The EU's hot air – lifting the fog

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Summary

A key consideration for the Paris treaty is how to incentivize real additional climate action while avoiding the laundering of bogus *hot air* credits. Under the Kyoto Protocol the lack of environmental integrity in market mechanisms has resulted in an 11 gigatonne *hot air* loophole. These hot air units are called AAUs which will not pose a problem for the Paris climate treaty since they cannot be used after 2020. However, the fate of the *hot air* units of existing domestic emissions trading systems still hangs in the balance.

Currently all the carbon markets around the world are over-allocated with surplus emission allowances. In the EU by 2020 a surplus equal to up to 4.5 $GtCO_2e$ is expected to accumulate in the EU's Emissions Trading System (EU ETS). Under current policies, this hot air could be carried-over into the post-2020 period and significantly undermine the environmental integrity of the EU ETS.

The EU has committed to reducing its overall emissions by at least 40% below 1990 levels by 2030. While in theory this will result in about 4 $GtCO_2e$ emission reductions, the carry-over of the EU's hot air could reduce this 2030 climate action commitment to as little as 1.6 $GtCO_2e$. This would reduce the EU's 2030 target to merely 32% effective emission reductions.

Unfortunately nothing currently prohibits Parties to use and trade hot air allowances to comply with the post-2020 commitments submitted to the UNFCCC.

Recommendations how hot air can be avoided in the future:

- **In the context of the EU ETS revision and the 2030 Effort Sharing Decision**, the EU should set a global example and not allow the carry-over and use of hot air allowances towards meeting the EU's 2030 target. This can be implemented by permanently cancelling at least 2 billion EU allowances at the end of 2020 and by not allowing pre-2020 reductions to be used in the 2030 ESD.
- **As part of the Paris climate negotiations**, there should be the a robust international accounting system and strict eligibility criteria to ensure that only parties with adequate carbon budgets are allowed to use international market mechanisms.

What is hot air?

Hot air refers to carbon permits that do not represent real emission reductions. If used by countries to count towards mitigation pledges, they increase overall emissions. Examples of hot air include:

- Double counted emission reductions
- Surplus of emission units under the Kyoto Protocol (surplus of Assigned Amount Units – AAUs)
- Non-additional or over-credited carbon credits from projects in developing countries (Clean Development Mechanism) or in Annex-I countries (Joint Implementation) that would have happened anyways
- Surplus of emission allowances from Emissions Trading Systems
- Land use credits that are used to offset permanent emissions from fossil fuels with natural carbon sinks such as forests that only temporarily store carbon

For more information about these sources of hot air, see our COP21 briefing "Avoiding hot air in the 2015 Paris agreement".

The hot air under the Kyoto Protocol

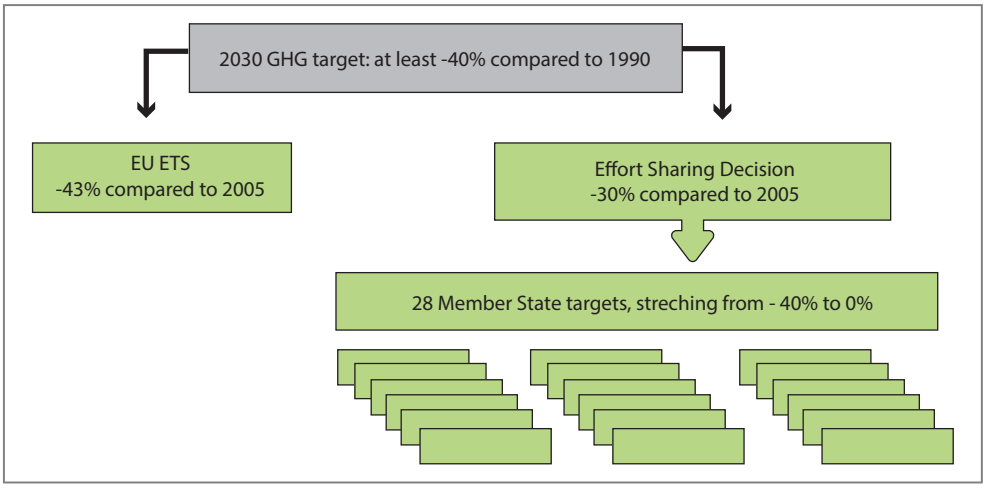
Under the Kyoto Protocol (KP), countries have a carbon budget, represented by Assigned Amount Units: 1 AAU equals 1 tonne of CO_2-eq emissions. The lack of environmental integrity in market mechanisms under the Kyoto Protocol has so far resulted in at least 11 $GtCO_2e$ of *hot air* [1] that undermines the viability of this international climate treaty. This hot air is the result of climate targets that were set above business-as-usual emission levels, which have led to a large stockpile of unused AAUs.

