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THE CLIMATE ACTION RESERVE ISSUES NEW PROTOCOLS FOR REGISTERING GREENHOUSE GAS EMISSION REDUCTION PROJECTS IN MEXICO

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The Climate Action Reserve has adopted two new protocols for registering greenhouse gas (GHG) emissions reduction projects for landfill and livestock operations located in Mexico. The resulting carbon dioxide (carbon) credits can then be banked for offsets trading in North America. The Livestock Project Reporting and Verification Protocols provide project developers guidance on how to calculate, report, and verify GHG emissions reductions associated with installation of manure biogas control systems for livestock operations, including dairy cattle and swine farms in Mexico. The Landfill Project Protocols guide the installation of landfill gas (LFG) collection and destruction systems at landfill operations located in Mexico. Both protocols were adopted on July 1, 2009.

The recent implementation of the California Mandatory Greenhouse Gas Emissions Reporting regulations of the Global Warming Solutions Act, also known as AB 32, required more than 400 California facilities that emit large quantities of carbon dioxide, methane, and four other gases to submit mandatory GHG emissions reports by June 1 of this year. The reporting regulation is generally seen as the first step in establishing a carbon emissions trading market in California. Similar legislation is being discussed in the United States Congress under the “Cap and Trade” model. This regulatory activity has brought renewed interest in existing voluntary GHG emission reduction mechanisms that work to bank carbon credits for offsets trading.

One such program is operated by the Climate Action Reserve (CAR), a nonprofit organization that establishes standards for the development, quantification and verification of GHG emissions reduction projects in North America. CAR also issues carbon offset credits known as Climate Reserve Tonnes (CRT) generated from such projects, and tracks the transaction of credits over time in a publicly-accessible system. One of the programs under the Climate Action Reserve is the Climate Registry.

The Climate Registry is a nonprofit collaboration among North American states provinces, territories and Native Sovereign Nations in the United States of America, Canada, and Mexico. With 345 members in a wide range of industrial, energy, utilities, transportation, commercial, and government sectors, it “establishes consistent standards for businesses and governments to calculate, verify and publicly report their carbon footprints in a single, unified registry”.

A key element for obtaining tradable carbon credits is that the reductions be properly quantified and verified to ensure that emissions reductions associated with a project are real, permanent and additional - beyond those required by environmental regulations. This is achieved by following adopted protocols developed by CAR.

In order to qualify for carbon credits, projects must first be listed, if they meet certain pre-qualification criteria. Once they are listed, they will be able to register their emission reductions, provided they also meet certain technological and regulatory criteria. The listing criteria require that projects are located in Mexico, and that they must have started operations after August 15, 2008, when the State of California and the border states of Baja California, Sonora, Nuevo León, Tamaulipas, Chihuahua and Coahuila signed a Memorandum of Understanding to cooperatively develop quantification and certification protocols for GHG emission reduction projects in Mexico. Pre-existing projects, those that began operations before being listed, but after August 15, 2008, have a one-year period from the date of acceptance of the protocol, until July 1, 2010 to become listed.

Projects must pass a threshold of “additionality” of the emission reduction to demonstrate that the project is better than the “business as usual” baseline, and that it generates surplus emission reductions. Studies conducted by CAR for the landfill protocol established that active venting systems that burn methane and other landfill gases are the minimum acceptable technological standard for Mexico. Passive venting systems do not qualify. These criteria are evaluated through a Performance Standard Test, and a Regulatory Test. The project’s asset boundary determines the limits of the project for emission reduction purposes. For landfill projects, this includes the landfill gas venting and flaring operation, and associated combustion equipment, such as turbines or heat recovery boilers, but excludes any emission reductions from displacing conventional energy generation at the distribution grid or thermal source. CAR is working on protocols for those elements, in order to avoid double counting of emission reductions.

