

FACT SHEET:

CARBON SEQUESTRATION BY SOFTWOOD PLANTATIONS



July 2022

As concern over the potential impacts of climate change continue to increase, interest in the potential contribution of plantation forests as a means of removing carbon dioxide (CO₂) from the atmosphere has accelerated. Carbon storage in new forests can provide a cost-effective form of net greenhouse gas abatement and forest establishment can also contribute to other positive social and environmental outcomes.

Key Messages:



Forests planted on cleared agricultural land can remove 5-30 tonnes of CO₂ per hectare from the atmosphere annually.



The attractiveness of plantations as a carbon sink investment is heavily influenced by trading and accounting rules.



Plantations generate large volumes of sawlogs & pulpwood which are used for all manner of essential products such as building materials, furniture, paper & packaging. These materials continue to store that sequestered carbon for very long periods of time.



Research indicates that harvested timber products, even in landfills, retain the majority of their carbon for decades and that the most cost-effective way to remove carbon is to allow timber harvesting (Richardson 2005).

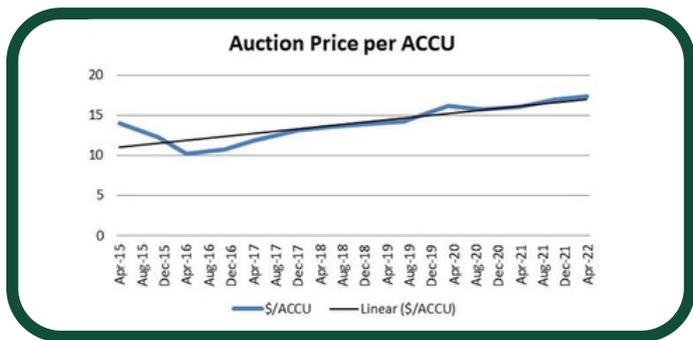
The Emissions Reduction Fund (ERF) is a voluntary scheme established by the Australian Government that aims to provide incentives for a range of organisations and individuals to adopt new practices and technologies to either reduce their emissions and/or increase the sequestration of carbon from the atmosphere. The ERF is enacted through the Carbon Credits (Carbon Farming Initiative) Act 2011, the Carbon Credits (Carbon Farming Initiative) Regulations 2011 and the Carbon Credits (Carbon Farming Initiative) Rule 2015.

Any new plantations established within the geographic region covered by the Murray Region Forestry Hub (ie. the SW Slopes of NSW and NE Vic) are eligible to participate in the ERF and make a claim for carbon benefits. A number of activities are eligible under the scheme, and participants can earn Australian carbon credit units (ACCUs) for emissions reductions. One ACCU is earned for each tonne of carbon dioxide equivalent (tCO₂-e) stored or avoided by a project.

ACCUs can be sold to generate income, either to the government through a carbon abatement contract, or in the secondary market.

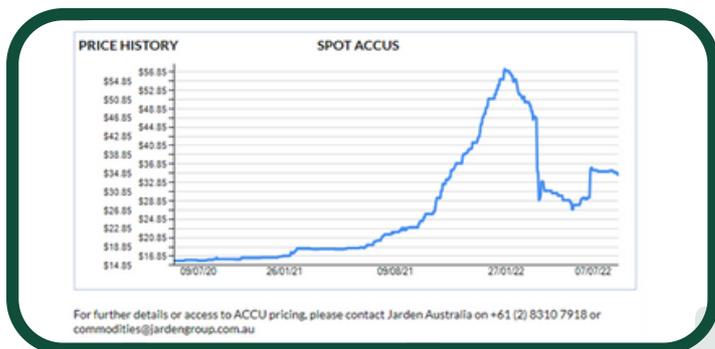
The initial price paid by the Government for an ACCU is set via an auction system which has been operating since 2015. As indicated in the following graph, auction prices have varied over time, but with a fairly constant trend – the latest auction (April 2022) delivered an average price of \$17.35/ACCU. There is another auction expected by the end of 2022.

Figure 1 : Auction Prices realised for ACCU's



Auction prices since April 2015 (the first auction) have averaged \$13.98, with a steady rise over the last six years as illustrated in Figure 1. However, spot prices (paid on the secondary market), can differ from the prices paid by the ERF at the six monthly auctions, as indicated in the following Figure 2. Spot prices also exhibit a high degree of variability, changing from a high of more than \$56/ACCU in early 2022, to a low of around \$26 just six months later.

Figure 2 : Spot Prices paid for ACCU's



However, under current arrangements, a plantation may only receive 50% of this potential revenue, because:

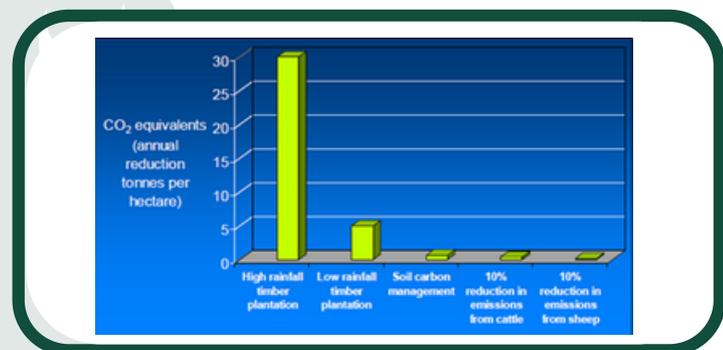
- 5% is deducted by Government as a 'buffer' against failure of project
- 20% is deducted by Government as a 'penalty' if the proposed rotation length is less than 100 years
- 25% (at least) is the estimated cost to the plantation owner for the compliance process and auditing required to satisfy the ERF rules.

Despite these reductions, the potential value of a new commercial pine plantation of 30,000 ha as a sink for carbon can be estimated as being at least \$238.91 (assuming 50% net revenue per ACCU) million over a 30 year rotation.

This additional income can provide another incentive to invest in new pine plantations.

It can also be noted that plantations established in high rainfall areas can sequester CO2 at much higher rates than would be achieved from other carbon reduction projects. Figure 3 illustrates estimated rates of CO2 reduction per ha from a range of potential carbon reduction/mitigation projects.

Figure 3 : Approximate rates of CO2 abatement under different 'carbon projects'.



Australian Farm Journal (2007), Volume 17 No 07 pp16 Emissions trading: threat or opportunity?