The second commitment period of the Kyoto Protocol ends in 2020. Since AAUs are the carbon currency for meeting the KP target, the surplus AAUs are useless after 2020, unless there would be a third KP commitment period –which seems unlikely at this stage-.

The EU's climate policies

The EU's 2020 climate package includes two main climate policies to implement EU's climate target:

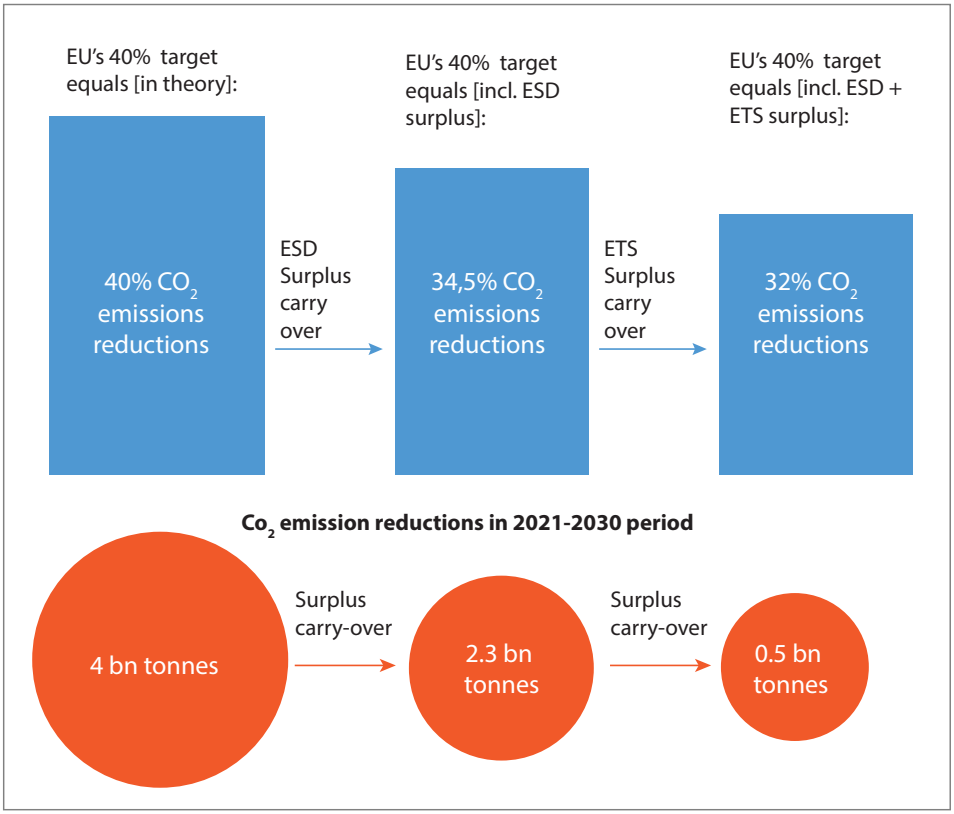
- The **EU Emissions Trading System (EU ETS)** that covers emissions from large installations in the power sector and manufacturing industry and is in operation since 2005.
- The **Effort Sharing Decision (ESD)** that currently sets national emission reduction targets for sectors not covered under the EU ETS for each year in the 2013-2020 period.



The EU will significantly over-achieve its 2020 climate target, mainly due to an inadequate climate target that was set above business-as-usual emission levels, the use of international carbon offsets with low environmental integrity and the economic crisis. The result is an accumulation of excess emission allowances – so called "*surplus*" or "*hot air*" allowances. A key question is what will happen to this hot air after 2020 in the context of the EU's 2030 climate framework.

