

PwC

Voluntary carbon credits and commitments under the Kyoto protocol

Forestry sector

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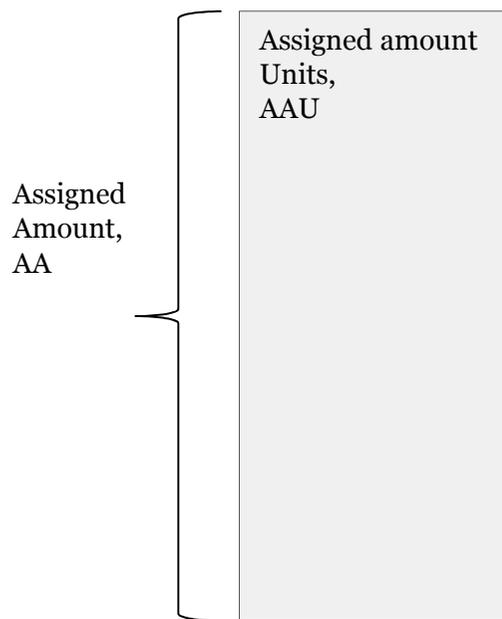
Introduction

- Övertorneå municipality is currently running a project (“the project”) with the purpose of introducing a voluntary system for carbon credits, based on additional forest management on top of the mandatory Swedish legislative level.
- The purpose of this document is to explain how this type of voluntary carbon credit system does not interfere with Sweden's commitment under the Kyoto protocol.
- This report is written by PwC on behalf of the project organization and summarises the interpretations made by the project organization of applicable laws and regulations.

Overview credits under the Kyoto protocol during the first commitment period

Each country under the Kyoto Protocol have a maximum authorized amount of emissions during a commitment period which is the Assigned Amount, AA.

AA is then divided into units of one ton of CO₂e, Assigned Amount Units, AAUs



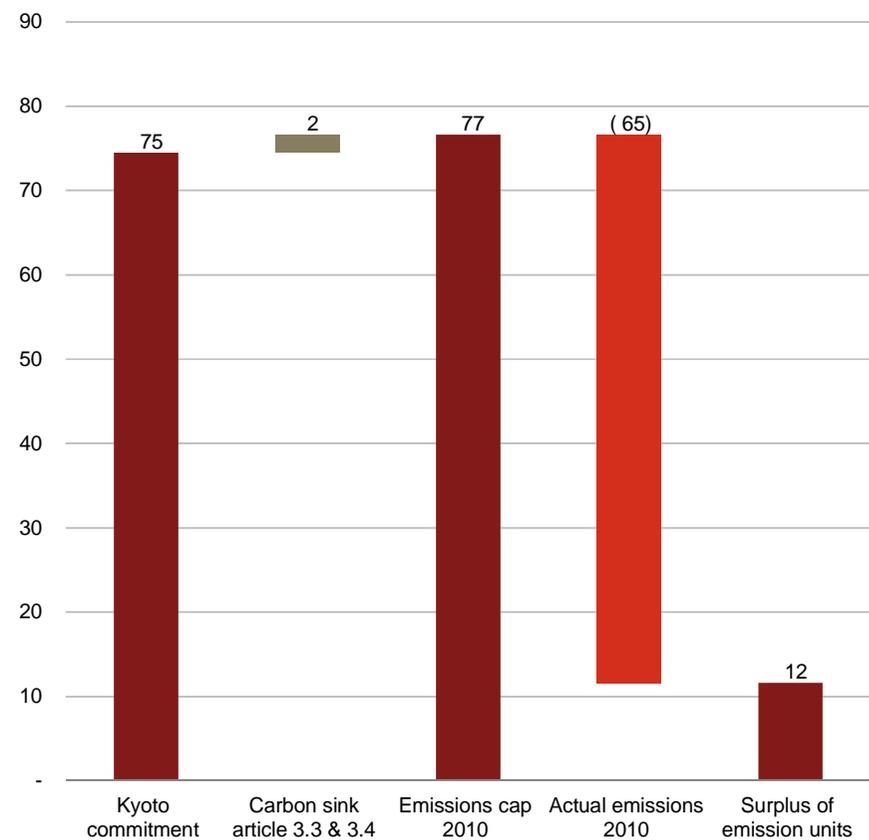
Carbon sink under Article 3.3 and 3.4 Removal Unit, RMU	RMUs can be added to a country's assigned amount for achieving the country's commitment to the Kyoto Protocol. RMUs can not be saved and used for future commitment periods.
CDM-projects, Certified Emission Reduction, CER	CERs are generated by projects in developing countries and raises the total emissions cap.
JI-projects, Emission Reduction Unit, ERU	ERUs from JI projects are traded between countries with a commitment under the Kyoto Protocol. ERUs lowers the cap for the selling country where the credits are generated and raises the cap of the purchasing country. ERUs do not affect the total emissions cap under the Kyoto Protocol since AAUs are transformed into ERUs.
EU ETS sector, EU Allowance, EUA	A proportion of Sweden's AAUs are converted into EUAs and traded in the EU ETS.
Non-trading sector AAU	The non-trading* sector 's emissions are estimated and are not part of any trading system.

