

TIPPING POINT NORTH SOUTH

Creative campaign-driven projects that advance global social and environmental justice

MILITARY EMISSIONS, MILITARY SPENDING & GREEN NEW DEALS



September 2022

MILITARY SPENDING & EMISSIONS: HIDDEN DRIVERS OF CLIMATE CHANGE

The global military is a major driver of climate change. At UN level it is exempt from compulsorily reporting its carbon emissions despite some countries' militaries being among the largest consumers of fossil fuels in the world. This is a scandal that needs exposing.

These emissions are a direct result of runaway global military spending since the former cannot happen without the latter. Combined, they ensure that all human development is harmed in myriad ways.

As a matter of urgency, we need this issue taken up and addressed by the many stakeholders this serious matter falls to for action – from civil society to governments to international institutions, especially the UN.

Last but not least, policy-makers concerned with *Green New Deal* economic thinking (in the UK, Europe, the USA and elsewhere) must take account of the links between these closely linked issues: military spending & emissions, the green transition and sustainable human safety. We need *peaceful, green, prosperity*.

Military Emissions, Military Spending & Green New Deals is one of Tipping Point North South's ***Transform Defence*** series of reports and briefings that offer fresh new thinking on how to redefine 'defence' as we seek *sustainable human safety* in the face of the climate emergency. ***Transform Defence for Sustainable Human Safety*** was launched in December 2020, marking the 5th Anniversary of the Paris Climate Agreement. It is a policy and advocacy project that brings together all Tipping Point North South's military-related work.



This includes the Five Percent Proposal & military spending; climate change, global military emissions & UN reporting; and Green New Deal *Plus*. Our work is supported by Polden-Puckham Charitable Foundation, the Ratcliff Foundation, and Jam Today.

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Tipping Point North South is a 'for the benefit of community' co-operative, supporting and initiating creative, campaign-driven projects that advance the global justice agenda.

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EXECUTIVE SUMMARY

This briefing is aimed at all those working on GND planning, whether in a domestic or international setting, as activists and/or policy-makers and /or parliamentarians.

The aim is to illustrate the various ways in which military emissions and spending are relevant to the economic, environmental and climate justice aspects of GND thinking and planning.

CLIMATE CHANGE IS THE NUMBER ONE SECURITY THREAT TO HUMANITY

Geopolitical threat – real, perceived, exaggerated or invented – will likely always be with us. But climate change, habitat loss and mass species extinction plus the attendant global economic instability (poverty and inequality) is now over-riding all other conventional threats and is *the* clear and present threat to all humanity.

Unfortunately, climate change is being dealt with firmly under the framework of ‘disaster management as national security’ – ever increasing numbers of desperate environmental and economic refugees; increased resource wars; or closer to home, militarising responses to climate disasters at the expense of climate prevention/mitigation, proper infrastructure and humanitarian relief.¹ In truth, the \$2 trillion annual global military budget speaks more to 19th- and 20th- century geopolitical occupations than 21st-century threats to our collective sustainable human safety.

A CARBON-NEUTRAL WORLD DEMANDS WE FULLY DECARBONISE OUR MILITARIES

The world’s militaries are the biggest institutional users of oil in the world.

Phenomenal efforts have gone into rethinking our economies such that we can move from fossil fuel reliant to sustainable, clean, green energy. It’s a monumental, difficult task, across myriad industries and areas of human activity. There is no better initiative to kick start the economy than the Green New Deal (GND), creating good and green jobs while at the same time, tackling the biggest threat to sustainable human safety – the climate emergency. Nevertheless, notably absent in present day Green New Deal thinking is an awareness about the role of the world’s militaries and their significant (and profoundly under-reported) contribution to climate change. Furthermore, higher global military spending means massively more GHG emissions.

Green New Deal Plus describes the need to include the military in all GND thinking and is a way to bring GND thinking to meet the hidden reality of military GHG emissions.² At the heart of this is reducing (runaway) military spending.



¹ *The Secure and the Dispossessed: How the Military and Corporations are Shaping a Climate-Changed World*, Edited by Nick Buxton, Ben Hayes, 2015, Pluto Press

² Green New Deal Plus, <https://transformdefence.org/green-new-deal-plus/>

HIGH DEFENCE SPENDING INHIBITS ECONOMIC AND SOCIAL DEVELOPMENT

There is a huge dividend to be reaped if there is enough political will to include the military in the GND and convert a significant part of the defence industry to other socially and environmentally beneficial industries, such as clean tech and green energy.

Evidence shows that high defence spending inhibits economic and social development. Current defence policies and budgets of all major economies (primarily G20) are both socially and environmentally incompatible with the spirit of Green New Deals. Military spending is the least effective way to create jobs. Spending on health care, education, clean energy, and infrastructure instead of 'War on Terror' (Iraq and Afghanistan) would have created a net increase of 1.3 million jobs in the United States.³ \$1 billion invested in education will create over twice as many jobs as \$1 billion spent on the Pentagon.

