

# EU military decarbonisation: leader or laggard?

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Environment  
Observatory**

**CEOBS is a UK charity working to increase the protection of people and ecosystems from the impact of armed conflicts and military activities.**

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## Direction of travel is clear: decarbonisation

### ❑ Net zero ambitions

*“There is no way to reach net zero without also including emissions from the military,”*

NATO Secretary General Jens Stoltenberg, COP26 in 2021

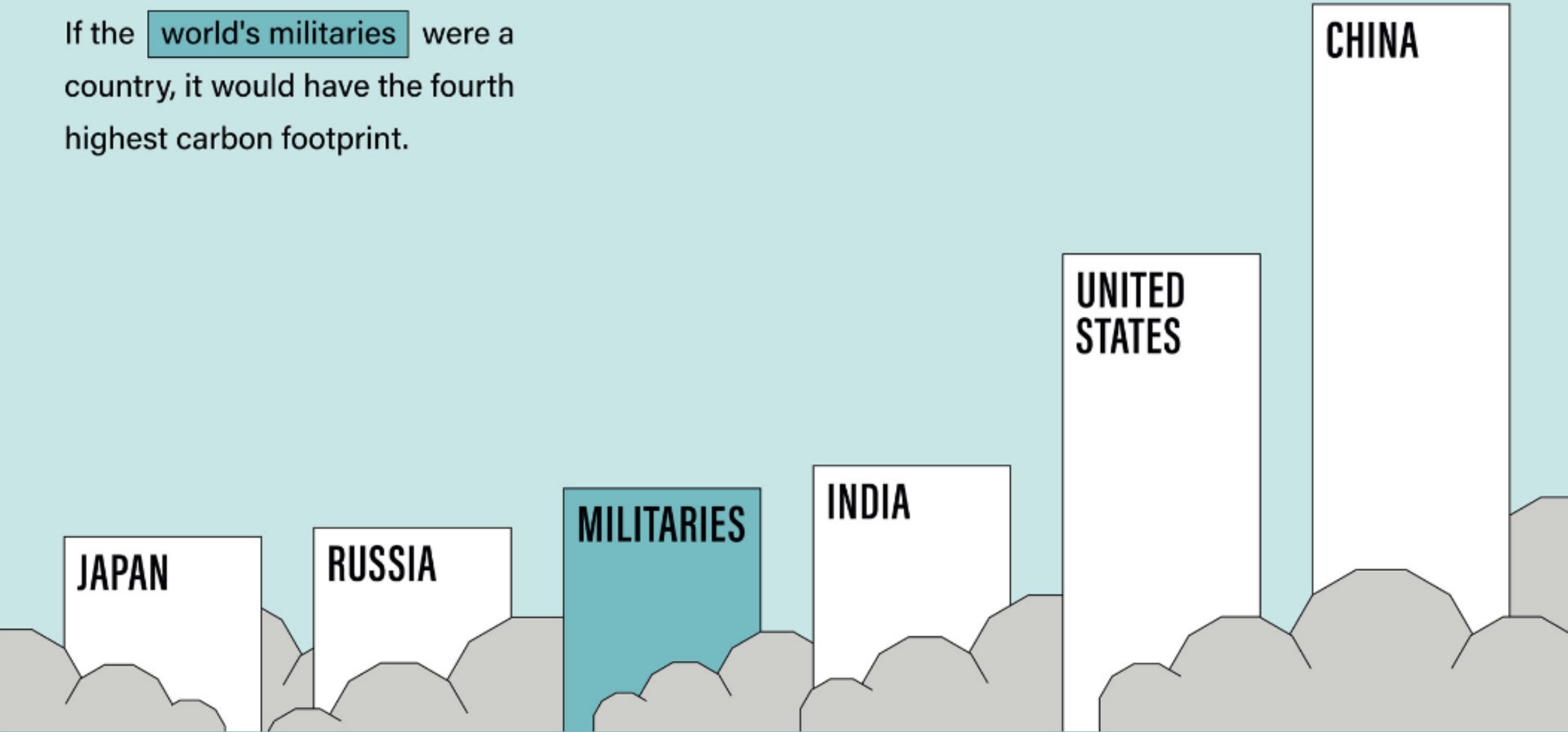
*“...by 2050, we should be net zero in the armed forces.”*

NATO Secretary General Jens Stoltenberg, COP28 in 2023

### ❑ EU Green Deal – all sectors

Climate neutral by 2050: 90% emissions cut by 2040 versus 1990 levels.

