

The EU Emissions Trading Scheme post 2012

Executive summary

The full report, in Swedish, is available at;

- Swedish Energy Agency,
www.stem.se, report ER 2006:45
- Swedish Environmental Protection Agency,
www.naturvardsverket.se, report ISBN 91-620-5657-3

The Government has instructed the Swedish Energy Agency and the Swedish Environmental Protection Agency to put forward a proposal for how the EU Emissions Trading Scheme (EU ETS) should be developed after 2012, subject to the overall objective of continuing to reduce emissions with the aim of achieving the long-term objectives of the Convention on Climate Change.

In its Council Conclusions (7619/1/05) the EU has interpreted the long-term objectives of the Convention on Climate Change as aiming to achieve emission reductions of 15-30 % in the industrialised countries by 2020. According to Council Conclusions (13435/05), the EU has also decided that the Emissions Trading Scheme should continue after 2012. The starting point for this report is that, after 2012, the Scheme will be a key instrument in achieving cost-efficient emission reductions, not only within the EU but also globally, and regardless of whether, with effect from 2013, the Scheme has become a part of an international climate regime, or is serving as a transition to some future new international climate regime.

The purpose of this report is to provide a proposal for how the Emissions Trading Scheme should be developed after 2012. The aim is to construct a system that helps to reduce global emissions of greenhouse gases (maintaining climate integrity), that assists measures being taken where they are cheapest (cost efficiency), that is accepted by parties concerned and by the general public (confidence-inspiring), and which does not adversely affect the competitiveness of business or industry (competition-neutral).

The Agencies' recommendations for Sweden's positions concerning development of the Scheme after 2012 are based on an extensive analysis, expressed in seven parts: the EU Emissions Trading Scheme and its long-term objectives (Chapter 3), the links between the Scheme and other systems (Chapter 4), the coverage of the Scheme (Chapter 5), the allocation of emission rights (Chapter 6), operation of the emissions trading market (Chapter 7) and the effect of the EU ETS on industry (Chapter 8). The following is a summary of the Agencies' conclusions in the respective parts of the report.

The Swedish Energy Agency and the Swedish Environmental Protection Agency recommend that Sweden should adopt the following standpoints concerning development of the EU Emissions Trading Scheme after 2012. Recommended changes to the system presuppose a harmonised implementation throughout the EU.

- In connection with international negotiations, Sweden should press for the Emissions Trading Scheme to be developed in such a way as to make it possible to achieve emission reductions in line with Council Conclusions (7619/1/05) in the form of total emission reductions of the order of 15-30 % in the industrialised countries by 2020.
- Sweden should press for the Scheme to be linked with other trading schemes, subject to retention of climate integrity. Linking can strengthen global climate policy ties and influence countries not having internationally binding climate commitments towards participating in some climate policy agreement. Linking also helps to counter international distortion of competition.
- There should be considerable opportunities for the use of CDM (or equivalent) credits in the Scheme, given that the EU has strict commitments on emission reductions.
- In order to ensure the system's climate integrity and competition neutrality, efforts should be aimed at ensuring that the total quantity of allowances in the Trading Scheme is decided directly at EU level (i.e. top-down), instead of as today starting from national allocation plans (i.e. bottom-up).
- Sweden should promote continued expansion of the Scheme to other sectors and for other gases. In 2013, it should be expanded to include emissions of carbon dioxide and PFC from primary and secondary aluminium production, carbon dioxide from certain chemical industry sectors, nitrous oxide from certain chemical industry sectors and methane from active coal mines.
- The European road transport sector can be included in the Scheme. However, this will pose challenges in respect of the effects on industrial competitiveness and developments within the road transport sector. In order to be able to adopt a firm position in the matter of how the road transport sector should be treated in relation to the EU ETS, Sweden should initiate in-depth studies of consequences of different options, including a separate trading scheme for the European transport sector.
- Purely biofuelled combustion installations should be excluded from the Scheme, and the monitoring requirements for pure biofuel streams in combustion installations that partly use biofuels should be abolished.
- Sweden should press for a broad and harmonised definition of the term 'combustion installation', bearing in mind the possible consequences for small installations.
- Efforts should be made to encourage auction procedures as the basis of allowance allocation for all sectors within the Scheme.

