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## Assessing the European Union Emissions Trading Directive

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**SUMMARY:** The Emissions Trading scheme now (January 2003) in prospect in the European Union is likely to be the first trans-national greenhouse gas emissions trading scheme in the world. With the participation of the European Economic Area [EEA] countries and with the forthcoming EU enlargement, 30 countries could be involved in this scheme by 2012.

Under European Union law, the European Commission is responsible for making proposals, which are then decided upon by the Council of Ministers —on a «qualified majority» basis in this case— representing the 15 Member State governments, and the European Parliament. In the case of this Directive, the Commission prepared its initial proposals, which have then been scrutinised by the European Parliament and the Council of Ministers.

The objective of this work is to provide an assessment of the EU Emissions Trading Directive as agreed by the Council of Ministers. The agreement was reached looking at both, the characteristics and potential of this scheme. For some of the issues, there is theory and evidence to support the case made. For others, the absence of evidence means that intuition is called upon.

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**KEYWORDS:** emissions trade, directive, Europe.

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**JEL classification:** F18, N54, Q56

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### Evaluación de la Directiva de Comercio de emisiones de la Unión Europea

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**RESUMEN:** La Directiva de Comercio de Emisiones (Enero 2003) aprobada por la Unión Europea constituye, probablemente, el primer esquema de Intercambio de Permisos de Emisión, para gases de efectos invernadero de carácter transnacional, que se va a poner en marcha en el mundo. Con la participación de los países del Área Económica Europea, y con la próxima ampliación de la UE, los países que estarán implicados en el esquema llegarán a 30 el año 2012.

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Es bien conocido que el reparto de competencias en Europa implica que es la Comisión la responsable de llevar a cabo las propuestas que posteriormente pueden ser aceptadas o rechazadas en el Consejo de Ministros en base a una «mayoría cualificada» (dependiendo del tipo de decisión) y por el Parlamento Europeo. El objetivo de este trabajo es el de llevar a cabo un juicio acerca de la Directiva sobre Intercambio de Derechos de Emisión de la UE tal y como fue aprobada por el Consejo. El acuerdo se alcanzó teniendo en cuenta, tanto las *características* como el *potencial* del esquema.

Para algunos de los aspectos contenidos en la Directiva existe tanto teoría como evidencia que puede apoyar la decisión adoptada. Para otros, sin embargo, la ausencia de evidencia implica que fue la intuición la que predominó a la hora de tomar la decisión.

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**PALABRAS CLAVE:** comercio de emisiones, directiva, Europa.

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**Clasificación JEL:** F18, N54, Q56

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## 1. Introduction

The Emissions Trading scheme now (January 2003) in prospect in the European Union is likely to be the first trans-national greenhouse gas emissions trading scheme in the world. With the participation of the European Economic Area [EEA] countries and with the forthcoming EU enlargement, 30 countries could be involved in this scheme by 2012.

Under European Union law, the European Commission is responsible for making proposals, which are then decided upon by the Council of Ministers —on a «qualified majority» basis in this case— representing the 15 Member State governments, and the European Parliament. In the case of this Directive, the Commission prepared its initial proposals, which have then been scrutinised by the European Parliament and the Council of Ministers. As regards the latter, a series of amendments were tabled and negotiated over several months, and the Council finally agreed a text for the Directive on December 9, 2002. The European Parliament also proposes amendments to the original Commission proposals. In terms of finalisation, what remains to be decided is whether the Parliament will decide that the Directive as agreed by the Council of Ministers is sufficiently close to its desires to be acceptable, or whether a conciliation process must be initiated, which involves a formal effort to reach compromises on points of disagreement.

The objective of this chapter is to provide an assessment of the EU Emissions Trading Directive as agreed by the Council of Ministers. Which was agreed, looking at both the characteristics and potential of this scheme. For some of the issues, there is theory and evidence to support the case made. For others, the absence of evidence means that intuition is called upon.

