



Pollutant Emissions from a Traditional, three stone stove (open fire)

Pollutant concentrations recorded during ten cooking cycles, on the same day, with the TSF (Three stone fire)

As shown, pollutant concentrations were highly variable throughout each fire and different for the two stove designs.

Over all 10 tests with the TSF,

- the concentration of CO₂ varied between the average background level of 510 ppm to as high as 11,000 ppm
- while CO varied between 0 and 1300 ppm.
- The concentration of PM_{2.5} had a range between 0 and 157 mg/m³
 - Fine particulate matter (**PM_{2.5}**) is an air pollutant that is a concern for people's health when levels in air are high. **PM_{2.5}** are tiny particles in the air that reduce visibility and cause the air to appear hazy when levels are elevated.

- and as much as 73 mg/m³ of BC was emitted.
 - Black Carbon

- Over all of the test fires with the TSF, we collected an average of
 - 3590 ppm CO₂,
 - 169 ppm CO,
 - 19.4 mg/m³ PM_{2.5},
 - 1.1 mg/m³ BC.

*Comparative Analysis of Fuels for Cooking:
Life Cycle Environmental Impacts and Economic and Social Considerations*

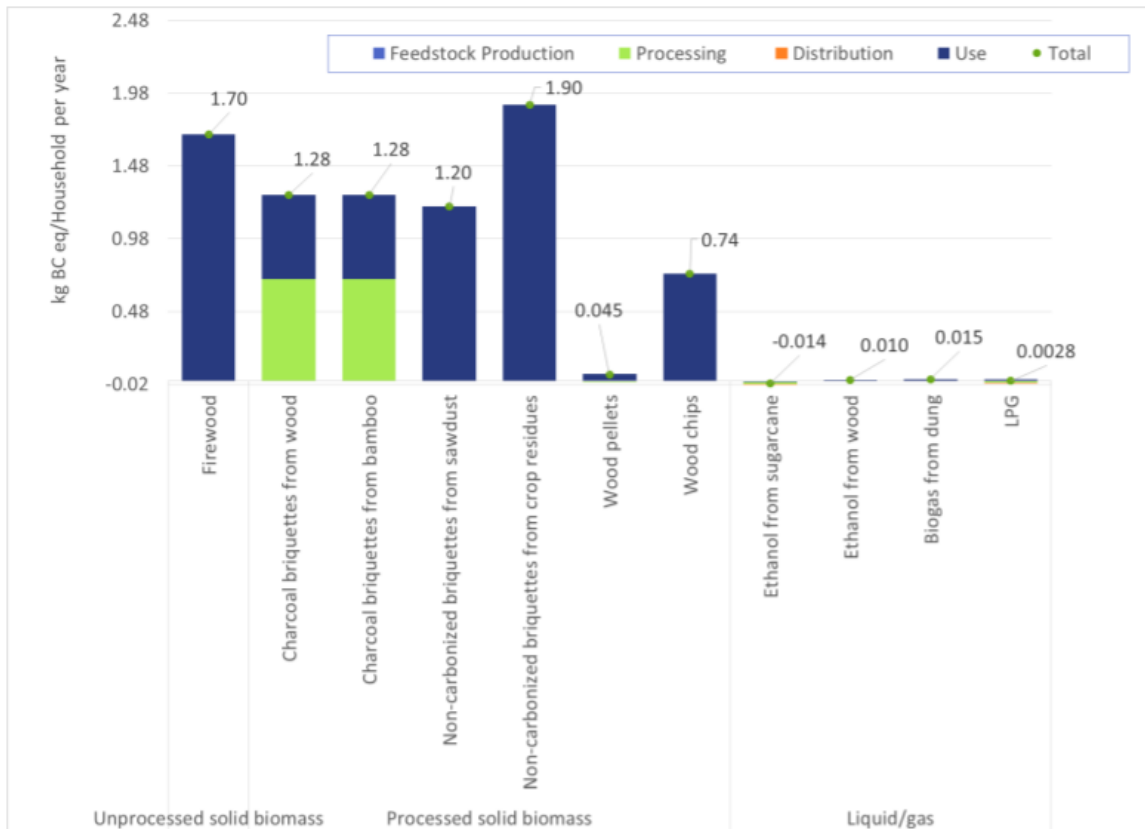


Figure 3-15. BC and Short-Lived Climate Pollutant Impacts (kg BC eq) for Cooking Fuel Types (Bangladesh)
To produce, distribute and use cooking fuels by a single household per year

