



Carbon Trading Potential and Benefits to The Small-Scale Farming Sector in South Africa

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Abstract.

Climate change mitigation in the agricultural sector is a hot topic that has been debated for years, especially in developing countries where there is a pressing need for increased productivity to feed the expanding population. Nevertheless, carbon farming presents a great opportunity for farmers in South Africa to be incentivised for their efforts towards low-carbon agriculture. This study reviewed existing literature to map out possibilities that are present in the carbon farming industry for the benefit of South African farmers and the country as a whole. Latest government reports show that the agricultural greenhouse gas (GHG) contribution to the national GHG inventory is around 8%. The findings of the study show that the South African agricultural sector is heavy on GHG emissions with the carbon intensity that exceeds most countries at an equivalent production level demonstrating high inefficiencies of the production systems. Opportunities to register South African agricultural projects are available with the following carbon credit systems: VERRA, Gold Standard, Pure Earth, Clean Development Mechanism, American Carbon Registry and Plan Vivo. The approved agricultural methodologies that are applicable in these registries include the reduction of emissions from application of fertilizers, soil carbon sequestration using biochar, and installation of biogas systems. Currently there are fewer than 10 registered agricultural projects for carbon trading in South Africa. However, potential extra earnings of over \$20/ha/year can help to make small-scale farming profitable. This presents a good avenue for development of suitable projects that can benefit South African farmers, society and government, as well as meet international goals.

Keywords: Carbon farming, climate change mitigation, carbon trading, greenhouse gas emissions, carbon crediting systems