If the **world's militaries** were a country, it would have the fourth highest carbon footprint.



## Enabling conditions for military decarbonisation

### **Attitudes and policies**

Overcoming “environmental exceptionalism”.

### **Technology**

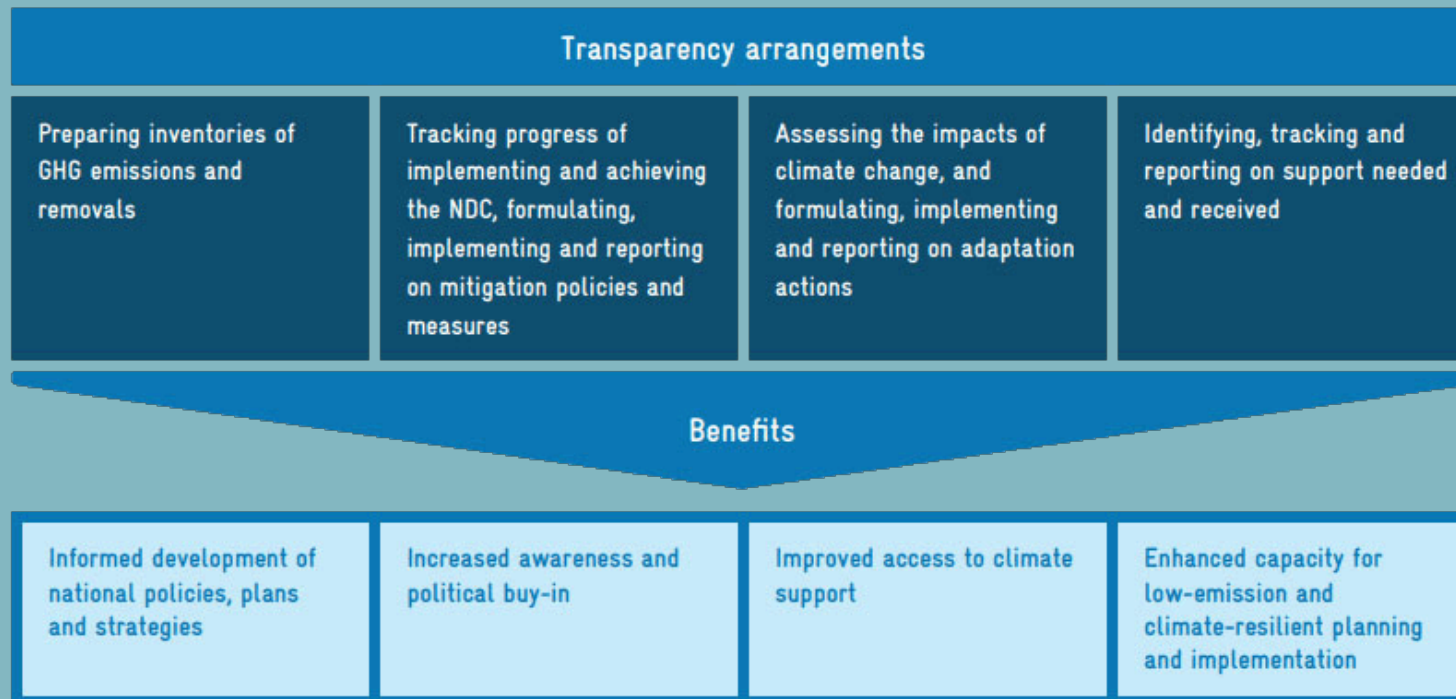
Fossil fuel intensive militaries have high energy needs and long equipment lifespans – so start yesterday and send clear signals.

