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## Options for Determining the “Additionality” of Agriculture Projects

September 30, 2010

### Introduction

Carbon offsets allow the emitters of greenhouse gases (GHGs) to forego achieving their own emission reductions by paying another party to achieve reductions instead. Because the effects of GHG emissions on climate do not depend on geography, the atmosphere should be indifferent between reducing CO<sub>2</sub> emissions at a smokestack and increasing carbon sequestration in an agricultural field. The risk, however, is that an emitter might pay for a reduction that another party was going to undertake anyway. In that case, the atmosphere would have been better off without the transaction; total emissions will be the same as if the emitter had taken no action. For carbon offsets to be effective at mitigating climate change they must therefore be “additional” to what would have occurred anyway. In formal terms, this means that GHG reductions used as offsets must be those that would not have occurred in the absence of a market of buyers willing to pay for them.

Although the logic behind “additionality” is relatively straightforward, designing rules to effectively test whether offsets are additional can be quite challenging. There are numerous possible approaches, but the Climate Action Reserve is committed to using *standardized* methods. This means projects are evaluated according to explicit and objectively verifiable criteria rather than subjective methods that try to assess a project’s individual circumstances. Standardized criteria are established separately for each project type, and are designed to exclude non-additional (or “business as usual”) projects from eligibility. Standardized additionality tests have several distinct advantages:

- They avoid the administrative costs and delays associated with subjective, case-by-case evaluation a project’s circumstances.
- They are administratively easier to apply and improve consistency in how additionality determinations are made.
- They alleviate uncertainties for project developers and investors about which projects will be eligible.

### The Components of Standardized Additionality Tests

In Reserve protocols, additionality tests generally have two components: a Legal Requirement Test and a Performance Standard Test. The Reserve also places restrictions on the earliest eligible start date for projects.

## Legal Requirement Test

Projects are likely to be non-additional if their implementation is required by law. A Legal Requirement Test ensures that eligible projects would not have occurred anyway in order to comply with federal, state or local regulations, or other legally binding mandates. A project passes the Legal Requirement Test when there are no laws, statutes, regulations, court orders, environmental mitigation agreements, permitting conditions or other legally binding mandates requiring its implementation or requiring the implementation of similar measures that would achieve equivalent levels of GHG emission reductions.

In Reserve protocols, the specific provisions of the Legal Requirement Test may differ depending on the project type. During protocol development, the Reserve performs a review of existing and pending regulations to identify any specific regulatory requirements that would mandate the implementation of project activities covered by the protocol. If such requirements are identified, then project activities in relevant jurisdictions may be categorically excluded from eligibility.

## Performance Standard Test

Projects that are not legally required may still be non-additional if they would have been implemented for other reasons, e.g., because they are economically attractive even without carbon offset revenues. Performance Standard Tests are intended to screen out this potential set of projects. In developing performance standards, the Reserve considers financial, economic, social, and technological drivers that may affect decisions to undertake a particular project activity. Standards are specified such that the large majority of projects that meet the standard are unlikely to have been implemented because of these other drivers. Performance standards will often reflect “common practice” within a particular economic sector, so that only projects that “go beyond” common practice are eligible.

The Reserve, in close consultation with stakeholder workgroups, develops performance standards for each type of project covered by a protocol. Performance standards can be specified in several ways:

- *Emission or sequestration rate thresholds.* For some project types, a performance standard may be specified in terms of a rate of GHG emissions or sequestration (usually per unit of production of some product or service, e.g., tonnes of CO<sub>2</sub> per megawatt-hour). Generally, the threshold rate would be based on a level of performance that is significantly better than average for the industry or sector. Projects that have lower emission rates than the threshold, for example, would be considered additional.
- *Practice- or technology-based thresholds.* Performance standards may also be specified in terms of a specific practice or technology that is rarely or never implemented in the absence of a carbon offset market. Such standards are generally based on surveys of the market penetration rates of candidate practices or technologies. Projects employing a qualifying technology or practice are automatically considered additional.
- *Other qualifying conditions or criteria.* Performance standards may also incorporate, or be based on, other specific qualifying conditions that a project must meet in order to be considered eligible. Conditions may include characteristics related to the project site, specifications for a particular eligible technology or practice, or other contextual factors.

Several specifications may be combined in a single Performance Standard Test. For example, a protocol may define a performance standard in terms of a specific type of technology that has an emission rate below a certain threshold and is implemented at an eligible project location.

The Reserve has no predefined threshold for determining an acceptable performance standard. Rather, establishing performance standards involves balancing the need to restrict eligibility for non-additional projects with the goal of allowing a majority of additional (and otherwise eligible) projects to participate. Setting a threshold always involves making tradeoffs between these two goals.

