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Performance monitoring of a downdraft System Johansson Biomass Gasifier™

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<p>Biomass gasification for electricity generation has attracted much attention over the past few years. This is due to the fact that biomass is a renewable resource, which is also considered to be carbon neutral. However electricity generation using biomass gasifiers can only be technically and economically achieved at small scale using downdraft gasifier systems, which produce gas that has very little quantities of tar. This paper presents the technical and operational challenges experienced in biomass gasification for electricity generation. The data was collected at the System Johansson Biomass Gasifier installed by Eskom. NDIR and Pd/Ni gas sensors were used to measure the gas profiles while type K thermocouples were used to measure the temperature in the reactor. This paper presents the performance monitoring results including the gasifier operating conditions, fuel properties, gas profiles as well as gas heating value and cold gas efficiency.

Level (Hons, MSc,
   PhD, other)?

Other

Consider for a student
   award (Yes / No)?

No

Would you like to <br> submit a short paper <br> for the Conference
 Proceedings (Yes / No)?

Yes

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