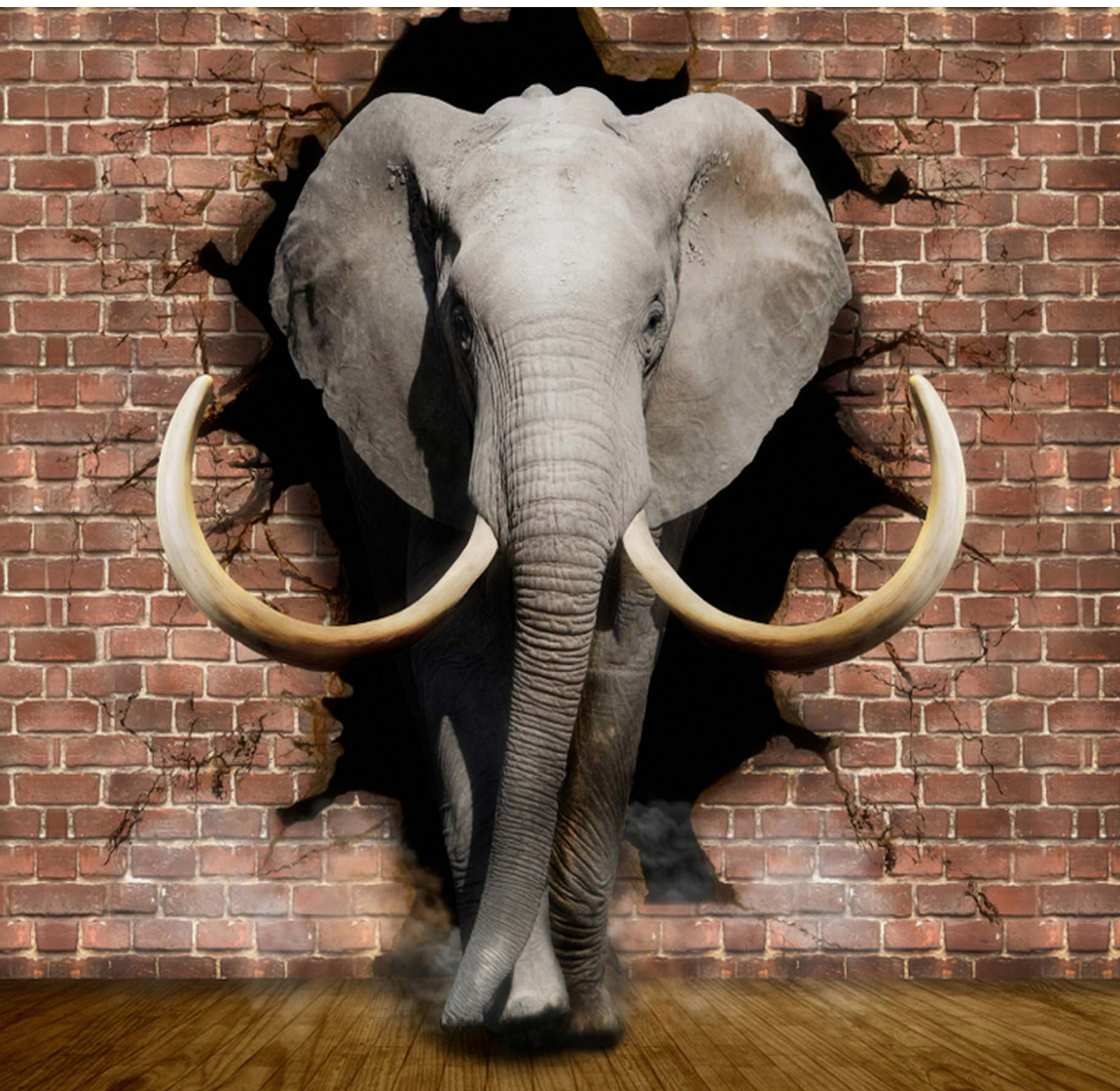


TIPPING POINT NORTH SOUTH

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

STOCKHOLM+50 AND GLOBAL MILITARY EMISSIONS

ACCELERATING THE DECARBONISATION ROUTE TO THE ZERO-CARBON FUTURE



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*.

Stockholm+50 and Global Military Emissions: Accelerating the Decarbonisation Route to the Zero-Carbon Future is the second in Tipping Point North South's ***United Nations and the Global Military*** series of reports and briefings that offer fresh new thinking for progressively converting military spending into funding for development, strengthening sustainable human safety, and averting climate catastrophe under the United Nations framework.

Tipping Point North South's work on global military spending (Five Percent Proposal, global military and climate change; Green New Deal Plus) is supported by Polden-Puckham Charitable Foundation; the Ratcliff Foundation and Jam Today. It is all held under the project title *Transform Defence for Sustainable Human Safety*.