### **Start Date Restrictions**

In addition to requiring Legal Requirement and Performance Standard Tests, Reserve protocols place restrictions on the earliest eligible start date for projects. These restrictions are designed to accommodate early adopters of GHG-reducing practices for a period of time following the adoption of new protocols, and otherwise restrict eligibility to new projects only – i.e., projects starting after the date of adoption of a protocol. The general policy is that for 12 months following the adoption of a new protocol, projects may register with the Reserve as long as their start date is no more than 24 months prior to the date of the protocol’s adoption. After the 12-month initial period, only new projects may register (and must do so within 6 months of starting operation). The specific conditions defining the start date of a project are specified in each protocol; in general, it will correspond to the start of the activity that generates GHG reductions (sometimes referred to as “start of operations”).

The rationale for this policy is that, on balance, the further in the past a project or activity started before seeking revenue for reducing GHG emissions, the less likely it is that the prospect of such revenue was a decisive factor in its implementation. Projects that were started many years before being certified as offset projects are more likely to be non-additional.

The Reserve *will* allow projects with earlier start dates (i.e., more than two years before protocol adoption) to register if they were initially registered with another offset program. In this case, the Reserve allows projects to transfer from the other program as long they meet all other eligibility conditions specified in the Reserve’s protocol.

### **Establishing Additionality Tests for Agriculture Sector Projects**

The Reserve intends to follow the same general approach for testing the additionality of agriculture sector projects as it does for other project types. However, the specifics of additionality tests will always differ depending on the type of protocol being developed and the availability of data required to establish performance standards and other relevant criteria.

### **Data Availability for Establishing Performance Standards**

The Reserve is currently compiling resources that could be used to establish common practice performance standards for various kinds of GHG sequestration or reduction activities in the agriculture sector. The Reserve is prioritizing protocol development for project types where data seem to be readily available, including cropland management, nutrient management, and rice cultivation practices. Examples of the kinds of data required are:

- Recent regional and cropping system trends indicating the percentage of farms or fields where no-till/conservation till has been adopted and the periodicity of adoption (continuous, intermittent on biannual intervals, etc.).
- Information on incentives or barriers to implementing continuous no-till/conservation till, including financial and social concerns, technology barriers, yield risks, etc. (information needs to be systematically collected and documented, as opposed to anecdotal accounts).

- Recent regional and cropping system trends in fertilizer application rates, type of fertilizer used, fertilizer timing and placement, and technology used to apply fertilizer.
- Frequency of use by farmers of different types of agronomic models to determine fertilizer needs and practices.
- Information on incentives or barriers to changing fertilizer management practices, including adopting new technologies for improving fertilizer use efficiency.
- Regulatory circumstances (e.g., for water quality) that could specifically affect fertilizer management practices.
- Recent trends in water and residue management practices for rice cultivation.
- Information on incentives or barriers to changing water or residue management practices in rice cultivation.

### Specific Challenges and Possible Solutions

Even where data are sufficiently available to identify common practice(s) in a particular sector, it may not always be easy to clearly identify conditions under which a particular practice should be considered additional. For example, in developing protocols for organic waste diversion, the Reserve determined that approximately 60 percent of yard waste in the United States is already diverted from landfills. This means that yard waste diversion is already largely common practice. However, it also means that approximately 40 percent of yard waste is not being diverted, yielding a significant opportunity for additional emission reductions (yard waste produces methane when buried in landfills). The challenge in this context is that it is difficult to identify performance criteria or conditions that would clearly distinguish between yard waste that is already part of the 60 percent being diverted, and yard waste whose diversion would be truly additional. Similar challenges may arise for certain types of projects in the agriculture sector. The Reserve sees three general solutions to this type of problem:

1. **Conservatively limit project eligibility.** For the Reserve’s organic waste diversion protocols, the Reserve decided to simply exclude yard waste from eligibility. This solution avoided a significant risk of crediting non-additional projects, but it also means the protocols are missing a significant opportunity to incentivize additional reductions.
2. **Conduct additional research and data analysis.** For some types of projects, it may be possible through additional research and analysis to identify distinguishing features that would allow a protocol to differentiate between common practice (“business as usual”) projects and those that would be truly additional. In general, this is the Reserve’s preferred approach. With respect to yard waste diversion, for example, it may be that diversion is much more common in some parts of the country than in others. With greater data resolution, it could be possible to identify regions of the country where diversion is highly likely to be additional (e.g., where no diversion is currently occurring). However, identifying such distinguishing features may not always be possible, and the additional analysis required can be time consuming.
3. **Rely on aggregation and discounting.** One solution sometimes proposed in these situations is to discount the amount of credit received by each project according to the general level of common practice. For example, yard waste diversion projects might have their offset credits reduced by 60 percent to reflect the fact that 60 percent of yard waste is already diverted. The problem with this approach is that it only works with full participation by a particular sector. If the only projects that volunteer for credit involve yard waste that is already being diverted (i.e., they are part of the 60 percent), then discounting will not achieve anything. Some mechanism would still be needed to reduce

the participation of “business as usual” projects and/or encourage participation of additional projects. One possible solution the Reserve is interested in exploring is whether broad-scale participation could be encouraged through an aggregation mechanism. Under this kind of approach, for example, projects would only be eligible if they encompassed a large percentage of the landowners within a particular geographic region. Such an approach might present logistical challenges but it could open up further options for addressing additionality.