### **Transparency, trust and reporting**

Key for any sector but not the military default.

## Importance of transparency

- ❑ **UNFCCC:** transparency improves the development of national climate policies, plans and strategies, and increases awareness, political will, support and capacity.



Member State	Reporting gap	Data accessibility	Milex US\$m (2022)	Member State	Reporting gap	Data accessibility	Milex US\$m (2022)
<b>Austria</b>	Very significant	<b>Poor</b>	3,626.00	<b>Italy</b>	Very significant	<b>Poor</b>	33,490.00
<b>Belgium</b>	Very significant	<b>Poor</b>	6,867.00	<b>Latvia</b>	Very significant	<b>Poor</b>	849
<b>Bulgaria</b>	Very significant	<b>Poor</b>	1,336.00	<b>Lithuania</b>	Very significant	<b>Poor</b>	1,732.00
<b>Croatia</b>	No comparison possible.	<b>Very poor</b>	1,309.00	<b>Luxembourg</b>	Very significant	<b>Poor</b>	565
<b>Cyprus</b>	Very significant	<b>Fair</b>	494	<b>Malta</b>	Very significant	<b>Poor</b>	87
<b>Czechia</b>	Significant	<b>Poor</b>	4,005.00	<b>Netherlands</b>	Very significant	<b>Poor</b>	15,607.00
<b>Denmark</b>	Gap in reporting.	<b>Poor</b>	5,468.00	<b>Poland</b>	No comparison possible.	<b>Very poor</b>	16,573.00
<b>Estonia</b>	No comparison possible.	<b>Very poor</b>	811	<b>Portugal</b>	Very significant	<b>Poor</b>	3,500.00
<b>Finland</b>	No comparison possible.	<b>Poor</b>	4,823.00	<b>Romania</b>	No comparison possible.	<b>Poor</b>	5,187.00
<b>France</b>	Significant	<b>Poor</b>	53,639.00	<b>Slovakia</b>	Very significant	<b>Fair</b>	1,994.00
<b>Germany</b>	Significant	<b>Fair</b>	55,760.00	<b>Slovenia</b>	Very significant	<b>Poor</b>	735
<b>Greece</b>	Very significant	<b>Poor</b>	8,105.00	<b>Spain</b>	Very significant	<b>Poor</b>	20,307.00
<b>Hungary</b>	Very significant	<b>Fair</b>	2,572.00	<b>Sweden</b>	No comparison possible.	<b>Very poor</b>	7,722.00
<b>Ireland</b>	No comparison possible.	<b>Very poor</b>	1,164.00				

## 2023 EU emissions reporting to the UNFCCC (2021 data)

[www.militaryemissions.org](http://www.militaryemissions.org)



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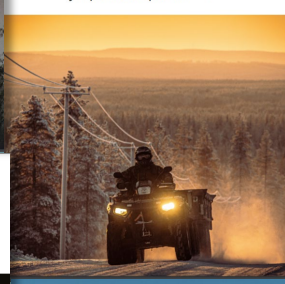
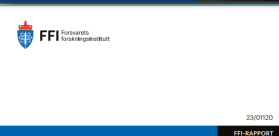


The Minor Foundation  
for Major Challenges

# National reporting

## ❑ Progress?

More in-country reporting, but disparities with UNFCCC disclosures; inconsistent scopes and national security hesitancy.





## Normative landscape

### ❑ A level global playing field

As with all sectors, a global level playing field is important for emissions reporting.

EU military emissions reporting policies could help set global norms.

Making clear decarbonisation commitments has benefits for European defence and industry.

But decarbonisation requires transparency and reporting.