MILITARY EMISSIONS, CLIMATE JUSTICE & GREEN NEW DEALS

Historically, military spending has been central to re-enforcing power, poverty, unjust distribution of resources, economic and environmental collapse. And this damage done in war, conflict or occupation is mirrored in and inextricably linked to the longstanding destructive role of those same nations' corporate interests across the global south, notably through the extraction of resources. To place the military in this frame is also to see clearly why we must include it in the climate justice and reparation frame.

As of 2015, the Global North⁴ was responsible for 92% of excess global historical CO₂ emissions whereas the Global South (including China and India) were within their planetary boundary fair shares.⁵ Between 1998 and 2017, climate change caused \$600 billion 'loss and damage' and displaced millions of people in developing countries, who are least responsible for, most vulnerable to but severely lacking in means to adapt and mitigate to climate change.⁶ This is the climate injustice on a monumental scale.

This burden includes the military in peacetime and war.⁷

PUBLIC SPENDING – MILITARY TO CLIMATE

Public climate finance was estimated to be \$321bn in 2020,⁸ less than one sixth of the \$1981bn sum spent by global militaries in the same year;⁹ a ratio of 1:6. Oxfam estimated that rich countries contributed even less in reality to the global climate finance annual \$100bn target; \$20bn in 2018, one third of the OECD's official (inflated) figures.¹⁰ \$20bn, that's one hundredth of the amount governments spent on weapons and wars, fuelling climate heating.

³ *War Spending and Lost Opportunities*, Heidi Garrett-Peltier, Costs of War, 2019, <https://watson.brown.edu/costsofwar/files/cow/imce/papers/2019/March%202019%20Job%20Oppportunity%20Cost%20of%20War.pdf>

⁴ Including USA, EU-28, Russia, Japan, and Canada.

⁵ [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(20\)30196-0/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(20)30196-0/fulltext)

⁶ <https://elc-insight.org/what-is-the-financial-cost-of-loss-and-damage-from-climate-change/>

⁷ <https://transformdefence.org/publication/military-and-conflict-related-emissions-report/>

⁸ <https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2021/>

⁹ <https://www.sipri.org/media/press-release/2021/world-military-spending-rises-almost-2-trillion-2020>

¹⁰ <https://oxfamlibrary.openrepository.com/handle/10546/621066>

Global military spending in 2021 was \$2.1 trillion.¹¹

The G7 and other industrialised countries committed in 2015 to spend \$100bn a year under UNFCCC to support climate action in developing countries. In truth, they didn't and what they spent in International Climate Finance is completely overshadowed by their military spending (\$1095bn spent by G7 in 2021). Simply by cutting their annual military spending by 10%, G7 will have more than enough money (\$110bn) to fund their (yet to be fulfilled) commitment to international climate finance.

The USA is the world's largest economy, the biggest historical GHG emitter and the top military spender. Climate funding in the recent U.S.' 'historical' Inflation Reduction Act is \$37 billion per year over ten years. This is just 4% of the annual \$850 billion Pentagon budget (for 2023) and one half of the increase from 2022 budget (\$778bn).

WE NEED NOT JUST GREEN PROSPERITY, BUT *PEACEFUL* GREEN PROSPERITY

GND plans must include the military and defence industry and moreover, embrace the ever-mounting evidence that shows that people and planet get far greater value for money when we scale back the GHG emitting militaries of the world and invest that money in a peaceful, equitable, green economy.



¹¹ <https://www.sipri.org/publications/2022/sipri-fact-sheets/trends-world-military-expenditure-2021>

MILITARY EMISSIONS, MILITARY SPENDING & GREEN NEW DEALS

CLIMATE CHANGE IS THE NUMBER ONE SECURITY THREAT TO HUMANITY

We have to get to zero carbon ASAP. Big oil is, at times, literally ‘in the dock’.¹² Our global economy has to be transformed by Green New Deals (GNDs) that embrace Just Transition, with clean, green and sustainable jobs, energy and transport systems and other essential infrastructures. And it has to be the case that none of this must be at the ongoing expense of the global south, continuously raided and exploited over centuries for its resources in order to further advance the development of the rich northern countries.

Geopolitical threat – real, perceived, exaggerated or invented – will likely always be with us. But climate change, habitat loss and mass species extinction plus the attendant global economic instability (poverty and inequality) is now over-riding all other conventional threats and is *the* clear and present threat to all humanity.

DEFUNCT: ‘BUSINESS AS USUAL’ DEFENCE THINKING AND SPENDING

The defence establishment has recognised climate change as a “threat multiplier”. In practice, this means business as usual with the addition of climate change related threats. Yes, climate change has made the world more dangerous and a bit more difficult to manage, but it just means that *bigger* budgets are needed for *the same old things*.¹³

This isn’t what’s needed. In a climate changed world, the ‘all change’ mindset must include transforming our outdated ideas of ‘defence’ and ‘security’. With current climate policies, we are on course to a 3°C hotter world by 2100, where most of our current Air Force bases will be (permanently) flooded and Navy bases underwater. The world is already 1.2°C hotter on average but the regular occurrences of unprecedented floods, droughts and heat-waves clearly show that our “defence” is not remotely prepared for a much worse 3°C hotter world.

