Entreprises pour
1' Environnement

GREEN PAPER ON GREEN HOUSE GAS EMISSIONS TRADING

WITHIN THE EUROPEAN UNION

Entreprises for the Environment welcomes the opportunity to present its comments on the Green Paper of the Commission on GHG emissions trading. We have appreciated the thoroughness of the paper and found the questions relevant.

GENERAL COMMENT

In a scheme making use of the possibility of trading emission credits (or permits) the difficult and controversial part is the definition of emission targets for each sector of the economy, then in more detail for each actor of the relevant economic sector.

Each Member State being committed to a national target and being responsible for compliance to its commitment, the responsibility of "sharing" emission allowances lies clearly with each Member State. The sharing of emission allowances (or the definition of targets) for each macroeconomic sector (energy, industry, transport, agriculture, housing) depends largely on each State economic policy and starting situation'. Inside a sector like industry, the national situation of each Member **State** is quite different and a common allocation system seems difficult to achieve.

In short, allocating emissions is a responsibility of the Member State, as well as monitoring and ensuring compliance by all the entities under its authority. This is a consequence of the national emissions target, which has been accepted by each Member State. For the same reason the emissions targets of the companies should take 1990 as the reference year.

In order to reflect this emphasis on the fact that reduction targets have to be set before emission trading takes place and to avoid misinterpretations, we would like to suggest that the scheme under discussion be referred to as
"GHG emission reduction targets and trading in emission reduction credits".

The trading part of the scheme appears at first sight more straightforward and can rely on the experience gained worldwide in commodity trading. It is essential that the access to the market is as open as possible within clearly defined rules.

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As explained in the answer to question 3 of the Green Paper this leaves, an essential role to the E.U. for, first defining a general framework for Member States national schemes and then progressively complement and improve this initial framework which would thus develop overtime into a full-fledged common scheme, to be integrated later into a worldwide system.

' There is, for instance, little in common between the starting situation (1990) in the energy sector of two Member States like the U.K. and France. Similar fundamental differences can be found in other industrial sectors (chemicals, cements...).

DETAILLED COMMENTS ON THE GREEN PAPER.

1. EPE agrees with the general presentation of the Interest of Emissions Trading (ET).

2. EPE also agrees that it is essential that entities (companies) be allowed to participate in ET. This is a necessary condition for the establishment of an efficient market that will operate without political interference.

3. In order to achieve maximum efficiency, it is also essential that a Community scheme, whichever form it might take, be fully linked to those of Parties outside the E.U. (All the Annex 1 countries to begin with).

4. We agree that there would be considerable benefits in terms of learning by doing in starting the operation of trading within the E.U. as soon as possible. During this early action period (before 2008) different approaches should be tested and compared.

5. From an industry point of view we do not see any fundamental differences between the 6 gases and we think that the ET scheme should include from the start the possibility of trading emission permits or credits related to the 6 gases (converted into a single unit of ton equivalent CO_2 (or C), provided that emissions can be monitored and verified with a sufficient reliability. This relates to fixed sources from companies.

   Trading with the 6 gases as well as the possibility to trade with the emission credits coming from the project-based mechanisms are important features to increase the size and therefore the efficiency of the market.

6. We agree that the potential savings from ET increases with the coverage of the trading scheme.

7. Questions 1 and 2

We agree that the scheme should start with a relatively small number of economic sectors and sources that contribute significantly to total emissions. As expressed in our document (2) "a criterion for choosing the sectors involved might be the "carbon intensity of the activity" expressed in tons of carbon equivalent (TCe) emitted per million Euros of value added".

Conceptually we would prefer to have a common emission trading scheme for a certain number of sectors within the European Community, but we fear that reaching an agreement on such a scheme and such a list of sectors might take too long, taking into consideration the different levels of interest shown by Member States in ET. We therefore recommend that different national ET schemes start to operate as soon as possible, in the perimeter they choose, each maintaining the necessary flexibility to join in a European scheme as soon as it starts to be operational.

8. Question 3

A common unique ET scheme in the E.U. is clearly advantageous in terms of economic efficiency. As such it should be a goal. But it should not be a pre-requisite because the time spent on discussions will be better used in learning by doing.

As a consequence we would recommend defining a general European framework stating the essential requirements that must be satisfied by a national scheme of an E.U. Member State in order to be recognized by the E.U. Commission and any other Member State.

The Commission would carefully watch the different national schemes being put in place and make use of these experiences to progressively complement and improve the initial framework which would thus develop over time into a full-fledged common scheme, notwithstanding the fact that national differences might remain due to particular situations.

9. Question 4

The potential savings from an ET scheme increases with its coverage. Therefore individual Member States should be allowed to include as many sectors as they wish. Since the Government of these Member States remains responsible for its own emissions and guarantees the trustworthiness of the permits (or credits) allocated to entities under its authority, this guarantee should automatically render the permits (credits) tradable.

10. **Allocations**

As expressed in our document (2) we strongly believe that the best, most effective and fairest way of allocating allowances is to set targets based upon a certain number of criteria (including benchmarks when available). Credits would be issued (or permits would have to be bought) after comparing the actual emissions to the target of the entity.

Member States should be able to choose their allocation method. Free allocation of allowances or credits systems should be allowed. It is the laxity of the objectives (or targets), if any, that should be corrected in the next negotiation round, not the allocation method.

In our view, the argument that a free allocation of permits should be avoided because it would be detrimental to the industries of a Member State which would auction them, and would thus run counter to the establishment of a level playing field, doesn't seem to stand up per se. If a level playing field is the objective, it should indeed be also "level" vis a vis non-annex 1 competitors, If nevertheless a Member State prefers to auction permits contrary to the competitiveness of its own industry, why should the other States be forced to follow this choice ?

We are convinced that a system based on targets (or baseline) and credits has quite a few advantages over the allowance allocation system ; It's easier to explain to the general public. It's also more coherent with the two other Kyoto mechanisms (J.I and CDM)

11. **New entrants**

The case of new entrants (and also conversely of the closing down of facilities) is easily dealt with in the case of business sectors with unit targets, provided the unit objectives of new entrants are set at the best available technology level. In the case of absolute targets, special provisions have to be built in order to maintain equality of treatment between new entrants and existing emitters.

12. **Question 5**

The idea is good , but it would prove to be too difficult a task.
We would only recommend that all Member States should explain to the Commission and to other Member States how they have allocated these allowances and give the reasons for their choices.

13. **Question 6**

--- An agreement at Community level on the way to allocate allowances to individual companies is probably out of reach in a reasonable time frame. As stated in our answer to question 3, we recommend that general rules based on the rules of the Treaty be proposed by the Commission, allowing as much freedom of choice as possible.

14. **Relation with technical regulation**

For greenhouse gases the emissions trading concept is contrary to the technical regulation and/or BAT concepts and the two should be kept apart, since companies should be able to choose between implementing BAT or buying permits.

15. **Environmental agreements**

In EPE's view, voluntary negotiated agreements will be the most environmentally efficient tool for establishing emissions targets. The negotiation, based on a certain number of criteria, brings equity in the allocation process, as opposed to a strict grandfathering. The emissions trading would then bring economic efficiency.

EPE completely agrees with the view that emission will have to be verified by independent auditors.

16. **Questions 7 and 8**

In a first step, ET would only apply to relatively large sources of GHG and a mix of instruments (taxation, energy efficiency standards...) would have to be applied to other sectors of the economy (transport, housing, shops *.-).
The environmental efficiency of these different instruments can only be compared through a measure of their consequences in quantities of GHG emission reductions and an appraisal of their cost and competitiveness effects.

17. **Question 9**

It seems that the currently available instruments should be sufficient to assess compliance by the Member States with their commitments under the Kyoto Protocol and under the "Burden Sharing agreement".

18. **Question 10**

Member States are fully responsible for compliance with their commitments in terms of GHG emissions.

Member States should assume responsibility for the entities under their authority which they have allowed to trade. They should therefore guaranty the validity of their duly certified emission permits.

19. **Final comment**

We fully recommend that

National trading schemes should start as soon as possible.

National trading schemes should be inter-connected i.e. trading between themselves should be made possible.

Targets should be set on a national basis for a number of business sectors and within each sector for a number of industrial companies, based on the size of their emission, through voluntary negotiated agreements.

Targets should be set either in absolute or in specific (unit) values, with a safeguard clause, if necessary, in case of unexpected increase in production or closing down of facilities.

E.U. should establish a general framework for these emissions trading schemes as soon as possible.

The tittle of the subject should be changed to "GHG emission reduction targets and trading in emission reduction credits".

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Position Paper on Green Paper on Greenhouse Gas Emissions Trading within the European Union

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I. Background

The Kyoto Climate Protection Protocol adopted in 1997 saw the creation of three principle economic instruments, the objectives of which are to achieve cost-efficient reductions in emissions of greenhouse gases. These instruments are emissions trading (ET), joint implementation (JI) and the clean development mechanism (CDM). Following the EU's adherence for many years to a "policies and measures" approach, the Commission has now moved into line with the concept of emissions trading, in keeping with the international trend.

In its green paper, the Commission looks at the possibilities of emissions trading within the European Union and wants to introduce a system within the Community for trading in emissions certificates from 2005. This would be in preparation for a possible global emissions trading system. The green paper on emissions trading provides a well-founded, and essentially neutral basis for discussions within the Community. However, compared to Anglo-American standards, its depth of analysis is modest. The way in which an ET system might function within the Community is presented, as well as the advantages and disadvantages of different types of instruments. The green paper only adopts a position on a few points, tending instead to place major questions at the centre of the discussion.

II. Detailed discussion

Section 2: Green paper in favour of wide stakeholder consultation

The green paper suggests that ET can only find acceptance when it enables fair competition for all companies within the Community. However, if fair competition is to be achieved, then a global ET system must be aimed at. German industry takes the view that setting up a fair system in preparation for, and implementation of, an ET system is essential. How this fairness is to be achieved is left open in the green paper.

Section 3: What is emissions trading?

Emissions trading is an instrument which, when correctly designed, can be a cost-efficient measure for reducing CO_2 and other greenhouse gases. However, it must be pointed out that these measures specifically place an economic burden on highly carbon-containing energy sources compared to other

sources of energy with a lower carbon content. As a result, this could lead to major changes in our energy mix over the medium term.

Allocation of emission allowances to Member States must not be based on the Community's burden sharing agreement as a starting point (for example, Portugal was permitted to increase its emissions by +27% over 1990). Rather, allocation of emission allowances must be re-negotiated independent of burden sharing, particularly as the latter was adopted without taking into account the need to achieve the EU emissions reduction target in a cost-efficient manner. Additionally, it must be pointed out that allocation on the basis of burden sharing would effectively punish those entities which had taken action earlier.

Section 4.1 The EU's "burden sharing" agreement

The Commission assumes in its discussion paper – almost as if it were a foregone conclusion – that actually companies will trade emission allowances. However, the Kyoto Protocol, as an international treaty concluded by states, sees trading in emission allowances initially as something which would take place at state level. According to this logic, it would seem more appropriate for the Commission to devise a model for states to trade emission allowances between themselves, as envisaged by the Kyoto Protocol. For example, it is conceivable that governments would wish to organise ET between themselves and to carry out sales or purchases of emission allowances relative to their situation.

Community-internal trading in greenhouse emission allowances should be included in the legal framework on emission trading under Article 17 of the Kyoto Protocol. Only by opening internal Community trading in emission allowances to all Annex B states can the real economic potential to reduce costs through such trade be realised. In this respect, the European Union should avoid going it alone when implementing the Kyoto instruments.

Section 4.2 A Community emissions trading system between companies

The EU Commission (DG Environment) apparently sees emissions trading at company level as a foregone conclusion, even though the Kyoto Protocol only mentions this possibility at state level. No provision exists that enables states to force companies within their jurisdiction to participate in ET. Germany has adopted the principle of voluntary agreements on a sectoral basis – an ET system broken

down to company level would be incompatible with this system. Should companies be able to participate, this must be on a purely voluntary basis.

CO_2 cannot be reduced using filters or catalytic converters, as is the case with other emissions such as SO_2 or NO_X. CO_2 can only be reduced by substituting other sources of energy, or by improving energy efficiency. Industrial processes depend essentially on the use of energy. For that reason, there is a fear that breaking ET down to company level within a narrow market – i.e. where no additional certificates can be purchased – could hinder economic growth, with detrimental results for jobs in Germany and the Community. The economic growth of individual companies must not be hindered, even though this inevitably tends to lead to further CO_2 emissions. These are the arguments why we reject breaking down ET to the company level, or the setting of company-related absolute caps on emissions. From the economic and ecological point of view, ET only makes sense as an alternative to investment measures when the company involved has the scope for further technical optimisation in the first place. This will not be the case for many plants in Germany, as a rule, bearing in mind the high level of earlier action taken here. ET should remain the responsibility of the Member States. Signatories that have committed themselves to goals should not delegate their responsibilities down the line to companies.

Section 4.3: A "learning-by-doing" approach

Emissions trading – at least over the long term – should not be restricted to CO_2 alone. CO_2-related emissions trading would work like a carbon tax at the company level. This means that coal-based sources of energy would be placed at a competitive disadvantage, and the survival of mining in the European Union placed at serious risk. It could also result in distortions in competition when an „unfair" allocation occurs (cf. Federal Republic of Germany and France: a carbon-based vs. nuclear-fuel economy). In general it is true that carbon-intensive sources of energy would be placed at a disadvantage compared to non-fossil fuel sources, in turn leading to a change in the energy mix over the long term.

Section 5.3: Defining the respective roles of the Community and the Member States

The internal market must not be jeopardised by Community rules or national systems. Any such rules must safeguard fair competitive conditions for competing companies and products, as well as being compatible with international emissions trading. Different national ET systems should not be allowed to arise among industrial nations, rather the same conditions must apply to all participants. In this sense,

separate systems in different Member States within the Community are counter-productive, can only lead to the establishment of different market conditions for companies, and thus to distortions in competition.

Section 6.: Policy options related to the scope of an EC emissions trading system

6.1: Sector coverage

- The proposal to implement the system to cover just a few sectors at the beginning must be rejected on competition grounds. The system of substitute burdens for companies outside the ET system based on other "strict policies and measures", as proposed by the Commission, must also be rejected as unfeasible both due to systematic problems (determination of marginal reduction costs) and in view of the complicated decision mechanisms within the EU (e.g. EU energy taxation). Such a system would only lead to one-sided emission restrictions (and thus one-sided cost burdens), resulting in considerable distortions in competition.

- If an emissions trading system were introduced, additional measures would prove detrimental – at least to those sectors and companies that wish to take part in ET.

- Different taxation rates and environmental protection laws in different Member States and different sectors are incompatible with fair emissions trading.

- Only involving large-scale emitters in the ET system throughout the Community would perpetuate the idea that industry is mainly responsible for emissions, apparently diminishing the responsibility of other groups in society.

Section 7: Policy options in relation to the initial allocation of emission allowances

7.1: Defining the overall allocation

Where the market develops accordingly, emissions trading could result in a reduction in the cost of abatement within the European Union overall. However, uneven allocation of the reduction burden among individual Member States (burden sharing) leads to different reduction costs for individual

countries or companies. Burden sharing within the European Union therefore precipitates questions similar to those relating to national energy taxes. Tougher national reduction quotas have a similar effect to higher national energy taxes – they distort competition and fail to attract funds to areas where they can be put to the greatest possible use. See here our comments on Section 3.

7.2: The allocation of emission allowances to companies by Member States

Companies must be able to participate directly in emissions trading on a voluntary basis. The allocation of emission allowances to companies which want to participate in ET must be free of charge, and based on actual emissions in the past. Failing this, companies which have already made great efforts to reduce CO_2 will be placed at a disadvantage.

Whatever, the auctioning of emission allowances, which simple results in cash flowing from companies to governments, must be avoided in favour of grandfathering. The holding of reserve certificates by governments, as known in the ET system practised in the USA, can ensure that new participants on the market are not hindered.

Auctioning would infringe the rights of companies to be able to produce within the given framework of current law. In effect, the state would be removing what were so far “ownership rights”. The financial burden involved in bidding for emission allowances would pose a threat to many companies’ ability to compete. On the other hand, grandfathering will depend on the base year or base period chosen if companies are not to be punished for having invested earlier in reducing greenhouse gases (credit for early action).

Section 8: Policy options related to the synergy with other policies and measures

8.2 The relation with environmental agreements

A study is presently being conducted on behalf of the Federal Government and the BDI to analyse what linkage of existing – specific – voluntary commitments on climate protection by German industry can be made to the Kyoto mechanisms. When the results are available they can be transmitted to the Commission for its information. As far as German industry is concerned, voluntary commitments on climate protection have priority. An ET system would have to harmonise with this.

8.3 The relation with energy taxation

Where a high level of optimisation has already been achieved – as is the case with Germany – energy taxation simply drains funds which are then no longer available for investment in climate protection technology. This especially applies to a combination of emissions trading and energy taxation. Particular care must be taken to avoid distortions in competition in this case. Sectors which have entered into voluntary commitments, or which may take part in emissions trading, must not be additionally burdened with energy taxation. Simultaneously applying flexible instruments - which guide funds for climate protection towards efficient applications - and energy taxes - which absorb funds which could be used for energy-saving investments - is not meaningful.

III. Summary / Conclusions

Implementing the commitments agreed in Kyoto to reduce greenhouse gas emissions will result in considerable costs for the Signatories' economies – and particularly for the German economy. Above all, we must not forget that German industry has borne heavy costs in connection with the reduction of greenhouse gas emissions in the past. These earlier actions must not be punished. For that reason, the Kyoto Protocol must be implemented such that the economic burden is minimised, following ratification in the European Union. An appropriately designed ET system can make an important contribution here.

The green paper on greenhouse gas emissions trading is a major first step in the dialogue between the Commission and those stakeholders in society affected. However, application of the Kyoto mechanisms should not be restricted to emissions trading. Instead, the whole spectrum of flexible mechanisms presented in the Kyoto Protocol should be made available to entities subjected to the demand to reduce greenhouse gas emissions.

Abteilung
Umweltpolitik

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Stellungnahme zum Grünbuch zum Handel mit Treibhausgasemissionen in der Europäischen Union

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I. Hintergrund

Im 1997 verabschiedeten Klimaschutzprotokoll von Kyoto wurde 1997 sind im Grundsatz drei ökonomische Instrumente angelegt, mit dem Ziel, zu kosteneffizienten Verminderungen von Treibhausgasemissionen zu kommen. Hierbei handelt es sich um den Handel mit Emissionsrechten (Emissions Trading, ET), die Gemeinsame Umsetzung (Joint Implementation, JI) sowie den Mechanismus für eine umweltverträgliche Entwicklung (Clean Development Mechanism, CDM). Nachdem die EU lange Jahre an ihrem „Policies-and-Measures-Ansatz" festgehalten hat, ist die Kommission nun, dem internationalen Trend folgend, ebenfalls auf die Linie Emissions Trading eingeschwenkt.

Sie hat sich inzwischen in einem Grünbuch mit den Möglichkeiten eines Emissionshandels innerhalb der Europäischen Union befasst und will ab 2005 ein innergemeinschaftliches System für den Handel mit Emissionszertifikaten in Vorbereitung eines möglichen weltweiten Emissionshandelssystems einführen. Das Grünbuch „Emissions Trading" bietet eine fundierte und im Wesentlichen neutrale Grundlage für die innereuropäische Diskussion. An angloamerikanischen Maßstäben gemessen ist die analytische Tiefe allerdings bescheiden. Die mögliche Funktionsweise eines ET-Systems innerhalb der EU wird dargestellt sowie die Vor- und Nachteile verschiedener Formen der Ausgestaltung diskutiert. Das Grünbuch bezieht nur bei wenigen Punkten Position, vielmehr werden entscheidende Fragen bewusst zur Diskussion gestellt.

II. Anmerkungen im Einzelnen

Abschnitt 2: Grünbuch für eine breitangelegte Konsultation von Interessengruppen

Das Grünbuch unterstellt, dass ET nur dann Akzeptanz finden kann, wenn es einen fairen Wettbewerb für alle Unternehmen innerhalb der EU ermöglicht. Im Sinne eines fairen Wettbewerbs muss allerdings ein weltweites ET-System angestrebt werden. Eine faire Ausgestaltung ist aus Sicht der deutschen Industrie bei der Vorbereitung und Umsetzung eines ET-Systems unerlässlich. Wie diese faire Ausgestaltung erfolgen soll, wird im Grünbuch jedoch offen gelassen.

Abschnitt 3: Was ist der Handel mit Emissionen?

Das Emissions Trading ist ein Instrument, das bei entsprechender Ausgestaltung eine kosteneffiziente Maßnahme zur CO_2- bzw. Treibhausgasminderung sein kann. Es ist aber festzuhalten, dass durch solche Maßnahmen gezielt kohlenstoffreiche Energieträger wirtschaftlich gegenüber kohlenstoffarmen Energieträgern belastet werden. Daraus können sich mittelfristig grundlegende Veränderungen unseres Energiemixes ergeben.

Als Ausgangspunkt für die Vergabe der Emissionsrechte an die EU-Mitgliedstaaten darf nicht das Burden Sharing Agreement der EU dienen (z. B. würde Portugal eine Emissionssteigerung von + 27 % gegenüber 1990 zugestanden werden); die Distribution der Emissionsrechte muss vielmehr unabhängig vom Burden Sharing neu verhandelt werden, da das Burden Sharing nicht mit dem Ziel einer kosteneffizienten EU-Zielerreichung beschlossen wurde. Zudem würde eine Allokation auf Grundlage des Burden Sharing bereits in der Vergangenheit erbrachte Vorleistungen (early actions) „bestrafen".

Abschnitt 4.1 Die „Lastenverteilungsvereinbarung" der EU

Die Europäische Kommission geht in ihrem Diskussionspapier – fast, wie wenn dies selbstverständlich wäre – von einem Handel der Unternehmen mit Emissionsrechten aus. Das Kyoto-Protokoll als

Vereinbarung zwischen Staaten bezieht den Handel mit Emissionsrechten jedoch zunächst auf die Staaten selbst. Es wäre deshalb folgerichtig, wenn die Europäische Kommission ein Modell für die im Kyoto-Protokoll vorgesehene Möglichkeit des Emissionshandels der Staaten untereinander entwerfen würde. So ist es beispielsweise denkbar, dass die Regierungen einen Emissionshandel zwischen Staaten organisieren und je nach Ausgangslage zwischenstaatliche Käufe oder Verkäufe von Emissionsrechten durchführen.

Der interne EU-Handel mit Treibhausgasemissionen sollte in den rechtlichen Rahmen des Emissionsrechtehandels unter Art. 17 des Kyoto-Protokolls eingefügt werden. Nur durch die Öffnung des internen EU-Emissionsrechtehandels zum Handel innerhalb aller Annex B-Staaten kann das tatsächlich vorhandene wirtschaftliche Kostensenkungspotenzial dieses Handels realisiert werden. Daher ist ein Alleingang der Europäischen Union bei der Implementierung der Kyoto-Instrumente zu vermeiden.

Abschnitt 4.2 Ein gemeinschaftliches System für den Emissionshandel zwischen Unternehmen

Die EU-Kommission (DG Umwelt) sieht offensichtlich Emissions Trading auf Ebene der Unternehmen als selbstverständlich an, obwohl das Kyoto-Protokoll ET nur auf Ebene der Staaten anspricht. Keinesfalls dürfen die Staaten ihre Unternehmen zur Teilnahme am ET verpflichten. In Deutschland haben wir den Weg der freiwilligen Vereinbarungen auf Branchenebene beschritten – ein auf Unternehmen heruntergebrochenes ET ist damit nicht kompatibel. Falls die Beteiligung von Unternehmen möglich werden soll, darf dies nur auf freiwilliger Basis geschehen.

Im Gegensatz zu anderen Emissionen wie SO_2 oder NO_X lässt sich CO_2 nicht durch Filter oder Katalysatoren vermindern. CO_2 kann nur durch Substitution der Energieträger oder durch Verbesserung der Energieeffizienz vermindert werden. Industrielle Prozesse sind nicht ohne Energieeinsatz möglich. Deshalb besteht die Befürchtung, dass das Herunterbrechen von Emissions Trading auf Unternehmensebene bei engem Markt – wenn also keine Zertifikate zugekauft werden können – zu Wachstumsbehinderungen führen wird, mit entsprechenden Folgen für die Arbeitsplätze in Deutschland sowie der EU. Das wirtschaftliche Wachstum einzelner Unternehmen, das bei der energieintensiven Industrie zwangsläufig zu neuem CO_2-Ausstoß führt, darf nicht behindert werden. Deshalb sind ein Herunterbrechen auf Unternehmensebene und absolute Emissionshöchstgrenzen („caps“) für die Unternehmen abzulehnen. Aus ökonomischer wie ökologischer Sicht ergibt ET als Alternative zu investiven Maßnahmen nur einen Sinn, wenn das betreffende Unternehmen überhaupt noch über einen technischen Optimierungsspielraum verfügt. Dies dürfte angesichts hoher Vorleistungen in Deutschland für deutsche Standorte i. d. R. nicht der Fall sein. Das ET sollte den Mitgliedstaaten überlassen bleiben, die Verantwortung der Vertragsstaaten für die von ihnen eingegangenen Ziele darf nicht auf die Unternehmen abgewälzt werden.

Abschnitt 4.3: Ein praxisorientierter Ansatz

Der Emissionshandel sollte – jedenfalls auf längere Sicht - nicht nur auf CO_2 beschränkt bleiben. Ein CO_2-bezogener Emissionsrechtehandel würde auf Unternehmensebene in erster Linie wie eine Kohlenstoffsteuer wirken. Dadurch würde die Kohle im Vergleich zu anderen Energieträgern im Wettbewerb benachteiligt, das Überleben des Kohlebergbaus in der Europäischen Union würde ernsthaft gefährdet. Es kann zudem zu Wettbewerbsverzerrungen kommen, wenn eine „ungerechte“ Allokation erfolgt (vgl. z. B. Deutschland und Frankreich: kohlenstoff-basierte vs. nuklear-basierte Wirtschaft). Allgemein gilt, dass kohlenstoffintensive gegenüber kohlenstoffarmen Energieträgern benachteiligt werden, was mittelfristig zu einer Veränderung des Energiemix führen wird.

Abschnitt 5.3: Festlegung der Rolle von Gemeinschaft und Mitgliedstaaten

EU-Vorgaben selbst sowie nationale Systeme dürfen den Binnenmarkt nicht gefährden. Sie müssen für konkurrierende Unternehmen und Produkte faire Wettbewerbsbedingungen sicherstellen und auch mit einem internationalen Emissionshandel kompatibel sein. Zwischen den Industrienationen darf es keine national unterschiedlichen ET-Systeme geben, für alle Teilnehmer müssen die gleichen Bedingungen gelten. Erst recht sind separate Systeme in einzelnen Mitgliedstaaten der EU in diesem Sinne kontraproduktiv: Sie führen zu unterschiedlichen Marktbedingungen für die Unternehmen und dadurch zu Verzerrungen der Wettbewerbsbedingungen.

Abschnitt 6.: Politikoptionen in Bezug auf den Umfang eines EG-Systems für den Emissionshandel

6.1: Erfasste Bereiche

- Der Vorschlag, das System mit Einbeziehung zunächst einiger weniger Branchen umzusetzen, ist aus Wettbewerbsgründen abzulehnen. Die von der Kommission vorgeschlagene alternative Belastung der nicht vom ET-System erfassten Unternehmen mittels anderer „policies and measures“ muss auch wegen systematischer Probleme (Bestimmung von Grenzvermeidungskosten) und angesichts der komplizierten Entscheidungsmechanismen innerhalb der EU (Beispiel: EU-Energiesteuer) als nicht realisierbar abgelehnt werden. Dadurch würde es wegen einseitiger Emissionsbeschränkungen (und damit Kostenbelastungen) zu erheblichen Wettbewerbsverzerrungen kommen.

- Würde ein Emissions Trading-System eingeführt, sind weitere Maßnahmen – zumindest für die dafür votierenden Branchen und Unternehmen – schädlich.

- Unterschiedliche Steuerbelastungen und unterschiedliche Umweltschutzanforderungen in verschiedenen Ländern der EU und für verschiedene Branchen sind mit einem fairen Emissions Trading nicht vereinbar.

- Bezieht man EU-weit nur die „Groß-Emittenten“ in ein ET-System ein, wird von vornherein eine scheinbare Hauptverantwortung der Industrie für die Emissionen zementiert, hinter der die Verantwortung der anderen Gruppen verschwindet.

Abschnitt 7: Politikoptionen im Zusammenhang mit der Erstzuteilung von Emissionsmengen

7.1: Festlegung der Gesamtzuteilung

Bei entsprechender Markentwicklung könnte der Emissionshandel die Kosten der Emissionsminderung innerhalb der Europäischen Union insgesamt senken. Die unterschiedliche Verteilung der Reduktionslasten zwischen den einzelnen Mitgliedstaaten (Burden Sharing) führt aber zu unterschiedlichen Reduktionskosten einzelner Länder oder einzelner Unternehmen. Das Burden Sharing innerhalb der Europäischen Union wirft daher ähnliche Fragen auf wie nationale Energiesteuern. Schärfere nationale Reduktionsquoten haben ähnliche Auswirkungen wie höhere nationale Energiesteuern – sie verzerren den Wettbewerb und lenken finanzielle Mittel nicht dorthin, wo der größte Nutzen gestiftet wird. Vgl. auch das zum Abschnitt 3 Gesagte.

7.2: Die Zuteilung von Emissionsmengen durch Mitgliedstaaten an die Unternehmen

Unternehmen müssen am Handel mit Emissionsrechten auf freiwilliger Basis direkt teilhaben können. Die Vergabe der Emissionsrechte an die Unternehmen, die sich am ET beteiligen wollen, muss kostenlos anhand tatsächlicher Emissionen in der Vergangenheit erfolgen. Ansonsten würden Unternehmen, die bereits große CO_2-Minderungsanstrengungen unternommen haben, benachteiligt.

In jedem Falle sollten Versteigerungen von Emissionsrechten, die zu einem Geldabfluss aus der Wirtschaft an Regierungen führen, zugunsten eines Grandfathering vermieden werden. Die aus den USA-ET-Systemen bekannte Reservehaltung der Regierungen an entsprechenden Zertifikaten kann dafür sorgen, dass auch neue Marktteilnehmer nicht blockiert werden.

Eine Versteigerung würde den Besitzstand der Unternehmen, im Rahmen ordnungsrechtlich vorgegebener Genehmigungen zu produzieren, verletzen. Der Staat entzieht den Unternehmen bisherige Eigentümerrechte. Die finanzielle Belastung der Ersteigerung von Emissionsrechten würde die Wettbewerbsfähigkeit vieler Unternehmen bedrohen. Beim Grandfathering kommt es wesentlich auf das Basisjahr, den Basiszeitraum an, damit nicht diejenigen Unternehmen bestraft werden, die frühzeitig in die Reduktion von Klimagasen investiert haben (credit for early action).

Abschnitt 8: Politikoptionen im Hinblick auf Synergieeffekte mit sonstigen Politiken und Maßnahmen

8.2 Der Bezug zu Umweltvereinbarungen

Im Auftrag der Bundesregierung und des BDI wird zur Zeit an einem Gutachten gearbeitet, in dem die Möglichkeiten für eine Verzahnung der bestehenden – spezifischen - Klimaselbstverpflichtung der deutschen Wirtschaft mit den Kyoto Mechanismen analysiert werden. Sobald die Ergebnisse vorliegen, können diese der Kommission zur Kenntnis gegeben werden. Für die deutsche Wirtschaft haben ihre freiwilligen Verpflichtungen zur Klimavorsorge Priorität. Ein ET müsste damit in Einklang gebracht werden können.

8.3 Der Bezug zur Energiebesteuerung

Bei hohem Optimierungsstand – wie in Deutschland gegeben – schöpfen Energiesteuern Mittel ab, die für klimaschützende Investitionen nicht mehr zur Verfügung stehen. Dies gilt erst recht bei einer Kombination von Emissionshandel und Energiesteuern. Hierbei muss im Besonderen auf die Vermeidung von Wettbewerbsverzerrungen geachtet werden. Branchen, die Selbstverpflichtungen abgegeben haben oder am Emissionshandel teilnehmen dürfen nicht zusätzlich mit Energiesteuern belastet werden. Die gleichzeitige Anwendung flexibler Instrumente, die finanzielle Mittel für den Klimaschutz in effiziente Verwendungen lenken, und Energiesteuern, die Mittel für energiesparende Investitionen entziehen, ist nicht sinnvoll.

III. Zusammenfassung/Fazit

Die Umsetzung der in Kyoto vereinbarten Verpflichtungen zur Reduktion der Treibhausgasemissionen verursachen erhebliche Kosten in den Volkswirtschaften der Unterzeichnerstaaten – und insbesondere in der deutschen Volkswirtschaft. Dabei darf auch nicht vergessen werden, dass v. a. die Wirtschaft schon in der Vergangenheit erhebliche Kosten im Zusammenhang mit der Reduktion von Treibhausgasemissionen getragen hat. Diese Vorleistungen dürfen nicht „bestraft“ werden. Deshalb muss das Kyoto-

Protokoll nach seiner Ratifizierung innerhalb der Europäischen Union so umgesetzt werden, dass wirtschaftliche Belastungen minimiert werden. Ein entsprechend ausgestaltetes ET-System kann dazu einen wichtigen Beitrag liefern.

Das Grünbuch zum Handel mit Treibhausgasemissionen stellt einen wichtigen ersten Schritt im Dialog zwischen der Kommission und den betroffenen gesellschaftlichen Gruppen dar. Die Anwendung der Kyoto-Mechanismen sollte jedoch nicht auf den Emissionshandel beschränkt bleiben. Vielmehr sollte die gesamte Bandbreite der im Kyoto-Protokoll dargelegten flexiblen Mechanismen denjenigen verfügbar gemacht werden, von denen eine Minderung ihrer Treibhausgasemissionen verlangt wird.

CEFIC POSITION ON GREENHOUSE GAS EMISSIONS TRADING

CEFIC, the European Chemical Industry Council, is the Brussels-based organization representing national chemical federations and chemical companies in Europe and about 100 European Sector Groups.

CEFIC represents, directly or indirectly, more than 40,000 large, medium and small companies in Europe, which employ 1,7 million people and contribute approx. 40 billion Euro annually to Europe's balance of payments.

1. Introduction

a) Chemical industry's commitment to climate change abatement

CEFIC believes that the increase in greenhouse gas concentrations in the earth's atmosphere is a cause for concern and warrants diligent efforts to reduce these emissions. The European chemical industry supports the development of an integrated strategy for meeting the global challenge posed by global warming.

CEFIC is committed to balanced and sustainable economic growth. This is evidenced not only by its Responsible Care approach to environment, health and safety, but also by its achievement in the area of energy efficiency, under its Voluntary Energy Efficiency Program (VEEP).

The chemical industry provides a positive contribution to society by supplying other sectors with materials whose properties facilitate energy conservation, thereby reducing greenhouse gas (GHG) emissions.

CEFIC stresses that a future emissions trading régime – regardless at which level it will be implemented – will be but one element in a comprehensive policy aiming at climate change abatement. The CEFIC position on emissions trading is based on the characteristics of chemical industry, embedding the issue in a wider view on a comprehensive EU climate change abatement policy.

b) Relevant features of the European chemical industry

The European chemical industry is global and competes globally, is highly energy intensive and its overall competitiveness depends substantially on energy costs.

Therefore, any measure that would unilaterally increase its energy cost vis-à-vis other trading partners, be it from developed or developing countries, will have a profound influence on its overall competitiveness. Its exposure to international competition along with its dependence on energy make the EU chemical industry particularly vulnerable to the Kyoto Protocol commitments.

Among the six greenhouse gases covered by the Kyoto Protocol, carbon dioxide (CO_2), nitrous oxide (N20) and hydrofluorcarbons (HFC's) are of direct relevance to the European chemical industry.

Substantial progress has already been achieved in the European chemical industry since 1980 in abating greenhouse gases emissions, for instance with reduction of CO_2 emissions by more than 40% per unit of chemical output.

Further progress on energy efficiency is foreseeable as the EU chemical industry is engaged in its Voluntary Energy Efficiency Programme (VEEP 2005), which commits CEFIC members collectively to further reducing by 20% the energy intensity over the years 1990 – 2005.

As end of pipe abatement of carbon dioxide is not economically feasible today, absolute targets of greenhouse gases emissions would run the risk of severely limiting the growth opportunity of the European chemical industry.

CEFIC has simulated a hypothetical 10% reduction requirement of CO_2 in 2010 versus 1990 levels: despite the built-in progress in energy efficiency in accordance with VEEP programme, such an absolute reduction target would constrain the European chemical industry growth to an average of 1% per annum, compared with a real growth rate of about 3% over the years 1985 – 1996.

c) The framework for GHG emissions trading: some observations on climate change policy

The analysis of the current GHG emissions trend made by the EU Commission is rightly pointing at the seriousness of the situation.

The evolution of GHG emissions suggests in fact an increase of 6 – 8% instead of an 8% reduction. Major growth areas are transport (+39%), power production, private households and tertiary sectors. Industry on the other hand is expected to show a reduction of 12% by 1998 compared to 1990.

The EU Commission derives from this analysis the need to strengthen policies and measures at both national and EU level, if the reduction targets are to be achieved.

For the industrial sector the list of proposed common and coordinated policies and measure (CCPM) includes inter alia:

- Improvement of efficiency standards for equipments, processes and power production
- Development of an EU wide policy framework for emission trading
- Development of a framework for voluntary agreements
- Development of an EU policy framework for fluorinated gases.

In examining this programme, CEFIC starts from the premise that whichever measure is going to be adopted for the EU chemical industry, it should not impair its overall capability to compete and its ability to grow with the global chemical market.

Long term voluntary or negotiated agreements with targets of energy efficiency or greenhouse gas intensity constitute the preferred approach of the EU chemical industry for making its contribution to the challenge of global warming.

Targets should be negotiated between national / supranational authorities and trade associations, to take into account the diversity of the various national starting points and the characteristics of the industry sector concerned.

2. The Green Paper on emissions trading

In its Green Paper, the European Commission has put forward several questions of different nature. Some are wide ranging and of a political nature, others however are more technical and detailed. The CEFIC position concentrates on the main issues (application, targets, level of comprehensiveness). Answers on the specific questions are presented in the Annex.

a) Apply Emissions Trading schemes in a flexible way

It is assumed that the instrument of emissions trading has the potential of achieving results at lowest cost. However, it is imperative that such a scheme is developed and applied ion a flexible way. Agreements should be coupled with the other Kyoto flexible mechanisms (Joint Implementation and Clean Development Mechanism).

