

By Andrew Macintosh

The carbon farming initiative: what you need to know



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The Carbon Farming Initiative (CFI) has not attracted much public attention but, for policy purists, it is the pick of the bunch from the Commonwealth government's Clean Energy Future package because it did not suffer the same lobbying-induced compromises that have undermined the cost-effectiveness of the carbon pricing scheme. The CFI includes several innovative design features and is arguably one of the world's best offset schemes. This article provides an overview of the CFI and the major issues associated with its implementation.

Tradable permit schemes have featured prominently in environmental literature since John Dales wrote *Pollution, Property and Prices* in the late 1960s.¹ Dales' chief proposition was that pollution issues should be resolved by placing a limit on pollution and issuing 'rights to pollute'. Those wanting to pollute would have to hold sufficient pollution rights to cover their emissions over the relevant time period. These rights to pollute could be traded among polluters and, through the scarcity created by the cap and the trade in pollution rights, a price would be imposed on pollution. This approach would later become known as a cap-and-trade emissions trading scheme and it forms the basis for Australia's newly created carbon pricing scheme under the *Clean Energy Act 2011* (Cth) (CE Act). Its theoretical advantages over the main policy alternatives (taxes, subsidies and command-and-control regulation) are that it gives governments control over environmental outcomes, ensures abatement costs are borne by polluters and promotes least-cost abatement.

The natural extension of the ideas articulated by Dales is offsets, where liable polluters under the emissions trading

scheme are allowed to pay others to cut their emissions and use these reductions to meet their regulatory obligations. Offsets were first used in the United States in the 1970s as part of the *Clean Air Act's* emissions trading program for air pollutants.² Since then, they have become a common feature of environmental programs, including in relation to water pollution, biodiversity, native vegetation and greenhouse gas emissions. Their proliferation reflects the fact that they offer the same primary theoretical benefit as emissions trading; they lower the cost of achieving the desired environmental outcome.

Under the CE Act, there are two main types of offsets available to liable entities:

- Australian carbon credit units (ACCUs), which are offsets issued under the Carbon Farming Initiative (CFI); and
- eligible international emissions units, which are international offsets issued under the Kyoto Protocol or another international agreement (the offsets issued under the Kyoto Protocol are certified emission reductions (CERs), emission reduction units (ERUs) and removal units (RMUs)).

THE BASICS OF THE CFI

Formally, the CFI is described as a project-based, baseline-and-credit offset certification scheme. This means it allows for offsets (ACCUs) to be generated on a project-basis, where the quantity of ACCUs is determined against a counterfactual baseline reflecting what the net emissions or removals from the activity would have been in the absence of the project. Where net emissions are below the baseline, the proponent receives ACCUs equal to the baseline minus actual net emissions. Each ACCU represents 1 tonne of carbon dioxide equivalent (CO₂-e) abated. Because the program is voluntary, proponents do not incur a penalty if the emissions from the project exceed the baseline, other than the opportunity cost associated with lost credits.

The CFI provides for the creation of two types of ACCUs: Kyoto ACCUs and non-Kyoto ACCUs. Kyoto ACCUs are those generated by 'Kyoto offsets projects', or projects whose associated removals and/or avoided emissions are counted towards Australia's mitigation targets.³ Non-Kyoto ACCUs are generated by 'non-Kyoto offsets projects', or projects whose associated removals and/or avoided emissions do not count towards Australia's targets. The difference between the two is important. Kyoto ACCUs can be used to meet liabilities under the carbon pricing scheme and also be exchanged for Kyoto units (Assigned Amount Units (AAUs), ERUs or RMUs) and sold into overseas compliance markets. Non-Kyoto ACCUs can be traded only in voluntary markets, meaning that they are likely to attract a significantly lower price.

In addition to the Kyoto and non-Kyoto division, the CFI separates projects into 'sequestration projects' and 'emissions avoidance projects'. To understand the nature of these projects, it is necessary to have an appreciation of the international greenhouse gas accounting framework. Under that framework, all emissions are recorded in one of six reporting sectors: energy; industrial processes; solvent and other product use; agriculture; waste; and land use, land-use change and forestry (LULUCF). Removals (the drawdown of CO₂ from the atmosphere by sinks) are recorded only in LULUCF.

