through double regulation does not necessarily put a double burden on businesses. There is only a double burden when the same emissions are covered by energy taxes and auctioned permits. In the first and second period most allowances were given for free. Member States applied a wide variety of specific allocation rules, which gave rise to a number of problems, such as a negative impact on economic efficiency, distortions of competition across Member States, undesirable distribution effects and a lack of transparency. However, though in the EU ETS the double burden is not a relevant issue double regulation raises some concerns, as explained in Section 2.

If allowances are used in connection with energy taxes that are diverse among Member States, the level playing-field is distorted. This problem is enhanced due to the allocation method chosen by the Community, whilst sectors not covered had to pay for emissions sectors covered benefited from free emissions equivalent to the amount established in the allowances grandfathered. Distortion of the competition between covered sectors in different Member States is all the more problematic the closest the reference point adopted by the national climate change plan is from the 'business-as-usual' scenario.

In order to reduce the problems associated to double regulation, it is possible to provide some suggestions regarding the design of the EU ETS. More stringent national allocation plans and a different allocation method as well as the adoption of more uniform rules are among the priorities in this matter.

Full auctioning best ensures efficiency, transparency and simplicity of the system and avoids undesirable distributional effects, as well as the reduction of the relative cost of clean technologies. Auctioning would not only reward early movers but also allow the EU ETS to fully comply with the Polluter Pays Principle. And this compliance would occur even if full exemptions from national energy taxes were provided as required to eliminate the lack of uniformity in the price of CO_2 emissions paid by undertakings covered by the EU ETS due to different national energy taxes.

But even in the absence of different national energy taxes, uniformity in the price of CO_2 emissions paid by undertakings covered by the EU would not be guaranty unless further changes were introduced in the EU ETS. The EU ETS is not able to provide the required price uniformity for CO_2 emissions, *inter alia*, due to different interpretations of Annex I of the EU ETS Directive.

An inconsistent interpretation of 'combustion installation' by Member States has led to distortions of competition, an insufficient coverage of process emissions as well as legal uncertainty on the scope of the Directive. A new definition of combustion installation and supplemented by a list of activities would allow a consistent application of the scope, including with respect to process emissions, provide legal certainty to Member States, as well as contribute to the environmental effectiveness of the EU ETS by broadening its coverage.

Consistent implementation of monitoring and reporting requirements is indispensable, in order to guarantee that "a tonne is a tonne". Without credible and reliable verification of monitoring reports operators could undermine the environmental integrity of the system. Current practice of Member States and competent authorities, however, shows a range of different implementation and application with respect to monitoring, reporting, verification and accreditation of verifiers. As a consequence, the environmental integrity and the credibility of the system was jeopardised.

Regulating monitoring and reporting as well as verification and accreditation would lead to higher consistency and transparency, improve the cost effectiveness of monitoring and reporting standards in the longer term, would ensure a consistent and comparable level in

terms of verification and accreditation and create an internal market requirement for verification and accreditation services across the EU. As a consequence, the quality of verifications and their ability to determine and correct errors would be improved thus ensuring better data quality. The development of EU wide rules could lead to significant cost savings for Member States after an initial period of revising national guidance/regulations.

Expected developments in the EU ETS legal framework for the period 2013-2020

The existing EU ETS will expire at the end of 2012 and EU Member States are now discussing a follow-up system. On 23 January 2008, the Commission unveiled its proposal on EU Emissions Trading Scheme for the post-2012 trading period. The proposal has been transmitted to the Council and European Parliament and the first half of 2009 is the target date for the adoption of the legislation. In 2010 the Commission is to determine which energy-intensive industries are at risk of carbon leakage. And in 2011, in light of the outcome of the international negotiations, the Commission is to determine whether to put into place a 'carbon equalisation system' to neutralise any distorting effects from imports from countries with less stringent climate laws.

According to the European Commission Staff Working Document accompanying the Draft Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC, some changes are expected, *inter alia*, regarding the degree of stringency and method used in the allocation of emissions, as well as the way how the burden for implementing the EU's goal of cutting greenhouse gas emissions will be shared out among member states[17].

Some of the proposals discussed are expected to help the transition from several national emissions trading markets into a truly EU single emissions market, which would represent a progress towards a more uniform cost for Co2 emissions across undertakings covered by the EU ETS. Such proposals involve harmonising the scheme to prevent Member State granting emission allowances in different ways coupled with improved monitoring and reporting guidelines to strengthen compliance and enforcement, in an attempt to set a single EU-wide cap after 2012.