- However, until competitors outside the EU encounter some form of cost in connection with their carbon dioxide emissions, industry covered by the Scheme can continue to be allocated free allowances, preferably according to benchmarks common to the entire EU.
- The electricity and district heating sectors within the EU should not be allocated free allowances. These sectors' allowances should be distributed to the market by means of auctions that are open to all parties within the EU ETS.
- New entrants of the electricity and district heating sectors should be required to purchase their allowances on the market. Until auction procedures are introduced for existing industrial participants in the scheme, new entrants in the industrial sector should be allocated free allowances in accordance with common EU benchmarks where possible. Any surpluses from reserves kept for new entrants should be cancelled.
- If reserves are maintained for free allocation to new entrants, allocation of allowances to plants that have closed should cease.

EU Emissions Trading Scheme and its long-term objective

The climate change problem is global, and can be solved only through international cooperation

Substantial reductions in emissions are needed in order to prevent dangerous climate changes. Within the EU, the Council has stated that emissions from industrialised countries need to be reduced by 15-30 % by 2020, and by 60-80 % by 2050. The 1997 Kyoto Protocol sets out rules for reductions in the emissions of greenhouse gases (compared with emission levels in 1990) over the period 2008-2012, by whom and in what manner. The Protocol defines three flexible mechanisms: i) Joint Implementation (JI); ii) Clean Development Mechanism (CDM); and iii) Emissions Trading. The mechanisms establish conditions for effecting emission reductions in a more cost-efficient manner, which has been decisive for many countries in influencing them to ratify the Protocol, and thus for the Protocol to come into force. The first commitment period under the Protocol runs from 2008 to 2012, and negotiations are at present (December 2006) in progress concerning what is to happen after 2012. The Protocol includes texts concerning a second commitment period after 2012, but this does not automatically apply.

The EU Emissions Trading Scheme is a central policy measure for meeting the EU's commitments under the terms of the Protocol ...

Under the terms of the Protocol, the EU15 has a collective commitment to reduce (as a mean value for the period 2008-2012) its emissions of gases covered by the Protocol by 8 % in comparison with the reference year of 1990. In order to meet its commitments under the Protocol, the EU has taken (or plans to take) a range of actions under the European Climate Change Programme. The most important of these actions intended to achieve the commitment is the EU Emissions Trading Scheme (EU ETS). This started on 1st January 2005, with the first trading period up to the end of 2007. The second trading period, 2008-2012, coincides with the first commitment period under the Kyoto Protocol.

... and also for contributing to reduced emissions after 2012

Despite uncertainty concerning a future international climate regime after 2012, the EU has announced in its Council Conclusions (13435/05) that the Emissions Trading Scheme will continue to form a central plank of its policies after 2012. Continued reductions of emissions will be required both within the EU and globally, and continued development of the Scheme should be able to play an important part in achieving future emissions reduction commitments. An important prerequisite for ensuring that the Scheme will continue as an effective policy measure after 2012 is that the EU has a commitment to reduce its emissions of greenhouse gases. The existence of such a commitment provides the necessary driving force to ensure that emissions trading operates effectively. Such a commitment can be created by a unilateral decision on the part of the EU to reduce its emissions, even if no international agreement to do so in and from 2013 is in place.

The EU Emissions Trading Scheme forms an important element in the international climate change process...

At present, we do not know what international climate regime will follow at the end of the Kyoto Protocol's first commitment period. Several different alternatives for international agreements are under discussion, and it is likely that regional and/or global emissions rights trading schemes will play an important part in any future climate regime. The EU ETS has transferred national commitments down to company level, and has shown how a trading scheme for greenhouse gases can be constructed and operate. The Scheme therefore plays an important part in the development of any new climate change agreement. The EU has been, and is, a driving force in international climate change negotiations. As a result, development of its trading scheme has been followed with considerable interest by those involved in reaching new international climate change agreements.