May 2022

ACKNOWLEDGEMENTS

Report written by Dr. Ho-Chih Lin and Deborah Burton.

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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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FOREWORD

Climate change is a rich-world driven phenomena, many decades in the making. Rich countries of the Global North are collectively responsible for 92% of excess carbon emissions while Asia, Africa, Latin America accounts for only 8 per cent, with most countries in the Global South (China and Brazil excluded) contributing nothing to the climate crisis. Are we seeing climate 'fair shares'? Support for loss and damage underwritten by the guilty parties? Properly funded climate finance?

The answer is no.

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.

The G20 nations comprise 87% of annual global military spending, which is, in turn, spent on gas-guzzling jets, tanks, warships etc. Clearly, at \$2trillion per annum (and rising), military spending is a far greater priority than the climate chaos reality being lived day in day out by hundreds of millions of children, women and men across the global south.

One figure to illustrate this. In 2020, public climate finance was estimated to be \$321bn, less than one sixth of the \$1981bn sum spent by global militaries in the same year.

Or another — since 2015, the G7 and other industrialised countries have committed to spend \$100bn a year under UNFCCC to support climate action in developing countries. The pledge was never fulfilled, yet just one-year's global military spend would fund climate finance for twenty years.

The briefing includes a few more startling comparisons. The \$2 trillion lifetime cost of Lockheed Martin's F-35 fighter jet could have funded UN disaster risk reduction for the next 4,000 years or global biodiversity conservation at \$10bn per annum for the next 20 years or WHO funding at \$2bn per annum for the next 1,000 years

'Stockholm+50 and Global Military Emissions' is also very much about shining a spotlight on the undisclosed nature of much of the global military's emissions. There is no accurate account of military emissions, in peacetime or war because the global military is currently exempt from compulsory reporting of GHG emissions to the UNFCCC.

And so its calls for an IPCC Special Report may be a long time coming, as will its call for a new UNFCCC topic 'Carbon Neutral Peace and Defence', but both point to one thing: the need for a much deeper understanding, indeed debate, about the impact of the military on climate change and what must urgently be done to address it.

In the longer term, it provokes wider conversations about how we leave behind 19th century framing of international relations in order to address the scale of the threats facing the human family and home planet, in this century and the next.

If we are here.

Professor Saleemul Huq

Director of the International Centre for Climate Change and Development (ICCCAD); 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)

ACCELERATING THE DECARBONISATION ROUTE TO THE ZERO-CARBON FUTURE

Until now, we have collectively and consistently ignored the massive yet unaccounted for 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. We must start to factor both into climate calculations because we are ignoring them at our peril.

Stockholm+50 affords an important opportunity at a milestone UN gathering to raise this debate and chart the actions necessary, within the action plan of the Conference aims.

STOCKHOLM+50

The conference is being convened by the UN General Assembly and the Governments of Sweden and Kenya. It will take place during the same week as World Environment Day (another outcome of the 1972 Conference). To mark the 20th anniversary of the Stockholm Declaration, the UN convened the 1992 Earth Summit and brought



together an unparalleled number of policymakers, scientists, and nongovernmental organizations in Rio de Janeiro. There, they adopted the three Rio Conventions on biodiversity, climate change, and desertification, which are the focal points for international environmental rule-making and action to this day. Therefore, it is hoped that Stockholm+50 will be a jumping-off point for accelerating groundbreaking international agreements and reinventing how we can accomplish the goals of the 2030 Agenda for Sustainable Development, Paris Agreement, and Global Biodiversity Framework.

It's time for bold choices. It's time for urgent action. It's time for a better future on a healthy planet.

On 2 and 3 June 2022, a crucial international environmental meeting will be held in Stockholm, Sweden. Anchored in the Decade of Action, under the theme "Stockholm+50: a healthy planet for the prosperity of all – our responsibility, our opportunity," this high-level meeting will follow months of consultations and discussions with individuals, communities, organizations and governments around the world. A one-day preparatory meeting was held at United Nations Headquarters in New York on 28 March 2022.

Stockholm+50 will commemorate the 1972 United Nations Conference on the Human Environment and celebrate 50 years of global environmental action.¹ By recognizing the importance of multilateralism in tackling the Earth's triple planetary crisis – climate, nature, and pollution – the event aims to act as a springboard accelerate the implementation of the UN Decade of Action to deliver the Sustainable Development Goals, including the 2030 Agenda, Paris Agreement on climate change, the post-2020 global Biodiversity Framework, and encourage the adoption of green post-COVID-19 recovery plans.

