

A CHP guide to the Revised EU ETS Directive -rules applying as of 1st January 2013-



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Executive summary

CHP plants have been the direct recipients of free EU ETS allowances since the EU ETS's inception and entry into force in 2005. With the revised EU ETS Directive, which will enter into force on 1st January 2013, the rules governing free allocation of allowances have been dramatically modified.

Under the new system, CHP heat produced by plants supplying installations covered by the EU ETS, as well as CHP plants included in the EU ETS but supplying non-ETS installations, is eligible for free allowances. The amount of free allowances eligible for this heat is a function of a number of factors, in particular the Carbon Leakage status of the heat consumer and the existence of product benchmarks for the end product using the CHP heat.

The exact amount of free allowances to be distributed relies on a complex calculation process, bringing into play several documents: the revised EU ETS Directive, the Decision on benchmarking (agreed on 15 December 2010), as well as the Guidance documents still under preparation by the Ecofys-Entec consulting consortium on behalf of DG Climate Action.

In addition, electricity can also get a limited amount of free allowances in a limited number of Member States.

EU ETS Basics

Key documents :

European Commission Portal on EU ETS: http://ec.europa.eu/clima/policies/ets/index_en.htm

Link to full text of revised EU ETS Directive 2009/29/EC:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0063:0087:en:PDF>

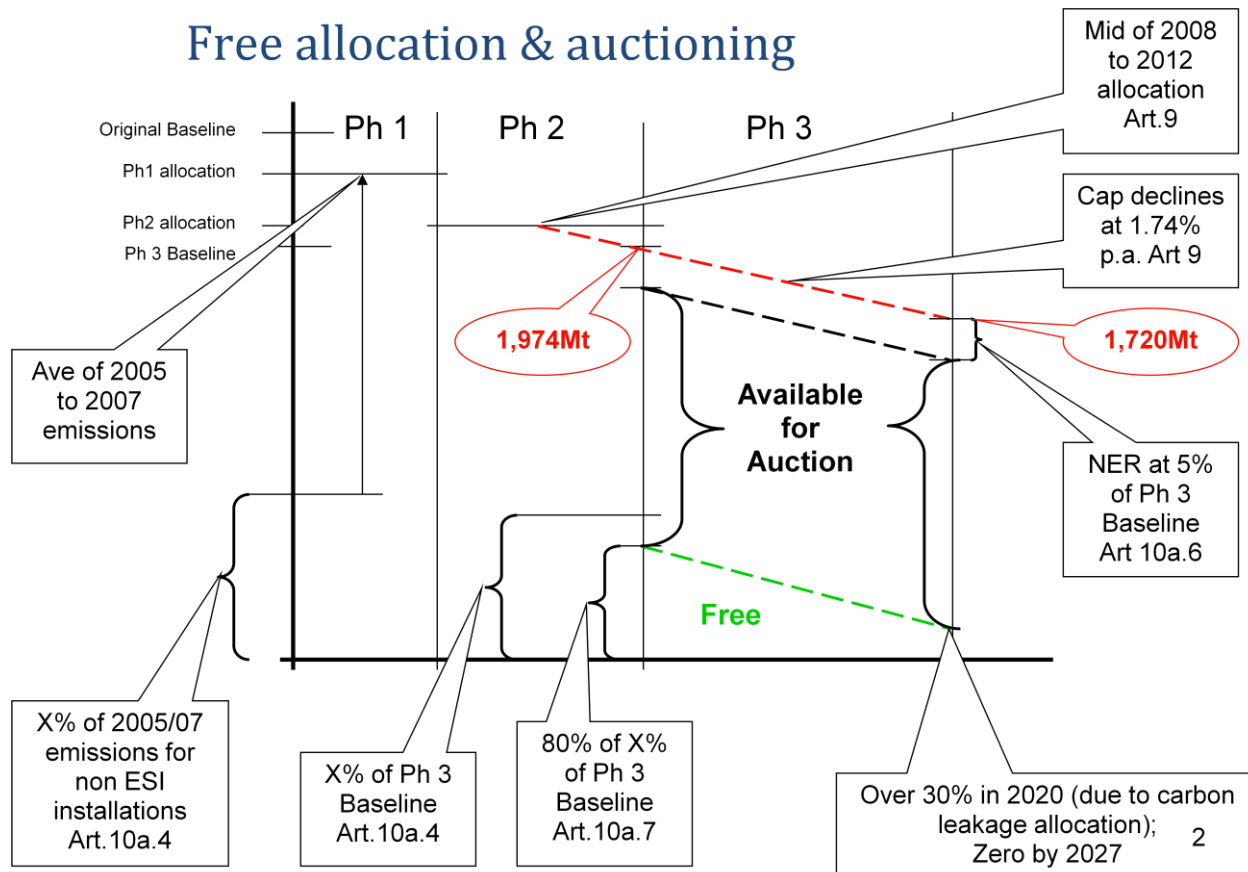
The Commission Decision determining transitional Union-wide rules for the harmonized free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC, agreed on 15 December 2010, has yet to be formally published. It is available on the DG Climate Action website, under the "documentation" icon:

