

# Soil Carbon Projects: Implementation Overview

## Background

There are essentially five steps in running a soil carbon project under the Emissions Reduction Fund (ERF):

- registration and administration
- soil carbon baseline sampling
- project implementation
- subsequent testing of soil carbon levels
- project reporting and application for carbon credits.

The registration process is an information gathering exercise that ensures carbon project eligibility with the Clean Energy Regulator. At this time, we also set out the contractual basis between AgriProve and the project owner. After contract signing and project registration, baseline soil sampling is carried out to establish initial soil carbon levels. Subsequent soil samples are measured against the baseline to assess the extent of soil carbon sequestration and then carbon credit creation.

Project implementation is the commencement of new project activities and an ongoing commitment to build soil carbon. Reporting for the project requires that appropriate monitoring is undertaken and records of farm management practices are kept. For example, taking time and date stamped photos of project mechanism implementation. These reports are audited and used as evidence to issue the project with the measured number of carbon credits.

This soil carbon project overview provides a summary of the main steps to implementing a successful carbon project with AgriProve. The level of detail provided here is to assist in the decision to initiate a soil carbon project. Additional detail and information is available as the project moves through the various project stages.

## 1. Registration and administration

### Registering a soil carbon project

Soil carbon projects are run under the ERF according to the *Carbon Credits (Carbon Farming Initiative — Measurement of Soil Carbon Sequestration in Agricultural Systems) Methodology Determination 2018*.

(Additional information can be found at <http://www.environment.gov.au/system/files/resources/24cf7e41-feeb-4fa8-a42a-1220d3b0d946/files/fs-increasing-soil-carbon-erf.pdf>).

The Method sets out the rules for carbon project eligibility and the process for calculating the number of carbon credits a project is entitled to. The CFI Act sets out broader ERF scheme requirements. Registering a carbon project is the first step to establishing a soil carbon project. Our role is to provide support and assistance navigating through the stages required to establish a successful carbon project.



The soil carbon projects are registered as 25 year permanence projects. This means that the soil organic carbon must be maintained for a period of 25 years after the first issuance of carbon credits to the project. (Previously the only option was a 100 year permanence period). The main commitment is maintaining the land under agricultural activity. There is a 20 per cent discount in the amount of carbon credits issued as a result of selecting this option, however this is seen as a preferable option to a hundred-year commitment.

We provide an Expression of Interest and Consent form for signing by all landholders on the project property title(s). This form also acts as a management record of stocking numbers over the past five years, in addition to identifying whether the property has been under continuous pasture. The EoI and Consent form provides AgriProve with an exclusivity period of 18 months to register a soil carbon project. It also establishes that the landholders have given us the legal right to register and operate the soil carbon project for the purposes of the Emissions Reduction Fund. However, it is conditional in that commercial terms have to be negotiated as part of a contract to purchase carbon credits.

As part of the project registration process, a detailed land management strategy is prepared. This land management strategy is an important component of implementing a soil carbon project in Australia. It documents the past 10 years of historical farming activity and outlines the new management activities to be undertaken as part of the project. Importantly it documents and records landholder commitment to continue the project over a 25 year period, in addition to detailing the support and assistance AgriProve will provide over the project life-span. The level of customisation required for the land management strategy influences the cost to landholders. AgriProve has a template for generic activities which add no cost to the registration process (for example, implementing pasture cropping using the Soilkee Pasture Renovation system). However for larger farms with multiple activities a fee of approximately \$10,000 will apply.

### **Contracting to purchase carbon credits**

We operate as a carbon project aggregator, developing carbon projects, purchasing the carbon credits and then on selling them to the Clean Energy Regulator under a carbon abatement contract. We make our margin on the difference between our 'buy' price from the project and our 'sell' price to the Regulator. We have a standard 'Australian Carbon Credit Unit Sales Agreement' that sets out the terms and conditions of the contract.