... and can serve as a bridge to a new international climate regime if there should be a delay in agreeing it

Today, it is the demand within the EU ETS, together with the demand from Japanese companies, that is driving the CDM market. If an international agreement to follow the period after 2012 should be delayed, the EU ETS, either on its own or linked with other trading schemes, could help to maintain the CDM market during a transition phase until an international framework is in place. However, this presupposes that allocation of allowances to the trading sector within the EU is restricted so that a strong demand for credits from CDM projects arises.

Long trading periods assist forecasting and create the right conditions for investments

Long trading periods in the EU ETS assist forecasting and create the necessary conditions for long-term investments. However, the matter of the length of the trading periods is linked to international commitment periods, and thus further to the international climate change negotiations.

An emissions cap to the trading scheme, set directly at EU level instead of as today on the basis of national allocation plans, would facilitate maintained climate integrity and competition neutrality

The overall EU commitment under the 1997 Kyoto Protocol, of an 8 % reduction relative to 1990 emissions, was allocated among the 15 member states in 1998. This Burden Sharing Agreement was intended to reflect the differences in initial conditions, special circumstances and the costs of emission reductions between countries. It sets out the frameworks for the amount of emission reductions to be achieved by each country, and is thus of importance when determining emission allowances to the countries' trading sectors. For the period after 2012, neither the format nor the level of commitments are known at present, and nor has it been decided whether EU25 should have a collective commitment and if (and if so, how) such a collective commitment should be allocated between the member

states and/or sectors within the EU. This naturally affects the structure of the entire trading scheme.

An absolute emissions cap for the entire EU, set at EU level in a top-down manner, would assure climate integrity, while allocation methods under the cap would have no climate effect. The present method of application of national allocation plans which, after approval by the European Commission, provide an aggregated value which form the EU ETS cap (bottom-up procedure), can involve a risk of the EU not achieving its climate change commitments. The national allocation processes also distort competition if companies in the same industrial sector receive different treatment in different countries. A common emissions cap, with allowance allocations at EU level, would also maintain competition neutrality between companies in the EU ETS.

The Emissions Trading Scheme's links to other systems

Linking the EU's trading scheme to other trading schemes can benefit the international climate process...

The EU ETS is the world's first larger trading scheme for emissions of greenhouse gases. In its Emissions Trading Directive, the EU expresses itself as strongly in favour of linking its trading scheme with other trading schemes. Initiatives for greenhouse gas trading schemes have also been taken in other countries, and intensive work is at present in progress with the aim of establishing national or regional trading schemes. Linking the EU ETS with other such schemes at national or regional level can strengthen the climate change policy ties to others having international emission reduction commitments. Linking to systems in countries not having international emission reduction commitments can be a way of influencing them towards participation in international climate change agreements. If the negotiations for a new climate agreement for the period after 2012 should be delayed, globally linked trading schemes (in combination with the CDM market) could form a bridge to a new comprehensive climate agreement.

...and can improve the effectiveness of schemes, improve market liquidity and reduce the risk of distortion of competition

In addition to the political objective of achieving a comprehensive international climate change agreement, the foremost argument for linking is that of economic efficiency. The greater the coverage of a trading scheme, and the greater the number of sectors and emission sources that are covered by it, the greater becomes the probability of emission reductions being effected where the cost of the reductions is lowest. An economically effective scheme minimises the system costs of achieving a given reduction objective. The potential for cost reductions is greatest when the marginal costs of the reductions vary considerably between the installations in the trading scheme, which indicates the potential benefits of linking. A larger market also has better liquidity, and reduces the risk of distortion of international competition.

Observation of climate integrity is particularly important when linking to countries not having international emission reduction commitments

Apart from the political benefits associated with the international climate change process and the possible improvements in economic effectivity, linking can actually have negative consequences from a strictly climate point of view. It can, for example, result in the total emissions from the linked schemes being higher than if the schemes were not linked. Linking directly to a trading scheme having an in-built price cap risks, for example, higher emissions than if the two schemes had been kept apart, as the price cap in practice comes to apply for both schemes.