¹ <https://www.stockholm50.global/>



GLOBAL MILITARY EMISSIONS: A HIDDEN CLIMATE BURDEN

The world must cut global greenhouse gas (GHG) emissions by at least 50% by 2030 if we are to limit the global temperature rise to 1.5°C – we have less than eight years.² While all aspects of human activity are required to urgently decarbonise, one sector remains out of view: the global military.

The global military is currently exempt from compulsory reporting of GHG emissions to the UN/IPCC. Some countries, including the USA, the UK and Germany, voluntarily report, but this is a bare-minimum disclosure as the IPCC template and codes have only a handful of items mentioning domestic military-related activities.

This means the public and policy makers are unable to obtain an accurate picture of the global military's overall contribution to climate heating – from its massive fossil fuel consumption both domestically and overseas to its military exercises and expeditions; from the impacts of conflict and war to GHG emissions arising from post-conflict reconstruction or nation rebuilding.³

As a result, the global military, a significant contributor to climate change over decades, continues to carry out its business as usual. Its carbon footprint is estimated to be several percent of global total carbon emissions and are comparable with the carbon emissions of civilian aviation.⁴ Military organizations' efforts to use renewable energy for installations and achieve greater efficiencies in operations are a start, but as yet insufficient and do not address the root cause — namely, modern militaries are completely dependent on fossil fuels and are among the biggest institutional consumers of oil in the world, with no sign of realistic or practical zero-carbon plans to reduce their carbon emissions.

“Decarbonising entire economies means tackling sectors where emissions are especially difficult to reduce, such as shipping, trucks, aviation, heavy industries like steel, cement and chemicals, and agriculture.”

*Dr Hoesung Lee, Chair of the Intergovernmental Panel on Climate Change, and
Dr Fatih Birol, Executive Director of the International Energy Agency⁵*

The global military must be added to the above list of hard-but-must-be-tackled sectors.

² <https://www.ipcc.ch/sr15/>

³ Ho-Chih Lin and Deborah Burton, 'Indefensible: The true cost of the global military to our climate and human security,' Transform Defence, 2020, <https://transformdefence.org/publication/indefensible/>; Neta C. Crawford, "Pentagon Fuel Use, Climate Change, and the Costs of War," Costs of War Project, 2019, <https://watson.brown.edu/costsofwar/papers/ClimateChangeandCostofWar>; Oliver Belcher, Patrick Bigger, Ben Neimark, and Cara Kennelly, "Hidden Carbon Costs of the 'everywhere war': Logistics, Geopolitical Ecology, and the Carbon Boot-print of the US Military," 2019, <https://rgs-ibg.onlinelibrary.wiley.com/doi/10.1111/tran.12319>; Various reports by Stuart Parkinson and colleagues, Scientists for Global Responsibility, <https://www.sgr.org.uk/projects/climate-change-military-main-outputs>.

⁴ *ibid*

⁵ <https://www.ipcc.ch/2020/07/31/energy-climatechallenge/>

HIGH MILITARY SPENDING FUELS MILITARY EMISSIONS

Foreign and defence policy is inextricably linked to military spending; large military spending budgets are inextricably linked to emissions; these in turn are a significant contributor to climate change, which, as we all know, is wreaking the most devastating effect on international development, with the greatest burden falling on the poorest people on the planet.

The G20 nations (Argentina, Australia, Brazil, Canada, China, Germany, France, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, UK, USA and the European Union) comprise 87% of the \$2 trillion annual global military spending. The top 20 military spenders (USA, China, India, UK, Russia, France, Germany, Saudi Arabia, Japan, South Korea, Italy, Australia, Canada, Iran, Israel, Spain, Brazil, Turkey, Netherlands and Poland) on the other hand collectively account for 85%.⁶ The overlap (underlined) of the two lists (of economic and military power) are telling.



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.*⁷ This is to be expected since 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.

In short, higher global military spending means massively more GHG emissions.

And ultimately, these expensive fossil-fuel-dependent weapons systems are intended for use, as the people of Yemen, Syria, Iraq, Afghanistan and Ukraine will testify. They will face the horrors of wars, their homes destroyed and will rely on emergency humanitarian appeals – *while at the same time living on the frontline of climate emergency.*

A carbon-neutral world demands we cut military budgets and fully decarbonise our militaries.

⁶ https://www.sipri.org/sites/default/files/2022-04/fs_2204_milex_2021_0.pdf

⁷ *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 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>

COP26 AND MILITARY EMISSIONS

The Glasgow COP was a huge disappointment in many ways for those in the global south who have been facing the consequences of climate change for many years already. Loss and damage failed to make real progress; climate finance still remains feeble in the face of the need. It's not the money isn't there.

It's all about priority.

These numbers illustrate the priorities.

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. 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.⁹ \$20bn, that's one hundredth of the amount governments spent on weapons and wars, fuelling climate heating; there is a strong case to be made that we demand better value for money and some of this excessive military spending can be diverted for our benefits *and without endangering human safety*.