## 2. Why the new found interest in emissions trading in Europe?

What has happened in less than 5 years to move emissions trading towards the top of the policy agenda in Europe? There are three main explanations. The first is the conviction by economists in DG Environment in general, and the Climate Change Unit in parti-

cular, that it provided a potentially powerful mechanism for helping to achieve agreed targets. The Commission attempted to introduce a carbon energy tax beginning in 1992, but failed to secure the unanimous Member State support required to implement it. Emissions trading has the same potential to achieve abatement across the Union, but as proposed it does not require unanimity, i.e. it can be introduced if approved by a «qualified majority» of the Member States. Secondly, some elements of industry in some Member States see it as a positive alternative to carbon taxes, and non governmental organisations, while not vehement in their enthusiasm, have not been vehement either in their opposition. Thirdly, the fact that it is included overtly in the Kyoto Protocol as a flexible mechanism has forced all parties to give the instrument consideration.

Below we address the key issues that arise in the design and implementation of any trading scheme, and how the Directive as it stands meets criteria of economic efficiency, fairness and environmental effectiveness.

The issues include scope and competition aspects, administration and transactions costs, and how allowances are allocated. Our broad conclusion is that the Directive has been weakened considerably from the proposals as outlined initially by the Commission, but it is still sufficiently robust to be effective.

### **2.1. Issues as regards scope and competition**

The ideal trading scheme will have numerous buyers and sellers with a wide variety of marginal abatement costs, with none having sufficient market power to influence prices or quantities offered.

As initially proposed by the Commission, the trading scheme was obligatory for the entities to which it applies. In the first phase, trading will be confined to carbon dioxide emissions from power station installations in excess of 20 MW (except incinerators), oil refineries, smelters, manufacture of cement (> 500 tonnes per day), ceramics including brick, glass, pulp, paper and board (> 20 tonnes per day). These sources will comprise 4.000 to 5.000 installations.

The chemical sector is excluded because its emissions of 26 million tonnes of CO<sub>2</sub> equivalent in 1990 (less than 1 per cent of carbon emissions in that year) are relatively modest, and the number of installations (34,000 plants) is relatively high. Waste incinerators are excluded because of the complexities of measuring the carbon content of the waste material being burnt.

It was estimated that the sources to which the draft Directive applies will account for 46 per cent of carbon dioxide emissions in 2010, and 38 per cent of total greenhouse gas emissions in that year. It is envisaged in subsequent periods that the range of activities included will be widened, and the other greenhouse gasses will be included. The extension to include other activities will require an amendment to the Directive.

### **2.2. The «Opt Out» Provision**

Unfortunately, these provisions have been significantly modified by two provisions, both of which are likely to narrow the number of participants, and may create

the potential for market influence. The first of these is the «opt out» provision (Article 25a). Although trading will start in 2005, individual installations or economic activities can be exempted from emissions trading during the first period of the scheme, to 2007. Those installations and companies (whose Member States will apply to the Commission on their behalf to) who attempt to use this «Opt-out» option will first have to receive approval from the Commission. In addition those who opt-out will still be obliged to meet the same requirements as those companies and installations participating in the scheme. These companies will still be subject to the same monitoring, reporting and verification requirements while non-fulfilment of national requirements shall result in the imposition of penalties.

The potential damage of this provision is limited by two considerations - first it lapses in 3 years, and secondly, firms opting out have to meet the same requirements as firms participating in the scheme. It is not clear why any firm would forego the flexibility of emissions trading if they have to meet the same requirements anyway, so the «leakage» of traders on the basis of this provision is likely to be modest. The second «pooling» provision is more serious.

### 2.3. The «Pooling» Provision

Member States may allow operators of installations carrying out one of the activities listed in Annex I to form a pool of installations from the same activity for the 2005-2007 period of the trading scheme and/or the first five-year period (Article 25b). Operators wishing to form a pool shall apply to the competent authority, specifying the installations and the period for which they want to «pool». The running of the pool shall be carried out by a trustee who will be nominated by the operators of the installations who wish to form a pool. The trustee will then assume a number of roles. They will be issued with the total quantity of allowances for all the installations who are members of the pool, responsible for surrendering allowances equal to the total emissions that are emitted from the pool and they will be subject to the penalties for the failure to surrender sufficient allowances to cover the total emissions from the installations in the pool. If the situation arises where the trustee fails to comply with the penalties imposed then the operators of the installations in the pool shall be responsible for their own emissions. A Member State may allow more than one pool to be formed but they must first receive permission from the Commission to allow for the existence of these pools.

