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EUROPEAN COMMISSION

Brussels, 24.12.2009
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COMMISSION DECISION

of 24.12.2009

determining, pursuant to Directive 2003/87/EC of the European Parliament and of the Council, a list of sectors and subsectors which are deemed to be exposed to a significant risk of carbon leakage

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(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the functioning of the European Union,

Having regard to Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC¹, and in particular Article 10a(13) thereof,

Whereas:

- (1) Directive 2003/87/EC, as amended by Directive 2009/29/EC², provides that auctioning should be the basic principle for allocation of greenhouse gas emission allowances.
- (2) The Union supports an ambitious international agreement on climate change that aims to limit the global temperature increase to 2°C. In the event that other developed countries and other major emitters of greenhouse gases do not participate in that international agreement, this could lead to an increase in greenhouse gas emissions in third countries where industry would not be subject to comparable carbon constraints ("carbon leakage") and undermine the environmental integrity and benefit of actions by the Union. To address the risk of carbon leakage, Directive 2003/87/EC provides that, subject to the outcome of the international negotiations, the Union should allocate allowances free of charge at 100% of the quantity determined in accordance with the measures referred to in Article 10a(1) of Directive 2003/87/EC to sectors or subsectors deemed to be exposed to a significant risk of carbon leakage.
- (3) By 31 December 2009 and every five years thereafter, the Commission shall determine a list of the sectors or subsectors deemed to be exposed to a significant risk of carbon leakage, hereinafter "list of sectors and subsectors", on the basis of the criteria referred to in paragraphs 14 to 17 of Article 10a of Directive 2003/87/EC.
- (4) According to Article 10a(14) of Directive 2003/87/EC, in order to determine the sectors or subsectors deemed to be exposed to a significant risk of carbon leakage the

¹ OJ L 275, 25.10.2003, p. 32.

² OJ L 140, 5.6.2009, p. 63

Commission shall assess, at Union level, the extent to which it is possible for the sector or subsector concerned, at the relevant level of disaggregation, to pass on the direct cost of the required allowances and the indirect costs from higher electricity prices resulting from the implementation of Directive 2003/87/EC into product prices without significant loss of market share to less carbon efficient installations outside the Union. These assessments shall be based on an average carbon price according to the Commission's impact assessment accompanying the package of implementation measures for the Union's objectives on climate change and renewable energy for 2020 and, if available, trade, production and value added data from the three most recent years for each sector or subsector.

- (5) In accordance with Article 10a(15) of Directive 2003/87/EC, a sector or subsector shall be deemed to be exposed to a significant risk of carbon leakage if the sum of direct and indirect additional costs induced by the implementation of that Directive would lead to a substantial increase of production costs, calculated as a proportion of the gross value added, of at least 5 %; and the intensity of trade with third countries, defined as the ratio between the total value of exports to third countries plus the value of imports from third countries and the total market size for the Union (annual turnover plus total imports from third countries), is above 10 %. In accordance with Article 10a(16) of Directive 2003/87/EC, a sector or subsector is also deemed to be exposed to a significant risk of carbon leakage if the sum of direct and indirect additional costs induced by the implementation of Directive 2003/87/EC would lead to a particularly high increase of production costs, calculated as a proportion of the gross value added, of at least 30 %, or the intensity of trade with third countries, defined as the ratio between the total value of exports to third countries plus the value of imports from third countries and the total market size for the Union (annual turnover plus total imports from third countries), is above 30 %.
- (6) In order to establish the list of sectors and subsectors which are deemed to be exposed to a significant risk of carbon leakage, the risk of carbon leakage should be assessed, as a starting point, at a 3-digit level (NACE-3 level) or, where appropriate and where the data is available, at a 4-digit level (NACE-4 level). Sectors and sub-sectors should be included on the list of sectors and subsectors using the most accurate NACE description. Some sectors not found to be exposed to a significant risk of carbon leakage at the NACE 4-level were disaggregated and a number of corresponding sub-sectors, for which certain characteristics led to a significantly different impact from the rest of the sector, were assessed.
- (7) Information necessary for making the determination on the basis of the criteria referred to in paragraphs 14 to 17 of Article 10a of Directive 2003/87/EC was collected, as of December 2008, from Member States, Eurostat, publicly and commercially available sources and industry associations. Information not provided by Member States or any other official sources has been verified. Confidential data processed by Eurostat have also been used.
- (8) The data in the "Community Independent Transaction Log" (CITL) are considered to be the most accurate, reliable and transparent estimation of CO₂ emissions for sectors, the activities of which were in Annex I to Directive 2003/87/EC, prior to amendment by Directive 2009/29/EC, and have therefore been used as the main source to calculate the direct cost of the allowances for those sectors.

