

# COMPETITION POLICY AND ENVIRONMENTAL PROTECTION: A CRITICAL OVERVIEW

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*ABSTRACT: We focus on the possible trade-offs between competition policy and environmental protection. We first look at the potential sources of conflict between competition policy and environmental protection in the European Union (EU). Then we examine, in more detail, the properties of market based instruments for environmental protection, in particular the workings of the EU Emissions Trading Scheme (ETS), the principal EU instrument to implement its Kyoto Protocol commitments, which aims at creating a well functioning market for pollution permits. Competition policy ought to prevent attempts to manipulate prices, abuses of dominant positions and cartel agreements that will seriously distort the well functioning of the secondary markets for emissions permits.*

SUMMARY: Introduction. 1. Environmental protection vs. competition policy. 2. Economic policy instruments and market functioning: synergies between competition policy and environmental protection? 3. On the EU Emissions Trading System: an overview. 4. Conclusion.

## INTRODUCTION

The European objectives of a competitive, low-carbon economy and of sustainable growth imply that single market performance and delivery are critical for achieving economic efficiency and environmental sustainability. Single market performance in turn is conditioned by market liberalisation (externally and in the internal market), the quality of regulation and competition policy. Our paper focuses on the latter aspect, competition policy, and its relation with environmental protection, namely on their compatibilities and possible trade-offs.

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The Lisbon Treaty enshrines the sustainable development objective – see Article 3 of the Treaty of the European Union (TEU) and Article 11 of the Treaty on the Functioning of the European Union (TFEU) –, and obliges the EU to take the environment into account in all policies, therefore also in competition policy<sup>1</sup> (see Article 11 TFEU; see also the Lisbon Treaty Protocol on the Internal Market and Competition). In addition, European Union (EU) international environmental agreements, in particular the Kyoto Protocol<sup>2</sup>, require the EU to find ways to make its external commitments compatible with internal market functioning. This paper looks at the synergies and potential trade-offs between the goal of competition and of a level playing field and environmental protection. It first looks at the potential sources of conflict between these two goals and then examines, in more detail, the properties of market based instruments for environmental protection, in particular the workings of the EU Emissions Trading Scheme (or system, EU ETC), the principal EU instrument to implement its Kyoto commitments.

## 1. ENVIRONMENTAL PROTECTION VS. COMPETITION POLICY

At the outset one may claim that, in the presence of externalities (i.e., external effects that have not been internalized) the existence of a monopoly may bring about advantages for the environment since, for a given technology, its typically lower production levels when compared with the perfect competition case (lower quantities produced sold at higher prices) might imply lower pollution levels<sup>3</sup>. On the other hand, the (vertical or horizontal) integration of polluting firms with those economic undertakings suffering from these negative externalities would imply the internalisation of such externalities within firms. That is, market concentration in this sense would promote environmental protection. Furthermore, firms' integration, by reducing or eliminating collective action problems, would facilitate an efficient inter-temporal management of natural resource stocks. On the other hand, environmental regulation may raise costs and lead to more concentrated

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1 One can define *competition policy* as “the set of policies and laws, which ensure that competition in the marketplace is not restricted in a way detrimental to society” (Motta, 2004: 30). Notice that the promotion of market integration is one of the key objectives of EU competition policy.

2 For an in depth analysis of the Kyoto agreement and beyond, see Barrett, 2003, Barrett, 2006 and Nordhaus, 2006. See also, the Commission's July 2003 Memo/03/154 on the Kyoto Protocol.

3 See e.g., Perrot, 2006.

market structures by driving out smaller firms unable to underwrite larger investments<sup>4</sup>.

However, the static view of a given technology with a positive relation between output and pollution levels disregards environmentally friendly innovation and sits uneasily both with the Lisbon goals that came to include the environment next to growth and employment and the sustainable growth objective under the Europe 2020 strategy, and with the perhaps consensual view that competitive markets are more innovative<sup>5</sup>. In fact, the challenge for the EU amounts to making compatible growth, employment and environmental quality and foster innovation (new goods, services, technologies and sectors) to achieve sustainable growth. Moreover, greater market concentration might raise serious competitive issues, which will put at risk the promotion of competitive markets.