Unfortunately, climate change is being dealt with firmly under the framework of ‘disaster management as national security’ – ever increasing numbers of desperate environmental and economic refugees; increased resource wars; or closer to home, militarising responses to climate disasters at the expense of climate prevention/mitigation, proper infrastructure and humanitarian relief.¹⁴ In truth, the \$2 trillion annual global military budget speaks more to 19th- and 20th- century geopolitical occupations than 21st-century threats to our collective sustainable human safety.¹⁵

The bulk of military spending is by G20 nations. They account for 87% of annual \$2 trillion global military spending.¹⁶ If anything, the recent history of military aggression by some of the top

¹² <https://www.greenpeace.org/international/press-release/47934/historic-verdict-in-climate-case-against-shell/>

¹³ <https://thebreakthrough.org/journal/no-16-spring-2022/the-guns-of-warming>

¹⁴ *The Secure and the Dispossessed: How the Military and Corporations are Shaping a Climate-Changed World*, Edited by Nick Buxton, Ben Hayes, 2015, Pluto Press

¹⁵ <https://transformdefence.org/transformdefence/sustainable-human-safety/>

¹⁶ <https://transformdefence.org/publication/stockholm50-and-global-military-emissions/>

military spenders on countries from Iraq to Ukraine proves that *higher military spending* results one way or the other *more insecurity*.

A CARBON-NEUTRAL WORLD DEMANDS WE FULLY DECARBONISE OUR MILITARIES

The world's militaries are the biggest institutional users of oil in the world.¹⁷

They are fossil fuel reliant and their inadequate GHG emissions reporting to UN processes are voluntary only. We have collectively and consistently ignored the massive yet unaccounted for historic and present-day responsibility of the world's militaries for climate change, from their day-to-day operational activities to the wars and conflicts of which they are part (and post-conflict carbon burden of reconstruction).

Vitality, a decarbonised military, defence and security sector is not about delivering 'greener ways to conduct war': weaponry and war will always kill living beings, will always destroy and pollute environments. Instead, this is the starting point for much needed if challenging discussion that can lead us to a paradigm shift in geopolitics for a carbon-neutral world.

Phenomenal efforts have gone into rethinking our economies such that we can move from fossil fuel reliant to sustainable, clean, green energy. It's a monumental, difficult task, across myriad industries and areas of human activity. There is no better initiative to kick start the economy than the Green New Deal (GND), creating good and green jobs while at the same time, tackling the biggest threat to sustainable human safety – the climate emergency. Nevertheless, notably absent in present day Green New Deal thinking is an awareness about the role of the world's militaries and their significant (and profoundly under-reported) contribution to climate change. Furthermore, higher global military spending means massively more GHG emissions.

WE NEED NOT JUST GREEN PROSPERITY, BUT PEACEFUL GREEN PROSPERITY



Current Green New Deal proposals could be extended further.

Green New Deal Plus describes the need to include the military in all GND thinking and is a way to bring GND thinking to meet the hidden reality of military GHG emissions.¹⁸ At the heart of this is reducing (runaway) military spending.

The world's militaries are the biggest institutional users of oil in the world and are therefore a major driver for climate change, both in terms of day-to-day operations as well as wars, many of which are conducted for oil. Runaway global military spending enables all this. Fossil fuel is not cheap and the more we use, the higher the fuel bill. *There is therefore a strong positive correlation between military spending and carbon emissions, especially for top military spenders.*¹⁹ This is to be expected since

¹⁷ <https://transformdefence.org/publication/indefensible/>

¹⁸ Green New Deal Plus, <https://transformdefence.org/green-new-deal-plus/>

¹⁹ *The Treadmill of Destruction in Comparative Perspective: A Panel Study of Military Spending and Carbon Emissions, 1960-2014*, John Hamilton Bradford and Alexander M. Stoner, <https://doi.org/10.5195/jwsr.2017.688>; *The temporal stability and developmental differences in the*

higher spending reflects larger proportion of big-ticket purchase, such as F-35, J-20 or Su-57 fighter jets, that are all massive gas-guzzlers.

The global militaries and defence industries account for at least 1% of the total global greenhouse gas emissions²⁰, and the figure could be as high as 6%²¹. Specifically, The Costs of War Project of Brown University estimated the total US military's carbon emissions for 2017 to be 339 million tonnes of CO₂ equivalent, consisting of 59 million tonnes of CO₂ equivalent emitted by the Pentagon and 280 million tonnes of CO₂ equivalent emitted by the US defence industry.²² Therefore, the carbon footprint of the U.S. military and the associated defence industry account for 6% of the total U.S. greenhouse gas emissions in a single year.²³

NO FREE PASS: DIFFICULT QUESTIONS NEED TO BE ASKED BY GND ADVOCATES

In truth, whether the global militaries' carbon footprint is 6% or 1%, it all leads to the same conclusion in this devastated climate changed world. The global military and defence industry combined have historically been and remain a significant and wholly unaccountable driver of climate breakdown. The global military-industrial complex accounts for the compatible amount of greenhouse gas emissions as international aviation (1.3%).

