Rock Dust Local:
Integrating Local Resources with a Global Response to Climate Change

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Executive Summary

Rock Dust Local, LLC is a private enterprise which serves agricultural and forestry customers with locally sourced and naturally occurring mineral and organic soil conditioners, fertilizers, amendments, inoculants, planting mediums, mulches and support services for their proper use.

Outcomes include an increase in nutrient density in soils promoting greater soil stability, a decreased reliance on fossil fuel derived synthetic agro-chemicals, net increase in organic soil carbon visa vis biologic carbon fixation, carbon capture through sequestrates such as biochar, and an increase in the mineral content and overall health of biologic systems, including human populations.

The Problem:

Soil depletion and erosion is well documented in the 20th and 21st century and is being exacerbated by corrosive cumulative effects of land mis-management and environmental degradation resulting from climatic instability. Nutrient value in growing mediums and topsoils has diminished both on commercial farms, certified organic farms and forest land. Soil acidification, mineral depletion and sterility induced by the extensive use of acid salt fertilizers, herbicides, fungicides and intensive mono-culture cropping and poor land management practices has resulted in the diminishing profitability of commercial farms and the decline of nutritional value in crops.

Researchers have documented an over 60% decline in the nutrient value of crops grown in the United States since the middle of last century. Declining nutritional content in food can be linked readily to declining health of the overall human population. Declining soil fertility diminishes the production of anti-oxidants and phytonutrients in plants. The absence of vital micronutrients has been shown to decrease drought resistance and increase susceptibility to disease. An increased reliance on synthetic fertilizers, pesticides, genetically modified organisms and unsustainable farming and land management practices decreases agricultural profitability while degrading the environment.

The Opportunity:

Market forces are showing increased interest and profitability in certified organic operations and biologic land management with a focus on mineralization, carbon capture and increased nutrient density.

There exists an opportunity and a need to provide materials and knowhow to professional land managers, foresters and farmers transitioning to organic practice as well as certified organic operations to increase soil vitality, yields and profitability while increasing the nutritional value of crops and produce. Such activity also may be readily linked to current interests in carbon sequestration where the farmer and forester is seen as providing the service of capturing atmospheric carbon in soil through the building of biomass on farm and forest. The connection between remineralized biomass, carbon neutral and carbon negative agricultural products, biofuel, biochar, and energy production is a natural one.

The Solution:

The creation of a consortium of private sector businesses and public policy initiatives supporting the procurement, distribution and application of 100% natural mineral and organic inputs integrated with local and regional biomass fuel, energy and biochar production serving the interests of farmers and consumers alike.

Utilizing locally derived resources coupled with the scientific and practical application of agricultural management practices fully integrating these materials into current and new operations will result in profitability and resiliency for business enterprises creating jobs and opportunities in their communities. Local procurement and distribution satisfies a critical need to address declining nutrient value in soils and produce, addresses food security and insecurity issues, and integrates these essential needs with such foundational practices as regional fuel and energy production.

Services:

Rock Dust Local, Affiliated Industry Partners and Associated NGOs Provide Necessary Capabilities.

Through co-ordinated planning and development Rock Dust Local and its affiliated partners will provide the necessary logistical capability, scientific research and validation, and knowhow to implement local, regional, national or global initiatives aimed at remineralization, local food security, biomass fuel and energy production with a carbon negative objective.

Affiliated Industry and Government Partners:

Mining and Aggregates
Soil and Agricultural Amendments Manufacturers and Distributers
Agronomists; Soil Scientists
Agro-mineral Geologists
Biofuels and Biochar Manufacturers
Biofuels technology developers
Biologic Resource Management
Transport and Logistics
Finance
University Agricultural Researchers
United States Geologic Survey, Dept. of Interior
United States Dept. of State
United Nations

Mission Statement:

Rock Dust Local is dedicated to the revitalization of the Earth's green mantle and the support of sustainable and resilient communities.

The Rock Dust Local model encourages the use of broad spectrum, naturally occurring mineral and organic inputs to counter the corrosive effects of soil acidification, nutrient depletion and toxicity. Our business model encourages integration with localization movements in food and energy production. By providing an increase in nutrient value of local food through the sustainable local sourcing of soil fortification and revitalization materials and supporting large scale forestry revitalization efforts we are able to integrate with world wide climate change initiatives aimed at global atmospheric carbon capture and greenhouse gas emissions reduction.

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