4

ADDITIONALITY

Assessing additionality is a key feature of all baseline and credit schemes. An additionality test assesses *whether* a project or activity creates 'additional' emissions reductions that would not have occurred in the absence of the incentive. The baseline for the project assesses *how much* emissions have been reduced.

Additionality is important to ensure that a baseline and credit scheme does not pay for emissions reductions that would have occurred anyway. Purchasing non-additional reductions would reduce both the environmental effectiveness and economic efficiency of the scheme. Additionality can never be determined with certainty as it involves a prediction of future circumstances; it will always require analysis and some judgment. Costs and uncertainty to projects can, however, be reduced with clear and consistent rules.

Testing additionality can involve trade-offs; more stringent tests raise confidence that emissions reductions are additional, but are likely to increase administration costs, which may deter participation in the scheme.

This section looks at the approaches taken to additionality under the CFI and other schemes to provide lessons for the ERF.

4.1 CFI APPROACH TO ADDITIONALITY

The CFI has a strong focus on environmental integrity. This design choice results from its role as an offset scheme complementary to Australia's carbon pricing mechanism and its initial links to international carbon markets. The majority of emissions reductions from the CFI are expected to help Australia meet its international emissions reduction commitments (such as its Kyoto Protocol target), and can be exported and used by other countries to meet their commitments. If emissions reductions from the CFI were not additional, Australia would need to make extra reductions (or purchase extra reductions from overseas) to meet its emissions reduction goals.

In the CFI, additionality is considered at two stages: activity level approval and methodology approval. These are discussed in turn below.

4.1.1 ADDITIONALITY AT THE ACTIVITY LEVEL

For a CFI project to qualify as additional it must initially fulfil two requirements:

1. The law must not require the activity—this prevents proponents from receiving credits for activities that they are already required to do.
2. The activity must be on the 'positive list'—a register of abatement activities that are eligible to earn carbon credits under the CFI.

The positive list can be thought of as a simplified or standardised form of additionality test. The positive list was adopted as part of the CFI scheme to remove the need for project-level additionality tests, which can be complex and limit scheme opportunities (Carbon Credits (Carbon Farming Initiative Bill) 2011, *Explanatory Memorandum*). It identifies a broad set of abatement activities that are not 'common practice' in an industry or region, and are therefore deemed additional. Activities that are already common practice or in widespread use are considered 'not additional'. The key perceived benefits of the positive list are providing rigorous advice on whether or not activities are common practice in a particular industry or sector and,

as a result, providing greater certainty to potential project proponents at an early stage of the process. This may prevent participants expending time and resources on pursuing projects that are likely to be non-additional.

Where activities are common in specific areas, but not on a large scale, the positive list can identify parts of an industry or environmental conditions that qualify. The 19 activities currently on the positive list fall under the following categories—vegetation and wetland restoration projects, legacy landfill gas projects, early dry season burning of savannah, livestock management and other activities. The positive list is intended to be reviewed to keep pace with technological developments and latest scientific research (DCCEE 2012a).

An activity is usually uncommon due to barriers to uptake, which may include high establishment costs relative to financial returns, requirements for additional skills or information barriers. The common practice assessment compares an activity's uptake with an industry reference group (Australian Government CFI positive list brochure 2014). Project-specific factors such as the property size, scale of operations, distance to facilities and socioeconomic conditions are also considered (DAFF ABARES 2012). Broadly speaking, if the activity has less than 20 per cent uptake and adoption is not rapidly accelerating, the activity may be viewed as not being common practice, and therefore eligible for the positive list (DCCEE 2012a).

To assess common practice, the Department of the Environment typically undertakes in-house research, drawing on expertise from relevant government departments and agencies. The Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES) often provides assistance on agriculture and forestry related proposals, analysing the level and rate of adoption for the activity (DAFF ABARES 2012). The DOIC receives advice on whether an activity is common practice from these sources, and ultimately makes recommendations to the Minister for the Environment. Feedback from stakeholders indicates that completing a common practice assessment and putting the activity on the positive list (which includes having new regulations made) generally takes six to 12 months.