http://ec.europa.eu/clima/documentation/ets/benchmarking_en.htm

The EU ETS, a system based on the "cap and trade" principle

Launched in 2005, the EU ETS works on the "cap and trade" principle. This means there is a "cap", or limit, on the total amount of certain greenhouse gases that can be emitted by the factories, power plants and other installations in the system. Within this cap, companies receive emission allowances which they can sell to or buy from one another as needed. The limit on the total number of allowances available ensures that they have a value. At the end of each year each company must surrender enough allowances to cover all its emissions, otherwise heavy fines are imposed. If a company reduces its emissions, it can keep the spare allowances to cover its future needs or else sell them to another company that is short of allowances. The flexibility that trading brings ensures that emissions are cut where it costs least to do so. The number of allowances is reduced over time so that total emissions fall. In 2020 emissions will be 21% lower than in 2005.

Graphic representation of overall cap



Auctioning

The EU Emissions Trading System enables participating installations like factories and power plants in 30 countries to receive emission allowances (a certain amount of greenhouse gases that they can emit) which they can sell to or buy from one another as needed. While auctioning of carbon allowances is limited during the first and second trading period (i.e. until end 2012), it will be the main allocation method as of 2013.

During the first trading period (2005 to 2007), Member States have auctioned only very limited quantities of carbon allowances, and also during the second trading period (2008 to 2012) the lion's share of carbon allowances is still allocated for free. From the start of the third trading period in 2013 about half of the allowances are expected to be auctioned. Auctioning is the most transparent allocation method that allows market participants to acquire the allowances concerned at the market price.

Auctioning of allowances becomes rule as of 2013

The revision of the Emission Trading Directive, agreed on 17 December 2008, foresees a fundamental change as from the third trading period starting in 2013. Auctioning of allowances will be the rule rather than the exception. No allowances will be allocated free of charge for electricity production, with only limited and temporary options to derogate from this rule.

Sectors and sub-sectors found to be exposed to a significant risk of carbon leakage will receive allowances for free based on ambitious benchmarks, but for non exposed industry such allocations will be phased out. These rules imply that as from 2013 at least half the total number of allowances is expected to be auctioned.

Benchmarking

From 2013 onwards the system for allocating emission allowances will significantly change compared to the two previous trading periods (2005-2012). Firstly, emission allowances will be distributed according to fully harmonised and EU-wide rules, meaning that the same rules will apply across all EU Member States. Secondly, auctioning will be the rule for the power sector, which means that the majority of allowances under the EU Emissions Trading System will not anymore be allocated for free.

For industry and heating sectors, allowances will be allocated for free based on ambitious (greenhouse gas performance-based) benchmarks. Installations that meet the benchmarks (and thus are among the most efficient installations in the EU) will in principle receive all allowances they need. Installations that do not meet the benchmark will have a shortage of allowances and the option to either lower their emissions (e.g. through engaging in abatement) or to purchase additional allowances to cover their excess emissions.

In contrast to the most common allocation methods in force since 2005 and until 2012, this new system applying from 2013 onwards will no longer have the perverse effect of providing more free allocation to the highest emitting installations.

The benchmarks are also very important for the achievement of a low-carbon economy. They provide a strong signal for what is possible in terms of low-carbon production. The benchmarks are a milestone to show that the EU is pressing ahead with the implementation of its ambitious climate agenda and that it is serious in striving for a low-carbon economy.

