

## **Revision of the EU ETS – amending Directive 2003/87/EC Electro intensive sectors - inclusion and carbon leakage exposure criteria**

### **Introduction**

The draft Directive on Phase 3 of the EU Emissions Trading Scheme was published by the European Commission on 23 January 2008. To protect against carbon leakage, the Directive provides that Energy Intensive Industries which can demonstrate that they are at significant risk of leakage will be eligible to receive free allowances. However, this only applies for direct emitters of CO<sub>2</sub>.

The European Council met on 15-16 October, and they see a need for a) “precise quantitative criteria” for carbon leakage and b) an answer to the question of how to deal with the electro-intensive industries (the so-called indirect emitters). This is a recognition that the proposed directive will create a serious problem for the European electro-intensive industries, such as the chlor-alkali industry, where electricity costs account for typically 50% of the manufacturing cost to produce chlorine and caustic soda.

In order to ensure the future of the chlor-alkali industry in Europe there are two fundamental problems that have to be overcome:

1. Electro-intensive industries such as the chlor-alkali industry must be included in the ETS Review Directive in order to be eligible to mitigating measures foreseen.
2. Appropriate criteria for electro-intensive industries with no CO<sub>2</sub> emission but that are exposed to carbon leakage has to be developed.

This paper outlines in simple terms a model of how this may be achieved.

### **Electro-intensive industries must be included in the scope of the ETS Revision Directive**

The chlor-alkali industry is highly electro-intensive industry and as an electricity using sector it does not emit CO<sub>2</sub> but pay for the pass-through cost of CO<sub>2</sub> in the electricity price. Thus, the sector will be impacted by higher electricity costs resulting from climate change measures and consequently this will lead to carbon leakage.

There is currently no mechanism by which the electro-intensive industries can receive mitigating measures even once they have demonstrated that carbon leakage is a certainty. In order to change this it is necessary to:

- Modify the **scope of the directive to also include electro-intensive industries** (which are not direct emitters)
- There should also be a **clear definition of electro-intensive industries** e.g. the Energy Tax Directive Article 2, paragraph 4 indent 3 (Directive 2003/96/EC).

## **Development of Exposed Sector Criteria**

The chlor-alkali industry supports the Council's current work on criteria in order to identify exposed sectors. Also the EP Environment Committee made proposals where the pass on of carbon costs in the price of electricity was taken aboard as a criterion. **However, so far no clear criteria have yet been formulated for the electro-intensive industries such as the chlor-alkali sector.**

Regarding the actual criteria for compensation of an electro-intensive installation on the basis of exposure to "carbon leakage" we would suggest a quantitative criteria based on the Council's current discussions and the Parliament's recommendations for criteria based on GVA or on the total production costs:

- ***the impact of CO<sub>2</sub> on the GVA (gross value added) of a sector (kg CO<sub>2</sub>eq/Euro GVA).*** This criterion provides a clear indication of the impact of CO<sub>2</sub> on the competitiveness of a specific sector. Sectors with an average GHG intensity value higher than 1 kg CO<sub>2</sub> eq/1€ Gross Value Added should be considered as exposed to carbon leakage. To calculate the value direct and indirect emissions have to be taken into account based on a rolling average of the previous five calendar years. This solution will assure the protection for the chemical sector competitiveness.

Obviously, also the chlor-alkali sector may need to prove that it is unfairly exposed to international competition because of the anticipated high cost of carbon and hence is vulnerable to "carbon leakage" (which inevitably means "investment leakage").

## **Carbon leakage**

Europe has a downstream demand for approximately 11 million te/yr of chlorine. There is very little import and export of chlorine (due to the properties of the chemical) while the market of the downstream products e.g. PVC is global and highly competitive. Thus the European demand will continue irrespective of where the downstream products are actually made. The cost of carbon associated with chlorine production cannot be passed through to customers - if price increases were possible they would be implemented today

The European chlor-alkali industry has given a firm commitment to cease mercury-based production by 2020. This accounts for some 37% of current capacity. If European operators cannot make an adequate return on investment, no new capacity will be built in Europe to replace closing mercury-based plant. This will inevitably lead to production shifting to other regions e.g. China where CO<sub>2</sub> emissions associated with product destined for Europe will be more than double what they would be if the products are actually manufactured in Europe. Closure of chlor-alkali capacity in Europe will result in significant damage to the downstream chemical industries and wider economies.