Fungibility and transferability of emission credits should be possible across the mechanisms. Any EU scheme must be fully compatible with those developed at an international level to ensure maximum efficiency and lowest costs.

b) Emissions trading schemes should apply to the Contracting Parties

The Kyoto Protocol provides in the articles 6, 12 and 17 the definition of the so-called flexibility mechanisms, namely:

- Art. 6: Joint implementation (JI)
- Art. 12: Clean Development Mechanism (CDM)
- Art. 17: Emissions Trading (ET)

In article 6 and 12 the Protocol specifically mentions the participation – in addition to the "contracting parties" – of "entities" in JI or CDM projects. In contrast the Kyoto Protocol does not mention explicitly the involvement of "entities" in Emissions Trading. The 6th Conference of the Parties may or may not include "entities" as possible participants to the Kyoto Protocol emission trading scheme.

Moreover, the need for Early Action, as specifically laid down in the Kyoto Protocol, is recognised by the European chemical industry.

The Commission takes the view that the involvement of companies (i.e. entities) in emission trading is appropriate. In proposing an EU wide scheme, the Commission is aware that such a system may be only a "domestic" measure and could also not be identical to emissions trading under the Kyoto Protocol. In such a case the learning by doing effect could be quite limited.

Emission reduction units (ERU's) from Joint Implementation projects, carried out by companies / entities and certified emission reductions (CER's) obtained in CDM projects by companies / entities could and should be tradable between "companies / entities" and "contracting parties". This would facilitate the task of the Contracting Parties in meeting their individual commitments and at the same time give the incentive to companies / entities to engage themselves in GHG reduction projects anywhere in the world if there is an economic value. Therefore, CEFIC takes the view that emissions trading schemes should take into account supra-national emission reduction projects.

c) Target setting is mainly a political process

The EU Commissions labels its ET scheme as a "market mechanism". In reality setting GHG targets for some sectors is a political process. The implementation of a trading scheme (although generally a market conform instrument), does not change its nature of a command and control measure since emission rights and rules will be fixed by state authorities.

The "burden sharing" agreement between the EU Member States sets differentiated targets for each Member State, thereby in effect redistributing in a sort of "original" trading the overall reduction burden of – 8% valid for the EU as a whole.

It is difficult to see how such a system would be compatible with setting fair targets at sector level. It appears that either there is going to be distortion of competition or some sectors would not be able to enjoy the target redistributed to other sectors of the same economy.

d) Targets on either energy efficiency or GHG intensity per unit of production

The choice between absolute and relative targets is one of the most important issues for the European chemical industry. In principle, an emissions trading scheme, once absolute targets are applied to all the participants of the market, is expected to lower the overall cost of abatement. This is clearly not the case in the Kyoto Protocol since only Annex –B parties have reduction commitments.

For sectors like the European chemical industry which are engaged in the "production of commodities traded globally and whose cost is a direct function of the energy prices", imposing absolute targets is likely to restrict industrial output while the production is actually driven by the demand from the market.

The alternatives left to the EU chemical industry are either to reduce production or to buy emission certificates (whose cost is going to increase year after year) with consequent loss of competitiveness vis-à-vis imported goods. Producers in non-committed countries will supply market demand and since their production is linked to GHG emissions at least as high as in Europe there is no gain in global GHG reduction and job losses will occur in the EU. On the contrary targets of GHG intensity (tons GHG / tons product) would allow the EU chemical industry to serve the market needs and would make a contribution to the country commitment in terms of "avoided" if not of "absolute" GHG emissions.

Therefore, the targets should be either energy efficiency (if one considers only CO_2) or GHG intensity per unit of production (if one considers the basket of the 6 Kyoto gases)

e) All gases contained in the Kyoto basket must be included

Since the ET scheme is initially limited to fixed sources (power production, iron and steel, refining, chemicals, glass, paper) and include only CO_2, the rest of the economy would be delivering uncertain GHG reductions, even if these sectors are showing the highest emission growth.

For this reason CEFIC strongly supports the incorporation of all six gases within the emissions trading scheme, provided that the emissions can be monitored and verified.

f) Leave allocation methodologies to the Member States

The question of allocation methodology is a very complex one and it should be considered carefully whether it is opportune to investigate at EU level how to proceed on this issue. After all, the main thrust in this respect will be at the national level. Member States will have to decide themselves how to allocate the burden among the economic sectors and which measures to use, be it voluntary agreements, flexibility mechanisms or fiscal incentives.

g) Need for adequate compliance and monitoring

CEFIC takes the view that setting up adequate compliance and monitoring systems is necessary not only to contribute to a sound environmental outcome, but also to ensure that investments in trading certificates by industry will be worth their price.

3. Conclusions

For the EU chemical industry voluntary /negotiated agreements constitute the preferred choice. These agreements should be negotiated between trade associations and national/supranational authorities.

To increase the flexibility of the industry, agreements should be combined with the Kyoto flexible mechanisms, in particular the project based ones, namely Joint Implementation and the Clean Development Mechanism.

Emissions trading should be reserved to the Contracting Parties.

The possibility of combining long term agreements with ET should be further examined.

ANNEX

CEFIC RESPONSES TO QUESTIONS RAISED IN THE GREEN PAPER.

With regard to the 10 questions listed in the sections 6 to 9 of the Green Paper, CEFIC would like to comment as follows, keeping however in mind its preferred choices as outlined in the position document.

A) Questions relative to the Scope of an European ET system

Question 1: ***Which sectors should be covered by emissions trading within the Community? Do the LCP and IPPC Directives offer a useful starting point for defining the sectorial coverage of a Community emissions trading system?***

Answer 1: Commitment targets (absolute or relative) should be set by negotiation between authorities and trade associations at national or supranational level. Flexibility Mechanisms should be optionally available to facilitate meeting of targets. The availability of this option should be extended to all industrial sectors, since this will reduce the overall cost of abatement.

Question 2: ***Should there be a common emissions trading scheme within the European Community for certain sectors in the interest of fair competition, maximum transparency and legal certainty for companies?***

Answer 2: From a fair competition point of view, it would be logical to have the same targets for the same sectors although due allowance needs to be made for differences in structure; in this way one could ensure a level playing field within a sector. This approach, however, is in conflict with the subsidiarity principle and with the burden sharing agreement, which assigns different targets to the EU Member States, and presumably to their industrial sectors. Whatever solution will be adopted, it is essential that the emissions certificates are fungible worldwide/globally and between sectors. Only through such a system will the most cost- effective solution become available.

Question 3: ***Would the flexibility offered by a co-ordinated scheme such as" opting in- opting out "be compatible with the requirements of the internal market, or would any advantages of such flexibility be outweighed by increased complexity?***

Answer 3: The option of opting "in and out" is essential both for sectors and legal entities. In a scheme, as CEFIC envisages, where the commitments (relative or absolute) are object of negotiations between sectors and authorities (national or supranational), the added flexibility of opting in or out of an emissions trading scheme will prove to be very important for minimizing the overall abatement costs.
The "opt-in" and "opt-out" options must not be used by Member States to arbitrarily exclude certain sectors from the trading regime. Such action would reduce the flexibility by limiting the size of the potential market. This could seriously affect the competitiveness of companies. This problem could be compounded, if other policies and measures then penalized the same sectors.

Question 4: ***What scope is there for individual Member States to include more sectors in their domestic trading scheme than might be covered by a Community scheme?***

Answer 4: Flexibility and inclusion of as many sectors as wished are important element of a strategy aiming at the minimization of the overall abatement costs.
As been previously noted the greater the number of participating companies the greater the scope for cost effective emissions reductions. It is essential, however, that one sector or company in a Member state is not disadvantaged over another in a comparable industry in another Member State. An emission reduction made by a company in a Member State, once verified, should be tradable worldwide.

B) Questions on Modalities of Emissions Trading

Question 5/6: ***Should the overall amount of allowances to the trading sector in each Member State be subject to agreement at Community level? Should the way in which allowances are allocated to individual companies be subject of agreement at Community level?***

Answer 5/6: From a Single Market point of view it is logical to have the same treatment for the same sectors /companies across the EU. On the other hand subsidiarity and the burden sharing agreement may justify different approaches.

With respect to burden sharing, it is likely that emission trading is more important to companies /sectors in some Member States than in others as those companies potentially strive to meet harsher reduction targets.
Any restrictions in the amount of allowances available for trading in the individual Member State will have a significant impact on the viability of the emissions trading market, since this could inflate the cost of emission reductions.

C) Questions of Mix of Policies and Measures

Question 7: ***Is it agreed that a balance has to exist between sectors engaged in emission trading within the Community on the one hand, and non-trading policies and measures applied to other sectors on the other?***

Answer 7: Yes. Climate Change is a global problem and all sources of emissions have to contribute to the solution. The fact that energy producing and consuming sectors are easily identifiable should not be a justification to load them with a disproportionate burden, particularly in consideration of the progress made by these sectors so far. The European chemical industry is already subjected to a number of severe non-trading policies and measures, many of which hamper international competitiveness. If the EU wishes to achieve its commitments under the Kyoto Protocol at the lowest economic cost, it is essential that further restrictive policies and measures - like taxation- are not introduced.

Other policies and measures need to be identified and implemented for those sectors of the economy that are not bound to commitments made in negotiated agreements with or w/out trading.

Question 8: ***How can environmental effectiveness and transparency be safeguarded using a mix of emission trading, energy taxes and environmental agreements with targets based on energy efficiency per unit of output?***

Answer 8: For reasons of increased efficiency there must be a choice of policies and measures for different sectors of the economy. Despite the introduction of new energy taxes in a number of Member States and the proposed extension of energy taxation at EU level, CEFIC does not believe that this is the right way forward for the chemical industry. It is essential that we avoid imposing unilaterally additional cost burdens, which will undermine our international competitiveness.
The industry should be able to choose between:

- setting targets (relative or absolute) by negotiation with the option of using the Kyoto flexible mechanisms
- regulated emissions limits, set in the framework of the IPPC Directive (Best Available Technology)

CEFIC believes that negotiated agreements with targets of greenhouse gas intensity (Tons GHG/Tons Product) with the option to trade worldwide, offer to our industry the needed flexibility, allowing to serve a growing demand for our products and services, which would otherwise be served by increased imports from not committed Parties and less EU-exports worldwide, with the result of a decreased environmental effectiveness globally and reduced international economic competitiveness of EU-based companies.

D) Compliance Questions

Question 9/10: ***Are the currently available instruments (monitoring mechanisms, infringement procedures) sufficient?***
Do the elements of compliance and enforcement mentioned above be co-ordinated and harmonized at Community level?

Answer 9/10: CEFIC is in favour of a fair and transparent monitoring and compliance mechanisms, ensuring a proper burden sharing among companies, sectors and countries of the burden of the Kyoto protocol.
Compliance and enforcement, whilst remaining within the scope of Member States, must be co-ordinated /harmonized at least at Community level, but more preferably at global level, in order to avoid distortions of competition.

Determination of non compliance must be carried out rapidly and should be penalised by a EU- wide standard of penalties depending on the offence. Such penalties should be designed to support business effort to mitigate the emissions of greenhouse gases.

CEMBUREAU

COMMENTS FROM CEMBUREAU – THE EUROPEAN CEMENT ASSOCIATION – ON THE EUROPEAN COMMISSION'S "GREEN PAPER ON GREENHOUSE GAS EMISSIONS TRADING WITHIN THE EUROPEAN UNION"

General Comments

In the Green Paper "emissions trading" is described as a scheme whereby companies are allocated allowances for their emissions. The companies are allowed to emit more than their allowances on condition that they can find another company that has emitted less than allowed and is willing to transfer its "spare" allowances. This is an "allowance based scheme" (also named "cap and trade").

Another scheme under consideration is a "reduction-based scheme" (also named "baseline and credit"). Companies are allocated reductions they have to make. Companies are allowed to reduce less than their reductions on condition that they can find another company that has reduced more than it is obliged to do and is willing to transfer its "extra" reduction.

CEMBUREAU suggests that "pros and cons" of the two schemes are analysed before a final choice is made.

Comments on each Chapter and Answers to the Questions

POLICY SUMMARY (pages 4 and 5)

CEMBUREAU shares many of the basic views expressed in the Chapter "Policy Summary":

- Emissions trading is a cost effective way for the Community and especially for industry to meet a pre-set environmental target;
- Owing to the lack of experience in Europe with this instrument, substantial preparatory work is required and an early start of an EU-trading scheme would be useful;

- In order to ensure a level playing field across countries, sectors and companies, it is paramount that schemes be transparent and comply with a number of essential basic requirements. A coherent and co-ordinated framework is therefore needed at EU level to avoid distortions of competition and to reap the benefits of scale effects;

- The selection of market participants (countries, sectors and companies) and of the way allowances are made, the link between emissions trading and existing policies and measures, the equivalence of effort between those who are in and those who are not in the trading scheme, all are key policy options to be carefully thought through.

In addition, CEMBUREAU would like to emphasise that the EU trading scheme should ensure compatibility with other international trading schemes.

1. INTRODUCTION

CEMBUREAU supports the view expressed in Chapter 1, page 6, paragraph 5 that "domestic policies and measures should be the main means of action and that emissions trading should reinforce and certainly not weaken the existing foundations".

Targets of greenhouse gas emissions will have to be set in compliance schemes agreed upon by both governments and industry. The preferred instrument for establishing compliance schemes in our industry is negotiated agreements. They will be ideally complemented by emissions trading schemes and other schemes (related to the Kyoto mechanisms), whose function is to minimise the overall cost of compliance. Moreover, with this dual instrument in place, i.e. negotiated agreement linked with emissions trading, there is no room for taxation of greenhouse gas emissions, except possibly in case of non-compliance.

2. GREEN PAPER FOR WIDE STAKEHOLDER CONSULTATION

CEMBUREAU would like to compliment the Commission for the initiative taken to prepare and issue the Green Paper. CEMBUREAU welcomes the invitation of the Commission to take part in a wide stakeholder consultation.

3. WHAT IS EMISSIONS TRADING ?

Kindly see "General Comments".

In lines 2 – 3 on page 8, it is stated that "One main attraction of emissions trading is that is provides certainty of environmental outcome".

Emissions trading provides a way of getting more environmental benefit for a given effort. Emissions trading is not a way to escape obligations. If an emissions trading scheme is in place, certainty of an environmental outcome is provided, and additional constraints on industry such as taxes or regulatory standards are not warranted.

4. THE EUROPEAN COMMUNITY, EMISSIONS TRADING AND THE KYOTO PROTOCOL

CEMBUREAU fully supports the direct involvement of companies in emissions trading schemes as expressed on page 9.

CEMBUREAU also welcomes the idea of "learning by doing" and the aim of setting up an internal trading regime by the year 2005 starting, for practical reasons, with large fixed point sources of carbon dioxide.

5. THE ROLE OF THE EUROPEAN COMMUNITY

This Chapter 5 suggests that a balance has to be found between Member States' autonomy and Community interventions.

CEMBUREAU supports the view that a coherent and common framework at EU level is needed whereby transparent national systems comply with a number of essential basic requirements.

The same set of sectors should be included in all Member States and the coverage of companies within sectors should be the same too. This would lead to equal competition, transparency, legal certainty and cost efficiency.

The importance of simplicity, however, cannot be stressed too much. A minimum of bureaucracy should be applied to ensure a well-functioning trading scheme.

6. POLICY OPTIONS RELATED TO THE SCOPE OF AN EC EMISSIONS TRADING SYSTEM

CEMBUREAU is supportive of emissions trading schemes because of their cost-minimising feature and encourages the setting up of a Community-wide emissions trading scheme. For competition reasons, CEMBUREAU cannot support the "opting-in/opting-out" schemes.

Question 1 — *Which sectors should be covered by emissions trading within the Community ? Do the LCP and IPPC Directives offer a useful starting point for defining the sectoral coverage of a Community emissions trading system ?*

Answer — The LCP and IPPC Directives offer a useful starting point for defining the sectoral coverage.

Question 2 — *Should there be a common emissions trading scheme within the European Community for certain sectors in the interest of fair competition, maximum transparency and legal certainty for companies ?*

Answer — Yes, a common emissions trading scheme would be useful. It should be compatible with any national systems that are set up.

Question 3 — *Would the flexibility offered by a co-ordinated scheme such as "opting-in"/"opting-out" be compatible with the requirements of the internal market, or would any advantages of such flexibility be outweighed by increased complexity ?*

Answer — Any "opting-in/opting-out" schemes would put the functioning of an emission trading scheme in danger due to increased complexity.

Such schemes should preferably be avoided, as they may introduce market distortion.

Question 4 — *What scope is there for individual Member States to include more sectors in their domestic trading scheme than might be covered by a Community scheme ?*

Answer — In principle trading schemes should be as wide as possible, differences between Member State schemes could, however, create competition problems.

7. POLICY OPTIONS RELATED TO THE INITIAL ALLOCATION OF EMISSION ALLOWANCES

Kindly see "General Comments".

With respect to the allocation of emission allowances, CEMBUREAU is not favourable to auctioning. As auctioning is tantamount to a tax, it would further impair the competitiveness of companies based in Europe compared to those located in the rest of the world. Moreover, it would deprive them from the money needed to further invest in the control of greenhouse gas emissions. Auctioning is even more damaging than taxation, as it is uncertain and "up-front".

Allocation of allowances should take place by grandfathering, adapted to take account of early action undertaken by companies to combat greenhouse gas emissions and to take account of their possibilities for future emission reduction.

Question 5 — *Should the overall amount of allowances allocated to the trading sector in each Member State be subject to agreement at Community level ?*

Answer — With reference to the "subsidiarity principle", the overall amount of allowances allocated to a sector (whether trading or not) in each Member State should not be subject to agreement at Community level. Member States should, however, report on the overall amount allocated to each sector and in a transparent manner explain the background for the allocation.

Question 6 — *Should the way in which allowances are allocated to individual companies be subject of agreement at Community level ? Or, do you consider detailed guidelines based on the state aid provisions and other rules of the Treaty to be sufficient to safeguard fair treatment ?*

Answer — The way in which allowances are allocated to individual companies should be based on detailed guidelines especially on state aid provisions.

8. POLICY OPTIONS RELATED TO THE SYNERGY WITH OTHER POLICIES AND MEASURES

Reference is made to the IPPC Directive on page 21. The special nature of the IPPC Directive should be carefully analysed before its relation to CO_2 emission trading schemes and compliance schemes be proposed.

The IPPC Directive does not set emission limits or consumption limits. It leaves it up to national competent authorities to draw up permits based on BAT and site specific conditions.

A careful analysis may well result in a conclusion that the IPPC Directive does not prevent CO_2 emissions trading, and that it cannot be used for allowance setting.

Generally speaking, there is no need for regulation specific to greenhouse gases when an emissions trading scheme is in place, as it provides a ceiling for greenhouse gas emissions.

The Commission takes a positive view on the use of negotiated agreements and stresses the need for a proper transparent framework for such agreements. CEMBUREAU fully supports this.

An environmental agreement may be linked to emissions trading. Certified CO_2 reductions from the trading scheme may directly enter into the negotiated agreement. The question of sanctions which should be included in a negotiated agreement could simply be the obligation to buy CO_2 via the emissions trading scheme.

CEMBUREAU supports the views expressed by the Commission in subchapter 8.3. Energy taxes and emissions trading should be designed in such a way that they act as complementary instruments. When an emission trading scheme is in place, taxation is not relevant.

Question 7 — *Is it agreed that a balance has to exist between sectors engaged in emissions trading within the Community on the one hand, and non-trading policies and measures applied to other sectors on the other ?*

Answer — It seems relevant that the different policy options – policies and measures, taxation and emissions trading, etc. – must imply comparable costs when applied to competing sectors/companies.

Question 8 — *How can environmental effectiveness (in terms of fulfilling the Kyoto Protocol's commitments) and transparency be safeguarded using a mix of emissions trading, energy taxes and environmental agreements with targets based*

on energy efficiency per unit of output ?

Answer The links between targets expressed in specific terms (CO_2 per unit of output) and obligations expressed in absolute terms (CO_2) may be defined via negotiated agreements.

9. POLICY OPTIONS RELATED TO COMPLIANCE AND ENFORCEMENT

CEMBUREAU supports the Commission's view that adequate compliance provisions and a robust enforcement regime are required.

An effort should be made, in addition, to ensure that simple, cheap and fast systems are adopted. The principles "Proportionality" and "Subsidiarity" should be applied.

Question 9 *Are the currently available instruments (Monitoring Mechanism, infringement procedures) sufficient or should additional tools be developed in order for the Community to adequately assess compliance in the context of emissions trading within the Community ?*

Answer New tools are probably not needed but common rules for monitoring, reporting, etc. would be required. Procedures should facilitate the smooth introduction of a trading scheme.

Question 10 *Do the elements of compliance and enforcement mentioned above warrant co-ordination or harmonisation at Community level, and which elements are more appropriately undertaken by Member States ?*

Answer Compliance with the "burden sharing" obligation should be monitored at EU level, whereas monitoring, verification, reporting, compliance of sector emissions and/or company emissions should be undertaken by Member States.

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CENTRE FOR BUSINESS AND THE ENVIRONMENT

COMMENTS ON THE EUROPEAN COMMISSION GREEN PAPER ON GREENHOUSE GAS EMISSIONS TRADING WITHIN THE EUROPEAN UNION

General Statement

Emissions trading, within European Union countries and within Annex I Parties to the UN Framework Convention on Climate Change, is a means of allowing greenhouse gas emission targets to be met at least cost. The system allows emission limits to be allocated to industrial companies which are then free to meet their obligations in a manner that they believe is best. This will include overachieving on reductions where costs are low and spare permits can be sold at a profit, and underachieving where costs are high and buying spare permits from other companies to meet targets. Four key points can be made:

- In principle, a fair system for the initial allocation of permits should require an equal effort to be made by all companies. If this could be achieved, there would be little need for trading, as companies would face similar marginal costs in reducing emissions. In practice, it is impossible to estimate a truly fair allocation for all companies, either initially or into the future, and trading is a mechanism for smoothing out some of the unfairness.
- The allocation of permits to industry in one country may depend on the success or otherwise of policies to reduce emissions in other sectors such as transport or households. For example, the high duty on road transport fuels in the UK may dampen demand in this sector and allow a more generous allocation of permits to industry. Conversely, the unwillingness of the UK government to extend energy taxes to households may require a less generous allocation of permits to be given to industry. The implication is that industry in the UK, say, might have a more generous or a less generous allocation of permits compared to some of its competitors in other EU countries. Similarly, some EU countries have already been more successful in mitigating greenhouse gas emissions and the allocation of permits to industry in those countries may be more generous to reflect the success of past policies.
- The allocation of permits to industry within a country may reflect also that country's allocation of emissions reductions under the EU burden sharing agreement. This agreement was freely entered into by the Council of Ministers, taking into account various factors. It is possible that the burden sharing agreement will allow a more generous allocation of permits to industry in one country compared to another. Trading within the EU will allow this unevenness to be smoothed out. It is not the job of the Commission to rewrite the burden sharing agreement.
- A permit system will require companies to invest money to reduce emissions which could reduce their competitiveness compared to non-EU rivals. Any system should avoid adding to this reduced competitiveness through adding on other costs such as an energy tax. In particular, an auction system for permits would be equivalent to adding an emissions tax as well requiring companies to reduce emissions. It is of no value to the global environment if EU industry closes simply to be replaced overseas.

The redistribution of the revenue from permit auctions or energy taxes to industry though reduced national insurance or similar taxes does little to reduce the tax burden on energy intensive industries. Rather, it would provide a subsidy to labour intensive industries at a time when some EU member states might be moving towards full employment.

Comments on Specific Questions

Question 1: Which sectors should be covered by emissions trading within the Community? Do the LCP and IPPC Directives offer a useful starting point for defining the sectoral coverage of a Community emissions trading system?

Emissions trading should aim to cover as many sectors and as large a proportion of emissions as possible. A divergence of business types is likely to yield a divergence in ability to reduce emissions or of needs to increase emissions through expansion in output. There should be a sensible limit for smaller companies for which other types of policy or measure might be more appropriate. Additionally, in principle, it would be beneficial to cover all Kyoto gases in the system eventually, provided that emissions and emissions reductions can be adequately measured/demonstrated.

Question 2: Should there be a common emissions trading scheme within the European Community for certain sectors in the interest of fair competition, maximum transparency and legal certainty for companies?

The target should be to move to a scheme that is compatible with the requirements of all Annex I Parties under the Kyoto Protocol. It may be that some EU member countries would be ready before others to start a trading scheme and they should be encouraged. An EU wide scheme would then be a second step.

Question 3: Would the flexibility offered by a co-ordinated scheme such as "opting-in"/"opting-out" be compatible with the requirements of the internal market, or would any advantages of such flexibility be outweighed by increased complexity?

There needs to be flexibility in the early stages of a scheme as some countries will be ready before others to start.

Question 4: What scope is there for individual Member States to include more sectors in their domestic trading scheme than might be covered by a Community scheme?

Each member state should be encouraged to include as many sectors as possible into domestic trading schemes as a divergence of company types will yield a greater divergence in mitigation costs and hence will improve the scope for trading to reduce overall costs.

Question 5: Should the overall amount of allowances allocated to the trading sector in each Member State be subject to agreement at Community level?

The allocation of permits to the trading sector within a member state will depend on the success or otherwise of policies in other sectors such as transport or households. It is reasonable that companies outside the trading sector be subject to measures requiring equivalent effort to those within the trading sector. Any agreement at the Community level should reflect these principles.

Question 6: Should the way in which allowances are allocated to individual companies be the subject of agreement at Community level? Or, do you consider detailed guidelines based on the state aid provisions and other rules of the Treaty to be sufficient to safeguard fair treatment?

The total allocation of permits to the trading sector within a member state will depend on a number of factors such as the success or otherwise of policies in other sectors such as transport or households, the success of previous policies in reducing emissions, and the burden sharing agreement. It would be unfair if companies in one country should be penalised if a failure of policies in another member state has led to an increased burden being placed on industry in that state. It may be necessary for an agreement at the Community level to reflect this. The allocation between sectors or companies within a member state needs to be done in a simple and transparent way that is as fair to different companies as possible. A "grandfathering" system based on recent emissions is likely to meet these criteria best.

Question 7: Is it agreed that a balance has to exist between sectors engaged in emissions trading within the Community on the one hand, and non-trading policies and measures applied to other sectors on the other?

There needs to be a balance between the trading and non-trading sectors within a member state based on equivalence of effort. The total allocation of permits to the trading sector within a member state will depend on a number of factors such as the success or otherwise of policies in other sectors such as transport or households, the success of previous policies in reducing emissions, and the burden sharing agreement. Thus there will be differences in allocation between member states.

Question 8: How can environmental effectiveness (in terms of fulfilling the Kyoto Protocol's commitments) and transparency be safeguarded using a mix of emissions trading, energy taxes and environmental agreements with targets based on energy efficiency per unit of output?

Targets based on energy efficiency per unit of output may be a useful starting point in getting companies to take actions within a voluntary/negotiated agreement. Once a trading scheme is operational, covering a variety of industrial sectors, then those companies would have the ability to buy additional permits to cater for expansion and should be allocated straight emission permits as part of the trading scheme. Companies within the trading sector should not be subject to other policies and measures such as

energy taxes, efficiency requirements under IPPC or voluntary/negotiated agreements as these would unnecessarily increase costs or reduce the flexibility of companies to meet targets in a least cost manner.

Question 9: Are the currently available instruments (Monitoring Mechanism, infringement procedures) sufficient or should additional tools be developed in order for the Community to adequately assess compliance in the context of emissions trading within the Community?

There is a need to ensure that the requirements for compliance are similar across the EU.

Question 10: Do the elements of compliance and enforcement mentioned above warrant co-ordination or harmonisation at Community level, and which elements are more appropriately undertaken by Member States?

There is a need to ensure that the requirements for compliance and the penalties for non-compliance are similar across the EU. Additionally, there may be a need for a mechanism to reward companies involved in trading that overachieve in the years before the UNFCCC compliance period and which bank spare emission permits.

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25 July 2000

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CEPF comments on the Green Paper on Emissions trading (COM(OO) 87)

CEPF welcomes the Commission´s invitation to interested parties to comment on the Green paper on emissions trading (ET).

The European Union is planning to implement its domestic emissions trading scheme by the year 2005. This scheme will at first concentrate on big emission sources and only on carbon dioxide. CEPF supports the Commission's initiative to get experience on the emissions trading before the global ET scheme will start in 2008.

However the European private forest owners feel that the contribution of European forests to such an ET scheme is not fully taken into account in the Green Paper. Although there are at the moment uncertainties regarding to sinks in forests and storage in forest industry products, the possibility to include forestry under ET should be further developed in co-operation with forest owners and scientists.

Forests absorb carbon from the atmosphere via photosynthesis and release it via respiration and decay. Forest industry products sequester carbon for long periods. When wood is used for energy production, it only releases the amount of carbon it has absorbed during its growth. In the long run, the carbon cycle of forests is a closed one. Wood is a renewable and environmentally friendly natural resource and material. By increasing the overall cycle of carbon in forests through sustainable forest management and the use of forest industry products, we can substitute other, less environmentally friendly materials.

The sink in European forests is 63,2 Tg carbon annually (Liski, Karjalainen, Pussinen, Nabuurs and Kauppi 2000). Forests grow much more than they are harvested. This fact is not reflected in the current interpretation of the Kyoto Protocol, which is very limited.

The Article 3.3 of the Kyoto Protocol only takes into account a small fraction of total carbon stock, by limiting the monitoring to *afforestation, reforestation and deforestation since 1990.*
The Article on additional human-induced activities (Art. 3.4) and the flexible mechanisms, however, offer some opportunities to European private forest owners to contribute.

Currently only a fraction of forests are considered in the Kyoto calculations. The picture given by these calculations is not realistic.
Depending on the definition, European forests form either a source or a small sink of CO_2. Using FAO definitions for these activities, including harvestings in the reforestation, forests are a source of 5,39 Tg C $year^{-1}$. Using IPCC definitions, forests are a sink of 0,11 Tg C $year^{-1}$ (both figures from Liski et al. 2000). But if harvestings are not taken into account, European forests are a sinks of 10 Tg C y^{-1} (FAO definitions) or 1,0 Tg C y^{-1} (IPCC definitions) (Päivinen, Karjalainen, Liski, Pussinen and Nabuurs 1999). Compared to the real sink of forests, 63,2 Tg C y^{-1}, these figures seem very misleading.

CEPF urges the Commission to consider CO_2 sinks and storages when setting up an emissions trading scheme for the EU. In addition European forest owners must benefit from the fact that they own the sinks.

References:

Liski, J., Karjalainen, T., Pussinen, A. Nabuurs, G.-J. and Kauppi, P. 2000. Trees as carbon sinks and sources in the European Union. Environmental Science & Policy. In press.

Päivinen, R., Karjalainen, T., Liski, J., Pussinen, A. And Nabuurs, G.-J. 1999 Carbon removals by European forests. Technical report for the EEA report "The environment in the European Union at the turn of the century". Technical report No. 35. European Environmental Agency, Copenhagen.

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CEPI's Views on the Emission Trading - Responses to the Commission's Green Paper on Emission Trading

September 2000

1. Introduction

The paper industry supports the development of an emission trading scheme as one cost effective tool to reduce greenhouse gas emissions. The various instruments developed to mitigate carbon dioxide emissions, be it negotiated agreements, regulatory measures, taxation or emission trading, are to be considered as alternative and not as simultaneously applicable measures so as to avoid an unjustified burden on some sectors of society.

The rules governing the flexible mechanisms, and especially emission trading, are still very uncertain. While the paper industry is keen to see a prompt development of these market base mechanisms, it calls for a sound definition of rules so as to avoid distortion of competition or raw material markets.

The paper industry is in favour of the inclusion of sinks in the mechanisms since the sequestration of carbon in trees and forest-based products is a part of the carbon cycle and of the Kyoto Protocol and more importantly of the natural carbon cycle. However, it urges authorities to properly assess its potential impact, so as to avoid side effects, such as an excessive use of the forest for fuel production (the cycle of wood used for energy is short compared to the cycle of wood used for producing renewable goods), the static management of forests (carbon sequestration is optimal in growing trees) or an excessive pressure on the wood fibre market which would be detrimental both economically and environmentally.

The paper industry believes that an emission trading scheme must be:

- **credible and transparent**, that is deliver agreed objectives that need to be monitored through a transparent monitoring and verification system;
- **simple**, that is avoid unnecessary administrative burden;
- **cost-effective:**
  - the scheme should be as wide as possible so as to ensure its cost-effectiveness and therefore become international as soon as possible and open to all interested parties, private and public sectors and companies;
  - There should be no upper limit to trading as any restriction would increase costs and add to the administrative and economic burdens; if such a restriction

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is applied unilaterally in the EU, it would undoubtedly have a very negative impact on the EU's competitiveness;
    - Transaction costs should be kept to the minimum;
- **Credit**: Banking of tradable units and credit for early action should be allowed.

The paper industry is increasingly a global industry and as such it very much favours a common EU-wide emission trading scheme becoming as soon as possible an international scheme. It also urges for consideration of sectors' past and early achievement, energy efficiency, the ability to grow and the relative share of the sector in the overall emissions. In this respect, grandfathering offers more flexibility than auctioning. The paper industry is opposed to a system of auctioning that would be equivalent to taxation and would jeopardise the competitiveness of EU industry.

2. Responses to the Commission Green Paper on Emission Trading

Question 1: Scope of the EU Emission Trading scheme?

The scope of the EU scheme should be as broad as possible so as to ensure cost-effectiveness and foresee a rapid link with the coming international scheme. Although the Green paper mentions six main sectors, measures should not be neglecting other major sources of emissions, such as transport, domestic and non-intensive business and industry emissions.

The setting of greenhouse gas emissions targets needs to take account of various elements which may be sector specific, and of the existence of other measures such as negotiated agreements, energy efficiency plans etc. It therefore seems more appropriate to set targets through negotiations rather than through the IPPC or LCP directives.

Question 2: Should there be a common Emission Trading scheme within the EU for certain sectors?

The paper industry is in favour of a Community wide approach so as to ensure the easiest possible functioning for small and large international companies alike; a uniform EU scheme would also secure an easier transition towards an international scheme. It would also be more respectful of internal market rules.

Question 3. Would the flexibility offered by a co-ordinated scheme such as "opting out" be compatible with the requirements of the internal market, or would any advantages of such flexibility be outweighed by increased complexity?

A common trading system would certainly be simpler, more transparent and more respectful of internal market rules. However, opting in and out" may be a key element for acceptance by some Member States. A minimum set of common rules however needs to be established.

Question 4: What scope is there for individual Member States to include more sectors in their domestic trading scheme than might be covered by a Community scheme?

The paper industry is in favour of a common set of rules for an EU wide emission trading scheme so as to ensure cost-effectiveness, transparency and easy use by individual companies that may have operations in several EU Member States. The scheme should include as many sectors as possible even in the early (pilot) stage so as to prepare for the widest possible international scheme. In this respect, CEPI feels that it could be wiser to start with a few sectors at both national and EU levels and expand accoridng to a certain timetable.

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Question 5: Should the overall amount of allowances to the trading sector in each Member State be subject to agreement at Community level?

No, since the past and present energy policies vary from Member State to Member State. This implies that any measure adopted to reduce greenhouse gas emissions should take account of the past and early achievements, of the capability to grow and of the relative share of emissions of the sector considered. The international competitive position of a sector should also be considered when setting targets, as should other measures adopted such as directives on energy efficiency or other environmental aspects. There should however be a set of rules ensuring a certain harmonisation in the way targets are being set by Member States with a view to meet national targets.

Question 6: Should the way in which allowances are allocated to individual companies be the subject of agreement at Community level? Or do you consider detailed guidelines based on the state and provisions and other rules of the Treaty to be sufficient to safeguard a fair treatment?

The existing Treaty and Community rules should be the baseline on which any emission trading scheme is developed. However, there may be a need to review some of the rules to ensure that no unnecessary obstacles are put to the sectors or companies that wish to use emission trading as a cost-effective way to meet targets, so as to avoid excessive requirements in the EU compared to other parts of the world.

Question 7: Is it agreed that a balance has to exist between sectors engaged in emission trading within the Community on the one hand and non trading policies and measures applied to other sectors on the other?

CEPI feels that there is a clear and necessary interrelatiion between the possible tools to reduce greenhouse gas emissions, namely energy efficiency measures defined in a negotiated agreement, emission trading or taxation of energy products. Imposing the three measures simultaneously would definitively jeopardise industry's competitiveness and would be detrimental to both the EU economy and the global environment. Existing measures, such as regulations and directives, imposing sometimes demanding and costly requirements on industry should also be considered.

The paper industry supports the conclusion of negotiated agreements, linked to an emission trading scheme to come into effect in 2005. When available, trading could become a sort of safety valve for sectors having agreed to quantified emission reduction targets. The negotiated agreements could also – but it would be a case-by-case approach and is too early to say now – simply be implemented through participation in an emission trading scheme.

Question 8: How can environmental effectiveness and transparency be safeguarded using a mix of emission trading, energy taxes and environmental agreements with targets based on energy efficiency per unit of output?

The paper industry supports the implementation of a mix of instruments so as to ensure the best cost-efficiency of action. The targets should be set through consultation, if possible set in a negotiated agreement, with an option to trade. Those sectors (or companies) not covered by an agreement or by trading could be covered by energy taxation or imposed emission limits. Environmental effectiveness is poorly achieved by energy taxes however.

The advantage of negotiated targets is that it allows to consider the sector's specific characteristics, past and early achievements, ability to grow and potential achievements. Although desirable from a competition point of view the setting of unified targets per sector could be problematic because of different national energy profiles (in some countries a simple switch from coal to natural gas would allow

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substantial emission reductions while in others such a switch has already largely taken place).

Question 9: Are the currently available instruments sufficient or should additional tools be developed in order for the Community to adequately assess compliance in the context of emissions trading within the Community?

Question 10: do the elements of compliance and enforcement mentioned above warrant co-ordination or harmonisation at Community level and which elements are more appropriately undertaken by member States?

The paper industry supports a transparent and credible verification and monitoring mechanism that should be developed and applied in co-operation between stakeholders so as to ensure that the expertise available in industry is best used. The respect of fair objectives requires EU-wide monitoring rules.