The contract runs for 25 years, in order to align with the length of the soil carbon project. It has a fixed price that is set for 10 years. Additionally, we set a maximum volume to be delivered under this price. This volume is set at 50 per cent of the project 'name plate' capacity over the first ten years (name plate capacity is the expected yield of carbon credits as established by the proposed new project actions in combination with the project location). The contract also gives us the opportunity to bid for any surplus carbon credits over and above the fixed price volume at a market price. However, you are not obliged to sell at this price and can source another purchaser, provided we are given first rights to match any offer. We receive a success fee of 25% for these surplus credits so we have an incentive to source the highest price for the project owner. Additionally, there are no penalty provisions in our contract should the project not deliver the target volume of carbon credits. After the registration application is lodged with the Clean Energy Regulator, we provide:

- draft sales contract (sets out the commercial terms of the project)
- draft ERF participation deed (required for compliance with the ERF scheme and also to set up for the transfer of the project over to you).



## **Legal right to operate the project**

At the EoI and consent stage, landholders provide their approval for AgriProve Solutions to be a project participation under the Emissions Reduction Fund. This establishes our legal right to operate the project for the purposes of the Emissions Reduction Fund, which is a necessary precursor to registering a project. We have an ERF Participation Deed, which forms part of consolidating the legal right to operate the project, clarifying the rights of the selling entity for the carbon credits, and identifying the ultimate project participation.

In many cases it will be the landholder(s) who is also the seller of the carbon credits. In other cases, there will be a nominated trading entity that sells the credits.

A few points to note:

- the seller of the carbon credits will be added as the project participant during the first few years of project implementation (and ahead of the first issue of credits)
- the ERF participation deed consolidates the legal right to run the project and be issued with carbon credits. The wording for establishing this legal right is text from the Clean Energy Regulator. The landholder(s) are the holders of this legal right and assign it to AgriProve Solutions and the selling entity of the carbon credits.

While we have endeavoured to write the contracts in plain English, it is nevertheless recommended that independent legal advice is obtained.

At the completion of this initial stage of the project, the initial contractual tasks have been completed and it has been declared an Eligible Carbon Project.

## **2. Baseline sampling**

### **What is baseline soil carbon sampling and why it is important:**

Baseline soil samples are used to measure initial soil carbon stock levels, before implementation of activities that build soil carbon occur. These initial soil carbon measurements are used to determine the effect that implementing new activities has on soil carbon levels in the project area. Changes in soil carbon levels is established by measuring soil carbon levels in subsequent sampling rounds.

### **Baseline soil carbon sampling process including important dates and timeframes:**

The Method sets out the requirements for baseline soil carbon sampling, including the recording of historical farm management practices, project area and mapping requirements, as well as laboratory sample processing requirements and important timeframes. Baseline soil sample measurements must be taken before the commencement of any project management activities and within 18 months of project registration (project declaration date). We plan to deliver baseline soil carbon sampling within a short timeframe (after completion of the sales contract or project declaration) so that project implementation can begin as soon as possible.

To do this, we first map the project area to generate random points where cores will be taken for laboratory analysis. Soil cores are taken down to a depth of one metre. Soil samples are sent to an accredited laboratory where tests to determine initial soil carbon levels are undertaken.



We also have an option to include a wide range of additional soil health indicators in the soil tests, not just carbon. For example the 'Agricultural - Albrecht/Reams plus Totals and Heavy Metals' pack which includes available and exchangeable nutrients, trace elements and other key indicators.<sup>1</sup> This additional information is used to help guide project implementation activities and can provide useful insights for farm management.

Although baseline soil carbon sampling can occur before the Regulator has declared the carbon project an eligible offsets project, no new activities which build soil carbon can be implemented before the project start date specified in the project declaration (see project implementation for more details on carbon project activities). In addition to this, any new management actions must be undertaken no later than 2 years after the last day of the baseline sampling round.