What are benchmarks?

A benchmark does not represent an emission limit or even an emission reduction target but merely a threshold for the level of free allocation of an individual installation. The benchmarks are to be developed per product, to the extent feasible.

Generally speaking a product benchmark is based on a value reflecting the average greenhouse gas performance of the 10 % best performing installations in the EU producing that product. The benchmarks were established on the basis of the principle 'one product = one benchmark', which means that the

benchmark methodology does not differentiate by technology or fuel used, nor the size of an installation or its geographical location.

Why free emission allowances?

If other developed countries and other major emitters of greenhouse gases do not take comparable action to reduce their emissions, certain energy-intensive sectors in the EU that are subject to international competition could be put at an economic disadvantage. Therefore, allocating emission allowances free of charge aims at limiting the costs for EU industries in relation to competitors outside of the EU.

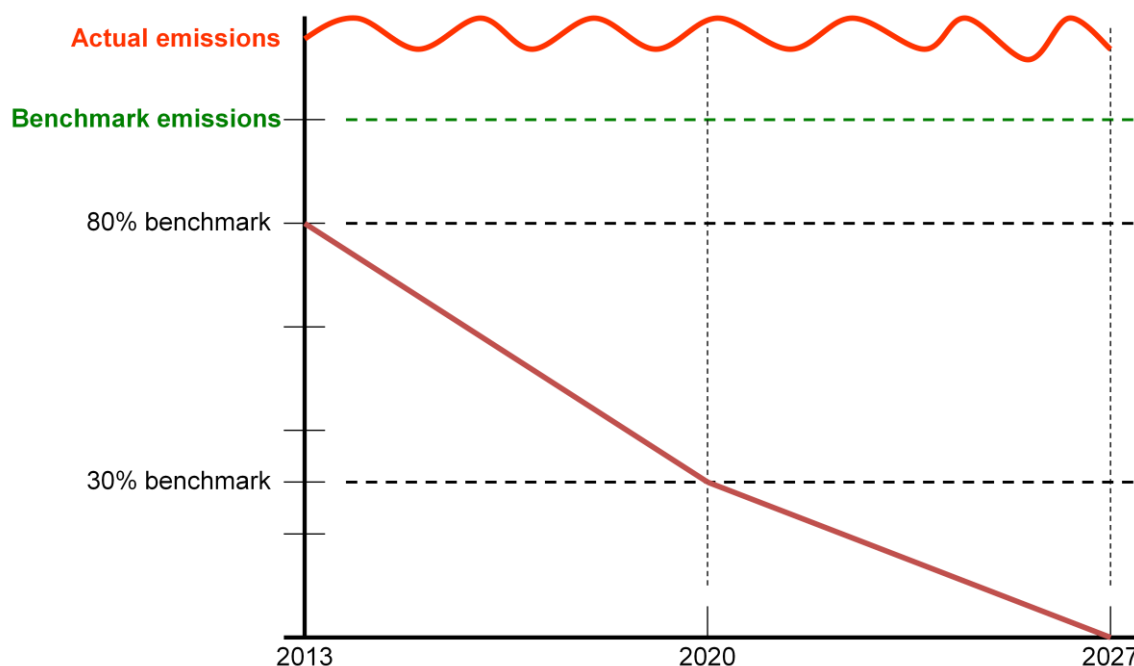
At the same time, an absence of comparable action outside of the EU could lead to an increase in greenhouse gas emissions in third countries where industry is not subject to comparable carbon constraints. This would undermine the environmental integrity and benefit of actions by the EU.

To address these issues, industrial sectors that face international competition from industries outside the EU which are not subject to comparable climate legislation will receive a higher share of free allowances than those which are not at the risk of such so-called carbon leakage.

The Commission Decision’s determining transitional Union-wide rules for the harmonized free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC, agreed on 15 December 2010, and known as the “benchmarking decision” has yet to be formally published and published on official European websites. It sets the exact benchmark levels for a number of products, including default levels for heat production.