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CERAME-UNIE

BUREAU DE LIAISON DES INDUSTRIES CERAMIQUES EUROPEENNES
LIAISON OFFICE OF THE EUROPEAN CERAMIC INDUSTRY

September 2000

Comments on the Green Paper on greenhouse gas emissions trading within the European Union COM(2000)87

Introduction

The European ceramics industry embraces a great variety of products ranging from bricks, tiles, sanitaryware, clay pipes, refractories and technical ceramics to tableware and ornamentalware. For all ceramic products production processes require an extensive use of energy, mainly used for the drying and the firing of clays, transforming them into ceramics products.
The process of innovation in the ceramics industry comprehends new production and energy saving technologies (better kiln furniture, setting materials, efficient isolation, quick firing, single firing, automisation, etc.) and the use of clean natural gas (now standing at 80% of energy consumption). The result is an increase of energy efficiency and a continuous reduction of fuel consumption and CO2 emissions.

Cérame-Unie observations on the Green Paper

The European ceramics industry recognises the importance of the emissions trading to reduce greenhouse gas emissions, and welcomes the wide consultation process launched by the European Commission at this respect.

We believe that the emissions trading scheme can be an advantage for the ceramics industry taking into account the following considerations:

1. Emissions trading should be agreed and operational at international (not only EU) level in the framework of the Kyoto Protocol.
2. Companies should be able to trade across different sectors in order to involve the whole production-cycle in the trading system.
3. Allowance of permits for emissions of CO_2 should be allocated by auctioning in accordance with the needs of the company. A system of grandfathering would not take account of innovations on assortments and technologies.
4. In order to give certainty to the system, emissions targets should be set for long periods for at least 5 years.
5. Outsiders of the scheme should not benefit from economic advantage. The potential competitive distortions should be limited by equivalent policies and measures on sectors not covered by the scheme.
6. Efficient administrative proceedings are required to facilitate the participation of companies. This is specially needed for the many SMEs which in our industry are predominant.

Conclusion

An international emissions trading scheme is a positive instrument to help the industry to reduce emissions of greenhouse gases, in particular CO_2. Small and medium-sized companies should be enabled to take advantage of these global mechanisms proposed in the Kyoto Protocol. For these reasons, the ceramics industry supports the initiative of an international emissions trading and looks forward to participate in it.

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POSITION STATEMENT

GREEN PAPER ON GREENHOUSE GAS EMISSIONS TADING SCHEME WITHIN THE EUROPEAN UNION

Response of COGEN Europe to the Questions Posed in the Green Paper

Dr Simon Minett
Director

15 September 2000

This paper gives the views of the European cogeneration industry in response to the Green Paper presented by the Commission earlier this year on a Greenhouse Gas Trading Scheme within the European Union. COGEN Europe[1] welcomes the opportunity to comment on the Emission Trading proposals of the European Commission. In principle we firmly believe that market based mechanisms for greenhouse gas reductions are a highly effective tool and, therefore, this Green Paper is an important document. COGEN Europe congratulates the Commission on bringing forward such a document and our reposes to the questions posed are intended as a positive contribution to the debate.

This paper is in three parts:

- A background on the role of cogeneration to greenhouse gas reductions;
- Some comments on Emissions Trading generally;
- Responses to the questions posed in the Green Paper.

BACKGROUND

In 1997, the year of the Kyoto agreement, the EU set a useful target for the development of cogeneration: a doubling of electricity produced in this mode by 2010 i.e. an average of 18 % of cogenerated electricity EU wide. The base year for this is 1995 when 9% of electricity was produced by cogeneration. Where are we at three years later?

Existing cogeneration capacity is stagnating or even endangered in several countries and most new projects are on hold. It seems that the wrong path taken for cogeneration production goes in parallel with the wrong CO2 emissions path, making doubtful a EU success on both targets. Non-technical obstacles such as lengthy administrative procedures, high connection costs or high emergency supply costs still hamper the development of cogeneration in many Member States. Having an even more significant impact is the imperfect and partial liberalisation of EU energy markets, however the policy response so far has been rather weak. The recent Action Plan on Energy Efficiency is a good step in the right direction but needs to be strengthened and the actions specified delivered in full.

Cogeneration offers the best use of valuable fossil fuels, combining high efficiency and low emissions, flexibility to meet specific needs for heat and power, and reducing transmission losses by being situated close to the end user. The trend towards decentralised power production will also favour the increasing use of renewable energy and further improvements in energy efficiency at the point of use. Nowadays, the major contribution that cogeneration can make to achieve the Kyoto targets is not argued by anybody, nor is the fact that these targets can not be realistically achieved without increasing the share of cogeneration.

When considering what is sustainable development, it is often easier to begin with understanding what is not sustainable. In the energy sector the use of fossil fuels to provide the energy requirements of industrial, commercial and residential activities is

[1] The European Trade Association for the Promotion of Combined Heat and Power, representing more than 200 member organisations in all EU countries and the candidate countries of Central and Eastern Europe.

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the principal cause of greenhouse gas emissions. The fact that in almost all industrialised economies the efficiency of energy conversion is very low exacerbates the impacts. The current development model based on centralised power production, which rejects 50% or more of the energy input as waste heat and electricity transportation losses, is in many countries the single largest emission of carbon dioxide. Whilst at the same time in the places where energy is consumed heat and/or cooling are also required, which is produced by boilers, where a further 20% of energy input is wasted. This wasteful use of fossil fuels is unsustainable, unnecessary and uneconomic. Cogeneration allows the electricity generation to take place at the same place as the electricity and heat/cooling are consumed. By combining power and heat generation into a single process energy losses are cut by 15 to 40% and carbon dioxide emissions are reduced by up to 50%. Those countries without a fully-developed energy infrastructure have a unique opportunity to 'leapfrog' unsustainable energy technologies and invest instead in a variety of commercially-available technologies that are cleaner and provide better quality services. In this respect, cogeneration is a much more sustainable option than centralised electricity production. In addition, it is decentralised providing energy close to where it is consumed. Decentralisation is a feature of many renewable energy technologies and thus both cogeneration and renewable energies face similar issues, challenges and their development is complementary.

A climate-friendly technology

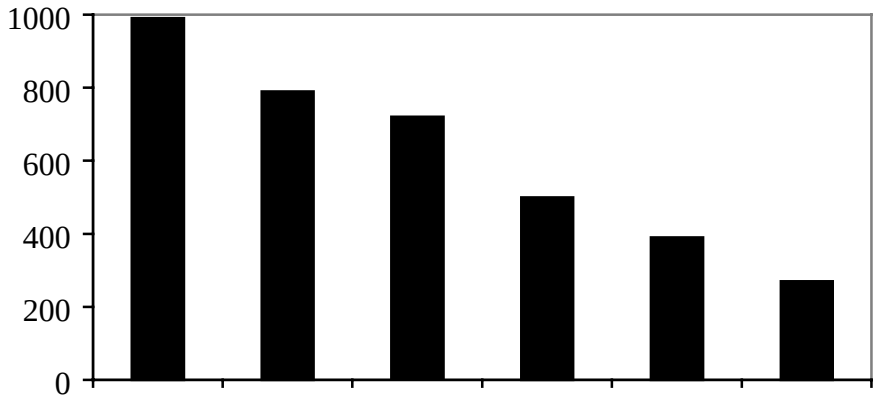
The high energy efficiency potential of cogeneration brings about clear climate benefits: the European Commission has calculated that the average emission reduction of each new MWh of cogeneration is currently 500 kg of CO_2. For the future, this value depends on the adopted reference scenario for future power sector developments, but is always substantial (see Graph from WWF below).

Cogeneration, conventional or biomass-fired, appears as one of the main solutions, offering reductions in carbon emissions of up to 350 Mt by 2020, as demonstrated in a recent report of IPSEP. This report[2], focusing only on plants to be built in 2000-2020, estimates the corresponding potential for reductions in year 2020 electricity sector carbon emission. With 75-90% of additional capacity built as cogeneration plants, CHP would contribute 58-69% of total thermal power generation in 2020. Carbon emissions would be cut by about 290-350 Mt CO_2. At the maximum level, power sector carbon emissions in the so-called Hypermarket scenario would be cut by about 30%. Even then, only about half of the CHP-suitable demand for heat would be provided by cogeneration plants.

Dr. Florentin Krause, principal investigator at IPSEP, indicates that 'the scenarios of the (European Commission's) Energy Directorate are not anywhere close to these potentials. In the Hypermarket scenario, the cogeneration share of 2000-2020 thermal capacity additions is a mere 16%, and less than a quarter of feasible carbon savings are realised. In the Forum scenario, the contribution rises to 24% of 2000-2020 thermal additions. (...) These differences aside, all scenarios of the European Commission fall short not only of the technical potential, but also of the cogeneration potentials realised by policy leaders in Europe'.

[2] 'Cutting carbon emissions while making money', IPSEP, 2000.

Fig. 1 - Carbon dioxide emissions from fossil based power production



EMISSIONS TRADING

The role of cogeneration will be important as the international effort to cut emissions gathers momentum. It is, of course, not the only solution - but it will almost certainly be one of the leading ones. If the flexibility mechanisms are to work effectively to stimulate cogeneration, COGEN Europe has identifies the following key design aspects that must be taken into account:

- Cogeneration schemes are usually smaller than conventional power generating alternatives. Energy Trading, JI and CDM regimes must ensure that this does not cause them to be omitted as a source of emissions credits at the outset and for the duration of the regime.
- Cogeneration poses a particular set of problems in relation to baseline calculations, which must not be used as an excuse to omit it from CDM, JI or credit trading regimes.
- In the future, cogenerators are likely to be new actors in the electricity market as well as established players. There must be no barriers to newer and smaller players in the trading market.
- The ownership of cogeneration is becoming an increasingly complicated matter. Ownership by a heat host can prevent a trading regime applied to the electricity sector from having an efficient impact through the stimulation of cogeneration.

In the view of COGEN Europe the Flexibility Mechanisms need to be designed so that the smallest renewable energy project can benefit from the mechanisms. They must not just support large projects that are administratively easier to deal with.

The Emissions Trading Scheme is an integral part of the total EU response to meeting the challenges set by the Kyoto process. We welcome the initiative of the EU Commission to bring all interested stakeholders around a table under the European Climate Change Programme (ECCP). To be successful, the ECCP should lay down a limited number of specific policies and measures in the sector of energy efficiency and renewable energy to be adopted as a matter of priority to achieve the EU climate protection objectives, which also have other ancillary benefits. In this context, it is important that the ground rules to provide the necessary consistency between Policies and Measures and the proposed "emission trading" scheme is established. It is important that the right balance is struck between emission trading and other Policies and Measures.

RESPONSES TO THE QUESTIONS

Question 1: Which sectors should be covered by emissions trading within the Community? Do the LCP and IPPC Directives offer a useful starting point for defining the sectoral coverage of a community emissions trading system?

The Green Paper lists a number of industrial sectors and the electricity and heat production as sectors suitable for inclusion in an emissions trading system. It also suggests that the LCP and IPPC Directives are a good starting point.

COGEN Europe contends that limiting the scope to large plants will reduce the scope for developing smaller scale projects within such a scheme. It may also encourage sub-optimal projects by excluding alternatives. To illustrate this point between 25% and 50% of the cogeneration capacity in Europe is less than the threshold of 50 MW thermal input. This covers an enormous number of sites. These schemes would be excluded from the Emissions Trading system. In addition all new schemes below the threshold would be excluded and therefore discriminated against. If the target for doubling cogeneration is met by the European Union a similar percentage of capacity will come from smaller schemes. On the contrary larger more inefficient power stations will be encouraged by the scheme, resulting in technology lock-in.

Cogeneration is a significant player in both the heat and electricity sectors, discriminating on size is both arbitrary and will create yet another institutional barrier to its development. If a size threshold is to be placed on sectors participating in the scheme then a more appropriate size would be 1 MWe. This size is used in some Member States, for example Belgium and the UK, as a *de-minimus* limit for licensing.

Many actors are discussing the future shape of the energy sector. There is a substantial body of opinion that believes that the electricity sector will move towards a more decentralised model based on cogeneration and renewable energy sources. This will be both more sustainable and bring enormous reductions in greenhouse gas emissions. Therefore, the Emissions Trading system must assist in this development.

COGEN Europe therefore proposes that no size limit is placed on electricity and heat sectors and all cogeneration is included in the scheme.

The other criteria stated in defining which sectors should be included were "environmental effectiveness, economic efficiency, the potential effects on competition, administrative feasibility and the possible existence of alternative policies and measures".

Cogeneration is the cleanest way to burn fossil fuels because of the high level of energy efficiency achieved. It is also an extreme cost effective solution. In Finland, where electricity prices are low, the only thermal power stations that are economic are cogeneration schemes. By excluding smaller schemes it would damage competition as cogeneration is a major competitor to centralised power generation, and it introduces a large range of new actors to the electricity market. The administrative burden does not need to be great, for instance Germany is proposing to introduce a cogeneration trading scheme without size limits. Finally, other policies and measures to grow the market for cogeneration, compatible with the EU cogeneration target, are weak and this Emission Trading scheme would certainly increase the chances of achieving the target

COGEN Europe affirms that cogeneration is one of the best techniques to reduce greenhouse gas emissions in the heat and electricity sectors. Therefore the Emissions Trading scheme must help stimulate its growth.

Turning to the sectors to be included, whilst COGEN Europe does represent an industrial branch of the economy, we would wish to see Food and Drink, Airports and Public Sector buildings included in the scope of the Emissions Trading system.

Question 2: Should there be a common emissions trading scheme within the European Community for certain sectors in the interest of fair competition, maximum transparency and legal certainty for companies?

A common system is appropriate and certainly for the power and heat sectors due to the strong relationships between the two. This is certainly true for District Heating with cogeneration but also true for on-site cogeneration in industrial and large building applications.

Harmonised rules and conditions result in economic efficiency and less market distortions. In any trading scheme account needs to be taken of commodities that are traded across borders. Electricity is one of these. Without a common system for Emissions Trading how will cross-border trade of electricity be accounted for?

COGEN Europe recommends that the Commission develops a common Emissions Trading System.

Question 3: Would the flexibility offered by a co-ordinated scheme such as "opting-in"/"opting-out" be compatible with the requirements of the internal market, or would any advantages of such flexibility be outweighed by increased complexity?

A co-ordinated scheme would be more complex, less transparent and much less beneficial for the EU as a whole. National protectionism could be used to favour

national interests, thus causing unnecessary inefficiencies. It would also distort the internal energy market.

COGEN Europe believes that a co-ordinated scheme would bring greater complexity at the expense of flexibility.

Question 4: What scope is there for individual Member States to include more sectors in their domestic trading scheme than might be covered by a Community scheme?

COGEN Europe believes that it is important that the Community scheme be implemented in as common and integrated a manner as possible. Domestic trading schemes should only therefore be used to extend the scope to sectors or sizes of projects that are outside the scope of the EU's Emissions Trading system.

Question 5: Should the overall amount of allowances allocated to the trading sector in each Member State be subject to agreement at Community level?

In the view of COGEN Europe the answer to this question must be yes. It is the role of the European Union to determine the rules, principles and methodologies. The knowledge of the sector, economic circumstances and options available are held usually by the Member State. It is therefore imperative that the EU allocates the allowances in agreement with Member States but it is done at the community level not using the self-interest of individual countries.

Nevertheless, the process must be inclusive taking the views of all stakeholders into account.

COGEN Europe's answer to question 5 is yes.

Question 6: Should the way in which allowances are allocated to individual companies be the subject of agreement at Community level? Or, do you consider detailed guidelines based on the state aid provisions and other rules of the Treaty to be sufficient to safeguard fair treatment?

In consultation with others on this subject COGEN Europe completely agrees with the views of the IEA Implementing agreement on District Heating and Cooling. We repeat their words here.

The allocation principle will be very important for DHC and CHP. Each method has its own advantages and disadvantages:

- With an allocation system based on past emissions ("grandfathering") is not an appropriate allocation approach because it will tend to reward inefficient producers and penalise efficient ones.
- It would however be possible to grandfather based on benchmarking which establishes an amount of allowances per unit of output for each sector. For CHP plants the total useful energy output will include both electricity and thermal

energy. With the benchmarking approach, a CHP plant, for example, should be allocated allowances for both its heat and power production.

- With an allocation system based on auction, fewer allowances will be needed for DHC and CHP compared to competitors using carbon-rich technologies. This is an appropriate approach for the long term, particularly if the funds collected are recycled in a way that rewards more efficient plants.
- It will be necessary to adjust the allocations in future compliance periods to reflect the mix of plants in operation. The most appropriate allocation system for the future must be based on emissions per unit of product output. In the energy sector, allowances should be allocated based on total useful energy output.

Grandfathering based on historical emissions is not acceptable to initiate the system. Grandfathering based on benchmarking is a better approach for initiating a trading system. In the long run, we believe that an allocation system based on emissions per unit of total useful energy output is the most appropriate approach because it will most efficiently reward the most environmental beneficial producers.

The principles for allocation of allowances should be the subject of agreement at Community level. The uniformity of allocation approach is not significant for DHC (which is not traded across borders) but it is important for CHP. A common allocation approach will ensure fair competition for CHP plants across borders.

It is also important that the allocation process rewards early action to reduce carbon emissions, or at least does not penalise early action.

COGEN Europe brings one additional comment to this question, namely, that Governments, despite their good intentions, do not always get it right! It is vitally important that the Commission and the Governments of the Members States listen to the views of industry. Here, more that anywhere else, it is unlikely that officials will be able to see the future and could limit the scope of possibilities. Therefore dialogue before decision is vital.

COGEN Europe believes that grandfathering of the mistakes of the past must be avoided in allocation setting. In addition Governments and the Commission must not decide the process in isolation.

Question 7: Is it agreed that a balance has to exist between sectors engaged in emissions trading within the Community on the one hand, and non-trading policies and measures applied to other sectors on the other?

Yes of course! COGEN Europe repeats the text from earlier in this position statement.

The Emissions Trading Scheme is an integral part of the total EU response to meeting the challenges set by the Kyoto process. We welcome the initiative of the EU Commission to bring all interested stakeholders around a table under the European Climate Change Programme (ECCP). To be successful, the ECCP should lay down a limited number of specific policies and measures in the sector of energy efficiency and renewable energy to be adopted as a matter of priority to achieve the

EU climate protection objectives, which also have other ancillary benefits. In this context, it is important that the ground rules to provide the necessary consistency between Policies and Measures and the proposed "emission trading" scheme is established. It is important that the right balance is struck between emission trading and other Policies and Measures.

Most important in our view is this process does not create further institutional and economic barriers to cogeneration of any size. This question is even more important if our views, as expressed in Question 1, are not adopted.

COGEN Europe hopes that the Emissions Trading system is one part of a thorough strategy and plan of mitigating climate impacts of human activity and is balanced with other rational policies and measures.

Question 8: How can environmental effectiveness (in terms of fulfilling the Kyoto Protocol's commitments) and transparency be safeguarded using a mix of emissions trading, energy taxes and environmental agreements with targets based on energy efficiency per unit of output?

Firstly the allocation of credits and benefits under the trading scheme must be realistic and prudent. For example, realistic assumptions need to be made for the current and future impacts of a process. In this respect electricity production is a classic problem. The assessment of the baseline from where a project will start is fraught with difficulties. For example, for a cogeneration project, or any other power project for that matter, it is very difficult to prove what electricity it displaces. This issue has been at the heart of a long running discussion in European markets, with no agreement. Does the scheme or trade displace:

a. The mix of electricity production in the country?
b. The most marginal power plant on the system?
c. The next power plant to be built by the power industry?
d. The best theoretical power plant available?

Depending on the answer the savings in carbon dioxide can vary from 100 kg per MWh to more than 1000 kg MWh. The same issue faces all projects that displace other electricity generation.

On top of these issues is plant real availability, performance, parasitic losses, network losses etc etc.

Secondly on energy taxation, in some European countries energy taxation has been adopted, especially Scandinavian countries. However, in most cases electricity is excluded from the taxation measure, because it is traded across borders. Thus cogeneration has been put at a disadvantage *vis-à-vis* other electricity producers. Energy or carbon taxation should be applied a common measure if it is to be used. (see COGEN Europe briefing on this subject – a copy available on request).

To echo again the IEA, combining emissions trading and taxation could make sense only if the taxation scheme is strictly designed to benefit the environment, as opposed to raising government revenues.

Finally it is vitally important not to double count greenhouse gas reductions, where an Emissions Trading system and another policy measure affect the same project. Thus transparent disclosure is necessary, backed by rigorous audibility of data and accounts.

For COGEN Europe transparency is the key to success in the Emissions Trading system. Without this basic requirement it is not clear that real reductions in greenhouse gas emissions will be made and it will be impossible to ensure that double-counting with other measures doe not occur.

Question 9: Are the currently available instruments (Monitoring Mechanism, infringement procedures) sufficient or should additional tools be developed in order for the Community to adequately assess compliance in the context of emissions trading within the Community?

One area of concern is major technology or technique change in a sector. For example if a company moves from heat supply via boilers and electricity via the grid from a power station to cogeneration, it is difficult to assess the impact on the system as a whole (see response to Question 8). This becomes even more difficult when the entity is expanding its activities and so incurring additional impacts on the environment and more and often different emissions. Any system of monitoring must be able to deal with these situations.

The Emissions Trading system must not reinforce the sins of the past, simply because they are easier to understand, and thus model, than radical alternative solutions.

Question 10: Do the elements of compliance and enforcement mentioned above warrant co-ordination or harmonisation at Community level, and which elements are more appropriately undertaken by Member States?

All principles here must be harmonised at the Community level, such as Compliance and enforcement mechanisms.

FOLLOW UP

COGEN Europe is happy to discuss, explain and clarify any of the points made in this paper.

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Opinion by The Confederation of Danish Industries on

The Commissions Green Paper on greenhouse gas emissions trading within the European Union

1. Introduction

Climate change and the international efforts to reduce the greenhouse effect are a major challenge for the international community and for national and not least international energy policies.

The crucial question about climate change is unfortunately not whether climate change is a risk or a possibility, but rather what we could do to avoid climate change problems, and which instruments we choose to solve the problems.

From an industrial point of view it is obvious, that the decisions on instruments and the necessary investments for reducing greenhouse gas emissions should take place on basis of cost-benefit effectiveness.

The Kyoto Protocol commits the industrialised countries to reduce their emissions of greenhouse gases by 5% compared to 1990 levels by the period 2008 to 2012. The Protocol is an advanced international environmental agreement based on the principle that measures shall be taken in such a way that the efforts return the highest possible environmental gain. For the global environment, all emissions have the same harmful effect, wherever in the world they occur.

The obligations under the Kyoto Protocol are closely linked to full rights to carry out measures to reduce emissions across sectors, gases and countries at the lowest cost. In that respect international emissions trading (EIT) is a highly effective instrument. The overall cap on emissions of each participant ensures that companies do not emit more than is actually foreseen. IET is a highly effective means to break down national goals/targets into sector-specific or company targets and IET is particularly well suited to climate change because its effectiveness is not affected in which region of the world the cuts are made.

A further advantage of IET is that it can become a means to focus the attention of a company's management on climate change and spurs operation managers to seek low-cost ways to reduce emissions. The emissions trading mechanism enables business units to incorporate the financial impacts of greenhouse gas management into project planning. Thus, it is a means to make managers focus on emissions reductions

IET is a means to transform a regulatory approach into a flexible and cost-effective tool in the hands of operational managers with the knowledge and incentives to reduce emissions.

Therefore the Confederation of Danish Industries (DI) strongly supports the Commissions proposal to establish an emission trading scheme within the Community by 2005.

However, emissions trading is not a panacea and both its efficiency and effectiveness will depend on how the emissions trading scheme is implemented. Thus, a number of difficulties should be resolved.

And in this process it is important to recognise that a desire to establish the perfect system would be the enemy of the good.

2. Early ratification

The question about Climate change is not whether greenhouse gas emissions will be regulated, but rather when and how, and with what differences in national and regional approaches.

Early ratification of the Protocol is the *least costly* scenario. Entry into force will provide certainty over the amount of effort required over the next decade, and it will provide access to the Kyoto Mechanisms. The first practical step in making emissions trading work therefore is to push for early ratification and entry-into-force of the Protocol.

3. Questions related to the coverage of sectors

The analysis of efficiency gains through IET has shown that the wider the coverage of sectors, the higher the potential economic benefits. This would suggest including as many sectors as possible.

The limiting factor is practicability, which means administrative feasibility and costs to industry. The success of IET in meeting targets cost-effectively is guaranteed, provided that sound emissions monitoring, reporting and verification processes are implemented and compliance is enforced.

The European Commission's Green Paper one Emissions Trading suggests that including electricity and heat production, iron and steel, refining, chemicals, glass, pottery and building materials (including cement), paper and printing (including paper pulping) would be administratively feasible. Such coverage would catch roughly 45% of EU-15 1997 CO_2 emissions, thus offering potentially considerable economic gains.

Potential effects on competition must remain important criteria to judge the sector coverage. The biggest risk in this area is indeed potential distortions between "small" and "large" point sources or between "trading" and "non-trading" sources.

For the "non-trading" sources policies and measures that would ensure a level playing field should be applied. However, this will be difficult. Other policies and measures than emissions trading, possibly with the exception of negotiated agreements, are likely not to provide the flexibility and thereby the potential to reduce compliance costs as emissions trading has.

Consequently, the preferable option is that all sources should be given the option to participate in emissions trading schemes (an opt-out option).

In reality all companies or entities would not participate because transaction costs for some companies and administrative feasibility will make it inefficient that all companies participate. Those, unable to participate should therefore be covered by negotiated agreements or other policies and measures.

Thus, DI is of the opinion that the proposed coverage of sectors is too small and should be increased to cover as many sectors as possible. Sectors should be given an option to participate.

4. Questions related to the scope of the trading system

Emissions trading is likely to emerge "bottom-up". More precisely it means that schemes will develop through various national, company and sector-specific schemes. National schemes will need some degree of harmonisation to eventually lead to common European framework.

Thus, the European Community should not from the beginning suggest a common system covering the same sectors in all countries. This should instead be a midterm goal for the Community.

Furthermore, the creation of a common EU scheme from the outset may not necessarily be the best option. EU experience suggests that the creation of EU-wide schemes can often only achieved by a number of exemptions.

However, the European Community should continue to look into the design of a common framework. The question is how to move towards a common European framework.

There is a danger however that this strategy will lead to divergence rather than to convergence. To counteract this, it could be productive to create an advisory group, consisting of a wide range of stakeholders to discuss how to move from national and regional schemes to a EU-wide emissions trading scheme.

Among one of the most important achievements of the EU is its internal market. The European Commission has to ensure that Member States do not erect trade barriers or distort competition. All, national and regional and sector-specific trading schemes potentially pose problems regarding the Internal Market. Thus in order to preserve the functioning of the internal market, some level of harmonisation of the different trading schemes would be required.

Areas that potentially could distort competition are:

- unequal efforts of companies imposed by Member States,
- allocation of permits,
- tax exemptions,
- compliance regimes, e.g. different penalties.

5. Questions related to allocation of emissions allowances

Allocation of permits is a pre-requisite to trading. This could be done by, "grandfathering" or by auctions. Under a "grand-fathering" scheme, each market participant receives permits based on its previous emissions. If an auctioning scheme is chosen, each market participant has to buy permits.

The Commissions Green Paper on emissions trading seems to favour periodic auctioning.

From an industrial point of view auctioning inevitably adds to costs. Auctioning is equivalent to a tax, whose rate would be fixed by the market. Consequently, industries are opposed to auctioning for the same reasons they are to a tax.

Thus, DI is of the opinion that allocation of permits should be based on previous emissions of the trading entities.

6. Questions related to other Policies and Measures

Companies participating in emissions trading will have a cap on their emissions. As a consequence, they should be exempted from taxation.

Ideally, policies and measures would be applied to the "non-trading" sources in such a way that they would ensure a level playing field. Thus, a balance between emission trading schemes and different measures and policies has to be secured. In reality this means that some degree of harmonisation of emissions-taxes paid by the non-trading in different countries would be needed.

Safeguarding the environmental effectiveness of a trading scheme is vital. As in the UK scheme it is important that permits from sectors with agreements on efficiency cannot undermine the absolute cap in periods when output is relatively high. In this case a gateway has been developed as an insurance to maintain the integrity of the cap.

However, as suggested by the Commission the combined use of these two instruments should be further explored.

7. Questions related to compliance and enforcement

A crucial concern for emissions trading are those related to compliance assessment. Compliance assessment involves a comparison of actual emissions with the emissions target.

Actual emissions, requires accurate and consistent measurements of emissions from all participants. The emissions target requires clearly defined targets and tracking of changes to the targets. Transactions in emission permits will affect the tons of CO_2 equivalent that individual Member States and the EU can legally emit.

To enable compliance assessments to be made, systems must exist to show that for every transfer that enables one Party to increase its assigned amount (and increase its emissions) there is a corresponding decrease in the emissions of another Party below its agreed target.

National assigned amounts are the key to compliance. The EU should ensure that Member State inventories are of high quality in order to ensure that Community compliance is not jeopardised.

It is possible that problems with national emission inventories could mean that some Annex I Parties will be ineligible to participate in the Kyoto Mechanisms unless they agree to reasonable adjustments to their inventory figures.

8. Include JI and CDM

An emission trading system within the EU should allow carbon credits/reductions obtained through JI and CDM to be valid for compliance.

The trading scheme proposed by the Commission does not take into account reductions obtained through JI and CDM. This strategy ignores the fact that climate change investments in Eastern Europe, Russia and developing countries generates more carbon-reductions compared to many investments in industrialised countries.

Furthermore, this would take into account the large need for investments in new energy technology in developing countries

Therefore DI recommends that JI and CDM should be an integrated part of an EU trading system.

NHO

KERINGSLIVETS HOVEDORGANISASJON
CONFEDERATION OF NORWEGIAN BUSINESS AND INDUSTRY

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Green **Paper on Greenhouse Gas Emissions Trading within the Europea Union**
-Response from Confederation of Norwegian Business and Industry

NHO welcomes the initiative by the Commission by issuing the EU Green Paper on important issues involved in stimulating, starting up and developing emissions trading (ET) of greenhouse gas emissions (GHG) in Europe. Emissions trading could make a real contribution to the fulfilment of obligations under the Kyoto Protocol (KP) as well as future commitments. Our comments offer commentaries to the emerging ideas rather than to the specific questions, which has been answered by UNICE.

Emissions trading entrusts enterprises with the responsibility for reducing emissions of greenhouse gases in the most economical way possible - and provides them with strong financial incentives so to do - whilst at the same time fulfilling the Kyoto commitments. It should also be noted that the competitiveness of European industry is better served and the implementation costs will be lower if emissions quotas are allocated free of charge.

It is paramount that the introduction of an emissions quota system in Europe does not result in worse economic framework conditions for our industry than for our competitors. Should this happen, the criteria of profitability alone will mean that new investments and technological developments will be channelled abroad. Europe would fall behind in the international development of new technologies and the localisation of industry.

The Confederation of Norwegian Business and Industry therefore maintains that the following issues must be given careful consideration in the design of an emission trading system:

1. *The ability of industries to compete internationally must not be impaired by the transition to an emissions-trading system.*

2. *The introduction of emissions trading must not make it more difcult to establish new enterprises or expand existing activities in EEA countries compared to other countries.*

3. *Emissions trading ofgreenhouse gases must include all six greenhouse gases listed in the Kyoto Protocol and as many different sectors and countries as possible.*

4. *The participants' use of the Kyoto Mechanisms or similar project-based instruments must not be limited by the system.*

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5. *The burdensharing between companies and sectors of society must be considered in the initial allocation of quotas in the EEA member countries.*

6. *Future quota commitments should be predictable to business in EEA countries*

7. *Early action to reduce GHG emissions should be encouraged*

Learning by stimulating industries to join ET early

NHO agrees that starting up emissions trading in Europe even before *2008* could be useful part of climate change policies and measures.

Denmark has already set up an ET-system for their power sector. Work is now under way in UK (allowance trading and credit based trading from a unit sector), France (credit based
trading), and Norway (allowance based trading) as well as in Baltic countries. This could form the basis for a wider system of emissions trading in Europe. EUs follow up of the Green Paper and future actions in this field should stimulate and encourage such a development
towards early greenhouse gas emissions trading in Europe. To have several operating schemes as soon as practicable would make it possible to learn from and share this experience.

EU should stimulate others to follow and learn from the front runners in this field. Integration of project-based instruments in central and Eastern Europe into ET systems even before *2008* on a project based form (in a "JI"-model) could help finance environmental projects and help these countries meet environmental standards in the internal market. Within a trading scheme this would give new opportunities and help build institutional and environmental infrastructures for the future. Countries who base their climate policies on agreements should also be able to join an ET scheme.

As **many countries, sectors and gases as possible should be able to join**

In general the more sectors, gases and countries that could join, the more environmental and economic benefit would come out of emissions trading as well as project-based activities from the other Kyoto-mechanisms. Countries that are able to include more gases and sectors should be able to do so. Increased learning will then happen on the domestic level as well as across countries involved. The larger the ET system could be the less impact entry of new sectors or countries would have on the market.

All instruments should be part of such an early European scheme. The importance of such mechanisms to meet the Kyoto-commitments would then grow and new EU members as well as EEA countries should be able to join such a European scheme as partners in the internal market.

Emissions trading in Europe can not however been seen separate from other national policies in the field of climate change such as COZ- and energy taxes and agreements with industry.

Use of ET makes it possible to reduce some negative impacts on the competitiveness of European industry of climate policies, through the initial allocation of permits (grandfathering and permits free to new entry).

The Green Paper has indicated that an ET system early on should include industry qualifying under a) the directive for large power plants b) the directive for large industrial plants

By restricting trading to only CO2, however, important other emissions of GHG's from these same sectors such as technical gases PFC, CHC and'SF6 are left out. Large proportions of N20 do also originate from industrial plants. All such gases should be included. This will put all such industries on a European levelled playing field.

For Norway it could also be mentioned that a large part of the total emissions comes from power production from the gas and oil fields offshore. They are today included in the C02-tax system which implies a very accurate system of monitoring and control. Such a sector will be an important part of a national ET system to secure that Kyoto-targets are meet in Norway. Also such sectors should be part of early schemes as long as they can meet the quality requirements that must be part of a European ET scheme.

Protecting competitiveness while meeting environmental goals

The ratification and entry into force of the Kyoto Protocol is uncertain. That is why protecting competitiveness while meeting environmental goals is of outmost importance for European industry. As a consequence EU should open up emissions trading to all GHGs and sectors given that they can be monitored, controlled and reported on the national level in line with the rules and regulations under KP.

EU should also welcome project-based activities to generate permits from sectors and countries that are not able to join ET-systems early on.

NHO welcomes that EU in the green paper opens up an early trading system for EEA countries such as Norway as well as for the new Member States. NHO supports that a system for the whole European Economic Area could be built up gradually through mutual recognition of domestic systems on a bilateral basis. In all countries this early start would be dependent on incentives from national Governments for companies to join. These incentives will depend on the national policy mix incl. no C02-taxes in the case of ET. In most countries this start up before 2008 will be voluntary, but stimulated by incentives. Trading could also be built into environmental agreements. They are important instruments in many European countries.

Small countries need an open market

An open international market in emissions trading is a prerequisite for the Norwegian emissions trading system to function. Our domestic market would be to small and the costs to high to fulfil our Kyoto commitments on a domestic basis alone. Open international markets makes sure that targets are meet in a cost-effective way across sectors, gases and countries. Around 90% of all domestic GHGs can be included in a Norwegian trading scheme from 2008, and a large part could even be part of trading from an early start. That will make sure that domestic action to reduce emissions will be stimulated in all parts of the economy. Emissions trading give all participants strong incentives to do so.

For the transport sector and small users ET on the level of sellers could replace C02-taxes in petrol and mineral oils. We do not agree with the Green Paper that this way of involving small users would "raise complex technical and administrative issues". Since emissions from such sources are growing, it would be important for the environmental integrity of the total system to have them included if countries wish so.

Consensus is possible, stakeholder involvement at ddiftestic level important for progress

NHO has experience from reaching consensus among different sectors on the design of a national system of emissions trading. It is demanding, takes time and involves many stakeholders, but is still possible on the national level. This makes new instruments more acceptable and understood by industry.

Domestic systems may be different in their design and coverage due to differences in national policy mix and emissions sources. They will, however, work together as long as they have the **same and common "currency"** (1 ton of C02-ekvivalent under Kyoto-rules) as the basis for emissions trading and can meet the quality requirements needed in an ET scheme across countries.

It would, however, be useful for countries within Europe to agree on some other basic elements in their systems:

The level of fines for companies that do not fulfil their commitment to match permits and emissions at the end of a period in their domestic systems would be one such element. This would avoid trading stimulated by differences in fines and not by differences in costs to combat emissions.

More important still for early action would be **the right to bank permits** not used before 2008 for future use into the Kyoto-period. S02-trading in US demonstrates that such banking is important to stimulate early reductions in emissions and stimulates markets to develop and function well. To allow banking would even give an incentive to Governments to allocate permits to companies on a realistic level towards their Kyoto-commitments even at an early stage. With banking all countries would be responsible to issue permits allocated under the Kyoto Protocol (AAs (Assigned Amounts)) to fulfil obligations from companies with banked permits into the Kyoto-period.

NHO do not however, believe that it would not be fruitful to agree on EU level the allocation of permits to sectors or companies. EU wide agreement would simply be to time-consuming and also involve countries and sectors that would not be subject to such instruments due to their national policy. The strong links with COZ- and/or energy taxes or other incentives makes the links to national tax policies even stronger and EU wide ET-designs less helpful.

To developing a harmonised set of EU emissions trading principles to be adopted by EEA countries in pursuing of their own schemes rather than by introducing a separate EU scheme to replace or rival that of an international scheme in 2008 could be helpful. Those principles could draw on the design work done in countries already working in this field such as UK, France, Denmark and Norway, and should not introduce rigidities, that would delay start-up.

This framework should be given in the spirit that both countries and companies that start early to reduce emissions through such powerful instruments such as ET, should not be punished.

EUs role should stimulate the establishment of emissions trading in as many countries and sectors as possible. In new member states EU could help build the institutional capacity to handle projects to increase the European ET market. This would also have the benefit of reducing other pollutants such as dust, NOx and SOx.

NHO hopes that these comments will be a useful contribution to the work in the Commission on this important issue. We look forward to share our experience in developing and designing an open emission-trading scheme in Norway.

Yours faithfully

THE CONFEDERATION OF NORWEGIAN BUSINESS AND INDUSTRY

Finn Bergesen jr.

Director General

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Dear Mr Delbeke,

Green Papar on Greenhouse Gas Emissions Trading within the EU

1. Introduction

The Confederation of UK Coal Producers (Coalpro) is the trade body that represents some 90% of coal producers in the UK. Coal Mining and related activities directly employ over 40,000 people in the UK and have a turnover ‘‘ – of in excess of £2,000 million. The industry spends over E1,000 million in wages and salaries and about £250 million is paid in tax, rates and other community benefits. Coalpro welcomes the opportunity to make representations on the Green Paper on Greenhouse Gas Emissions within the European Union, COM (2000)87.

