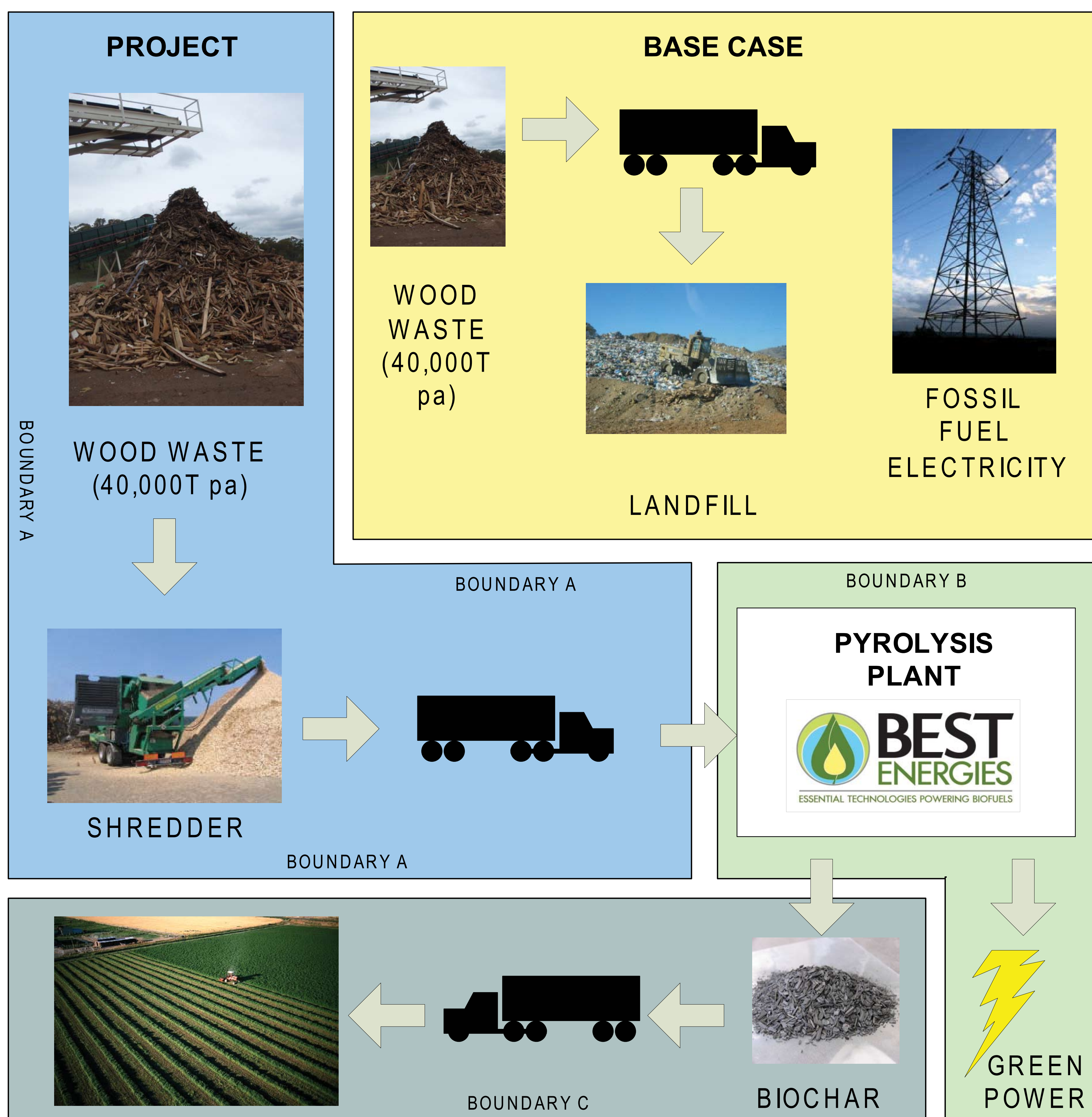


BEST Pyrolysis of Waste Wood: Greenhouse Gas Balance Assessment

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A case study of producing biochar and energy from wood waste, separated at a waste transfer station on a landfill, was used to calculate the life cycle greenhouse gas emissions compared to business-as-usual. The greenhouse balance - developed using the methodology guidelines from the Department of Climate Change's Greenhouse Friendly™ programme – has demonstrated that the project will mitigate greenhouse gas emissions by three main pathways, reduced emissions from landfilled organics, displacement of fossil fuel, and sequestration of biogenic carbon (removing it from the short-term carbon cycle).



Base Case:
115,269 tonnes of CO₂-e.
Boundary A & B provide a 95% abatement of these.

Base Case of alternate biochar use:
34,442 tonnes of CO₂-e.
Boundary C provides a 27% abatement of these.

The case study does not include the additional greenhouse gas savings associated with agricultural use of the biochar, such as reduction of greenhouse gas emissions from soil, reduced requirement for N fertilisers, enhanced cation exchange capacity and nutrient retention, increased pH and reduced tensile strength which all result in an overall increase of soil fertility and hence, agricultural productivity.

The process was found to be carbon-negative, and will result in the net removal of greenhouse gas from the atmosphere due to wood being a renewable resource.



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Acknowledgements: The NSW State government has provided assistance in funding this project work, through the Climate Action Grant