Nevertheless, markets are rarely fully competitive, i.e., harbouring no firm holding some degree of market power, and one can face natural monopoly type situations. Moreover, the full internalization of environmental externalities does not guarantee, *per se*, the achievement of Pareto optimality, as will be shown below. For instances, bringing into the market the activity of waste collection and recycling, coupled with the Polluter-Pays-Principle (PPP), does not address the question of how to regulate that activity that might be a natural monopoly. This raises the issue of how to balance environmental protection goals with the promotion of competitive markets. The Commission (DG Competition) is reportedly doing that, interpreting Article 11 TFEU (ex-Article 6 TEC) not as the environmental dimension taking precedence over competition policy but as requiring it to ponder both impacts (Geradin, 2002). The Commission stresses the synergies between the two policies, with market pressures being fundamental for the effective application of the PPP; this issue will be taken up in section 3. However, Geradin puts forward and discusses four sources of potential tension<sup>6</sup>:

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4 See OECD, 2006.

5 Nevertheless, see e.g., Aghion et al., 2005.

6 The discussion below of the sources of potential tension between environmental policy and competition policy follows Geradin, 2002.

- (1) The increased use of environmental agreements (Article 101 TFEU, ex-Article 81 TEC);
- (2) The behaviour of undertakings carrying out environmental activities and which hold a dominant position (Article 102 TFEU, ex-Article 82 TEC);
- (3) Special or exclusive rights to undertakings (for instance in waste collection, recycling);
- (4) State aids.

Under Article 101 TFEU environmental agreements may fall under the general prohibition of Article 101(1), that is, all environmental agreements that have a restrictive impact on competition, or under the - not absolute - prohibition under Article 101(3) as the result of a pondering of positive and negative conditions. Regarding the latter, in practice the Commission has considered environmental protection as one of the positive factors contributing to technical or economic progress. Also, the Commission's position is strict with respect to necessity and the proportionality requirements, requiring agreements to be indispensable for attaining environmental objectives.

Geradin's (2002) conclusions as to how the Commission attempts to reconcile competition principles with its treatment of environmental agreements are, firstly, that the Commission does not accept that environmental protection be used as an excuse to justify an agreement whose primary objective is to restrict competition. Secondly, that the Commission takes a favourable stance on agreements seeking to implement environmental objectives defined at Community level. Thirdly, that in line with the draft guidelines, the Commission conducts cost-benefit and cost-effect analyses. Regarding the proportionality test of restriction, it takes into account not only the individual economic benefits but also collective environmental benefits.

In contrast to Article 101 TFEU, Article 102 TFEU does not provide for exceptions. Undertakings that carry out environmental tasks (realising economies of scale, organised on a collective basis) and thereby achieve a dominant position (for instance waste collection or recycling schemes) are subject to the discipline of Article 102 TFEU that forbids any abuse of that position. In this sense, there is no real tension between environmental protection and competition law (even if a dominant supplier used its market power to force suppliers or consumers to improve their environmental performance).

Exclusive rights in the environmental domain in light of Article 106 TFEU regard member states' specialised agencies / undertakings to accomplish certain environmental duties (treatment of waste water, clean-up of polluted sites) that feature a natural monopoly position and have public service obligations. In essence, a member state that has conferred exclusive rights on an undertaking to fulfil environmental duties will have to demonstrate the necessity for doing so. Put differently, in a competition regime without such exclusive rights the undertaking would not be able to provide its service of general economic interest in a satisfactory manner. To the extent, therefore, that Article 106 TFEU aims at making the market work in benefit of environmental tasks there is no conflict.

Environmental state aids (Articles 107-109 TFEU) is an area where, in theory, there is no conflict between competition policy and environmental protection. Competition policy prohibits state aids that distort the competitive process and affect intra-Community trade, while as far as environmental protection is concerned state subsidies are incompatible with the PPP. However, tensions arise in practice when member states choose to achieve environmental goals by granting subsidies to industry. Note that subsidies are an environmental, market-based policy instrument (see also section 3). The Commission emits guidelines on authorising environmental state aids subject to certain criteria, most recently in 2008 (Community guidelines on state aid for environmental protection<sup>7</sup>) within the Climate Action and Renewable Energy Package.