## EU state of play: European Commission

### ❑ Climate Change and Defence Roadmap

Implementing the Climate Change and Defence Roadmap, including *“helping Member States mitigate the carbon footprint of their military forces without compromising their combat capacities.”*

## ANNUAL PROGRESS REPORT

on the Implementation of the  
Strategic Compass for Security and Defence

MARCH 2023

## EU state of play: European Parliament

### ❑ P9\_TA(2023)0407

*“...calls on the High Representative of the Union for Foreign Affairs and Security Policy, the Commission and the Council to formulate a proposal for the transparent accounting of military emissions to the UNFCCC...”*

**P9\_TA(2023)0407**

**UN Climate Change Conference 2023 in Dubai, United Arab Emirates (COP28)**

**European Parliament resolution of 21 November 2023 on the UN Climate Change Conference 2023 in Dubai, United Arab Emirates (COP28) (2023/2636(RSP))**

## EU state of play: The Council of the EU

### □ General Secretariat, Jan 2024

*“How might the EU further encourage and coordinate efforts to gain a clearer overview of the environmental impact of the military, including accurate information on their carbon footprint?”*

RESEARCH PAPER

# Greening the armies



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## Trends: Public attention on conflict emissions

### Ukraine

The first ever effort to comprehensively assess any conflict's emissions.

### Gaza

First emissions estimate published by the 9<sup>th</sup> January.

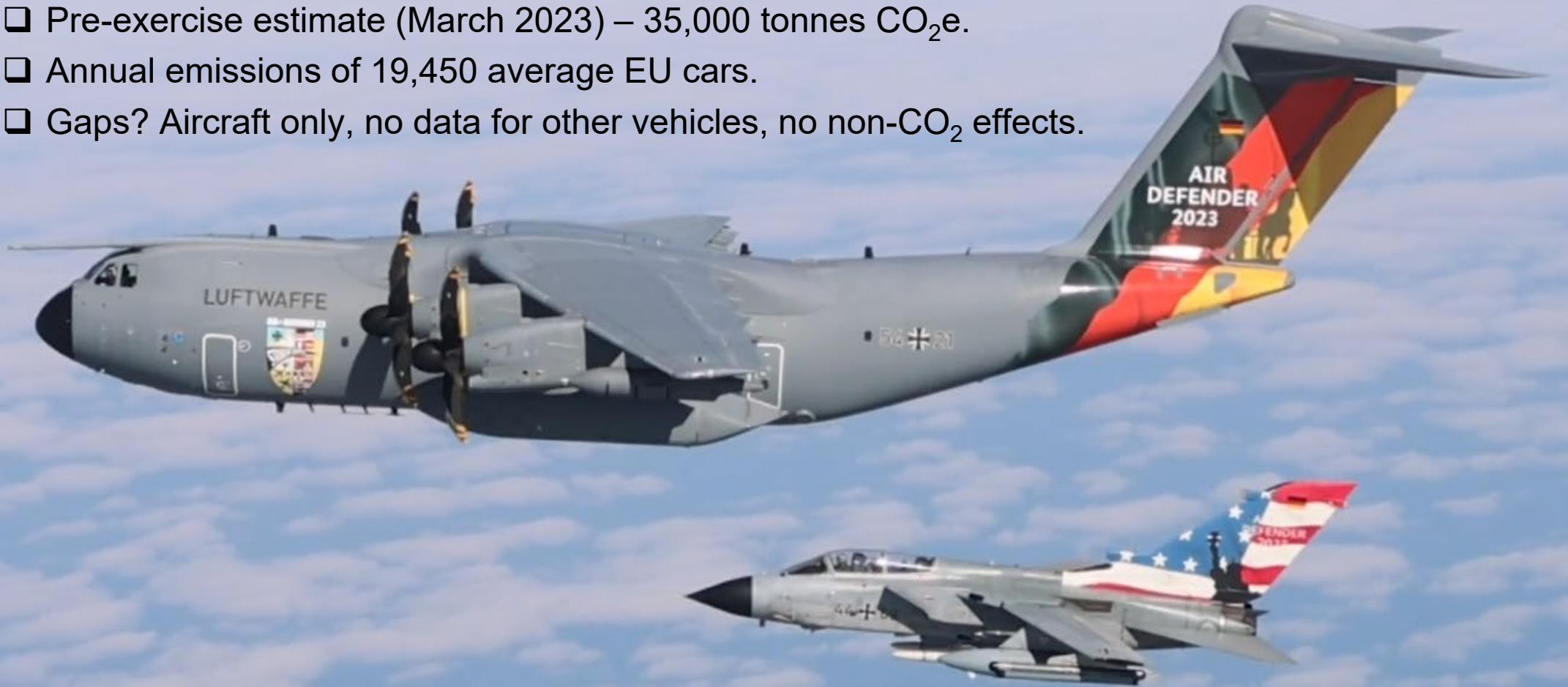
### Future

Carbon cost of conflicts will be monitored with increasing precision.