While the imperative now is to take fewer civilian flights, buy local food and fewer consumer products, **the global military has a free pass to buy and operate as many big-ticket gas guzzlers (eg, F-35s and Eurofighter Typhoons) as it wants, with no hard questions asked by politicians.** Until this issue of the military's contribution to climate change is raised, we are omitting a major contributor to climate change.

An F35 drinks 6000 litres of fuel per flying hour. One fewer civilian flight is much less impactful on global heating than one fewer military flight.

HIGH DEFENCE SPENDING INHIBITS ECONOMIC AND SOCIAL DEVELOPMENT

The top 100 arms companies accounted for \$531 billion in arms sales in 2020.²⁴ The top 20 arms companies alone account for two thirds of the total arms sales in the world and come from just a handful of countries: USA, China, Russia, UK, France and Italy. And just these same 6 countries account for a staggering 63% of the global \$2.1 trillion military expenditure in 2021.²⁵

Evidence shows that high defence spending inhibits economic and social development. Current defence policies and budgets of all major economies (primarily G20) are both socially and environmentally incompatible with the spirit of Green New Deals. Military spending is the least effective way to create jobs. Spending on health care, education, clean energy, and infrastructure

environmental impacts of militarism: the treadmill of destruction and consumption-based carbon emissions, Andrew K. Jorgenson & Brett Clark , <https://doi.org/10.1007/s11625-015-0309-5>

²⁰ <https://transformdefence.org/publication/indefensible/>

²¹ <https://www.theguardian.com/environment/2021/nov/11/worlds-militaries-avoiding-scrutiny-over-emissions>

²² Crawford N (2019). *Pentagon Fuel Use, Climate Change, and the Costs of War*. Brown University, USA. <https://watson.brown.edu/costsofwar/papers/ClimateChangeandCostofWar>

²³ https://www.sgr.org.uk/sites/default/files/2019-07/SGR_Military-carbon-bootprint_London19.pdf

²⁴ <https://www.sipri.org/publications/2021/sipri-fact-sheets/sipri-top-100-arms-producing-and-military-services-companies-2020>

²⁵ <https://www.sipri.org/publications/2022/sipri-fact-sheets/trends-world-military-expenditure-2021>

instead of 'War on Terror' (Iraq and Afghanistan) would have created a net increase of 1.3 million jobs in the United States.²⁶ \$1 billion invested in education will create over twice as many jobs as \$1 billion spent on the Pentagon.

There is a huge dividend to be reaped if there is enough political will to include the military in the GND and convert a significant part of the defence industry to other socially and environmentally beneficial industries, such as clean tech and green energy.

MILITARY EMISSIONS, CLIMATE JUSTICE & GREEN NEW DEALS

Historically, military spending has been central to re-enforcing power, poverty, unjust distribution of resources, economic and environmental collapse. And this damage done in war, conflict or occupation is mirrored in and inextricably linked to the longstanding destructive role of those same nations' corporate interests across the global south, notably through the extraction of resources. To place the military in this frame is also to see clearly why we must include it in the climate justice and reparation frame.

Economic anthropologist Jason Hickel has rightly made this point: "A Global Green New Deal must address excess resource consumption in the North. We can reduce resource use in rich nations quite dramatically while still meeting human needs at a high standard by scaling down forms of economic activity that are socially less crucial. SUVs, fast fashion, private jets, advertising, planned obsolescence, the military industrial complex... there are huge chunks of production that are organised primarily around corporate power and elite consumption and are actually irrelevant to human needs."²⁷

As of 2015, the Global North²⁸ was responsible for 92% of excess global historical CO₂ emissions whereas the Global South (including China and India) were within their planetary boundary fair shares.²⁹ Between 1998 and 2017, climate change caused \$600 billion 'loss and damage' and displaced millions of people in developing countries, who are least responsible for, most vulnerable to but severely lacking in means to adapt and mitigate to climate change.³⁰ This is the climate injustice on a monumental scale.

This burden includes the military in peacetime and war.³¹ It includes the indirect emissions of the defence industry.³² It includes WW1 and WW2 and every carbon intensive war – Afghanistan and Iraq, Syria and Yemen and Palestine.

And with loss of life and livelihood and environmental damage, also comes also the carbon intensive vicious circle of destruction and reconstruction.

²⁶ *War Spending and Lost Opportunities*, Heidi Garrett-Peltier, Costs of War, 2019, <https://watson.brown.edu/costsofwar/files/cow/imce/papers/2019/March%202019%20Job%20Opporunity%20Cost%20of%20War.pdf>

²⁷ <https://www.greeneuropeanjournal.eu/degrowth-is-about-global-justice/>

²⁸ Including USA, EU-28, Russia, Japan, and Canada.

²⁹ [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(20\)30196-0/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(20)30196-0/fulltext)

³⁰ <https://elc-insight.org/what-is-the-financial-cost-of-loss-and-damage-from-climate-change/>

³¹ <https://transformdefence.org/publication/military-and-conflict-related-emissions-report/>

³² <https://www.sgr.org.uk/projects/climate-change-military-main-outputs>

PUBLIC SPENDING – MILITARY TO CLIMATE

Public climate finance was estimated to be \$321bn in 2020,³³ less than one sixth of the \$1981bn sum spent by global militaries in the same year;³⁴ a ratio of 1:6. Oxfam estimated that rich countries contributed even less in reality to the global climate finance annual \$100bn target; \$20bn in 2018, one third of the OECD’s official (inflated) figures.³⁵ \$20bn, that’s one hundredth of the amount governments spent on weapons and wars, fuelling climate heating.

