

# The impact of surgery on carbon emissions in Papua New Guinea: A surgical suite carbon foot print study.

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## Introduction

- ❑ The upscale of surgical service delivery in low to middle income countries will increase health sector greenhouse gas emissions globally.
- ❑ Understanding surgical greenhouse gas emissions from surgical suite activities can direct decarbonization strategies and achieve local, and global climate change objectives.

## Materials and Methods

- ❑ A prospective surgical suite carbon foot print study was conducted at the Alotau Provincial Hospital from the 28th March 2022 to the 28th of May 2022.
- ❑ The greenhouse gas protocol was used to estimate the three scope emissions.

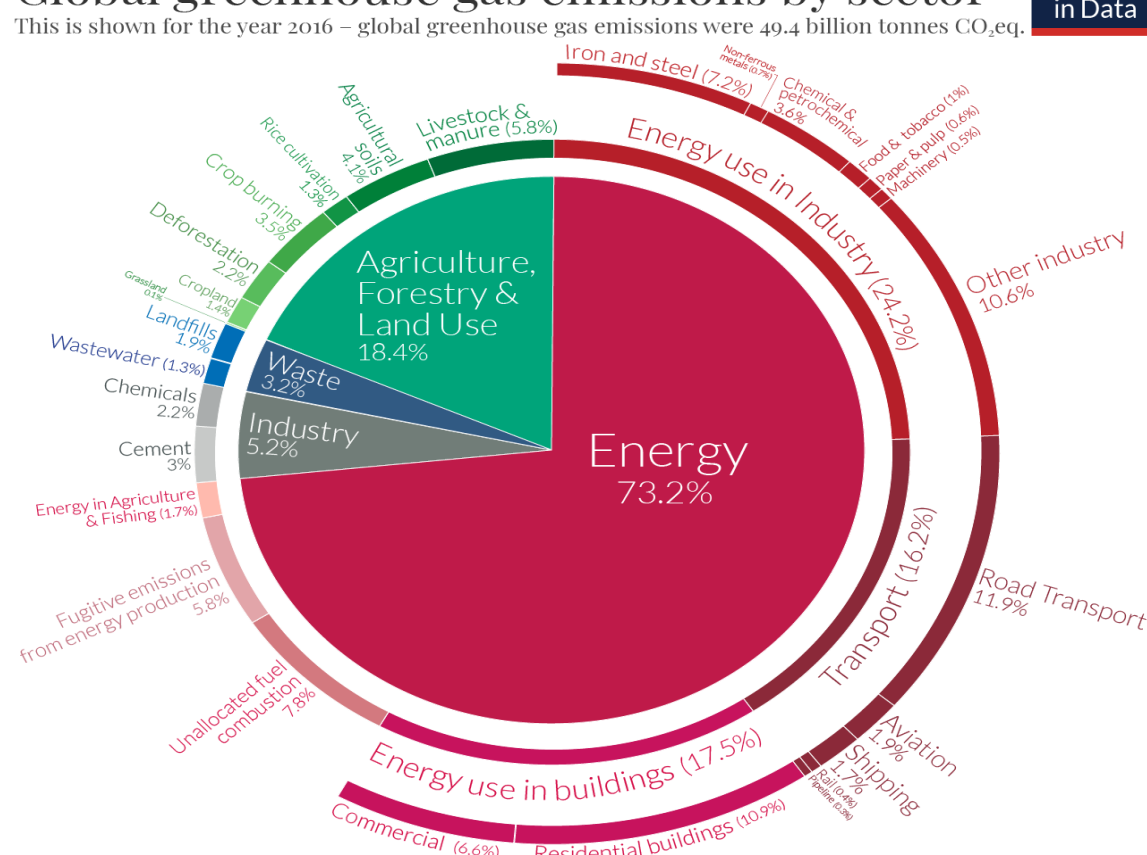
## Results

- ❑ The total carbon emission for the surgical suite in APH over the study period was 2,619.1 kgCO<sub>2</sub>e.
- ❑ The average carbon emission per surgical case within the boundary of the surgical suite was 8.3 kgCO<sub>2</sub>e.
- ❑ Scope one emissions (anaesthetic gases) accounted for 44.7% (1171.3 kgCO<sub>2</sub>e) of all carbon emissions.