The technological baseline in Mexican livestock operations was determined to be anaerobic open lagoons no less than one meter deep - to prevent algal oxygen production - and associated manure treatment and storage operations. Livestock projects that qualify for listing are those that control biogas emissions and destroy methane gas from manure treatment and storage facilities by use of digesters. Centralized digesters that treat waste from a number of livestock operations are also acceptable. As in the landfill case, asset boundary limitations exclude indirect emission reductions from energy production systems using methane combustion.

The regulatory test establishes that the reductions are beyond those that would be required by regulations. The performance and regulatory tests require an audit, accompanied by a statement signed by the chief executive of the project confirming that the project meets both of these standard tests.

Project registration applications must include a Monitoring Plan, which is the basis for the independent third-party verification of the emission reductions. For both types of projects, monitoring includes instrumentation to record gas flow, temperature, pressure, operating hours, methane concentration of gas, and instrument calibration, among others. Verification is performed annually and the crediting period is 10 years, or until the additionality test fails.

According to Joseph Ritter, Director of Business Development at MotivEarth, a California-based energy credit asset development and management firm, there is a growing market for carbon credits generated from projects that meet the criteria of Climate Action Reserve protocols. There are a number of projects in Mexico that have the potential to develop carbon credits based on the new protocols.

Project developers will invest in projects that have the capability of generating credits. The investment can be in the capital equipment required to generate carbon credits, or a contract to purchase the forward stream of credits to be generated from projects. The type of project financing can be structured to meet the needs of the project. For the project owner or operator, creation and generation of carbon credits provide additional revenue streams for the project, and can provide the financial stimulus for a project to move forward.

The first step is to conduct basic due diligence on the project to determine if it is viable - if it will generate enough credits to make the initial investment worthwhile. If the project goes forward, initial registration is a one-time event that is done prior credits being generated. There will be annual credit verification costs that will apply as well. These expenses may be assumed by the developer or the host facility.

While the cost of installing a LFG capture and flaring system or a digester can vary with the specifics of the site, the Premium price for a Climate Reserve Tonne is approximately \$6.30 US Dollars, according to CAR. In order for a landfill project to be cost effective, it is estimated that it must generate a few thousand tonnes at a minimum. In evaluating a site for possible application project developers should keep in mind the carbon dioxide equivalent of 21 tonnes of CO₂ per tonne of methane.

According to CAR's assessment, there are 156 solid waste disposal sites in Mexico, of which 128 are classified as landfills. These capture approximately 60% of the solid waste tonnage. As of March, 2009 there were 11 landfill projects working under the United Nations Kyoto Protocol's Clean Development Mechanism (CDM) for GHG emission reduction credits. The swine sector of the Mexican livestock industry is very well developed, with the largest installed capacity found in the northern border state of Sonora. According to CAR, there were 3,936 modern swine farms in Mexico and 400

installed digesters. 69 of these are registered CDM projects. There are also 31 digesters operating in dairy farms, of which 17 are CDM registered. To date, no projects have applied for listing under CAR. These statistics show that Mexican landfills and livestock operations represent substantial opportunities for reducing GHG emissions, and a fertile market for generating emission reduction credits.

A closing note on the California Air Resources Board's (ARB) mandatory GHG emissions reporting requirements: The regulation applies to California refineries, cement plants, electricity retailers and marketers, and large stationary combustion sources emitting 25 thousand metric tons of carbon dioxide or more, and includes methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride emissions in addition to CO₂. The regulation requires periodic independent verification of reports by ARB-accredited Verification Bodies no later than six months after the reporting deadline. Lead Verifiers have been recently accredited by ARB to serve in the Verification Bodies.

Alliance Consulting has an in-house ARB accredited Lead Verifier for general stationary combustion sources and specialty sector lead verifier for electrical retailers and marketers. In addition to conducting official third-party verifications as part of a Verification Team, Alliance can help you prepare GHG reports, provide internal report pre-verification auditing services, as well as coordinating the listing and registering of livestock and landfill gas recovery projects in Mexico under the CAR protocols.

If you have questions about this topic or other environmental, and health and safety issues, please contact us at (619) 297-1469 or send us an email at emedina@pulse-point.com.

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