- (9) As regards process emissions of new activities and greenhouse gases included in Annex I to Directive 2003/87/EC, as amended by Directive 2009/29/EC, for some sectors with a substantial number of small installations or installations which were excluded in periods 2005-2007 and 2008-2012 of the emissions trading scheme, or for which no CITL data was available, or where emissions could not be attributed at NACE-4 level, data have been collected from Member States and from the greenhouse gas inventory of the Union for the relevant years. As regards the assessment of electricity consumption used for the calculation of indirect cost from higher electricity prices, no data is available from Eurostat, and the data collected directly from Member States can be considered as the most reliable data available. Regarding the estimation of gross value added, data from the Eurostat Structural Business Statistics have been used as it is considered to be the most accurate source. The data reported by Eurostat in the Comext database on trade between Member States and with third countries are considered as the most reliable data on the total values of exports to third countries and imports from third countries, as well as on the total annual turnover in the Union.
- (10) The assessments were based on the average carbon price according to the impact assessment of the Commission accompanying the package of implementation measures for objectives of the Union on climate change and renewable energy for 2020³. The resulting carbon price from the most relevant scenario including Joint Implementation and Clean Development Mechanism credits is EUR 30 per tonne of CO₂ equivalent.
- (11) In order to assess the direct additional costs induced by the implementation of Directive 2003/87/EC, it is necessary to take into account the amount of allowances that the sector would be required to purchase if not deemed to be exposed to significant risk of carbon leakage. In accordance with Article 10a(11) of that Directive the amount of allowances allocated free of charge to such sectors in 2013 is to be 80% of the quantity determined in accordance with Article 10a(1) and this amount is to decrease each year by equal amounts resulting in 30% free allocation in 2020 with a view to reaching 0% free allocation in 2027. The starting point for the benchmarks determined under Article 10a(1) is the average performance of the 10% most efficient installations in the sector or subsector in the Union in the years 2007-2008 and they shall take into account the most efficient techniques, substitutes and alternative production processes.
- (12) The benchmarks to be determined in accordance with Article 10a(1) of Directive 2003/87/EC are to be adopted only by the end of 2010. Assessment of direct costs on the basis of those benchmarks can therefore only be taken into account on the occasion of revision of the list of sectors and sub-sectors. It is thus necessary to estimate the amount of allowances which need to be allocated free of charge in order to determine the list of sectors and sub-sectors. These estimates have to be made at Union level and for the years 2013 and 2014. The best estimate, for the purposes of this Decision and reflecting the stringent requirements for benchmarks and the application of the linear reduction factor, is that 75% of allowances for non-exposed sectors will need to be purchased in 2013 and 2014.