The prohibition of state aids under Article 107(1) TFEU is not absolute. As under 101(3) the Commission can consider as compatible with the common market aid to promote the execution of an important project of

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7 Community Guidelines on State Aid For Environmental Protection (2008/C 82/01). As stated in its paragraph 6: "*The primary objective of State aid control in the field of environmental protection is to ensure that State aid measures will result in a higher level of environmental protection than would occur without the aid and to ensure that the positive effects of the aid outweigh its negative effects in terms of distortions of competition, taking account of the polluter pays principle (hereafter 'PPP') established by Article 174 of the EC Treaty.*"

As stated in paragraph 24: "*According to the PPP [Polluter Pays Principle], the polluter should pay all the costs of its pollution, including the indirect costs borne by society. For this purpose, environmental regulation can be a useful instrument to increase the burden on the polluter. Respect for the PPP ensures, in theory, that the market failure linked to negative externalities will be rectified. Consequently, if the PPP were fully implemented, further government intervention would not be necessary to ensure a market-efficient outcome. The PPP remains the main rule and State aid is in fact a second-best option. Using State aid in the context of the PPP would relieve the polluter of the burden of paying the cost of its pollution. Therefore, State aid may not be an appropriate instrument in such cases.*"

common European interest. Note that the concept of state aid requires a pecuniary burden on the state (subsidy or tax relief) while exemptions from environmental regulation that constitute invisible barriers to trade have to be dealt with by different means (elimination, harmonisation of environmental standards). In this domain the Commission has some discretionary powers and has developed principles for the authorisation of aid regimes, notably necessity (to achieve the environmental objective) and proportionality (environmental benefits outweigh adverse effects on competition). Also, investment aid and operating aid are treated differently, the first one more favourably.

It is noteworthy that in the German Eco-taxes decision<sup>8</sup>, the Commission took into account competitiveness factors in the appraisal of state aid regimes. Competition between tax regimes in the EU may give rise to competitiveness distortions that might in turn condition national environmental policy choices, although that might not be in line with EU goals. In the above decision the Commission was sensitive to the particular political economy argument (allowing for tax exemptions to industrial users as the only politically acceptable way for a national government to set up an energy taxation scheme) despite the fact that it contradicts the PPP and reduces the effectiveness of the scheme.

Geradin (2002) concludes that the Commission has generally managed to deal with the potential sources of tension and find a balance, namely trying to make compatible the objectives of competition and the environment and applying a proportionality test in this balancing exercise. The latter involves the application of four criteria, consistently found in restrictive practices, exclusive rights and state aids, that is the objective has to be an environmental goal, there has to be a causal link (between the adopted measure and the environmental objective), there has to be a necessity for that measure (it cannot be achieved by less restrictive measures) and there needs to be a balance between the measure and its objective (the restriction of competition must be proportionate to the environmental benefits of the measure). While Geradin (2002) therefore concludes that a conflict between competition and environmental protection may exist in theory, he does not find evidence for a conflict in practice.

Yet, one may point out, the problem might reside less in the application of competition policy in the environmental field but rather more in making

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8 See IP/00/157, February 2000.

use of the efficiency potential of the single market through the application of market instruments of environmental protection (taxes and subsidies, marketable permits).

## **2. ECONOMIC POLICY INSTRUMENTS AND MARKET FUNCTIONING: SYNERGIES BETWEEN COMPETITION POLICY AND ENVIRONMENTAL PROTECTION?**

Since the 5<sup>th</sup> Environmental Action Programme, the EU is set on a path of ecological modernisation of its economy and towards the increased use of economic instruments, rather than command-and-control-type instruments<sup>9</sup>. The former tend to be cheaper to implement and tend to promote innovation (i.e., have a dynamic economic efficiency enhancing effect).

Economic instruments use the market mechanism to achieve environmental goals. They work via incentives / pricing of environmental costs (internalisation of environmental damage costs) and thus need a well functioning market. With competition in the market and agents with different cost structures it is the most efficient firms that will prosper and inefficient ones will be penalised in the market. Treaty-based principles of EU policy – the PPP and cost-benefit analyses on policy choice (Article 191 (2) and (3)) – work towards economic efficiency.

Economic instruments notably comprise taxes and charges, marketable emission quotas, and subsidies. All of them require a functioning market to be effective. However, not all of them sit easily with the PPP (enshrined in Article 191 (2) TFEU, ex- Article 174 TEC). One issue is if (sometimes a big if) one knows the damage costs to be charged to the polluter, another that a subsidy is alternative to the PPP. Also, whether the PPP is applied in the case of marketable emission quotas depends very much on the distribution mode of emission rights and on market creation and functioning. Let us briefly consider the chief issue associated with the functioning of taxes and subsidies, on the one hand, and marketable permits (such as the EU ETS), on the other.