Depending on the extent to which this provision is taken up, and how it is implemented, it could be very damaging to competition and to the proper functioning the market.

Adam Smith's familiar admonition comes to mind: *People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.* (Wealth of Nations, 1776).

There is a potential for national groups to act in an anti competitive fashion. If an industry association in a country with a large share of the emissions decided to increase the asset value of the permits or to discourage new entrants, using their trustee

status, it could agree to restrict supply of allowances onto the open market. Such potential is likely to be highest where a pre-existing voluntary agreement covering a sector and managed by an industry association already exists, and it accounts for a relatively high proportion of total allowances. Given that this «pooling» provision was «driven» by the German representation on the Council of Ministers, and that it accounts for close to 25 per cent of the total market, this potential certainly exists. The fact that a pool does not automatically lapse after the first three years - it can continue for a further 5 years - is an additional cause for concern. However, the good news from an economics perspective is that the Commission fought to ensure that individual companies could «opt out» which means that it would be very difficult in practice to maintain a cartel where the price obtainable within the pool was lower than the wider EU market price. Those within the pool with allowances to sell would either do so or demand side payments to stay in the pool.

#### **2.4. Force majeure**

«Force majeure» arises where very dramatic and unforceable circumstances arise that require action. When allowances are being issued at the appropriate stages during the different periods (whether it is the first three year period or any of the subsequent five year periods), Member States may apply to the Commission for certain installations to be issued additional allowances on the basis of force majeure circumstances. It will be up to the Commission to determine whether force majeure is demonstrated, in which case it will authorise the issuance of additional and non-transferable allowances by that Member State to the operators of those installations.

This provision (Article 25c) provides participants with some comfort that if extreme circumstances do arise, relief in the form of additional allowances may be permitted. However, if it is abused, it could weaken the operation of the market. For example, if a smelter operating in an area of high unemployment emitting a large volume of CO<sub>2</sub> runs into commercial difficulties, only tangentially related to its greenhouse gas obligations, the member State in question may be tempted to seek «force majeure» status. However, the fact that the Commission has the «last word» on such status should protect against abuse.

### **3. Expanding Scope, and Linking with other schemes**

#### ***Trading***

There is one amendment to the initial Commission proposal that is likely to strengthen the market over time. These include provisions allowing «automatic» expansion of the scheme to include additional sectors and gasses after 2008 (Article 23a).

The Community may conclude agreements with third countries listed in Annex B of the Kyoto Protocol which have ratified the Protocol for the mutual recognition of allowances between the Community greenhouse gas emissions trading scheme and other greenhouse gas emissions trading schemes. (Article 24).

The wider the scope of the scheme, the more diverse the range of opportunities for emission reduction. This is therefore a very important provision, as it will allow the widening of the scheme to include others that have developed in parallel that are compatible. The Accession States —some of whom are likely to have low cost abatement options— are primary candidates, and some of them are likely to make sure that they have compatible and credible schemes in place. But by 2008, Canada, Australia and Japan are also likely to have their own schemes in place.

### ***Linking to Clean Development Mechanism and Joint Implementation***

The draft Directive states (Article 26) that «Whereas the recognition of credits from project based mechanisms for fulfilling obligations under this Directive as from 2005, will increase the cost-effectiveness of achieving reductions of global greenhouse gas emissions, and shall be provided for by a Directive for linking Project-based mechanisms including Joint Implementation and the Clean Development Mechanism with the Community greenhouse gas emission trading scheme.» This is an addition to the earlier Commission text, and appears to reflect Member State interest in maximising the scope for cost reducing abatement options. How it will work will be laid down in the (new) Directive which is called for.

## **4. Issues in Administration and Transactions Costs**

### **4.1. *Cap and Trade***

The EU scheme is «*cap and trade*» in that absolute quotas are issued, allowances can be bought and sold, and the emitter must always hold sufficient allowances to cover emissions. The operator must surrender allowances equal to the total emissions of the installation in each calendar year, within 4 months following the end of that year. This is an important gain over the alternative of baseline and credit; the latter would have posed very substantial and potentially contentious administrative burdens, and depending on how it was designed, might also have proved environmentally ineffective.

