California and the CDM: How California can take advantage of the Clean Development Mechanism to achieve its AB 32 goals by 2020

Policy Note 02-0911, September 2011

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Introduction

In 2006, the California Legislature passed Assembly Bill 32 (AB 32), also called the Global Warming Solutions Act of 2006, which legally requires California’s greenhouse gas emissions to be reduced to 1990 levels of 427 million Mt (MMt) CO$_2$e by the year 2020. Various emission reduction pathways targeting California subsectors and production processes were identified, 11 of which are for the agricultural sector. Agriculture represents a significant portion of both the state economy and greenhouse gas (GHG) emissions in California. Agriculture can help in achieving AB 32 goals much more cost effectively than currently possible in the majority of other sectors. However, lack of scientific research behind many of the proposed emission reduction pathways and/or lack of incentives or offset markets that prevent project cost efficiency have inhibited the creation of methodologies for more than half of the proposed project pathways.

Methodology for reducing greenhouse gas emissions

So far, only one methodology has been translated into a protocol approved and adopted by the Air Resources Board (ARB) for implementation under AB 32. The ARB recommended that offset projects located outside the state can help lower the compliance costs for regulated entities in California, while reducing greenhouse gas emissions in areas that would otherwise lack the resources needed to do so. A similar international mechanism to the one suggested by ARB (2008) already exists in the form of the Clean Development Mechanism (CDM) to the Kyoto Protocol, which is well advanced in terms of methodologies. To help realize California’s 2020 AB 32 goals, information from the agricultural CDM projects in the Kyoto Protocol, including opportunities and hurdles associated with their implementation can be considered.

Effectiveness and Hurdles of CDM

Currently, the Clean Development Mechanism is the only formal channel by which countries that have pledged to reduce greenhouse gas emissions can invest in credit-earning mitigation projects in developing countries. The CDM has proved successful at mobilizing capital for mitigation projects and is likely on track to exceed initial expectations.

Within the agricultural sector, the CDM has
been an effective conduit for mitigation projects that use residual agricultural organic matter as an alternative fuel source, as well as those that manage methane from composting and manure. However, land-use projects that are designed to sequester carbon in soils face special hurdles under current rules. This is significant, since changing how land is used is an inexpensive way to slow the buildup of atmospheric carbon stocks, and because managing soil carbon stocks is important for agricultural productivity, especially in Africa where soils are badly degraded.

California and CDM

For California to meet its 2020 ER target, the Market Advisory Committee (MAC) to the California Air Resources Board recommended that California’s cap-and-trade program recognizes offsets generated both within and outside the state’s borders. The MAC also recommended a phased approach, in which standards are set for an initial group of offset categories with a high degree of confidence in their environmental integrity. California would sign contracts with other states or countries to adequately ensure a similar level of environmental integrity and accountability.

In 2008, the Economic and Technology Advancement Advisory Committee (ETAAC) to the California Air Resources Board (CARB) suggested several strategies, some of which are specifically relevant for CDM-like structures. One is to identify and financially incentivize the “low-hanging fruits” (early actions) with credits that can be more clearly defined. Agriculture is considered to be an early action. In addition, another strategy calls for the creation of a trust for public funding to complement private investment, which will direct investments in research, development and demonstration (RD&D), and finance technology pilot projects. As another strategy, ETAAC calls for fostering international and domestic collaboration to learn from others in the international community that have already moved forward on the implementation of climate-change policies. The ETAAC also recommends that in order to realize the opportunities in the agricultural sector, California should prioritize research needs, establish easily accessible guidance methodologies, produce protocols for monitoring and verification, provide ability to receive carbon credits or private and/or public incentives, conduct grower outreach and education, and cooperate with regulatory agencies in developing needed institutional and regulatory infrastructure.

Conclusions

We would like to add to this list of important assignments several more, including some that stem from the CDM experience and existing work on climate change mitigation in agriculture. California can benefit from reviewing the existing CDM methodologies and adapting them for its specific needs. California could create policy and rules to reflect the true value of land-use carbon credits, without the potential of credits being under-valued on the market, such as in the case of the CDM due to policy construction. The state can take advantage of and charge researchers in California, such as in the University of California with the responsibility of adapting and/or researching and creating new methodologies for possible offset projects in various locations around the state and in neighboring states and countries (such as Mexico).

California cannot address the issue of soil carbon sequestration by itself. Therefore, it should coordinate its efforts in this promising arena for GHG emission reductions by coordinating with the federal government and international agencies already experienced in this matter. Finally, a systems approach is required in order to create the needed level of interest and participation, including regulations, performance-based standards, price subsidies, tax credits, and other technology-promoting initiatives.

This policy note is based on the working paper “California and the CDM: How California can take advantage of the Clean Development Mechanism to achieve its AB 32 goals by 2020” (http://wspc.ucr.edu/working_papers/WSPC_WP_02_0911_california%20cdm.pdf)