### 3. Project implementation

Proposed new farm management activities can start being implemented once the soil carbon project is registered and the baseline sampling is complete. Proposed activities are those identified in the land management strategy that will work to increase soil carbon inputs and/or reduce soil carbon losses of carbon from the soil and were approved during the registration application procedure.

Similar to the baseline soil carbon sampling methods, the Regulator requires that project implementation is carried out in such a way that all management practices are documented. Descriptions of the new farm management activities and the dates at which are implemented must be recorded. One useful approach is to use time and date stamped photos of the new activities.

To make this process easier, use of farm management software is recommended in combination with an implementation and monitoring plan will be provided. Utilisation of the software package will enable project timeframes and deadlines to be met by keeping track of project activities and allow for information to be stored in a central location. Records of new activity implementation is required as part of the project for record keeping and reporting purposes.

Further details regarding the implementation plan and software setup will be provided following the completion of baseline sampling in a project implementation and management plan. Following this point the project can be implemented according to the proposed management plan.

#### Additional administration tasks

During the first year of project implementation, and ahead of the first subsequent round of project soil carbon testing, there are a number of additional administration tasks:

- establishing a client profile with the Clean Energy Regulator
- setting up an 'Australian National Registry of Emissions Units' (ANREU) account where carbon credits from the project will be issued
- documenting operational records from the past five years.

---

<sup>1</sup> pH and EC (1:5 water); Available (Calcium, Magnesium, Potassium, Ammonium, Nitrate, Phosphate, Sulfur); Exchangeable (Sodium, Potassium, Calcium, Magnesium, Hydrogen, Aluminium, Cation Exchange Capacity); Bray I and II Phosphorus; Colwell Phosphorus; Available Micronutrients (Zinc, Manganese, Iron, Copper, Boron, Silicon); Total Carbon (TC), Total Nitrogen (TN), Organic Matter, TC/TN Ratio; Basic Colour, Basic Texture; Totals (Sodium, Potassium, Calcium, Magnesium, Sulfur, Phosphorus, Silicon, Cobalt, Molybdenum, Selenium, Zinc, Manganese, Iron, Copper, Boron and Aluminium); Heavy Metals (Silver, Arsenic, Lead, Chromium, Nickel, Cadmium, Mercury).



#### **4. Subsequent soil carbon testing**

After the baseline levels of soil carbon within the project area have been established (from the baseline soil sampling), and project implementation has begun, subsequent soil tests are taken to determine the change in soil carbon stocks. Subsequent soil sampling rounds take place on the anniversary of baseline sampling using the same soil sampling procedures as the baseline sampling. We are anticipating taking soil tests every two years for high intensity activity such as pasture cropping in good rainfall areas, pushing out to every four years for lower intensity activities such as grazing management in lower rainfall areas.

The results from subsequent soil sample tests are used to form a decision on whether to proceed with offsets report and ACCU application or to wait until the next round of soil sampling to submit a report and apply for ACCUs. (Note that in any case an offsets report needs to be completed within five years of soil baseline tests. As a guide to carbon credit yield, a 1 percentage point increase in soil organic carbon in the top 30 cm of soil will deliver 125 carbon credits per hectare. Achieving this result over 20 years (around 6 credits on average per hectare per annum) would be a good level of sequestration, over 10 years would be great performance, while over five years would be an outstanding performance for the project.

However, as it is a measurement based method, there are no guarantees for sequestration rates. To counter these risks we provide a break point in our contract. For example, if there are not sufficient carbon credits to warrant the cost of audit at the first round of sampling, we will wait until the next round of soil testing (undertaken at Year 5 at the latest) and review these results. At this point, if there are not sufficient carbon credits to warrant the cost of audit, the project can be terminated as it is unlikely that the project will be commercially viable over the long run. In this case the project is revoked and the project owner has no ongoing obligations. The only costs incurred will have been for soil testing and implementing the new project activity.