Global military spending in 2021 was \$2.1 trillion.¹⁰

Since 2015, the G7 and other industrialised countries have committed to spend \$100bn a year under UNFCCC to support climate action in developing countries.¹¹ The pledge was never fulfilled. One-year's global military spend will fund climate finance for 20 years.

*Twenty years.*¹²

For Glasgow, some progress was made as civil society pushed the topic of military emissions onto the public and media agenda. This took place in the lead-up to and at COP26 itself, with open letters to G7 and G20 with expert signatories; petition call for military emissions to be on the COP27 agenda; a new website launched on military emissions reporting gap.¹³

Stockholm + 50 can further advance this matter.

TO 'ACCELERATE IMPLEMENTATION' AT STOCKHOLM+50 IS TO ACCOUNT FOR AND TO REDUCE MILITARY EMISSIONS

The global military is fossil fuel dependent in peacetime and in conflict or war. In all conflicts, infrastructure is devastated and cement production is one of the most carbon intensive

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

⁹ <https://oxfamlibrary.openrepository.com/handle/10546/621066>

¹⁰ <https://www.sipri.org/publications/2022/sipri-fact-sheets/trends-world-military-expenditure-2021>

¹¹ <https://www.odi.org/blogs/9611-g7-take-climate-finance>

¹² *Global military spending, sustainable human safety and value for money*, <https://transformdefence.org/publication/value-for-money/>

¹³ Open letters <https://transformdefence.org/icesculpture/#Scotsman>; petition <https://tippingpointnorthsouth.org/open-letter-cop26/>; website <https://militaryemissions.org/>

processes. From Iraq to Afghanistan, from Yemen to Ukraine, in myriad ways, it is ever more evident that 'war in an absurdity in the 21st century'.¹⁴

This growing understanding is mirrored in the mounting pressure from civil society as it realises that climate change is significantly impacted by military-related activities.

For Stockholm+50, Swedish civil society published a Stockholm Statement calling on the Conference to demonstrate radical steps towards global environmental and climate justice. The conference must result in bold and tangible outcomes that meet the urgency of the climate and biodiversity crises...

Item 9 addresses military emissions.

"The climate crisis is the biggest security threat of our time, and one that cannot be met by military means. While the environmental and climate crises are and will increasingly be contributing factors to conflicts, increased militarisation and conflict, in turn, causes environmental destruction and large-scale emissions. The conference should suggest target-setting for the environmental impact and greenhouse gas emissions of the military sector."

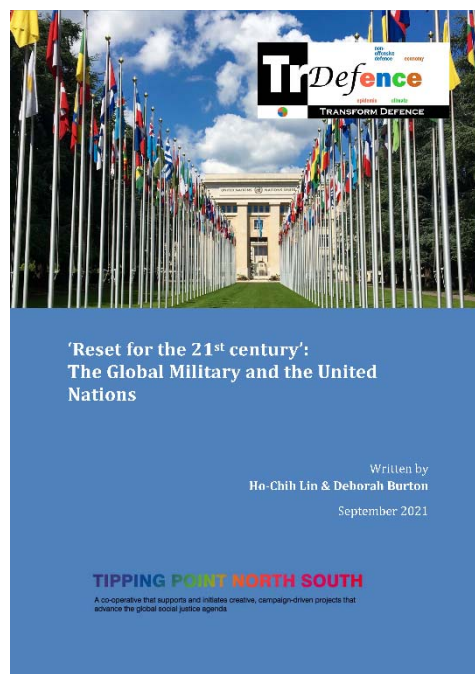
While some countries do report their emissions, most do not and those who do, do so voluntarily and inadequately. The recommendations below offer a roadmap to getting military emissions comprehensively reported and onto the relevant UN agendas, where the topic can be more fully debated and addressed.

WHY THIS ISSUE IS SO PRESSING FOR THE UNITED NATIONS AS THEY DEBATE AGENDA 2030 AND PARIS AGREEMENT AT STOCKHOLM 2022

In our report *Reset for the 21st Century: The Global Military and the United Nations*, we explored the myriad ways in which the global military as whole – and primarily the top 20 spenders and arms sellers – impact on the SDGs and on climate change.¹⁵

It explored why the impact of the global military on climate change demands much more attention and scrutiny at UN level; why we need to divert runaway military spending to make up the SDGs funding shortfall; how a wider debate on definitions of 'security' and 'defence' is of benefit to the UN and citizens of the world; and why a Security Council high level open debate is needed to bring all these inter-related issues together in order to frame an urgent new 21st century paradigm for security – that of 'sustainable human safety'.

