

## THE POTENTIAL AIR QUALITY IMPACTS FROM BIOMASS COMBUSTION AND CONTROL MEASURES

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### **Abstract**

Biomass is the main source of primary energy for Sri Lanka and accounts for 39% of the total primary energy consumption. Due to the attractive financial returns of biomass energy technologies these technologies are increasing in popularity among the industrial sector. While there is control of emissions of high capacity biomass technologies, there is virtually no control of emissions in low capacity equipment used in the SME sector in Sri Lanka.

Log wood and chips are the main forms of biomass used in the industrial sector. Chip burners are increasingly adopted by large scale users due to the inherent advantages that these technologies offer such as high efficiency, control etc. Low capacity equipment mainly use logwood as the fuel source. Pellets are briquettes are also biomass forms have come to use in the recent past and is currently used in relatively small quantities. This investigation reveals that by increasing efficiency of the combustion technologies, particulate emissions (PM<sub>10</sub>, PM<sub>2.5</sub>) other criteria pollutants like CO, Formaldehyde and VOCs can be reduced. The study also compares the emissions from biomass technologies used by SMEs to those used by large scale industries and emissions from the different forms of biomass used.

**Key words:** Biomass, Combustion, Emissions, PM<sub>10</sub>, PM<sub>2.5</sub>