Based on an analysis of the early EPA experience in the US, which was predominantly baseline and credit based, it can be stated that uncertainty concerning baseline setting and certification lead subsequently to higher transactions costs that discouraged trades (Stavins, 1995); this was exacerbated, according to Norregard and Reppelin-Hill, (2000) by ill defined property rights in the case of baseline and credit schemes.

Transactions costs are further increased where two systems —absolute and relative— operate in parallel. In the UK, such implementation is proposed. Those in the absolute group will be able to trade internationally, and between themselves. The operators in the relative system —called the «unit» system in the UK— can trade freely amongst themselves, but trade between the two systems is only allowed if there is

no net from the relative («unit») to the absolute systems. This from the absolute to the relative schemes and a «gateway» will be provided to ensure that there is no net flow from relative to absolute. According to simulations undertaken to model such a system, it would add considerably to transactions costs relative to a cap and trade scheme on its own. (PriceWaterhouseCoopers, 2000).

#### **4.2. Ensuring that command and control does not vitiate the opportunities for trade**

If under a command and control regime each plant is required to install best available technology to meet its greenhouse gas emission obligations, this would weaken the logic and undermine the opportunities for trade. The Directive attempts to reflect this reality by requiring Member States to «ensure that, where installations carry out activities that (qualify for inclusion on the Directive) the conditions of, and procedures for, the issue of greenhouse gas emissions permit are co-ordinated with those for the permit provided» under the Integrated Pollution Prevention and Control Directive (96/61/EC).

This is an attempt to ensure that some space for trading is allowed, but the «co-ordination» requirement seems weak and subject to a variety of interpretations.

#### **4.3. Monitoring, reporting and verification**

«Member States must ensure that each operator of an installation reports the emissions from that installation during each calendar year to the competent authority after the end of that year». Verification shall be based on strategic analysis of all activities, with spot checks (process analysis) on site to determine reliability of reported data and information, identification of sources with risk of error and risk control measures (risk analysis). The verifier shall be competent to do the job. Decisions relating to the allocation of allowances and reports of emissions required under the greenhouse gas emissions permit shall be made available to the public. (Article 17).

#### **4.4. Penalties**

The provisions as they stand in effect set a sort of price cap on trades, in that the fine for non compliance is fixed at €40 per tonne of CO<sub>2</sub> for the first three years (see below). However, those so fined still have to meet their obligations. The enforcement provisions are weaker than initially proposed by the Commission - which had included a penalty «twice the market price».

Member States are to lay down the rules on penalties applicable to infringements of the national provisions that they have adopted in order to make sure that they comply with the Commission's directive (Article 16). The penalties provided must be effective, proportionate and dissuasive. Member States are to notify these provisions to the Commission by 31 December 2003 at the latest.



Where an operator does not surrender sufficient allowances to «cover» his emissions by 30 April of each year, he shall be liable for the payment of an excess emissions penalty. The excess emissions penalty shall be €100 for each tonne of CO<sub>2</sub> equivalent emitted by that installation for which the operator has not surrendered allowances. However, for the first three years of the scheme, beginning 1 January 2005, the penalty shall be lower. The penalty incurred during this period shall be €40 for each tonne of excess CO<sub>2</sub> equivalent emitted. Payment of the excess emissions penalty shall not release the operator from the obligation to surrender an amount of allowances equal to those excess emissions when surrendering allowances in the following calendar year.

Although somewhat weakened, the enforcement provisions remain relatively robust.

#### **4.5. Banking Borrowing and Property Rights**

Allowances shall be valid for emissions during the period for which they are issued, i.e. the first three year phase (2005-2007) or the subsequent five year periods. Essentially this means that banking within the relevant period is permitted, but not borrowing

This raises the issue of the extent, if any, to which allowance holders have a property right. Although allocation of permits is sometimes referred to as «privatisation» (Anderson, 1995), in practise even in the US it is a right of use for a defined period. Tietenberg (2001) quotes the title in the US Clean Air act dealing with the sulphur allowance programme: «An allowance under this title is a limited authorisation to emit sulphur dioxide... Such allowance does not constitute a property right».

The challenge is to provide sufficient security of tenure that allowance holders will trade, but to make it clear that permits are not property rights, and that the government still holds natural and environmental endowments in trust for the people.