Several activities have not been approved for the positive list as they have failed to meet the above additionality test. For example, reducing nitrous oxide emissions using tractor exhaust technology was not approved because there was insufficient scientific evidence that it reduces emissions. In addition, sequestering carbon in soil through cell grazing, which is a system of livestock management that involves movements of stock matched to pasture growth rates, was also not approved due to insufficient scientific evidence that it will deliver long-term sequestration (DoE 2014a).

4.1.2 ADDITIONALITY AT THE METHODOLOGY APPROVAL STAGE

In addition to the positive list, additionality is also assessed at the methodology stage. This ensures that each individual project produces additional emissions reductions. For example, while a general activity may be additional because it is not common practice, a given project must demonstrate that the activity is not already being undertaken in that particular facility or location.

Methodologies must contain the following:

- a description of the activity
- a list of emissions sources and sinks affected by the project
- monitoring, verification and reporting requirements
- instructions for determining a baseline that represents what would occur in the absence of the project, and
- procedures for measuring or estimating abatement or sequestration relative to the baseline (DCCEE 2012b).

4.2 EXPERIENCE FROM OTHER SCHEMES

This section examines how other baseline and credit schemes test additionality, and the strengths and weaknesses of the different approaches. Schemes generally use a combination of approaches.

4.2.1 FINANCIAL OR INVESTMENT ADDITIONALITY

Financial additionality, also known as investment additionality, directly assesses whether a particular project would go ahead without the financial incentive from the scheme. For instance, an energy efficiency project might go ahead without crediting because it reduces electricity consumption and therefore energy costs. A financial additionality test requires a scheme administrator to assess the investment environment, business operations and motivations of the project provider or investor to determine their likely actions in the absence of the scheme incentive. Several schemes provide for explicit tests of financial additionality, including the CDM and the Alberta scheme.

A financial additionality test specifically addresses the circumstances of the particular project provider and directly focuses on the effect of the scheme incentive. In theory, this should allow the test to be effective in sectors where different project providers have different investment incentives and technologies—so that the same activity may be genuinely additional for some providers but not others.

Financial additionality can, however, be difficult to test as it requires detailed knowledge of the investment environment for a project and the intentions and motivations of the project provider or investor. In response, baseline and credit schemes tend to employ proxies for financial additionality that are more objective and verifiable (for instance, statements from potential lenders that the project does not meet financing criteria without the incentive from the baseline and credit scheme). The CDM has developed a number of simplified tools for financial additionality (see Box 4.1). The trade-off is that more objective and verifiable financial additionality tests may be less project-specific and therefore less effective in assuring additionality.

BOX 4.1: THE CDM FINANCIAL ADDITIONALITY TEST

The CDM *Tool for the demonstration and assessment of additionality* details the process to be adopted to test for financial additionality. It does this to ensure that the CDM project:

- is *not* the most economically attractive option (that is, that an alternative, more GHG-intensive and financially attractive activity would have occurred in the absence of the CDM project); or
- would *not* have been financially feasible without the revenue gained from undertaking the activity.

The first step in undertaking the additionality test is selecting an appropriate analysis method. The tool provides three options:

1. **A simple cost analysis**—this option can be used if the CDM project, or any identified alternatives, generates no financial or economic benefits other than CDM-related income. It requires a comparison of costs between the project and alternatives to show that there is at least one alternative that is less costly than the CDM project.
2. **An investment comparison analysis**—this option can be used if the CDM project, or any identified alternatives, generates financial or economic benefits in addition to CDM-related income. This option requires an analysis of financial indicators of the project such as internal rates of return or net present values. These indicators will then be compared against the alternatives.
3. **A benchmark analysis**—this option can be also used if the CDM project generates financial or economic benefits in addition to CDM-related income. It requires selection of a key indicator (such as internal rate of return), which will then be compared to a benchmark. The benchmark can be derived from an approved internal benchmark (for example, weighted average cost of capital for the company), a commonly used benchmark for similar activities, or a government or other officially approved benchmark used for investment decisions.