It included various 'value for money' comparative examples, which are relevant to the wider 'where does the money come from' debate on matters



¹⁴ <https://www.theguardian.com/world/2022/apr/28/un-secretary-general-describes-war-in-ukraine-as-absurdity-in-21st-century>

¹⁵ <https://transformdefence.org/publication/the-global-military-and-un/>

of SDGs shortfall or climate finance. It looked at the cost of the Lockheed Martin F-35 weapons system and its estimated global total 70-year lifetime cost of \$2 trillion. A F-35 fighter jet consumes nearly 6000 litres of fuel per flight hour,¹⁶ emitting per mission as much as two-year's worth of carbon emissions of a typical westerner,¹⁷ and will be the backbone of the NATO countries' Air Forces but completely incompatible with the global 2050 net-zero goal.¹⁸

It calculated that the \$2 trillion wasted on the F-35s could have funded any one of a number of critical agencies/activities below:

- Climate finance for 20 years
- UN disaster response for the next 400 years
- UN disaster risk reduction for the next 4,000 years
- Global biodiversity conservation at \$100bn per annum for the next 20 years
- WHO funding at \$2bn per annum for the next 1,000 years
- WHO's COVID-19 Solidarity Response Fund for 2,963 years
- Global pandemic surveillance and control at \$8bn per annum for the next 250 years
- Money for 4 years to lift the poorest people in the world above extreme poverty (UBI for the 700 million poorest)
- UN peacekeeping operations at current \$4.5bn per annum for the next 444 years
- UN peacekeeping at \$15bn per annum for the next 133 year

And looked at this in another way, global military spending in 2021 was \$2.1 trillion – one single year's worth of world military expenditure would 'procure' any of the above, and 20 years' worth of world military expenditure would procure all of them. Furthermore, to do all of the above requires \$740bn a year (and \$500bn of this is UBI for 700m people), equating to mere 35% of annual global military spending

IDEAS FOR DISCUSSION AT STOCKHOLM+50

To fully comply with the urgent need to reach zero-carbon, and the growing realisation that we continue to adopt 19th and 20th century thinking to a 21st climate emergency at our peril, we call upon STOCKHOLM+50 to acknowledge this climate 'elephant in the room' and embark on a plan of action that ensures the fossil-fuel dependent militaries of the world cannot avoid urgent actions that move them toward carbon neutrality by 2050.

[The calls below are all drawn from previous TPNS Transform Defence reports: The Global Military and the UN, Indefensible, Global Military Spending and Value for Money.¹⁹ A new TPNS commissioned report on military emissions and UNFCCC reporting is due out later in June 2022.]

- 1. CREATE A UNFCCC TOPIC:** Create a new UNFCCC TOPIC 'Carbon Neutral Peace and Defence' and fill the 'Knowledge Gap' across UN and national processes on the global military's greatly under-estimated carbon footprint. No societal, economic or environmental zero-carbon transformation is complete without parallel transformation in foreign affairs, defence, security and international development.