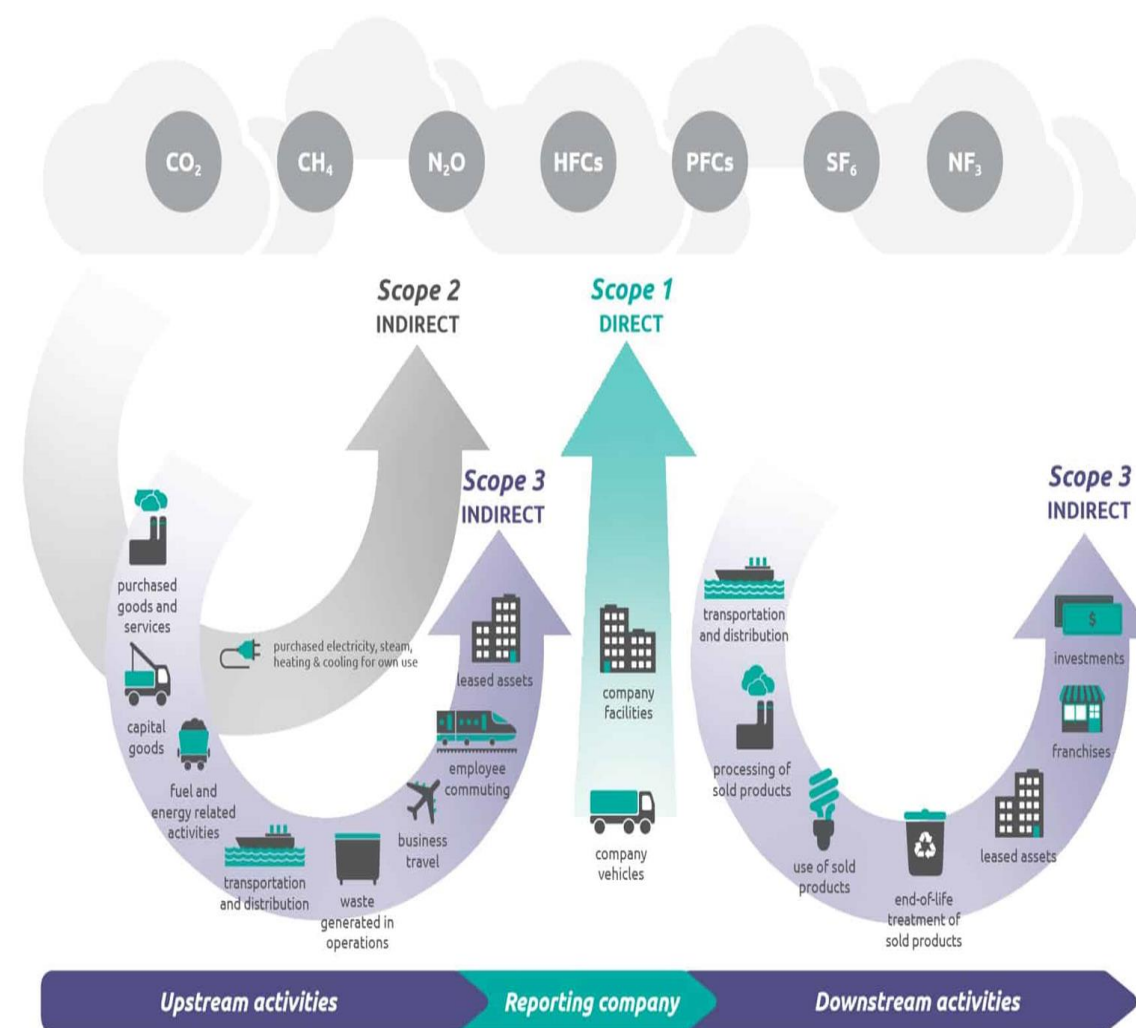
## Conclusion

- ❑ If no action is taken, carbon emissions in the western pacific region will continue to increase from surgical suites.
- ❑ Therefore, we must not play victim to climate change but rather be proactive in our efforts to reduce greenhouse gas emissions globally.

Global greenhouse gas emissions by sector Our World in Data



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Total CO<sub>2</sub> emissions per scope during the study period.