It is possible to link trading schemes with different system designs, and also to link to schemes in countries not having internationally binding emission reduction commitments

In general, it is possible to link trading schemes, even though their system design may differ. However, differences in certain design parameters can result in poorer climate integrity or reduced economic effectiveness when the schemes are linked. A number of proposed trading schemes outside the EU contain elements that would complicate linking to the EU system. Several, for example, employ price caps, while some include trading units that are not internationally recognised. However, it is perfectly possible to link to systems having, say, relative (rather than absolute) emission targets, or which include additional greenhouse gases and other sources of emissions. The EU ETS can also be linked to systems in countries not having internationally binding emission reduction commitments. In such cases, in order not to put achievement of the EU climate change commitments at risk, a gateway should be introduced between the various schemes, ensuring that any net inflow of allowances from countries not having commitments is limited.

Several national and regional trading schemes are expected to be implemented by/in 2013. It is desirable that they should be constructed in such a way as to facilitate linking to other trading schemes

On the whole, outside Europe there is little emphasis on linking to foreign trading schemes, with the focus lying instead on the development of a national emissions market. There is a risk in not considering potential linking at an early stage of the design process of a trading scheme, as valuable potential benefits of linking can be lost through various system design features. However, some systems, such as important regional American initiatives, are considering the possibility of linking as part of their design development. It is reasonable to assume that the Norwegian trading scheme will be linked with, or included within, the EU trading scheme with effect from 2008, and that the Swiss scheme will be linked by not later than 2013.

Global sector-wise trading schemes can reduce distortion of competition and facilitate greater emission reductions

Depending on the structure of a future international climate regime, the creation of global sector-wise trading schemes can be a means of creating more equal international competition conditions, thus facilitating greater emission reductions

within the EU and on a global scale. Conditions may arise under which it becomes appropriate to link the EU ETS to sector-wise trading schemes.

CDM or corresponding mechanisms are expected to play an important part in a future climate change agreement ...

There is a need to expand international climate change cooperation in the period after 2012, with a greater proportion of global emissions being covered by a future climate change agreement. This means not only that a greater number of countries than today should have emission reduction commitments, but also that such reductions should apply to a greater number of sectors. There is wide international support for the Kyoto Protocol's flexible mechanisms and, in a majority of the various proposals for agreements after 2012 that are being discussed, flexible mechanisms form a central part of the various policy instruments that are proposed.

... and the EU ETS can provide an important driving force for the CDM market if there are sizeable opportunities for using CDM credits (or equivalent)

Various mechanisms can broaden and deepen international climate change cooperation, and serve as a path to help other countries on the way to increasingly stringent reduction commitments. To maintain the pressure towards international climate change cooperation, there needs to be a demand for emission reductions created by various mechanisms. The EU ETS has an important part to play here in creating such a demand, and the use of emission reductions achieved through application of flexible mechanisms in order to fulfil commitments within the Scheme should be permitted and encouraged, in order to extend international climate change cooperation during the period after 2012.

European offset projects are a way of linking non-trading sectors to the EU ETS

European offset projects ('domestic' offset projects) provide a potential means of linking more sectors to the EU ETS. In general, the starting point for offset projects is that a party, by carrying out emissions-reducing projects, receives emission credits corresponding to the effected reductions. These credits can then be used in the EU ETS instead of allowances. Both JI and CDM are variants of offset projects, working both within the Kyoto scheme and together with the EU ETS, except that they are based on the parties performing emissions reduction work in other countries. However, the point of European offset projects is that they can also be carried out in the active party's own country.

The scope of the trading scheme

Extending the trading scheme to include other sectors and other greenhouse gases is expected to increase its cost efficiency and provide control of the aggregated emissions...

If the EU Emissions Trading Scheme is to be able to create the right conditions for high cost efficiency and competition neutrality, it should cover as many

sectors, and as great a proportion of emissions of greenhouse gases, as possible. The greater the number of sectors, and the greater the proportion of emissions covered by the trading scheme, the greater the importance of the scheme in the overall climate strategy. If a substantial proportion of emissions can be brought under a single emissions cap, the participating countries should be better able to achieve the emissions reductions/commitments that they have undertaken under future climate regimes.