Given that we do anticipate building soil organic carbon by deploying the carbon project, there will be ongoing soil testing every 2-4 years on the anniversary of the baseline soil testing until Year 10 (which is the fixed price term of our carbon credit sales contract). After this point the frequency of testing will be determined in large part by the market conditions for carbon credits at the time.

#### **5. Project reporting and carbon credit application**

##### **First 10 years**

Increases in soil organic carbon that are measured in subsequent soil testing rounds are 'converted' into carbon credits through the completion of an offsets report, a project report and an application for carbon credits. These reports and applications are managed by AgriProve and cover:

- offsets report, which provides details of the baseline soil testing, subsequent soil testing rounds, implementation of the project, and compliance with the soil carbon method, in addition to completing the calculations which convert the measured increase of soil organic carbon into tonnes of carbon dioxide equivalent (the base unit of a carbon credit – 1 tonne of carbon dioxide equivalent of eligible sequestration in the soil equals one carbon credit). Note that the method also prescribes a number of factors and discounts which also feature as part of the calculations, in addition to accounting for relevant on-farm emissions which are netted off from the gross sequestration amount



- reasonable assurance report (if required). The process of creating carbon credits is established by a regulatory framework. As such there is a need for the soil carbon project to have a reasonable assurance audit by an auditor registered under the National Greenhouse and Energy Reporting Regulations 2008. Soil carbon projects will typically undergo 1-2 audits in the first ten years of the project and 1-2 audits thereafter (expected to be only three over a 25 year period)
- project report, which sets out the main administrative features of the project as they relate to the *Carbon Credits (Carbon Farming Initiative) Act 2011* and to the soil carbon method
- application for carbon credits, which sets out the net carbon credit claim.

## Years 10 to 25

After year 10 there are the following reporting and carbon related obligations:

- obligation to keep the carbon stored for 25 years from the first issuance of credits translates to an obligation to maintain the land use as pasture grazing (if the land use was to be changed, there would need to be a discussion with the Clean Energy Regulator regarding any potential loss of stored carbon – here a likely case would be handing back carbon credits to the amount of the potential loss)
- at Year 10 we would assess the potential of the project to deliver additional carbon credits, and the market price for the carbon credits in order to make a plan for the next round of soil testing. For example, Year 12, 13, 14 or 15. The latest deadline for a report to be handed to the Regulator would be at Year 15
- if market conditions for carbon credits, or likely yield from the project meant that no additional soil testing was warranted, we would prepare a reporting 'maintenance' pack, with pre-prepared templates for the Year 15, Year 20 and Year 25 report, in addition to templates for maintaining on-farm records in a manner required for the project reports
- under our sales agreement, we have a 'first right' to purchase surplus carbon credits and receive a success fee of 25% from the sale of these credits, so we are motivated to stay involved with the project and optimise carbon credit outcomes.

## Cost implications

The following points set out the main project costs which relate to soil testing and third-party audit (note that AgriProve does not charge any additional fees for running the project):

- baseline soil carbon tests occur shortly after project registration is complete. The cost per farm depend on the size of the property. As a guide, around 200 hectares costs is \$5,000 (ex GST), whereas around 400-500 hectares costs around \$10,000 (ex GST)
- additional soil health indicators can be included in the soil tests, not just carbon. This additional information is used to help guide project implementation activities, in addition to providing extra value from the soil carbon testing phase as it is just the additional cost of testing and not field sampling that is incurred
- the next round of subsequent sampling for soil carbon is 2-4 years after the baseline round. The same costs apply for this sampling round. After the sampling we will be able to see if there has been any increase in soil organic carbon, and what this translates to in terms of carbon credits per hectare. As a



guide a 1 percentage point increase in soil organic carbon in the top 30 cm of soil will deliver 125 carbon credits

- project audit costs are estimated to be \$12,500 (ex GST). We will fund the audit cost and be reimbursed for these costs from the issued carbon credits.