Emissions trading is one of the three `flexible mechanisms' outlined within the Kyoto Protocol which will be introduced internationally in 2008. Whilst Coalpro accepts the need to gain experience prior to 2008, it is important that coal is not disadvantaged in the design of any EU scheme. Therefore, it is essential that the Commission designs a system which encompasses all emitting sectors, includes all six greenhouse gases and recognises the role of the European coal industry in providing a secure and sustainable energy resource.

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2. Specific Comments ’

2.1 Sectors to be Included

All emitting sectors should be covered by the emissions trading scheme. The transport sector is expected to increase its C02 emissions by 39% in 2010 (from 1990 levels), COM(2000) 88. The same document outlines the Commissions concerns that without a reinforcement of current policy measures, emissions from the ‘business-as-usual-scenario’ will increase by 6-8% as opposed to the required reduction of 8% within the Kyoto Protocol.

The Green Paper in paragraph 7.1 states:

`There are clearly some sectors (e.g. transport) where an 8% reduction would be extremely costly to meet. Other sectors may rind such a target relatively inexpensive to meet It will be less costly for the economy as a whole for sectors where the costs are lowest to make the greatest contribution'

The coal industry has already made the greatest contribution to the reduction in greenhouse gases within the EU. Coalpro is concerned that the omission of the transport sector could mean that the coal industry is expected to make even further sacrifices.

For example, within the UK, coal has already made a disproportionate contribution to the UK’s ability to meet its international commitments. Emissions of C02 from coal have fallen by more than 60% between 1970 and 1998, compared to an overall UK reduction of just over 19%. In the eight years from 1990 emissions from coal have fallen by 43% in comparison to a

‘ ‘ ’ total UK reduction of just over 6%. The trend from coal to gas cannot be allowed to continue without jeopardising the diversity and security of the EU’s lowest cost energy reserve.

2.2 Common System

A trading scheme has to provide a common approach across all Member States and all emitting sectors, otherwise it would not be compatible with the workings of the internal market. Member States cannot be allowed to ‘opt in’/ ‘opt out’ depending upon whether they feel it would be advantageous in their situation. Providing such flexibility could disadvantage industries in countries that were operating within a trading scheme, compared with those countries which had opted out.

UNITED KINGDOM COAL PRODUCERS

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2.3 Coverage of Greenhouse Gases '

James Hansen of the NASA Goddard Institute for Space Studies, one of the first men to draw the world's attention to effects of global warming, has recently queried the view that global warming is being driven by increasing emissions of C02. His paper, Global Warming in the Twenty First Century: An Alternative Scenario, June 2000, suggests that the main cause of observed global warming has been caused by non C02 greenhouse gases, with methane causing the largest net climate forcing.

Whilst fossil fuels are the main source of C02, it is also the main source of atmospheric aerosols, especially sulphates. Aerosols cause a climate forcing directly by reflecting sunlight and modifying cloud properties. Hansen estimates that aerosol forcing has the same magnitude but is of the opposite sign of the C02 forcing, effectively cancelling out the effect.

Coalpro therefore believes that the scheme should cover all greenhouse gases and not be limited only to carbon dioxide. Limiting the scheme to C02 would have little or no benefit to global warming and would only encourage further fuel switching from coal to gas. The other five gases have a far higher global warming potential and should be included. The omission of methane in particular, could disadvantage the coal industry by preventing the trading of reducing emissions arising from colliery methane utilisation schemes.

3. Security of Energy Supplies

Emissions trading will increase the pressure to replace large volumes of coal consumed within the Community with natural gas. Coal has the highest carbon content of all fossil fuels, its usage tends to be concentrated in the power generation sector and hence is perceived as an easy target when further reductions of greenhouse gas emissions are required.

However, the document makes no reference to any possible effects of emissions trading on security of energy supplies. Europe might rely upon the continued displacement of coal by natural gas to meet short-term environmental objects, such as Kyoto. However, the EU has limited gas reserves and must import increasing quantities from Russia and the Middle East.

Renewables can make a contribution towards meeting the Community's environmental targets and the recent proposal directive on the Promotion of Electricity from Renewable Energy Sources in the Internal Market may speed

their development. However, in the short to r'nedium term, they will at best only account for a small proportion of our energy supplies.

The current energy market is witnessing rising energy prices. Oil prices are at a 10-year high, this in turn has increased the price of gas, because of the direct link in the majority of European gas contracts and finally imported coal prices have risen by 35% in the past 12 months. The EU should make full use of its indigenous proven energy reserves, 90% of which is coal, to ensure security of supply at prices within its control.

The free market tends to favour a short-term approach. It is unlikely that the free market, left to its own devices, will ever deliver policies which would both help the environment and maintain long term security of supply. There is now an urgent need to kick-start the early development of commercial clean coal technologies within the EU before we become over reliant on imported energy supplies.

4. Summary

The EU cannot become reliant upon imported energy and therefore needs to make full use of its indigenous proven energy reserves 90% of which is coal. It is important that the introduction of an emissions trading scheme does not discriminate against the European coal industry.

Therefore, it is essential that the Commission designs a system which encompasses all emitting sectors, has a common approach to all Member States and includes all six greenhouse gases. The Community as a whole has to play its part in reducing greenhouse gas emissions to meet its Kyoto obligations. The only way this can be sensible way this can be achieved, without the politically difficult decision to limit the transport sector, is by commissioning a programme of clean coal stations throughout the Community. The adoption of this strategy would ensure the control of energy supplies and prices remained within the control of the EU and not placed in the hands of third party energy suppliers.
Coalpro looks forward to working closely with the Commission over the coming few months to develop a scheme which is equitable to all parties.

Yours sincerely

Philip Dlakin
Director General

Deutscher Industrie- und Handelstag

DIHT-Stellungnahme zu dem von der Kommission vorgestellten "Grünbuch zum Handel mit Treibhausgasemissionen in der Europäischen Union"

13. September 2000

I. Vorbemerkung

Das Kyoto-Protokoll von 1997 verpflichtet die Europäische Gemeinschaft (EU), ihre Treibhausgasemissionen um 8 % von 1990 – 2008/12 zu senken und betont dabei insbesondere den Einsatz flexibler Instrumente: Joint Implementation (JI), Clean Development Mechanism (CDM) und Emissionshandel. Dies greift die Diskussion über marktwirtschaftliche Instrumente im Umweltschutz wieder auf, konfrontiert das gewachsene europäische und nationale Umweltrecht mit ökonomischen Instrumenten und setzt sie in einer neuen Dimension zum nationalen, europäischen und internationalen Klimaschutz fort. Gleichzeitig befinden sich Wirtschaft und Politik erst am Beginn dieser Debatte.

Der DIHT begrüßt grundsätzlich den Einsatz dieser flexiblen Instrumente, da hierdurch ökologische Ziele mit höherer ökologischer und ökonomischer Effizienz erreicht werden können und unterbreitet erste Überlegungen dazu mit Schwerpunkt auf das von der Kommission vorgelegte Grünbuch zum Handel mit Treibhausgasemissionen. Dabei sind die nachfolgenden Leitlinien in engem Zusammenhang mit den von der Kommission gestellten Fragen zu sehen.

II. Leitlinien für den (europäischen) Emissionshandel

1. Höhere ökologische und ökonomische Effizienz

Die Marktwirtschaft ist die Wirtschaftsordnung, welche die Verwendung und Verteilung knapper "Umweltgüter" effizienter als andere Wirtschaftsordnungen organisiert. Der Handel mit Emissionszertifikaten gilt dabei als marktwirtschaftlichtes Instrument, da die entsprechende Preisbildung mit den Zertifikaten weitestgehend durch den Markt erfolgt. Der Staat muß sich dabei auf europäischer und nationaler Ebene auf die erforderlichen Rahmenbedingungen beschränken und den betroffenen/interessierten Unternehmen weitestgehend den Austausch,Verhandlungs- und Preisprozess überlassen. Dadurch werden unternehmerische Freiräume für intelligente umwelttechnische Lösungen für eine größtmögliche ökologische und ökonomische Effizienz eröffnet. Insgesamt entstehen dadurch mehr Anreize für Unternehmen, mit der Umwelt schonender umzugehen.

Die Kommission betont dabei zu Recht, dass ein Emissionshandel, der sowohl innergemeinschaftlich als auch mit anderen Industrienationen betrieben wird, die aus der Erfüllung der übernommenen Kyoto-Verpflichtung entstehenden Kosten für die Gemeinschaft reduzieren können. Weiterhin ermögliche der Emissionshandel ein kostengünstiges Erreichen des Gesamtziels und schaffe Anreize für Investitonen in umweltverträgliche Technologien.

2. Kommunikation und Kooperation

Die erstmalige Einführung eines europäischen/nationalen Emissionshandels durch Zertifikate erfordert ein Umdenken bei allen Beteiligten mit einer offenen und sachgerechten Informations-, Aufklärungs- und Kommunikationspolitik. Politik und Wirtschaft müssen gemeinsam der Bevölkerung verdeutlichen, welche ökologischen und ökonomischen Vorteile sich aus einem Emissionshandel für den Klimaschutz ergeben können.

Die Kommission beabsichtigt deshalb zu Recht mit dem vorliegenden Grünbuch eine Diskussion über den Handel mit Treibhausgasemissionen erst in Gang zu bringen. Auch in Deutschland und anderen Mitgliedstaaten ist diese Diskussion erst am Anfang. Andererseits gibt es bereits positive Erfahrungen über Umweltzertifikate in den USA sowie eine Vielzahl an nationalen und internationalen Pilotprojekten, z. B. der konzerninterne Handel bei BP AMOCO.

Eine sachgerechte, breite und offene Kommunikation bei enger Kooperation zwischen Wirtschaft und Politik ist um so wichtiger, da der Klimaschutz gegenüber anderen Politikbereichen komplexe Besonderheiten aufweist: Es gibt keine klaren Ursache-Wirkung-Beziehungen. Hinzu kommt eine Raum/Zeit-Verzerrung mit später Wirkung und unterschiedlichen Quellen vor Ort, die zudem nur sehr schwer durch Modelle darstellbar sind. Es handelt sich dabei nicht nur um End-of-Pipe-Technologien, sondern zunehmend integrierte Technologien. Aus der konkreten Emissionsfracht entstehen unterschiedliche Verantwortlichkeiten; die Industrieländer tragen zur Zeit überwiegend zu ihrer Entstehung bei, mit einer Emissionszunahme der Entwicklungsländer ist zu rechnen. Auch artikuliert sich ein unterschiedlicher Grad an Be-

troffenheit, z. B. die OPEC-Länder gegenüber den Kleinen Inselstaaten. Klima ist zudem ein globales "Kollektivgut", das von jedem genutzt werden kann; d. h. es gibt keinen Ausschluss bzw. ein "Trittbrettfahrerproblem".

3. Integration der flexiblen Instrumente

Das Kyoto-Protokoll verweist im Sinne einer ökonomischen und ökologisch effizienten Reduzierung von Treibhausgasemissionen zu Recht auf einen ganzheitlichen Einsatz der flexiblen Instrumente, d. h. neben dem Emissionshandel auf Joint Implementation (JI) und den Clean Development Mechanism (CDM). Interessierten Unternehmen und Staaten muß ermöglicht werden, durch freie Wahl dieser Instrumente zur Reduzierung klimawirksamer Emissionen – auch im Rahmen der übernommenen Verpflichtungen – beitragen zu können.

Hierzu gibt es bereits etablierte globale Umwelttechnologieexport-Netzwerke mit einer zunehmenden Vielzahl an klimarelevanten Pilotvorhaben. Eine stärkere Nutzung der bestehenden Netzwerke ist sinnvoller, als die Schaffung neuer Strukturen. Dies gilt in der Bundesrepublik Deutschland z. B. für die gemeinsam mit der deutschen Bundesregierung bei den deutschen Auslandshandelskammern weltweit eingerichteten "Umwelt-Area-Manager" (UAM), die eng mit dem "Internationalen Transferzentrum für Umwelttechnik" (ITUT) in Leipzig sowie mit dem europäischen Umwelttechnologiezentrum RIET in Singapur zusammenarbeiten. Die Kommission sollte prüfen, inwieweit die bestehenden nationalen Netzwerke in den EU-Mitgliedstaaten zielführender koordiniert und gefördert werden können für alle 3 flexiblen Instrumente.

4. Vertragsstaaten und Unternehmen

Das Kyoto-Protokoll verpflichtet direkt die Vertragsstaaten, d. h. nicht die Unternehmen, zur Reduzierung von Treibhausgasemissionen. Dennoch sollte der direkte Handel zwischen und in (größeren) Unternehmen zulässig und anrechenbar sein. Auch ein Herunterbrechen auf nationalen Emittenten bzw. Branchen erscheint praktikabler. Den teilnehmenden Unternehmen muss dabei überlassen bleiben, in welcher Art und Weise sie die Emissionsreduktionen sich anrechnen lassen wollen.

5. Motivation und Anreize statt kontraproduktives Monitoring

Die Kommission betont im vorliegenden Grünbuch an mehreren Stellen den Abwägungsprozess, wonach einerseits Unternehmen aus eigenwirtschaftlichem Interesse und im Sinne einer höheren ökologischen Zieleffizienz sich am Emissionshandel beteiligen sollten, andererseits erfordere das wirksame Funktionieren eines derartigen Systems ein gewisses Maß an Harmonisierung der Überwachungs-, Melde- und Prüfverfahren. Die Kommission fordert dazu in der Praxis ein konsequentes Überwachungs- und Erfüllungskontrollsystem mit vertretbaren Kosten.

Ein überzogener, intransparenter und bürokratischer Überwachungsprozess mit hohen, den Emissionshandel belastenden, Transaktionskosten ist für interessierte Unternehmen demotivierend. Erfahrungen aus den USA, Großbritannien und Dänemark sprechen für ein einfaches und praktikables System.

Wir regen an zu prüfen, inwieweit das Monitoring in wirtschaftlicher Selbstverwaltung organisiert werden könnte. Die EMAS-Erfahrungen zeigen, welche Vorteile z. B. in Deutschland mit einer wirtschaftsnahen Organisation erreicht werden können.

6. Konkreter Nutzen und rechtliche Freiräume

Vor dem "großen Sprung" in einen Emissionshandel müssen das europäische sowie die nationalen ordnungsrechtlichen Klimaschutzmaßnahmen entsprechend überprüft, durchforstet und optimiert werden. Ein politisches "Draufsatteln" darf es nicht geben. Emissionshandel hat nur dann einen Sinn, wenn einerseits der zusätzliche Nutzen für Unternehmen klar artikuliert und geschaffen wird; andererseits für interessierte Unternehmen Freiräume, Anreize und Motivation geschaffen wird. Deshalb muß eine Teilnahme am Emissionshandel freiwillig sein; gleichzeitig müssen Vorleistungen, u. a. freiwillige Selbstverpflichtungen oder belegbare klimawirksame betriebliche Reduktionsmaßnahmen, anrechenbar sein.

7. Globale Komptabilität

Die in einigen Mitgliedstaaten geführte Diskussion über eine europäische/nationale Obergrenze für den Emissionshandel ist kontraproduktiv und mißtrauensgeprägt. Treibhausgasemissionen als globales Klimaproblem sollten vorrangig dort reduziert werden, wo mit den eingesetzten Mitteln die höchste ökologische Effizienz, d. h. größte Treibhausgasreduktion, erzielt wird.

Die Kommission weist im vorliegenden Grünbuch zu Recht darauf hin, dass der gemeinschaftsweite/nationale Emissionshandel mit dem Protokoll von Kyoto im Sinne eines internationalen Emissionshandel ab 2008 kompatibel sein müsse. Dieser Handel müsse somit von Anfang an so konzipiert werden, dass eine allmähliche Ausweitung im Hinblick auf die erfassten geographischen Gebiete, Wirtschaftsbereiche und Gasemissionen ermöglicht werde. Praktische Erfahrungen und Pilotprojekte belegen, dass der Emissionshandel umso wirksamer und kostengünstiger ist, je größer der Markt und je mehr Unternehmen daran teilnehmen.

Allen interessierten Unternehmen muß klar, rechtsverbindlich, transparent und nachvollziehbar kommuniziert werden, wie der Emissionshandel entwickelt und organisiert wird. Vor dem Start zum europäischen und internationalen Emissionshandel in 2005/2008 sollte eine ausführliche, kritische und konstruktive Diskussion mit Erfahrungen in ausgewählten Pilot-Projekten erfolgen. Darauf aufbauend kann dann ab 2005 bis 2008 der Emissionshandel für möglichst viele Unternehmen/Branchen geöffnet werden.

Der operative Start des Emissionshandels sollte mit einer kostenlosen Ausgangsverteilung durch den Staat beginnen. Auch Newcomer sollten aus Gründen der Praktikabilität kostenlose Zertifikate erhalten.

8. Keine Wettbewerbsverzerrungen

Im Sinne einer europäischen und internationalen höchstmöglichen Effizienz von Klimaschutzmaßnahmen werden interessierte Unternehmen nur dann daran teilnehmen (können), wenn ihnen dadurch andererseits keine Wettbewerbsnachteile entstehen.

In diesem Zusammenhang verweist die Kommission im vorliegenden Grünbuch auch darauf, dass sichergestellt werden müsse, dass insbesondere Initiativen der Mitgliedstaaten nicht zu ungerechtfertigten Hemmnissen für die Niederlassungsfreiheit innerhalb des Binnenmarktes führen dürfe. Grundsätzlich sei zu vermeiden, dass Handelsschranken, Beschränkungen der Niederlassungsfreiheit für Unternehmen und Wettbewerbsverzerrungen entstehen, die dem Binnenmarkt Schaden zufügen würden. Die Industrie müsse somit die Sicherheit haben, dass in allen Mitgliedstaaten eine faire Behandlung von vergleichbaren Unternehmen aus verschiedenen Mitgliedstaaten gewährleistet ist. Besonders sei dabei zu berücksichtigen, dass sich kein Unternehmen dadurch benachteiligt fühle, dass es in einem bestimmten Mitgliedstaate seine Emissionsanteile per Versteigerung erwerben muß, während in einem anderen Mitgliedstaat die Emissionsanteile nach dem Besitzstandsansatz unentgeltlich zugeteilt würde.

Das politisch vereinbarte "Burden sharing" der europäischen Mitgliedstaaten sollte durch eine EU-interne gleichmäßigere Verteilung ersetzt werden. Es ist sachlich nicht einsehbar und demotivierend für interessierte Unternehmen, dass z. B. in Deutschland einerseits hohe Treibhausgasreduktionen in den vergangenen Jahren erzielt wurden, andererseits Deutschland mit einem 21 %igen Reduktionsziel überproportional "belegt" wird. Wurden z. B. in Deutschland in 1970 noch 149 kg Steinkohleneinheiten Öl, Kohle, Strom oder Gas verbraucht für 1.000 DM reales Bruttoinlandsprodukt, so waren dies im Jahre 1999 nur noch 97 kg. Weiterhin muß im (späteren) Emissionshandel berücksichtigt werden, das es sich nicht "auszahlt", wenn jetzt und vor dem Handelstart einzelne Staaten zusätzlich Treibhausgase emittieren, obwohl sie im Rahmen des o. g. "Burden sharing" zu Reduktion verpflichtet sind; dies verfälscht den Handelsstart und die künftige Handelsentwicklung/Effizienz.

Für ein effizientes und zielführendes Emissionshandels-System sind überzogene Maßnahmen kontraproduktiv. Um so wichtiger ist im Sinne eines fairen Emissionshandels auf europäischer und internationaler Ebene die Vermeidung unterschiedlicher und wettbewerbshindernder Umweltschutzanforderungen und Steuern in den einzelnen EU-Mitgliedstaaten. Der Emissionshandel kann nicht das europäische/nationale Ordnungsrecht voll ersetzen, jedoch sinnvoll unterstützen und ergänzen. Die europäische, insbesondere deutsche, Umweltpolitik befindet sich ohnehin

bereits seit langem im Übergang von der akuten Gefahrenabwehr zur Gewährleistung eines hohen Vorsorgeniveaus und hin zu einer nachhaltigen Entwicklung. Der Emissionshandel muß deshalb bei einem Niveau ansetzen, von dem aus auch tatsächlich auch weitere Umweltverbesserungen möglich sind.

Auch die Kommission weist im vorliegenden Grünbuch darauf hin, dass die Energiebesteuerung und der Emissionshandel so gestaltet werden sollten, dass sie als einander ergänzende Instrumente die Gesamtheit der Emissionen abdecken. Wir schlagen dazu als vorrangige Maßnahme den Emissionshandel vor als Ersatz für eine nationale/europäische Energiebesteuerung. Im übrigen weist die Kommission im Grünbuch in mehreren Stellen darauf hin, dass die interessierten/betroffenen Industrieunternehmen darauf vertrauen können müssen, gegenüber ihren Mitbewerbern gleichbehandelt zu werden. Dazu würden, wie ebenfalls dargelegt, bei einem gemeinschaftsweiten System des Emissionshandel zusätzlich die Möglichkeit gegeben, gegen Mitgliedstaaten Durchsetzungsmaßnahmen zu ergreifen, was zusätzliche Garantien bieten würde.

III. Zu den einzelnen Fragen

Frage 1: **Welche Bereiche sollten in den Emissionshandel in der Gemeinschaft einbezogen werden? Bieten die Richtlinien zur Begrenzung von Schadstoffemissionen von Großfeuerungsanlagen und die Richtlinie über die integrierte Vermeidung und Verminderung der Umweltverschmutzung einen brauchbaren Ansatz für die Festlegung der Bereiche, die von einem Gemeinschaftssystem für den Handel mit Emissionen erfasst werden sollen?**

Grundsätzlich sollten möglichst viele Bereiche und Unternehmen auf freiwilliger Basis in den Emissionshandel der Gemeinschaft einbezogen werden. Der im Grünbuch vorgeschlagene Ansatz, sich zunächst auf die Branchen zu verständigen, bei denen insbesondere der CO^2-Emissionsteil am höchsten ist, erscheint praktikabel. Die hieraus gewonnenen Erfahrungen sollten sobald wie möglich auch auf andere interessierte Branchen/Unternehmen übertragbar sein. Ziel ist, jeder interessierten Branche ab 2008 den internationalen Emissionshandel zu ermöglichen.

Die Einbeziehung von Emissionsverursachern nach der in Anhang I der IVU-Richtlinie aufgeführten "Kategorien von industriellen Tätigkeiten" ist nur eine grobe Orientierung, da hierdurch kleinere Anlagen unberücksichtigt bleiben; auch diesen muß freiwillig eine Systemteilnahme ermöglicht werden.

Frage 2: **Soll im Interesse eines gerechten Wettbwerbs, größtmöglicher Transparenz und Rechtssicherheit für Unternehmen ein für bestimmte Bereiche gemeinsames System für den Emissionshandel in der europäischen Gemeinschaft geschaffen werden?**

Ein gemeinsames, transparentes und rechtssicheres Systems ist Grundvoraussetzung zur Schaffung eines fairen Wettbewerbs. Die Kommission weist in ihrem Grünbuch auch darauf hin, dass hierdurch in Folge der größeren Unterschiede bei den Emissionsminderungskosten zwischen den beteiligten Unternehmen ein beträchtlicher wirtschaftlicher Nutzen verbunden wäre.

Frage 3: **Wäre die in einem koordinierten System durch die "Einstiegs"/"Ausstiegsoption" gegebene Flexibilität mit den Erfordernissen des Binnenmarktes vereinbar oder würden die Vorteile dieser Flexibilität durch die größere Komplexität wieder aufgehoben?**

Die "Ausstiegsoption" erscheint unter Wettbewerbsaspekten sinnvoller und hätte gegenüber der "Einstiegsoption" den Vorteil größerer Einfachheit und Transparenz. Von dem gemeinschaftsweiten System (Einstiegs- oder Ausstiegsoption) nicht erfasste Bereiche sollten nicht zwangsläufig mit anderen Politiken und Maßnahmen reguliert werden, da die Teilnahme am Emissionshandel freiwillig bleiben muß.

Frage 4: **Welcher Spielraum bleibt den einzelnen Mitgliedstaaten, um in ihre Handelssysteme mehr Bereiche einzuziehen, als evtl. vom gemeinschaftsweiten System erfasst werden?**

Ein gemeinschaftsweites System muß von vorneherein für möglichst viele Handelsbereiche offen sein, um nationale "Ausgrenzungen", aber auch Diskriminierungen, zu verhindern.

Frage 5: **Sollte die Gesamtmenge der Emissionsanteile, die den am Emissionhandel beteiligten Bereichen in den einzelnen Mitgliedstaaten zugeteilt werden, einer Vereinbarung auf Gemeinschaftsebene unterliegen?**

Eine "Vereinbarung" auf Gemeinschaftsebene über die Zuteilung der gesamten EU-Emissionsmenge ist erforderlich zur Vermeidung unnötiger Wettbewerbsverzerrungen; sie sollte sachgerecht in Abstimmung mit der EU-Wirtschaft erfolgen.

Frage 6: **Sollte die Methode der Verteilung von Emissionsanteilen auf die Einzelunternehmen auf Gemeinschaftsebene vereinbart werden? Oder sind Sie der Ansicht, dass ausführliche Leitlinien auf der Grundlage der Bestimmungen über staatliche Beihilfen und anderer Vorschriften des EG-Vertrages ausreichen, um einen lauteren Wettbewerb zu sichern?**

Die Methode der Verteilung sollte auf Gemeinschaftsebene vereinbart werden. Zusätzlich könnten Leitlinien eine wettbewerbskonforme Verteilung unterstützen.

Frage 7: **Kann vorausgesetzt werden, dass zwischen den Maßnahmen, die für die in den Emissionshandel in der Gemeinschaft einbezogenen Bereiche festgelegt werden, und die nicht auf den Handel gerichteten Politiken und Maßnahmen für die übrigen Bereiche Ausgewogenheit gewährleistet werden muß?**

Eine Ausgewogenheit ist anzustreben. Da die Systemteilnahme freiwillig ist, sollten teilnehmende Branchen/Unternehmen motiviert und belohnt werden; nicht teilnehmende Branchen/Unternehmen sollten nicht "bestraft" werden.

Frage 8: **Wie lassen sich Umweltwirksamkeit (im Hinblick auf die Erfüllung der Verpflichtung des Kyoto-Protokolls) und Transparenz bei einer Kombination von Emissionshandel, Energiebesteuerung und Umweltvereinbarung gewährleisten, wenn die Ziele auf Energieeffizienz pro Produkteinheit basieren?**

Da freiwillige Umweltvereinbarungen von Branchen/Unternehmen ebenso wie der Emissionshandel flexible und zielführende umweltpolitische Instrumente sind, müssen diese bei einer höheren Umweltschutzeffizienz auch besonders berücksichtigt werden. Bereits erbrachte Vorleistungen sollten im (späteren) Emissionshandel anrechenbar sein. Eine Energiebesteuerung wird als kontraproduktiv, wettbewerbsverzerrend und wirtschaftlich belastend abgelehnt.

Auch energieeffiziente Produkte lassen sich besser einführen und vermarkten mit freiwilligen Maßnahmen der Wirtschaft, Umweltvereinbarungen und Information der Verbraucher; für letzteres erfüllen Öko-Kennzeichnungen eine sinnvolle Funktion. Notwendige Einhaltungs- und Durchsetzungsvorschriften dürfen nicht demotivierend und abschreckend wirken für interessierte Branchen/Unternehmen.

Die Kommission weist unter Ziffer 9.2 zu recht darauf hin, dass dies zur Reduzierung des Verwaltungsaufwands durch Betriebsprüfer und E-MAS-Umweltprüfer vorgenommen werden könnte. Hier empfehlen wir insbesondere die Berücksichtigung der IHK-Sachverständigen, die auch in anderen Umweltbereichen in Deutschland in wirtschaftlicher Selbstverwaltung wichtige Überwachungs/Testat-Aufgaben übernehmen.

Frage 9: **Sind die zur Zeit verfügbaren Instrumente (Beobachtungssystem, Vertragsverletzungsverfahren) ausreichend oder sollten zusätzliche Instrumente entwickelt werden, mit deren Hilfe die Gemeinschaft die Einhaltung von Vorschriften in Zusammenhang mit dem Emissionshandel in der Gemeinschaft angemessen beurteilen kann?**

Der Emissionshandel sollte so "einfach" organisiert sein, dass zusätzliche bürokratische Verfahren unnötig werden: siehe dazu auch o. g. Antwort in Frage 8.

Frage 10: **Gewährleisten die o. g. Elemente der Einhaltung und Durchsetzung eine Koordination und Harmonisierung auf Gemeinschaftsebene, und welche sollten eher durch die Mitgliedstaaten Anwendung finden?**

Wir verweisen dazu auf unsere Antwort in Frage 9, wonach das System von vorneherein so einfach und praktikabel errichtet werden muß, dass unnötige Vollzugsbürokratie sowie Aufwand möglichst gering gehalten wird.

E.I.S.A.

EUROPEAN INDEPENDENT STEELWORKS ASSOCIATION
ASSOCIATION DES ACIERIES EUROPEENNES INDEPENDANTES.
VEREINIGUNG DER EUROPAEISCHEN UNABHAENGIGEN STAHLERZEUGER
ASSOCIAZIONE DELLE ACCIAIERIE EUROPEE INDIPENDENTI
ENt2EIE ANE APTHTON EYPQrIAIICQN XAAYBOYPTEIQN
ASOCIACION DE SIDERURGICOS EUROPEOS INDEPENDIENTES
DE EUROPEISKA FRISTAENDE STALPRODUCENTERNAS FORBUND
EUROPESE AS SOCIATIE VAN ONAFHANKELIJKE STAALPRODUCENTEN `

Director General

Brussels, 28.08.20 d?EaoE!NE

Mr.Jos Delbeke r FILE
Head of Unit t
DG Environment / A2
EUROPEAN COMMISSION
Rue de la Loi 200 (BU9 5/139)
1049 Bruxelles

Subject: Green Paper On Greenhouse Gas Emissions Trading.

Dear Mr. Delbeke,

We refer to the above-mentioned Green Paper and invitation to submit succinct reactions and opinions before proceeding further.
I would like here to limit our comments to two essential points:

- Emissions tradable allowances. Steel industry, like agricultural sector, has also experienced a system of "quota" in the past: It has been the silliest period in the history of our sector. The system did not help efficiently to reduce steel production. It led to a distortion of competition amongst companies and created unbearable discrimination, particularly towards smaller plants, such as those represented by our association.
- The EU steel market is characterized by. two different processes and thereby two different industries and products i.e. - large integrated plants (blast furnaces for hot and cold rolled coil).
  - the Electric Arc Furnace mini-mills, mainly producing light long products.

Such products account for around 40 million tons/year out of a total EU crude steel production of 150 million tons/year. So, in our analysis, we need to take account of production process (EAF or BOF), but also of the final products, since energy utilization varies according to the final products.
In order to limit C02 emissions as well as to reduce an important factor in their production costs, constant *efforts* are made by electric steel producers to reduce energy consumption. Various techniques are under research and mperience. Huge investments are made in order to adopt the latest available technology, to educate workforce, to increase productivity. As often emphasized, the EAF process provides the main route for scrap recycling and therefore through its manufacture, recovery and recycling already makes a significant contribution to a reduction in energy consumption. C02 emissions thereby are very low. Further technological improvement and success are expected by the year 2010.

I thank you in advance for the attention you will pay to such preliminary comments and remain at your disposal for any additional information you may require.

Yours sincerely,

Maria ALOIS.

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E5 Position on European Commission's EU internal Emissions Trading Green Paper (*COM(2000) 87*)

General Remarks

1. e5 is of the opinion that a European Emissions Trading system (EET) must be an element of a global European strategy to combat climate change. The overall strategy must ensure that the EU reaches at least its Kyoto greenhouse gas (GHG) reduction targets. In this context, e5 regrets that there does not seem to be a clear European strategy, still, on how to achieve the target, and is strongly of the opinion that the EET can only contribute to the EU target if elaborated in conjunction with domestic policies and measures, including those stalled for a long time on the EU level (e.g. IRP Directive, Monti Directive). It is worrying that the Commission at present seems to focus more on EET instead of EU wide policies and measures, which arguably could yield higher CO2 reductions, unless the emission limits for the trading are set quite low. Therefore we invite the Commission to elaborate such a strategy (the ECCP process is not a replacement for a neutral, scientific look quantifying PAMs possible at the national and EU levels in context with EET), taking into consideration not only the Kyoto targets, but also the necessary stricter targets of future budget periods under the Kyoto Protocol.

2. e5 feels that on the matter of initial allocation of permits, harmonisation between Member States towards an EU wide system should exist to avoid environmental, social and competition distortions, without harmonisation being an excuse for inaction. Furthermore, safeguards against market manipulation need to be built into the system to ensure environmental and economic efficiency. Towards this goal, transparency regarding all trading information is essential and needs to be guaranteed by the system, as well as access to justice for all stakeholders in the case of potential infringements. An efficient control and penalty system needs to be ensured by Member States.

3. e5 considers the following key questions further below:
    - Sectoral coverage of the EET
    - Initial allocation of permits
    - Interaction with other policies and measures to combat climate change
    - targets
    - Necessary monitoring, verification and compliance mechanisms

4. e5 considers that ideally, the EU internal trading should be structured to be an example for the international trading under the Kyoto Protocol. This would provide the EU with a credible negotiating position in defining the international trading rules. Under no circumstance should the EU trading system be undermined by the flaws already becoming apparent in the international trading system yet to be set up.

A well-designed EU emission trading system can contribute towards meeting the EU's Kyoto Protocol objective. Incorporating an absolute emission target for the sectors covered, it can ensure the environmental objective, and by engaging the market in finding solutions it has the potential to reduce costs and stimulate innovation. However, these advantages can only be realised if the details of the system are right from the start. There is a real danger that by diluting these to gain more acceptance among Member States and fossil fuel industry interests, that the value of a trading system will be lost.

Detailed Remarks

- **Sectoral coverage of the EET**

The Commission proposes a trading scheme covering those sectors already included under the Integrated Pollution Prevention and Control (IPPC) and large combustion plant (LCP) Directives. This essentially means large point sources of GHG emissions, such as utilities, siderurgy, refineries, chemicals, cement, pulp and paper…. Two crucial questions will have to be resolved: Which sectors and companies will participate in the trading system? Will eligible sectors and companies be obliged to participate, or will they opt whether to do so?

1. All sectors and sites that are covered by the above mentioned Directives should be included. The advantages of this are that these sectors and sites already have developed systems of monitoring that will ensure that the system will start with good data; and that the use of a recognised list of sectors will remove the incentive for horse-trading among Member States for inclusion or exclusion of different sectors.
2. Some member states and industry groups have suggested that participation for the eligible sectors in the trading system should be optional – either as an "opt-in" to a voluntary system, or allowing an "opt-out" for various reasons to a more comprehensive one. Such exemptions would be unacceptable. Emission trading is supposed to be a substitute for other environmental legislation aimed at GHGs in the affected sectors. As such, it should apply to all eligible sectors in the same way as other environmental legislation. To exclude some of these sectors from the system would not only be damaging to the environment: it would undermine the nascent trading system (by robbing it of certainty and liquidity) and create distorted competition between those sectors within the system and those outside it.

The Commission proposal proposes starting with a relatively limited number of sectors and sites, and addressing only CO_2 (the most important of 6 gases included in the Kyoto Protocol), but leaving the door open to expanding the system by including other gases and sectors later on. This is a reasonable approach. However, one reason for these limitations is that in general reliable monitoring systems have only reliably been put in place for large point sources, and typically they monitor CO_2 to greater precision than other gases, where these are monitored at all.

It is certainly possible that future monitoring will provide equal precision and confidence for smaller emitters. Other gases, particularly the F-gases, are also being monitored with greater precision, and could eventually be included. However, any further inclusions must only be permitted when no doubt exists as to the accuracy and reliability of this monitoring. If there is a push to include other sectors and gases before this confidence exists, the whole system will be undermined and its environmental effectiveness will be put at risk.

- **Initial allocation of permits: auctioning**

The Commission has proposed a relatively limited downstream trading system covering more or less those sites now covered by IPPC. The most fundamental reason for this is that such a proposal would be an environmental measure and could thus be passed on majority vote in the Council. A more comprehensive programme with an upstream auctioned system would be considered a fiscal measure, and would have to be passed unanimously. However, auctioning is a better option technically (see e.g. both FIELD and CCAP studies for the Commission). The allocation of permits - auctioning vs. grandfathering (the biggest polluter of the past gets correspondingly the most permits, thereby punishing those industries which have already undertaken efforts re. energy efficiency)- is hugely controversial. Obviously, several industry sectors reject auctioning, because they want to be able to start off trading at the "dirtiest level". We must certainly resist "historical" grandfathering, which allocates purely on the basis of current emissions, but the Commission is considering forms of grandfathering based on efficiency criteria, or a mix of grandfathering and auctioning,

which may be better than “pure” grandfathering, but less than auctioning. Even so, if an average of historical emissions stretching some way into the past is used, and subsequent action is rewarded, this approach can become difficult if their have been significant changes to the structure of production within the EU (which there have been) and it penalises new sectors with strong growth prospects (and which may have low carbon intensity).

The method of allocation of emission permits must ensure equity, environmental effectiveness and transparency, and be guided by the "polluter pays" principle. Furthermore, it is crucial that companies that have taken early action to reduce emissions should be rewarded rather than penalised relative to their more polluting competitors. The best way of achieving these goals is through auctioning the permits.

- **Interaction with other policies and measures to combat climate change**

The type of system envisaged by the Commission’s proposal would cover large sources, covering the source of ca. 40-50% of total EU emissions. This means that the all-important transport, domestic and tertiary sectors will be covered with other PAMs. Much remains to be done in many industry sectors, but the fact is that some progress has been made in reducing industrial emissions, which accounts for a declining share of the EU total. With emissions rising alarmingly in both the transport and domestic sectors, these are larger priorities. Emissions trading has come to be viewed as a panacea for meeting the EU's Kyoto target, as if it will give the right economic signals for all sectors to make reductions. In fact, it is likely to be fairly limited in terms of its initial impact on overall emissions. It must not be allowed to monopolise the attention, and other vital policies and measures need to be pursued vigorously

- **Targets**

When an emission trading system is discussed, the talk is almost always of absolute quantities of GHG emissions: tonnes of CO2 or equivalent. Some countries and companies however are advocating various ways to include emission credits or permits derived from companies or sectors meeting "unit" targets (CO2 per tonne of product, for instance). These kinds of target are designed to allow increases in total emissions for a growing sector. Converting this kind of target into absolute tonnes is complicated, and if done wrong can lead to a greater risk in terms of environmental outcome. Furthermore, these targets have flexibility "built in", so they have less need of trading as an option for growth. Confidence in the trading system will only be there if it is simple and transparent, so that everyone has confidence in its results. Trading "unit" targets undermines this simplicity and transparency, and so should be rejected in favour of absolute targets.