³ http://ec.europa.eu/energy/climate_actions/doc/2008_res_ia_en.pdf

- (13) The assessment of indirect cost was based on the Union average emission factor for electricity of 0.465 tonnes of CO₂ per MWh according to the Model-based Analysis of the 2008 EU Policy Package on Climate Change and Renewables⁴ used for the impact assessment of the Commission accompanying the package of implementation measures for objectives of the Union on climate change and renewable energy for 2020. The use of an average Union value is appropriate as it is consistent with the requirement to perform the assessment at Union level and as it reflects the actual emissions linked to the electricity production in the Union.
- (14) According to Article 10a(17) of Directive 2003/87/EC, the list may be supplemented after completion of a qualitative assessment, where the relevant data is available, taking into account the extent to which it is possible for individual installations in the sector or subsector concerned to reduce emission levels or electricity consumption, including, as appropriate, the increase in production costs that the related investment may entail, for instance on the basis of the most efficient techniques; current and projected market characteristics, including when trade exposure or direct and indirect cost increase rates are close to one of the thresholds; and profit margins as a potential indicator of long-run investment or relocation decisions.
- (15) A qualitative assessment has been carried out on a number of sectors and sub-sectors that were not deemed to be exposed to carbon leakage based on the quantitative criteria set out in paragraphs 14 and 15 of Article 10a of Directive 2003/87/EC. The qualitative assessment was mainly applied to sectors not sufficiently represented in the quantitative assessment, and to sectors considered to be borderline cases or for which statistics were absent or of poor quality, and for which Member States or industry representatives had requested a qualitative analysis, based on plausible reasoning and substantiated requests. Following that assessment, some of the sectors analysed should be deemed as exposed to a significant risk of carbon leakage. The additional sectors and subsectors that have been added to the list are specified separately in the third section of the Annex to this Decision.
- (16) Other sectors and subsectors, which, under the given time constraints, have not been completely analysed on this occasion or for which data quality and availability was limited, such as for manufacture of bricks and roof tiles, will be reassessed as soon as possible according to Article 10a (13) of the Directive and - subject to the outcome of the analysis - added to the list.
- (17) A qualitative assessment has been carried out on the sector of "Finishing of textiles" (NACE code 1730), primarily due to the fact that no official trade data at Union level is available to assess trade intensity and that all other textile sectors are highly trade intensive. The assessment demonstrated increased international competitive pressure, significant drop in production in the Union over the last years and negative or only very modest profit margins for the years evaluated, which limit the capacity of installations to invest and reduce emissions. Based on the combined impact of those factors, the sector should be deemed as exposed to a significant risk of carbon leakage.

⁴ P. Capros et al. (2008): Model-based Analysis of the 2008 EU Policy Package on Climate Change and Renewables, Primes Model – E3MLab/NTUA, June 2008
http://ec.europa.eu/environment/climat/pdf/climat_action/analysis.pdf

- (18) A qualitative assessment has been carried out on the sector of "Manufacture of veneer sheets; manufacture of plywood, laminated board, particle board, fibre board and other panels and boards" (NACE code 2020). The assessment demonstrated limited scope to reduce emissions without significant increase in costs, challenging market characteristics, such as high price sensitivity and increasing trend in imports from low cost manufacturing countries, and significant impact of additional costs due to implementation of Directive 2003/87/EC on the profit margins, limiting the capacity of installations to invest and reduce emissions. Based on the combined impact of those factors, the sector should be deemed as exposed to a significant risk of carbon leakage.
- (19) A qualitative assessment has been carried out on the sector of "Manufacture of plastics in primary forms" (NACE code 2416). With respect to current market characteristics, the assessment demonstrated a high level of integration with other parts of the chemical industry, which are deemed to be exposed to a significant risk of carbon leakage; prices set at the world market impeding unilateral price increases, and distortions of the world or Union market due to unfair commercial practices from producers in certain third countries. As regards the projected market characteristics, while already close to the 30% trade intensity threshold, the sector experiences a strong increase in imports which will continue mainly due to large new investments in the Middle East. Based on the combined impact of those factors, the sector should be deemed as exposed to a significant risk of carbon leakage.
- (20) A qualitative assessment has been carried out on the sector of "Casting of iron" (NACE code 2751), primarily due to the fact that no official trade data at Union level are available to assess trade intensity, as the main casting products are split into different groups in the Eurostat Comext database. The assessment demonstrated limited abatement potential due to partly unavoidable process-related emissions and limited capacity to invest in abatement technologies due to significant impact of additional costs resulting from the implementation of Directive 2003/87/EC on profit margins. With respect to market characteristics, the market concentration is low, while a high level of concentration exists in the client sectors. This implies limited potential for the sector to pass through additional costs. Existing trade data from alternative sources also indicate that the casting production is increasingly traded internationally. Based on the combined impact of those factors, the sector should be deemed as exposed to a significant risk of carbon leakage.
- (21) A qualitative assessment has been carried out on the sector of "Casting of light metals" (NACE code 2753), primarily due to the fact that no official trade data at Union level are available to assess trade intensity, as the main casting products are split into different groups in the Eurostat Comext database. With respect to market characteristics, the assessment demonstrated low market concentration and high dependence on demand from one concentrated client sector. This implies limited potential for the sector to pass through additional costs. Moreover, the sector experienced losses or only very modest margins in the evaluated years, which adversely affects the capacity to investment in abatement technologies, and which could be further exacerbated by the additional costs. Existing trade data from alternative sources also indicate that the casting production is increasingly traded internationally. Based on the combined impact of those factors, the sector should be deemed as exposed to a significant risk of carbon leakage.