... but it must be possible to measure and verify emissions

Unfortunately, the requirement that emissions covered by the trading scheme must be capable of measurement and verification without too great inaccuracy, means that the number of activities to which coverage by the trading scheme should be extended is limited. Administrative costs, too, would also be too high if a large number of widely spread smaller emissions from a large number of sources were to be included in the scheme. However, it should be possible to include such emissions in the Scheme with an upstream approach.

The trading scheme should be expanded to include more emissions sources and greenhouse gases

The uncertainties of measurement of greenhouse gases other than carbon dioxide are too high to enable the Scheme to be generally expanded to include any additional gas. Emissions of nitrous oxide, methane and PFC can, however, be included in the Trading Scheme for specific activities. With effect from 2013, the Scheme should be expanded to include emissions of:

- carbon dioxide and PFC from primary and secondary aluminium production,
- carbon dioxide from certain chemical industries; manufacture of artificial fertilisers, ammonia and petrochemicals,
- nitrous oxide from certain chemical industries; manufacture of nitric acid and adipic¹ acid,
- methane from active coal mines.

For the EU, this would mean that approximately a further 2 % of total emissions would be covered by the Trading Scheme: for Sweden, it would represent about 1 % of total emissions.

The road transport sector within the EU can be included in the EU ETS...

The EU road transport sector can be included in the EU ETS. It would be possible to design the technical and administrative aspects of such a scheme in various ways. An approach under which the fuel distributors are the parties covered by the scheme is regarded as being the most feasible. There is a continued need, in order to reduce the climate impact of the transport sector, to encourage technical development and improvements in the efficiency of energy use, as well as to achieve other objectives, to use and to develop existing policy measures, even if the road transport sector is brought within the EU ETS.

¹ Used for the manufacture of nylon.

... but there is considerable uncertainty of how it would affect the competitiveness of European industry or emissions from the transport sector

There is considerable uncertainty as to whether expansion of the EU ETS to include the road transport sector would significantly affect emissions from the sector. It is felt that willingness to pay for carbon dioxide emissions is high in the road transport sector, while the costs of emissions-reducing actions in the sector are also regarded as being higher than in other sectors covered by the Trading Scheme. Including the road transport sector in the Scheme could have a significant effect on present trading within the Scheme and on those involved in it. Emissions from the sector could increase, which would mean that other sectors in the Scheme would have to reduce their emissions. With plenty of money available from the transport sector, the market prices of allowances could rise, pushing up the price of electricity as a knock-on effect. This could in turn have serious effects on the competitiveness of European industry which, in the longer term, could result in relocation of some industries and activities to countries outside the EU, and thus a 'leakage' of emissions. In order to be able to adopt a firm position in the matter of how the road transport sector should be treated in relation to the EU ETS, Sweden should initiate in-depth studies of consequences of different options, including a separate trading scheme for the European transport sector.

Installations that use only biofuels should be exempted from the Trading Scheme

In terms of the overall meaning and intention of the Trading Scheme, biofuels do not give rise to any net carbon dioxide emissions when burnt. Nevertheless, despite this, installations combusting such fuels are required to have permission to do so, to monitor performance, to submit reports and to verify their performance, which requirements also apply to the biofuel streams in installations that combust a mixture of fossil fuels and biofuels. Admittedly, the monitoring requirements are less for biofuels than for fossil fuels, but they still result in significant costs and work for those using biofuels. It should therefore be possible totally to exempt installations using only biofuels from the EU ETS. For plants using a mix of biofuels and fossil fuels, it should be possible to remove the requirements in respect of permission, monitoring etc. for the pure biofuel streams.

Efforts should be made to achieve a broad, harmonised definition of the concept of 'combustion installation'

In order to counter competition distortion within the EU, it is important to ensure that comparable installations in different countries are treated in the same way. A harmonised definition of the concept of 'combustion installation' would contribute to this. In addition, such a definition should have a broad coverage in order to ensure that the Trading Scheme covers as great a proportion of EU combustion emissions as possible.