Furthermore, any future Kyoto Protocol emissions trading system will based on absolute emissions. While e5 has serious reservations about Kyoto trading as it seems to be developed presently, it is clear that only an EU system based on absolute emissions will be compatible with the full Kyoto trading regime.

The setting of the exact emission ceiling for the participating sectors will be a complex and technical task, which needs to take account of technical potential, economic cost etc. for each sector. To ensure overall achievement of each country’s Kyoto target, member states must also declare how much of their overall objective they intend to achieve in each of the non-trading sectors (e.g. transport, domestic, tertiary). Finally, in function of the sector, a comparison will have to be done between the different measures, which can lead to emissions reductions: flexibility mechanisms, taxes, voluntary agreements, and other PAMs. These measures are not excluding each other necessarily, a combination of several is often the most useful path. A burdensharing by industrial sector therefore shouldn’t be excluded.

The *size of the target* is important, in terms of how the EET market will work (liquidity, incentive for additional investments and technology development). Another factor to take into account is the likely structural and sectoral evolution of the EU economy between now and the end of the first commitment period and the effects this will have on the relative rigour of the target for the EET and other sectors. There is clearly a balance to be found between demanding sufficient rigour to promote new investments and achievement of the KP targets, creating a functioning market with sufficient players and allowing a step-by-step learning process with a mechanism that is relatively new to most participants.

- **Necessary monitoring, verification and compliance mechanisms**

Environmental effectiveness and credibility of the trading system is strongly defined by the level of the target and the compliance system. The target needs to be sufficiently high for real action to happen, and the compliance system must be strict and biting (as it is in the case of the US sulphur trading system), so as to avoid firms e.g. simply paying a very low fine for non-action or missing their target, instead of undertaking actions to reduce their emissions.

For any trading system to work, the rules of that system need to be transparent, verifiable and subject to clear and serious penalties for non-compliance. This is doubly true in the case for a new system which needs to gain the confidence of the participants and of the public. It is essential therefore that the compliance systems put in place serve to add credibility to the environmental effectiveness of the trading system. As part of this confidence building, aggregated emissions data from the programme must be made available for public scrutiny. Transparency must assure further objectives:

- environmental credibility: ensure the level of information necessary to allow authorities a precise control of the emissions and the permit holders;
- market performance: ensure market visibility to permit participants to adopt the economically best strategy.

The penalties for non-compliance must be clear, automatic and significant. An automatic penalty of X times the value of a permit for each excess tonne of CO_2 would provide a clear incentive for compliance. This is similar to the system which has worked effectively in the case of sulphur trading in the US. The compliance system needs to be in place before trading starts. At least a significant minimum level for penalties needs to be set at EU level, and indeed the Community must have the right to pursue Member States out of compliance with targets, monitoring or verification obligations. The verification and monitoring systems, especially for companies' emissions, need to be the same in all of the EU, to ensure validity, comparability of data and transparency. The data needs to be held in a publicly available form at a central place such as the EEA or the Commission. Insecurity on accurateness of the data could else easily undermine the whole EET.

Furthermore, the trading system needs to incorporate action to combat perverse effects, such as a company stopping its activities in the EU to speculatively resell the quota they possess, or a company simply relocating to a non-Annex 1 country.

Finally, where as within the existing EU national inventories/information on the reliability of emissions is not too bad, while still lacking, the same can not be said for all of the proposed future EU countries. This is also related to the need to establish *eligibility criteria* for participation in the EET system, as in the KP: independently verified inventories, monitoring systems and registries, etc. both at the national and firm levels.

Comments by the Electricity Association on the European Commission's Green Paper:

Greenhouse Gas Emissions Trading, within the European Union (COM(00)87) , -

Introduction

The Electricity Association is the trade association representing the major electricity generation, transmission, distribution and supply companies in the United Kingdom. We welcome the Commission's Green Paper as a positive step towards the eventual establishment of an international greenhouse gas emissions trading system under the Kyoto Protocol.

In line with our preference for market-based measures, the Electricity Association supports the principle of emissions trading as a potentially important mechanism for delivering climate change targets cost-effectively. We consider that the early establishment of national and European trading schemes would enable European companies, markets and Governments to gain valuable experience and expertise which could be used to advantage in the development and operation of the wider international system in due course.

The UK electricity industry has taken an active part in the work of the ACBE/CBI' Emissions Trading Group since its inception in 1999. This Group is developing, with Government support, a pilot UK emissions trading scheme, with a view to going live in April 2001. The UK electricity industry also proposed an EURELECTRIC Greenhouse Gas and Electricity Trading Simulation (GETS), undertaken by participants throughout the European electricity sector in 1999. It is again playing a key role in a follow-up simulation (GETS2) during 2000, which also includes energy consumers from a number of sectors. The results of this simulation will be reported at COP-6.

Whilst we support emissions trading as an important mechanism for cost-effectively reducing greenhouse gas emissions, we recognise that it will not be appropriate for many sectors in the economy and, in support of the fair distribution of the emission reduction burden, we consider that it is necessary for equivalent non-trading measures to be applied in these sectors.

The Green Paper only considers the trading of emission permits. The Electricity Association suggests that trading of emission reduction credits, awarded for projects carried out under the Kyoto Joint Implementation and Clean Development Mechanisms should also be included in any European emissions trading system (although this may not be appropriate initially). In addition, credits should also be recognised for domestic projects which generate emission reductions in non-trading sectors, such as the dissemination of efficient electro-technologies replacing fossil fuels in end uses.

1 Advisory Committee on Business and the Environment / Confederation of British Industry

Specific Questions

The rest of this response deals with the specific questions posed in the Green paper. Questions 9 and 10 are answered together.

Question 1: *Which sectors should be covered by emissions trading within the Community? Do the LCP and IPPC Directives offer a useful starting point for defining the sectoral coverage of a Community emissions trading system?*

Any emissions trading system needs a sufficient number of participants from a range of sectors with different characteristics to ensure a liquid market. In principle the system should be designed to accommodate any number of sectors and players, but in the initial stages it would be prudent to maintain relative simplicity by limiting the scope. The EURELECTRIC simulation exercise, GETS2, has indicated that a viable liquid trading market can be achieved by the participation of the energy intensive sectors listed in Table 1 in the Green Paper, namely electricity and heat production, iron and steel, refining, chemicals, glass, cement and paper.

We do not see any particular merit in using the LCP Directive to define which players should take part in the scheme, since LCP would be too restrictive. There may be more merit in the use of the IPPC Directive, although it is probably too broad in scope for the initial stages, since it covers several sectors such as milk production and pig farming for which emissions trading may not be appropriate. On the other hand, IPPC excludes some intensive energy users, such as industrial air product manufacturers.

Question 2: *Should there be a common emissions trading scheme within the European Community for certain sectors in the interest* of *fair competition, maximum transparency and legal certainty for companies?*

We believe that it is essential to maintain fair competition between companies in a given sector, both within and across Member State boundaries, and this criterion needs to be uppermost in any strategy for addressing climate change. Several Member States are already well advanced in developing their own national emissions trading systems and these should be encouraged. Some of these are likely to be in operation before any EU scheme could be in put in place. Development of a comprehensive EU trading system covering all 15 members could be fraught with difficulties. We therefore consider that the best way forward for an EU scheme, at least initially, is to define a coherent framework within which the national schemes can operate. Although fair competition should be one of the objectives of such a framework, it should be remembered that the trading market itself provides a mechanism for delivering common pricing and trading compatibility. Another objective of an EU scheme should be compatibility with the requirements of the Kyoto Protocol, since an EU scheme is likely to be but a staging post towards an international Kyoto scheme.

Question 3: *Would the flexibility offered by a co-ordinated scheme such as "opting-in " l"opting out" be compatible with the requirements of the internal market, or would any advantages of such flexibility be outweighed by increased complexity?*

It is important that an EU scheme should initially be simple and transparent, with a sufficient spread of participating sectors to ensure a liquid market. It would be desirable, to avoid market distortion, to include all entities within the participating sectors. However, it must be recognised

that some entities or sectors will not wish to take part and, in order to ensure the support of Member States and industry, the scheme must provide the flexibility to allow such opting-out or, indeed, of opting-in. In the event of entities opting-out, the demands of the level playing field would require those entities to be subject to emission reduction obligations equivalent to those in the scheme. These would be determined at Member State level.

***Question** 4: What scope is therefor individual Member States to include more sectors in their domestic trading scheme than might be covered by a Community scheme?*

There should be no restrictions on individual Member States' inclusion within their own domestic trading schemes of sectors, or greenhouse gases, additional to those in the EU scheme. In principle the more divergent the scheme, the greater the scope for cost-effective emissions reduction.

***Question** S: Should the overall amount of allowances allocated to the trading sector in each Member State be subject to agreement at Community level?*

Each Member State of the EU has its own agreed greenhouse gas emissions reduction target negotiated within the EU Kyoto bubble and it has its own approach to meeting the target. We believe therefore that the responsibility for setting actual sectoral targets and allocations must rest with the Member States. The EU system should be concerned with defining the principles and limitations of allocating the burden between sectors (trading and non-trading) so as to ensure that this is done equitably and transparently. A prime criterion is that Member States' targets are appropriately progressive and consistent with their overall strategies for meeting their Kyoto commitments.

***Question** 6: Should the way in which allowances are allocated to individual companies be the subject ofagreement at Community level? Or, do you consider detailed guidelines based on the state aid provisions and other rules of the Treaty to be sufficient to safeguard fair treatment?*

It is important that the initial allocation of allowances for emissions trading is equitable to all entities within a sector across the Community. In an EU trading system this requires the same allocation method being used for a given sector Community-wide. As far as possible, the EU approach to emissions trading should make use of existing state aid and single market provisions. However, as stated in the Green paper, existing Community Law does not prevent Member States from discriminating against their own companies. It is legitimate for a Member State to use a method of allocation which would place its own industries at a disadvantage. Preventing this would require agreement on allocation method within the EU Emissions Trading Framework.

Our favoured method of allocation is grandfathering based on historical emissions since this would avoid financial shock to industry and the stranding of assets. The main alternative of permit auctioning could, compared to grandfathering, redistribute costs in an unpredictable way and runs the risk of severe economic disruption as the costs would rapidly be reflected in prices. For new entrants, permits could be allocated free or by auctioning from a reserved allocation.

Whatever the allocation method used, sectors/entities participating in trading, and therefore accepting a cap on emissions, should be encouraged and rewarded for making early efforts at curbing their emissions.

***Question** 7: Is it agreed that a balance has to exist between sectors engaged in emissions trading within the Community on the one hand, and non-trading policies and measures applied to other sectors on the other?*

Yes. All sectors should bear an equitable share of. the emissions reduction burden. Energy producers and major energy consumers participating h emissions trading should not be expected to shoulder an unreasonable share of the burden. A large part of the overall greenhouse gas emissions are produced by small sources in the domestic and transport sectors and by small businesses, for which emissions trading may be inappropriate. Member States and the EU need to apply alternative effective and appropriate non-trading policies and measures to ensure that these sectors, which have shown little evidence of emissions reductions to date, play their full part towards the Kyoto commitments.

***Question** 8: How can environmental effectiveness (in terms offulfilling the Kyoto Protocol's commitments) and transparency be safeguarded using a mix of emissions trading, energy taxes and environmental agreements with targets based on energy efficiency per unit of output?*

The Electricity Association believes that the climate change commitments are best met by voluntary/negotiated energy efficiency agreements and by market-based approaches, including emissions trading and providing customer choice, such as green electricity tariffs. We consider that energy taxes are a very inefficient way of achieving emission reductions and could have adverse impacts on European industry's competitiveness, although they may be appropriate for small emitters. Regulation can be effective, but lacks flexibility and cannot minimise economic cost. Agreed targets can be adapted to sector characteristics and the trading option adds flexibility. The combination of agreed targets and trading would enhance both industry's commitment and the authorities' confidence in meeting their obligations. In the early stages, emissions trading should apply only to relatively large sources of emissions and a mix of other instruments would be applied to other sectors.

Sectors which enter into a voluntary agreement or trading scheme should not be subject to additional burdens, such as an energy tax or separate efficiency requirements imposed under IPPC, since these would unnecessarily increase costs or reduce companies' flexibility to meet targets most cost-effectively.

In some cases negotiated agreements, preferably based on absolute targets, could become an instrument through which reduction targets are allocated and in whose framework trading is allowed. Relative targets (ie energy efficiency per unit of output) do not translate easily into absolute targets for trading, although it is possible to convert the relative compliance target into absolute emissions on the basis of a company/sector's actual production level at any given time. For a company entering a negotiated agreement with a relative target to retain the option to enter into emissions trading, should it over or under perform, it would need to negotiate a fall-back absolute target as well as the relative target.

The UK's pilot trading scheme being developed by the ACBE/CBI Emissions Trading Group provides for separate absolute and relative trading, with a `gateway' allowing very limited trading between the two sub-schemes under the strict control of the scheme's registry. The simplicity advocated for an EU framework scheme would rule out such complex trading in its initial phase.

***Question** 9: Are the currently available instruments (Monitoring Mechanism, infringement procedures) sufficient or should additional tools be developed in order for the Community to adequately assess compliance in the context of emissions trading within the Community?*
***Question** 10: Do the elements of compliance and enforcement mentioned above warrant co ordination or harmonisation at Community level, and which elements are more appropriately undertaken by Member States?*

We consider that Council Decision 93/389/EEC, as amended by Decision 99/296/EC, which provides for Community monitoring of Member States' greenhouse gas emissions, is a suitable basis for monitoring of EU emissions trading at Member State level.

Monitoring, reporting and verification at the company level should be carried out by Member States, with aggregate results communicated at the EU level. National registries will need to track all operations on the trading system, with details on inter-State trades being registered by an equivalent EU body. The necessary co-ordination between Member States must be based on the need for transparency, simplicity and cost minimisation.

It is also necessary for a common standard to be adopted for the measuring and reporting of corporate greenhouse gas emissions for trading purposes. A number of guidelines for company ghg reporting have been published (eg by UNEP and the UK's DETR), but these are not aimed at producing statistics suitable for aggregation. In addition to the direct emissions from the company's activities, they include the indirect emissions from the electricity used, activities contracted out, etc. Co-ordination in emissions accounting procedures for trading is essential in order to prevent double counting of emissions reductions.

The enforcement of compliance should again be primarily the responsibility of Member States, but it is essential that penalties for non-compliance in the various States should not differ greatly, in order to prevent the risk of transfer of large quantities of permits from countries with low penalties to countries with high penalties. Such a situation could jeopardise the compliance of countries with the less stringent penalties with their overall Kyoto targets. Some cooperation at the EU level is therefore necessary to ensure that such `gaming' is prevented.

Whilst we believe that penalties for non-compliance are necessary, we also consider that economics should normally ensure that a company respects its quota. Several types of penalty could be envisaged, but these should be designed in such a way as to avoid punishing too harshly a company which failed to achieve its target, despite having taken credible actions to that end.

An annual reporting obligation has the advantage of rapidly identifying entities/sectors facing difficulties and it gives Member States more control over complying with their commitment. However, global availability of permits may vary substantially from one year to another (eg hydroelectric generation is very dependent on rainfall), so there is a case for penalties to be based on multi-annual commitments.

EAA EUROPEAN ALUMINIUM ASSOCIATION

EU GREEN PAPER ON GREENHOUSE GAS EMISSIONS WITHIN THE EUROPEAN UNION.

EAA RESPONSE TO QUESTIONS LISTED IN THE PAPER.

Question 1: Which sectors should be covered by emissions trading within the Community? Do the LCP and IPPC Directives offer a useful starting point for defining the sectoral coverage of a Community emission trading system?

In principle all sectors interested should be allowed to participate and all sites inside the sector, even if they are not covered by IPPC should be eligible for participation if they constitute a legal entity. There will be a need for a framework for each sector covered.

Question 2: Should there be a common emissions trading scheme within the European Community for certain sectors in the interest of fair competition, maximum transparency and legal certainty for companies?

The trading schemes organised should in principle be at global level that is as broadly organised as possible and with possibilities for companies and sites also outside the EU to participate in the scheme. A trading scheme must eventually have a global dimension and this should be set up for this from the start.

Question 3: Would the flexibility offered by a co-ordinated scheme such as "opting-in/optingout" be compatible with the requirements of the internal market, or would any advantages of such flexibility be outweighed by increased complexity?

Prior to 2008, the aluminium industry consider that emission trading schemes will be in a testing period with essentially companies participating on a voluntary basis. In this situation "opting- inlopting- out" flexibility will be the rule for all participants, even if some Member States are not interested at this stage to develop specific national provisions.
This should not prevent interested companies to be part of the voluntary initiatives including some forms of trading. After 2008, the Kyoto protocol entering into force, the European aluminium industry is convinced that all Member States will realise the added opportunity this will give to their national industry as a way of achieving their national obligations.

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Question 4: What scope is there for individual Member States to include more sectors in their domestic trading schemes than might be covered by a Community scheme?

See response to Question]. In addition the trading schemes being set up by industry must be reconciled with an EUIMMS base scheme.

Question 5: Should the overall amount of allowances be allocated to the trading sector in each Member State be subject to agreement at Community level?

In principle the sectors and individual companies/sites should not be given allowances but targets. The criteria for setting such targets will be a point of discussion for each sector and company, but certain principles may be set up on a sector by sector basis. Points to include here could be the baseline year, e.g. 1990 in most cases, and a target based on emissions in the baseline year minus a certain percentage. The case of new entrants and expansions must also be accommodated. Allowing these to enter the scheme with a baseline equal to the industry average could facilitate this.

Question 6: Should the way in which allowances are allocated to individual companies be the subject of agreement at Community level? Or, do you consider detailed guidelines based on the state aid provisions and other rules of the treaty to be sufficient to safe guard fair treatment?

See response to previous question. We do not see any particular link between state aid and emission trading, the general provisions of the treaty should apply.

Question 7: Is it agreed that a balance has to exist between sectors engaged in emissions trading within the Community on the one hand, and non-trading policies and measures applied to other sectors on the other?

The trading should in principle be open to all sectors that would like to participate, in the same way as general measures and policies applies to all sectors.

Question 8: How can environmental effectiveness (in terms of fulfilling the Kyoto Protocol's commitments) and transparency be safeguarded using a mixture of emissions trading, energy taxes and environmental agreements with targets based on energy efficiency per unit of output?

We do not consider energy taxes as an instrument to achieve environmental effectiveness. The best way of using emission trading as an efficient instrument is to set up a credible system based on market mechanism and possibly linked to negotiated agreements within specific sectors.

Question 9: Are the currently available instrument (Monitoring mechanism, infringement procedures) sufficient or should additional tools be developed in order for the Community to adequately assess compliance in the context of emissions trading within the Community?

Using the instruments available to the Community in addition to the monitoring mechanisms developed by the ICCP should be sufficient. We would also consider it necessary to set up a third party verification system for participants to the trading scheme.

Question 10: Do the elements of compliance and enforcement mentioned above warrant coordination or harmonisation at Community level, and which elements are more appropriately undertaken by Member States?

Some co-ordination is needed at Community level to ensure equal treatment.

FURTHER POINTS IN RELATION TO THE GREEN PAPER.

- In the current green paper only COZ is mentioned as relevant for emission trading. For a scheme to reach its full potential and be efficient all the 6 Kyoto Protocol gases must be included. The suggestion of "considerable uncertainties surrounding the emissions of fluorinated gases" has been addressed for the aluminium industry in the IPCC document "Good practice in inventory preparation for industrial processes and the new gases"

- There are a number of other possible improvements for a sector which will result in reduced climate gas emissions, and which are currently not discussed. Examples of this is:

    - Reduced emissions as a result of reduced electric energy consumption at production sites
    - Reduced emissions as a result of increased recycling by using secondary raw materials.
    - Reduced emissions due to energy saving from new product design and material use.

We also strongly support the points made in section 8.3 of the paper, referring to the relation with energy taxation.

INDUSTRIAL CHALLENGES FOLLOWING THE COMMISSION'S GREEN PAPER (COM(2000)87) ON THE KYOTO PROTOCOL

Part I
Introduction

The Kyoto Protocol process has now reached the phase when one must find practical means to fulfil the common obligation taken on by the EU/15, to reduce its emissions of greenhouse gases by 8% during the period 2008 - 2012 in comparison with their levels in 1990. This means a reduction of 14% in comparison with "business as usual".

Up to this stage the process has mainly been dealt with as a global environmental question. The challenge has been to reach the common opinion, that the increased outlet of green house gases is hazardous to the global temperature and that the outlets therefore must be reduced. Thereafter, when this was excepted, the process has proceeded with the Kyoto Protocol and the rules to be established far reducing the outlets of six greenhouse gases, C02 included. This part of the Kyoto Protocol is expected to be settled in November this year and the internal , process within the EU is aiming at how the EU by practical means shall solve its obligations.

The Commission has come to the opinion that the most convenient approach to the problem would be to first start with the industry, where one have large fixed point sources of carbon dioxide outlets. This means that the industry within the EW which are using carbon, either as energy sources or as part of the industrial process or production, will be met with requirements that either must the C02 emissions be reduced or one must by quotas from somebody that have a surplus according to its outlets in 1990. Also environmental projects in underdeveloped countries may be a possibility. However, the challenge will be to maintain the possibilities for the European industry under a new framework and new extra costs. Especially it will be of crucial importance which system that will be chosen as to maintain the competitiveness of the industry. The Kyoto Protocol therefore now has changed from a theoretical environmental to a pure industrial issue.

Part II
Extract of the key, elements in the Commission's Green Paper.

Policy summary.
Under the Kyoto Protocol process the European Community committed itself to reducing its emissions of greenhouse gases by 8°fo during the period 2008-2012 in comparison with their levels in 1990. In practice this will require an estimated reduction of 14% compared to "business as usual".

Emissions trading, both internally within the Community and externally with other industrialised countries, will help reduce the cost to the Community of respecting its commitments. Together with other policies and measures, emissions trading will be an integral and major part of the Community's implementation strategy.

The key policy options to be decided upon in establishing such a framework (for emissions trading) are essentially: which countries and which companies in which sectors will participate? How, and by whom should the allocation of allowances be made to the sectors and companies involved in emissions trading compared to those not involved, and to individual companies participating in emissions trading?

3. What is emissions trading? Emissions trading is a scheme whereby companies are allocated allowances for their emissions of greenhouse gases according to the overall environmental ambitions of their government, which they can trade subsequently with each other.

Emissions trading allows individual companies to emit more than their allowance on, condition that they can find another company that has emitted less than allowed and is willing to transfer (sell) its "spare" allowances.

The attractive .features of emissions trading, however, can only be realised in practice when accompanied by a robust monitoring and compliance regime at reasonable cost.

4.3. A "learning-by-doing" approach. If the Community wishes to follow a prudent step-by-step approach in the development of emissions trading, it should initially confine itself to large fixed point sources of carbon dioxide, where monitoring and supervision of the system is more feasible.

5.1. The economic case for emissions trading in the EU. This (the emissions trading regime) represents a potential cost saving of approximately Euro 1.7 billion a year. (The price for emissions) show a large variety, ranging from Euro 5 to Euro 5$ per tonne of carbon dioxide equivalent traded between industrialised countries.

5.2. Protecting the internal market. The development of emissions trading within the Community, while making an important contribution to the protection of the environment by limiting emissions, must nevertheless avoid crating barriers to trade, restrictions to the right of establishment of companies and distortions of competition which would damage the internal market.

6.1. Coverage.

Table 1: Possible indus sectors to be included in an emissions tradin system

Sector	Percentage of EU 15 C02 Emissions
Electrici and heat production	29.9%
Iron and steel	5,4%
Refinin	3,6%
Chemicals	2,5%
Glass, pottery and buildin materials (includin cement)	2,7%
Paper and printing (including paper pulping)	1,0%
Total	45,1

6.2.2. A co-ordinated Community scheme.
(There can be an "opt-in" and an "opt-out" option. This means that for "opt-in" there is a common scheme which Member States can join if they so wish. An "opt-out" means that there is an agreement that the scheme covers everybody but some could choose to withdraw from the system for special reasons or for a certain period. The condition for allowing these alternatives of "opt-in" dr "opt-out" should be that sectors that are not covered by the Community scheme are regulated by other policies and measures that represent at least a similar economic effort in terms of emissions abatement.

6.2.3. EU enlargement.`
For any second commitment period from 2012, new Member States could be integrated into the Community "bubble".

The development of a Community scheme would have to take account of the particular status of non-EU countries in the European Economic Area, that may have their own emissions trading schemes or wish to be included in the Community scheme. In this context, the "burden sharing" agreement would remain for the 15 EU Member States, and the possibility of joining or enlarging the Community system through mutual recognition could be further explored.

- Part III

Questions raised in the Green Paper - with few comments that high-lights some of the complexity.

***Question** l: Which sectors should be covered by emissions trading within the Community? Do the LCP and IPPC Directives offer a useful starting point for defining the sectoral coverage of a Community emissions trading system?*

Comments: Various additional questions could be raised. For instance why do one choose sectors being in competition with rest-world (countries outside the Kyoto Protocol) and no domestic oriented activities, like the public sectors? Could that be because it is more convenient?

However, the most risky part is that the Community/EEA region give its competition industry a heavily additionally cost in addition to those already present, while the outside-of-this-area industry can continue its production without any extra costs.

***Question** 2:*
Should there be a common emissions trading scheme within the European Community for certain sectors in the interest of *fair competition, maximum transparency and legal certainty for companies?*

Comments: If a emissions trading system is being introduced it must be binding for all countries. It must cover the same sectors in all countries, it must be put into force at the same date and year and the system must have a legal certainty that assure everybody that everybody follow the obligations put into force.

***Question** 3: Would the flexibility offered by a co-ordinated scheme such as "opting-in '/"opting-out" be compatible with the requirements of the internal market, or would any advantages of such flexibility be outweighed by increased complexity?*

Comments: "Opting-in" and "Opting-out" seems rather theoretical if one want the principal of burden sharing to be the basic in a new emissions trading regime. There will be a millions "good" reasons for somebody to take advantage of the flexibility. It is very difficult to see that the Commission will be able to control the situation and therefore the complexity will be overwhelming.

Question 4:
What scope is there for individual Member States to include more sectors in their domestic trading scheme than might be covered by a Community scheme?

Comments: The scope for including more sectors in the domestic trading scheme could be a wider burden sharing which would require less drastic burdens for the targeted large industrial fixed sources.

***Question** S: Should the overall amount of allowances allocated to the trading sector in each Member State be subject to agreement at Community level?*

Comments: Unless there is an overall Community level agreement there will most possible not be a sufficient security for fair play.

Question 6:
Should the way in,,which allowances are allocated to individual companies be the subject of agreement at Community level? Or, do you consider detailed guidelines based on the state aid provisions and other rules of the Treaty to be sufficient to safeguard fair treatment?

Comments: Unless there is an overall Community level agreement there will most probably not be a sufficient security of fair play.

***Question** 7: Is it agreed that a balance has to exist between sectors engaged in, emissions trading within the Community on the one hand, and non-trading policies and measures applied to other sectors on the other?*

Comments: With no balance requirements this will mean preference to the excluded sectors which one should believe will be against the rules for the internal market.

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Question 8:

How can environmental effectiveness (in terms of fulfilling the Kyoto Protocol's commitments).and transparency be safeguarded using a mix of emissions trading, energy taxes and environmental agreements with targets based on energy efficiency per unit of output?

Comments:
A very delicate question. Delicate because it, among other measurements, requires a Community agreement on how to define "efficiency per unit of output". This means that one at least need a system for Life Cycle calculations. . So far this is not the case and before one reach a level of Life Cycle Standards for the various products it seems unlikely that one through discussions will be able to agree on what the terms should be.

Question 9:

Are the currently available instruments (Monitoring Mechanism, infringement procedures) sufficient or should additional tools be developed in order for the Community to adequately assess compliance in the context of emissions trading within the Community?

Comments:
The complexity of the emissions trading system, and the cost and risk for targeted bodies, requires a system that gives everybody security for the existence of a Community Control System that guaranties everybody a fair play.

Question 10: *. Do the elements of compliance and enforcement mentioned above warrant co-ordination or harmonisation at Community level, and which elements are more appropriately undertaken by Member States?*

Comments: , Neither the compliance nor the enforcement mentioned is explained in real terms but just as a principal system. The complexity, however will require a detailed system. Before one see the system it will be impossible to answer if it is good enough.

ENER-G8

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To Comissioner M. Wallstrom The European Commission Rue de la Loi 200 B-1049 Brussels

Brussels, September 15, 2000..

Dear Commissioner,

Re: Green Paper on greenhouse gas emissions trading within the European Union

The European Commission is presently seeking comments on the Green Paper on Emissions Trading presented last March. ENER-G8, a coalition of energy intensive companies, welcomes the opportunity to express his opinion on this very controversial policy instrument.

The Green Paper considers the possibility of an EU emissions trading scheme, involving energy intensive sectors such as power **production, chemicals, iron and** steel, glass, pulp and paper etc.. The envisaged scheme would impose **an absolute cap** on companies and would be limited to only one of the 6 Kyoto gases, namely C02.

Energy intensive companies depend heavily on energy costs and compete on global markets. Any measure that unilaterally increases their energy costs vis-a-vis other trading partners, be it from developed or developing countries, will have profound consequences on their overall competitiveness. These companies can to a degree control the efficient use of energy in manufacturing processes and products, as the track record of their energy efficiency in the past decades demonstrates. However, they cannot control growth in demand of their products. Therefore, imposing an absolute cap for C02 emissions on specific sectors or companies at EU level would restrict the companies' ability to serve their markets. Producers in non committed Countries will step in and supply the products and since their production is linked at least to the same amount of GHG emissions, the net result is no emissions reduction and loss of employment in Europe.

ENER-G8 members are Akzo Nobel, BASF AG, Bayer AG, Daimler-Benz, DOW, DSM, KrupThyssen Stahl, Mercedes-Benz, Pilkington, SAPPL, ALCAN

Moreover, emissions trading will not reduce GHG emissions as such. Investments in energy efficient projects do. Increasing energy cost by purchase of emissions certificates will reduce the availability of capital for GHG reduction projects.

The Kyoto Protocol provides in art 6,12 and 17 the definition of the flexibility mechanisms, namely Joint Implementation (JI), Clean Development Mechanisms (CDM) and Emissions Trading (ET). For the project based mechanisms (JI-CDM) the protocol foresees the participation of companies, whilst Emissions Trading is left to contracting parties (countries). ENER-G8 believes this is the right approach, since it gives incentive to companies to invest in GHG reduction projects worldwide via JI and CDM and at the same time protects the competitiveness of the energy intensive sectors, by not imposing caps at company level.

`~-- For ENER-G8 companies voluntary agreements with targets of energy efficiency are the preferred approach. The actual targets of energy efficiency would be negotiated between sectors and national governments, as it is already practiced now, to take into account the different starting points of the various sectors in the EU member States.

We would specifically recommend that the Commission as part of the European Climate Change Program:

- starts an international pilot program of JI and CDM projects with the participation of industry and countries;

- starts a pilot program of Emission Trading limited to the participation of Member States.

ENER-G 8 is keen to make a positive contribution on this issue and would be happy to work with you in a constructive manner.

Yours sincerely,

Jan-Peter Huges
Chairman of the ENER-G8 Support Group

Cc:
James Currie, Director General, DG ENVT
Fabio Colasanti, Director General, DG ENTR
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ENER-G8 members are Akzo Nobel, BASF AG, Bayer AG, Daimler-Benz, DOW, DSM, KrupThyssen Stahl, Mercedes-Benz, Pilkington, SAPPL, ALLAN

Foreword

The strange and little remarked phenomenon surrounding the "greenhouse effect" is that the solution to the problem appears to reside in giving money to the government through eco-taxes – as if eco-taxes were somehow to eradicate environmental problems. True, these eco-taxes are said to be used to enact ecologically sound policies. If this is the case, the positive impact of public policy on, say, congestion, is yet to be felt.

That does not deter governments from continuing to pursue the same policies. And, in a sense this is understandable. If road users continue to give money to the government with little or no effect on congestion problems, it means they haven't given enough: time to pile on more taxes, which governments can spend on balancing budgets and giving the kind of hand-outs likely to get them re-elected.

In our view, the independence of a government-commissioned environmental report which concludes that the problem can be solved by giving money to government is suspect. Ditto for "independent" and frequently headline-grabbing reports from environmental pressure groups, claiming absolutism in what is, after all, an inexact science.

Need we remind readers that 25 years ago, environmental orthodoxy claimed that the earth was entering a new ice age, and that human activity, industrialisation and its associated air pollution, i.e. the causes cited today in global warming, was to blame for accelerating the process of global cooling. To assert that the "majority of scientists agree on the phenomenon of the greenhouse effect" seems strangely unscientific when not supported by a poll taken showing the proportion of top scientists who *do* agree.

This brief report claims no such independence. It is written by specialists from a sector of the economy, the road, which has made an enormous contribution to prosperity, individual mobility and delivery of goods and services. No other form of transport rivals the road as a means of getting people where they want when they want or of getting goods transported from producer to wholesaler and from wholesaler to retailer. In fact, no matter what form of transport is used – ship, train, aircraft – the final journey, taking people or goods from A to B, will *always* be by road.

The negative impact of the road has to be set against these undeniable benefits. In this report, the IRF focuses on one negative impact: environmental. It places the proportional contribution of human activity to concentrations of "greenhouse" gases in the earth's atmosphere in perspective: only 3% of all greenhouse emissions come from human activity; 97% is emitted through natural processes. However, the IRF recognises that, while the *proportion* is slight, the environmental *impact* of human activity may be enough to tip the balance.

It also recognises that road traffic accounts for a significant proportion of all greenhouse gases from human acitivity, about 10% and growing. It therefore looks at what the road sector has already done to reduce its environmental impact and what measures it can and should take. Note, for example, that the road sector has implemented all government legislation and targets often well in advance of implementation dates.

The report also makes a critical appraisal of public policy to date and suggests what kind of policies may succeed in the future.

Préambule

Un phénomène curieux et qui passe inaperçu touche l' "effet de serre" : la solution à ce problème semble en effet résider dans la levée d'impôts par le biais des eco-taxes, comme si les eco-taxes allaient en quelque sorte éradiquer les problèmes environnementaux. Il est souvent répété que ces eco-taxes ont été créées pour permettre une politique environnementale vigoureuse. Or, si cela avait été le cas, le bénéfice des politiques publiques se serait déjà fait sentir, par exemple sur la congestion.

Cette constatation n'empêche pas pour autant les gouvernements de poursuivre la même politique. On peut aisément comprendre un tel phénomène. En effet, si les utilisateurs des routes continuent de payer des taxes avec peu, ou pas, d'effet sur le problème de congestion routière, on peut conclure que ces utilisateurs n'ont pas assez donné. Ainsi, c'est en accumulant toujours plus de taxes que les différents gouvernements peuvent dépenser plus, pour financer les dépenses publiques, et assurer leur réélection.

Pour l'IRF, l'indépendance d'un rapport émanant d'une commission gouvernementale sur l'environnement et qui conclut que les problèmes seront résolus par plus de taxes est suspecte. Même chose pour les rapports très médiatisés des groupes environnementalistes revendiquant l'absolutisme dans ce qui est encore, après tout, une science inexacte.

Ainsi, il est intéressant de rappeler que, il y a 25 ans, l'orthodoxie environnementaliste prétendait que la terre entrait dans une nouvelle ère de glaciation, et que l'activité humaine, l'industrialisation et la pollution de l'air qui en découlait (c'est à dire les causes mises en avant aujourd'hui pour le réchauffement

de la planète) étaient responsables de l'accélération de ce phénomène de refroidissement. Affirmer que «la majorité des scientifiques reconnaissent le phénomène de l'effet de serre» apparaît plutôt non-scientifique. En effet, ce résultat ne s'appuie sur aucun sondage d'opinion effectué au sein de la communauté scientifique montrant quelle proportion de scientifiques est vraiment d'accord là dessus.

Ce bref rapport ne prétend pas non plus être indépendant. Il a été rédigé par des spécialistes d'un secteur de l'économie, la route, secteur qui a très largement contribué à la prospérité, à la mobilité individuelle et à la livraison de biens et de services. Aucun autre mode de transport ne rivalise avec le secteur routier en tant que moyen d'amener les gens là où ils veulent, quand ils le veulent, ou encore, comme moyen de transporter les marchandises des producteurs aux distributeurs, puis des distributeurs aux vendeurs. Ainsi, quelque soit le moyen de transport utilisé - bateau, train, avion - la partie finale d'un trajet menant des personnes ou des biens d'un point A à un point B se fera *toujours* par la route.

L'impact négatif des routes doit être mis en balance avec les bénéfices indéniables que ces dernières apportent. Dans ce rapport, l'IRF se concentre sur l'un des impacts négatifs de la route : l'effet sur l'environnement. Ce rapport met en perspective la contribution de l'activité humaine aux concentrations de gaz à «effet de serre» dans l'atmosphère terrestre : seulement 3% de toutes les émissions à effet de serre proviennent de l'activité humaine, 97% des émissions sont émises via des processus naturels. Or, l'IRF reconnaît que, bien que cette proportion soit faible, son impact environnemental peut être suffisant pour fragiliser l'équilibre.

L'IRF reconnaît aussi que le trafic routier compte pour une proportion significative des émissions de gaz produites par l'activité humaine, environ 10%, et que ces émissions sont en croissance. De ce fait, l'IRF se penche sur les actions que le secteur routier à déjà menées pour réduire ses effets sur l'environnement et quelles mesures il pourrait et devrait prendre. A noter, par exemple, que le secteur routier a mis en place toutes les législations et rempli les objectifs fixés par les gouvernements, et ce, souvent bien avant les dates requises.

Ce rapport mène ainsi une analyse critique des politiques publiques suivies jusqu' à présent et suggère celles qui pourraient réussir à l'avenir.

Vorwort

Einer der weniger beachteten Aspekte der Bekämpfung des "Treibhauseffektes" ist die Tatsache das Lösungsansätze fast immer auf weitere "Öko-steuern" hinauslaufen, als ob "Öko-steuern" alleine Umweltprobleme lösen könnten. Es wird gerne argumentiert, dass "Öko-steuern" für die Finanzierung umweltfördernder Massnahmen verwendet würden. Sollte dem so sein, ist hiervon, wie zum Beispiel die Staus auf den Strassen zeigen, wenig zu spüren.