In trading periods I and II, the overall caps of the EU ETS were equal to the sum of national caps determined by the Member States and established in line with Commission decisions. On the one hand, this approach allowed a large degree of flexibility for Member States to take account of specific and national circumstances. But on the other hand, it entailed a number of problems resulting in a lack of a level playing field and of predictability and transparency as well as a high administrative burden on all parties involved.

For phase III individual country targets are still missing, but the document referred says they will be based on emission levels in 2005, which is the latest available verified greenhouse gas emissions data. National targets are expected to be set according to each Member State GDP. Member states that currently have a relatively low per capita GDP and thus high GDP growth expectations may increase their greenhouse emissions compared to 2005; whilst Member states that currently have a relatively high per capita GDP will need to reduce their greenhouse emissions compared to 2005[18].

In order to ensure that all Member States contribute to the overall target, in the post-2012 period no country should be required to reduce its greenhouse gas emissions in 2020 to more than 20 per cent below 2005 levels and no country should be allowed to increase its greenhouse gas emissions in 2020 to more than 20 per cent above 2005

[17] Available at www.euractiv.com/29/images/80108f_tcm29-169443.doc, on 29 January 2008.
[18] EurActiv website, 10 January 2008.

levels. Member states will continue to be entitled to meet part of their target by financing emission reduction projects in countries outside the EU, although the use of such credits will be limited to 3 per cent of member states' total emissions in 2005 or, in other words, around one quarter of the total reduction effort.

It was mentioned the possibility of capping industrial emissions at 21 per cent below 2005 levels, i.e. a maximum of 1720 million allowances. To achieve this EU-wide target, which replaces the current 27 national targets, the total number of emissions allowances circulating at the end of 2012 would need to be cut by 1.74 per cent annually. However, there is also a possibility that this decision will be postponed and decided at a later stage by expert-panels within the Commission through the so-called comitology procedure.

The scheme is expected to be enlarged to include new sectors, such as for instance aviation. Around 50 per cent of all EU emissions would then be covered against a 41 per cent of total greenhouse gas emissions covered in phase II. The inclusion of road transport and shipping has not been mentioned, although the latter is likely to be included at a later stage. Likewise, agriculture and forestry are expected to remain outside the scope of the Directive due to the impossibility of measuring emissions from these sectors with accuracy. Under discussion is also the possibility of credit as not emitted under the EU ETS industrial greenhouse gases prevented from entering the atmosphere through the use of so-called carbon capture and storage (CCS) technology. In phase II these projects can already be recognised in the EU ETS by unilateral opt-in under Article 24 of the Directive.

Regarding the allocation method, have been discussed major changes which once put into effect could contribute to keep compliance with the Polluter Pays Principle even if there was a block exemption from national energy taxes for undertakings covered by the EU ETS. It is foreseen a huge increase in auctioning. It is estimated that at least two thirds of the total quantity of allowances will be auctioned in 2013.

Full auctioning should be the rule from 2013 onwards for the power sector, refineries and carbon capture and storage, while installations in other sectors would benefit from a gradual transition, starting with a yet-to-be-determined percentage of free allocation that would decrease by equal amounts each year, arriving at zero free allocation by 2020. Benchmarking should be used regarding allocation for free in the transition period with a view to minimising potential adverse effects. Such rules would reward operators that have taken early action to reduce greenhouse gases, would better reflect the Polluter Pays Principle and would give stronger incentives to reduce emissions, as allocations would no longer depend on historical emissions.

In earlier discussions it was mentioned the possibility of allowing exemptions for a number of energy-intensive sectors, allowing them to receive up to 70 per cent free allocations until 2018. However, latter proposals made no reference to this referring instead to the comitology procedure, which neither ensures predictability nor certainty for business.

Coordinating the use of energy taxes and tradable permits might involve the opt-out of some sectors from the emission trading scheme. This would allow the elimination of the regulatory overlap analysed. There may be an interest in opt-outs when a set of conditions verify simultaneously [19]. Article 27 of the 2003 Energy Tax Directive allowed Member States to opt for the temporal exclusion of individual installations or economic activities from the scheme in the initial period 2005-2007. Opt-outs were however subject to approval by the Commission. This possibility remains open for the 2013-2020 period, however, only for small installations.

