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Biogas as a fuel source for the transport sector

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Abstract:
The South Africa transport sector is a major user of energy, in particular liquid fossil fuels that contribute to Green House Gas emissions. South Africa is committed to developing a Green Economy, but South Africa has significant challenges that will need to be overcome to realise Green Economy development opportunities. Population growth, and the rapid urbanisation and development, has resulted in urban sprawl with the marginalisation and degradation of land parcels. Large metropolitan areas are regional transport hubs and transportation accounts for a significant portion of local pollution and greenhouse gas emissions. Population growth and the increased need for mobility have placed increased demands on the transport infrastructure; and there is an urgent need to develop clean, low-carbon mass transport options that are accessible and affordable A legacy of mining has resulted in mine-dumps, with air-, water- and soil- contamination and degraded land. These lands are unutilised or underutilised and currently present socio-economic burdens to society. These mining impacted lands could grow energy crops to complement other sources of organic waste. Anaerobic digestion of these organic wastes and energy crops could produce biogas as a fuel for the transport sector. The purpose of this paper is to discuss the various issues that impact on the potential use of biogas a fuel for the transport sector.

Keywords: Anaerobic digestion, biogas, energy crops, mining impacted land, organic waste, transport sector, Waste to Energy.