Global military spending in 2021 was \$2.1 trillion.

The G7 and other industrialised countries committed in 2015 to spend \$100bn a year under UNFCCC to support climate action in developing countries. In truth, they didn’t and what they spent in International Climate Finance is completely overshadowed by their military spending (\$1095bn spent by G7 in 2021). Simply by cutting their annual military spending by 10%, G7 will have more than enough money (\$110bn) to fund their (yet to be fulfilled) commitment to international climate finance.



MILITARY TO CLIMATE – SOME COMPARISONS³⁶

In the face of climate emergency, we have to challenge traditional notions of human security, human safety and look hard at the poor value for money we get from our conventional military spending as we enter the anthropocene.

One-year’s global military spend will fund international climate finance for 21 years.

On average, around \$5 billion is spent on UN disaster response every year, and 10% of that is disaster risk reduction. *One-year’s global military spend will fund UN disaster response for the next 420 years.*

³³ <https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2021/>

³⁴ <https://www.sipri.org/media/press-release/2021/world-military-spending-rises-almost-2-trillion-2020>

³⁵ <https://oxfamilibrary.openrepository.com/handle/10546/621066>

³⁶ <https://transformdefence.org/publication/value-for-money/>

Since prevention is better than treatment, *UN disaster risk reduction could be funded for the next 4200 years by one-year's worth of global military spending.*

Currently, just \$4 billion to \$10 billion was spent globally each year for biodiversity conservation. To stop the sixth mass extinction, scientists estimated around \$100 billion a year would be needed to conserve Earth's current irreplaceable biodiversity. *One-year's global military spend will fully fund global biodiversity conservation for 21 years.*

Adaptation – reducing countries' and communities' vulnerability to climate change by increasing their ability to absorb impacts – is a key pillar of the Paris Agreement on Climate Change.³⁷ The agreement requires its signatories to implement adaptation measures through national plans, climate information systems, early warning, protective measures and investments in a green future.

The *UNEP Adaptation Gap Report 2020* finds that while nations have advanced in planning, huge gaps remain in finance for developing countries and bringing adaptation projects to the stage where they bring real protection against climate impacts such as droughts, floods and sea-level rise.³⁸ Almost three-quarters of nations have some adaptation plans in place, but financing and implementation fall far short of what is needed.

Annual adaptation costs in developing countries are estimated at \$70 billion. This figure is expected to reach \$140-300 billion in 2030 and \$280-500 billion in 2050. These are tiny sums in comparison to what is spent annually by the big military spenders.

\$70bn is 6% of what G7 spend annually on military (a ratio of 1:16) and 3% of the annual global military spending (1:30). Effectively, simply by saving a few cents per dollar military spend by the top military spenders will give them enough money to fully fund vulnerable developing countries to adapt to the climate-changed world.

The G7 (especially UK and USA) are historically responsible for disproportionate levels of emissions as well as imposing on large parts of the world the economic system which produces and reproduces the climate crisis. A Green New Deal Plus is an opportunity for the G7 to convert their defence sector in a green jobs revolution domestically while also diverting their military spending to support global climate justice – reparations for those injustices through transfers of finance and resources to support energy transitions and climate adaptation internationally.³⁹

LET'S NOT FORGET DEGROWTH & THE MILITARY

Degrowth is a planned and democratic reduction of production and consumption in rich countries to lower environmental pressures and inequalities while improving people's well-being. Degrowth applied to the big military spending nations mean less cash for their big-ticket hardware, overseas bases and war and by extension, much fewer emissions. To apply degrowth to the military is to raise necessary if difficult questions about defence in this climate changed era.

³⁷ <https://www.unep.org/news-and-stories/press-release/step-climate-change-adaptation-or-face-serious-human-and-economic>

³⁸ <https://www.unenvironment.org/resources/adaptation-gap-report-2020>

³⁹ <https://www.labourgnd.uk/conference-motion-policy-report>

To cut military budgets in order to divert excessive spending to the myriad activities in need of funds and which are about the protection of all life on earth is a legitimate (tax-payers') demand. It is to create the "double dividend"⁴⁰ for our global society: we could live better and safer by spending less on militarism and reduce our impact on the environment at the same time.

How can this be achieved? The IPCC report discussed three ways: *avoid* (by consuming less), *shift* (by substituting one for another), and *improve* (by greening the existing). There is no reason why this model cannot be applied to transform our current way of thinking about national defence and international relations, and we discussed this in more detail in our paper '*Degrow the Military Economy*':⁴¹

- **Avoid** locking into expensive and gas-guzzling weapon systems; **avoid** military aggressions/interventions.
- **Substitute** "great power competition" with "non-offensive defence"; **substitute** the defence industry with the clean-energy economy.
- **Improve** (by electrifying) the existing defensive weapons while gradually getting rid of offensive weapons, including nuclear weapons; **improve** our (energy, transport and health) infrastructure to make them more resilient to crises and disasters in the understanding that when *human safety* is protected, it follows *nationally security* is also secured.

