"Charismatic Carbon" Credits:

Carbon Credits from the Agricultural Sector will be Highly Valued In U.S. Carbon Markets

Charismatic carbon (C) credits from the agricultural sector will be highly valued in U.S. carbon markets. Soil C sequestration is recognized as a key component of every major analysis to reduce U.S. emissions of greenhouse gases (GHG) in the near term[1,2]. Soil C sequestration is a scientifically recognized method to remove atmospheric carbon dioxide (CO_2) to help combat global climate change[3]. Of all identified mitigation options available to reduce GHG, soil C sequestration is the most readily deployable, environmentally beneficial, and lowest-cost measure available. Soil C sequestration is a win-win solution for agriculture and climate change policies.

Increasing soil C through soil C sequestration improves agricultural soil quality, fertility and productivity; reduces soil erosion and nutrient runoff; improves soil water retention and drought resistance; reduces nutrient leaching, and improves surface and groundwater quality; and can help reduce fuel use and inputs. Soil C sequestration thus boosts agricultural productivity while reducing atmospheric GHG concentrations. Because of the multiple co-benefits of soil C, it is referred to as ***"charismatic carbon."*** No other GHG reduction option offers so many ancillary benefits to society and to agriculture as soil C.

Agricultural "charismatic carbon" is a particularly important role for the U.S. in the early years of emissions reductions policies. As a readily-available, low-cost means of reducing US GHG emissions, soil C provides a bridge to the future, allowing the U.S. economy time and "breathing room" as we transition to less-GHG intensive energy production technologies. With the right incentives and policies, U.S. agriculture can offset up to 15-20 % of U.S. GHG emissions annually[4].

Over time, the C sequestering ability of soils will slow as saturation levels are reached. It is estimated that soil C saturation will take 30-50 years. Thus this emissions reduction option is perfect for early, inexpensive reductions that can make U.S. policies economical for the entire country, while rewarding agriculture for its contributions to reducing U.S. emissions and combating global climate change.

CASMGS FACTS

- Enhancing soil C sinks has the potential to offset 15-20% of U.S. emissions while at the same time providing income to agricultural producers and improving soil quality and sustainability.
- Soil C sequestration technologies are immediately deployable and allow reductions in atmospheric GHG while other emissions reduction technologies are developed and deployed.

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[1] Rosenberg NJ et al., 1999, Carbon Sequestration in Soils: Science, Monitoring and Beyond. Battelle Press, Columbus OH.
[2] Socolow and Pacala, Scientific American, September 2006, p. 54.
[3] IPCC 2000, IPCC Special Report: land Use, Land-use Change and Forestry, Summary for Policymakers, 24 pp.
[4] Lal et al. The Potential of US Cropland to Sequester C and Mitigate the Greenhouse Effect, 1998, Sleeping Bear Press, Inc.

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