The government's intent in designing the Clean Energy Future package was to achieve the greatest possible coverage of Australia's emissions and removals by a carbon price, equivalent carbon price or the CFI. The CE Act imposes a carbon price on selected emissions from the energy, industrial processes and waste sectors. To fill gaps left by the CE Act in the energy and industrial processes sectors, equivalent carbon prices are imposed on certain emissions from these sectors via the fuel tax system and ozone and synthetic greenhouse gas regime. The remaining gaps in the coverage of Australia's emissions and removals from the agriculture, waste and LULUCF sectors are filled largely by the CFI.

'Sequestration projects' are projects whose emissions and removals are accounted for in the LULUCF sector. They involve the sequestration of CO₂ in biomass or soils and avoidance of CO₂, CH₄ and N₂O emissions from the destruction or disturbance of biomass or soils. 'Emissions avoidance projects' are generally projects whose emissions are accounted for in the agriculture and waste sectors – the avoidance of CH₄ and N₂O emissions from agricultural

activities (for example, livestock, rice production, savannah burning and crop residue burning) and legacy waste in landfill facilities (that is, CH₄ and N₂O emissions from waste accepted at a landfill facility before 1 July 2012). The CFI also provides for emissions avoidance projects involving feral animals (known as 'introduced animal emissions avoidance projects'). CH₄ and N₂O emissions from feral animals are not provided for under current international accounting rules because they are non-anthropogenic. Despite this, the CFI allows for non-Kyoto ACCUs to be generated for projects involving the avoidance of these emissions.

MECHANICS OF THE CFI

In order for a project to generate ACCUs, three things must be in place:

- there must be an 'approved methodology' for the project;
- the project proponent must be a 'recognised offset entity'; and
- the Clean Energy Regulator must have approved the project as an 'eligible offsets project'.

Approved methodologies

Methodologies set out how the baselines for projects are calculated and how emissions and removals are measured. In doing so, they provide the basis for determining the number of ACCUs that a project generates. They can also include specific requirements that proponents must meet concerning reporting, incident notification, record-keeping and monitoring.

The body responsible for the oversight of the methodology-determination process is the Domestic Offsets Integrity Committee (DOIC), a statutory committee established under the *Carbon Credits (Carbon Farming Initiative) Act 2011* (CFI Act). The DOIC is required to evaluate methodologies put forward by proponents, third parties or the government and, if it is satisfied they meet prescribed 'offsets integrity standards', it can endorse them. Once the DOIC endorses a methodology, the Minister for Climate Change can approve the methodology, provided it complies with the offsets integrity standards and regulations.

Recognised offset entity

To be eligible to generate ACCUs, the project proponent must be a recognised offset entity. Project proponents are able to apply to the Clean Energy Regulator to become a recognised offset entity and its decision is based primarily on whether the applicant is a 'fit and proper person' and not insolvent or externally administered.

Project approval

The final step in getting a CFI project off the ground is to have the project approved by the Clean Energy Regulator as an 'eligible offsets project'. For this to occur:

- the applicant must be a recognised offset entity;
- the applicant must be the 'project proponent', meaning they must be responsible for carrying out the project, have the legal right to carry out the project and, if the project is a sequestration project, hold the 'applicable carbon >>

sequestration right' (that is, the exclusive registered legal right to obtain the benefit of sequestration of carbon in the relevant carbon pools);

- the project must meet the 'additionality test', which is supposed to ensure that credits are issued only in relation to abatement that would not otherwise have occurred;
- if the project is a sequestration offset project, all people with interests in the land must have consented to the application; and
- the project must not be an 'excluded offsets project' or a project involving the clearing of native forest or use of material obtained as a result of the clearing or harvesting of a native forest.

Once a project has been declared an eligible offsets project, two steps must be followed in order to generate ACCUs. First, the proponent must comply with the reporting requirements. This involves the preparation and submission of offsets reports within three months of the end of a self-selected reporting period, which must be between one and five years. The flexibility provided here allows proponents to make judgements about the management of transaction costs and the flow of credits. Generally, before submitting an offset report, the proponent must ensure that it is audited, although this requirement can be waived under the regulations.