Carbon dioxide capture and storage (CCS)

Separating carbon dioxide associated with combustion of fossil fuels and then storing it in aquifers is a measure that many parties, including the EU, feel will be important in the future. Several sources believe that the technology will become

commercially available within the next fifteen years. If, as far as the EU ETS is concerned, storage of carbon dioxide is not regarded as the same as emission to the atmosphere, carbon dioxide capture and storage can become a possible element of the Scheme.

Allocation of allowances

Auctions are the allocation principle that best encourages environmental awareness, efficiency, confidence and competition neutrality...

There are good reasons for avoiding free allocation and instead allowing the parties to purchase their allowances in an auction process. Those needing the allowances would purchase an amount equivalent to emissions from activities for which emission reductions are most expensive, while actual work on emission reductions would be undertaken where it is cheapest. The price of the allowances would be the same for all parties within the scheme, so that they all faced the same conditions. Emission targets would be achieved through application of market forces, with a minimum of regulation. High effectivity would be achieved in a competition-neutral manner, which would create confidence in the system. In accordance with the underlying philosophy of the system, as many sectors and countries as possible should be covered by auctions.

... However, until competitors outside the EU encounter some form of cost in connection with their carbon dioxide emissions, existing installations in industry covered by the EU ETS can continue to be allocated free allowances, preferably in accordance with benchmarks common to the entire EU ...

The main argument against auctioning allowances is the risk of reduced international competitiveness and resultant unemployment. If production is moved outside the EU, the result is a 'leakage' of emissions. Until competitors outside the EU are faced with some form of cost for their carbon dioxide emissions, and auctions are introduced, existing industrial installations can be allocated free allowances in accordance with common EU benchmarks for those sectors that fulfil the criterion of 'homogeneous and comparable products'. These criteria are regarded as being fulfilled in the cases of ore-based steel production, cement production and the refining of petroleum products. Plants within these sectors should therefore be eligible for free allocation in accordance with EU-wide benchmarks.

Until auctions are introduced, other existing industrial installations covered by the Scheme should be allocated free allowances based on their historic emissions, without updating the base years. The practical arrangements for allocation in accordance with benchmarks need further investigation, including such aspects as which industry sectors are most suitable, and how the benchmarks should be determined and applied.

... and new entrants in industry in the Scheme can be assigned free allowances in accordance with common EU benchmarks

Until auctions are introduced, industrial sectors covered by the EU ETS should be allocated allowances in accordance with common EU benchmarks wherever possible. In order to avoid distortion of competition, it is important that the benchmarks are harmonised throughout the EU ETS. Any surplus of allowances from reserves for new entrants should be cancelled. Cancellation is preferable from an environmental point of view, as it represents a means of reducing the total quantity of traded allowances. It is also preferable from a market point of view, as the risk of a sudden issue of allowances creates uncertainty. However, the practical determination of benchmarks for new entrants requires further study.

The total emissions allowance for existing installations in the European electrical and district heating sector should be distributed to the market via auctions ...

The electricity and district heating sector in the EU encounters extra-European competition to only a limited extent, while experience from the first trading period has also shown that companies in these sectors can pass on their emissions trading costs to their customers. There is therefore good reason, with and from 2013, not to assign any cost-free allowances to any existing electricity or district heating installations in the EU. Instead, the allowances that were, in previous allocation periods, allocated on a no-cost basis to installations in the sector should be reduced in accordance with current targets and be auctioned out. The practical arrangements for auctioning such allowances for the electricity and district heating sector need further study, in respect of such aspects as the effects of possible alternatives.

It would be very important, when auctioning emission allowances for the electricity and district heating sector, to ensure that the definition of what constitutes a combustion installation has been harmonised, in order to ensure that the same types of activities in different EU countries are treated in the same way. This is particularly important if industry covered by the Trading Scheme is allocated free allowances.

If it is not possible totally to auction off all the electricity and district heating sector's allowances, a second alternative is to auction most of the allowances, and allocate the remaining allowances to the industry, based on the historic emissions. Nevertheless, phasing out no-cost allocations is still the objective, and the second alternative (if it is applied) should be complemented by a plan for doing so.