Impact of carry-over of hot air on the EU's 2030 climate target

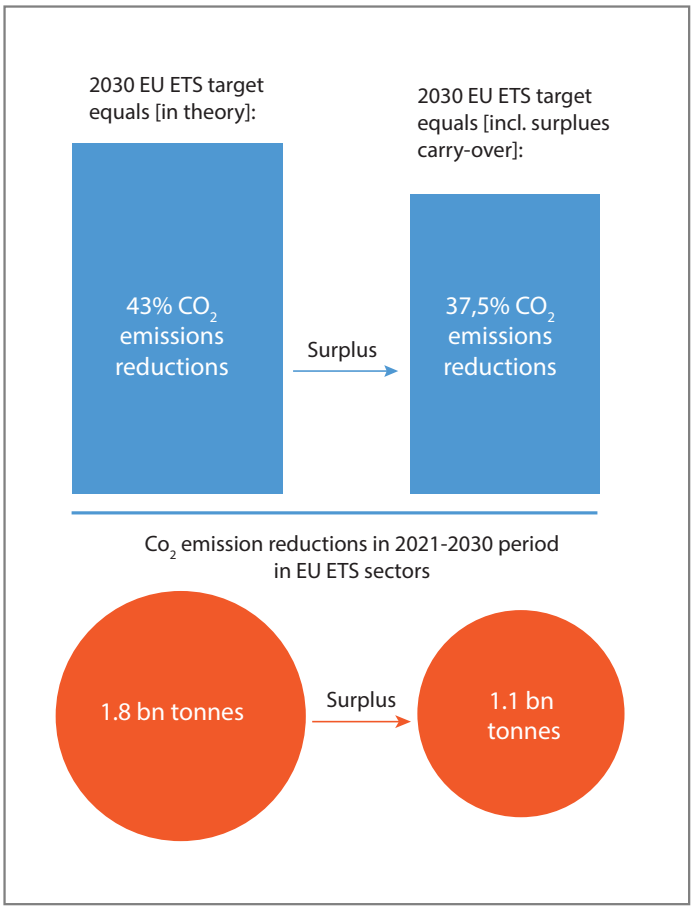
The EU has put forward a commitment to the UNFCCC to reduce its overall emissions at least 40% below 1990 levels by 2030. However, the carry-over of the EU's existing hot air could significantly undermine this post-2020 climate action commitment. The EU's carbon budget for the 2021-2030 period could be increased by 2.4 GtCO2e if the EU will use its pre-2020 hot air to achieve its EU's 2030 climate target.



The hot air in the EU ETS

By 2020, a surplus equal to 2.6 – 4.5 $GtCO_2e$ is expected to accumulate in the EU ETS[2]. This "*hot air*" could be carried-over into the post-2020 period and thereby undermine the environmental integrity of the EU ETS.

Part of the hot air will be temporarily stored in a reserve (the Market Stability Reserve), but surplus allowances equal to around 0.7 $GtCO_2e$ are still expected to return to the EU ETS in the 2021-2030 period[3]. For the year 2030, the emissions from the EU ETS sectors will need to be reduced by 43% compared to 2005 levels to implement the EU's overall 2030 climate target. This will in theory result in around 1.8 $GtCO_2e$ emission reductions in the 2021-2030 period[4], but the exact reductions could be lower depending on the amount of surplus allowances that is used.



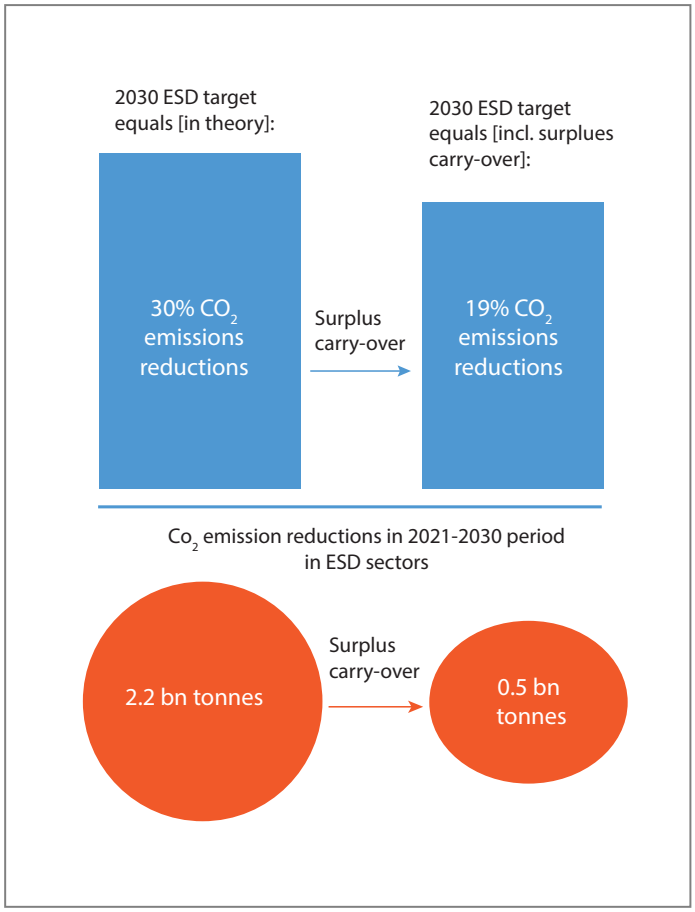
Recommendation for the EU ETS revvision:

To avoid that hot air permits undermine the EU's climate ambition after 2020, the at least 2 billion surplus ETS allowances in the Market Stability Reserve need to be cancelled at the end of 2020.