- (22) When determining the list of sectors and subsectors, account should be taken, where the relevant data is available, of the extent to which third countries, representing a decisive share of global production in sectors or subsectors deemed to be at risk of carbon leakage, firmly commit to reducing greenhouse gas emissions in those sectors or subsectors to an extent comparable to that of the Union and within the same time frame, and the extent to which the carbon efficiency of installations located in those countries is comparable to that of the Union. At the current stage, only Norway, Iceland and Switzerland have made such commitments, and they do not together represent a decisive share of global production in the sectors or subsectors which are deemed to be at significant risk of carbon leakage. As regards the carbon efficiency, the relevant data necessary for the assessment is not available due to incomparability of statistical definitions and general lack of global data at the required level of disaggregation and sectoral detail. Therefore, the criteria set out in Article 10a(18) of Directive 2003/87/EC had no effect on the list of sectors and subsectors.
- (23) The assessment on which the list of sectors and subsectors is based has covered all NACE-codes from 1010 up to and including 3720, thus covering mining, quarrying and manufacturing sectors. Certain other industrial sectors, falling outside this range of NACE codes, but whose stationary installations are potentially covered by the EU ETS provisions on carbon leakage, will be analysed by the Commission during 2010. If any such industrial sector satisfies the criteria in paragraphs 14 to 17 of Article 10a of Directive 2003/87/EC it will be added to the list in the annual update.
- (24) This list applies for the years 2013-2014, subject to the outcome of the international negotiations.
- (25) Various stakeholders, including Member States, industry associations, environmental non-governmental organisations and academics have been consulted on the list of sectors and subsectors and information on the process was made available on the website of the Commission⁵.
- (26) The measures provided for in this Decision are in accordance with the opinion of the Climate Change Committee,

HAS ADOPTED THIS DECISION:

Article 1

The sectors and subsectors listed in the Annex shall be deemed to be exposed to a significant risk of carbon leakage.

Certain other industrial sectors, falling outside range of the assessed NACE codes (from 1010 to including 3720), but potentially covered by the EU ETS provisions on carbon leakage, will be analysed by the Commission during 2010. If any such industrial sector satisfies the criteria in paragraphs 14 to 17 of Article 10a of Directive 2003/87/EC it will be added to the list in the annual update.

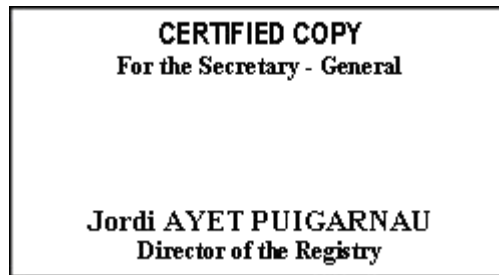
⁵ http://ec.europa.eu/environment/climat/emission/carbon_en.htm

Article 2

This Decision is addressed to the Member States.

Done at Brussels, 24.12.2009

For the Commission
STAVROS DIMAS
Member of the Commission



ANNEX

Sectors and sub-sectors which, pursuant to Article 10a(13) of Directive 2003/87/EC, are deemed to be exposed to a significant risk of carbon leakage

