



# THE PREDICTION OF ASH RELATED ISSUES DURING AGRO-WASTE COMBUSTION IN FLUIDIZED BEDS

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## Introduction

Biomass is a promising energy source to reduce the use of fossil fuels for energy generation and to mitigate greenhouse gas emissions. Agro-wastes are readily available energy sources in huge amounts all over the world. Embodiment of biomass combustion technologies in energy systems can play significant role in sustainable development of nations.

Applications of biomass in combustion systems may create some operational problems related to ash effects. Reliable prediction of combustion characteristics related to biomass ash is essential for reactor designers and plant operators for successful and continuous operation. In this regard, in this study, the ash behaviors during fluidized bed combustion of agro-wastes were predicted in terms of slagging, fouling, corrosion and agglomeration of bed material with empirical indices for biomass and low rank coals.

## Biomass as a Renewable Energy Source

Increasing concerns on global climate change in relation with fossil fuel combustion has led to focus on new environmentally friendly and renewable solutions. Among the renewable energy sources such as solar, hydro, wind, etc., biomass is the only carbon based, cost-effective sustainable source <sup>(1)</sup>. It is one of the most

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