Das hält Regierungen nicht davon ab ihre Besteuerungspolitik fortzusetzen. Bessern sich Verkehrsprobleme trotz Steuererhöhungen nicht, so wird das lediglich als ein Zeichen von "Unterbesteuerung" angesehen und es werden die nächsten Steuererhöhungen gefordert. Die Gelder werden dann wieder nicht zur Verbesserung der Verkehrslage, sondern für andere Zwecke verwendet.

Unserer Meinung nach sind von Regierungen in Auftrag gegebene "unabhängige Expertenberichte", die weitere Steuerhöhungen vorschlagen, zweifelhaft. Gleiches gilt für "unabhängige" Berichte diverser Umweltgruppen, die einen Absolutheitsanspruch auf Umweltthemen anmelden.

Gerade was Klimaveränderung betrifft sollte nicht vergessen werden dass noch vor 25 Jahren eben die Faktoren, von denen heute vermutet wird, sie würden eine Erderwärmung verursachen, für eine Erdabkühlung verantwortlich gemacht wurden. Die Aussage, dass "eine Mehrheit von Wissenschaftlern sich über den Treibhauseffekt einig sind" klingt seltsam unwissenschaftlich angesichts der Tatsache das es keine Umfragen gibt in denen sich führende Wissenschaftler zu dem Treibhauseffekt bekennen.

Dieser IRF-Bericht nimmt nicht für sich in Anspruch, unabhängig zu sein. Er wurde von führenden Experten geschrieben, die aus einem der wirtschaftlich wichtigsten Sektoren kommen, einem Sektor der unseren Wohlstand, die Mobilität von Gütern und unsere eigene Mobilität garantiert - dem Strassensektor. Keine andere Transportform hat eine so umfassende Infrastruktur, keine andere Transportform bietet Individuen und der Wirtschaft flexibeleren Transport. Welches Transportmittel man auch benutzt, ob Eisenbahn, Schiff oder Flugzeug, am Ende wird *immer* eine Fahrt über Strassen stehen.

Dass der Strassenverkehr die Umwelt belastet steht ausser Frage. Solche Kosten müssen jedoch mit dem weit höheren Nutzen des Strassenverkehrs verglichen werden. Dieser IRF-Bericht konzentriert sich auf eine der negativen Auswirkungen, die der Strassenverkehr erzeugt – die Auswirkung auf die Umwelt. Auch wenn nur rund 3% aller "Treibhausgase" in der Erdatmosphäre auf menschliche Aktivitäten zurückzuführen sind und die restlichen 97% aus natürlichen chemischen Prozessen stammen, könnten es gerade diese 3% sein, die das Fass zum überlaufen bringen.

10% der menschlich erzeugten Treibhausgase werden durch Strassenverkehr erzeugt, wobei die

Tendenz steigend ist. Der bericht präsentiert die Massnahmen, die der Strassensektor schon ergriffen hat, um seinen Treibhausgasausstoss zu verringern und welche Schritte in der Zukunft getan werden sollten. Es sollte angemerkt werden, dass der Strassensektor immer sehr gut mit Regierungen kooperiert hat, um Vorschriften, häufig früher als vorgeschrieben, umzusetzen.

In diesem IRF-Bericht werden derzeitige Politikansätze kritisch analysiert und vielversprechende Ansätze für eine zukunftsorientierte, den Umweltanforderungen entsprechende moderne Verkehrspolitik präsentiert.

Prefacio

El curioso -y pocas veces examinado con atención- debate que rodea al denominado "efecto invernadero" suele centrarse en la propuesta de soluciones al problema sobre la base de proporcionar ingresos adicionales a los Gobiernos a través de las llamadas "ecotasas" –siempre bajo la suposición de que las ecotasas van, de alguna manera, a erradicar los problemas medioambientales-. En este sentido, se afirma que las ecotasas contribuyen a reforzar políticas medioambientales sólidas. Sin embargo, y aunque así fuera, el impacto de las intervenciones del sector público sobre el problema de la congestión todavía no ha sido analizado con detalle.

Sin embargo, este hecho no ha detenido a los Gobiernos en sus intentos por implantar este tipo de políticas. De algún modo, esta actitud es comprensible. Si los usuarios de la carretera siguen financiando las arcas del Estado sin que se produzca un efecto claro sobre los problemas de congestión, aún se les podrá exigir más: será el momento de implantar nuevos impuestos, los cuales podrán ser usados por los Gobiernos para el ajuste de sus balanzas presupuestarias y la introducción de partidas extraordinarias con fines electoralistas.

En nuestra opinión, la independencia de los informes medioambientales encargados por los propios Gobiernos y que concluyen que los problemas deben ser resueltos a través de la introducción de nuevos impuestos queda, cuanto menos, bajo sospecha. Lo mismo cabe señalar con relación a los informes elaborados por los distintos grupos ecologistas, usualmente aceptados como neutrales y objeto de numerosos titulares en los medios de comunicación, los cuales suelen reclamar soluciones absolutas en un campo que es, ante todo, una ciencia inexacta.

Debemos recordar al lector que hace 25 años, la ortodoxia medioambientalista aducía que la Tierra se adentraba en una nueva era de glaciaciones y que las actividades humana e industrial, así como la contaminación que acarreaban (las mismas causas citadas esgrimidas hoy en día respecto al calentamiento global del planeta), eran las culpables de acelerar el proceso de enfriamiento a escala planetaria. La afirmación de que "la mayoría de los científicos están de acuerdo con relación al fenómeno del efecto invernadero" no parece entonces, pues, demasiado rigurosa, salvo en el caso que se acompañe de una encuesta de opinión que refleje qué proporción de científicos de alto nivel comparten realmente dicha aseveración.

Este breve informe no se postula a sí mismo como "independiente". Por contra, está escrito por expertos de un sector de la economía, la carretera, que efectúa una gran contribución a nuestra riqueza, a nuestra movilidad individual y al intercambio de bienes y servicios. Ningún otro modo de transporte rivaliza con la carretera como el medio más eficaz de transportar personas donde quieren y cuando lo desean, así como de desplazar bienes desde los fabricantes a los distribuidores y de éstos a los puntos de venta finales. De hecho, se utilice la forma de transporte que se utilice – barco, tren o avión –, el trayecto final en el desplazamiento de personas o bienes de un punto A a un punto B *siempre* se efectuará por carretera.

Sin embargo, los impactos negativos de la carretera también deben contemplarse, a pesar de todos estos beneficios innegables. En este informe, la IRF se centra en el análisis del impacto medioambiental. Así, sitúa en la perspectiva correcta la contribución proporcional de la actividad humana en la emisión de gases a la atmósfera: sólo un 3% de las emisiones que contribuyen al efecto invernadero tiene su origen en el hombre; el 97% restante se produce a causa de procesos naturales. De todos modos, la IRF reconoce que, aunque esta proporción sea pequeña, el impacto medioambiental de las actividades humanas podría ser suficiente para romper el equilibrio climático.

Asimismo, la IRF admite que el transporte por carretera representa una proporción muy significativa de las emisiones humanas que contribuyen al efecto invernadero: un 10% y en ascenso. En consecuencia, el informe analiza qué ha hecho el sector hasta ahora para combatir este impacto medioambiental y qué medidas puede y debe tomar en el futuro. Baste resaltar, por ejemplo, que el sector de la carretera ha cumplido, a menudo anticipadamente, con las legislaciones y objetivos medioambientales a que ha sido enfrentado.

En definitiva, el presente Libro Blanco presenta recoge una valoración crítica de las políticas públicas desarrolladas hasta la fecha, al tiempo que sugiere qué tipo de medidas podría tener éxito en el futuro.

Contents

Tables and figures

Note:

The following text was researched and drafted by Christian Mory, Christopher Simpson and José Papí on behalf of Working Group I of the IRF Geneva Programme Centre

I. What is the “greenhouse” effect?

The greenhouse effect is a natural phenomenon. The sun’s energy heats the earth’s surface, and some of that heat is in turn radiated back. Certain gases in the earth’s atmosphere prevent this radiation from escaping into space. Thus the heat becomes trapped inside the atmosphere which, in essence, is like the glass cover of a greenhouse, hence the term “greenhouse effect”.

This “greenhouse effect” maintains the earth’s average surface temperature at +15°C, and is therefore a precondition for life on the planet – without the “greenhouse effect”, the average temperature would be –18°C.

This natural “greenhouse” effect derives mostly from water vapour present in the atmosphere. It is generally agreed that the quantity of water vapour in the atmosphere does not vary, so calculations take no account of its contribution to the “greenhouse” effect. Clouds, moreover, have a cooling effect by reflecting the sun’s rays.

Most CO_2 emitted into the earth’s atmosphere results from natural processes. Today, however, concentrations of “greenhouse” gas are rapidly increasing and a proportion of the scientific community believes that humankind’s contribution, small though it is, could easily tip the balance and contribute to global warming.

This study, therefore, focuses on the additional impact of other gases in the earth’s atmosphere on the “greenhouse” effect.

II. Greenhouse gases

Over the last century, while the quantity of water vapour has remained constant, emissions of other gases into the earth’s atmosphere have substantially increased, particularly carbon dioxide. This is largely due to vast quantities of CO_2 escaping into the atmosphere as a result of burning fossilised carbon to produce energy. Table 1 gives the contribution of each gas to the “greenhouse” effect, with column 3 showing the additional effect of each gas once water vapour has been discounted. The contribution of gases to the “greenhouse” effect varies.

Table I: Greenhouse gases

Gas	Contribution to the "greenhouse effect"	Additional contribution to the "greenhouse effect"
Water vapour	62.0%	0%
Carbon dioxide	22.0%	57.9%
Ozone	7.0%	18.4%
Nitrous oxide (N_2O)	4.0%	10.5%
Methane	2.5%	6.6%
Other rare gases	2.5%	6.6%

To ensure a standard form of measurement, “CO_2 equivalents” are frequently used. Thus, the CO_2 equivalent of nitrous oxide (N_2O) over a period 20 years is around 270, nitrous oxide’s effect over that period being about 270 times greater than CO_2.

What counts is the quantity of each gas present in the atmosphere, its capacity to absorb infrared rays and the length of time it remains in the atmosphere.

III. The “greenhouse” debate

The “greenhouse” debate began several years ago when scientists alerted governments and the general public to the dangers of global warming which, they said, could effect earth’s natural balance.

The issue was taken up by the Intergovernmental Panel on Climate Change (IPCC), a round table of world experts, set up by the United Nations at the end of the 1980s, to advise politicians and economists on scientific background to decision making.

IPCC calculations[1] on variations of the earth’s temperature over the last 150 years show:

- from 1860 to 1900, constant.
- from 1900 to 1940, a 0.4°C increase;
- from 1940 to 1975, no change;
- from 1975 to 1990, an increase of 0.2°C.

Interpretations vary: for some commentators, temperature variations are a natural phenomenon; for others, they mean that human activity is causing the temperature of the planet to rise.

The latter group believes that humankind is now going to reap the consequences of economic development, which include:

- extensive deforestation programmes, depriving the planet of the means to absorb CO_2
- energy-consuming industrial activity on the increase for over a century, fuelled initially by fossil sources (carbon, petrol, gas) which emit carbonic gases; these accumulate in the earth’s atmosphere together with other greenhouse gases, and compound the greenhouse effect, which thus leads to global warming.

[1] Intergovernmental Panel on Climate Change (1990)

IV. Climate change and public policy

In June 1992, the United Nations held a Conference on the Environment and Development in Rio de Janeiro, Brazil. One of its major outcomes was heightened international awareness of the “greenhouse” effect, with the signature, by 150 countries of the Draft Convention on Climate Change. Clause 2 deals with stabilising concentrations of greenhouse gases in the atmosphere to avoid dangerous disruption of the earth’s climate. The Convention calls for a commitment from industrialised countries to stabilise their greenhouse gas emissions to 1990 levels.

In December 1997, at a conference in Kyoto, Japan, 38 industrialised countries committed themselves to reducing their greenhouse gas emissions by 5.2% by 2008 to 2012. The six greenhouse gases identified during the course of the conference are: CO_2 (carbon dioxide), CH_4 (methane), N_20 (nitrous oxide), HFC, PFC and SF_6.

From 1997 on, greenhouse gas emissions began to figure high on government agendas with all sectors of the economy called upon to reduce emissions. In the absence of hard evidence, policy-making is based upon the “precautionary principle”: since we do not know if the danger is real or not, let us prepare ourselves for the worst just in case.

V. An inexact science?

Yet doubts remain:

First, it is unclear what relationship exists between concentrations of carbon gas in the atmosphere and rising temperatures. Climate mechanisms themselves are extremely complex and scientific understanding of interactions between water vapour, clouds and oceans is incomplete.

Second, a body of scientists strongly disagrees with the IPCC's findings.

Third, there are no standard formats for measuring gas emissions. Data on greenhouse emissions varies according to the source of information, and changes from year to year and according to units of measure, sometimes expressed in tonnes of CO_2, sometimes in tonnes of carbon. If meaningful interpretations are to be made, criteria, units and methods for quantifying emissions need to be unified, and hypotheses based on models, for example, mobility models, should be systematically monitored.

VI. Some data on greenhouse emissions

1995 data from the Technical University in Vienna show:

Table II: Composition of earth's atmosphere

H_2O (present in nature)	60 to 95%
Other greenhouse gases (present in nature)	5 to 40%
Greenhouse gas (from human activity)	0.5 to 1.5%

According to this data, therefore, human activity, accounts for between 0.5 and 1.5% of total greenhouse gas production. Proportions of each gas are:

Table III: Greenhouse gas proportions

Tropospheric ozone (O_3)	2 to 10%
Nitrous oxide (N_2O)	2 to 10%
Stratospheric H_2O	0 to 10%
CFC	5 to 25%
Methane (CH_4)	10 to 25%
Carbon dioxide (CO_2)	35 to 65%

According to a 1996 environmental report from Volkswagen, a German vehicle manufacturer, quoting IPCC sources, a total of 796 billion tonnes of CO_2 is released each year into the earth's atmosphere. Of this

- 770 billion tonnes is from natural processes,: 43% from the ocean, 23% from the earth, 28% from vegetation and 1% from the combustion of biomass.
- 26 billion tonnes is produced as a result of human activity.

Thus, 97% of all CO_2 emissions into the earth's atmosphere come from nature itself, with only 3% produced by human activity.

Proportional production of CO_2 emissions from the various sectors of the economy are given in Table IV:

Table IV: Emissions by sector of the economy

Power stations	25%
Households and small businesses	23%
Industry	21%
Biomass combustion	15%
Road traffic	10%
Air transport	2.7%
Other forms of transport	2.2%
Water transport	1%

VII. Is road traffic a special case?

Road traffic, then, according to the estimates of Table IV, accounts for 10% of all greenhouse gas produced by human activity, i.e. 0.3% of total greenhouse gas production.

Some people view road traffic as a special case because emissions from the sector will inexorably rise and eventually become difficult to control. However, as this report will later show, demand for transport is unlikely to explode.

In 1995, the OICA (International Organisation of Motor Vehicle Manufacturers) made a forecast of CO_2 emissions from road vehicles. The results are given in Figure 1, page 9, and show the situation is far from being the disaster some commentators suggest.

It has to be added that OICA's forecasts were made *before* supplementary measures to reduce CO_2 emissions were taken in various parts of the world such as the 1998 voluntary commitment of ACEA (European Association of Motor Vehicle Manufacturers) to reduce emissions by 2005.

OICA's forecasts are therefore on the pessimistic side.

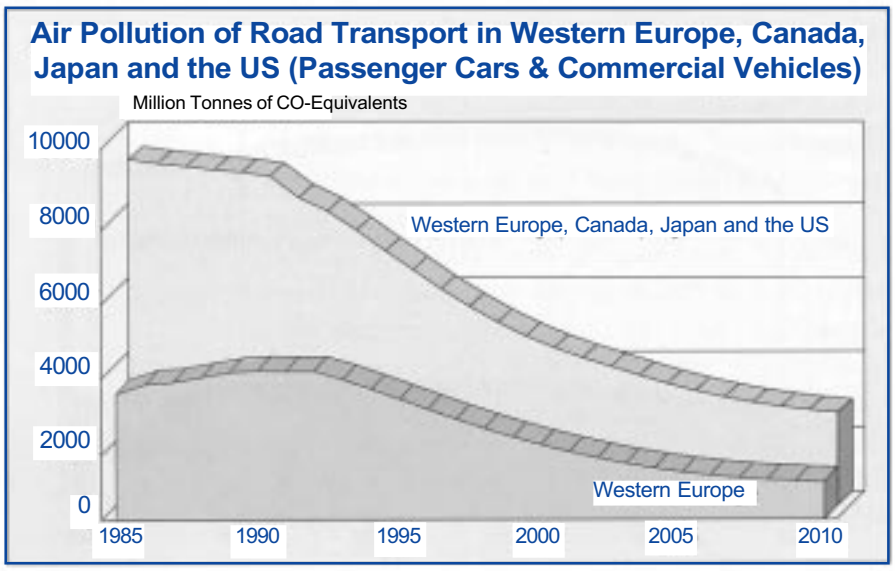

Figure 1: CO_2 emissions of road transport in Western Europe, Canada, Japan and the United States (passenger cars and commercial vehicles)

Even in the worst case scenario - i.e. if worldwide emissions of CO_2 from motor vehicles were to double within 20 years - total emissions of CO_2 from natural processes and from human activity would rise by only about 0.3%.

Thus, the transport sector can and indeed should make its contribution to reducing greenhouse emissions in the same proportion as other economic sectors.

Measures taken to control road traffic's contribution to CO_2 can therefore have only a minimal impact on total emissions. In the following sections, we review the origins of greenhouse emissions from the road sector, what reductions can be made and policies likely to result in reductions.

VIII. Greenhouse gas emissions from the road sector

Greenhouse gas from the road sector comes mainly from carbon dioxide emitted during fuel combustion in vehicle engines. Emissions are directly related to fuel consumption. Principal fuels are petrol and diesel.

Other road sector and related greenhouse emissions are: fuel refineries, road bitumen, vehicle manufacturing plants, leaks from vehicle air conditioning systems, and so on.

Table V: Some data on road vehicles

Vehicles in use (units)	630,000,000	of which
	480,000,000	cars
	150,000,000	commercial vehicles
Annual mileage (cars 1995)	In kilometres	
	12,000 to 15,000	EU
	10,000	Japan
	20,000	USA
CO_2 emissions (cars)	In g of CO_2 per km	
	186	EU
	191	Japan
	250	USA

Source: IRF, ACEA, JAMA, MVMA

Automobiles emit 1.7 billion tonnes of CO_2 per year and account for 6.5% of all emissions from human activity:

- total emissions: 796 billion tonnes
- emissions from natural sources: 770 billion tonnes
- emissions from human activity: 26 billion tonnes
- emissions from automobiles: 1.7 billion tonnes

IX. Improving fuel consumption

Fuel consumption is an important factor in choosing a motor vehicle. Motor vehicle manufacturers and their suppliers have been trying to find ways of reducing fuel consumption ever since the car was invented, and well before people began to worry about the greenhouse effect.

Today, most countries levy high taxes on fuel: fuel costs are thus a significant proportion of the running costs of a private car. Furthermore, energy savings are an integral part of road professionals' culture because fuel consumption of heavy vehicles - trucks, coaches and buses - has an impact on operating margins and competitiveness.

1. Technology

Motor vehicle fuel consumption can be reduced in a number of ways

- improving the performance of vehicle engines;
- improving vehicle aerodynamics;
- reducing friction between tyres and the road surface;
- manufacturing lighter vehicles; and
- by developing new methods of propulsion.

However, these need to be weighed against other vehicle improvements such as vehicle safety (which can increase vehicle weight), environmental characteristics (a catalytic converter increases fuel consumption) or comfort demanded by the customer (car air-conditioning systems consume energy).

In addition, motor vehicles are consumer products, unlike aeroplanes or high-speed trains of which only a few are manufactured and the number of people involved relatively small. Price is a major issue: will a consumer pay for a feature which he or she perceives as unnecessary?

2. Traffic flow

Vehicles travelling at constant speed use less fuel than vehicles caught in traffic jams, so improving traffic flow will lower fuel consumption. This can be achieved by:

- building new or upgrading existing infrastructure
- improving road markings and
- installing information systems.

3. Driver training

Educating and training drivers in economy driving skills can also help reduce overall fuel consumption, as can providing drivers with advance information on traffic congestion. *(See also page 17)*

X. Transport policy

Given public perception of road traffic's massive contribution to the "greenhouse" effect, decision-makers, backed by a number of interest groups, have come up with a variety of policies aimed at restricting the use of road vehicles.

1. Taxation

Policy-makers frequently view hikes in fuel taxes as the means of getting people to abandon their road vehicles.

In some countries where fuel is heavily taxed, fuel prices may influence choice of vehicle, people opting for more fuel efficient models. But in such countries, it would need a truly enormous tax hike for motorists to react.

Some countries levy taxes on motor vehicles based on fuel consumption. The tax is charged either at purchase or on-the-road. Fairness demands a constant reference tax level, with equitable distribution of tax between high paying motorists and those paying less. And, since fuel taxes are already high, the motorist is well aware of fuel consumption costs.

In addition, following the "fuel consumption" tax to its logical conclusion, should other factors such as "safety" and "pollution" also be calculated into vehicle taxation; and, if they are, how is the relative importance of each factor to be measured and reflected in tax rates?

In the end, customers define their own priorities: purchase price and running costs are just two criteria in determining choice of vehicle.

Conclusions

- People use cars and companies use trucks because they have qualities which, regardless of cost, other modes of transport lack: flexibility, rapidity, reliability and quality of service.
- Transport is a key factor in the efficient running of an economy and also a substantial proportion of company expenditure (about 15%). Increasing road transport costs would only result in damage to the economy.
- High motoring taxes would benefit the entire transport system only if the tax revenues are directed towards improving the road network and installing intelligent transport systems.

2. Regulation

The United States has already implemented the CAFE fuel consumption standard (Corporate Average Fuel Economy). CAFE has two major disadvantages. First, it exists as a rigid factor in a free market which discriminates against manufacturers specialising in luxury vehicles. Second, regulation often fails to anticipate technical development.

Conclusion
The most effective way of improving vehicle performance is through customer demand and technical progress, not through laws and regulations.

3. Encouraging users to switch transport modes

Some modes of transport, such as underground, suburban or long distance trail, and bus are claimed to be more energy-efficient.

In some cases this may be true. However, a bus or locomotive diesel engine running in a rural area transporting no or few passengers or buses travelling during low-peak periods consume far more energy per head than many cars.

A German parliamentary study shows that equivalent fuel consumption for a locomotive is 4.9 litres per 100 passenger/km against 4.7 litres per passenger/km for a car.

A study by the Niels Bohr Institute (Denmark, 1995) compared the fuel consumption of different transport modes in Denmark. Table VI shows the energy consumption differential of the different modes of transport, less perhaps than most people imagine. In Denmark, for instance, Table VI shows it is more cost-effective to build bridges and tunnels to ease traffic flow than to keep ferries running. In fact, the long-distance bus (coach) consumes the least energy.

Table VI: Fuel consumption of transport modes

MJ / passenger X km	
Motor car	4.4
Coach	0.5
Bus	1.5
Metro	1.2
Other rail transport	1.0
Air transport	2.2
Ferry	6.4

Policies to encourage users to switch transport modes often ignore the fact that, in most cases, a switch is not possible. In urban areas, the trips which are most on the increase are those made outside the city centre and between suburbs. For these trips, public transport, generally designed to connect suburbs to the city centre and not suburb to suburb, is not an option.

Similarly, most freight is transported over short distances. Rail, efficient only over long distances, fails to offer a credible alternative to road, especially since railway networks are less dense than road networks. Freight has to be transported by road before it is loaded on rail and after it is unloaded, which wastes times and increases costs.

Finally, road has such a massive share of the transport market that a switch to rail is not feasible due to lack of rail capacity.

Conclusions

- To mitigate the “greenhouse” effect, it is more cost-effective to concentrate resources on upgrading the energy performance of the entire road system.

- Policies aimed at switching transport modes would have only a minimal effect.
- The road's success is due to its quality of service and great flexibility. Using the greenhouse effect as an argument against road use is counter productive and potentially damaging to the economy.

4. Reducing road traffic

Other policy ideas seek to place arbitrary limits on road traffic, arguing that road traffic is always on the increase, that it is damaging to the environment and unnecessary in industrialised societies.

This kind of policy, in the IRF's view, is based on two false assumptions: first, that some journey's are unnecessary, and second, that the number of kilometres travelled is on the increase.

Transport has always played a crucial role in human development, both as a means of encouraging exchanges between peoples and promoting commerce and trade. Mass land transport of goods and people became possible in the 19th Century with the arrival of the railway. Today, transport focus has changed. It is more and more based on solutions tailored to individual person or company needs. Just-in-time delivery, a great consumer of transport, has helped raise industrial productivity.

Table VII: Average kilometres travelled per year (passenger cars)

	1970	1980	1990
United States	16,530	14,700	16,970
Germany	16,500	13,200	14,500
Japan	17,793	11,208	10,401

Source: AAMA, JAMA, VDA

On the other hand, while the number of journeys has increased over the years, the number of kilometres travelled has actually diminished *(see Table VII)*. Supply companies are now moving closer to their client companies.

It is also inaccurate to assume that journeys will go on increasing. In most industrialised countries, vehicle ownership is almost at saturation point and people have reached their satisfaction level as far as number of journeys are concerned.

Travel consumption thus follows the development pattern of other forms of consumption such as food and health products, i.e. a period of heavy consumption – the "catching up" phase – followed by a period of stable consumption.

Conclusions

- Policies to reduce traffic are based more on political ideology than on factual reality;
- For passenger trips, shorter working hours and more leisure time mean more visits to friends and family, cultural trips and away breaks. Can these be considered as useless trips? People are not "prisoners" of their cars. They have simply made the choice about the kind of life they want (house, garden, pleasant environment away from it all), all made possible by the car.

XI. Policies that work

1. Developing fuel efficient vehicles

Developing fuel efficient vehicles is the most effective way of reducing "greenhouse" gas emissions from road traffic. Fuel price may influence both which model customers choose and their driving behaviour. Industry should be trusted to respond to market demand for fuel-efficient vehicles.

Well-known technical and design parameters of fuel-efficient vehicles include:

- vehicle aerodynamics *(see Table VIII)*;
- weight reduction;
- improved petrol and diesel engines;
- electronics to optimise engine output;
- better gear boxes,

and so on.

Less well-known parameters are new types of engines, such as electric, hybrid (with petrol or diesel) and hydrogen engines. In the long run, a revolution in engine technology could lead to the development of fuel cell operated vehicles, although in the short to medium term engine design will continue to be based on petrol and diesel.

2. Better tyre technology

Tyre manufacturers have developed new generations of low-resistance tyres that reduce energy consumption without jeopardizing performance. These tyres have equal levels of adherence to the road surface, so there is no compromise on safety, and are just as durable, so lead to no increase in consumption of raw materials.

Table VIII: Resistance at 100 km/h

	Car	Truck
Air	65%	50%
Internal friction (e.g. transmission	15%	10%
Tyres	20%	40%

Source: Michelin

If these new tyres were fitted to all road vehicles currently in use, not just new generations of vehicles, it would help speed up the process of reducing carbon gas emissions.

Tyre manufacturing is energy intensive: some 200 different raw materials go into a tyre before the vulcanization process. A single tyre's total energy content is equivalent to 27 litres of oil (21 litres in raw material, 6 litres in the manufacturing process).

In the future, economies of energy in tyre manufacture can be made by:

- simplifying the manufacturing process: over the last 20 years, technology has helped reduce energy required to manufacture a tyre by 30%;
- reducing the weight of a tyre: radial and tubeless tyre technology has already made a major contribution to reducing the weight. Manufacturers envisage further reductions in the weight of tyres for heavy trucks.

3. Vehicle maintenance

To achieve real environmental objectives, attention should focus on all motor vehicles, not just new vehicles. Features such as on board diagnostics systems can monitor engine output, while regular technical inspection reveals if vehicles are well-maintained and operating under optimal conditions.

4. Vehicle fleet renewal

It takes about ten years for the national vehicle fleet to be renewed. Providing incentives to replace old gas-guzzling vehicles with newer, fuel-efficient models, for instance payouts to scrap old vehicles, would speed up the process of fleet renewal and help reduce carbon gas emissions.

5. Motor fuels

Oil companies are improving their petrol and diesel products, such as lowering sulphur content, to increase fuel efficiency, comply the new environmental regulations and respond to new developments in engine technology.

Alternative fuels such as natural gas produce lower CO_2 emissions.

On the other hand, some experts thinks that plant-based fuels may not provide the answer to CO_2 emissions because of their negative overall energy and environmental performance from cultivation to final use *(but see also under item 7)*.

6. The road network

Motor vehicles achieve optimal performance where traffic flow is most fluid. Ways of improving traffic fluidity, reducing congestion and hence lowering fuel consumption are:

- Building new road infrastructure where necessary;
- improving current infrastructure;
- installing road signs providing both directions and information on the road network to allow motorists to choose the best route.

In the United States, for example, Intelligent Transport Systems (ITS) are being installed in 75 of the largest urban areas, an investment that should help reduce journey times by 15%.

7. Other action

- CO_2 concentrations in the earth's atmosphere can be reduced by creating CO_2 wells. These are areas of forest which absorb the carbon gas. For example, in 1998 PSA Peugeot Citroën, a French automobile manufacturer, announced that a CO_2 well covering 12,000 hectares had been planted in the Brazilian rain forest.
- A similar initiative, launched by Formula 1 Grand Prix organisers, involves a reforestation programme in the Chiapas region of Mexico.
- A Spanish initiative, Gasarbol, has shown that 3.1 tonnes of CO_2 might be absorbed for every hectare reforested.

- In 1998, Toyota, a Japanese motor vehicle manufacturer, set up a company in Australia which will plant 5,000 hectares of eucalyptus trees each year over a period of ten years. In the eleventh year, the company will harvest the trees and process them into raw materials for paper. The environmental advantage of eucalyptus trees is that they grow very quickly and are said to be at their most efficient in absorbing CO_2 during their first thirteen or fourteen years of growth. One hectare of eucalyptus can absorb and solidify five to six tonnes of CO_2 per year. 5,000 hectares should absorb between 25,000 and 30,000 tonnes annually.
- The ecosystem of rubber plantations can absorb massive quantities of carbonic gas. The tyre industry consumes about 70% of natural rubber production and using natural rubber in the manufacture of tyres, for example, would help reduce concentrations of CO_2 in the earth's atmosphere, thereby providing support to measures taken to limit "greenhouse" gas emissions.
- Plant-based materials could replace plastic or metal in some vehicle parts.
- Plant resources might be used both for absorbing CO_2 and for manufacturing fuels, and thereby contribute to reducing CO_2 concentrations. Sugar cane alcohol, for instance, is used as fuel in Brazil.

8. Additional information

Table IX gives estimates of the relative impact various measures have on reducing *CO_2* emissions

Table IX: Potential of different road features for reducing CO_2 emissions (In % - different percentages cannot be combined)

Enlarging the road network	40
Replacing crossroads with bridges	30
Building bypasses	25
Eliminating level crossings	13.5
Pre-selection at traffic lights	15
Traffic flow management	30
Synchronised traffic lights	40
Traffic jam reduction	22
Management of urban traffic	40
Management of extra-urban traffic	30
Management of traffic on motorways	20

Source: VDA, IW Cologne

European Round Table of Industrialists

Environment Group

Response to the European Commission Green Paper on Greenhouse Gas Emissions Trading within the European Union

General

Business and industry across Europe recognise that the costs of inaction to combat climate change may well outweigh the costs of mitigation efforts now. They accept that they have a key role to play in mitigating climate change, and want to be part of this process - by improving their own efficiency, and by bringing new technologies to market that offer more efficient opportunities.

The European Round Table of Industrialists (ERT) sees emissions trading as an important opportunity, encouraging efficiency and providing incentives for business and industry in an overall framework of policies designed to encourage all sectors of the economy to reduce greenhouse gas emissions. It is therefore a vital element of involvement and motivation. Without trading, costs will be higher and environmental results almost certainly less.

The ERT supports this "learning by doing" approach put forward in the Commission's Green Paper, and considers an EU trading scheme a useful tool in this context. Any EU scheme needs to be compatible with the international system to be put in place by 2008.

The ERT agrees with the general presentation of the interest of emissions trading presented in the Green Paper. It supports the following general criteria for a trading scheme:

- Relative as well as absolute targets should be accepted.

- Allocation method should be fair and rules must be made such that they are acceptable under State Aid provisions.

- Auctioning is not acceptable as a basic allocation mechanism, since it represents an additional and unfair burden to industry that will not help combat climate change, but might be considered for new entrants.

- Tax rules applicable to emissions trading should be harmonised at EU level to equalise trading conditions for all participants.

Emissions trading should not be seen as supplemental to existing fiscal measures, or to regulation. To realise the benefits of trading it should be introduced as an alternative to other measures, ensuring that the signals to business are unambiguous.

In order to get a real "learning by doing" process, other flexible mechanisms must also be available to industry, and no limitation on the types of projects should be imposed as long as they contribute to reducing greenhouse gas emissions.

National trading schemes should be encouraged to start as soon as possible, and the broader, the better; therefore these national schemes should be interconnected. The European Union should establish a general framework for such schemes as soon as possible.

Comments on the ten specific questions raised in the Green Paper

These comments must be seen in the context of the previous general points.

Question 1: *Which sectors should be covered by emissions trading within the Community? Do the LCP and IPPC Directives offer a useful starting point for defining the sectoral coverage of a Community emissions trading system?*

The scheme should start with a small, but significant number of sectors that are major contributors to total greenhouse gas emissions. However, emissions trading should be progressively extended to any sector that can contribute towards mitigating greenhouse gas emissions, even if not covered by European Union directives. The trading system needs to cover all the gases, to ensure it can be extended to other sectors, since a multiple gas approach to emissions mitigation is likely to have significantly lower cost advantages.

Question 2: *Should there be a common emissions trading scheme within the European Community for certain sectors in the interest of fair competition, maximum transparency and legal certainty for companies?*

For the sake of maximum transparency and simplicity, a common emissions trading scheme within the European Community is desirable, providing a framework to link national systems across the EU. However, it is important that the development of an EU scheme is seen as a stepping stone to an international trading framework as agreed between the parties to the Kyoto Protocol. In addition, activities under the EU scheme need to be recognised at Member State level.

***Question 3**: Would the flexibility offered by a co-ordinated scheme such as "opting-in" / "opting-out" be compatible with the requirements of the internal market, or would any advantages of such flexibility be outweighed by increased complexity?*

The flexibility offered by "opting-in"/"opting-out" schemes would create complexity and could pose problems for companies operating in several Member States. Therefore the goal should be to have a common Community scheme.

However, any delay to agree such a scheme would be harmful to the environment, so it would probably be more practical to start by defining minimum requirements for national schemes in terms of target setting, trading units, monitoring, verification, etc.

***Question 4:** What scope is there for individual Member States to include more sectors in their domestic trading scheme than might be covered by a Community scheme?*

Member States should be allowed to include any sectors in the trading scheme, providing that the necessary minimum requirements can be met.

***Question 5:** Should the overall amount of allowance allocated to the trading sector in each Member State be subject to agreement at Community level?*

Given the different national targets and the different starting points of national sectors, agreement at Community level would seem unlikely. Therefore, the amounts allocated (targets set) should at least be transparent and justified by the Member State concerned, and if possible, aim towards some degree of harmonisation within the European Union.

***Question 6:** Should the way in which allowances are allocated to individual companies be the subject of agreement at Community level? Or do you consider detailed guidelines based on the State Aid provisions and other rules of the Treaty to be sufficient to safeguard fair treatment?*

Agreement at Community level would be optimal, but is not necessary. The allocation method (target setting) should be subject to certain minimum requirements (as mentioned in our answer to question 3). These would probably take the form of guidelines based on the State Aid provisions and other rules of the Treaty.

***Question 7**: Is it agreed that a balance has to exist between sectors engaged in emissions trading within the Community on the one hand, and non-trading policies and measures applied to other sectors on the other?*

An equitable system needs to be put in place, but that applies more to the target setting between sectors than to the trading versus non-trading sectors. It is recognised that initially the scheme will need to be limited, but efforts should be made to include as many sectors within the scope of trading as is practical. Burden sharing of national and Community commitments must recognise the previous efforts of both companies and industry sectors that have already reduced their emissions.

***Question 8**: How can environmental effectiveness (in terms of fulfilling the Kyoto Protocol's commitments) and transparency be safeguarded using a mix of emissions trading, energy taxes and environmental agreements with targets based on energy efficiency per unit of output?*

A relative unit-based target might be environmentally more stringent than an absolute target. The risks to the national or EU target of overshooting by the trading sector of industry with relative targets should not be exaggerated. After all, most of rest of the economy will not have absolute caps either.
The target setting will have to prove its validity through its achievement over time and should be reviewed from time to time. A prerequisite to this is a sound and transparent monitoring system.

***Question 9**: Are the currently available instruments (Monitoring Mechanisms, infringement procedures) sufficient or should additional tools be developed in order for the Community to adequately assess compliance in the context of emissions trading within the Community?*

Currently available instruments are sufficient.

***Question 10:** Do the elements of compliance and enforcement mentioned above warrant co-ordination or harmonisation at Community level, and which elements are more appropriately undertaken by Member States?*

Member States will be fully responsible for compliance with their commitments in the EU bubble. Therefore Member States should assume responsibility for the entities under their authority that they have allowed to trade. Moreover, they should guarantee the validity of their duly certified emission reductions.

Climate Change

How Government and Industry can work together

A report from
the European Round Table of Industrialists

ERT

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The Report does not claim to represent a unanimous view of all ERT Members.

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September 2000

Front cover: co-generation at the Solvay Plant, Jemeppe, Belgium

Design: Qwentès

TABLE OF CONTENTS

A Message from the European

Three years ago, the European Round Table of Industrialists (ERT) produced a report which emphasised and demonstrated that European Industry "wants to be involved in the process of developing workable policies to deal with the possibility of climate change".

A great deal has happened since then.

In December 1997, parties to the United Nations Framework Convention on Climate Change met in Kyoto, Japan and established a Protocol which seeks to limit greenhouse gas emissions.

Subsequently, the European Union committed itself to reduce its share of these emissions to a level 8% below the 1990 average by 2008-2012. And the Commission has emphasised the obligation to show "demonstrable progress" by 2005, and is developing an EU strategy to propose policies and measures to help achieve this reduction.

European business and industry have not been idle either, as this report underscores and illustrates through a range of examples from the members of ERT and other companies.

