

# Estimating global military carbon emissions

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*Download report from: <https://www.sgr.org.uk/>*

Presentation given at Military Emissions Gap webinar, 10th November, 2022

## Four starting points for data extrapolation

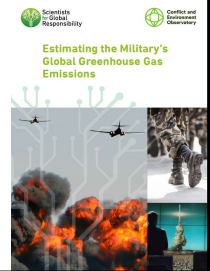
- X Military emission figures officially reported to UNFCCC
- X Military spending figures & emissions per unit currency
- X Military vehicles figures & emissions per vehicle
  
- ✓ Military personnel figures & emissions per head of personnel



*[image credit: Image by Clker-Free-Vector-Images via Pixabay]*

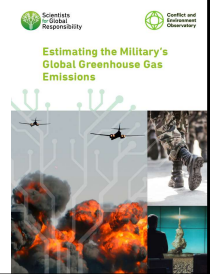
## Data sets used

1. Number of 'active' military personnel
  - Available for all major military nations
2. 'Stationary' emissions per head of personnel
  - UK, US, German data used
3. Ratio of 'stationary' emissions to 'mobile' emissions
  - UK, US, German, EU data used
4. Supply chain multiplier
  - UK/ international data used



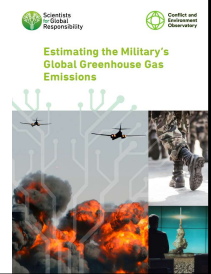
## Estimates: operational emissions (scope 1+2)

- Global total (best estimate): **500 MtCO<sub>2</sub>e/ 1.0%**
- Uncertainty range
  - 284 to 602 million tonnes of carbon dioxide equivalent
  - 0.6% to 1.2% of global GHG emissions
- Report gives breakdown by geo-political region
- Averaging means estimates for country-level less reliable



## Estimates: military carbon footprints

- Global total (best estimate): **2,750 MtCO<sub>2</sub>e/ 5.5%**
- **Larger than Russia's** total carbon footprint
- Uncertainty range
  - 1,644 to 3,484 million tonnes of carbon dioxide equivalent
  - 3.3% to 7.0% of global GHG emissions
- Report gives breakdown by geo-political region
- Averaging means estimates for country-level less unreliable



## Assumptions/ data not included



- All military data assumed to be reliable
- Emissions from warfighting impacts not included
  - e.g. fires, damage to infrastructure/ ecosystems, post-conflict reconstruction, health-care for survivors
- Radiative forcing by aviation in stratosphere not included

➤ Global military carbon 'bootprint' could be much larger

➤ *Download report:*

<https://www.sgr.org.uk/publications/estimating-military-s-global-greenhouse-gas-emissions>

*[image credit: State Emergency Services of Ukraine]*