1. At the NACE-4 level

1.1. Based on the quantitative criteria set out in paragraphs 15 and 16 of Article 10a of Directive 2003/87/EC

NACE Code	Description
1010	Mining and agglomeration of hard coal
1430	Mining of chemical and fertilizer minerals
1597	Manufacture of malt
1711	Preparation and spinning of cotton-type fibres
1810	Manufacture of leather clothes
2310	Manufacture of coke oven products
2413	Manufacture of other inorganic basic chemicals
2414	Manufacture of other organic basic chemicals
2415	Manufacture of fertilizers and nitrogen compounds
2417	Manufacture of synthetic rubber in primary forms
2710	Manufacture of basic iron and steel and of ferro-alloys
2731	Cold drawing
2742	Aluminium production
2744	Copper production
2745	Other non-ferrous metal production
2931	Manufacture of agricultural tractors

1.2. Based on the quantitative criteria set out in paragraph 15 of Article 10a of Directive 2003/87/EC

NACE Code	Description

1562	Manufacture of starches and starch products
1583	Manufacture of sugar
1595	Manufacture of other non-distilled fermented beverages
1592	Production of ethyl alcohol from fermented materials
2112	Manufacture of paper and paperboard
2320	Manufacture of refined petroleum products
2611	Manufacture of flat glass
2613	Manufacture of hollow glass
2630	Manufacture of ceramic tiles and flags
2721	Manufacture of cast iron tubes
2743	Lead, zinc and tin production

1.3. Based on the quantitative criteria set out in point (a) of Article 10a(16) of Directive 2003/87/EC

NACE Code	Description
2651	Manufacture of cement
2652	Manufacture of lime

1.4. Based on the quantitative criteria set out in point (b) of Article 10a(16) of Directive 2003/87/EC

NACE Code	Description
1110	Extraction of crude petroleum and natural gas
1310	Mining of iron ores
1320	Mining of non-ferrous metal ores, except uranium and thorium ores
1411	Quarrying of ornamental and building stone
1422	Mining of clays and kaolin

1450	Other mining and quarrying n.e.c
1520	Processing and preserving of fish and fish products
1541	Manufacture of crude oils and fats
1591	Manufacture of distilled potable alcoholic beverages
1593	Manufacture of wines
1712	Preparation and spinning of woollen-type fibres
1713	Preparation and spinning of worsted-type fibres
1714	Preparation and spinning of flax-type fibres
1715	Throwing and preparation of silk, including from noils, and throwing and texturing of synthetic or artificial filament yarns
1716	Manufacture of sewing threads
1717	Preparation and spinning of other textile fibres
1721	Cotton-type weaving
1722	Woollen-type weaving
1723	Worsted-type weaving
1724	Silk-type weaving
1725	Other textile weaving
1740	Manufacture of made-up textile articles, except apparel
1751	Manufacture of carpets and rugs
1752	Manufacture of cordage, rope, twine and netting
1753	Manufacture of non-wovens and articles made from non-wovens, except apparel
1754	Manufacture of other textiles n.e.c.
1760	Manufacture of knitted and crocheted fabrics
1771	Manufacture of knitted and crocheted hosiery
1772	Manufacture of knitted and crocheted pullovers, cardigans and similar articles
1821	Manufacture of workwear
1822	Manufacture of other outerwear

1823	Manufacture of underwear
1824	Manufacture of other wearing apparel and accessories n.e.c.
1830	Dressing and dyeing of fur; manufacture of articles of fur
1910	Tanning and dressing of leather
1920	Manufacture of luggage, handbags and the like, saddlery and harness
1930	Manufacture of footwear
2010	Sawmilling and planing of wood; impregnation of wood
2052	Manufacture of articles of cork, straw and plaiting materials
2111	Manufacture of pulp
2124	Manufacture of wallpaper
2215	Other publishing
2330	Processing of nuclear fuel
2412	Manufacture of dyes and pigments
2420	Manufacture of pesticides and other agro-chemical products
2441	Manufacture of basic pharmaceutical products
2442	Manufacture of pharmaceutical preparations
2452	Manufacture of perfumes and toilet preparations
2463	Manufacture of essential oils
2464	Manufacture of photographic chemical material
2465	Manufacture of prepared unrecorded media
2466	Manufacture of other chemical products n.e.c.
2470	Manufacture of man-made fibres
2511	Manufacture of rubber tyres and tubes
2615	Manufacture and processing of other glass, including technical glassware
2621	Manufacture of ceramic household and ornamental articles
2622	Manufacture of ceramic sanitary fixtures

