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Overview of ABARES proposed common practice framework for Carbon Farming Initiative additionality

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Overview

The Carbon Farming Initiative (CFI) will help the land sector sell carbon credits in domestic and international markets. Like all carbon offset schemes the CFI should meet internationally recognised integrity standards, including additionality, to ensure that all credits generated are the result of the initiative. To meet the additionality standard for the CFI the Australian Government has legislated a common practice test that primarily uses survey data.

There is growing recognition of the merits of a common practice additionality test in various international schemes and relevant academic literature. A common practice test is a standardised approach and represents a move away from project-based assessments adopted in other offset schemes, including the Clean Development Mechanism of the Kyoto Protocol. Standardised approaches, such as common practice tests with clearly defined thresholds, are more streamlined, transparent and objective assessments of additionality (Climate Action Reserve 2010; Hayashi et al. 2010; Kartha et al. 2005).

The CFI with a common practice additionality test is expected to encourage farmers and landholders to take up technologies or practices not generally perceived as cost-competitive. It can also speed up adoption of technologies or practices that may become cost-competitive under improved knowledge and market conditions in the future.

Common practice tests measure the extent to which an abatement activity has already occurred in a relevant sector and/or region. A level of activity adoption, or threshold, is set for each abatement activity. An activity that has an adoption level below the threshold can be considered additional and an activity above the threshold can be considered non-additional.

In this overview ABARES summarises a potential framework for the common practice test. The framework draws on lessons learned from other schemes, academic literature and results of a preliminary mathematical analysis.

The mathematical analysis underpinning the ABARES framework is based on diffusion of innovations theory. The theory describes the adoption of a practice or technology in a target population, which typically follows an S-shaped diffusion path. Slow uptake in the early stage of adoption is followed by rapid acceleration as the diffusion proceeds over time. ABARES analysis looks into the sensitivity of a diffusion path to key parameter values and estimates diffusion paths for several farm practices. The analysis identifies potential common practice thresholds, advantages and disadvantages of each threshold and methods for estimating the threshold using limited data.

ABARES has examined two threshold options for the common practice test. The first, often referred to as the take-off point, represents the maximum increase in the rate of practice diffusion. However, calculating the take-off point is problematic when using limited survey data. For this reason a default threshold is recommended in most cases. The default threshold is simply a pre-determined proportion for the target population.

ABARES recommends use of the pre-determined threshold for the common practice test when the:

- accurate prediction of the take-off point is not possible with a limited data series
- pre-determined threshold can provide a valid approximation for the take-off point for a broad range of model parameter values and modelling approaches
- pre-determined threshold is not compromised by implementation problems.

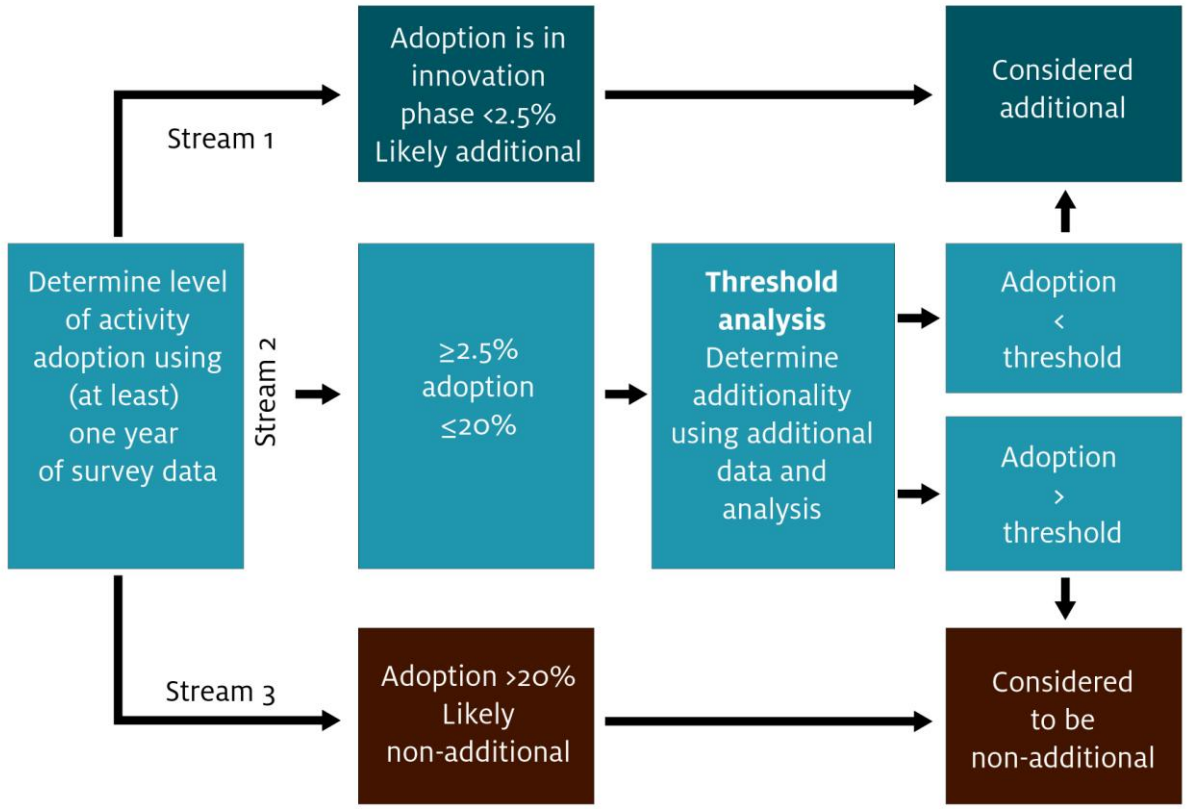
ABARES analysis identifies a threshold of 20 per cent for the pre-determined threshold as this approximates the upper bound for the empirical estimates for the take-off point. In many cases it is also close to the true value. The 20 per cent threshold can be adjusted, depending on the maximum level of potential adoption of the practice. The empirical literature also suggests that the take-off point tends to occur beyond the 2.5 per cent adoption level (Rogers 2003).

In view of the above, ABARES has developed a common practice framework (Figure 1). The framework can be operated with one year of survey data for each practice. If the number of adopters of a practice falls below 2.5 per cent of the target population, the practice can be deemed additional. If the number of adopters is above 20 per cent of the target population, the practice can be deemed non-additional. A more rigorous threshold analysis may be used for any practice that scores between 2.5 and 20 per cent adoption.

An appropriate comparison group needs to be identified for the application of the framework. The regional scale at which the common practice test will occur will depend on the industry and the practice defined. The framework can be applied using data from the Australian Bureau of Statistics fit-for-purpose survey and other sources. ABARES is exploring the practical application of the proposed framework.

The results of this research will be documented in upcoming technical papers.

Figure 1 Proposed common practice framework for the Carbon Farming Initiative



Note: < = less than; > = greater than; ≤ = less than or equal to; ≥ = greater than or equal to. Levels of adoption in each of the streams are from Rogers (2003), Kartha and colleagues (2005), Mathur and colleagues (2007) and analyses in upcoming ABARES technical papers.

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