GND CASE STUDY – THE USA

BERNIE SANDERS' GND PLAN, JOE BIDEN AND THE INFLATION REDUCTION ACT 2022

The USA is the world's largest economy, the biggest historical GHG emitter and the top military spender. Climate funding in the recent U.S. 'historical' Inflation Reduction Act is \$37 billion per year over ten years. This is just 4% of the annual \$850 billion Pentagon budget (for 2023) and one half of the increase from 2022 budget (\$778bn).

Moreover, this recent Pentagon budget increase is twice the annual reduction in annual climate funding from the original Build Back Better Act to the eventually enacted Inflation Reduction Act.⁴² As U.S. Representatives Barbara Lee and Mark Pocan proposed, a yearly cut of \$100 billion to the Pentagon budget would not need to change current U.S. national security strategy and would pay for installation of solar energy in every household.⁴³

What made the Inflation Reduction Act possible was Democratic presidential candidate Bernie Sanders' original Green New Deal offering in 2019.⁴⁴ His ambitious \$16.3 trillion Green New Deal, averaged \$1.6 trillion a year up to the 2030 goal, only looks unrealistic if we ignore the astronomical cost of the U.S. 'national security' budget. The Pentagon 'base' budget has been

⁴⁰

https://www.academia.edu/38276756/Live_Better_by_Consuming_Less_Is_There_a_Double_Dividend_in_Sustainable_Consumption

⁴¹ <https://transformdefence.org/publication/degrow-the-military-economy/>

⁴² <https://stephensemler.substack.com/p/why-isnt-the-ira-bigger-and-better>

⁴³ <https://www.nationalpriorities.org/blog/2022/07/08/dont-give-100-billion-pentagon-do-instead/>

⁴⁴ <https://berniesanders.com/issues/green-new-deal/>

running over \$700 billion for years. However, adding up all other related (hidden) budgets, such as nuclear weapons, intelligence, homeland security etc, the total 'national security' budget amounts to \$1.4 trillion a year.⁴⁵

If the U.S. could spend \$1.4 trillion on national security, with still much to show for its insecurity, spending \$1.6 trillion instead to guarantee a better and sustainable future is a no brainer by comparison. After all, Senator Sanders made clear that his GND pays for itself.



HIGH DEFENSE SPENDING VS GREEN INVESTMENT AND JOBS

The top U.S. defence contractors enjoyed a bonanza in federal contracts over the course of the war in Afghanistan; the top five weapons companies alone (Raytheon, Lockheed Martin, General Dynamics, Boeing and Northrop Grumman) pocketed \$2 trillion between 2001 and 2021.⁴⁶ And Afghanistan is only one of the many 'wars on terror'. Institute for Policy Studies found that "over the 20 years since 9/11, the U.S. has spent \$21 trillion on foreign and domestic militarization... including at least \$7.2 trillion for military contracts."⁴⁷

The US defence industry directly employs nearly 1 million people, accounting for around 15% of all employees in the US manufacturing sector.⁴⁸ On top of this are the 3 million people employed by the U.S. Department of Defense either as active service members or civilian support staff, which makes the Pentagon the largest employer in the world, second to the People's Liberation Army of China.⁴⁹

The \$800bn U.S. defence economy is maintained by this enormous workforce and will continue to pump substantial amounts of GHG emissions unless a Green New Deal is enacted to actively cut

⁴⁵ <https://www.commondreams.org/views/2022/07/07/americas-14-trillion-so-called-national-security-budget-makes-us-less-safe-not-more>

⁴⁶ <https://stephensemmler.substack.com/p/the-top-5-military-contractors-ate?s=r>

⁴⁷ <https://ips-dc.org/report-state-of-insecurity-cost-militarization-since-9-11/>

⁴⁸ <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/manufacturing/us-2017-us-A&D-exports-and-labor-market-study.pdf>;

<https://watson.brown.edu/costsofwar/papers/ClimateChangeandCostofWar>

⁴⁹ <https://www.defense.gov/About/>

and divert military spending to other urgently needed and under-invested areas, such as universal healthcare and the wholesale electrification of the economy, and convert defence workers to sustainable low carbon economy by 'Just Transition'⁵⁰.

It is estimated that, compared to the defence economy, for the same amount of spending, 40% more jobs would be created in infrastructure or the clean energy industry, 100% more jobs in healthcare and 120% more jobs in education.⁵¹

THE F-35: A FERRARI OR MILLIONS MORE JOBS?

The F-35 joint Strike Fighter is estimated to cost the U.S. alone \$1.7 trillion over its expected 50-year lifetime, making it the most expensive weapons programme ever.⁵² More than a dozen countries (plan to) buy F-35s as well. Lockheed Martin expected to deliver over 3,000 F-35s to these buyers, including 2,400 for the U.S. so the total lifetime cost of F-35s could be as high as \$2 trillion.