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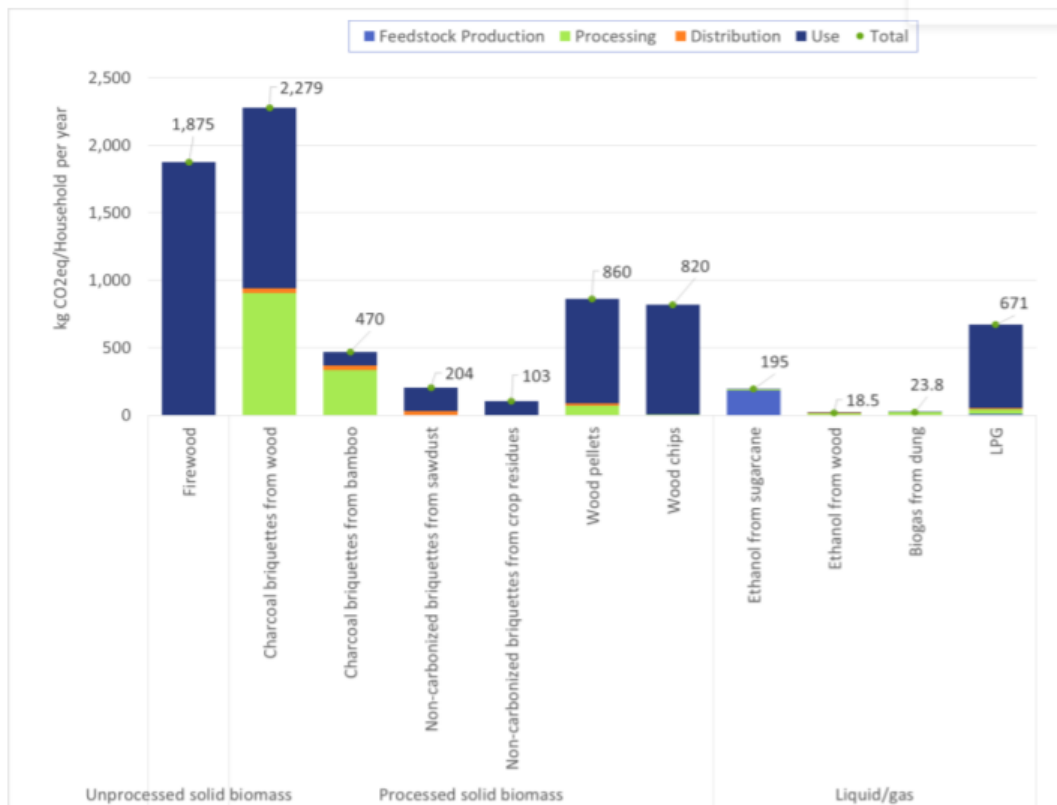


Figure 3-14. GCCP (100a) Potential Impacts (kg CO₂ eq) for Cooking Fuel Types (Bangladesh)
To produce, distribute and use cooking fuels by a single household per year

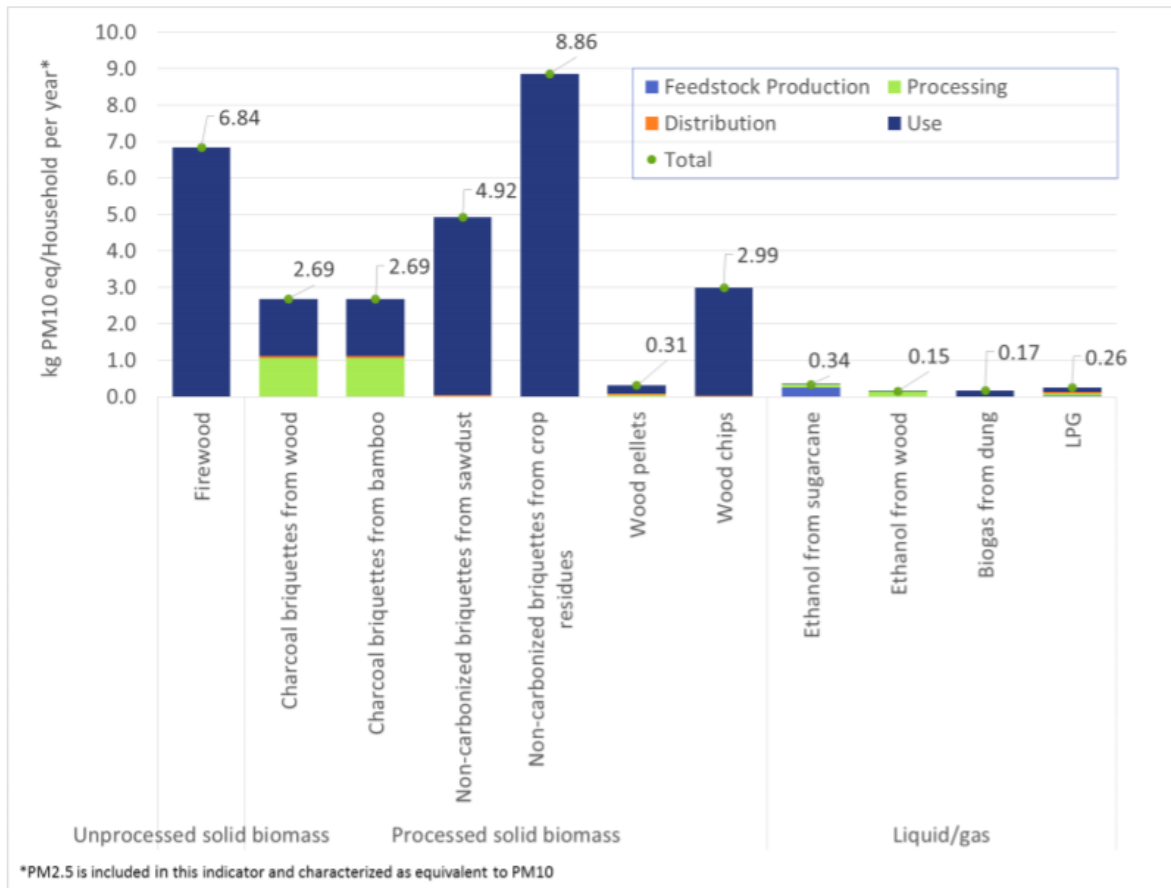


Figure 3-16. Particulate Matter Formation Potential Impacts (kg PM10 eq) for Cooking Fuel Types (Bangladesh)
To produce, distribute and use cooking fuels by a single household per year