Secondly, after submitting an offset report, the proponent must apply to the Clean Energy Regulator for a certificate of entitlement. A certificate of entitlement specifies the 'unit entitlement' for the project. For sequestration projects, the unit entitlement is equal to the net abatement number (that is, the amount of abatement calculated in accordance with the methodology) minus a risk of reversal buffer (generally 5 per cent).⁴ For emissions avoidance projects, the unit entitlement is simply the amount calculated in accordance with the methodology. As soon as practicable after issuance of a certificate of entitlement, the Regulator must issue ACCUs equal to the unit entitlement.

INTEGRITY RISKS

Like all offset programs, the primary risk associated with the CFI is that ACCUs may not reflect their face value in abatement. In relation to a Kyoto offset project, this would mean that, while each tainted Kyoto ACCU would entitle the primary polluters (liable entities) to emit one tonne of CO₂-e, the corresponding reduction in emissions or enhancement of removals achieved by the CFI project would be less than one tonne of CO₂-e. In most climate offset programs, if the offset credits do not represent their face value in abatement, the environment bears the cost – the use of the offset results in higher net emissions and a higher atmospheric concentration of greenhouse gases. With the CFI, the implications depend on what type of project is involved.

With non-Kyoto offset projects, if the ACCUs that the projects generate do not represent their face value in abatement, there will be higher net emissions and the environment will bear the cost. For Kyoto offset projects, however, the associated emissions and removals fall within Australia's emission cap. As a result, if the Kyoto ACCUs do not represent their face value in abatement, there should

be no change in the environmental outcome, which is determined by the national cap. However, the defects in the Kyoto ACCUs will usually result in a financial liability being shifted onto the Australian government. This is a result of the fact that, to account for the relative increase in emissions from the sectors that fall outside of the carbon pricing scheme (the so-called 'uncovered sector emissions'), the carbon pollution cap under the carbon pricing scheme must be lowered, thereby reducing the revenues generated by the government. Alternatively, if the carbon pollution cap is not reduced, the government will be required to purchase offsets from overseas. Either way, defects associated with the abatement value of ACCUs will usually lead to the government incurring costs. This ensures that there is an inbuilt incentive for the government to minimise integrity risks, at least in relation to Kyoto ACCUs.

There are four types of integrity risks that can lead to offsets not reflecting their face value in abatement:

- additionality – the risk of offsets being issued for emission reductions or enhanced removals that would have occurred anyway;
- leakage – the risk that the offset project will trigger an increase in emissions from sources, or reduction in removals by sinks, that occurs outside the project boundary;
- permanence – the risk related to sequestration projects that the carbon stored within the project area in biomass or soils will be fully or partially released as a result of future events (for example, wildfires, drought and deliberate removal of the vegetation); and
- measurement – the risk that the emissions and/or removals from offset projects will be measured inaccurately.

The CFI contains mechanisms to deal with each of these risks.

Additionality

The CFI's primary mechanism for dealing with additionality risks is the 'additionality test', which has two limbs:

- projects must be included on the 'positive list' under the regulations; and
- projects must not be required under a law of the Commonwealth, or a law of a state or territory.

This test applies to the approval of methodologies (methodologies cannot be approved unless the projects covered by the method will pass the test) and eligible offsets projects (projects cannot be approved as eligible offsets projects unless they pass the test).

Other climate offset programs, like the Kyoto Protocol's Clean Development Mechanism, use a project-level additionality test, which requires an assessment of whether each project would have been undertaken in the absence of the incentive provided by the credits. Although considered initially, the government ultimately jettisoned this approach and opted for the project-type test embodied in the positive list. The intent behind this approach was to minimise transaction costs, but the downside is that it could result in a greater number of non-additional projects. However, this risk can be managed by other means, including through project eligibility requirements and methodologies.

Leakage

Leakage risks are mainly addressed through the methodologies, which are explicitly required to take account of the potential for the project to increase net emissions outside the project boundary. In most cases, this is likely to involve a requirement for a leakage deduction to be made when calculating a project's ACCU entitlement.

Permanence

The CFI has three main mechanisms to deal with permanence risks:

- methodologies, where there is a requirement that they be conservative and include provisions to account for cyclical variations in carbon pools;
- crediting, where the 'risk of reversal buffer' must be deducted from the net abatement or sequestration number; and
- the 100-year rule, which requires proponents to maintain the relevant carbon stores for 100 years (although an alternative period can be set under regulations).

