

GREEN COAL – ENVIRONMENTALLY FRIENDLY COAL BRIQUETTES WITH LOW SULPHUR EMISSIONS

Transforming coal fine waste into valuable energy with lower emissions and higher efficiency.

Technology Overview

Green Coal is environmentally friendly coal briquettes produced from discard fine coal, bio-char material, and proprietary chemical binders. The briquette reduces sulphur emissions during combustion by approximately 50%, while also increasing the burning effectiveness.

The bio-char addition to the formulation is considered a renewable energy source and therefore carbon credits can be claimed for the reduction in the CO₂ production. The use of Green Coal provides an efficient system for greener coal gasification, which is ideal for use in electricity generation and other industrial steam raising applications.

Market Opportunity

South Africa produces 255 million tonnes of coal annually, of which 60 million tonnes are not usable due to its perceived poor quality. These 60 million tonnes of discarded coal also contain at least 15 million tonnes of fine coal. This coal is not used and is therefore stored on mine sites. The coal still has a lot of energy (higher heating value of 16 MJ/kg) associated with it but cannot be used in the current equipment. Therefore, by using the fine coal during the production of Green Coal, the unusable discarded coal can be processed into a usable product. This allows mines to increase their coal reserves through the utilization of discarded coal.

The end product will primarily be offered to industrial coal users using boilers. Another market potential exists in electricity generation, providing an alternative to conventional coal in the power stations.

Technology Benefits

- Waste to energy
- Lower emissions
- Higher efficiency
- Mechanically robust
- Water resistant

Project status

A patent has been granted for the technology.

We are currently seeking partnerships/investment/licensing for commercialization of the technology.



Contact: North-West University: Technology Transfer & Innovation Support Office

FR Bezuidenhout +27 (0)18 299 1679

FR.Bezuidenhout@nwu.ac.za