Once the appropriate test has been chosen, the next step is to calculate and compare financial indicators and other information. This process will assess whether the alternative project is more financially attractive or whether it has a less favourable indicator than the benchmark. The final step in the financial additionality test is to perform a sensitivity analysis showing the robustness of the conclusion(s) to variations in key assumptions.

If the project passes the financial additionality test, it will progress to the next CDM additionality test—a common practice test. If the project does not pass, it may still progress to the next phase of testing if it instead passes a barrier test (see Section 4.2.4). The barrier test assesses whether there are non-financial barriers that would prevent the project going forward despite its financial viability.

4.2.2 REGULATORY ADDITIONALITY

Regulatory additionality looks at whether the project activity is required by regulation and is therefore business-as-usual. For instance, the capture and flaring of methane from waste or mines would be disqualified from receiving credits if there were environmental or safety regulations requiring it. A regulatory additionality test is commonly used in baseline and credit schemes, including in the CFI, GGAS, New South Wales ESS and Alberta Offsets Program.

The advantage of the regulatory additionality test is that it is relatively simple to apply and very reliable; an emissions-reducing activity is clearly non-additional if it is required by law. This test is limited, however—just because an activity is not required by law does *not* mean it is additional. Regulatory tests need to be used in conjunction with other tests.

Regulatory tests may also create perverse incentives for state or regional governments not to regulate activities so that local project proponents can continue to take advantage of financial incentives. This risk is recognised by the CDM in its 'E-' policy, where regulation that provides an incentive for emissions reductions will not be considered when assessing additionality for a period of seven years after the regulation is introduced.

4.2.3 COMMON PRACTICE

A common practice test looks at whether or not a practice or technology is already in common use. A practice that is commonly used in the same sector or comparable businesses is likely to be commercially viable on its own merits and therefore not additional. An example of a common practice test is in the Alberta scheme, where a set level of 40 per cent adoption of a practice or technology in a sector is generally taken as amounting to common practice (Alberta Government 2011, p. 23). A common practice test can be carried out at a project level, as it is in the CDM, or centrally by a scheme regulator before a methodology is developed, as it is in the California scheme.

A strength of common practice tests is that they focus on, and can help bring forward new or underutilised technologies and practices. Depending on the industry involved, it can also be relatively straightforward to determine which activities are common practice. A common practice test can, however, result in genuinely additional projects being assessed as non-additional (and vice versa) if a sector is not homogenous and parties have different incentives to invest in emissions reducing technologies or practices. The boundaries that are used for assessing common practice will also have an influence on outcomes; practices that are common in one country or region may not be common in another, and practices may be common in some industry sectors but not others. Where to place boundaries will depend on an assessment of the likelihood that practices will transfer to new sectors or areas without an incentive.

Common practice tests on their own have limitations. For example, newly developed technologies and practices may be financially viable but simply not yet taken up. What is a 'common' practice is hard to judge where there is a limited sample size (for example, where there are only one or two industrial plants that could use a particular technology in a country). It is also important to periodically reassess common practice, as new practices become more widely used and commercially viable over time.

4.2.4 BARRIER ANALYSIS

Barrier analysis looks at whether there are non-financial barriers to uptake of emissions reduction technology and practices, such as lack of information or scarcity of capital. Barrier analysis is used in the CDM and the Alberta scheme (see Box 4.2).

Barrier tests may be effective in recognising situations where, despite apparent profitability, emissions reduction opportunities are not taken up under business-as-usual. For instance, research by ClimateWorks suggest that there are substantial industrial energy efficiency opportunities that have negative costs in Australia, but have not been taken up for a variety of reasons. A lack of access to internal capital, the payback period of energy efficiency projects, opportunity cost and operational risk, lack of information and access to low-cost energy are all inhibiting energy efficiency activity, with internal practices appearing to strongly influence uptake (ClimateWorks 2013, pp. 35–42).