... and new entrants in the electricity and district heating sector anywhere in the EU should be required to purchase their allowances on the market

It is suggested that new entrants in the electricity and district heating sector should not be allocated free allowances, regardless of whether a complete or partial auction process has been introduced for existing installations in this sector. This means that any reserved allowances for new entrants must *not* be made available for the electricity and district heating sector.

Rules for plant closures should be linked to rules for new entrants

The rules governing plant closures are regarded as important in respect of their effects on competitiveness. If allowances are held in reserve for free allocation to new entrants, then the allocation of allowances to closed plants should cease. If there are no reserves for free allocation to new participants, then allocation to closed plants should continue until the end of the first trading period.

The allocation principle, rather than special rules, should reward early action to reduce emissions

It is desirable that plants that took steps to reduce their emissions at an early stage should be rewarded for this within the mechanisms of the Trading Scheme. The auction procedure and the benchmark allocation principle favour such plants, so that there is no need for any further special rules for the purpose.

It is felt that the Agencies' recommendations for allocation could be implemented regardless of whether the emission cap in the Trading Scheme is set at the EU level or (as today) on the basis of national allocation plans

Auctioning is the allocation principle that should be aimed at for the entire trading scheme, and should already by 2013 have been fully applied as far as emissions quantities for the electricity and district heating sector are concerned. However, until competitors outside the EU encounter some form of cost for their carbon dioxide emissions, industries exposed to international competition may continue to receive free allowances in accordance with common EU benchmarks. The principles of auctioning and common EU benchmarks represent a high degree of harmonisation, and so it should be possible to implement the Agencies' allocation recommendations, regardless of whether the emission cap of the Scheme is determined directly at EU level (i.e. top-down) or, as today, on the basis of national allocation plans (i.e. bottom-up). However, there are several aspects that need further study, such as what would be the effects for non-trading sectors, how the revenues of any auctions should be dealt with, how various alternatives relate to possible future climate change agreements, and so on.

The conditions for special allocation rules for process emissions depend on the method of allocation

Special allocation rules for process emissions are impossible if auctioning is chosen as allocation principle. If common EU benchmarks are employed, the allocation process can include some consideration of the industry's competitiveness.

If the procedure using national allocation plans is employed, harmonised rules should be drawn up for sector allocations

Most member states' allocation plans contain either an emissions quota for each sector or sector-specific reduction or growth factors. Member states' sector divisions attempt to allow for the sectors' various potentials for reducing their emissions, either by technical means or in response to competition. These differences in national allocations plans result in a distortion of competition within the trading scheme. If, in direct opposition to the Agencies'

recommendations, the national allocation plans procedure continues to be employed after 2012, then common EU rules for sector allocations – at least for the use of growth factors – should be introduced.

Function of the emissions trading market

All information provided by governments and public authorities that can affect supply and demand on the market must be correct and available simultaneously to all parties

Correct information, available to all and at the same time, is a fundamental requirement of a transparent market. Official sources such as governments, public authorities and the Commission all bear a heavy responsibility in terms of handling information concerning national allocation plans, rules of the EU ETS and publication of annually reported emissions. Every official source should have a strategy governing how market-sensitive information is to be handled and published. There is a serious risk of loss of confidence on the part of many of those involved in the market if information management should fail. Those involved financially, who contribute to liquidity of the market, are particularly likely to withdraw from the market if reliable information is lacking. Reporting of verified emissions figures, for example, must be presented in a transparent, recognised manner. The change to the Registry Regulation, as proposed by the Commission, with publication of verified emissions for each year by not later than 1st April of the following year, helps to ensure that information will reach all those involved in the market in the correct way. The market would like to see a higher frequency of reporting of verified emissions, but this has to be set against the higher costs to companies in the EU ETS as far as monitoring, reporting and verification are concerned.

Harmonised application of rules for monitoring, reporting and verification should be aimed at

In order to ensure the plausibility of the Scheme, it is important that all member states should apply the same requirements in respect of monitoring of emissions, reporting and verification. Harmonised application of the rules in this respect also affects competition, as it is desirable that all plants should meet the same conditions throughout the EU.

