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Emission News 07-2014

Practical Information for Emission Trading

Edition 25.06.2014

Backloading alone is no longer sufficient, a stability reserve is requested to support EUA price - All about Forest Emission Rights

The EU Commissions plans for further support of the EUA price that have become public since January have been further specified in the last weeks.

In addition to the already commenced Backloading Process a Market-Stability-Reserve (MSR) shall now to be established that limits the excess emission rights that are available in the system. Whether or not MSR will not start until 2021 or perhaps earlier and if this is combined with a set-aside or even with the final shutting down of emission rights is certainly going affect the price of emission rights to greatly in the future.

This is at least theoretically offset by the additional approval of forest emission allowances in the EU-ETS pursuant to Article 28f of Directive as long as a provided signature of defined climate targets is agreed on internationally in the coming years. The operation of the MSR as well as to the formation and use of forest emission rights, this clarified by Emissionshändler.com® in this Emission News 07-2014.

It should be undisputed for most market participants that the number of excess emission allowances in the EU-ETS in the area is currently expected to amount to 2 billion plus, possibly a few hundred million more.

The surplus is 2.1 billion plus X

The surplus of emission rights was according to statements of the European Commission in early 2012 just under 2 billion and grew until the end of 2013 to 2,1 billion.

Known reasons in 2008-2012 were the high access of more than 1,000 million CER/ERU emission allowances in the EU-ETS and the economic crisis in 2009/2010, which could have been responsible for another 700-900 million. Between 2013 and 2020, about 600 million more CER/ERU now come into the system (2013 were 132,8 mil.) which are likely to drive the overall surplus up to 2,3 billion. By Backloading 900 mil will once be taken from the market in the period 2014-2016 but will ultimately be available on the market again in the years 2019 and 2020 in increased sales and be effective in pricing.

Since in the third trading period only a slight melting of the surplus is taking place according to EU estimates, at least 2,1 billion emission allowances will still be in the market at the end of the trading period according to the calculations of Emissionshändler.com®. Their ablation to zero would then take another 8-10 years, so without any further action of the EU a real shortage would only be expected starting from 2030.

Market-Stability-Reserve as an additional strategy

For this reason the Commission is now pursuing

after the first successful launch of the Backloadings in March 2014 to secure a price effect, a second possibly even more effective strategy of price stability or possibly even a real reduction of emissions rights.
While Backloading was only a temporary shift of auction amounts, meaning no permanent diminution of quantity, it may quite achieve the introduction of a market stability reserve (MSR) for a medium and long-lasting effect which should handle the surplus problem by 2030.

As the EU Commission writes to your specific information page http://ec.europa.eu/clima/policies/ets/reform/index_en.htm, the introduction of the MSR would have two major objectives:

a) To (initially) reduce the built up surplus after starting the MSR
b) To increase the resilience of the EU-ETS against price fluctuations

The target a) to reduce the surplus has also been the target of Backloading. In the MSR this will surely be achieved and their function (which will be described below) is very similar to the Backloading.
Auction quantities are also taken from the market according to certain rules but are not taken back into the system to certain pre-determined times but only under certain conditions - contrary to the Backloading. This is quite a substantial difference to the Backloading as those conditions of repayment of amounts from the reserve could not occur until very late or even not occur at all theoretically.
We will see whether **the target b)** to increase the resilience of the EU-ETS against price fluctuations works in practice. In any case it seems understandable that due to the usual hedging strategies of the electricity sector a regular physical demand is supported, which is typically hedged 2-3 years in advance and thus then also increases the stability of the price.
Preliminary summarised one can say that the strategy of MSR is that it is an attempt to "manage" the superset of 400-833 mil. emission rights and when exceeding the amount of 833 mil. to pack the appropriate amounts in a "box" not to open until better times (or to keep closed).

Schedule and operation of the MSR

The proposal of the EU Commission for a Market-Stability-Reserve (Market-Stability-Reserve, MSR) provides that it is to be decided no later than 2015, then come to fruition as of 2021. The early announcement is desirable from the Commission's perspective so that it can not unfold in the third trading period of their expected psychological effect on the markets in advance. This is especially because in 2017 the full auctions will reinstate and bring back the retained 900 mil. EUA to the market starting 2019 and will let the prices slip.

To use the MSR it was necessary to define a new term first: The "AiC" (Allowances in Circulation). Thus the "circulating" superset is defined (the so designated surplus) if the MSR has taken effect by then. According to the current timetable the commission will calculate and publish AiC for the first time in 2016. The actual first-time calculation of relevant quantities AiC then takes place in May 2020 resulting in a reduced amount in auctions in 2021.
The operation of the MSR for an example year (t-1 data release in May of year t) can be initially displayed in a formula to which one should then add two concrete examples to illustrate.