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9 See e.g., Nordic Competition Authorities; 2010:6: “Governments can choose between two broad categories of policy tools in seeking to respond to and correct for negative environmental externalities: economic and administrative policy tools. Economic tools, such as taxes and subsidies, work indirectly via the price mechanism while tradable permits work through regulated quantities traded in a market. Regulations of a more administrative character are those which for example include specifications of maximum permitted emissions or detailed requirements for products, production processes or technologies. Such approaches are often referred to as command and control approaches”.

### Taxes *versus* subsidies

Taxes have optimality properties, that is, they implement the efficient (optimal) level of pollution (by equating private to social marginal costs of individual decisions), if both damage costs and abatement costs are known, as well as cost-effectiveness properties (that is, if the optimal level of pollution is not known, taxes have least-cost properties with a view to achieving given standards, as opposed to standard-setting without taxes or charges) (Pearce and Turner, 1990).

Baumol and Oates (1971) first showed that compliance costs are lower for taxes than for standard setting, since the latter incurs higher total abatement costs to achieve the same standard. Whether taxes are a least-cost solution of course depends on the alternative mechanisms, such as marketable permits. Taxes also economise on scarce administrative capacity. Taxes can be implemented without knowing the efficient solution (without the state needing to know the damage function). In this case one does not implement the optimal level of pollution but still a cost-effective solution.

Following once more Pearce and Turner (1990). Subsidies can be interpreted as being the opposite of taxes (i.e., in the sense of being negative taxes) and imply payments to firms, which pollute below a certain level. The idea is to encourage polluters to install abatement equipment, paying a subsidy on the amount of pollution reduced. However, while the short-run responses to a subsidy are the same as those for a tax, the long-run response might be very different. Consider that taxes raise firms' marginal and average costs. Firms will exit the industry if the price is smaller than the new average costs, shifting the industry supply curve to the left and resulting in a new short-run and long-run equilibrium. In the case of a subsidy, marginal costs are higher (since by expanding output a firm foregoes the subsidy, but average costs fall when the firm gets a payment for lowering output), price is higher than the new average cost (old average costs minus the subsidy) and hence new firms will enter the industry, shifting the supply curve to the right. The net effect on pollution levels is thus not clear. A subsidy risks to lead to increased rather than reduced pollution as a consequence of altering the exit and entry conditions into the polluting industry.

Competition and environmental protection are complementary under perfect competition. The Pigouvian tax is equal to the marginal external cost and achieves the desired result. However, under imperfect competition there are two market imperfections that need to be solved, namely downward-



sloping demand curves and a negative externality. This requires that the 'market power imperfection' be corrected first (by ensuring a move towards the equality between Price and Marginal Cost), after which the Pigouvian tax would be set equal to the marginal external costs. As a result, under imperfect competition the optimal tax is not equal to the marginal external cost but could then be positive or negative. Pollution taxes are still appropriate under imperfect competition if the externality is large relative to private costs (Pearce and Turner, 1990).

### **Marketable pollution permits**

Marketable pollution permits (Dales, 1968) render competition and environmental protection compatible, provided that the markets work well (S-D) to give adequate incentives. The advantages of marketable pollution permits can be resumed as follows (Pearce and Turner, 1990):

- (1) Minimisation of the total cost of pollution abatement (analogue to Baumol-Oates theorem on taxes);
- (2) Accommodation of new entrants (higher demand; if required it is possible to vary standards with comparative ease);
- (3) Opportunities for non-polluters (environmental pressure groups; preferences for pollution control – WTP (willingness to pay));
- (4) Ease to deal with inflation and adjustment costs permits: define standard and decide on mechanism for issuing permits; permits are also insensitive to inflation (D-S) (taxes, on the other hand, are not. Hence, a correct estimate of the tax rate will be required so as to implement the envisaged standard);
- (5) Spatial dimension (permits, to a considerable degree, avoid problems of taxes associated with creation of different receptor points and assimilative capacities of pollution, and synergetic effects);
- (6) Permits have an advantage over charges systems as far as technological lock-in is concerned: quantity of permits is set equal to required standards and it is prices that adjust (underestimation of abatement costs has an effect on demand and prices)<sup>10</sup>.

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<sup>10</sup> Note that abatement expenditures are often lumpy, and that charges in addition often underestimate costs (given that authorities are fraught with uncertainty), thus not giving polluters the right incentives to invest.