## NATO's Air Defender exercise, June 2023

- ❑ 25 nations, two-weeks, 10,000 personnel and 250 aircraft.
- ❑ Pre-exercise estimate (March 2023) – 35,000 tonnes CO<sub>2</sub>e.
- ❑ Annual emissions of 19,450 average EU cars.
- ❑ Gaps? Aircraft only, no data for other vehicles, no non-CO<sub>2</sub> effects.





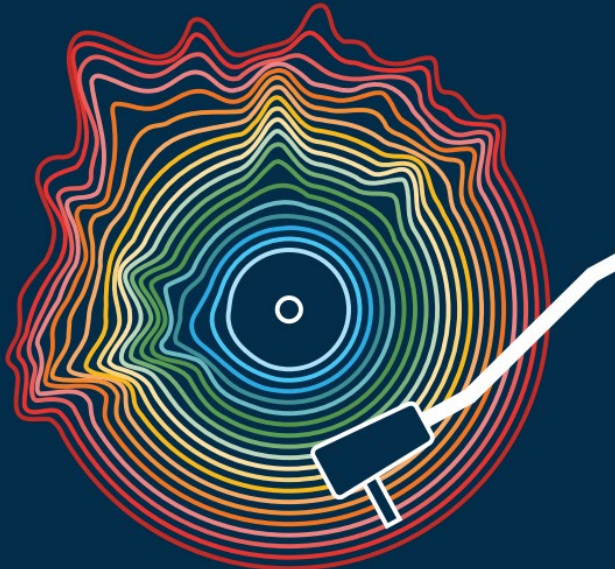
# Mainstreaming military emissions

## UNEP's Emissions Gap report, 2023



### Broken Record

Temperatures hit new highs, yet world fails to cut emissions (again)



#### Emissions Gap Report 2023: Broken Record

##### 2.2.2 Emissions rebounded across most global sectors following the COVID-19 pandemic

Emissions can be split into five major economic sectors: energy supply, industry, agriculture and LULUCF, transport and buildings. In 2022, energy supply was the largest source of emissions at 20.9 GtCO<sub>2</sub>e (36 per cent of the total), which is mainly due to combustion emissions in the power sector (14.8 GtCO<sub>2</sub>e) and emissions from fossil fuel production including fugitive methane (6.1 GtCO<sub>2</sub>e). The energy supply sector is the largest contributor to the increase in emissions over the past decades, largely due to the worldwide expansion of coal- and gas-fired power generation (International Energy Agency 2023). However, it is also one of the only sectors where some countries have made progress in reducing emissions by switching to lower emission fuels and by scaling up renewable sources.

Industry is the second largest sector when accounting by direct emissions (14.4 GtCO<sub>2</sub>e, 25 per cent of the total), followed by agriculture and LULUCF CO<sub>2</sub> (global bookkeeping approach) (10.3 GtCO<sub>2</sub>e, 18 per cent), transport (8.1 GtCO<sub>2</sub>e, 14 per cent) and buildings (3.8 GtCO<sub>2</sub>e, 6.7 per cent). However, if power sector emissions are reallocated to final sectors based on their use of electricity and heat (i.e. indirect emissions, which highlight a demand perspective), then the contribution of the industry and buildings sectors increase significantly (to 34 per cent and 16 per cent, respectively) (Lamb et al. 2021b).