¹⁶ <https://www.dw.com/en/the-bootprint-of-war-carbon-emissions/a-57682807>

¹⁷ <https://transformdefence.org/green-new-deal-plus/>

¹⁸ <https://www.un.org/en/climatechange/net-zero-coalition>

¹⁹ <https://transformdefence.org/publication/>

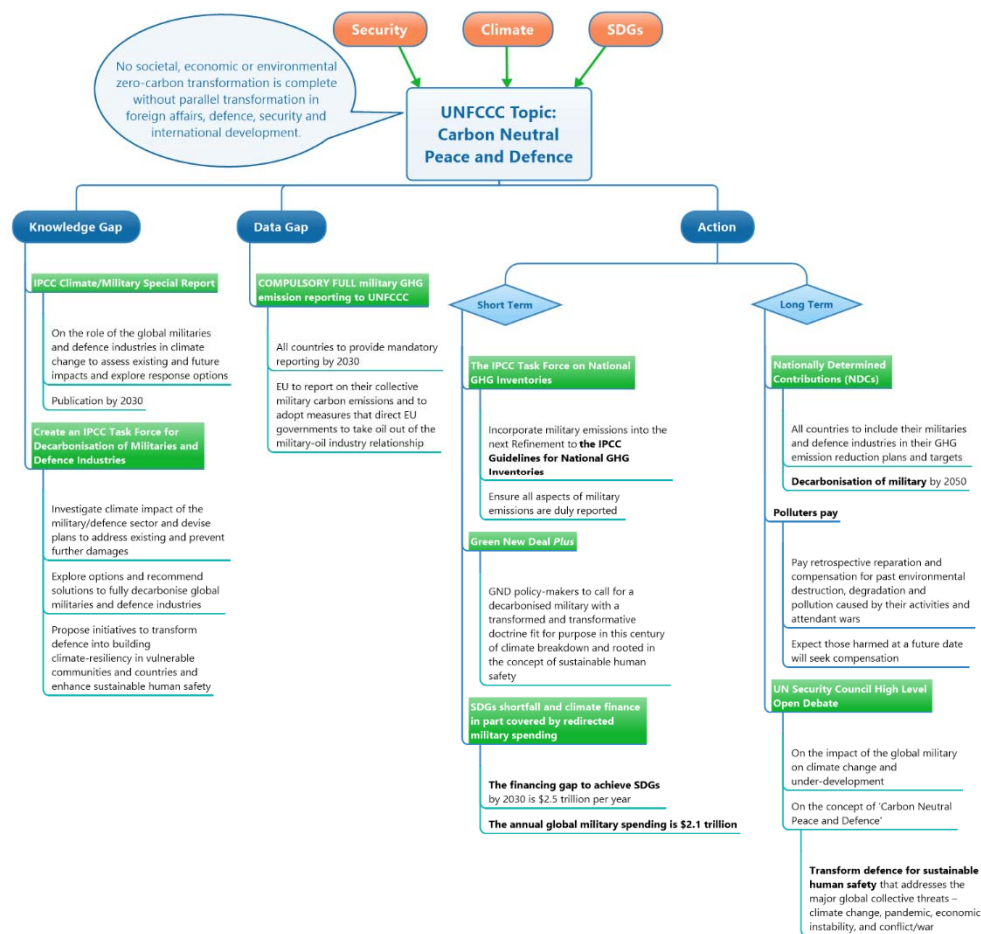
2. **CREATE AN IPCC TASK FORCE FOR DECARBONISATION OF MILITARIES AND DEFENCE INDUSTRIES** to investigate climate impact of the military/defence sector and devise plans to address existing and prevent further damages. The task force will explore options and recommend solutions to fully decarbonise global militaries and defence industries. The task force will also propose initiatives to transform defence into building climate-resiliency in vulnerable communities and countries and enhance sustainable human security.
3. **PUBLISH AN IPCC SPECIAL REPORT** on the role of the global militaries and defence industries in climate change to assess existing and future impacts and explore response options. To close the knowledge gap in this sector.
4. **MAKE IT *COMPULSORY* FOR NATIONS TO SUMBIT *FULL* GHG EMISSION REPORTING OF THEIR MILITARY TO UNFCCC/IPCC.** Nations' militaries, defence industries, and attendant conflicts and wars must be included in their GHG emission reporting and carbon-reduction targets. This reporting must also account for emissions incurred overseas, especially for those nations with overseas bases. The Task Force on National GHG Inventories must look into how to incorporate these into the next Refinement to the IPCC Guidelines for National GHG Inventories.
5. **NATIONALLY DETERMINED CONTRIBUTIONS (NDCS): ALL COUNTRIES TO INCLUDE THEIR MILITARIES AND DEFENCE INDUSTRIES IN THEIR GHG EMISSION REDUCTION PLANS AND TARGETS**, taking into account *total carbon footprints* of their militaries and defence industries. Militaries to publish their plans to decarbonise to meet the zero-carbon goal – simple technical measures (e.g. solar panels on military bases or electric killer drones) are not the answer.
6. **EUROPEAN UNION** to report on its collective military carbon emissions and to adopt measures that direct EU governments to take oil out of the military-oil industry relationship, surrendering their significant role in driving catastrophic climate change and attendant human suffering.
7. **COP 27 and 28** Military emissions on the COP Agenda – the topic of military emissions needs to be given due attention and included in agendas
8. **CALL FOR UN P5+1 NATIONS** (USA, China, Russia, France, UK and Germany) responsible for keeping the world's peace, yet accounting for 80% of its arms sales, to support a shift from military spending to invest in climate finance, education or health.
9. **CONFLICT POLLUTERS PAY** We should expect the same of defence/arms companies and national militaries as we do of other vested interests that knowingly harm civilians, e.g. corporate tobacco, pharma or oil. They should pay retrospective reparation and compensation for past environmental destruction, degradation and pollution caused by their activities and attendant wars. They should also expect that those harmed at a future date will seek compensation.
10. **CALL FOR FOREIGN, SECURITY, DEFENCE AND INTERNATIONAL DEVELOPMENT POLICIES THAT WORK IN TANDEM FOR BETTER OUTCOMES.**

Sustainable human safety to supersede national interest.²⁰ We need (i) international development to become global social justice (ii) foreign policy-making to be ethical (iii) and the parameters of 'defence' widened in favour of sustainable human safety that addresses the major global collective threats – climate change, pandemic, economic instability, and conflict/war.

11. GREEN NEW DEAL PLUS.²¹ High defence spending inhibits economic and social development and is incompatible with GND goals. GND policy-makers to call for a decarbonised military with a transformed and transformative doctrine fit for purpose in this century of climate breakdown and rooted in the concept of sustainable human safety.