The Commission proposal seems to meet this test of «adequacy» of rights to facilitate trades<sup>1</sup>.

From an economic efficiency perspective, it is unfortunate that borrowing is not permitted. Experience with the RECLAIM scheme in California, where the desire to bring back on line old inefficient mothballed electricity plant in California resulted in a dramatic escalation of NOx permit prices, which could have been limited in scope if borrowing were permitted.

#### **4.6. Management**

There are provisions to appoint a «competent authority» at Member State level (Article 18), to maintain registries (Article 19), to have a «Central Administrator» (Article 20), advised by a Committee (Article 23) which all seem appropriate

<sup>1</sup> Farmers in Ireland who had received milk quotas – which are tradable within Ireland under the Common Agricultural Policy (CAP) claimed compensation because their value was diminished by policy intervention. The court indicated that they had no such right, as they did not hold property rights per se to the quotas.

## 5. The Allocation of Allowances

### 5.1. Free or Auction?

For the three year period beginning on the first of January 2005 Member States will allocate allowances for free. For the five year period commencing on the first of January 2008, Member States shall allocate at least 90 per cent of their allowances for free.

There is a very strong case made in the literature for auctioning permit rather than giving them away free to existing polluters. Bohm (1999) puts the case as follows: Auctioning the whole volume of permits provides government revenue that allows a reduction of pre-existing distortionary taxes, a so-called double dividend; the auction price reflects this environmental concern and emerges as a corrective rather than distortionary levy. He also argues that grandfathering allows benefiting firms to *a)* remain in business, when, in the absence of the free endowment of assets represented by grandfathering, a firm would have gone out of business *b)* have more funds for risky investments, and *c)* have cheaper access to bank loans and capital markets... giving away permits for free to existing firms can be expected to slow down productivity growth. Thus, the fear that countries using «grandfathering» (free quota allocations) will have a competitive edge is unlikely to be valid, at least in the medium term. And any advantage will be further undermined by revenue recycling, and neutrality towards new firms which imply that *auctioning of permits provides other important efficiency benefits*. Boemare and Quirion (2001) cite general equilibrium work by Goulder *et al.*, (1999) and Fullerton and Metcalf (2001) that auctioning and the use of the revenue generated to cut pre-existing distortionary taxes is the most cost effective way to allocate allowances. The economic efficiency case for auction and re-cycle depends on the absence of significant government failure. Where governments receive the revenues from auction, and use it «unwisely», say to finance oppression, or the replenishment of overseas bank accounts held by corrupt officials and or politicians, then the case is weakened considerably. Such extreme malfeasance may not characterise government behaviour in the EU, but there is nevertheless likely to be considerable distrust on the part of the public that revenues will be used «wisely»<sup>2</sup>.

The Resources for the Future proposal for the introduction of emissions trading in the US (Kopp *et al.*, 1999) reflected the view that charging is appropriate, but, in order to limit the initial costs to industry, proposed a ceiling on the allowance price – if the ceiling were reached, more allowances would be issued to bring the price below the ceiling.

Another reason for favouring auctioning is the transactions costs involved in allocating free. These allowances are valuable, and so the potential beneficiaries have every reason to maximise their negotiating position, and this takes time and other re-

<sup>2</sup> In an ongoing EU project (PETRAS) which is exploring why some countries in the EU embrace environmental taxation and others, notably Ireland, do not, distrust of what government would do with the money generated appears to be an important factor inhibiting public support.

sources to act upon. The provision in the Directive for each Member State to prepare a «National Allocation Plan» —see below— in which the allocations will be made crystallise this problem

The case for giving the permits away for free is based on three arguments. The first was made initially by Coase (1960), namely, regardless as to how or to whom the allowances are allocated, they end up with those who can use them most efficiently, i.e. the target level of abatement is achieved at minimum cost. As Tietenberg (2001) puts it: «Whatever the initial allocation, the transferability of the permits allows them to ultimately flow to their highest valued uses. Since those uses do not depend on the initial allocation, all initial allocations result in the same outcome and that outcome is cost-effective... It implies that with tradable permits the resource manager can use the initial allocation to solve other goals such as political feasibility or ethical concerns without sacrificing cost effectiveness».