The hot air in the ESD

In the sectors covered by the Effort Sharing Decision (such as buildings, agriculture, waste and transport) a surplus equal to 1.5 – 1.7 $GtCO_2e$ is expected to accumulate by 2020 (excluding the possible use of international offsets)[5]. This "*hot air*" will not be automatically carried-over into the 2030 ESD.

For the year 2030, the emissions from the ESD sectors will need to be reduced by 30% compared to 2005 levels to implement the EU's overall 2030 climate target. This will in theory result in around 2.2 $GtCO_2e$ emission reductions in the 2021-2030 period[6], but the exact reductions could be much lower if the current surplus were to be carried-over to the post-2020 period.



Recommendation for the 2030 Effort Sharing Decision:

To avoid that hot air permits undermine the EU's climate ambition after 2020, the EU must not carry-over the ESD hot air equal to about 1.7 GtCO2e to the post-2020 period.

The relationship between hot air under the Kyoto Protocol and the EU's climate policies

During the first commitment period of the Kyoto Protocol (2008-2012), each EU ETS allowance (also called EU allowances or EAUs) was shadowed by a corresponding AAU in EU governments' national registries. That means that operators covered by the EU ETS could use EUAs (not AAUs) for compliance with the EU ETS, but a shadow AAU followed each cross-border EUA transaction. In the 2008-2012 period, for emission reductions in sectors not covered by the EU ETS, Member States could meet their obligations inter alia by purchasing AAUs[7].

This has completely changed in the second commitment period of the Kyoto Protocol (2013-2020). Notably, AAUs can neither be used in the EU ETS nor in the ESD for compliance, but only for compliance with the Kyoto Protocol targets. That means that from 2013 onwards, AAUs are decoupled from EUAs and AEAs (Annual Emission Allocations under the ESD). There will be a substantial oversupply of EUAs, AEAs and AAUs, so in practice this decoupling has little impact in the period up to 2020. However, while the hot air under the EU's climate policies (surplus EUAs and AEAs) could pose a threat to the post-2020 climate commitments, the surplus AAUs will not impact post-2020 targets as it ceases to have value after 2020.

The use of hot air under the Paris agreement

There will not be a third commitment period under the Kyoto Protocol, in which case the current surplus of AAUs will become useless commodities after 2020. However, at the moment nothing prohibits Parties to use and trade their own surplus allowances from domestic emissions trading systems to comply with the post-2020 targets. Avoiding the trading of hot air under the Paris agreement will hence require specific provisions for the use of markets, including:

- A robust international accounting and MRV system, including an international registry and international carbon units for countries that have targets below projected business-as-usual levels, and which are expressed as carbon budgets with quantified, absolute emission limitations.

- Stringent eligibility criteria to ensure that only parties with adequate carbon budgets that do not allow for carry-over of surplus carbon units from the pre-2020 period are allowed to use international market mechanisms.

In absence of proper international oversight, each party including the EU would be able to use its current surplus of carbon allowances for compliance with its post-2020 climate target. Such a decision could have negative political repercussions especially in the context of the EU wishing to maintain its global climate leadership. The environmental integrity of the Paris agreement can be maintained when parties decide not to use hot air units from the pre-2020 period, including the EU and its Member States.

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1. Point Carbon (2015), presentation by Andreas Arvanitakis on "Carry-over of AAUs from CP1 to CP2" see here
2. Estimates from the European Commission (2014) and Sandbag (2015)
3. In the proposal by the Commission, around 400 million surplus allowances from the current trading period are made available for new and growing industries in the post-2020 period. The Sandbag Market Stability Reserve tool furthermore indicates that around 300 million allowances might be released from the reserve before 2030 (using the Commission emission scenario).
4. Assuming a linear reduction factor of 2.2% from 2021 onwards and assuming that EU ETS emissions are 26% below 2005 levels in 2020 (as forecasted by the EEA, 2015).
5. EEA (2015), Trends and projections in Europe 2015 see here
6. Using the difference between constant projected 2020 ESD emissions under WEM scenarios (EEA, 2015) -e.g. 2,484 Mton CO2-eq- and cumulative emission reductions of 22,687 Mton CO2-eq between 2021-2030 (Oeko-institut, 2015, WEM scenario)
7. Point Carbon (2012), Carry-over of AAUs from CP1 to CP2 – future implications for the climate regime see here