## **Sectoral performance benchmarks**

The compensation will take place on the basis of a sectoral performance benchmarks. In these benchmarks European electro-intensive installations will be tested against the best installation in their class. The process of arriving at a benchmark starts with a database of actual consumption of electricity consumed by the industry. This data is being collected by Euro Chlor. The benchmark is not plant or technology specific but uses an industry average as the starting point. The industry average is adjusted for BAT which does ensure that poor performers are not rewarded.

The allowances will be used to offset the cost of carbon in the electricity prices. The consumer will have to pay the difference between the benchmark and actual consumption at the plant. This acts as an incentive to become more energy efficient and respects the polluter pays principle. The CO<sub>2</sub> abatement potential in the chlor-alkali sector is limited (electricity is used as a raw material in the production process). The chlor-alkali sector will deliver reductions as it continues its process to convert to membrane technology by 2020.

### **Conclusion**

In order to avoid uncertainties, avoid carbon leakage and to ensure a future in Europe of the chlor-alkali industry it is crucial that electro-intensive industries with no direct CO<sub>2</sub> emissions are covered by the Directive and that appropriate mitigating measures are taken. Therefore it is necessary that electro-intensive industries, such as the chlor-alkali industry, are included in the scope and the definitions of the directive.

Attached are proposed amendments to the ETS Directive Review.

Information:  
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Amendment to Article 2 paragraph 1 a (new)	
Commission proposal 23/01	Proposal for amendment
<u>(No solution proposed!)</u>	<u>(1a) The scope of Directive 2003/87/EC shall also apply to energy-intensive manufacturing sectors and sub-sectors at risk of carbon leakage as a result of their high electricity use which exposes them to competitive disadvantages from the pass-through of CO2 costs through the electricity price. The European Commission will specify in a list these electro-intensive sectors and sub-sectors according to Article 3 and Article 10 a paragraph 9 by 30 June 2009.</u>
<p><b>Justification:</b></p> <p><i>There is currently no mechanism in the Commission's proposal to give free allowances to sectors which meet the criteria to be recognised as being energy intensive, but which happens to be electricity-intensive, i.e. sectors for which the purchasing of electricity constitutes a major portion of their production costs (so called indirect emitters). These sectors do not emit significant amounts of CO2 directly but pay for the passed-through cost of CO2 incorporated into the electricity price – an effect beyond the indirect emitters' control. These manufacturing sectors must be included in the Directive in order to be compensated for those collateral cost effects impacting negatively on their competitiveness and putting them at risk to carbon leakage.</i></p>	

Amendment to Article 3 – point [(v)] (new)	
	Proposal for amendment
	<b>[(v)] <i>Electro-intensive industries qualifying for free allocation for 100% of their indirect emissions based on benchmarks are those sectors set out in Article 2, paragraph 4 indent 3 of Directive 2003/96/EC.</i></b>
<p><b>Justification:</b></p> <p><i>Electricity-intensive sectors are defined in the Energy Tax Directive 2003/96/EC. Electricity intensive industries must be included in the ETS Directive and be allocated free allowances to compensate for the carbon cost pass-through with the electricity price as a measure to control risk of carbon leakage.</i></p>	

**Amendment to  
Article 10a paragraph 8**

**Transitional Community-wide rules for harmonised free allocation**

<b>ENVI Committee report</b>	<b>Proposal for amendment</b>
<p>8. In 2013 and in each subsequent year up to 2020, installations in sectors <b>or subsectors</b> which are exposed to a significant risk of carbon leakage shall be allocated allowances free of charge <b>up to</b> 100 percent of the quantity determined in accordance with paragraphs 2 to 6. <b>The percentage shall take into account the extent to which it is possible for individual installations in the sector concerned to reduce emission levels by applying the most efficient techniques and taking into account the unavoidable electricity consumption in the production process.</b></p>	<p>8. In 2013 and in each subsequent year up to 2020, installations in sectors or subsectors which are exposed to a significant risk of carbon leakage <u>according to Article 10 a paragraph 9</u> shall be allocated allowances <u>free of charge 100 percent</u> of the quantity determined in accordance with paragraphs 2 to 6.</p> <p><u><i>Electro-intensive sectors or sub-sectors are at a risk of carbon leakage as a consequence of being subject to the passing through of CO2 costs into electricity prices.</i></u></p> <p><u><i>Accordingly, these specific sectors as determined in Article 3or in 10a paragraph 9 shall receive 100% free allowances for their indirect emissions based on benchmarking as described in Article 10 a paragraph 1.</i></u></p>
<p><b>Justification:</b></p> <p><i>(Sub)sectors exposed to the risk of carbon leakage must be allocated fully according to ambitious benchmarks: Best performers must not be charged with additional costs that would incur if these were allocated with less than 100% of free allowances thus affecting their competitiveness.</i></p>	