[19] C Dias Soares (2008), 'Coordinating energy taxes with the EU Emission Trading System', in Chalifour et al (eds) *Critical Issues in Environmental Taxation* (Oxford University Press), on print.

For some sectors, notably the new sectors that will be included and for smaller companies, the impact of joining the ETS with full auctioning could be significant; not only in terms of financial cost, but also in terms of resources and planning. In the period 2008-2012, there are approximately 10800 installations included in the EU ETS. The largest 7 per cent of installations in the EU ETS represent 60 per cent of total emissions, while the smallest 14 per cent of installations only account for 0.14 per cent of emissions. Therefore, in the discussions towards the post-2012 system, and in order to increase the cost-effectiveness of the EU ETS, has been mentioned the possibility of adopting a clause allowing for small installations emitting under 10000 tonnes of CO_2 per year to opt out from the scheme, provided that alternative reduction measures are put in place. By January 2008, details with regard to the conditions to comply in order to benefit from such regime had not yet been mentioned.

3.2. Changes at the energy tax level

The useful general approach to deal with the regulatory overlap mentioned in Section 2 could involve two kinds of changes regarding tax rules. There could be a block exemption from national energy taxes for all businesses covered by the EU ETS under strict NAPs, which should ideally follow allocation methodologies harmonised across the EU to avoid trade distortions. Otherwise, such approach could take the form of an energy tax charged by the EU on covered companies which would replace present national energy taxes.

These don't necessarily have to be alternative solutions, since if the tax base as well as the tax rate applied were fully harmonised among the EU for fuels used in the relevant installations, and the tax base corresponded to the scope of the EU ETS, double regulation would not distort the proper functioning of the trading scheme. It would only lead to a reduction of the price of the emissions due to lower demand for and/or higher supply of allowances. Present distortions arise from the fact that only part of the fuels giving rise to CO_2 emissions covered by the EU ETS is subject to mandatory taxation at EU level and different energy tax burdens subsist within the trading scheme.

Exempting all companies participating in the ETS as it is designed today from the CO_2 tax might not be advisable. It could run against the Polluter Pays Principle to exempt companies which received emissions allowances for free under not particularly stringent NAP. And relieving from CO_2 tax those companies which have to buy additional allowances because they need to cover their extra pollution might also go against the environmental logic. Such relief could amount to granting a benefit to those who did not make investments and did not lower their pollution or even polluted more.

But when one considers the full auctioning scenario in 2013-2020 the failure to comply with the Polluter Pays Principle might not represent such a solid obstacle to tax exemptions depending on the market price of allowances. Moreover, such exemptions might be politically necessary in some sectors. For instance, full auctioning for the power sector is expected to lead to a 10-15 per cent rise in electricity prices.

If one takes into consideration the precise objectives pursued by energy taxes, both an EU tax and a block exemption EU-wide, but not nationally awarded exemptions, could be defended for plants covered by the ETS. Environmental objectives, such as energy efficiency, control of CO_2 and other substances emissions and supporting a level playing field for renewables, could be addressed through strict allocation of allowances. Harmonization concerns would be addressed through an EU-wide obligatory exemption, whilst revenue concerns could be addressed through auctioning.

Two arguments might help to tilt the scale in favour of a political agreement on an EU energy tax charged on covered sectors, namely fiscal interests and the fact that a block

exemption presents serious shortcomings when addressing the objectives pursued by the European Union, since the EU ETS is not able to provide the required price uniformity for CO2 emissions.

3.3. Long term preferences

Choosing between taxes and tradable permits depends on considerations such as the sensitivity of firms to price versus quantity signals and the social cost of environmental damage, as well as the capacity of existing institutional framework to administer the instrument and monitor firms' compliance. Distributive impacts are also relevant in this decision making process. If permits are used to replace taxes and freely allocated, as it is often the case, this will be favourable to the industry which not only has reduced tax burden but also is assigned newly created assets. The government however looses out on the tax revenue stream. If permits are auctioned, preferences will depend on whether the revenue they generate is expected to be more or less than the current tax revenue.

Cap-and-trade has an important advantage over a carbon tax, namely it is more flexible in the sense that one system can be linked to other systems around the world, offering many advantages to multinational companies trading in diverse countries. Moreover, emission allowances can be banked, allowing for early reduction emissions and saving allowances for later.