For the U.S., the \$1.7 trillion cost would easily extend and fund the climate component of the Inflation Reduction Act for the next 50 years.

Even after 20 years of development and production, 800 jets already delivered by Lockheed Martin, the F-35s are still plagued by more than 800 unresolved software and hardware deficiencies,⁵³ so troublesome that U.S. Air Force Chief of Staff Gen. Charles Brown Jr. famously remarked, "You don't drive your Ferrari to work every day, you only drive it on Sundays."⁵⁴ And it looks increasingly likely that the F-35 will never be certified as "combat ready" in its lifetime. The F-35 programme should have been cancelled long time ago when the development and procurement costs doubled, but even ending it now would save \$200 billion just in acquisition costs.⁵⁵

Lockheed Martin claimed that its F-35 programme supports 125,000 jobs in the United States, but the reality is more likely to be around 60,000.⁵⁶ It is possible to save \$200 billion on the F-35 now to spend on other socially more beneficial and economically more productive areas. It would generate either 2 million jobs in the clean energy industry, 2.9 million jobs in healthcare or 3 million jobs in education. Or dividing the job creation equally in each sector, the \$200bn public spending would create 500,000 jobs in infrastructure to make the U.S. more climate resilient, 500,000 jobs in clean tech to electrify the whole economy, 715,000 jobs in healthcare and 750,000 jobs in primary, secondary and higher education.⁵⁷

⁵⁰ *Just Transitions: Social Justice in the Shift Towards a Low-Carbon World*, Edited by Edouard Morena, Dunja Krause and Dimitris Stevis, Pluto Press, 2019

⁵¹ <https://watson.brown.edu/costsofwar/costs/economic/economy/employment>

⁵² <https://www.pogo.org/analysis/2020/10/selective-arithmetic-to-hide-the-f-35s-true-costs>

⁵³ <https://www.pogo.org/analysis/2021/03/the-f-35-and-other-legacies-of-failure>

⁵⁴ <https://nationalinterest.org/blog/reboot/us-air-force-has-doubts-about-f-35-197539>

⁵⁵ <https://www.pogo.org/analysis/2021/03/the-f-35-and-other-legacies-of-failure>

⁵⁶ https://www.thenation.com/wp-content/uploads/2015/05/Hartung_IPR_0114_F-35_Promising_the_Sky_Updated.pdf

⁵⁷

<https://watson.brown.edu/costsofwar/files/cow/imce/papers/2019/March%202019%20Job%20Opportunity%20Cost%20of%20War.pdf> The paper was based on \$260bn annual public spending so the figures were calculated by taking account of the ratio 200:260.

By following the Just Transition principle that guarantees current salary, housing assistance, job training, health care and pension support in the early years, some if not all 60,000 Lockheed Martin employees on the F-35 programme would move to these new jobs without losing out.

The case of the U.S. shows that progressive GND plans are incomplete unless they also call for the break-up of the military-oil industry relationship and complete decarbonising of the world's militaries.

CONCLUSION

“A Just Transition is about moving to an environmentally sustainable economy without leaving workers in polluting industries behind. It aims to support good quality jobs and decent livelihoods when polluting industries decline and others expand, creating a fairer and more equal society.”

Greenpeace⁵⁸

The indivisibility of GND planning and Just Transition is key for UK's Labour for a Green New Deal:⁵⁹

To create an active industrial strategy suited to the multi-level nature of the UK which ensures a Just Transition, through creating hundreds of thousands of unionised green jobs with greater democratic planning.

Plans such as these must include the military and defence industry and moreover, embrace the evidence that shows that people and planet get far greater value for money when we scale back the GHG emitting militaries of the world and invest that money in a peaceful, equitable, green economy.

Indeed, as the Decarbonising Defence project shows, there is support for this amongst defence workers themselves:⁶⁰

“Do we really need any more weapons? ...I think we do need, given the current state of play with the world, I think we do need some kind of defence but, in the same token, are we producing too much?” (Female defence worker, UK).

“I would be happy to lose this job and find another. And, if it was in a renewable resource, research or job, that would be fantastic. ...I would feel better about my life if I did that. ... I feel that it's important that I do my job properly in order to keep people safe.... Would I prefer to do something that was more relevant for the world? Absolutely!” (Female defence worker, US).

At the global level, a Global GND and Just Transition is a wholesale systemic societal and economic transformation to a zero-carbon world that should leave no stone unturned. WWF made the link to SDGs:⁶¹

⁵⁸ <https://www.greenpeace.org.uk/challenges/environmental-justice/just-transition/>

⁵⁹ <https://www.labourgnd.uk/explained/2021/3/14/just-transition>

⁶⁰ <https://www.decarbonising-defence.co.uk/s/DDD-Full-Report.pdf>

⁶¹ <https://unfccc.int/sites/default/files/resource/KCI%203-inputs-WWF-2.pdf>

SDG 16 - Peace, Justice and Strong Institutions: *As climate events become more and more frequent, it will increase migration and can fuel resource wars, creating pressure on global governance architecture to maintain global peace. Yet, this SDG connects with the smallest number of NDC activities. Faltering global governance architecture and increasing uncertainty on account of Covid crisis need renewed investment in global governance architecture to ensure peace and justice for all.*

