
Potential for production and application of bio-carbon in Vietnam

Khanh-Quang Tran*¹ and øyvind Skreiberg²

¹Department of Energy and Process Engineering, Norwegian University of Science and Technology, NO-7491 Trondheim, Norway – Norway

²Department of Thermal Energy, SINTEF Energy Research, NO-7465 Trondheim, Norway – Norway

Abstract

Bio-carbon is charcoal produced from plant biomass via carbonization processes and has a wide range of applications including the use as: fuels for heat and power generation; reductant in the metallurgical industry; activated carbon; and agricultural fertilizer for soil conditioning and carbon sequestration. Using bio-carbon as fuel is considered as a sustainable energy alternative due to its zero net contribution to CO₂ emission and that biomass is a renewable resource. A land-use system that incorporates tree-growing on agricultural land offers an opportunity to remove CO₂ from the atmosphere by storing it in tree biomass and soil organic matter. This, coupled with the potential to deliver a range of benefits including improved productivity, greater food security, reduced poverty and increased resilience to climate change, has garnered it increasing international attention. This contribution will present an overview of different carbonization processes for production of bio-carbon from different biomass resources and their potential applications relevant to Vietnam, one of the agricultural countries susceptible to climate change. The presentation is related to SINTEF's *BioCarb+* project <http://www.sintef.no/biocarb>.

*Speaker