Graphic representation of free allocation if no exposure to carbon leakage

Allocation if not exposed to Carbon Leakage (CL)



Carbon Leakage

Commission Decision of 24 December 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

Link to Carbon Leakage Decision (in all European languages):

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32010D0002:EN:NOT>

Background

Agreement on the revision of the EU ETS Directive was reached between the European Parliament and the Council on 17 December 2008. The amended Directive contains a range of implementing measures to be adopted by the Commission after agreement by the Member States (through so called Comitology procedure).

One of the most important measures requires the Commission to determine the sectors or sub-sectors deemed to be exposed to a significant risk of carbon leakage by 31 December 2009.

Article 10a of the revised Directive states that a sector or sub-sector is "deemed to be exposed to a significant risk of carbon leakage if:

- the extent to which the sum of direct and indirect additional costs induced by the implementation of this directive would lead to a substantial increase of production cost, calculated as a proportion of the Gross Value Added, of at least 5%; and
- the Non-EU Trade intensity defined as the ratio between total of value of exports to non EU + value of imports from non-EU and the total market size for the Community (annual turnover plus total imports) is above 10%."

A sector or sub-sector 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 this directive would lead to a particularly high increase of production cost, calculated as a proportion of the Gross Value Added, of at least 30%; or
- if the Non-EU Trade intensity defined as the ratio between total of value of exports to non EU + value of imports from non-EU and the total market size for the Community (annual turnover plus total imports) is above 30%.

The resulting list may be supplemented after completion of a qualitative assessment, taking into account additional criteria referred to in article 10a.

According to the Directive, production from sectors deemed to be exposed to a significant risk of carbon leakage will receive relatively more free allowances than other sectors. Free allowances will in principle be allocated based on product-specific benchmarks for each relevant product. The starting point for the benchmarks is the average of the 10% most efficient installations, in terms of greenhouse gases, in a sector and they shall take into account the most efficient techniques, substitutes and alternative production processes.

The benchmarks will be multiplied by an historical production figure, and some other factors that are needed to ensure the respect of the annually declining total cap.

The only concrete effect of the list of sectors exposed to a significant risk of carbon leakage is that for the sectors mentioned on the list, the free allocation will be multiplied by a factor 1 (100%) while for other sectors

the allocation will be multiplied by a lower figure (0,80 in 2013, and reduced every year to reach 0.30 in 2020). It does thus not mean that the exposed sectors are exempted from the ETS. Furthermore, given that the benchmarks will be stringent, only the most efficient installations have any chance of receiving all of its needed allowances for free.

It should be stressed that the free allowances will be product-based, not sector-based. All products of the same kind should get an equal treatment in terms of carbon leakage. All relevant products will be classified as exposed to carbon leakage or not, based on the list of sectors. Therefore, it is not because an installation mainly produces products exposed to a significant risk of carbon leakage that all products produced in such an installation will receive a favourable carbon leakage treatment.

Registries & accounting

The national registries

Each EU Member State plus Norway, Iceland and Liechtenstein has a national ETS registry. These registries are online databases that record:

- National plan indicating the allowances assigned to each Member State
- Accounts (held by a company or a physical person) to which those allowances have been allocated
- Transfers of allowances ("transactions") performed by the account holders
- Annual verified CO₂ emissions from installations
- Annual reconciliation of allowances and verified emissions, where each company must have surrendered enough allowances to cover all its emissions.

Click here to access the list of national registries: <http://ec.europa.eu/environment/ets/registrySearch.do>

The EU ETS registries also provide access to a number of public information and reports on the participants and the performance of the trading scheme. To participate in the EU Emissions Trading System (EU ETS), a company or a physical person must open an account in one of the registries, by applying online at the registry website of the relevant Member State.

The Community Independent Transaction Log (CITL)

The Community Independent Transaction Log (CITL) records and authorises all transactions that take place between accounts in the EU ETS registries. This verification is done automatically and ensures that any transfer of allowances from one account to another is consistent with the ETS rules. The national registries are connected to the CITL through a central hub operated by the Secretariat of the United Nations Framework Convention on Climate Change called the International Transaction Log (ITL).

Click here to access the CITL: <http://ec.europa.eu/environment/ets/>

Future outlook

The revised ETS Directive adopted in 2009 provides for the centralisation of the ETS operations into a single European Union registry. This new registry will be operated by the Commission and will replace all EU ETS registries currently hosted in the Member States. The EU registry will be used by more than 25,000 end-users (e.g. operators, traders). All transactions taking place in the registry will be subject to the approval of the European Union Transaction Log (EUTL), the successor of the CITL.