### 3. ON THE EU EMISSIONS TRADING SYSTEM: AN OVERVIEW

The EU ETS is at the centre of the EU's efforts to reduce carbon dioxide emissions. It was launched on 1 January 2005, the beginning of the so-called first trading period. The EU ETS aims at creating a well functioning market for pollution permits.

According to the EU Memo/08/35<sup>11</sup>, «*The aim of the EU Emissions Trading System (EU ETS) is to help EU Member States achieve their commitments to limit or reduce greenhouse gas emissions in a cost-effective way. (...) The EU ETS is the cornerstone of the EU's strategy for fighting climate change. It is the first international trading system for CO<sub>2</sub> emissions in the world and from the start of this year applies not only to the 27 EU Member States but also the other three members of the European Economic Area – Norway, Iceland and Liechtenstein. (...)*». Moreover, «*The EU ETS is a 'cap and trade' system, that is to say it caps the overall level of emissions allowed but, within that limit, allows participants in the system to buy and sell allowances as they require. These allowances are the common trading 'currency' at the heart of the system. One allowance gives the holder the right to emit one tonne of CO<sub>2</sub>. The cap on the total number of allowances is what creates scarcity in the market.*»

Again, according to the EU Memo/08/35, «*(...) The first trading period ran for three years to the end of 2007 and was a 'learning by doing' phase to prepare for the crucial second trading period. The second trading period began on 1 January 2008 and runs for five years until the end of 2012. The importance of the second trading period stems from the fact that it coincides with the first commitment period of the Kyoto Protocol, during which the EU and other industrialised countries must meet their targets to limit or reduce greenhouse gas emissions. For the second trading period the Commission has capped national emissions from EU ETS sectors at an average of around 6.5% below 2005 levels to help ensure that the EU as a whole, and Member States individually, deliver on their Kyoto commitments.*»

Note that the EU ETS works largely along the same principles in trading periods 1 and 2. The first trading period, between 1 January 2005 and the end of 2007, allowed for the establishment of free trading of emission allowances in the EU, putting in place the necessary infrastructure and developing a dynamic carbon market. However, these first two trading periods have shown that widely different national methods for allocating allowances to

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<sup>11</sup> Memo/08/35 on Questions and Answers on the Commission's proposal to revise the EU Emissions Trading System (from January 2008).

installations in the energy and industrial sectors can jeopardize *fair competition* in the EU internal market.<sup>12</sup> The third trading period is designed to ensure that such fair competition will be in place.

Regarding the post-2012 period, the revised EU ETS Directive<sup>13</sup>, proposed by the Commission within the Climate Action and Renewable Energy Package and which amends the Directive 2003/87/EC, seeks to strengthen, expand and improve the functioning of the EU ETS. This third trading period, running from 2013 until 2020 and which clearly reflects a learning process on the part of the Commission, sets as its target (endorsed by the March 2007 European Council) a (unilateral) reduction in EU emissions of at least 20 per cent by the year 2020, compared with 1990 levels, and of 30 per cent, provided that other industrialized countries commit to comparable emission reductions efforts.

According to the Commission, the main changes proposed in the new Directive are as follows: (i) there will be one EU-wide cap, determined for each individual year, on the number of emission allowances instead of 27 national caps. The annual cap will decrease along a linear trend line, which will continue beyond the end of the third trading period (2013-2020)<sup>14 15</sup>; (ii) a much larger share of allowances – estimated to be around 60% of the total number of allowances – will be auctioned instead of allocated free of charge; (iii) harmonised rules governing free allocation will be introduced; (iv) part of the rights to auction allowances will be redistributed from the Member States with high per capita income to those with low per capita income in order to strengthen the financial capacity of the latter to invest in climate friendly technologies; (v) a number of new industries will be included in the

12 See EU Memo/08/35.

13 Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009, amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community.

14 The starting point of this line is the average total quantity of allowances (phase/trading period 2 cap) to be issued by Member States for the 2008-2012 period, adjusted to reflect the broadened scope of the system from 2013. The linear factor by which the annual amount shall decrease is 1.74 per cent in relation to the phase 2 cap.

15 One can question why the Commission would not set a unique EU-wide cap for the entire 2013-2020 period, instead of yearly caps. Nevertheless, and scientifically speaking, it might not be irrelevant whether emission allowances caps are set up yearly or only once. In fact, the difference between stock and flow pollution might imply that the yearly cap alternative is “superior” (in terms of social welfare) to the once and for all. In a sense, we might be facing a case of “market failure” (the market being “blind to scientific concerns”) – see Commission’s Directive Proposal, p.7.

