



Factsheet on emissions trading

Background for Federal Councillor Doris Leuthard's visit to the emissions trading exchange in Shenzhen (China) (12 August 2016)

Emissions trading is an internationally established instrument of climate policy. It aims to reduce greenhouse gas emissions and operates according to market principles. The emissions trading systems in Switzerland, the EU and China have significant similarities. Emissions trading should not be confused with trading certificates from climate protection projects.

(1) Emissions trading based on 'cap and trade'

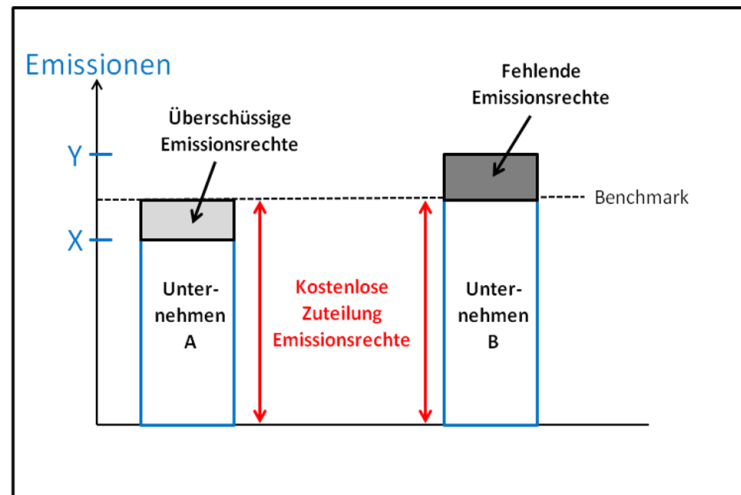
An emissions trading system (ETS) on the 'cap and trade' principle is a volume control instrument¹. It is comparable to quotas, in the sense that the state issues emission allowances within the scope of a pre-defined upper limit for emissions (cap) and allocates them for a certain period to companies that participate in emissions trading. These companies are thus given the right to emit a certain volume of greenhouse gases free of charge and to trade emission allowances (trade).

In Switzerland, as in the EU, participation in emissions trading is compulsory for companies in certain greenhouse gas intensive industries (including cement, paper, refineries, chemicals, glass, steel and ceramics). Companies must surrender sufficient emission allowances each year to cover the volume of their greenhouse gas emissions. If they produce more emissions than they should, exceeding their allocation of emission allowances, they are required to purchase additional credits. Alternatively, companies can reduce their greenhouse gas emissions and thus avoid the need to purchase extra credits. These credits are either surplus emission allowances from other ETS companies that produced less emissions than their allocation of emission allowances, or, to a limited extent, certificates from climate protection projects abroad (see Section 2). Companies that do not surrender a sufficient amount of credits must also pay a fine for each excess tonne of CO₂ emitted.

Every year, the companies are allocated a certain amount of emission allowances free of charge, which are based on average values (benchmarks). This system rewards efficient companies that produce fewer emissions. In the chart below, companies A and B each receive an equal amount of emission allowances per unit of production, irrespective of their actual greenhouse gas emissions. Company A, with an emissions output under the benchmark (X), ends up with more emission allowances than it needs to cover its emissions, while company B produces emissions in excess of the benchmark (Y), and must either take appropriate action or purchase emissions credits.

¹ In contrast, the CO₂ tax is a price-control instrument that imposes a surcharge on fossil fuels, encouraging less use of such fuels and thus reducing CO₂ emissions. In emissions trading, the volume is predetermined, and CO₂ prices are based on supply and demand.

Chart: Allocation free of charge based on a benchmark



Emissions

Emission allowance surplus

Required emission allowances

Benchmark

Company A

Emission allowances allocated free of charge

Company B

The upper limit for emissions under the ETS is set in advance for the duration of the trading period (currently 2013 to 2020), while the amount of available emission allowances is reduced annually across the system (currently by 1.74%). Every year 5% of the available emission allowances are reserved and set aside for the event that new companies join the ETS or existing ETS participants expand their production capacity. Emission allowances which are not allocated free of charge can be purchased at regular auctions. The price for a tonne of CO₂ in Switzerland, initially CHF 40 in 2014, has fallen steadily and is now CHF 9. In the EU, the price is now € 5-6. These relatively low prices are evidence of a surplus of emission allowances and currently provide little incentive for investment

Switzerland and the EU are aiming to link their two ETSs. An agreement, expected to come into force before 2020, was initialled at the beginning of 2016. Once the two systems are linked, this should lead to a convergence in CO₂ prices.

China plans to introduce a national ETS in 2017 that targets greenhouse gas intensive industries and also includes benchmarks for the allocation of emission allowances to companies among its instruments. Since 2011, China has been gathering experience from seven pilot programmes that it has been running in various provinces and cities, including Shenzhen.

(2) Trading certificates from climate protection projects

Emissions trading based on the 'cap and trade' principle should not be confused with the trade in certificates from climate protection projects. These certificates are an instrument of the Kyoto Protocol that allows industrialised countries with the aid of flexible mechanisms to credit emission reductions achieved abroad to their reduction targets. The most widely used is the Clean Development Mechanism (CDM), which permits countries sponsoring climate protection projects in developing countries to obtain emission reduction certificates provided certain requirements are met. A UN agency issues the certificates retroactively for substantiated reductions and they may be traded freely.

A certificate entitles the holder to emit one tonne of CO₂ and may be surrendered by companies in an emissions trading system (see comments in Section 1) instead of an emission allowance; however, the available quantity of certificates is limited both in Switzerland and in the EU. Certificates are also used by countries that have made a reduction commitment under the Kyoto Protocol, or they are acquired on a voluntary basis, for example, for CO₂ compensation for air travel.

China is not required to limit its greenhouse gas emissions under the Kyoto Protocol, but it did sign the Paris Climate Agreement in 2015. In recent years, China has been one of the main host countries for CDM projects.

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