12. PART-FUND \$2-4 TRILLION SDGS GAP (to 2030) from escalating military budgets 2023-30 and beyond via proposals such as the 2% Peace Dividend or the Five Percent Proposal.²²

13. HOLD A SECURITY COUNCIL HIGH-LEVEL OPEN DEBATE on the impact of the global military on climate change and under-development and the concept of 'Carbon Neutral Peace and Defence'.



²⁰ <https://transformdefence.org/publication/value-for-money/>

²¹ <https://transformdefence.org/green-new-deal-plus/>

²² <https://transformdefence.org/the-five-percent-proposal/>; <https://peace-dividend.org/>

SUPPLEMENTARY FACTS AND STATS

INDEFENSIBLE (2020 REPORT)²³

The global military, climate change and human safety.

Key findings on the destructive merry-go-round of war, devastation and rebuilding:

- ❖ **The carbon footprint of the global militaries and associated defence industries** is 445 million tonnes of CO₂ equivalent (2017); this is **larger than the annual greenhouse gas emission of the entire country of Italy, and not much smaller than the total GHG emissions by UK** (505 million tonnes of CO₂ equivalent) and France (482 million tonnes of CO₂ equivalent) respectively.
- ❖ **The global militaries and defence industries account for at least 1% of the total global greenhouse gas emissions**, and the figure could be as high as 5%.
- ❖ For comparison, **civil aviation accounts for approximately 2.1 % of global GHG emissions**.
- ❖ If we rank **the world's militaries together as a single country, they would be the 29th biggest oil consumer in the world, just ahead of Belgium or South Africa**. To put it another way, this is half the oil consumption of the world's 5th biggest economy, the UK or the 6th biggest, France.
- ❖ The total GHG emissions of **the nine-year Iraq War** (between 2003 and 2011) were approximately 254 million tonnes of CO₂. That's **slightly more CO₂ released than the 14th biggest economy in the world, Spain**, in 2016, and only a quarter less than the 6th biggest economy, France.

WAR SPENDING AND CONFLICT

- ❖ Global military spending is currently \$2 trillion per annum and twice as much as at the height of the cold war
- ❖ Conflicts hit a record high in 2020, with more active conflicts than at any time since 1945. Internationalised internal conflicts have tripled in the last decade with a significant increase of third-party state military interventions.²⁴

THE GUILTY PARTIES

- ❖ The G20 nations account for 87% of annual \$2 trillion military spending. In 2021, the U.S. defence budget was \$800bn – more than the next 10 top spending nations combined.

²³ If not otherwise specified, references for this chapter can be found:

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

²⁴ <https://www.iiss.org/blogs/analysis/2021/09/acs-2021-the-long-aftermath-of-armed-conflicts>

- ❖ G20 military budgets are locked into fossil fuel dependent hardware like tanks, warships and the F-35 fighter jet, which itself drinks 5600 litres (1480 gallons) of fuel per flight hour.²⁵
- ❖ The UK MoD is the largest single contributor to GHG emissions within the UK central government responsible for half of the total.
- ❖ According to the 2020 report by Scientists for Global Responsibility, the UK military sector emitted at least 6.5 million tonnes of CO₂ equivalent in 2017-2018.²⁶
 - Of these, the report estimates that the Ministry of Defence's (MOD) total direct GHG emissions in 2017-2018 were 3.03 million tonnes of CO₂ equivalent, similar to the emissions of the UK's vehicle manufacturing industry.
 - UK military and defence industry combined carbon footprint could potentially be as high as 13m tonnes CO₂e (3% of national total emissions).
- ❖ The Costs of War Project (2019) 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.²⁷
 - The Pentagon would be the world's 55th largest CO₂ emitter if it was a country, more than many industrialized nations including Portugal, Sweden and Switzerland.
 - US defence industry emissions for = 280m tonnes CO₂e, higher than Egypt.
- ❖ The US Air Force is the largest user of fuel energy in the US federal government, consuming more than 2 billion gallons of jet fuel per year, and accounts for around 10% of total aviation fuel use in the United States.
- ❖ A modern military typically consumes more than half of its total fossil fuel consumption on aviation fuels (e.g. over two thirds in the UK and around 60% in the USA).
- ❖ Global carbon footprint of the military-industrial complex (i.e. global militaries and defence industries) = around 5%
 - This is higher than carbon emissions from global civil aviation = 2%
 - 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 foot-print is *one half* and *one fifth* respectively of the global emissions from the everyday activities of food production and transport.