But though carbon trading systems are necessary in the short term, carbon taxes might be more effective in the longer term. This is so since investment needs predictability of price, which is deliverable by a tax but not by a trading system without a 'safety valve'. Taxes provide certainty over the price of abatement costs whilst tradable permits provide certainty over the level of emissions abatement. Firms only have advance knowledge of the payment when taxes are used[20]. Even if environmental certainty provided by emissions trading is the more compelling imperative, the attainment of the goals set in Lisbon Strategy would require cost certainty.

Within an emission trading system increased cost certainty might be provided either by keeping allowance reserves available for use or by setting a price cap. In the latter case, a tax is applied jointly with the trading system to allow for legitimate and strategic behaviour on the part of the firm, which can choose between surrendering a permit or pay the tax for non-covered emissions. Under the reserve approach, a limited and strict number of allowances is issued with the aim of hitting a desired environmental goal, but the government will sell additional allowances if the allowance price reaches an unacceptably high level.

In the EU ETS price certainty was not pursued through allowance reserves but rather through price cap. For the period 2008-2012, the penalty per excess was set at 100 EUR/ton (Article 16(3) of the EU ETS Directive). However, price uncertainty remains, since undertakings have not only to pay the penalty but also to surrender an amount of allowances equal to those excess emissions when surrendering allowances in relation to the following calendar year. For comparison, carbon prices have fluctuated between 8-30 a tonne in 2005-2006 (one tonne is equivalent to one allowance).

Even if the energy tax is charged only on non-covered emissions, which is not the case according to the 2003 Energy Taxation Directive, it will not be an effective indicator of allowance price maxima unless the additional requirement for surrendering allowances is removed. In order for the cap to be efficient it is important that the use of permit price cap is explicit, and its size is known *ex ante*. Penalties of uncertain size, like the one set in the

[20] C Dias Soares (2008), 'Coordinating energy taxes with the EU Emission Trading System', in Chalifour et al (eds) *Critical Issues in Environmental Taxation* (Oxford University Press), on print.

Directive 2003/87/EC, have the effect of introducing uncertainty into the market, which is precisely the opposite effect as the motivation for the introduction of a tax cumulatively with a quota system.

Final remarks

The operationalization of the EU climate change policy is crucial in the implementation of the Lisbon Action Programme. Current double regulation might compromise the objectives set by this strategy for higher economic growth and job creation and greater competitiveness in world markets, aiming to provide people with a better standard of living in an environmentally and socially sustainable way. Potential efficiency losses associated to the regulatory overlap of national energy taxes and the EU ETS in EU energy-intensive sectors raise special concerns as these firms operate in the world market and are already facing higher environmental constrains than its competitors located outside the internal market.

The priority given in the EU agenda to action against climate change and the further implementation of the Lisbon goals require that the European institutions assess the lack of an economic rationale in the current regulatory framework. In this paper we have demonstrated the irrationality of cumulating the use of the EU ETS with national energy taxes and presented some suggestions regarding how to improve the current EU legal framework to both step-up the EU action against climate change and protect the competitiveness of the European industry.

Auctioning should become the rule to allocate allowances in the EU ETS rather than grandfathering as is the case until 2012. Likewise, it would be important to adopt more stringent national allocation plans and a more uniform application of the rules, moving from a scenario where 27 different national systems co-exist to a true single EU emissions trading system. This development might be under way according to the information provided by the European Commission with regard to the post-Kyoto regime. At the tax level, changes should involve tax harmonization, namely the adoption of an EU energy tax which replaced current national energy taxes for undertakings covered by the EU ETS or block exemptions from national energy taxes for these undertaking in case the EU ETS is amended according to the referred suggestions.

In the medium term, emission trading is important to control the evolution of green house gas emissions providing environmental certainty. With a quantity-based mechanism as the EU ETS in place block exemption from national energy taxes for undertakings covered by this system might be useful to avoid the loss of competitiveness of the European economy due to an ambitious action against climate change. However, in the long term, the Lisbon Strategy might be better served by an EU energy tax than the EU ETS. Since the amount of investment necessary to attain the goals set by this strategy requires price certainty which the EU ETS is unable to provide. The way to take in the future might be a stringent cap-and-trade system in the medium term gradually replaced by a tax, with cap-and-trade being phased down and the carbon tax phased up.

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