

# The Russia-Ukraine war and the climate crisis

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*These slides will be made available at: <https://www.sgr.org.uk/>*

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## Direct effects on carbon emissions

- Before war: Russia 3.1% of world military spending; Ukraine 0.3%
- War is increasing military carbon emissions
  - Large increases in oil consumption of military vehicles
  - Large increases in production of military equipment
  - Some increases in energy consumption on military bases
- Carbon emissions due to destruction/ damage to buildings, land
  - Fires of combustible materials in cities, esp. fuel depots
  - Burning/ damage to forests and other ecosystems
  - Degradation of soils
- Very little data available



- Military spending stats from SIPRI (2022)
- Combat planes have especially high fuel consumption
- Fuel consumption for all vehicles increases substantially during ‘combat operations’
- Large fraction of military production taking place in NATO countries
- Data – before war, no publicly available data on Russian military carbon emissions, partial/ unclear data on Ukraine
- Examples of available data, including from other wars/ militaries:
  - Peace-time fuel consumption of US armoured vehicle is about 10 times that of average car; for US combat plane, it is about 100 times larger; in war-time, this grows considerably (Parkinson, 2020)
  - When Donbas war began in 2014, incomplete data indicates Ukraine military carbon emissions rose 400% in 1y (UN FCCC, 2021)
  - As ‘Global War on Terrorism’ ramped up, more complete data shows US military emissions rose by 35% in 4y up to 2004 (Crawford, 2019)
  - US data from the Iraq war shows that military equipment was used at between 6 and 10 times the peace-time rate (Stiglitz and Bilmes, 2009: 42)

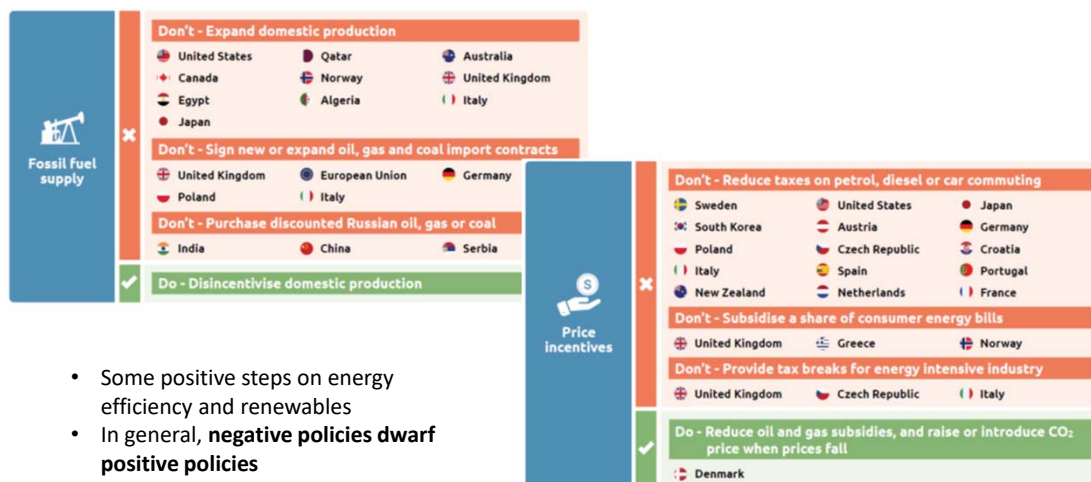
*[image credit: US Dept of Defense]*

## Indirect effects on carbon emissions

- Major increases in military spending in NATO countries
  - e.g. Germany announced €100bn rise in military spending – 60% larger than *entire* annual military budget of Russia
  - Military spending is carbon intensive
- Increases in oil & gas prices
  - Increases in oil & gas production outside Russia
  - Improvements in energy efficiency
  - Increases in renewable energy production
- Reconstruction (post-war); increased health care for injured
- Lower political priority for international climate action
- ***Indirect effects likely to be larger***

- In 2021, NATO military spending was over 55% of global total (SIPRI, 2022)
- By end of March 2022, at least eight NATO countries had announced plans to increase military spending (SIPRI, 2022) with Germany announcing €100bn increase (The Guardian, 2022)
- Carbon emissions from reconstruction will be especially high if high-carbon concrete used
- Increased health care for injured veterans, civilians, refugees

## Energy policy changes so far



- Some positive steps on energy efficiency and renewables
- In general, **negative policies dwarf positive policies**

Climate Action Tracker (2022)

- Research just published: Climate Action Tracker (2022)
- Changes in energy policy alone could put Paris target of 1.5C out of reach

## Don't forget threat of nuclear war...

- Russia has made nuclear threats – NATO has 3 nuclear-armed members
- Nuclear war can cause catastrophic climate change through 'nuclear winter' effect
  - Multiple nuclear explosions can lead to intense 'fire-storms'
  - Smoke injected high into atmosphere above rain clouds
  - Spreads out, blocking Sun's rays
  - Catastrophic cooling → crop failures etc → mass starvation etc
- Nuclear winter effects can be caused by:
  - About 100 Hiroshima-sized weapons
  - About 40 UK Trident weapons



- NATO's nuclear-armed members are USA, France, UK
- For more discussion of the recent research, see: Nature (2020); SGR (2015)

*[image credit: Gerd Altmann]*

## Campaign work

- Raise awareness of how militaries and war fuel climate crisis
  - Russia-Ukraine war is key threat to 1.5°C target
- Support climate campaigners on green policies
- Support anti-nuclear campaigners on disarmament policies
- Lobbying on climate & military:
  - Improved data reporting on carbon emissions from militaries/ war
  - Military emissions in national carbon reduction targets
  - Target UN climate bodies, especially UN FCCC Secretariat and IPCC
  - New report out on 20<sup>th</sup> June on lobbying
    - <https://transformdefence.org/publication/>
- Scientists for Global Responsibility military & climate outputs:
  - <https://www.sgr.org.uk/projects/climate-change-military-main-outputs>

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