If barriers to uptake are not financial, then a financial incentive provided through a crediting mechanism may not be the most effective or cheapest policy option. Measures that directly target particular barriers, such as appliance and building standards, information campaigns and demonstration programs may be cheaper ways to bring forward opportunities. Barriers may also be difficult to objectively assess and quantify, although this is an area where aggregators can play a role. For instance, with household energy efficiency programs, businesses involved with installing or selling efficient equipment generally apply for credits rather than individual householders.

BOX 4.2: THE ALBERTA BARRIER TEST

The Alberta scheme uses a barrier analysis method to test for additionality, which was adapted from the CDM 'barriers assessment tool'.

Barriers are primarily tested on technological, financial and social limitations:

- **Technological barriers**—tests whether a less emissions-intensive technology is available for the project but faces significant deployment or capital constraints, preventing it from being used. If the technology is readily available and economical to deploy, then it would not be considered additional.
- **Financial barriers**—tests whether the payback horizon for a project is sufficient to deter investment in the project. Where no barriers are evident, the project is not considered additional. Alberta does not weight this test heavily.
- **Social limitations**—tests whether there are limits to public perception and understanding that are preventing a particular activity from being undertaken. If social limitation barriers are identified, this may be grounds to accept that the project is additional.

4.2.5 CREDIT FOR EARLY ACTION

If a project is implemented prior to the existence of the baseline and credit scheme, it is generally assumed that it did not need the scheme incentive and is not additional. Consequently, credit is generally not given for 'early action'.

However, in some situations a project is implemented in anticipation of future eligibility for credits or under an earlier scheme that is superseded by a new scheme.

The Alberta offsets scheme allows for five years of credit for early action for offset activities that commenced from 2002. This is because the Government of Alberta released its first climate change strategy in 2002, five years before passing legislation in 2007 to enable emission reduction obligations and the offset trading program. In the CDM, evidence of 'prior consideration' of offset credits must be demonstrated for certain projects commencing before August 2008, to show that continuing and real actions were taken to secure CDM approval in parallel with project implementation. The CFI allowed for transition of projects from existing schemes, such as waste generation projects from the GGAS, and the California offsets scheme allows for crediting of projects established under earlier voluntary programs.

4.2.6 POSITIVE LIST/DEEMED ADDITIONALITY

A number of schemes directly specify types of activities that are eligible for crediting. This can be implemented in a number of ways. For instance, the New South Wales ESS allows automatic crediting for replacing residential lighting and whitegoods with more efficient equipment at specified default rates, without the need for explicit additionality tests, whereas the CFI provides a positive list of eligible activities. Normally an assessment is undertaken of whether an activity is additional before it is put on a positive list. The scheme regulator can use additionality tests such as regulatory, financial and common practice for all activities of a certain type, removing the need for project proponents to carry out the additionality assessment on a project-by-project basis.

4.3 INSIGHTS FOR THE ERF—ADDITIONALITY

The ERF Green Paper retains additionality as a key principle, stating that 'emissions reduction methods will be developed to calculate genuine and additional emissions reductions from new actions that are not mandatory and have not been paid for under any other program'. Overall, however, the ERF Green Paper signals a shift away from the stringent multi-stage approach taken by the CFI towards a simpler approach that minimises costs and encourages participation at scale. The ERF Green Paper proposes eliminating the positive list, and developing simple methodologies that would credit emissions reductions relative to past practice.

The additionality test(s) chosen will have significant implications for the cost of the ERF, the level of participation and scale of emissions reductions achieved, and the financial and environmental integrity of the ERF.

4.3.1 ASSESSING ADDITIONALITY IS CENTRAL TO MOST BASELINE AND CREDIT SCHEMES

Some kind of additionality test is essential to most crediting schemes. Even in cases where schemes do not provide for separate additionality tests, additionality is generally assessed as part of the development of baseline methodologies or implicitly carried out by the scheme regulator when developing lists of eligible activities or technologies. Additionality testing is important for the ERF because it will have a finite fund for purchasing credits; buying non-additional emissions reductions will reduce the reductions achieved

per dollar spent, potentially crowd out genuinely additional reductions and make it harder to achieve Australia's target. Regular review will also be required to ensure that practices or technologies are still additional.