The latest data up to 2022 indicate that most global sectors have fully rebounded from the drop in 2020 emissions, which was induced by COVID-19, and now exceed 2019 levels with little change in the overall composition of sector emissions (Liu et al. 2023). An exception is aviation emissions, which remain at 74 per cent of their 2019 peak of 1.0 GtCO<sub>2</sub>e, but are likely to continue to rebound in 2023 as air passenger numbers start to reach pre-pandemic levels (International Air Transport Association 2023).

##### 2.3 Emissions trends of major emitters

##### 2.3.1 Emissions of the G20 members increased in 2022 and accounted for three quarters of the total

Preliminary estimates for 2022 (which exclude LULUCF CO<sub>2</sub>, for which data is only available up to 2021) show an increase in GHG emissions compared with 2021 in Indonesia (+10 per cent), India (+5.1 per cent), the United States of America (+1.6 per cent) and China (+0.3 per cent), and a decrease in the European Union (-0.8 per cent), the Russian Federation (-1 per cent) and Brazil (-2.5 per cent). International transport emissions rapidly increased (+11.4 per cent), but remain below pre-pandemic levels. Total emissions of the G20 also increased (+1.2 per cent).

The top seven global emitters remain the same as in 2021: Brazil, China, India, Indonesia, the European Union, the Russian Federation and the United States of America (figure 2.2). Collectively, and with the addition of international transport, these emitters accounted for a total of 33 GtCO<sub>2</sub>e in 2021, or 65 per cent of global emissions on a territorial basis, including national inventory-based LULUCF CO<sub>2</sub>. Combined, the G20 accounted for 76 per cent of global emissions. By contrast, least developed countries accounted for 3.8 per cent of global emissions, while small island developing States contributed less than 1 per cent. Generally, global emissions have shifted from high-income to low- and middle-income countries in the past two decades. High-income countries, which include eight members of the G20 (Australia, Canada, the European Union, Japan, Saudi Arabia, the Republic of Korea, the United Kingdom of Great Britain and Northern Ireland and the United States of America) contributed 43 per cent of GHG emissions in 2000, but 28 per cent in 2021. Conversely, low- and middle-

income countries, which include 12 G20 (Argentina, Brazil, China, Russian Federation, South Africa, 53 per cent in 2000 and 69 per cent in 2021).

There is some evidence that the international sanctions following the war in Ukraine have impacted regional economic activity and emissions, with highly uncertain long-term implications (International Energy Agency 2022). Direct emissions from military operations, vehicles and installations are likely non-trivial, but remain insufficiently accounted under UNFCCC reporting conventions, and there is limited evidence in the literature on the scope, scale, composition or trend of these emissions (Rajaeifar et al. 2022). The energy crisis has driven efforts towards increased investments in clean energy policies and technologies (Steffen and Pattison 2022). There is evidence of a shift in regional energy demand, with a decrease in energy imports from the Russian Federation (2022). Rising costs of energy on fossil fuels could push in poverty, in addition to the human under hardship (Guan et al. 2022). Net LULUCF CO<sub>2</sub> emissions, and land-use change, decreased in tropical regions, with Brazil and the Republic of the Congo contributing 58 per cent of the global total in 2021 – albeit with extremely high uncertainties (Friedlingstein et al. 2022). Countries such as these that have a higher contribution from LULUCF CO<sub>2</sub> also tend to experience larger annual fluctuations in GHG emissions due to policy-induced land-use changes, deforestation, wildfires on managed land or shifts towards forest protection (figure 2.2).

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## Conclusion

### ❑ Leader or laggard?

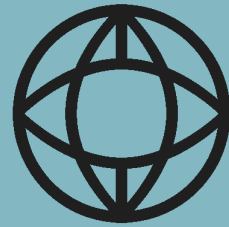
Militaries have been slow to engage with emissions mitigation in spite of vocal concerns over climate security risks.

The EU has an opportunity to help define global reporting and transparency norms, and advance its military decarbonisation goals.

But decarbonisation and global norm setting are contingent on robust and transparent emissions reporting.

Failing to act on military emissions poses a far greater risk to our security than reporting them will ever do.





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**Thank you.**

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