2623	Manufacture of ceramic insulators and insulating fittings
2624	Manufacture of other technical ceramic products
2625	Manufacture of other ceramic products
2626	Manufacture of refractory ceramic products
2681	Production of abrasive products
2722	Manufacture of steel tubes
2741	Precious metals production
2861	Manufacture of cutlery
2862	Manufacture of tools
2874	Manufacture of fasteners, screw machine products, chain and springs
2875	Manufacture of other fabricated metal products n.e.c.
2911	Manufacture of engines and turbines, except aircraft, vehicle and cycle engines
2912	Manufacture of pumps and compressors
2913	Manufacture of taps and valves
2914	Manufacture of bearings, gears, gearing and driving elements
2921	Manufacture of furnaces and furnace burners
2923	Manufacture of non-domestic cooling and ventilation equipment
2924	Manufacture of other general purpose machinery n.e.c.
2932	Manufacture of other agricultural and forestry machinery
2941	Manufacture of portable hand held power tools
2942	Manufacture of other metalworking machine tools
2943	Manufacture of other machine tools n.e.c.
2951	Manufacture of machinery for metallurgy
2952	Manufacture of machinery for mining, quarrying and construction
2953	Manufacture of machinery for food, beverage and tobacco processing
2954	Manufacture of machinery for textile, apparel and leather production

2955	Manufacture of machinery for paper and paperboard production
2956	Manufacture of other special purpose machinery n.e.c.
2960	Manufacture of weapons and ammunition
2971	Manufacture of electric domestic appliances
3001	Manufacture of office machinery
3002	Manufacture of computers and other information processing equipment
3110	Manufacture of electric motors, generators and transformers
3120	Manufacture of electricity distribution and control apparatus
3130	Manufacture of insulated wire and cable
3140	Manufacture of accumulators, primary cells and primary batteries
3150	Manufacture of lighting equipment and electric lamps
3162	Manufacture of other electrical equipment n.e.c.
3210	Manufacture of electronic valves and tubes and other electronic components
3220	Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy
3230	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods
3310	Manufacture of medical and surgical equipment and orthopaedic appliances
3320	Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment
3340	Manufacture of optical instruments and photographic equipment
3350	Manufacture of watches and clocks
3511	Building and repairing of ships
3512	Building and repairing of pleasure and sporting boats
3530	Manufacture of aircraft and spacecraft
3541	Manufacture of motorcycles
3542	Manufacture of bicycles
3543	Manufacture of invalid carriages
3550	Manufacture of other transport equipment n.e.c.

3621	Striking of coins
3622	Manufacture of jewellery and related articles n.e.c.
3630	Manufacture of musical instruments
3640	Manufacture of sports goods
3650	Manufacture of games and toys
3661	Manufacture of imitation jewellery
3662	Manufacture of brooms and brushes
3663	Other manufacturing n.e.c.

2. Beyond NACE-4 level based on the quantitative criteria set out in paragraphs 15 and 16 of Article 10a of Directive 2003/87/EC

Prodcom Code	Description
15331427	Concentrated tomato puree and paste
155120	Milk and cream in solid forms
155153	Casein
155154	Lactose and lactose syrup
15891333	Dry bakers' yeast
24111150	Hydrogen (including the production of hydrogen in combination with syngas).
24111160	Nitrogen
24111170	Oxygen
243021	Prepared pigments, opacifiers and colours, vitrifiable enamels and glazes, engobes, liquid lustres and the like; glass frit
24621030	Gelatin and its derivatives; isinglass (excluding casein glues and bone glues)
261411	Slivers, rovings, yarn and chopped strands, of glass fibre
26821400	Artificial graphite, colloidal, semi-colloidal graphite and preparations
26821620	Exfoliated vermiculite, expanded clays, foamed slag and similar expanded mineral materials and mixtures thereof

3. At NACE-4 level based on the qualitative criteria set out in paragraph 17 of Article 10a of Directive 2003/87/EC

NACE Code	Description
1730	Finishing of textiles
2020	Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards
2416	Manufacture of plastics in primary forms
2751	Casting of iron
2753	Casting of light metals