The second argument is pragmatic, the need to in effect pay the participants via free allocation to get their political support for implementation of the scheme. It is likely that the latter is the more salient reason why, with a few exceptions<sup>3</sup>, the practise with emissions trading undertaken to date has been to give them away free. This perspective by industry is not surprising. Several studies has shown that free allocation of CO<sub>2</sub> permits to fossil fuel firms in the US would leave them better off (Bovenberg and Goulder, 2000, and US Congressional Budget Office, 2000, Burtaw *et al.*, 2001). Of course, for the individual firm, the extent if any of the gain will depend on particular circumstances. The biggest winners will be those firms who through normal commercial decisions would have reduced emissions, e.g., from 1 million tonnes to 0.5 million tonnes. If now they are given a free allocation of 0.5 million tonnes, and this turns out in the market place to be worth €10 per tonne, they will have received an annual capital gain of €5 million for as long as the permits last. Conversely, a firm that must incur substantial costs to reduce emissions to 0.5 million tonnes still will show an increase in underlying asset value of €5 million annually, but will also have to spend money on some combination of abatement and purchase of allowances, to bring its allowances into line with its emissions. The third argument is that free allocation encourages those previously not known to the authorise as emitters to come forward and claim their allowance. This occurred in Chile in the particulates emission case (Borregaard, Convery and Katz, 2001) but is not relevant to the case of carbon dioxide trading in the European Union, where flows of fuel are well documented, being already in the tax «net».

## 5.2. National Allocation Plan

Member states must notify the Commission as to the total quantity of allowances it intends to allocate, and how it proposes to allocate them. According to Annex III (Criteria for National Allocation Plans) the allocation of allowances must be consistent with the technological potential of installations to reduce emissions, and the pro-

<sup>3</sup> Notably the allocation by auction of fishing quotas in the individual tradable quota scheme implemented in Chile (Borregaard, Convery and Katz, 2001).

jected and actual assessment and progress towards fulfilling the Community's commitments. No allowances should be allocated to cover emissions which would be reduced or eliminated as a consequence of Community legislation on renewable energy in electricity production. No discrimination against or in favour of particular companies or sectors, information on how new entrants will be treated, and how the public will be engaged.

Deciding on the total «envelope» that the sectors included in the Directive will be allocated will be politically difficult, because in every Member State it is a zero sum game. Given the absolute cap imposed by the Kyoto Protocol and the subsequent burden sharing agreement (undertaken by the EU as the means for meeting its commitments under the Kyoto Protocol, every extra tonne of CO<sub>2</sub> equivalent that, say, cement production gets, is a tonne that is not available for allocation to other sectors, including those not embraced by the Directive. Since we are also talking of a potentially valuable capital asset, and since «what we have we hold» tends to prevail over the longer term, the negotiations are likely to be time consuming and arduous. «Technological potential» and projected and actual progress towards meeting «Community objectives» are suggested as criteria for deciding on sectoral allocations, but marginal cost of abatement is not addressed.

The most economically efficient means of allocating allowances would be to estimate the marginal costs of abating a tonne of CO<sub>2</sub> across all emitting groups, including those not included in the initial emissions trading scheme (households, transport, agriculture etc). Then identifying that level of marginal cost which incurred equally across all sectors would achieve the overall national target, allowing some margin for error in actually achieving the target. The marginal cost level identified for each group of emitters will have associated with it a level of emissions, and this becomes the allocation that is most efficient, in the sense of minimising costs of compliance with the national assigned amount. Of course, it is likely that, under this system, the marginal costs of abatement in the sectors included in the emissions trading scheme will differ across Member States, hence the value of emissions trading, as it will allow those who have high marginal costs to do less, and those who have low costs to do correspondingly more.

### **5.3. Allocation and issue of allowances**

For the three year period beginning 1 January 2005, each Member State shall decide upon the total quantity of allowances it will allocate for that period and the allocation of those allowances to the operator of each installation. This decision shall be taken at least three months before the beginning of the period and be based on its national allocation plan. For the five year period beginning 1 January 2008, and for each subsequent five-year period, each Member State must again decide upon the total quantity of allowances it will allocate for that period. However for these subsequent periods this decision must be taken at least twelve months before the beginning of the relevant period and it to must be based on the national allocation plan.