Amendment to  
Article 10a paragraph 9

Commission's proposal	Proposal for amendment
<p>At the latest by <b>31 March 2010</b> and every <b>4</b> years thereafter the Commission shall determine the sectors referred to in paragraph 8.</p> <p><b>The Commission shall consult the sectors and subsectors concerned and other relevant stakeholders .</b></p> <p>That measure, designed to amend non-essential elements of this Directive by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article [23(3)].</p> <p>In the determination referred to in the first subparagraph the Commission shall take into account the extent to which it is possible <b>at Community level</b> for the sector or sub-sector concerned to pass on the cost of the required allowances in product prices without significant loss of market share to less carbon efficient installations outside the Community, taking into account the following <b>quantitative criteria</b>:</p>	<p>At the latest by <u><b>30 June 2009</b></u> and every 4 years thereafter <u><b>the sectors or subsectors referred to in paragraph 8 shall be determined by the Commission according to the following criterion in consultation with the sectors and subsectors concerned. This identification holds then for the next 4 years, beginning in 2013.</b></u></p> <p><u><b>a) (Sub)sectors with an average GHG intensity higher than 1 kg CO<sub>2</sub>e/1 Euro GVA (gross value added). Both direct and indirect emissions are taken into account in the numerator. Indirect GHG emissions are taken as product of energy consumption and CO<sub>2</sub> factor based on EU wide fuel mix. Reference for the calculated GHG emissions and GVA is the rolling average of the previous five calendar years.</b></u></p>
<p>That measure, designed to amend non-essential elements of this Directive by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article [23(3)].</p>	
<p>In the determination referred to in the first subparagraph the Commission shall take into account the extent to which it is possible for the sector or sub-sector concerned to pass on the cost of the required allowances in product prices without significant loss of market share to less carbon efficient installations outside the Community, taking into account the following:</p>	
<p>(a) the extent to which auctioning would lead to a substantial increase in production cost;</p>	
<p>(b) the extent to which it is possible for individual installations in the sector</p>	

concerned to reduce emission levels for instance on the basis of the most efficient techniques;	
<i>(c)</i> market structure, relevant geographic and product <i>market</i> , the exposure of the sectors to international competition;	
<i>d)</i> the effect of climate change and energy policies implemented, or expected to be implemented outside the EU in the sectors concerned	
For the purposes of evaluating whether the cost increase resulting from the Community scheme can be passed on, estimates of lost sales resulting from the increased carbon price or the impact on the profitability of the installations concerned may <i>inter alia</i> be used.	
<p><b>Justification:</b></p> <p><i>Certainty for the identification of the exposed sectors is of utmost importance. Therefore, any suggestion to postpone this decision and refer it to a lengthy procedure such as comitology is not acceptable. It is suggested to introduce a precise, quantitative criterion, i.e. the GHG intensity of EU subsectors.</i></p> <p><i>As carbon leakage happens in an industrial (sub-)sector if the ETS induced costs are too high with respect to the (sub-)sector's value added, (sub-)sectors with an EU wide GHG intensity higher than a given threshold are considered as exposed to carbon leakage.</i></p> <p><i>In certain industries GHG induced costs arise from both process and indirect GHG emissions. CO2 impact can only be fairly judged, if direct and indirect emissions are included on the same footing. This is important to ensure equal treatment between different sectors.</i></p> <p><i>The GVA (gross value added) is an appropriate indicator of the true value creation in a subsector, and therefore a good indicator of the risk of carbon leakage. It is largely independent of input price factors (such as the oil price). A three year rolling average guarantees representative, reliable references whilst avoiding extremes (e.g. from one exceptional year).</i></p> <p><i>To avoid carbon leakage for sectors where electricity constitutes a high proportion of the production cost, electro-intensive installations should be allocated free allowances to compensate them for the cost of carbon built into electricity prices. The allocation quantity should be calculated using performance-based benchmarks.</i></p> <p><i>The free allocation for indirect emissions from exposed (Sub)sectors should be drawn from the pool of allowances earmarked to be auctioned to the electricity producers. This means that rather than buying all of their allowances at auction, the electricity producers will buy the vast majority at auction, and a small minority would be purchased from the qualifying electro-intensive sectors.</i></p>	