

The Basics of Emissions Trading (Extract from the German Emissions Trading Authority)

How does Emissions Trading work?

Emissions trading is a market-based system to reduce the emission of climate-damaging i.e. carbon dioxide (CO₂). It is based on the principle of “Cap and Trade“: The cap makes sure that CO₂ becomes a commodity and, thus, CO₂ is valued at a price, which is determined by the supply and demand at the (trading) market.

Initially, a cap is defined for the maximum emission value of CO₂. This cap calculated to be scarce. To the companies, which have to be part of emissions trading according to the legislation, a defined number of emission allowances (from the cap) are allocated. One emission allowance equals one ton of CO₂. By limiting the available number of emission allowances (cap), concrete reduction targets are set for the companies. The allowances are tradeable and therefore serve as permits. Through the conversion of CO₂ in tradeable permits, the ton of CO₂ obtains a concrete value determined by the (trading) market.

Once a year, the companies have to surrender emission allowances according to their actual emissions. If a company reduces its emissions so that it has more allowances than it needs, it can sell the remaining (not needed) allowances at the market. The other way around it has to purchase additional allowances to comply with its surrender obligation. If a company does not fulfil its obligations to surrender allowances respectively reduce its emissions, it will be heavily fined. In the EU ETS’s second trading period (2008-2010), the fine was 100 Euros per ton of emissions. In the third trading period, the amount of those sanctions adjusts to the increase of consumer prices. In addition, the obligation has to be fulfilled additionally in the following year.

It is also possible that a company buys additional allowances on the market, if emission reduction is deemed more expensive. This means that reduction

measurements are conducted where they are most economic. By emissions trading and the so-called Cap-and-Trade-Principle climate protection can be both: ecological effective and economical efficient.

An Example

Companies A and B both emit the same amount of carbon dioxide and are each required to collectively reduce their emissions by 500 t CO₂, thus, in total by 1000 t CO₂. Company A is able to reduce its emissions by investing in modern technologies while company B does is not able to do that. Emissions stay on a constant level. In an emissions trading system, it is therefore more economic for company A to reduce its emissions by 1000 t CO₂ and sell the surplus emission allowances to company B which has opted not to reduce its emissions. The climate protection target however has been reached - the overall emission reduction of companies A and B is 1000 t CO₂.



Reference:

GERMAN EMISSIONS TRADING AUTHORITY (2014) *The Basic Principles of Emissions Trading* [On-line] Available at: http://www.dehst.de/EN/Emissions-Trading/Basics/basics_node.html . Accessed on 6th May 2014.