This allows Member States to adjust the allowances after the first three years, presumably based on progress in complying with the national assigned amount. If a Member State is on target to meet their obligations, presumably adjustments will be relatively minor, while conversely, if there is significant «overshoot» likely, there will be pressure to reduce the allocations.

There will be apprehensions on the part of those trading that the burden of adjustment will fall on them, rather than on the sectors not included in the trading scheme. This makes the case in economic terms for estimating the marginal costs across all sectors, so that the burdens are not inefficiently allocated. Some agreed protocol for deciding on adjustment mechanisms would also reduce uncertainty in the minds of those participating in the scheme in the first phase.

#### **5.4. Transfer, surrender and cancellation of allowances**

Member States are to ensure that allowances can be transferred within and Member States. Allowances issued by the competent authority of another country shall be recognised in all Member States for the purpose of meeting an operator's obligations. By 30 April at the latest each year, the operator of each installation must surrender a number of allowances equal to the total emissions from that installation during the previous calendar year. Finally Member States shall ensure that the necessary steps are taken to cancel allowances at any time at the request of the person holding them.

The first provision —transfer within Member States— is essential to ensure that the market is as wide as possible, so that maximum benefit can be captured from differences in abatement costs. The second is essential to maintain the integrity of the system.

### **6. The European Parliament and differences with the Council of Ministers – fight at the OK Corral?**

At its first reading of the Directive, the European Parliament supported the Directive but with a number of differences from that agreed by the Council of Ministers. The main points of difference are the following.

Parliament wants:

- Temporary opt-outs limited to installations. (The Council provides also for opt outs for «activities» or sectors).
- Fifteen percent of allowances allocated by auction in the pilot phase, rising to 30 per cent in the Kyoto phase. (Compared with zero auctioned in the pilot phase in the Council version, and not more than 10 per cent auctioned thereafter).
- Chemical and aluminium industries included. (They are excluded in the version agreed by Council).
- Kyoto mechanisms (Joint Implementation and Clean Development Mechanism) excluded until 2008. (The Council include them from 2005).

## 7. Review and further development

Based on the progress achieved in the monitoring of emissions of greenhouse gases, the Commission may make a proposal to the European Parliament and the Council by 31 December 2004 to amend Annex I include other activities and emissions of other greenhouse gases listed in Annex II.

Based on the experience of the application of the Directive and on the progress achieved in the monitoring of emissions of greenhouse gases and in view of developments in an international context, the Commission will draw up a report considering the following:

- the relationship of the EU trading scheme with the international emission allowance trading that will commence in 2008;
- further harmonisation of the method of allocation and the criteria for national allocation plans;
- the use of credits from project based mechanisms;
- the relationship of emissions trading with other policies and measures implemented at Member State and Community level, including taxation that pursue the same objectives;
- whether it is appropriate for there to be a single Community registry; and
- the level of excess emissions penalties, taking into account, inter alia, inflation;
- the functioning of the allowance market, covering in particular any possible market disturbance;
- how to adapt the trading scheme to an enlarged European Union;
- pooling.

### 7.1. Timing Issues

The Parliament must now have a second reading, which will be completed by June 2003. Depending on the outcome, conciliation will or will not be necessary with the Council of Ministers, Member States shall bring into force all enabling elements by 31 December 2003 at the latest.

The National Allocation Plan must be published not later than 31 March 2004.

Trading comes into effect on January 2005.

## 8. Conclusions

The Directive as approved by the Council of Ministers is a very significant step in reducing the compliance costs within the EU of achieving the Kyoto targets, and in giving real institutional expression to a Europe wide philosophy and practise as regards global warming. The voluntary nature of it with «opt out» and the «pooling» provisions will weaken it somewhat, in that coverage and therefore range of marginal abatement cost opportunities will be reduced and possibly competitiveness will be damaged. However, the damage is limited by the «equivalent effort» requirements,

and (especially) by the opt out provisions for individual firms re-pooling. There will be significant additional transactions costs as a result of the need to prepare a National Allocation to allocate the free allowances, and free allocation in any event imposes substantial economic losses. It remains to be seen whether this will be modified in light of the Parliament's preference for partial auctioning. The costs of free allocation were no doubt judged by the Commission as a price that had to be paid to secure industry support, or at least to limit the degree of opposition.

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