The registries must operate properly, and have full availability, in order to prevent uncertainties concerning transfer of emission allowances from affecting the market

If the registries do not work as intended, or have insufficient availability, the market will lose confidence in them and there is a risk that the cost of emissions trading will rise. Reduced reliability of information concerning the actual transfer of emission allowances increases the risk for traders and can result in higher cost.

The effect of the EU ETS on industry

The direct effect of the EU Emissions Trading Scheme on industry depends on the quantity of allowances allocated free of charge...

Companies in the EU ETS are affected directly by the allocations of allowances that they receive. In many cases, individual companies feel that it is only those emissions that are not covered by their free allowances that constitute a cost, while economic theory says that even emissions covered by free allowances have an actual cost, as postulated by the alternative cost principle. However, with a large quantity of no-cost allowances, most companies claim that the trading scheme does not affect their activities.

... while the indirect effect on the price of electricity affects all users of electricity

The indirect effect of the cost of allowances on the price of electricity affects all electrically-intensive industrial sectors, i.e. including those that are not at present covered by the trading scheme, such as the aluminium industry. Calculations show that, under present conditions, higher electricity prices have a greater effect on companies' costs than does (on the assumption that free allocation rights do not constitute a cost) the direct effect of the trading scheme.

Cost changes affect companies in different sectors in different ways

Even if extensive changes are made to the allocation principles for the period after 2012, in favour of auction, the indirect effect in the price of electricity will continue to dominate the concerns of the less emissions-intensive but more electricity-intensive sectors in major industries, such as pulp and paper and secondary iron and steel production. In the case of the more emissions-intensive sectors, such as ore-based steel production, the lime industry and the cement industry, it is the direct effect of emissions trading that will have a greater (and, in some cases, dominating) effect.

It is difficult to assess the effect on companies' competitiveness

The ability to pass on increased costs to the customers is central in assessing the effects of the trading scheme on individual companies and sectors. The experience of individual companies shows that most have little or no ability to do so, while certain macro-economic models indicate that it is possible to pass on some of the costs in most of the industrial sectors that belong to the EU ETS. What the various markets for different sectors in basic industries look like, and how they work, as well as whether competitiveness of these sectors changes when they suffer from changed costs, require a more in-depth analysis than can be provided within the work described in this report.

Competition neutrality within the EU can be improved by harmonised allocation rules and a continued deregulated electricity market

Applying the auction procedure or benchmarks as the allocation principle throughout the EU would achieve a high degree of harmonisation, assisting competition neutrality between companies in the EU. Other harmonised rules governing new participants and plant closures, together with improved definition

of combustion installations, would also assist competition neutrality. The effects of the price of allowances on the price of electricity differ from one market to another, due mainly to the degree of deregulation. Continued deregulation of the European electricity market, so that the effect of the price of allowances on the price of electricity is similar in all countries, would further improve competition neutrality within the EU.

Global competition neutrality can be improved by reaching broad international agreements, so that more parties encounter a cost for carbon dioxide emissions

In many cases, industries exposed to international competition encounter competition from companies in countries not having international undertakings to reduce their greenhouse gas emissions. Conditions for global competition neutrality can be created by means of broad international climate change agreements, under which the industrialised countries observe emission reductions that result in a cost to companies, and where developing countries are to comply with some form of emissions commitment.

The considerable ability to use credits from CDM projects (or equivalent) can enable companies to fulfil their commitments in a cost-efficient manner, while at the same time having a restraining effect on the price of allowances

There should be a considerable potential for the use of CDM credits (or equivalent credits) in the EU ETS, given that the EU has strict commitments concerning its required emission reductions. As a result, the price of allowances in the trading scheme, and their effect on the price of electricity, can be reduced.

Actions intended to compensate for the effect of the price of electricity can be difficult to apply

Attempting to change the way in which the price of allowances affects the price of electricity, and thus has an effect on industry, would require substantial changes to the present regulatory structure (i.e. either changes to the electricity market or fundamental changes to the Emissions Trading Scheme), which make such measures difficult to apply. Actions that would subsidise the use of electricity by industry, whether in the form of grants or other measures that, for example, reduces free trade, are also controversial.