



CLIMATE ACTION RESERVE

Policy on Immediate Crediting for Future Avoided Emissions

September 7, 2010

In accordance with recognized principles for carbon offset quality, the Climate Action Reserve (Reserve) has upheld a general policy against “forward crediting” of greenhouse gas (GHG) emissions reductions. Forward crediting occurs when credits are issued for GHG reductions before such reductions have occurred and before the activities that caused such reductions have been verified.¹ Subject to certain conditions, however, the Reserve does credit reductions upfront when a verified action results in the immediate avoidance of a future stream of GHG emissions. This memo explains the Reserve’s rationale for allowing such immediate crediting and the conditions under which it may be allowed.

Policy Rationales for Disallowing Forward Crediting

Few, if any, carbon offset programs currently allow forward crediting. Crediting reductions *ex post* is generally accepted as best practice and is viewed as an essential principle for upholding offset quality.² There are three main arguments against forward crediting:

- **Risk of over-crediting.** Forward crediting in effect counts GHG reductions before they occur. If a project fails to achieve the expected number of reductions, more credits will exist than actual reductions, leading to an increase in net emissions and an erosion of the environmental integrity of an emissions market. It can be very difficult to correct this type of over-crediting. In principle, the risk of over-crediting can be minimized by using conservative projections of achievable reductions. The feasibility of using conservative projections will depend, however, on the variability and predictability of whatever system is employed to achieve GHG reductions. Feasibility is generally low for systems that have highly variable output, require ongoing operation and maintenance, and are subject to failure or reversal (e.g. operation of a flare that destroys methane captured from a landfill).³
- **Mismatch between the timing of reductions and emissions.** The function of carbon offsets is to compensate for the atmospheric effect of GHG emissions. Forward crediting is sometimes opposed on the grounds that it allows current-year emissions to be

¹Offset Quality Initiative, 2008. *Ensuring Offset Quality: Integrating High Quality Greenhouse Gas Offsets Into North American Cap-and-Trade Policy*, p. 10. Available at: <http://www.offsetqualityinitiative.org/>.

² Ibid.

³ To be sufficiently conservative, estimates of future reductions would need to be low enough to avoid over-crediting in the vast majority of cases. For many project types, this would result in a discount to crediting that severely undermines the economic incentive required for implementation.

compensated by future reductions, whose mitigating effect on global warming may be attenuated relative to the emissions. The relative mitigating effect of reductions made at different points in time is ultimately a question for scientific quantification. The risk of mismatch can be minimized, however, by limiting forward crediting to reductions likely to be achieved over a limited time horizon, e.g. 10 years.

- **Misplaced incentives.** For many, if not most, carbon offset projects, GHG reductions are achieved through the continued operation of equipment or employment of practices that result in lower emissions than a baseline alternative. The success of a project, and quantity of GHG reductions, will depend on how well these operations and practices are performed. Performance is incentivized by the promise of receiving monetizable offset credits as a reward for achieving reductions. Probably the strongest argument against forward crediting is that it removes this incentive. If a project developer receives upfront all the credits their project is likely to generate, they will have much less incentive to ensure the project actually performs at a level that will produce the required reductions. Credit buyers will have little incentive to monitor the project's performance either, since they can immediately take delivery of the credits. This lack of incentive to ensure project performance can only be corrected through legal agreements (which neither party may have a strong incentive to enforce), or through regulatory enforcement. Since trying to compel project operators to meet required levels of performance is difficult and administratively costly (and impossible if, for example, a project operator goes bankrupt), most offset programs have refused to allow forward crediting.

Rationale for Allowing Immediate Crediting of Future Avoided Emissions

The arguments against forward crediting are persuasive for most types of offset projects. For one sub-class of projects, however, the arguments are either not relevant or the risks (e.g. of over-crediting or mismatched timing) can be easily managed. These types of projects involve activities that immediately avoid or preclude future streams of GHG emissions as a result of an upfront intervention. Examples include:

- Destroying high global warming potential (GWP) gases that would otherwise have leaked to the atmosphere over time (e.g. CFCs in refrigeration equipment).
- Diverting organic waste from landfills where it would otherwise have decomposed to produce methane emissions over time, including projects that:
 - Digest organic waste and immediately capture and destroy the resulting methane; or
 - Compost organic waste so that it fails to produce methane over time.

For these types of projects, performance depends entirely on successfully executing an upfront intervention (i.e. gas destruction and/or waste diversion). GHG reductions are quantified by modeling the physical processes that would have led to emissions over time in the absence of the intervention; they are not dependent on ongoing activities performed by the project operator(s). The strongest argument against forward crediting, i.e. that it removes an important incentive for ensuring the achievement of GHG reductions over time, is therefore not relevant for these kinds of projects.

In addition, for the types of projects listed above, the physical processes that would cause GHG emissions in the absence of an intervention are well-understood, stable, and quantifiable. Although disruptions are possible, they would either have no effect on total emissions (e.g.

premature release of refrigerants) or can be accounted for using conservative assumptions (e.g. assuming a high percentage of methane would be captured at landfills, regardless of current local practices). Risks of over-crediting are therefore very low or can be minimized to an acceptable level.

Finally, in some cases the GHG emissions avoided by these kinds of projects would have been released over a long time period, up to several decades. This creates potential problems for immediate crediting, since current-year emissions could end up being offset by reductions that would not occur until years in the future. This potential mismatch, however, can be easily mitigated by limiting credited reductions to emissions avoided over a reasonably short time period, such as 10 years, and ignoring subsequent avoided emissions.

Where concerns about forward crediting are either not relevant or can be credibly addressed, the Reserve has adopted a policy of allowing immediate crediting for future reductions. The Reserve will *only* allow immediate crediting where:

- ***Projects immediately avoid future streams of GHG emissions as a result of an upfront intervention.*** Credits will only be issued *after* such an intervention occurs and its immediate effects (e.g. destruction of a gas or diversion of a certain amount of organic waste) have been quantified and verified.
- ***The physical processes that would cause GHG emissions in the absence of an intervention are well understood, stable, and quantifiable.*** If projections of GHG emissions are highly variable or depend for accuracy on incorporating ongoing measurements of modeling parameters, immediate crediting will not be allowed. If there is a reasonable likelihood of disruptions to a process that would cause a reduction in avoided emissions, estimates of avoided emissions must conservatively incorporate this type of disruption or immediate crediting will not be allowed.
- ***Credit is given only for GHG emissions avoided over a 10-year period.*** A 10-year projection of avoided emissions must be used regardless of whether such emissions are likely to have continued over a longer time span.