Questions & Answers: allocation to CHP plants

Basis for free allocation to CHP plants (heat)

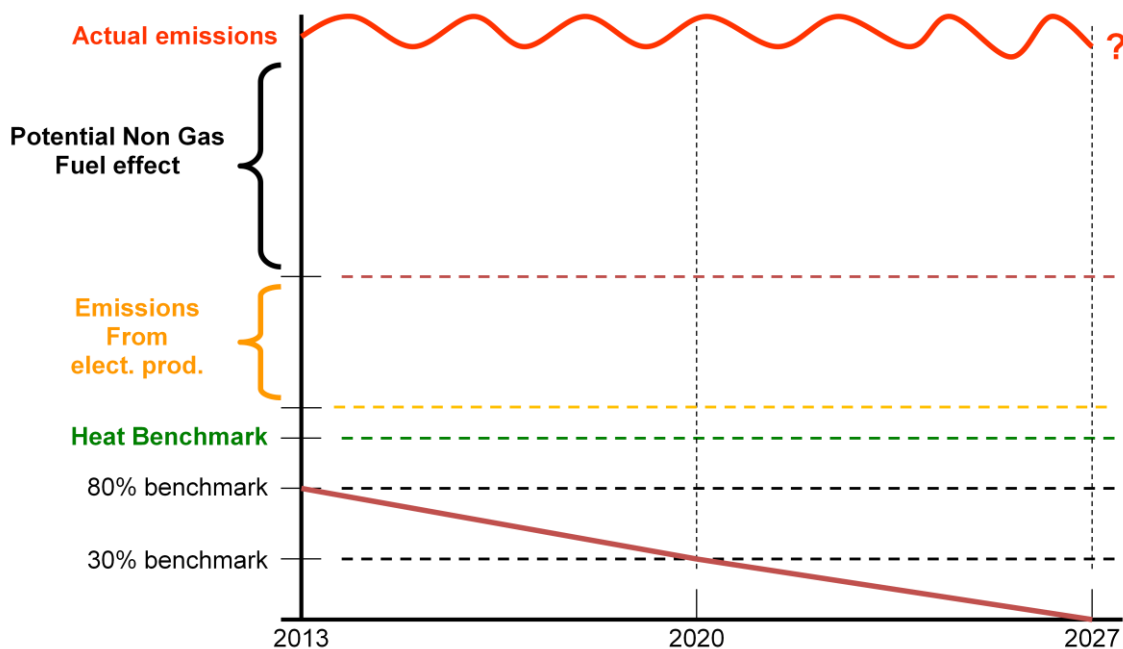
Revised Directive (2009/29/EC), Article 10a4: « Free allocation shall be given to district heating as well as **high efficiency cogeneration**, as defined by Directive 2004/8/EC, for economically justifiable demand, in respect of the production of heating or cooling. In each year subsequent to 2013, the total allocation to such installations shall be adjusted by the **linear reduction factor** referred to in Article 9. »

Allocation to a CHP plant is based on a STRICT sequence:

1. **Carbon Leakage** factor or not
 Depends on eligibility of heat USER: 100% of BM if at risk of CL.
 If not at risk of CL, then declining free allocation (80% down to 30% in 2020 and 0 by 2027 at latest)
2. **Product-based benchmarks**
3. **If no product benchmark:** fall-back approaches (described in section 3 of Annex 1 to the Decision of 15 December 2010)
 - A. **heat benchmark**
 Heat benchmark 62.3 allowances/TJ (i.e. 90% efficient NG boiler)
 - B. If no heat measurement: **fuel benchmark**
 Fuel benchmark 56.1 allowances/TJ
 - C. If no fuel measurement: **historical emissions**

Graphic representation of free allocation to a CHP plant supplying a process not at risk of Carbon Leakage (and not located in a country eligible for free allocation for electricity production under article 10c of Directive 2009/29/EC)

Declining free allocation based on a Benchmark applied to a CHP plant



Who gets the allowances?