We recognise that we are likely to work in a "carbon constrained" future which is bound to have a profound influence on our operations and markets. ERT members are now facing up to this challenge, testing strategies, plans and products against these emerging issues, and becoming involved in the policy debate in those places where they operate in Europe and beyond.

As ERT companies are already demonstrating, there is much that business can do. With the right policy framework and constructive co-operation with governments, business and industry can develop more and better answers. For sound commercial reasons, business will naturally work first to achieve lower greenhouse gas emissions from its own operations. But there is also the need to ensure that the Kyoto mechanisms are developed to allow companies to reach out to the lower cost opportunities they will generate.

The ERT believes that policy towards climate change should be framed to encourage action which is effective, realistic and targeted at reducing emissions of greenhouse gases. We also believe that any measure should be:

- **Competitive**: Business and industry can and will do much, but mitigating emissions of greenhouse gases is not a simple task, particularly after the "early wins". Policies which do not reduce excessive cost or burden, do not recognise the competitive markets in which business operates, and do not appreciate the time scale needed to develop more innovative solutions will be counter productive.

ROUND TABLE OF INDUSTRIALISTS

- **Global:** It is understood that in EU Member States there will be both national and EU-wide policies and measures. But climate change is a global issue, and business and industry welcome the initiative by governments to develop an international policy framework which will open up the potential for a wider range of solutions.

- **Long Term:** Many of the changes needed for effective greenhouse gas abatement will take time to develop and implement. Governments should understand and support this, recognising that the pace of improvement will accelerate over time.

To achieve the best approach, governments should consult fully with all those likely to be affected by action to reduce emissions. Policies and measures that are agreed should form an enabling policy framework that is capable of motivating and mobilising broad support among both regulators and business and industry, and above all among individual consumers. The test of good policy should be its ability to deliver environmental goals in an effective and realistic manner.

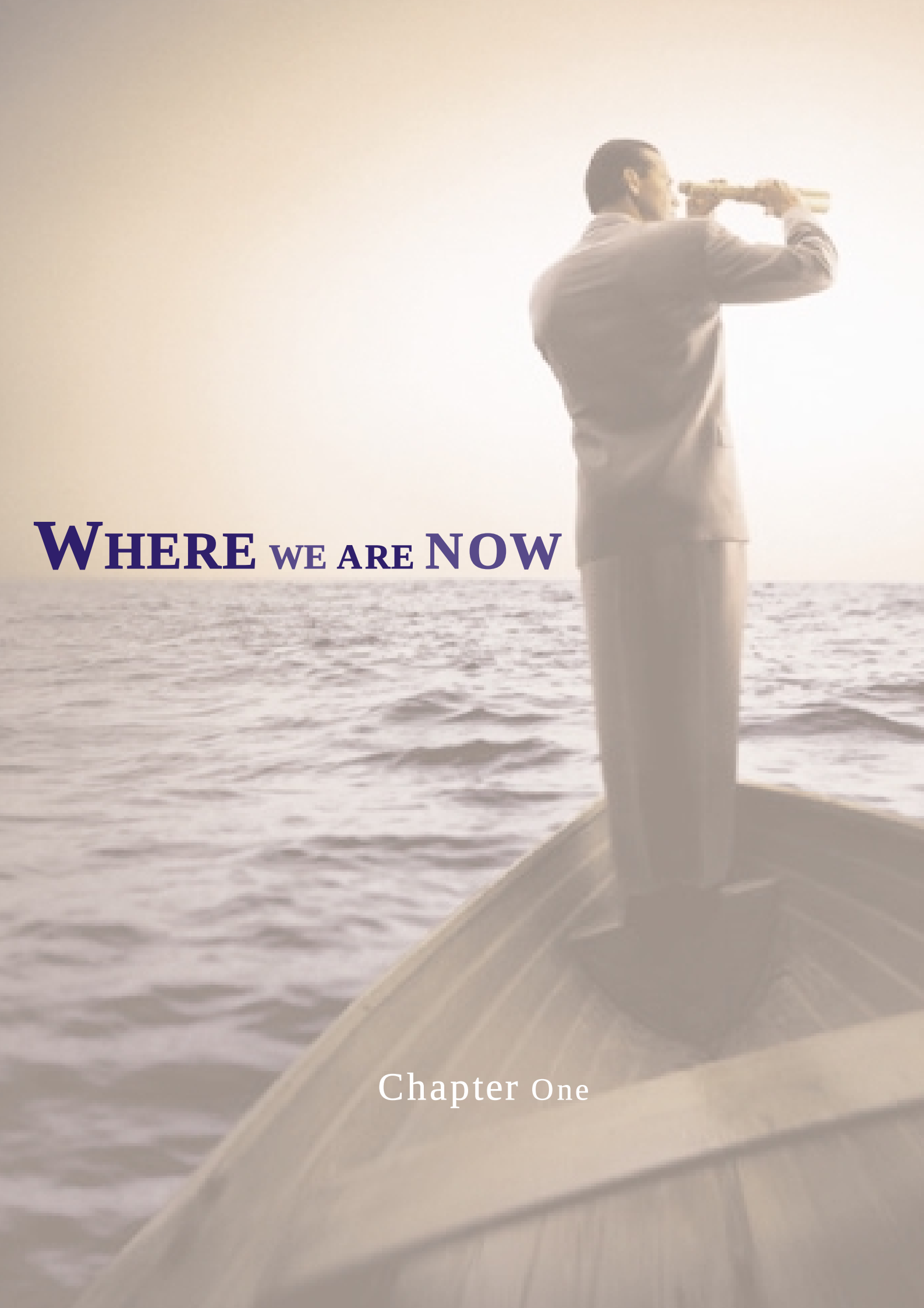
In our view, the best way forward is to foster and encourage constructive behaviour by all concerned. This calls for a judicious mix of government policies and measures, with instruments designed to encourage voluntary action and to offer business and industry the flexibility they need to develop appropriate approaches to suit specific circumstances.

Proper motivation is the key to business success.

Our report illustrates the real contribution that different sectors of industry and different companies in Europe are already making to help meet Europe's commitments to reduce greenhouse gas emissions. It also makes recommendations designed to smooth this process and sets out the ERT's views on how the Kyoto mechanisms should best be implemented, which is a major part of the agenda for the Sixth Conference of the Parties to the United Nations Framework Convention on Climate Change in November 2000.

I hope you find this report helpful. We would be pleased to discuss its implications with those wanting to take these issues further.

Louis Schweitzer
Chairman & Chief Executive Officer – Renault
Chairman – ERT Environment Working Group



WHERE WE ARE NOW

Chapter One

The Member States of the European Union and the European institutions face the challenge of developing a framework which translates into reality the commitments made in Kyoto to reduce greenhouse gas emissions.

To be fully effective, any framework will need to contain certain key elements. In the ERT's view, these should include:

- **A stable, predictable and flexible investment environment.**
- **Equivalent treatment for all industries throughout the European Union.**
- **Target setting which reflects the particular characteristics of individual industries.**
- **Policies and measures, at both national and EU level, which are attuned to their target.**
- **Sound and transparent procedures to monitor greenhouse gas emissions and to ensure compliance.**
- **Encouragement and recognition for early action in order to demonstrate progress.**
- **Encouragement for innovation through the use of the market, with minimal government interference.**
- **The removal of direct and indirect energy subsidies and moratoria.**

Business and industry across Europe recognise and accept that they have a key role to play and want to be part of this process – by improving their own efficiency and by bringing new technologies to the market that offer more efficient options.

Business and industry also recognise that an effective response to climate change will be achieved only by involving and motivating all stakeholders. To deliver this, the commitment of policy-makers and opinion-formers is essential.

European Community Strategy

Chapter Two

At the June 1998 meeting of the EU Environment Council, ministers defined areas where it would be appropriate to establish common policies and measures to be co-ordinated at EU-level and requested the European Commission to make proposals.

The ERT considers that there should be an important role for standards, norms, audits, and public information to help change behaviour in the household and transport sectors. Guiding consumer response, we believe, must be a major part of any successful Community strategy.

We note that, among other things, the Commission and some Member States favour energy taxation as the prime example of an appropriate policy.

In the ERT's view, taxation threatens the competitiveness of energy-intensive industry in Europe and has been shown already to be ineffective in reducing greenhouse gas emissions by industry.

In our report on climate change in 1997, we set out the criteria we considered necessary for effective policies and measures that avoid competitive distortions both in the EU Single Market and globally. These remain as valid today as they were three years ago and are restated here.

In our view an appropriate and effective mix of policies and measures should:

- **Motivate and encourage voluntary action and initiatives by business and industry.**
- **Be environmentally effective and coherent with other EU priorities.**
- **Encourage selection and implementation of the most cost-effective options.**
- **Be environmentally efficient as defined by cost-benefit analysis.**
- **Be flexible, adaptable and easy to administer, with low transaction costs.**
- **Command public support, demonstrate compliance and be transparent.**
- **Be consistent with the existing regulatory framework.**
- **Work within the time frame needed to achieve environmental objectives.**
- **Avoid distortions and trade barriers to be consistent with the Single Market.**
- **Promote the global competitiveness of European business and industry.**

Climate change is one of a number of government policy areas and it is important that the different objectives should be reconciled. In particular, we continue to believe that it is crucial that climate change response policies do not undermine the ability of business and industry to succeed in competitive global markets.

However, we are also convinced that properly designed policies to reduce greenhouse gas emissions can provide a competitive opportunity, rather than a threat. Any actions that are taken should be realistic – and therefore be based on sound science – and encourage energy efficiency and the greater use of sustainable resources. They should also promote research into low carbon technologies for which there are many opportunities.

Beyond this, any policy initiatives that are promoted should deliver sufficient results and benefits to justify their cost. Many companies have already made considerable progress in improving their use of energy and these early movers should not be disadvantaged. Gains already achieved need to be recognised and credited in an appropriate way.

If these guidelines are followed, industry commitments and agreements offer the real possibility of early contributions to demonstrable progress. Linked to the Kyoto mechanisms, they will increase confidence in industry's ability to deliver against the targets set within the European Union.

What Industry is doing through Innovation

Chapter Three

Demand for energy and mobility is set to grow substantially over coming decades, particularly among non-OECD states. In view of this, fundamental solutions to the issues surrounding climate change are only likely to be delivered in the longer term by developing technologies that expand the supply of energy services, such as heat, light and mobility, while reducing greenhouse gas emissions.

The ERT therefore believes that a major element of any long-term strategy to combat climate change must be research and development. We believe that governments, in close co-operation with business and industry, should be refocusing and redoubling their research efforts in this area. A credible European climate change response programme will require substantial government support for the development of new climate-friendly technologies and products.

European business and industry are already using their ingenuity to push forward the development of such technologies, as examples in this report emphasise. Business success is frequently underpinned by the development and application of new technology, but in the field of climate-related technology there is clearly a case for considering the kind of co-operative approach and funding which is practised to a greater extent in the USA – particularly if we wish to advance the contributions of some of the potential initiatives. Subsidies, taxes and levies that distort energy markets and act as major disincentives to greater efficiency also need to be removed.

In simple terms there are really four approaches for business and industry to follow in addressing the challenge of climate change. In practice the distinctions may be less precise, but it is helpful to consider the following examples under these broad headings:

- **House-keeping and behavioural change.**
- **Investment and applying technology.**
- **New products and new technology.**
- **Technology transfer and applying the Kyoto mechanisms.**

For industry, the priority is cost-effective solutions which align with business objectives. Industry will naturally prefer to find these through improving the performance of its own operations. Beyond this lies the potential for using the Kyoto mechanisms, but the context needs to be understood.

The range of options for business and industry in improving efficiency and managing carbon abatement focuses primarily on:

- **Energy conservation and efficiency.**
- **Choice of fuel.**
- **Co-generation.**
- **Carbon sequestration.**
- **Renewables.**
- **The Kyoto mechanisms.**

Some of the examples quoted below are specific to individual companies, others to industry sectors in which ERT members are leading players. Taken together, these examples – a few from among the many available – illustrate what can be achieved.

House-keeping and Behavioural Change

House-keeping

It is clear that there is considerable potential for improved carbon management by focusing management's attention on the issue. Three examples follow from many which exist in ERT and other companies.

The long-term nature of what is at stake for business and industry – and the need for a stable, consistent regulatory environment as a result – is well illustrated by an example from **DaimlerChrysler**. During 22 years of energy saving measures at DaimlerChrysler, the proportion of total energy requirements accounted for by heating in the German automotive plants fell from 53% in 1976 to 27% in 1998. Since 1976 specific heat consumption has been halved, largely due to the installation of heat recovery equipment. Electricity savings have also been achieved through the installation of centralised production management technology which has optimised machine operating times.

At magnesium plants, sulphur hexafluoride (SF_6) is used as a protective cover gas during casting. Emissions of SF_6 from **Norsk Hydro's** magnesium plants have been significantly reduced in recent years. The greenhouse gas emissions (CO_2 and SF_6) from Norsk Hydro's magnesium plants decreased by 59% from 1990 to 1999. Extensive research is ongoing, with the aim of replacing SF_6 by another gas.

Over the last ten years, **F. Hoffman-La Roche** has been taking a proactive approach to eco-efficiency, introducing process-integrated improvements to their operations. Thus, they were able to reduce CO_2 emissions in the Basel headquarters by 32% during this period through a variety of different measures. For example, at Roche Basel, water from the Rhine river is used for cooling purposes in production processes and air-conditioning refrigeration units. This water does not come into contact with chemicals, and so after use, can be discharged back into the river. In the past, in winter, at the same time as this heat-loaded water was being discharged, oil and natural gas were being used to generate steam for heating the incoming fresh air ventilating four laboratory buildings. Now the heat from the waste cooling water system is used instead to preheat this incoming fresh air. As a result, CO_2 emissions have fallen by approximately 4200 t/year.

Furthermore, the cooling water used to be pumped from a central water tower through the production building, increasing in temperature by 4°C on the way, and then passed a heat recovery unit prior to being discharged back into the Rhine. A system has now been introduced which both saves on cooling water and improves the efficiency of the heat recovery process. The cooling water is circulated in a closed pipe system through the production building, and a pump adds cold fresh water to achieve a constant temperature of 18ºC in the circuit. Afterwards, the surplus waste cooling water flows into the main waste cooling water stream and raises the temperature there by 1ºC. This increases the efficiency of the site cooling water heat-recovery unit by 10%, and reduces CO_2 emissions by a further 430t/year.

Behavioural change

Encouraging voluntary initiatives by industry to deal with the possibility of climate change is one of the central criteria for effective action identified by the ERT in its first report in 1997.

In that same year **Fiat** signed a voluntary agreement with Italy's Ministry for the Environment covering many environmental aspects of automobile production and use. Included in the 1997 agreement are provisions designed to cut the average fuel consumption of Fiat cars sold in Italy by 20% and to produce a popular diesel model for the Italian market. Innovative buses and trucks using alternative fuels such as natural gas are also planned. Fiat already produces a model for the mass market with consumption below 4.5 1/100km (120g CO_2/km) in addition to methane and electricity-powered vehicles.

Fiat is also pioneering an innovative system for recycling old automobiles. Initially focused on metal (which accounts for 75% of a vehicle's weight), Fiat is now giving more attention to the other 25% – plastic, glass and fabrics. Fiat has set a target of recycling 85% of materials by 2002, with a goal of 95% in 2010.

Fiat Multipla Hybrid Power is an alternative-drive vehicle which can be powered either by an electric motor (in urban areas) or an internal combustion engine (on highways).

Sectoral initiatives

Measurability and credibility are the key ingredients of a ground-breaking international industry agreement on reducing CO_2 emissions from passenger cars which the **European Automobile Manufacturers Association (ACEA)** reached with the European Commission in July 1998. ACEA committed itself to reduce average CO_2 emissions from new passenger cars by 25% over the next ten years to 2008.

In 1998, passenger car traffic accounted for around 12% of total man-made carbon dioxide emissions in the EU, and for much of the 9% growth in overall road transport CO_2 emissions that took place between 1990 and 1997.

The agreement includes three specific commitments. They are:

- **To achieve an average CO_2 emission figure of 140g/km by 2008 for all new cars sold by ACEA member companies in the EU. This represents a 25% reduction in ten years.**
- **To bring to market car models with CO_2 emissions of 120g/km or less by 2000.**
- **To review the potential for additional improvements in 2003, with a view to moving the new car fleet average towards the 120g/km level by 2012.**

These commitments demonstrate ACEA's support for the significant reductions in CO_2 emissions that will be needed to meet EU undertakings to the United Nations climate change process.

Implementation of these commitments is being monitored jointly by the European Commission and ACEA, and is reported to the European Parliament and the Council of Ministers each year.

The agreement is also part of an integrated strategy to control the upward trend of CO_2 emissions from passenger cars, including providing consumers with information on fuel economy and emissions of new cars.

In France, another sectoral agreement covers the cement industry in which **Lafarge** is a leading player. Signed by French industry representatives and the Ministry of the Environment in October 1996, it aims to reduce total consumption of fossil fuels and CO_2 emissions by 25% from a 1990 base by 2000. It also seeks to cut the consumption of fossil fuels and CO_2 emissions by 10% for each tonne of cement manufactured.

The agreement identifies three ways to achieve these goals – the use of better processes and the modernisation of factories; the development of alternative fuels; and improved composition of cements. According to the **Syndicat Français de l'Industrie Cimentière**, "in all probability" these commitments will be met by the end of 2000.

In 1997, the Norwegian aluminium industry and the Norwegian government entered into a voluntary agreement to reduce specific greenhouse gas emissions by 55% in 2005 compared with the levels in 1989/90. By introducing point feeder systems at its Søderberg aluminium electrolysis plants, **Norsk Hydro** has reduced specific emissions of perfluoro-carbons by 62% compared to the 1990 level, and by 17% compared to 1998.

Akzo Nobel Energy has established a joint venture with Essent to invest in a 360 MW gas-fired co-generation plant in the Delfzijl Chemical Park in the Netherlands. The plant produces 55% less CO_2 than a coal plant of similar capacity. As such, it offers the highest efficiency level of energy conversion, and represents a prime example of the type of initiative encouraged by the Dutch Government in its **Energy Efficiency Benchmarking Covenant**. This voluntary initiative was negotiated by Dutch industry, which declared its willingness to make a cost-effective contribution to reducing emissions from energy-intensive facilities, by meeting the best international energy efficiency standards via a benchmarking process. The Government in turn agreed that, where this occurs, it will not impose any additional specific national measures aimed at further energy conservation or CO_2 emission reductions.

This example also illustrates the measures being taken throughout the European chemical industry under the **Voluntary Energy Efficiency Programme (VEEP II)** of the **European Chemical Industry Council (CEFIC)**. This programme is a unilateral commitment by the chemical sector to reduce its specific energy consumption by 20% between 1990 and 2005, provided that no additional energy taxes are introduced. The programme underlines that significant improvements in energy efficiency can only be achieved by investment at increasingly higher unit costs, which can only be justified by companies being offered long-term stability in the business environment.

Investment and Applying Technology

Consistent, creative government policies, including a suitably flexible regulatory regime, are two other factors likely to encourage energy-saving investment.

In Belgium, the electricity production of **Electrabel** (part of the **Suez Lyonnaise des Eaux** group of companies) is being revolutionised following decisions to develop the use of renewable energies, to obtain cleaner energy at more competitive prices, and to contribute to the European Union's commitment to reduce greenhouse gas emissions. As a result, new power plants are being installed by Electrabel which will improve energy efficiency by between 56% and 80% and also reduce significantly CO_2, SO_2 and NO_x emissions.

Other Electrabel projects include preliminary investigation into the feasibility of constructing a first wind energy plant of 20MW to be located within 15 km of the coast; development (in partnership with 14 universities and research institutes in Belgium) of a database decision-making model which details CO_2 emissions related to every mode of energy use for a number of European countries; and investment in the World Bank's Prototype Carbon Fund – a first attempt to experiment with the creation of an international market in emissions reductions. The Fund will invest in cleaner technologies in developing and transition economies, with a primary focus on renewable technologies such as wind, small-hydro and biomass.

More broadly, thanks to a proposal in 1998 by **ABB**, more than 420 projects in 73 countries, representing an aggregate possible emissions reduction of more than 880 million tons, have been identified by a specialist task force backed by the World Energy Congress and ABB.

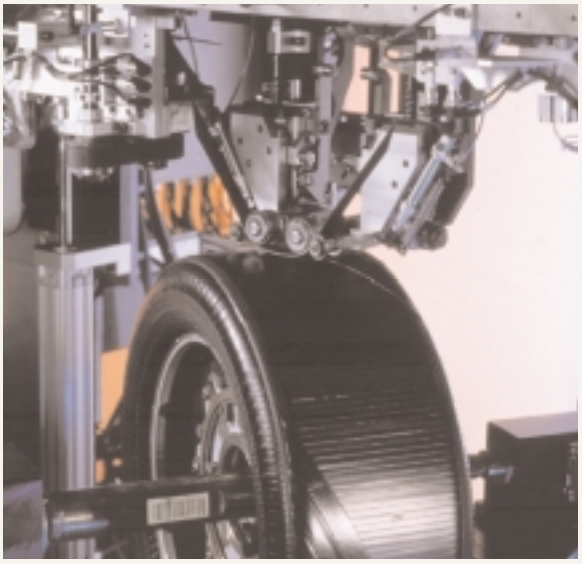
To be included in the pilot programme, projects have to be carefully evaluated, have clear approval from national governments and a feasible time schedule, and have all the necessary financing secured – with a commitment to be on stream by 2005. So far, the largest share of projected savings comes from power generation and distribution, with manufacturing industry the next largest sector. About one quarter of the projects are located in developing countries.

New Products and New Technology

New Products

These overarching trends, which stretch across industries and sectors and are all related to an emissions reduction strategy, are being reflected in the marketplace through a range of new products.

Pirelli, for example, is now promoting the use of low rolling-resistance tyres, which reduce fuel consumption, and new approaches to improve the recyclability of used tyres. An innovative tyre production system (MIRS – Modular Integrated Robotized System) has been launched recently, allowing significant energy savings and reduced transport emissions. In the cables sector, the company is concentrating on products characterised by low transmission loss and the use of eco-compatible materials. Another Italian company, **Fiat**, is developing dual-fuelled buses, "minimum environmental-powered" distribution vehicles, and natural gas-powered refuse collection trucks.



Pirelli: New MIRS tyre production system

The Royal Dutch / Shell Group of Companies ("Shell") is currently developing a new building material named "C-Fix", which may provide an alternative to the use of cement in some applications. The material has not only new structural characteristics for building, but also produces a fraction of the carbon emissions during its manufacture.

Norsk Hydro encourages abatement actions which prove to be cost-effective in a life-cycle context. Examples are use of light metals in cars, balanced fertiliser application, and R&D activities to prepare for decarbonization of fossil fuels. Studies for introducing new technology to capture CO_2 from gas-fired power plants have thus far proved to be technologically but not economically feasible.

Siemens has been closely involved in the move in Germany to replace the old propane gas burners of railway signals with light sources which each include 60 Light Emitting Diodes (LEDs) of a particular mix. The LEDs can be powered from either solar cells and batteries or from conventional power supplies. Siemens has supplied Deutsche Bahn AG with 1500 solar units in addition to the 17,400 LEDs to upgrade their mechanical signals. Backup batteries can be used to provide the power supply to the solar-powered signals in the case of poor weather or at night. The upgrade achieves an energy saving of 98%, with considerably reduced CO_2 emissions. This saving is accompanied by a reduction in maintenance and repairs since the LED light sources are self-cleaning and there is no longer a need for the operator to replace empty propane gas bottles.

Siemens: Traditional semaphore railway signal illuminated at night with LEDs powered by a solar unit

The **Philips** "EcoDesign" programme focuses on "environmentally conscious product design" and considers the environmental impact of a product throughout its entire life-cycle. In the short-term, existing products are re-assessed to see how they could be improved. One example relates to studies by the UK and German governments, which show that at least 11% of the total power consumption of computer monitors, televisions and VCRs is wasted in stand-by mode. Philips has therefore developed a "GreenChip" Switched-Mode Power Supply product family, designed to reduce typical stand-by power consumption from between 5-10 watts to 1-2 watts, but able to supply full power in under one second. Longer-term, new products can be researched, designed and introduced with considerably reduced environmental impact versus their predecessors. For example, Philips has introduced a range of fluorescent bulbs which uses just 25% of the energy consumed by a standard incandescent household bulb and lasts up to twelve times longer.

New Technology

Innovation and cost-effectiveness are often crucial elements in the successful introduction of new energy-saving technology. Five examples underline this and one in particular relates to industry/government co-operation.

In 1999, **Renault** launched the first European engine with direct petrol injection in its New Mégane Coupé and Cabriolet models. This technology, already successfully applied in diesel engines, involves the direct injection of fuel into the combustion chamber under high pressure (100 bar). The main objective is to improve combustion and efficiency by reducing the "pumping losses" which arise from the low pressure existing in the inlet manifold, which the piston must overcome when drawing air into the combustion chamber. The solution adopted to reduce

these losses is to increase pressure in the inlet manifold through a massive introduction of exhaust gas via exhaust gas recirculation.

Other working approaches promising to benefit the fuel consumption of internal combustion engines have been identified and are in the process of development. For example, turbocharger technology is being introduced for petrol engines in the interests of reducing fuel consumption, rather than simply performance enhancement. Very different from the "low pressure" turbo solutions already offered in the market, which bring no significant gain in terms of reducing fuel consumption, the new generation turbocharger developed by Renault, with a twin-entry turbine, will reduce fuel consumption by 15-20% based on a 2.0 16V engine.

BP Amoco ("BP") is the co-ordinator for a major R&D initiative by a partnership of seven leading energy companies, including **Shell**, **Norsk Hydro**, and **Statoil**. This aims to develop environmentally secure and economically viable capture, transport and geological sequestration of CO_2 emissions from using fossil fuels. If successful, this initiative could offer important options for moving to low greenhouse gas emission use of fossil fuels, and eventually for moving to the use of hydrogen as a zero emissions fuel.

As a chemical company with intensive energy use in some processes, **Solvay** has been seeking partnership opportunities for new co-generation power supplies. Such projects have huge potential for reducing CO_2 emissions from both the electricity generator and manufacturing industries.

Two projects have been approved recently which will each reduce energy consumption by over 30%, as well as cutting polluting emissions such as CO, CO_2 and NO_x significantly. One is at Jemeppe in Belgium and the other at Tavaux in France. At Jemeppe the co-generation power plant will produce 97 electrical megawatts (equivalent to the needs of a population of 200,000 people) and up to 100 tonnes steam per hour. At Tavaux the co-generation plant will produce 87 megawatts. Both plants will be equipped by "low NO_x" equipment. In all, ten of Solvay's largest manufacturing plants will soon receive power from high efficiency and low emissions co-generation plants.

Solvay: Co-generation plant at Jemeppe, Belgium

Another example involves **Pirelli**. As part of its 1998 agreement with the Italian Ministry for the Environment, the company is developing a new fuel derived from waste – an integration of granulated tyres and non-chlorinated plastics. This fuel can be used to run power boilers for electricity production, substituting coal dust by up to 30%. Pirelli is also developing an ecological fuel (GECAM™, an emulsion of liquid hydrocarbons and water), which provides an average 5% increase in energy yield and an equivalent reduction in carbon dioxide emissions.

Norsk Hydro has for many years carried out extensive research on abatement of N_2O emissions from nitric acid plants for fertiliser production. A technology for homogeneous decomposition of N_2O in the nitric acid burner has been developed for new constructions and successfully installed, resulting in N_2O emissions reduction of 70 to 80%.

AtoFina, a subsidiary of **TotalFinaElf**, is one of the main producers of fluorocarbons, and is switching production from CFC to HFC compounds as part of meeting Montreal protocol obligations to protect the tropospheric ozone layer. But HFC gases have high global warming potential, so AtoFina has developed and implemented an incineration process at its Pierre Berritz plant in France to ensure these gases are not emitted into the atmosphere.

Another AtoFina example that is at the development stage, is a process to avoid N_2O emissions during the production of fertilizers. If the industrial feasibility of this process is demonstrated, it will allow a major reduction of emissions of this greenhouse gas.

A further example concerns a drive by **Shell** to develop new fuels. As part of the Californian Fuel Cell Partnership, the company has opened its first hydrogen filling station in Hamburg, Germany. It is also examining the development of critical elements of the hydrogen supply chain and infrastructure through a network of partnerships established by Shell Hydrogen.

Another Shell company, Shell International Renewables, is pursuing biomass and wind projects, operating Europe's largest photovoltaic manufacturing plant in Gelsenkirchen, Germany, and initiating a major "solar homes" project in South Africa.

Shell: Solar homes project in South Africa

Renewable energy

Energy policy in Europe is moving to both greater energy efficiency and lower carbon intensity, with the European Commission proposing a Community target of obtaining at least 12% of energy from renewable sources by 2010. While encouragement of renewable energy varies considerably from one Member State to another, several ERT members have committed themselves to invest in the technology needed to ensure that renewable sources have the chance to become significant economic options for future energy supply.

As part of an EU strategy to motivate action, the ERT supports selective encouragement of renewable energy sources, to help them cross the thresholds to economic viability.

Iberdrola is undertaking an ongoing programme to increase the proportion of renewable energy used in its total production mix. By the end of 1999, levels stood at 8,417 MW of Hydraulic and 675 MW of other renewable energy sources (minihydraulic, wind and biomass).

E.ON Energie, the electricity subsidiary of E.ON, has a 49% stake in Siemens Solar GmbH, one of the world's leading photovoltaic companies. A 1 MW rooftop solar array at the New Munich Trade Fair Center is the world's largest photovoltaic plant of its kind. This is only one example of many, where E.ON Energie promotes the use of renewable energies in Germany.

E.ON: Rooftop solar panel at the New Munich Trade Fair Center

Shell International Renewables is implementing a number of "SunStations" around the world. The SunStation is a hybrid renewable energy solution and energy management system designed to deliver commercial AC power to rural communities that would otherwise rely on traditional fossil fuels. For instance, a PV (photovoltaic)/LPG SunStation in the Philippines currently supplies renewable energy to a developing community (ca. 10% of the electricity is generated from LPG, the rest by PV). In 2001, a biomass generation unit, currently under development and designed to run on the waste coconut shells from local industries, will replace the PV/LPG hybrid. The hybrid can then be used to initiate energy services in other unelectrified communities.

Shell is also developing a commercial solar, biomass and wind energy business. In solar, the emphasis is on manufacturing and marketing to grid-connect industrial and rural electrification customers. Shell International Renewables operates photovoltaic manufacturing plants, and has operations in Africa, Asia, Europe, and South America. In biomass, the focus is on generating energy for Northern European markets from sustainably grown wood, and, in wind, on developing offshore wind energy projects.

BP Solar has grown rapidly to become one of the biggest global companies manufacturing and supplying thin film solar panels. BP has made a public commitment to expand this business at least 10 fold between 1998 and 2008, if governments will ensure the framework that will allow the potential for this technology to be brought to market. BP is demonstrating the potential for this technology in a very visible way by using solar panels extensively when redeveloping its retail stations.

BP: Service Station in Portugal using solar panels for energy

Wind power is fully renewable and is the fastest growing source of electricity production in the world. ABB has been a leading supplier to the wind power industry for 20 years and currently has more than 7,000 generators in operation. In June 2000, the company unveiled new technology that makes wind farms competitive relative to conventional large power plants, increasing power output by up to 20%. The so-called "Windformer" uses advanced cable technology originally developed for high-voltage generators, which eliminates the need for a number of components found in conventional wind generation systems. As a result, the Windformer requires neither a gearbox nor a

New ABB wind power technology making wind farms competitive with conventional large power plants

transformer, making wind farms more reliable with lower electrical losses. Moreover, wind farms can now be economically built in a range from 6 megawatts to 300 megawatts or more – equivalent to the output from a medium-sized fossil-fuel power plant. The cost of producing electricity also falls to levels competitive with conventional power plants.

Technology Transfer

There is much misunderstanding of this issue, and about how technology and its benefits flow across companies and across national borders. But it is clear that since climate change is a global issue there is considerable potential to improve both existing processes in non-OECD countries and to help chart a more energy efficient and less carbon intensive path.

Foreign direct investment will be a key catalyst for this process, but the Kyoto mechanisms are intended to facilitate the flow of technology and skills, and should therefore be the focus of government support to deliver the necessary operating framework.

Inclusiveness and pragmatism are two other important principles which the ERT believes can aid the effective implementation of the Kyoto mechanisms. Examples from Latvia, the Czech Republic and Slovakia demonstrate this.

The electricity subsidiary of **E.ON**, E.ON Energie, and its local partner Latvenergo, have unveiled two wind power generators with an electric capacity of 600kW each at Ainazi, Latvia, near the border with Estonia. For E.ON Energie, the project serves as a model for future involvement in renewable energies in the Baltic region. This initiative is being evaluated in the pilot phase of jointly-implemented climate protection policies and measures agreed on within the framework of the International Climate Convention.

A second example involves the Czech Republic where the recent modernisation of a cement plant at Cizkovice by **Lafarge** involved the transfer of many climate-friendly technologies which improved fuel efficiency and reduced electrical consumption. Such technologies are readily available, most are proven, and all can be operated with the right staff training. The main limiting factors are the availability of local know-how and capital. Lafarge does not consider the "additional" technology in cement projects as the most significant factor. In its opinion, every piece of installed equipment has its own rationale in economic and technical terms. The main "additional" element is the extra capital, time, human resources and training it takes to add emissions-focused equipment to a project, and make it function efficiently. Thus "know-how" transfer is the important factor, rather than "technology" transfer.

The Cizkovice modernisation brought this issue to a head when Lafarge applied for registration of the initiative as an Activities Implemented Jointly (AIJ) project. Two years of discussion was needed before the project was approved as AIJ-compliant by the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC), which accepted that any reduction in CO_2

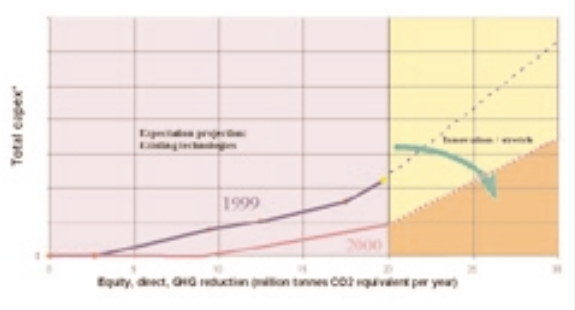
Lafarge: Cement plant at Cizkovice in the Czech Republic

emissions obtained over a certain level would be credited. This level has been determined on the basis of the current performance of the cement industry in the Czech Republic.

An example from **Norsk Hydro** also illustrates key points of effective technology co-operation: close co-operation with local partners, transfer of technology and operational experience, financial support, and providing sales and marketing expertise. The Czechoslovakian aluminium company ZSNP (Zavod Slovenskeho Narodneho Povstania), now in Slovakia, made an agreement to buy Hydro aluminium technology to replace the old. After restructuring, a new company called Slovalco was established and Norsk Hydro was asked by the European Bank for Reconstruction and Development (EBRD) to enter the venture with equity, and provide technical and commercial expertise and experience. Two results of the new technology and better operations are much improved working conditions and the significant reduction of emissions to air and water.

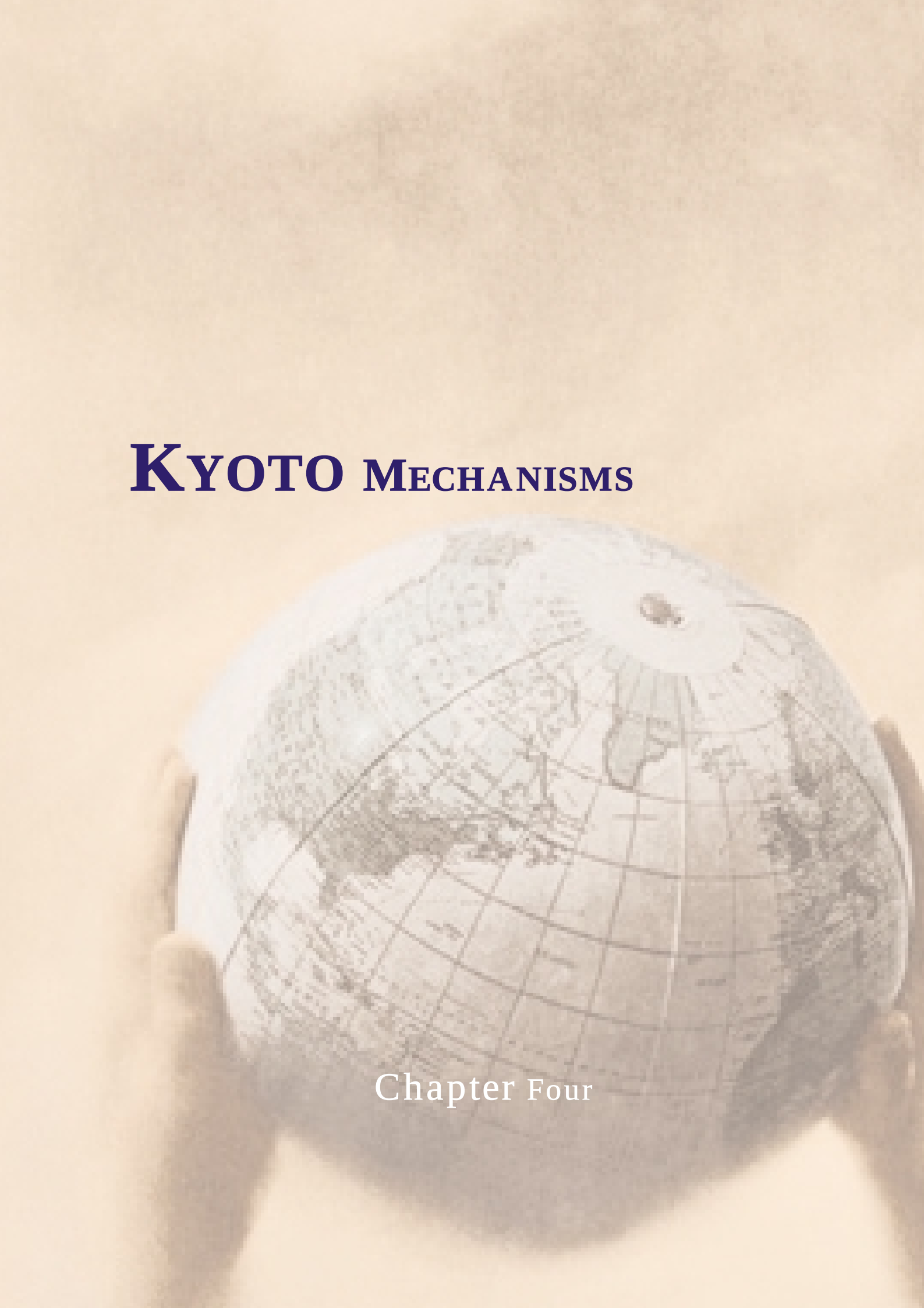
Central to **BP's** work in the field of climate change has been to explore cost effective solutions to reduce greenhouse gas emissions. This has been the driving force behind the emissions trading approach to ensure that the most cost effective options are taken up across the businesses. Preliminary work by the Green Operations Technology Network shows that there are many economic opportunities across all the business streams, especially in the areas of improving energy efficiency and reducing gas flaring.

