Background

- One in four people do not have access to electricity.
- Electricity from Cogeneration may:
  - Power a fan to improve combustion.
  - Provide indoor lighting and phone charging.

Fan forced PHAIR stove

- A fan was attached to a PHAIR stove at 60°.
- Tested over varying fan speeds.
- Minimal combustion improvements.
- Further tests required with forced air directed onto the combustion zone.

Fan forced TLUD stove

- Fan forced primary and secondary air.
- Tested over varying fan speeds.
- Thermal efficiency results are shown below.
- No improvement over natural draft.

Thermoelectric generator

- Generate electricity from waste heat.
- Produced insufficient power.
- Unfeasible due to high cost and poor performance.

Findings

- Cost of cogeneration outweighed benefits.
- Costs will decrease with time.
- Social benefits result from indoor lighting and mobile phone charging.
- Improved stoves may provide a source of electricity for millions living without it.