*Non-trading sector refers to the EU-ETS

Sweden's commitment under the Kyoto protocol

- During the years 2008-2012 Sweden's commitment under the Kyoto protocol was to limit emissions to 75 Mton/year, not taking flexible mechanisms into account.
- During 2008-2012, Sweden was able to account for a net carbon sink of 2,13 Mton of CO₂ per year, i.e. Emission Removal Units (RMUs) due to an annual increase of biomass in the Swedish forests.
- The actual emissions of 2010 was approximately 65 Mton which left a surplus of approximately 14 Mton.

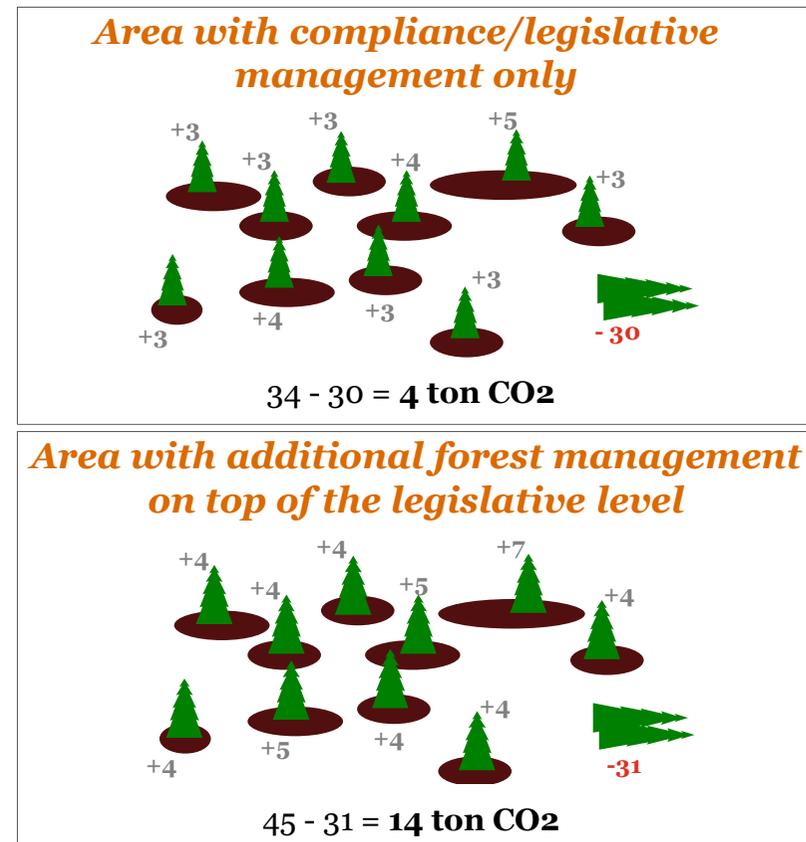
Example, Sweden's Kyoto Commitment 2010, Mton CO₂



Source: Naturvårdsverket

Additional CO₂ uptake in the forest between 2008-2012, on top of the 2,13 Mton/year, could be used to create voluntary credits

- During the commitment period 2008-2012, the Swedish government stated that no more than 2,13 Mtons of the net sink would be used for compliance with the Kyoto protocol.
- The net uptake of the Swedish LULUCF sector was however much higher, 34 Mton in 2010*, therefore any additional uptake due to forest management, on top of the 2,13 Mton/year, could be used for a small scale system for voluntary credits, without risk of double counting.
- The credits generated by Sveaskog during the first commitment period was in addition to the 2,13 Mton/year, which can be verified due the applied measuring techniques of the project.
- Reference areas where the forest is managed according compliance requirements only are used when determining the size of the additional CO₂-binding. The growth and logging in the reference areas are at the end of the commitment period compared with areas where additional forest management on top of the Swedish legislative mandatory level is carried out.