Measurement

Measurement of emissions and removals from LULUCF, waste and agriculture is subject to considerable uncertainty, giving rise to the risk of inadvertent errors and false crediting. The CFI has three means of dealing with this risk. The first is the offsets integrity standards, which require the methodologies to be consistent with the methods applied in Australia's greenhouse accounts, supported by scientific results published in peer-reviewed literature, capable of verification and conservative. The second is auditing. Prior to crediting, and in some cases prior to project approval, a prescribed audit report can be required to verify abatement calculations. The third is penalties for fraud and the submission of false or misleading information, which include the termination of projects, relinquishment of ACCUs, fines and imprisonment.

BARRIERS TO THE SUCCESS OF THE CFI

While the CFI Act⁵ has mechanisms to deal with integrity risks and design features to facilitate the uptake of offset projects, there are a number of issues that could impede its success. The most obvious is the possible demise of the carbon pricing scheme. The primary source of demand for ACCUs is expected to be the carbon pricing scheme and, without it, there will be little incentive for landholders and waste operators to initiate CFI projects. Even now, the Coalition's proposal to remove the carbon pricing scheme is creating uncertainty and repelling potential project proponents.

Another obstacle for CFI projects is legal complexity. The creation of CFI projects can involve a number of technical legal issues and require proponents to navigate their way through the intricacies of property law, taxation law, stamp duty, financial services, planning and environmental requirements. These legal and regulatory requirements can cause confusion and increase transaction costs, thereby lowering returns to prospective proponents.

A further barrier to the success of the CFI is the 100-year rule. The origins of this requirement can be traced to a rule

of thumb in climate science that the atmospheric lifetime of CO₂ (the time it takes for an increase in the atmospheric concentration of CO₂ to be reduced to 37 per cent of its initial amount) is approximately 100 years. The argument is that, if most of the CO₂ is re-sequestered, on a net basis, after 100 years, any release from carbon stores after this time is of little or no consequence. While there is a reasonable basis for the rule, many landholders are reluctant to 'lock up' their land for this period of time because of concerns about the financial implications and cultural issues (many farmers feel a sense of obligation to pass on their land to their children, free of encumbrances).

The final issue that could undermine the success of the CFI is its flexibility. Under the CFI Act, the minister has broad powers to make regulations and declarations changing the way many aspects of the scheme operate. These include powers to include and remove activities from the positive and negative lists, to waive the second limb of the additionality test, to exempt projects from auditing requirements, to alter the 100-year rule, and to set and remove project requirements through methodologies and regulations. The breadth of these powers could be a strength, allowing the government to adjust the scheme to address issues as they arise. It could also prove to be a weakness and lead to industry pressure to make changes that compromise the integrity of the scheme.

CONCLUSION

The CFI is a world-leading offset scheme and provides a platform for the pursuit of abatement opportunities in the waste, agriculture and LULUCF sectors. If it is successful, it could lower the cost of achieving Australia's mitigation targets and generate a number of important environmental co-benefits, including habitat restoration and improved soil conservation. While it has significant potential, a number of barriers need to be overcome. The scheme is in its infancy, having commenced in December 2011. At the time of writing, only four eligible offset projects had been registered, all of which are emissions avoidance projects involving the capture and combustion of methane from legacy waste in landfill facilities. The scheme's slow start may reflect the uncertainty surrounding the future of the carbon pricing scheme. Until this is resolved and potential project proponents are given a clear and sustainable source of demand, the CFI will remain a policy footnote, albeit a well-designed one. ■

Notes: **1** J Dales, *Pollution, Property and Prices: An essay in policy-making and economics* (University of Toronto Press, 1968). **2** *Clean Air Act* 1963 (US), amended in 1967, 1970, 1977, 1990. **3** Individual projects can have both Kyoto and non-Kyoto components. *Carbon Credits (Carbon Farming Initiative) Act* 2011 (Cth), s55. **4** For 'native forest protection projects', the unit entitlement is equal to the net sequestration number minus the risk of reversal buffer. **5** *Carbon Credits (Carbon Farming Initiative) Act* 2011 (Cth).

Andrew Macintosh is Associate Professor, ANU College of Law and Associate Director, ANU Centre for Climate Law & Policy.

PHONE (02) 6125 3832 EMAIL andrew.macintosh@anu.edu.au