EU ETS and so will two further gases (nitrous oxide and perfluorocarbons); (vi) Member States will be allowed to exclude small installations from the scope of the system, provided they are subject to equivalent emission reduction measures (e.g., via Pigouvian emission taxes or command-and-control/regulatory type measures).

Hence, some carbon dioxide emissions allowances will still be allocated for free during this third trading period, but to a lower extent than before. For the power sector, full auctioning will be in place from 2013 onwards across most of the EU. On the other hand, the proportion of allowances given out for free will be progressively phased out until 2020, with an exception being made for installations in sectors considered to be at a significant risk of “carbon leakage”. In our view, this exception actually amounts to a public subsidization (state aid?) of industrial installations “more vulnerable” to a reallocation process towards non-EU countries with less stringent constraints on carbon emissions. Having this opt-out alternative, these sectors might have little incentive to invest in cleaner technologies unless, and in the case of reallocation, the imports by the EU of their products were to be subjected to an “emissions tariff” reflecting their higher emissions production technology.

The EU-wide caps will be determined for each individual year. Because allowances remain valid throughout the trading period (2013-2020), installations are able to save allowances and use them later on. One question that arises is in what way *secondary* markets for allowances will be set up so as to enable installations with an allowance deficit to buy allowances from those other with allowance savings. Also, it would be interesting to analyse how such markets will interact with the emissions auctions that will be run by the different Member States. In any case, the prices formed in these allowance markets (which could eventually include future markets) will convey valuable information on emissions allowance scarcity, enabling the different agents to better design their business strategies and investment plans. As pointed out by e.g., Perrot (2006) the state of competition in these markets ought to be monitored closely to prevent attempts to manipulate prices, abuses of dominant positions and cartel agreements that will seriously distort the well functioning of these secondary markets.

Notice that an auctioning run by a Member State must respect the rules of the internal market, hence must be open to any potential buyer under non-discriminatory conditions.

There will be an end-of-year check up exercise to make sure each agent has enough pollution emission rights to cover its pollution levels emitted during the previous year. This check mechanism already exists, even though an overlygenerous allocation of pollution rights, based on each agent's past records, has dampened, to a certain extent, pollution control in the first two trading periods.

Finally, and as in the first two trading periods, under the EU ETS Member States may allow their operators (installations) to use credits generated by emission-saving projects undertaken in third countries to cover their emissions in the same way as EU ETS allowances. These credits have to be recognised by the Kyoto Protocol's Joint Implementation mechanism or by the Clean Development Mechanism.

#### 4. CONCLUSION

While there are sources of potential conflict between competition and environmental protection, European Commission practice seems to balance it out in practice. Conversely, there are potential synergies between the application of the PPP and a functioning market. Competition is vital for the good functioning of Pigouvian taxes and marketable permits. In the case of Pigouvian taxes, tax rates then correspond to marginal external costs. However, under imperfect competition the picture becomes complicated, as there are two market failures to be dealt with, and the computation of tax rates requires a correction of the market imperfection plus the externality, with the result that the taxes might be positive or even negative. Subsidies contradict the PPP and their pollution reduction impact is unclear at the outset. Marketable permits are an alternative to Pigouvian taxes and also require a functioning market.

In the EU the implementation of Pigouvian taxes is fraught with the unanimity voting requirement. The proposal of a European CO<sub>2</sub> tax, proposed by the European Commission in the run-up to the Kyoto negotiations, did not advance further to date. Conversely, EU Kyoto commitments are to a very important extent implemented through the EU ETS carbon cap-and-trade system.

Another issue, to be contemplated, is that the PPP requires carbon pricing, which calls for coordination between Pigouvian taxes and carbon trading via the EU ETS as to avoid competitive distortions stemming from double charges or tax exemptions.

The EU ETS aims at creating a well functioning market for pollution permits. This is the right way to go provided a large enough share of emission allowances is allocated through an auction process and provided the yearly caps already defined in the revised EU ETS Directive are sufficiently low so as to keep the price of emission allowances high enough reflecting, as closely as possible, those emissions' environmental impact. One goal of competition policy is clearly to prevent attempts to manipulate prices, abuses of dominant positions and cartel agreements that will seriously distort the good functioning of the secondary markets for emissions allowances.

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