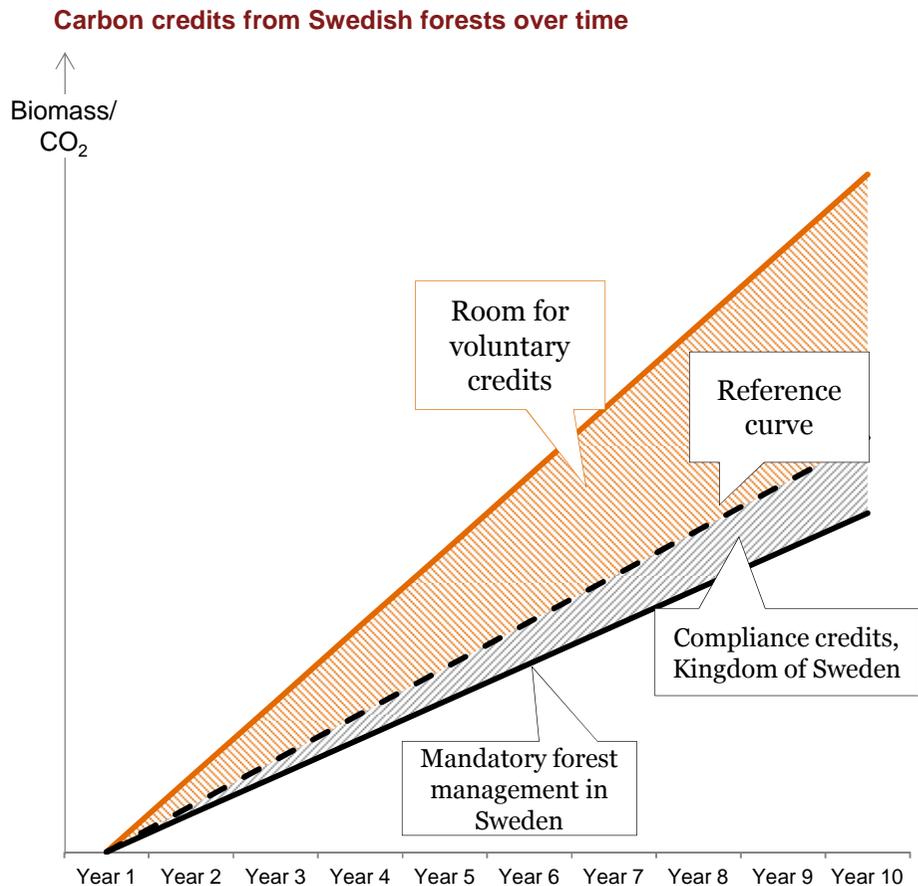
→ 10 additional tons CO₂ due to further growth enhancing efforts, on top of compliance level

*Net uptake for the forestry sector alone was 38 Mton in 2010.

Source: Arbetsrapport LULUCF, Underlag till Naturvårdsverkets redovisning om Färdplan 2050, 2012

The same principle applies for 2013-2020, additional CO₂ on top of what the government will use for compliance with the Kyoto protocol can be used to create voluntary credits

- For the 2013 – 2020 a reference curve for forestry will be the base for Sweden's commitment under the Kyoto protocol.
- Any net uptake above this reference curve can be used for a small scale voluntary system, in the same way as the surplus net uptake in the period 2008-2012, until any other statement is given from the government or government authority.
- The baseline for the project will thus not be a baseline where only business as usual mandatory forest management is carried out but the reference curve restricted by the decision on the rules for accounting during the second commitment period. The reference curve will be on a fixed level (3,5% of the base year emissions from all sectors except LULUCF) above net uptake generated due to business as usual forest management.



What happens after 2020?

- The same principle should be possible to apply also after 2020, any volume beyond what the government intend to use for compliance can be used for a small scale voluntary system.
- Retroactive legislation is not applicable at this point, why as long as no statement has been declaring otherwise, additional CO₂ bound in Swedish forests, on top of compliance levels, can be used for a voluntary system.
- The foundation for the above reasoning is that any additional CO₂ binding, on top of compliance levels, can be disposed by the land owner or whoever the land owner decides to contract with.
- At the time of verification, it must be confirmed with the government, or the relevant government authority, that no such statements have been made, in any law or statute. Such a verification in combination with the audit of the growth in relation to the baseline and the reference curve ensures that there will be no double counting.

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