Australian National University

Improved Avoided Clearing of Native Regrowth (ACNR) Method

Case Study on the financial implications of different crediting approaches

July 2024

Under the proposed improved Avoided Clearing of Native Regrowth (ACNR) ACCU method, the net abatement amount will be calculated using one of two approaches.

- **Projects with 50-year permanence periods** will be required to use the approach in the existing ACNR method (Approach A), where total net abatement is calculated as the difference between the project carbon stocks at the end of the crediting period and the long-term average baseline carbon stocks, minus emissions from biomass burning. The credits representing this abatement are allocated at the end of each reporting period. The net abatement amount for the first reporting period is calculated as the difference between the project carbon stocks at that time and the long-term average baseline carbon stocks, minus CH_4 and N_2O emissions from biomass burning. In subsequent reporting periods, the net abatement amount is calculated as the stock change since the end of the last period, minus CH_4 and N_2O emissions from biomass burning.
- **Projects with 100-year permanence periods** will be able to use an improved ACNR approach (Approach B), where total net abatement is calculated as the difference between the 100-year modelling period and net project carbon stocks at the end of the 25th year after the first baseline clearing event and the long-term (100-year) average baseline carbon stocks. The ACCUs reflecting this abatement are allocated in equal instalments over the first 10 years of the project.

This dual approach is intended to incentivise 100-year permanence periods by frontloading crediting for these projects and, in some cases, increasing the total number of credits projects receive.

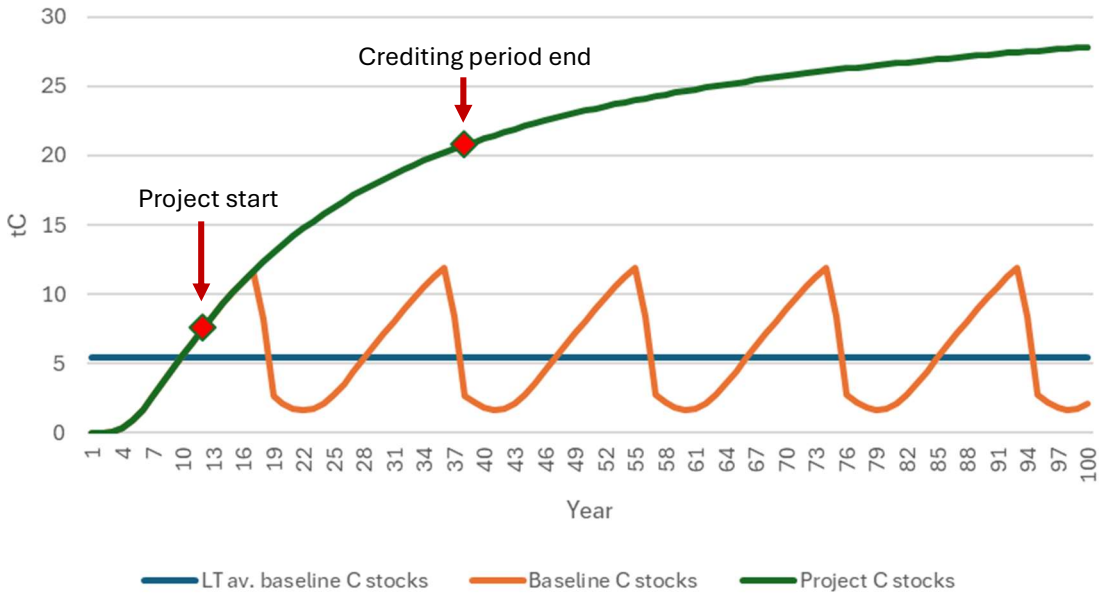
The financial benefit associated with using this approach to crediting can be illustrated with a case study using a site that is being re-cleared on 19-year cycles (Figure 1). In the hypothetical, re-clearing occurs 17 years after each regeneration event and is followed by a windrow burn 1-year later. The following year, regeneration commences, re-starting the cycle.

As shown in Figure 1, the landholder initiates the project when the regeneration is 12-years old. When the project starts, the carbon stocks in live and dead biomass are 7.5 tonnes of carbon (tC) per hectare (ha), compared to the long-term average baseline carbon stocks of 5.5 tC ha^{-1}. If the crediting approach in the existing ACNR method is applied, at the end of the first reporting period (i.e. 1-5 years), the project would receive the difference between the project carbon stocks and the long-term average baseline carbon stocks (minus any emissions from biomass burning in the project scenario). For each subsequent reporting period, the project would

receive the difference between the project carbon stocks at the end of the current reporting period and the project carbon stocks at the end of the last reporting period.

In this hypothetical, the project reports at the end of its first year, when project carbon stocks are almost 8.5 tC ha^{-1}. After accounting for the 5% risk of reversal buffer, and assuming no fire emissions, the project receives around 10.5 ACCUs per hectare in the first reporting period. Thereafter, the project reports annually, with the issuances declining in each subsequent reporting period from an initial high of 3 ACCU ha^{-1} in the second reporting period to ~0.95 ACCU ha^{-1} in the last reporting period.

Figure 1. Baseline biomass carbon stocks, long-term average baseline biomass carbon stocks and project biomass carbon stocks, 1 hectare carbon estimation area



If the ACCU price is assumed to be $37.50 when the project starts and it increases by 4.5% (nominal) per annum over the crediting period, and a 10% (nominal) discount rate is used, the present value of the project revenues is $1,311 per hectare.

To what extent does the present value of the project revenues change if the proposed improved approach to crediting is used?

In this case, calculating abatement based on the project carbon stocks at the end of the 25th year increases the total ACCU issuances by 15% (from just under 50 ACCU ha^{-1} to just over 57 ACCUs ha^{-1}). The ACCUs are allocated in equal instalments over the first 10 years of the project (5.7 ACCUs per ha per year), starting at the end of the first year. The present value of the project revenues is $1,638 per hectare, 25% above those associated with the existing approach.

Australian National University

How do the results change with different assumptions?

If the discount rate is higher, the difference between the present value of the project revenues under the new (frontloaded crediting) approach and the existing (stock change) approach will be greater. For example, with a 12% discount rate, the present value of the project revenues under the new approach is $1,497 per hectare, compared to $1,168 per hectare.

The faster the rate of increase in the ACCU price, the less the difference between the two approaches will be. For example, if the ACCU price increases by 10% per annum (nominal) (rather than 4.5% yr^{-1}), the present value of the project revenues under the new approach is $2,149 per hectare, compared to $1,962 per hectare (using a 10% discount rate).

Benefits of the new approach

Apart from incentivising longer permanence periods, a benefit of the proposed improved approach is that the ACCUs that projects receive are not dependent on the age of the regeneration when the project starts. It also removes the effects the age of the regeneration has on the profile of the crediting and project returns. That is, with the existing approach, the older the regeneration is when the project commences, the greater the number of credits the project will receive in its first credit issuance; and vice versa (i.e. because, in older regeneration, there will be a larger gap between the project carbon stocks and long-term average baseline carbon stocks). The improved approach provides a standardised approach to crediting that is consistent across projects, regardless of the age of the regeneration when the project commences. This will result in a method that is simpler to administer and easier to understand for market participants.

The improved approach also shields projects with 100-year permanence periods from the risks associated with natural disturbances, further incentivising longer duration projects. The improved confidence in outcomes associated with a 100-year permanence period allows the financial incentives in the new approach to be utilised while maintaining a high level of confidence in the crediting regime.