+ Total issued EUA from 2008 to t-1
+ Total number of submitted CER/ERU from 2008 to t-1
- Total number of verified emissions in 2008 to t-1
- Total number of present in the MSR EUA
= Allowances in Circulation (excess amount/surplus)

The proposal now is, that if the AiC exceeds an amount of 833 million tonnes then 12% of the AiC in the following year (t +1) are packed into the MSR and therefore deducted from a regulated auction amount and not auctioned.
The packed emission rights come into packets to 100 mil. t from the MSR only then out again and will be sold in an auction if the following conditions are met:

- *The number AiC in the reserve be less than 400 mil. t*
  and / or
- A*jar to Article 29a of Directive 2003/87: "If the price of emission rights is more than six consecutive months, more than three times the average price of emission rights in the two preceding years on the European CO2 market*"

A concrete example of the **May 2016** this was made clear:

+ Total issued EUA from 2008 to 2015
  = 16,5 billion EUA
+ Total number of submitted CER/ERU from 2008-2015
  = 1,35 billion tonnes
- Total number of verified emissions in 2008-2015
  = 15,75 billion tonnes
- Total number of present in the MSR EUA = 0
= Allowances in Circulation (excess amount/surplus)
  = 2,10 billion tonnes

This would mean, that in a first step, 12% of 2,1 billion that means 252 mil. tonnes in 2017, it (t +1) will be auctioned less accordingly and instead be packed into the MSR.

The example for the following year **in May 2017** then would be as follows:

+ Total issued EUA from 2008 to 2016 = 18,6 billion EUA
+ Total number of submitted CER/ERU from 2008-2016
  = 1,48 billion tonnes
- Total number of verified emissions in 2008-2016
  = 17,8 billion tonnes
- Total number of present in the MSR EEA in 2017
  = 0,252 billion tonnes
= Allowances in Circulation (excess amount/surplus)
  = 2,028 billion tonnes

This would mean that taking into account the already in the reserve 252 million EUA another 243 million EUA (2,028 billion x 12%) less will be auctioned a year later in 2018 and be packed in the MSR in that same year.

Conclusion on MSR

You can see in the examples how relatively simple with this method large quantities of emission rights can be withdrawn from the market and this certainly extended for quite some time. This is similar to the already known Commission's proposals for a "set-aside" from the year 2012/2013 that were not politically feasible at the time. Liberal market forces could now already come to the opinion that the then in the "box located emission rights" could be more inconspicuous and removed permanently from the market in a subsequent political process. About this closure/deletion of surplus is now being discussed openly even though they will not be politically feasible in the EU parliament after the elections of May 2014 for the next 5 years. On the other hand these MSR have not the power to raise the emissions price in the EU-ETS permanently at altitudes of about 20 EUR in the opinion of most observers. To this end it requires supporting measures such as raising the annual reduction factor of 1,74% per year to 2,2%, or 2,6%, which is being considered by the EU Commission already.
Parallel to this it is also being discussed about how the involvement of other sectors in the EU emissions trading can make sense in order to achieve a reduction in emissions in 2030 by 40% in relation to 1990.

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Forest and forestry emissions rights - development and eventual use in the voluntary and mandatory emissions trading (Part 1 of 2 parts)

The forest as environmentalists enjoys high approval ratings. Not only the German soul is delighted in the idea that trees breathe our exhaust carbon dioxide from the air, convert it into value-driven wood and at the same time for us to exhale all the vital oxygen. Investing in forest feels right.

To compensate emissions of a power plant or air travel to a certain forest area is leading to a positive image transfer as the advertising man would say. The credits from forest projects with 32% market share are accordingly almost as well represented as those from renewable energy (34%) in the voluntary carbon markets.

Mangrove restoration in Malaysia: Carbon sequestration for global climate, coastal protection and new fishing grounds for the local population.

What speaks for forest projects and forestry emissions

An argument for forest projects is the fact that they create income where the poorest of the poor live which is in rural areas of developing countries. A key objective of the CDM (Clean Development Mechanism) of the Kyoto-Protocol is to bring a contribution to development in addition to the climatic impact. With proper planning forest projects can do just that. They also stabilise the microclimate, enhance water quality, often they are even treasure chests of biodiversity.

In developing countries, they do not contribute insignificantly contribute to the food supply. Thus forests are not only sinks of greenhouse gases but they also help in adapting to climate change. The possible reduction amounts are immense: If we were able to stop tropical deforestation we would achieve as much as suddenly rendering the U.S. climate neutral.

But if so, why doesn't the EU allow any forest emission rights as fulfilment instrument in emissions trading right now?

On the one hand the EU as a technology supplier for renewable energy is not interested in shifting emission reduction into nature. In this point the sector of renewable energy technologies covers interests with those of environmental organisations who see the main culprit in the energy industry and maintain their pressure.
But there are also scientific objections because a forest of itself is not a climate protection.