Green New Deal Plus seeks to address this shortcoming.⁶²

Key Stats:⁶³

- Carbon emissions of F35 fighter jet per mission (28 Tonnes CO₂e) = One person's emissions (living in the West) over 2 years.
- USA military and defence industry combined carbon footprint: 339m tonnes CO₂e. (6% of national total emissions)
- If the Pentagon (which oversees the US military) was a country, it would be the world's 55th largest contributor to greenhouse gas emissions, more than industrialised countries such as Sweden and Portugal.
- US defence industry emissions for 2017 = 280m tonnes CO₂e, higher than Egypt
- UK military and defence industry combined carbon footprint: 13m tonnes CO₂e. (3% of national total emissions)
- Global carbon footprint estimate of the military-industrial complex (i.e. global militaries and defence industries) = around 5%

This is higher than carbon emissions from global Civil Aviation = 3%

Transport (including cars, trucks, airplanes, ships and other vehicles) account for 25% of global carbon emissions

Agriculture = 10%

In other words, the global military-industrial complex carbon footprint is one half and one fifth respectively of the global emissions from the everyday activities of food production and transport.

⁶² <https://www.datocms-assets.com/30586/1605078923-tippingpointnorthsouthresetsubmission.pdf>; <https://transformdefence.org/transformdefence/submissions/>

⁶³ <https://transformdefence.org/transformdefence/economics/green-new-deal-plus/>



Transform Defence for Sustainable Human Safety was launched in December 2020, marking the 5th Anniversary of the Paris Climate Agreement. It is a policy and advocacy project that brings together all Tipping Point North South’s military-related work together

Tipping Point North South is a co-operative that supports and initiates original, creative, campaign-driven projects that advance a global justice agenda.

<https://www.tippingpointnorthsouth.org>

All Transform Defence reports and briefing can be found at:

<https://transformdefence.org/publication/>

Indefensible: The True Cost of the Global Military to Our Climate and Human Security

<https://transformdefence.org/publication/indefensible/>

“[This report] is an important addition to the growing evidence on the significant role of military emissions in causing climate change. Using a novel methodology, it widens the analysis to all the world’s militaries... it connects the dots between military fuel use, military spending, war, and the burden of climate change on development... it [also] offers important solutions. It is essential reading for all those concerned with climate change and the path to a sustainable and secure future.”

Neta C. Crawford, Professor and Chair of Political Science Boston University and Co-Director of the Costs of War Project

Global Military Spending, Sustainable Human Safety and Value for Money

<https://transformdefence.org/publication/value-for-money/>

“[TPNS’s] Global military spending, sustainable human safety and value for money report... demonstrates how deeply inadequate the concept of ‘national security’ is in light of the ongoing pandemic and the rapidly unfolding threats of climate change,” “It asks what we can learn by looking at the policy and spending priorities of governments, and argues that, unquestioned and at our peril, governments are massively outspending on weaponry compared to the climate emergency or global health protection.”

Jen Maman, Senior Peace Adviser, Greenpeace International

Stockholm+50 & Global Military Emissions

<https://transformdefence.org/publication/stockholm50-and-global-military-emissions/>

“This briefing from Tipping Point North South, published as the Stockholm+50 Conference gets underway, seeks to tell a parallel story and it is one that connects military spending, emissions, accountability and re-distribution. It is yet one more lens through which to understand the intersection of power, money, climate change and historic responsibility. Its ‘ideas for discussion’ are ambitious, yes, but worthy of attention as the climate emergency gets ever closer to home.”

Professor Saleemul Huq, Chair of the Expert Advisory Group for the Climate Vulnerable Forum (CVF); a lead author of the third, fourth and fifth assessment reports of the Intergovernmental Panel on Climate Change (IPCC); advisor to the Least Developed Countries (LDC) group in the United Nations Framework Convention on Climate Change (UNFCCC)

Military and Conflict Related Emissions: Kyoto to Glasgow and Beyond

<https://transformdefence.org/publication/military-and-conflict-related-emissions-report/>

“This report is a valuable aid in mapping out the steps to achieve important goals such as an IPCC Special Report into military carbon emissions. Through my work at Scientists for Global Responsibility, I see the momentum around this topic is growing rapidly. The report recommendations give a clear direction for action through the formal UN climate convention processes.”

Dr Stuart Parkinson, Executive Director of Scientists for Global Responsibility

Transform Defence piece on ‘From Poverty to Power’.

“If it is right to address the damage of Western finance, on development through the lens of indebtedness or tax havens, then surely the time has come to look at the impact on the global south of rich nations foreign and defence policy as manifested through insane ever rising levels of military spending.”

I wholeheartedly endorse that... Think back to the Overton window... What do you have to do to shift military spending into a legitimate discussion rather than security is for big boys ie there's no way we're going to let you climate change people get your hands on that.... (But) this is how things move into the Overton window, through this kind of forward thinking so I hope it's part of a longer-term shift.

Duncan Green From Poverty to Power, Oxfam Strategic Advisor