NEWCARBON INNOVATION FOR THE PRODUCTION AND APPLICATION OF BIOCHAR, WOOD VINEGAR AND ENERGY

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NewCarbon (Pty) Ltd is a South African company developing innovative technological solutions for the African and global markets. Due to world-wide transformational trends, such as population growth, economic development and climate change, energy shortages, water pollution and land degradation, resources are increasingly under pressure to support societal development and to maintain necessary services 1 NewCarbon's technology provides an integrated solution approach to address key aspects of the world's food-water-energy-crisis.

NewCarbon has developed a novel and innovative three-stage thermal pyrolysis-based technology to transform various forms of waste biomass into biochar, activated bio-carbon, wood vinegar, energy and other valuable products. Our technology is designed to be transportable and placed in a 20-50km radius from the biomass source 2, transporting raw products to regional facilities that process raw products into final packaged products for market distribution.

Our uniquely produced biochar and activated bio-carbon has been extensively tested in various markets including water purification, livestock farming and soil remediation. The demand for a consistent and high quality locally produced biochar and activated bio-carbon is growing daily, with municipality of the City of Cape Town utilizing 500 tons per annum in their water purification works at 4 different sites. The value of high-grade biochar in livestock farming and soil remediation is also gaining momentum with universities and farmers alike.

A unique selling point and value add of our technology innovation is the extraction of high purity wood vinegar (liquid wood smoke), wood tar and bio-oils from the biomass before being transformed to a high-grade biochar and activated bio-carbon product in our pyrolysis activation unit. Our superior wood vinegar product is used in boosting seed germination, organic fertilizer production to stimulate root and leaf growth in plants and applied elsewhere on a large scale as an organic pest repellent while improving crop growth.

The NewCarbon Innovation will advance the Southern African strategy to move towards lower-carbon economies, create growth and jobs, promote science and innovation partnerships and expertise, provide focused opportunities for environment and food security, enhance science and technology capacity building and address the challenges of climate change.

1 Walking the Nexus Talk: Assessing the Water-Energy-Food Nexus, in the Context of the Sustainable Energy for All Initiative Climate, Energy and Tenure Division (NRC) Food and Agriculture Organization of the United Nations July 2014.

2 Waste biomass sources include forestry waste, alien invasive plants, municipal green waste, saw mill waste and agricultural farms that produce biomass wastes such as macadamia nut and maroela farms.