Over 600 technology options to improve environmental performance, many focused on reducing greenhouse gas emissions, have been put into the Environmental Options database. As these options are identified and implemented, BP is finding that the shape of the curve of projected investments needed can be pushed back, as a focus on greenhouse gas emissions as business targets encourages more innovation.



BP: a focus on reducing greenhouse gas emissions encourages innovation, which in turn reduces the need for investment.

Kyoto Mechanisms



Chapter Four

The Kyoto Protocol establishes three market-based mechanisms which can be used by governments and industry to facilitate achieving climate objectives by realising the potential for cost effective solutions on a global basis. These are: Emissions Trading, Joint Implementation, and the Clean Development Mechanism (CDM).

The ERT believes that these three mechanisms should enable business and industry in Europe to identify opportunities, implement cost-effective approaches and reduce the risks attached to new investments. It is therefore of the greatest importance that governments fully support the framework necessary to allow these instruments to begin early operation.

Arbitrary restrictions on their use and cumbersome and costly administrative procedures will simply ensure that the frame-works do not achieve the real potential they offer. The 6th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP6), taking place in Den Haag in November 2000, will give an important signal to business and industry as to whether governments are serious about delivering the goals which they have publicly espoused.

Several companies, including Shell, Lafarge and BP, are already pushing ahead with practical commitments to bring alive these mechanisms. In one example, **BP**, working with an American environmental group, Environmental Defence, is operating a comprehensive emissions trading system across the Group world-wide, which will include the Arco businesses by January 2001.

Launched across all BP's Business Units in January 2000, following a successful pilot scheme involving 12 units in 1999, the system is designed to help the company meet its commitment to reduce greenhouse gas emissions by 10% from a 1990 baseline over the period to 2010. In real terms, this represents a reduction of about 40% based on BP's projected world-wide growth in the coming decade.

Fundamental to the BP approach is the rigorous measuring and monitoring of greenhouse gas emissions throughout the company. As a result, each of the Business Units has a soundly-based business target for emissions reductions. A market-based trading mechanism then enables the Business Units to put a value on this target.

These factors ensure that a strong business focus is applied to the greenhouse gas emissions issue and that the initiative motivates employees to find creative options to meet the target. A Green Operations Technology Network ensures that creative solutions are shared, spreading best practice and helping to meet targets throughout the group. The knowledge gained is now being shared with others, and BP is contributing to an industry-wide initiative which began recently in the UK.

In May 1999, 19 companies from 14 countries, belonging to **EURELECTRIC**, the union of the electricity industry, launched a simulation of CO_2 and electricity trading called GETS. A set of rules and reporting guidelines was agreed in advance, and a

virtual stock exchange was provided by Paris Bourse S.A. Over eight weeks, 16 virtual power companies simulated growing electricity demand under a constraint of their individual CO_2 emissions, and traded both CO_2 and electricity. In the end, 14 of the 16 virtual companies managed to comply with their emission objectives. This successful exercise has been developed further during 2000 in the GETS II exercise, extending the range of companies involved to beyond the members of Eurelectric.

Shell has launched an emissions trading system for its operating units in industrialised countries listed in Annex 1 of the Kyoto agreement (comprised of OECD and EU countries as well as 9 countries from Central and Eastern Europe and the Newly Independent States). Shell is also using the Clean Development Mechanism to involve its non-Annex 1 operating units.

The system was launched in January 2000, and involves some 20 operating units in Europe, the USA, Australia and Canada responsible for more than 60% of the Group's total Annex 1 emissions. All Shell's major business streams are involved.

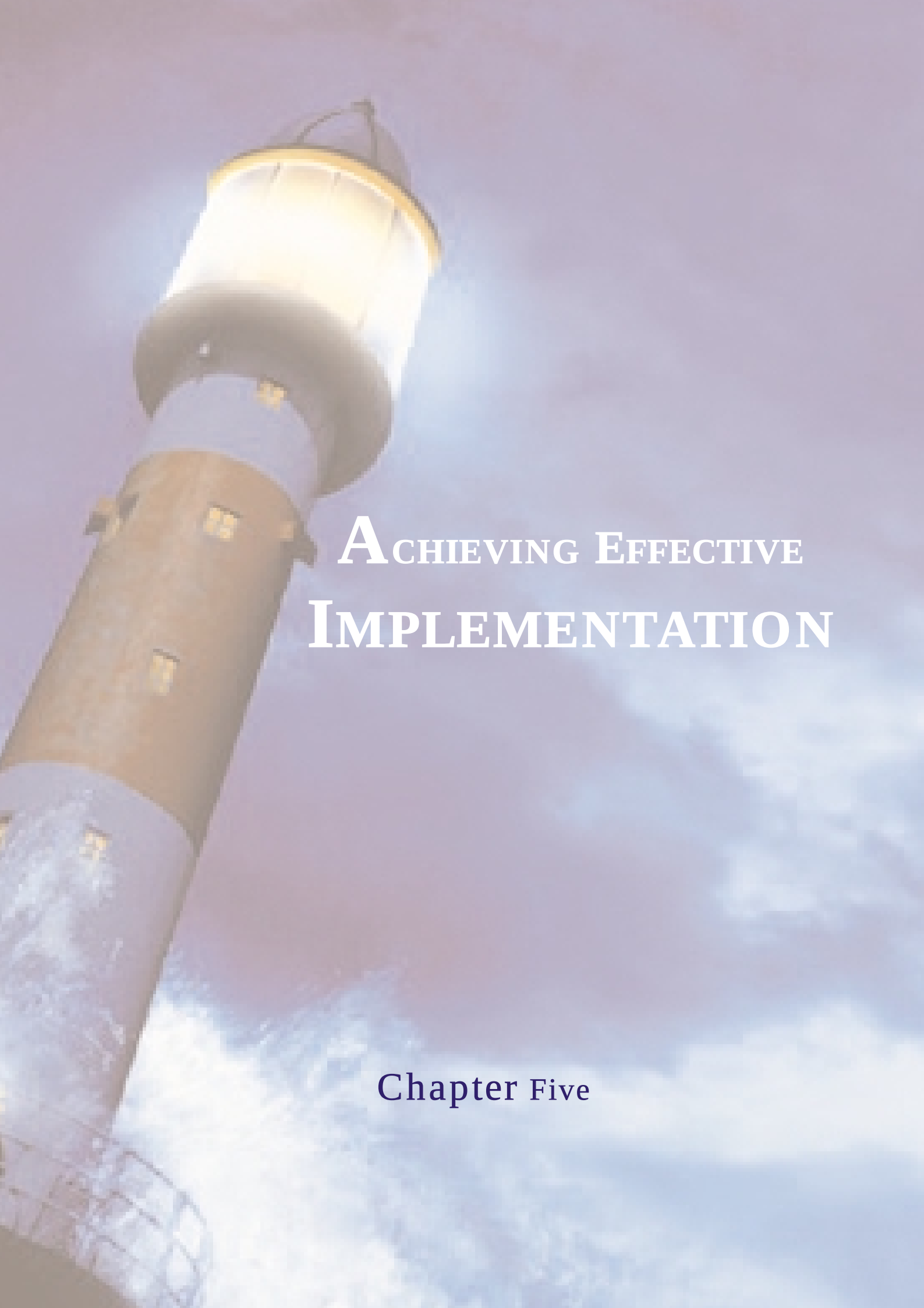
Shell has already achieved a 13% reduction in greenhouse gas emissions from its operations over 1990 levels. This has been accomplished through greater energy efficiency and changes in operating practices.

The second part of this drive is the setting up of a CDM demonstration programme, which so far has identified eight potential CDM projects in Africa, Asia and South America. These involve rural electrification in South Africa, Brazil and the Philippines, a flare reduction project in Malaysia, geothermal energy in Central America, pyrite replacement in acid production in China, and development of gas infrastructure in China and South Africa.

Lafarge has a large on-going programme of investment in developing countries. It considers that the CDM can provide an important incentive towards the implementation of climate-friendly technologies.

As part of the construction of a new cement plant in Tetouan in Morocco, Lafarge is working on the installation of a 10 million euros wind farm to provide electricity to the plant that will be used largely for grinding and milling of raw materials and finished product. The objective is to provide 70% of the plant's electric power needs, or around 10 MW, leading to a CO_2 reduction of 25-30 thousand tonnes per year. Without the CDM, such a project would not meet Lafarge's investment criteria. In co-operation with the Moroccan and French authorities, Lafarge is working to develop the necessary baselines, monitoring and verification criteria to allow the project to qualify under CDM rules.

Lafarge: Design for the new cement plant in Tetouan, Morocco



Achieving Effective Implementation

Chapter Five

There is now a strong argument for developing the rules for each of the Kyoto mechanisms as rapidly as possible so that many more companies can explore and test them. Much of European business and industry was motivated by the decisions taken in Kyoto and is keen to press ahead in the hope that this will promote its global competitiveness. Early action needs to be encouraged.

While the three mechanisms are clearly linked in objectives, and share many of the same issues and characteristics, there are important differences. But an early start to using each of the mechanisms could play a significant role in advancing the goals of Kyoto, in engaging the non-Annex 1 countries, and in providing a constructive basis for discussions on what may follow after the Kyoto First Commitment Period.

The ERT believes that effective implementation of these mechanisms will depend on delegating responsibility from governments (parties) to companies (entities) and on meeting certain principles. It has identified ten:

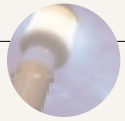
- **Certainty**: any governance system needs to be long-term and predictable in order to facilitate sound investment decisions.
- **Compatibility**: systems must be compatible.
- **Cost-effectiveness**: transaction costs must be kept to a minimum, thereby encouraging the flexibility to deliver at lowest cost.
- **Equivalence**: credits for all three mechanisms need to be equivalent and tradable.
- **Inclusiveness**: participation should be as broad as possible to reduce costs and assure delivery.
- **Flexibility**: artificial restrictions should be avoided in order to maintain the basic attraction of the mechanisms.
- **Measurability**: environmental objectives must be delivered and seen to be delivered.
- **Pragmatism**: early action by companies should be encouraged to develop momentum and to "learn by doing". Under no circumstances should targets be set which disadvantage proactive companies and sectors.
- **Simplicity**: any system must be practical and simple if it is to work effectively.
- **Transparency**: monitoring and reporting should be based on sound criteria and methods, and reported in a way that allows external scrutiny.

Need for an early start

We believe that the starting date for Joint Implementation should be brought forward to allow early recognition of credits, as for the Clean Development Mechanism. Also, emissions trading pilot projects should be encouraged, so that "learning by doing" starts to take place.

Looking towards the UNFCCC negotiations

The annex to this Report sets out the ERT's views on what COP6 should focus on in agreeing rules for early implementation of the Kyoto mechanisms.



Conclusions & Recommendations

Chapter Six

Business and industry in Europe understand that meeting the emissions reduction targets set at Kyoto will be challenging. But the framework we have set out would establish a solid basis which should encourage business and industry to take early action, and to help show "demonstrable progress" by 2005.

To succeed, the ERT believes that all sections of society – government, industry, academia, consumers, non-governmental organisations and the media – must be engaged in common efforts and programmes. To achieve "demonstrable progress" by 2005, as agreed to in Kyoto, early momentum needs to be built now.

The ERT is convinced that the numerous commitments and agreements offered by energy-intensive industry, together with the trading mechanisms, will be effective in changing behaviour. Incentives, in our view, will always be much more effective than penalties.

As the examples cited in this report show, many companies are already acting voluntarily to reduce greenhouse gas emissions. We believe that Europe has the will and capacity to build on this.

Market distortions must be avoided so that companies may compete on a fair basis. But, equally, market signals can also play a large part in encouraging companies to meet targets.

If the Kyoto mechanisms are implemented as outlined in this report, it is the view of the ERT that they are capable of offering both flexibility and efficiency in terms of how targets are met. But delivery depends crucially on providing the appropriate framework and creating the right mix of policies and measures.

Specifically, the ERT makes ten recommendations of what EU Member States, working with the European Commission, should do:

1. **Promote agreements** with business and industry in Europe to stimulate early and effective action.

2. **Treat all targets as equally binding** regardless of how they are set.

3. **Avoid market distortions** so that companies can compete on a fair basis.

4. **Clarify sound principles** as quickly as possible, and preferably at the COP6 meeting in November 2000, on which implementation of the Kyoto mechanisms can be based.

5. **Encourage early application** of emissions trading and the project mechanisms in order to motivate business and industry, and promote "learning by doing."

6. **Avoid counterproductive actions** which may penalise those willing to deliver early results by setting targets that disadvantage them later.

7. **Recognise the time scale needed** to develop solutions and deliver the facilitating infrastructure.

8. **Consider a co-operative research programme** with business, industry, and others to accelerate the development and application of climate-friendly technologies.

9. **Recognise and promote** more clearly the potential for renewable technologies.

10. **Work to gain public support** for a range of climate change actions and avoid politicising the issue.

ANNEX

ERT Views on Policy Issues for Implementing The Kyoto Mechanisms

1. EMISSIONS TRADING

Who should be allowed to trade?

Trading by companies (legal entities) should be encouraged on a voluntary basis

Maximum flexibility and the lowest effective cost to reduce emissions will accrue by encouraging trading on the widest possible basis. Encouraging companies to trade through brokers in independent markets will help ensure greater liquidity and price transparency, and help to improve the integrity of this as a commodity.

"Supplemental to domestic action"

The "hot air" issue should be addressed directly without using quantitative ceilings

Emissions trading should be allowed to help deliver compliance at the lowest cost. The ERT supports the Kyoto principle that trading should be "supplemental to domestic action", but considers that the EU's "concrete ceiling" proposal would be a damaging signal of inflexibility to the market that would compromise trading. It is clear that the preferred way for any company to meet its targets will be by investing to reduce emissions directly, but trading will allow crucial flexibility both to phase investments and to supplement its own efforts to reduce greenhouse gas emissions.

The issue of "hot air" during the first Kyoto budget period needs to be addressed directly, agreeing on rules that encourage sound trading and ensure protocol integrity.

2. JOINT IMPLEMENTATION AND THE CLEAN DEVELOPMENT MECHANISM

"Share of the proceeds" of trading

There is no legitimate basis to consider imposing a levy on Joint Implementation

There is a concern that the Clean Development Mechanism would be at a disadvantage compared with Joint Implementation, because of the requirement to use proceeds of CDM projects in an adaptation fund. This is a rather perverse reason to consider penalising JI projects by such a levy. The aim should be to reduce transaction costs for both JI and CDM projects, and to ensure there are parallel rules for both JI and CDM, so that emission reduction units from both sorts of projects will become tradable.

Restrictions on the types of project and sorts of technology that may be deemed eligible for inclusion in the CDM

As long as a project reduces greenhouse gas emissions (real, measurable and long-term) according to accepted methodologies, contributes to sustainable development and is supported by the host country, it should be eligible. However, a "fast track" route for approval for certain project types would provide clarity and reduce uncertainty for project developers.

Some parties propose that the CDM should be restricted to a positive list of "safe, environmentally sound projects" based on

renewable energy, energy efficiency improvements and demand-side management in the important areas for project investment. We believe that there are many environmentally sound opportunities to reduce greenhouse gas emissions using other technologies and projects. To restrict access to these opportunities would increase the costs of meeting Kyoto commitments and be likely to stifle innovation in seeking environmentally sound projects.

"Sinks": Should sink projects be allowed under the CDM?

Sound projects based on carbon sinks should be allowed under the CDM rules

Around 30% of the carbon accumulated in the atmosphere over the period 1850-1990 came from land-use change. Including sound sinks projects within the scope of CDM is an opportunity to reverse this trend.

Sequestration of carbon through land use (e.g. through soil or forest management) is particularly important for the world's least developed economies. Credit for sequestration would promote sustainable development through reforestation of degraded land, create rural jobs, and take pressure off virgin forests, thereby supporting watershed management and flood control, as well as protecting biodiversity.

Selecting Projects

It is important to design a market mechanism around an understanding of how competitive markets can help drive a search for better solutions and efficient use of resources. This requires a governance approach to encourage "learning by doing".

The acid tests of a project are that it will contribute to the sustainable development of the host country, as well as being compatible with national needs and priorities.

Project Baselines

Baselines are best set on a project-by-project basis, because this will ensure superior environmental integrity. A sectoral, benchmark-based approach may be helpful to making an early start for the CDM by reducing transaction costs. The ERT considers the key criterion for baselines should be environmental additionality.

To qualify as a CDM project, a project must result in "reductions in emissions that are additional to any that would occur in the absence of the certified project activity". A baseline is the level of emissions that would have occurred without the project, often referred to as a "business as usual" (BAU) baseline. As expressed, such a baseline is arbitrary and hypothetical – though the intent is clear.

Judgement of what might have happened in the absence of the project is at least problematic, and opens prospects for quite abstract debate. This is not a recipe for establishing emission reduction credits – a commodity that will have a specific financial value, so that the baseline must be both transparent and measurable.

The challenge is to make the intent operational through practical methodologies that meet performance criteria of transparent, measurable and consistent rigour of application. Transparency might be assisted by using a benchmark approach, provided it is consistent with host country social, economic and technology trends.

"Financial additionality"

Financial additionality is unworkable and undermines the concept of CDM based on private sector investment. Private sector financing is, by definition, additional and separate from public sector contributions to the UNFCCC Global Environment Facility (which funds developing country projects that have global environmental benefits), and does not require any financial additionality test.

European Round Table of Industrialists

- **ERT is a grouping of 48 leaders of major European companies.**
- **They represent a wide range of sectors of industry and come from 17 European countries.**
- **Together they have a combined turnover of some 950 billion Euro and employ over 4 million people worldwide.**
- **The ERT's objective is to strengthen Europe's economy and improve its global competitiveness.**

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ERT Climate Change Working Group

Reply to the European Commission Green Paper on Greenhouse Gas Emissions Trading

DRAFT

1) General

Business and industry across Europe recognise that the costs of inaction to combat climate change may well outweigh the costs of mitigation efforts now. They accept that they have a key role to play in mitigating climate change, and want to be part of this process - by improving their own efficiency, and by bringing new technologies to market that offer more efficient options.

The ERT sees emissions trading as an important element encouraging efficiency and providing incentives for business and industry in an overall framework of policies designed to encourage all sectors of the economy to reduce GHG emissions. It is therefore a vital element of involvement and motivation. Without trading, environmental results will be less.

The ERT supports this learning by doing approach put forward in the Green Paper and considers an EU trading scheme a useful tool in this context. Any EU scheme should be compatible with the international system to be put in place by 2008.

The ERT agrees with the general presentation of the interest of emissions trading presented in the Green Paper. It supports the following general criteria for a trading scheme:

- Absolute as well as relative targets should be accepted.
- Allocation method should be fair and rules must be made such that they are acceptable under State Aid provisions.
- Auctioning is not acceptable as it represents an additional and unfair burden to industry that will not help combat climate change.
- Tax rules applicable to emissions trading should be harmonised at EU level to equalise trading conditions for all participants.

In order to get a real "learning by doing" process, other flexible mechanisms must also be available to industry and no limitation on the types of projects should be imposed as long as they contribute to reducing GHG emissions.

National trading schemes should start as soon as possible. The broader, the better, therefore these national schemes should be interconnected. The European Union should establish a general framework for such schemes as soon as possible.

2) Comments on the ten specific questions raised by the Green Paper

Comments must be seen in the context of the previous general points.

Question 1 : *Which sectors should be covered by emissions trading within the Community? Do the LCP and IPPC Directives offer a useful starting point for defining the sectoral coverage of a Community emissions trading system?*

"The scheme should start with a relatively small number of sectors that contribute significantly to total GHG emissions. However, emissions trading should be progressively extended to any sector that can contribute towards mitigating GHG emissions, even if not covered by European Union directives."

Question 2 : *Should there be a common emissions trading scheme within the European Community for certain sectors in the interest of fair competition, maximum transparency and legal certainty for companies?*

"For the sake of maximum transparency and simplicity, a common emissions trading scheme within the European Community is desirable, rather than national systems, but it is not essential.
Activities under the EU scheme should be recognised at Member State level."

Question 3 *: Would the flexibility offered by a co-ordinated scheme such as "opting-in/opting-out" be compatible with the requirements of the*

internal market, or would any advantages of such flexibility be outweighed by increased complexity?

"The flexibility offered by "opting-in"/"opting-out" schemes would create complexity and could pose problems for companies operating in different countries. Therefore the goal should be to have a common scheme.
However, any delay to agree such a scheme would be harmful to the environment, so it would probably be more practical to start by defining minimum requirements in terms of target setting, trading units, monitoring, verification, etc."

Question 4 : *What scope is there for individual Member States to include more sectors in their domestic trading scheme than might be covered by a Community scheme?*

"Member States should be allowed to include any sectors in the trading scheme, providing that the necessary minimum requirements can be met."

Question 5 : *Should the overall amount of allowance allocated to the trading sector in each Member State be subject to agreement at Community level?*

Given the different national targets and the different starting points of national sectors, agreement at Community level would seem unlikely. Therefore, the amount allocated (targets set) should at least be transparent and justified by the Member State concerned.

Question 6 : *Should the way in which allowances are allocated to individual companies be the subject of agreement at Community level? Or do you consider detailed guidelines based on the State aid provisions and other rules of the Treaty to be sufficient to safeguard fair treatment?*

"Agreement at Community level would be optimal, but is not necessary. The allocation method (target setting) should be subject to certain minimum requirements (as mention in the answer to qu. 3). These would probably take the form of guidelines based on the State aid provisions and other rules of the Treaty."

Question 7 *: Is it agreed that a balance has to exist between sectors engaged in emissions trading within the Community on the one hand, and non-trading policies and measures applied to other sectors on the other?*

"An equitable system needs to be put in place, but that applies more to the target setting between sectors than to the trading vs. non-trading sectors."

Question 8 *: How can environmental effectiveness (in terms of fulfilling the Kyoto Protocol's commitments) and transparency be safeguarded using a mix of emissions trading, energy taxes and environmental agreements with targets based on energy efficiency per unit of output?*

"A unit-based target can be environmentally more stringent than an absolute target. The risks to the national or EU target of overshooting by the trading sector of industry with relative targets should not be exaggerated. After all, most of rest of the economy will not have absolute caps either.
The target setting will have to prove its validity through its achievement over time and should be reviewed from time to time. A prerequisite to this is a sound and transparent monitoring system."

Question 9 *: Are the currently available instruments (Monitoring Mechanisms, infringement procedures) sufficient or should additional tools be developed in order for the Community to adequately assess compliance in the context of emissions trading within the Community?*

"Currently available instruments are sufficient."

Question 10 : *Do the elements of compliance and enforcement mentioned above warrant co-ordination or harmonisation at Community level, and which elements are more appropriately undertaken by member States?*

"Member States should be fully responsible for compliance with their commitments in the EU bubble. Therefore Member States should assume responsibility for the entities under their authority that they have allowed to trade. Moreover, they should guarantee the validity of their duly certified emission reductions."

THE EU COMMITTEE

OF THE AMERICAN CHAMBER OF COMMERCE IN BELGIUM

Position Statement

July 14, 2000

Position Paper on Climate Change: a response to the European Commission Communication on EU Policy and measures to reduce Greenhouse Gas Emissions

Introduction

- The EU Committee of the American Chamber of Commerce (EUC) welcomes the European Commission's Communication proposing a European Climate Change Programme (ECCP) and the accompanying Green Paper on Emission Trading. In particular, we praise the European Commission's recognition of the need to prepare a long-term strategy for addressing climate change, the integral role of emissions trading and the need to use all the tools at the Commission's disposal.

- These two policy papers set the ground for more solid policy developments to tackle the climate change challenge.

- This paper provides the EUC views on the Communication and addresses in particular the issue of Emissions Trading (ET). It also summarises the more general views of the EUC on the issue of Climate Change.

Climate Chanze Policy: Obiectives, Principles and Responsibilities

- The EUC recognises the importance of addressing climate chapga and the important role that the European Union plays in driving the climate change agenda on the world stage. The EUC is eager to contribute positively to providing solutions for tackling the climate change challenge.

- Climate change is a **global issue** - national borders are of little relevance. Any action taken at EU level must take into consideration the international dimension.

- Climate change goes well beyond being just an environmental issue; it has enormous economic and social implications as well. **It is a Sustainable Development** issue and therefore the economic, social and ecological challenges that it involves need to be dealt with simultaneously. In particular, the following aspects of these three dimensions should be considered:

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- **Environmentally,** climate change will never be effectively tackled if the issue is not addressed at the global level with participation by all nations. It is extremely important that developed and developing countries agree on proposed recommendations and commit themselves to implementation.

- **Economically,** co-ordination with the EU's major trading partners is critical if action is to be effective. Unilateral action by the EU could harm the competitiveness of the European business community and its ability to channel resources into forward-looking solutions. Flexibility in implementation, as well as a long-term perspective, are essential factors in ensuring that costeffective reductions are achievements.

- **Socially,** it is essential that all stakeholders are involved in finding practical solutions. In both industrialised and developing countries consumers and the general public must be well informed. They should also be aware of the impact of Climate Change Policy measures on their lifestyle, and conscious that their individual choices determine a large share of the total C02 emissions (transport, households, etc. account for about 50% of C02 emissions).

Therefore, it is the responsibility of all stakeholders to encourage the development of pragmatic public policies that achieve verified GHG emission reductions without jeopardising global equity, economic growth or competitiveness. Business has a critical role to play in this process and will take all economically sound steps to further reducing GHG emissions by designing, developing, producing and deploying climate friendly technologies, implementing cost-effective manufacturing processes and operational strategies with improved energy efficiency.

The European Commission Communication of March 2000

The EUC recognises the importance of such a policy paper in the efforts of the EU to work on the practical steps to meet the target agreed under the Kyoto Protocol. It should be remembered that the implementation of any policy measures should follow the Kyoto Protocol ratification process.

Specific comments on the proposed policy and measures as listed in the ECCP:

1. Proposed sectoral measures

- **Transport related** measures:

As far as energy use in transport is concerned, it should be stressed that the current trends in tighter environmental legislation and in technological development (i.e. fuel quality specifications, fuel cell cars, end-of-life vehicles, etc.) are demanding more and more energy intensive manufacturing processes, resulting in higher C02 emissions. These specifications should be taken into account in planning and coordinating the policy measures.

Any recommendation in this area should not mandate or imply specific preferences that might limit industry's ability or flexibility to choose appropriate means of transportation for both goods and passenger transport. Moreover, measures should not lead to further distorting of competition and/or carry crosssubsidisation between modes.

Finally, a range of options should be considered in addressing aviation emissions consistent with the efforts of ICAO. The proposed EU focus on pricing and economic instruments should be expanded to include additional approaches such as operation measures and broad emissions trading.

- **Energy** related policies and measures:

The EUC welcomes the willingness of the European Commission to promote **energy efficiency** measures as proposed in the Communication and waits for a well co-ordinated and balanced implementation of the "Energy Efficiency" Action Plan as unveiled in April. The EUC will provide further comments on this
particular point once the practical implementation measures of the Action Plan are communicated.

Energy efficiency related to the **domestic sector** should be encouraged further. This area has an incredible potential for incremental improvements. Small incremental steps should not be disregarded.

- **Industry:**

EU policy must safeguard the competitiveness of EU business and therefore not increase the burden of costly compliance measures compared to other markets world-wide.

The EUC understands the need to propose policies and measures for all gases referred to in the Kyoto Protocol. However, any policies and measures related to fluorinated gases should be centred on reducing emissions of these gases, and not on eliminating the gases since this was never intended by the Kyoto Protocol.

- **Agriculture:** The Communication does not refer to specific measures related to this sector. We challenge the European Commission to be more creative and innovative in integrating climate change policy into agricultural policy.

It should be re-emphasised that equilibrium must be found between measures addressed to the industrial and non-industrial sectors, in consideration of the low proportion of industry emissions against the total.

2. Proposed cross-sectoral measures:

- **Fiscal measures:**

The Communication refers to a number of fiscal measures. As already pointed out in other position papers, the EUC believes that additional taxation has never been a long-term effective instrument as it seriously hurts industrial competitiveness in the short-term and may discourage investments in GHG emission reductions projects. In particular, energy tax, considering the low elasticity of demand, does not deliver the promised environmental improvements.

With regard to using fiscal incentives in the transport sector, the EUC would only support measures that would not increase the current tax burden to motor vehicle users and consequently lead to greater convergence in the effect of fiscal instrument used by individual EU Member States.

- **Research:** The EUC welcomes the European Commission's willingness to encourage further research efforts related to climate change.

3. International co-operation:

The EUC is keen to see further promotion of international co-operation on capacity building and technology transfer. The European Commission should put forward innovative and pragmatic proposals.

The Proposed ED Emissions Tradinz Scheme

The Kyoto Protocol allows for the use of the following three flexible mechanisms: international emissions trading, joint-implementation (JI) and the clean development mechanism (CDM).

In the Green Paper, the European Commission considers the possibility of an EU Emissions Trading (ET) scheme and notes the potential benefits as well as complex issues that need to be addressed. While the EUC is willing to participate in the consultation process, we believe that some of the proposed options should be reconsidered.

Emission Trading

The Green Paper on ET is aimed at launching an EU scheme before the Kyoto Protocol's entry into force. The Commission sees this as a "learning by doing" exercise which should give considerable benefits after.

ET does not reduce GHG emissions in itself but is an instrument which increases the efficiency of abatement. Industrial reduction of GHG emissions will be achieved through:

- Investments operated by companies to increase energy efficiency. - Development of new technology for improved processes. - Innovation and manufacturing of climate-friendly products.

- Less carbon-intensive energy production.

International Emissions Trading, Joint-Implementation (JI), the Clean Development Mechanism (CDM), use of sinks and source reductions are all recognised as legitimate means of achieving Kyoto Protocol targets. The EUC believes that the Commission initiative to put in-place a pilot scheme by 2005 to gain experience with emissions trading is worth exploring provided that it remains compatible with an international ET scheme and is not viewed as a substitute for access to broader trading opportunities.

The Commission should ensure the full involvement of EU Member States in the exercise, consistent with their ultimate responsibility of compliance with the Kyoto Protocol. This will also help to clarify the different national approaches to the issue.

ET should be considered as an integral part of the EU strategy for meeting its GHG emission reduction goal and should not be singled-out for special limitations or quantitative caps. The EUC is of the opinion that voluntary negotiated agreements are also an essential element and that all policy tools should be considered.

Principles and features for an EU ET scheme

An EU ET scheme should be kept simple and allow for maximum flexibility.

Participants should include all EU countries with quantified emission commitments and be opened to all sectors and companies. An EU ET scheme should **not be limited** to specific sectors but should be open to any entity that emits GHG emissions.

Tax rules applicable to ET, if any, should be harmonised at EU level to equalise trading conditions for all participants.

The scheme should offer a number of options from which sectors or firms could choose:
- Sectors and/or firms with an absolute declining emission cap.
- Sectors and/or firms with energy efficiency per unit output targets under negotiated agreements.
- Sectors and/or firms which carry out emission reduction projects internally or in co-operation with other trading partners.

Proposals such as the UK emissions trading pilot scheme support this approach. This seems to provide sufficient flexibility to participants in meeting their targets.

Emission reductions achieved by companies in an EU Member State should be credited regardless of the overall compliance of that particular Member State.

Therefore, even though the EU Member States have committed to an overall emissions reduction objective, **no absolute cap should be imposed on particular sectors or companies.**

- **All six GHG gases** referred in the Kyoto Protocol should be included.

- **Monitoring and enforcement** procedures should be established that are consistent with international emissions trading guidelines and reinforced by:
  - The establishment of an international emission-registry to which EU emission transfers would be reported.
  - The consideration of different levels of enforcement.

- The Kyoto Protocol provides for Parties to combine their efforts to implement their policies and measures. Credits earned through CDM and JI should be eligible for emissions trading and units from all three mechanisms should be equally weighted with no premium or discount associated with verified tons of carbon equivalent reductions, or enhancement of sinks.

- **Early actions** by business prior to the entry into force of the Kyoto Protocol should be acknowledged and taken into considerations in the allocation of allowances. The reference period must be the 1990 reference of the Kyoto Protocol.

Conclusion

- **Sustainability** requires a careful consideration and a balancing act of all three elements of the triple bottom line; if we focus only on the environment and fail to deliver on the economic and social fronts, we will have missed the whole point of becoming a sustainable society.

- We urge the European Commission not to disregard **small incremental steps.** A general framework should be conducive to efficient incremental steps.

- Policy-makers and business alike should not be blinded by over-ambitious and possibly ineffective policy orientations.

- Finally, although we recognise that most actions will be implemented in Member States, we encourage the European Commission to continue to play the vital role of assuring the **co-ordination** of policy that is essential to achieve the overall common goal - reducing GHG emissions for a better and more sustainable future.

The EU Committee is the key organization in Europe representing the views of European companies of American parentage. Its member companies are drawn from a broad cross-section of the European business community and typically are present in most Member States of the European Union. As such, it represents some of the earliest and most committed business supporters of the European ideal and, in particular, of the Single Market concept.

The Green Paper on Greenhouse gas emissions trading within the European Union
COM(2000)87
08/03/2000

UPDATED EuLA POSITION PAPER
13.09.00

(to follow up and replace EuLA position dated 21.06.00)

1. Just a few words about the lime industry

- This primary industry is essential for the make up of **steel**, **paper,** and for **environment** protection in agriculture, water and gas treatments. It is a basic product for many chemical reactions and for all **construction and civil works**.

- Making lime is an energy intensive process. Energy consumption is a crucial competitiveness factor which accounts for **up to 40%** of the running cost.

- Lime trading is subject to a severe **competition** at both national and international level.

- The lime industry is subject to the **IPPC** directive.

2. The lime business and its specific situation with regards to CO^2 emission

- The lime industry is facing **two types of $C0^2$** emissions :

  - The $C0^2$ from the process itself due to limestone **decarbonation**,
  - The $C0^2$ from **combustion** of fossil fuels.

- In the **Western** part of Europe, significant reduction of CO^2 emissions have been achieved in the 1970/1980 period in order to reduce energy costs, thanks to specific investments related to energy consumption after the **oil crisis**.

- From the early 1990s and up to now, E.U. based companies have settled in the Eastern part of Europe and exported their **technologies**, **know-how**, and **management methods** to bring there, outstanding improvements for the rational use of energy and consequently reduced local CO^2 emissions.

- **The reduction of CO^2 emissions by the use of by-products as an energy substitutes in lime kilns is technically feasable but it is, in practice, limited in order to save the required lime standards or prevent product quality alterations.**

- **The CO^2 emission level is linked to the lime production level. In global terms the market potential growth trend is expected to be stable in the coming years considering that:**

  - **The traditional markets are slowing down (steel, construction, …)**
  - **The new markets are growing up (in the environment protection applications such as the gas desulfuration, the chlorine and fluor captures, the treatment of drinking water, sewage sludges and industrial effluents, in paper manufacturing, or in the soil stabilisation technology, …).**

3. CO^2 emission reduction targets and limits

- **The largest CO^2 emission reduction is expected to be achieved from current and coming investments made in the eastern countries by the E.U. based lime companies. It will drastically improve in these areas, product quality and energy efficiency. Similar situation is prooved or expected in the mediteranean area and in North and South America.**

- **The lime industry is experimenting and gaining experience in the partial use of secondary fuels as an alternative to the use of fossil fuels.**

- **Apart from the calcination kiln process where theb energy efficiency is close to the theoretical optimum, the industry is looking for further but marginal energy savings in its ancillary installations.**

- **Eula is in favour of sectorial voluntary agreements, particularly because of their specific objectives, considering proven positive experiences, on-going negociations and further pending agreements.**

4. EuLA considerations about GETS

- **The lime industry is willing to participate in the Gas Emissions Trading System (GETS).**

- **The lime industry is looking for a common system, decided at EU level, to be as much harmonised as possible at international level including EES-countries and candidates countries to the EU :**

  - **to prevent competition distortion in the EU and between the EU countries and emerging countries**
  - **to avoid unexpected or unfair national, regional or sub-regional governemental decisions**

- **The GETS application should stop or cancel pending or existing burden measures such as energy taxation.**

- The GETS should be **accessible at company level** and should avoid numerous, heavy or expensive administrative frame and structures.

- The GETS should allow **exchanges without payment** within a group of companies.

- **A CEAC « Company Emission Exchange Accountancy Counter»** including inventory/reporting/control measures should inside a given group of companies allows :

  - The option **to balance** CO^2 emission reductions or increases performed within the group without having to buy or sale emission permits locally
  - The option **to tune** the best possible investment in the best possible place to match the best possible return on investment in relation with $C0^2$ emission management

- The GETS should **welcome SME's** having a few ten thousand tons of CO^2/year.

- The GETS should concentrate **first on CO^2** and progessively at a later stage include all green house gases.

- The lime industry draws the attention on the **incoherence** between a « Burden Sharing » at Member States level, and a « Sectorial Approach » to be harmonised at EU level. This **double approach** appears to be a major handicap to achieve a global, integrated and efficient trading system which takes into consideration the real potential of each sector for CO^2 reduction.

- The allocation of emission allowances to companies should :

  - be **harmonised** at EU level (definitions, rules of the game, …)
  - be granted at **national level**
  - be notified at EU level for **control**
  - be build up on **equity**
  - prevent losses of companies **competitivity**
  - take **historical background** into account
  - take into account significative efforts made in the past
  - understand that further substantial and potential reductions to be **limited**
  - offer a **legal safety** on a long term basis

- The lime industry expects that this program will be run with **transparency** and in a good mutual **understanding** in order to achieve, at the company level, the right emission accounts, the right emission reduction efforts and particularly the **recognition** of all the efforts being achieved inside and outside the E.U. before the period 2008/2012.

- The lime industry is willing to **gain experience** in the GETS which is still considered at an elaboration stage.

- **As an important issue for its members, the European Lime Industry is willing to gain experience and will follow up the GETS developments as well as the other flexible mechanisms (Clean Development Mechanism & Joint Implementation).**

- **Many areas of the flexible mechanisms still need precisions from which EuLA will provide further considerations to update its position.**

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