4.3.2 ASSESSING ADDITIONALITY INVOLVES BALANCES AND TRADE-OFFS

There are potential trade-offs between the level of detail and rigour required for additionality testing and costs for scheme participants and administrators (which is in turn borne by taxpayers).

More rigorous and detailed tests, such as project-level financial additionality and barrier analysis, are likely to increase the environmental and economic integrity of the scheme by providing greater certainty that abatement purchased is additional to business-as-usual. This can, however, reduce the scale of emissions reductions, as the higher compliance costs may discourage project providers taking up opportunities. In some cases, this could be seen as a trade-off between environmental integrity and environmental effectiveness—a choice between, for example, five tonnes of emissions reductions with absolute confidence of additionality (high environmental integrity, lower environmental effectiveness) or 100 tonnes of emissions reductions including five tonnes of non-additional emissions reductions (higher environmental effectiveness, lower environmental integrity).

The ERF Green Paper does not support the use of a financial additionality test for individual projects, on the basis that they are resource-intensive for project proponents and scheme regulators. It proposes that the ERF tests additionality in a way that minimises costs and encourages participation. More generic additionality tests such as deeming and common practice can encourage participation and place greater emphasis on large-scale emissions reductions. These approaches can, however, increase the risk of crediting non-additional emissions reductions for specific projects that differ from the norm.

It is unlikely that the trade-offs involved will be uniform across the economy. Some sectors or activities are likely to be better suited to simple additionality tests. More homogenous activities, where participants have similar investment incentives and equal access to capital and technologies, are likely to present less risk for the use of generic tests. For example, projects to install energy efficient halogen lighting are likely to be suited to generic testing: the technology used is homogenous; incentives to install and use lights are similar across users; and it is relative easy to calculate average emissions savings during the life of a light bulb.

There may be some classes of activities that are very clearly additional and require minimal testing. A good example is industrial gas projects in the CDM and California offset scheme—there is no economic reason for collecting and destroying waste gases from industrial processes or refrigeration in the absence of regulation, suggesting in these cases a regulatory additionality test may be sufficient.

In other cases more tailored, project-specific approaches may be appropriate. For instance, a large energy efficiency project that uses specialised new technology and is not required by regulation could not be adequately tested by either a common practice test (as it is a new technology) or a regulatory additionality test (as the absence of regulatory requirements on its own does not prove additionality). In this case, a financial test could be used to assess the rate of return of the project. A barrier test could be used to augment the analysis in cases where the project was not found to be financially additional. In the case of large projects, the extra cost of a project-specific financial and/or barrier additionality test would be spread over a larger amount of emissions reductions.

A standardised assessment of financial additionality may also be useful at a sectoral level (that is, whether an emissions reduction activity is commercially viable without a financial incentive), in cases where a generic assessment of additionality is applied for particular technologies or activities.

4.3.3 EARLY ACTION IS GENERALLY NOT ADDITIONAL

The ERF Green Paper states that only new actions to reduce emissions will be credited. This approach is consistent with other baseline and credit schemes, which do not generally credit 'early action', given the activity has already occurred, it is highly unlikely that it would be additional. Two exceptions to this rule are the crediting of existing projects from earlier schemes that have been superseded (for example, the CFI crediting landfill gas projects established under the discontinued GGAS) or were started in anticipation of receiving the project incentive (which is allowed in the CDM and the Alberta scheme).

The proposed abolition of the carbon pricing mechanism complicates this aspect of additionality for the ERF. Emitting facilities may have made changes to their operations to reduce liabilities under the carbon pricing mechanism; for instance, by switching to lower emitting fuels. These activities may no longer be viable without the price incentive from the carbon pricing mechanism, but would technically be ineligible for crediting under the ERF as they are not 'new'.