The forest and the CO2

To this end one must know that (when it comes to the aspect of climate protection) you can distribute a forest into three different phases:

1) It grows (**growth phase**), the trees are larger, thicker and have more leaves/needles
2) It consists (**inventory phase**), the trees grow very little, at the same time also die from already
3) It is recovered (**recovery phase**) or dies by burning, pest infestations, etc.

A biological principle here is that plants and trees only inhale more carbon than they exhale as long as they grow (growth phase).

Infobox
How to use forests to the climate?

Forests are large photosynthetic factories. They pull CO2 from the atmosphere and water from the soil and build it using solar energy carbohydrates meaning sugar, starch and wood. In this process oxygen is released which the animals and people need to breathe. At night and during the winter time plants keep their energy level by splitting a portion of the stored sugar back into water and CO2 to "breathe".

Between the vegetation and the atmosphere a constant gas exchange takes place. In the atmosphere are about 800 gigatons (Gt) of CO2. Plants remove 120 Gt of CO2 from the air and exhale 60 Gt again each year. They store the rest in the vegetation and in the soil.

The soil microbes release to soil carbon and emit nearly 60 Gt annually into the atmosphere again. Fossil carbon stocks under the earth are growing very slowly which then correspond to a fixed storage of CO2. The system would be in equilibrium if the person would not have the fossil collections in the atmosphere above result (9 Gt of CO2 per year) by burning oil, gas and coal again and wouldn't cut down forests (3 Gt CO2 per year). This does not only result in carbon stocks in vegetation to be destroyed, but it will also reduce the capacity of photosynthesis factories.

In deforestation around 600 tonnes of CO2 are released per hectare (in South America) and around 250 t in Europe. Reasons for this difference are the different trees and the difference in climate but by roots in Europe much more CO2 is bound as humus in the soil than in the tropics, which almost cancels the difference again.
Forest climate projects counteract the forest loss by reforest areas again and protect forests.

However if a forest/jungle is in the inventory phase then this is practically carbon neutral because it's keeping the natural system growth and death in balance. Here then only very slightly more CO2 is inhaled than exhaled. However, if a forest is destroyed by pests or cut down (recovered) he lets out a lot of CO2. In the carbon footprint of a forest extraction or utilisation of wood it is expected that the carbon contained in it would immediately be released into the atmosphere.

Concretely that does not count for the final utilisation of wood (storage of wood, manufacture of wood chips, paper production, combustion, etc.) as a recovery but already the deforestation, so the preparatory recycling. Thus deforestation is equivalent to the burning of fossil energies.

The forest can use the climate in two ways:

1. **Emission reduction**: About a quarter of all caused human greenhouse gases come from the land use, much of it from deforestation in the tropics. To protect forests thus has a similar effect such as fuel switching or increase efficiency in the industry.
2. **Sequestration of CO2 from the atmosphere**: As long as forests grow they bind more carbon during the day than they breathe out again at night, so to speak the natural form of CCS (Carbon Capture & Storage).

Forest and forestry emissions - Development and eventual use in the voluntary and mandatory emissions trading - The end of Part1. Part 2 in the next newsletter.

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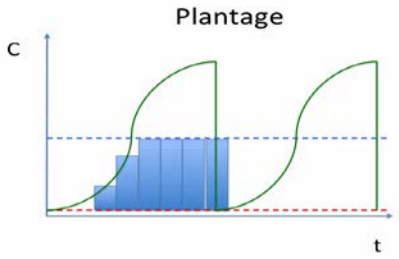
Infobox
Teak plantation forestry project

The following graphic illustrates an exemplary forestry climate project that can be seen with 30-year project period. It is verified at intervals of five years (blue blocks). The green curve represents the typical growth pattern of forests.
After a slower phase of the soil cover the greater leaf area allowed a rapid growth until the sunlight is optimally used and the vegetation density a graphical plateau approaches (see blue line in the graph). Foresters are to wait until the flattening of the curve in order to cut down trees and new planting to keep the forest in the growth phase. Environmentalists however strive to achieve high density of vegetation that stabilises the carbon stocks.



This teak plantation is harvested after 25 years. Every five years the carbon sequestration is being certified but only up to the amount of the average long-term carbon sequestration (dashed blue line).
In our case only in the first 15 years emissions are generated, after that the receipt of the emission rights will only be checked every five years but no new ones are added. The red dashed line represents the carbon level of the previous use (pasture) under the assumption it would not have changed over the duration of the project.
The axes of the graph are t-time curve and C-carbon. Teak plantations can save up to 400 tonnes of CO2 per hectare above ground.

Kind emission regards

Michael Kroehnert

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