- CHP plant operators will receive free allowances for the **heat** produced and delivered to a non-ETS installation
- CHP plant operator will not receive any free allocation for heat produced and delivered to ETS installations (allocation to the consumer – see whereas 11 and the definition of “heat benchmark sub-installations in Decision of 15 December). Whereas 11 only states that “*emission allowances should be allocated to the heat consumer*” as “shall” cannot be used in the recitals.
- Under the definition of a “heat benchmark sub-installation” in the Decision of 15 December, CHP operators receive free allocation for the heat self-consumed or exported to non-ETS installations. Member States cannot modify this rule (meaning they cannot allocate free allowances to the CHP supplying heat to an ETS installation importing and consuming the heat).

Is the allocation reduced by the Linear Reduction Factor of -1.74% per year?

- Most CHP plants qualify as “electricity producers” – unless they are covered by the list of sectors under Annex 1 of the EU ETS Directive, for example pulp and paper – and as a result have to apply the Linear Reduction Factor of -1.74% per year. For those installations that are covered by the list of activities under Annex 1 of the EU ETS Directive, the LRF does not apply but the cross-sectoral correction sector could apply (if it ever becomes a reality).
NOTE: the LRF and the cross-sectoral correction factor are mutually exclusive, i.e. if one applies, the other cannot.

Does Carbon Leakage eligibility have an impact on allocation?

- If an EU ETS installation is at risk of Carbon Leakage and imports steam from a CHP plant, the consumer of heat will get 100% of the benchmark (product BM if it exists or heat BM by default). However, if the CHP supplies heat to a non-ETS entity at risk of Carbon leakage, then the CHP plant operator gets 100% of the heat BM (reduced by the LRF because the CHP plant is an “electricity generator”) for the heat delivered to the consumer. Evidence will have to be provided (concerning the CL status of the non-ETS party).

Are all CHP plants (high efficiency and non-HE) treated the same way? What about back-up boilers?

- High efficiency and non-HE CHP plants are treated in exactly the same way.
- Back-up boilers.
Case 1: export to non-ETS installation: the CHP operator will receive allowances for the heat supplied, irrelevant of how the heat was generated (CHP or boilers).
Case 2: heat is consumed by an ETS installation: The heat consumer will get the allowances. The ETS consuming installation always has to apply the cross-sectoral correction factor (if it comes into existence) UNLESS they themselves also qualify as electricity generators (e.g. a sugar plant with a CHP on-site, which qualifies as “electricity generator” and is not covered by Annex 1 of the EU ETS Directive, importing steam from another CHP plant).

Can CHP plants receive free allowances for the electricity generated?

- CHP plants in some countries (new Member States) will get free allocation for the **electricity** produced as well as for the heat. However, the free allocation will be 70% of an electricity benchmark and will decline to zero by 2017. This specific case is described in greater detail in Article 10c of Directive 2009/29/EC.

Allocation to district heating installations

- District heating installations supplying households have a specific allocation method which is further described in the Commission Decision on benchmarking agreed on 15 December 2010 and pending official publication

What happens in the case of a significant increase in heat demand from a non-EU ETS heat customer?

- The Ecofys-ENTEC consortium assisting DG Climate Action is still in the process of detailing the guidance documents dealing with issues such as this one. The answer will be found in the final guidance document n°6 dealing with cross-boundary heat flows. At present it looks as though increased heat demand from a non EU ETS customer will not lead to increased free allocation top the CHP plant. This would create a distortion to the disadvantage of CHP plants compared to separate production in the non-ETS sector.

Commission Decision of 15 December 2010

Art. 10 - Allocation at installation level

*Point 8. The final total annual amount of emission allowances allocated free of charge for each incumbent installation, except for installations covered by Article 10a(3) of Directive 2003/87/EC, shall be the preliminary total annual amount of emission allowances allocated free of charge for each installation determined in accordance with paragraph 6 multiplied by the **cross-sectoral correction factor** as determined in accordance with Article 16(3).*

*Point 9. For installations covered by Article 10a(3) of Directive 2003/87/EC and eligible for the allocation of free emission allowances, the final total annual amount of emission allowances allocated free of charge shall correspond to the preliminary total annual amount of emission allowances allocated free of charge for each installation determined in accordance with paragraph 6 **annually adjusted by the linear factor referred to in Article 10a(4) of Directive 2003/87/EC**, using the preliminary total annual amount of emission allowances.*