There could be an argument for the ERF to provide some flexibility to credit existing activities if those emissions reductions would otherwise cease or be reversed. Only where this can be clearly demonstrated could the activity be considered additional. In practice, most existing activities will not cease or be reversed with the removal of the carbon price and determining those that would, could be difficult. The project proponent would need to demonstrate it would be better off ceasing or reversing the activity, taking into account the costs of stopping the activity, the ongoing costs of maintaining the activity, and any other implications (for example, reputational damage). Testing this could be time consuming, subjective and difficult to verify.

While the CFI was not designed to allow credits to be created from pre-existing projects, a recent decision by the Administrative Appeals Tribunal found a pre-existing activity eligible for crediting (Administrative Appeals Tribunal of Australia 2014). This suggests that, to the extent that the government wishes to exclude certain pre-existing activities from the ERF as non-additional, boundaries for crediting should be clearly defined in legislation.

4.3.4 ADDITIONALITY TESTING IS CLOSELY RELATED TO BASELINE DEVELOPMENT

Additionality testing is closely related to baseline setting, as both require establishing what would happen in the absence of the project. The CFI has a two-step process to assessing additionality: the first assessment being the development of the positive list of eligible activities; the second being at the methodology development stage. The ERF Green Paper proposes streamlining this process to a single step—at the methodology development stage.

The positive list approach used in the original design of the CFI aimed to give early guidance to participants engaging in design of bottom-up baseline methodologies. Feedback from stakeholders suggests, however, that in practice the process has been duplicative and time-consuming, and has often proceeded in parallel with the development of methodologies by project proponents.

The removal of the positive list therefore has potential to streamline the ERF and reduce costs for project proponents. It is important to understand, however, that the core task of determining which activities create genuine and additional emissions reductions will remain; removing the positive list just eliminates duplication and shifts this assessment to the methodology development phase.

This will require more than an examination of historical activity; it will also require an assessment of whether the project would have occurred anyway, including the commercial viability of the activity, rates of technology change, common practice and other barriers.

4.3.5 ADDITIONALITY TESTING CAN BE RESOURCE-INTENSIVE

Testing additionality—however it is done—requires access to data, analysis and the exercise of some level of judgment, as it is not possible to know for certain what would happen without the project incentive. Ongoing assessment of whether an activity is additional is likely to be required as circumstances change, for example, if an activity faces new regulations or becomes common practice for an industry over time. Consequently, additionality testing can be time-consuming and resource-intensive. Costs and uncertainty for projects can be reduced by setting out clear and consistent rules for demonstrating additionality. If rules are not clear in advance, it increases risks for the project proponent and could result in inconsistent treatment of projects.

In some cases, overall costs might be reduced by standardised approaches; for instance, using common practice testing in sectors with homogenous activities, or centrally collecting and making publicly available regularly used data (for example, emissions factors, industry average data) to minimise duplication of effort. This can reduce costs to project providers, but is likely to increase costs borne by the scheme regulator. Processing and analysis by a regulator can also be time-consuming—for example, completing a common practice assessment and putting an activity on the positive list in the CFI generally takes six to 12 months (see Section 4.1.1). In the California offset scheme it takes two to three years to complete common practice testing and develop methodologies.

4.3.6 ADDITIONALITY TESTING INTERACTS WITH STATE AND TERRITORY REGULATION

Regulatory additionality is a common and relatively straightforward test to screen out non-additional activities. In the ERF context, regulatory additionality may be more complicated as it covers multiple state and territory jurisdictions in which activities that reduce emissions are subject to different regulatory regimes. For instance, there are varying requirements for collecting and destroying waste gas from landfill. These different regulatory regimes could lead to uneven access to funding between individuals and businesses in different states and territories under the ERF. As discussed in Section 3.3.1, the ERF could also create perverse incentives for states and territories *not* to regulate activities to allow local businesses to access ERF funding, reducing the overall emissions reductions achieved.

The California offset scheme uses a conservative approach to addressing differing regulatory regimes; it applies California laws as a minimum standard for its regulatory additionality test, regardless of whether a project is located in California or not. Under this approach, genuinely additional emissions reductions from states with less rigorous regulation are ineligible for crediting.