DEFENCE CONTRACTS + WAR = MONEY MAKING TROUGH

²⁵ <https://www.streamnews.net/article/Norway-worries-that-F35-pollutes-the-environment-m8v2kHNT>

²⁶ <https://www.sgr.org.uk/projects/climate-change-military-main-outputs>

²⁷ <https://watson.brown.edu/costsofwar/papers/ClimateChangeandCostofWar>

- ❖ **HARDWARE & SERVICES** The global defence market size is nearly half a trillion dollar (\$453bn in 2021).²⁸
 - The gas-guzzling Lockheed F35 Fighter jet (just completed, partially built in the UK and now being sold around the world) was projected to cost \$2tr in total around the world over its expected lifetime – a massive public to private wealth transfer.
 - The US accounts for 37% of all global arms sales, followed by Russia (20%).²⁹
 - The top 5 U.S. defence contractors received \$150bn a year from the Pentagon. Lockheed Martin alone received \$75bn for federal contracts, more than the entire budget of the U.S. State Department.³⁰
- ❖ **WAR** “\$10,000 of stock evenly divided among America’s top five defense contractors on September 18, 2001 — the day President George W. Bush signed the Authorization for Use of Military Force in response to the 9/11 terrorist attacks — and faithfully reinvested all dividends, it would now be worth \$97,295.” Much better return on investment (an ROI of nearly 900%) than if the exact same amount were invested in general economy, e.g. an S&P500 index fund.³¹
 - *“I make no apology for that, I think, again, recognizing, you know, we are there to defend democracy. And the fact is, eventually we will see some benefit in the business over time. Everything that’s being shipped into Ukraine today, of course, is coming out of stockpiles, either at DOD or from our NATO allies. And that’s all great news. Eventually we’ll have to replenish it, and we will see a benefit to the business over the next coming years.”*³² Gregory Hayes, CEO of Raytheon

SDGs, CLIMATE FINANCE, LOSS & DAMAGE

- ❖ Between 720 and 811 million people faced hunger in 2020 (161 million more than for 2019). UN Secretary-General said the world is ‘tremendously off track’ to achieve the Sustainable Development Goals by 2030.³³
- ❖ The SDGs as a whole face a shortfall of something in the order of \$2.5 trillion annually (UN pre-Covid estimate).³⁴
- ❖ The annual \$100bn climate finance target to support developing countries still has yet to be fully met.
- ❖ COP26 dismal failure to get Loss and Damage taken up.

²⁸ <https://www.thebusinessresearchcompany.com/report/defense-global-market-report>

²⁹ https://sipri.org/sites/default/files/2021-03/fs_2103_at_2020_v2.pdf

³⁰ https://www.democracynow.org/2022/4/15/pentagon_russia_ukraine_800_million_arms

³¹ <https://theintercept.com/2021/08/16/afghanistan-war-defense-stocks/>

³² <https://hbr.org/2022/03/raytheon-ceo-gregory-hayes-how-ukraine-has-highlighted-gaps-in-us-defense-technologies>

³³ <https://www.un.org/sustainabledevelopment/blog/2021/07/tremendously-off-track-to-meet-2030-sdgs-un-chief/>

³⁴ <https://unctad.org/press-material/developing-countries-face-25-trillion-annual-investment-gap-key-sustainable>

MILITARY SPEND VS CLIMATE SPEND

- ❖ Global military spending to public climate spending is 6:1. Total public expenditures on climate change (international and domestic) was estimated to be \$321bn in 2020,³⁵ less than one sixth of the \$1981bn sum spent by global militaries in the same year.
- ❖ International climate finance to support developing countries (\$20bn) is completely overshadowed by military spending (\$900bn spent by G7) in 2018.³⁶

GAZ GUZZLERS

- ❖ The Lockheed Martin F-35 Lightning II, with a projected service life up to 2070 and partially (10%) built by Britain's BAE Systems, has a fuel capacity that at least doubles the F-16's fuel capacity (3900 litres).
 - Drinks 5,600 litres fuel per flying hour
 - Lockheed Martin expected to sell more than 3,000 F-35s worldwide.
 - Carbon emissions of F35 fighter jet per mission (28 Tonnes CO₂e) = One person's emissions (living in the West) over 2 years

VALUE FOR MONEY: MILITARY SPEND VS EVERYTHING ELSE

TPNS Value for Money report (2020) looked at various 'value for money' comparative examples, including the \$2 trillion cost of the Lockheed Martin F-35 weapons system.³⁷

The \$2 trillion for F-35 could have funded any one of the critical agencies/activities below:

- Climate finance for 20 years
- UN disaster response for the next 400 years
- UN disaster risk reduction for the next 4,000 years
- Global biodiversity conservation at \$100bn per annum for the next 20 years
- WHO funding at \$2bn per annum for the next 1,000 years
- WHO's COVID-19 Solidarity Response Fund for 2,963 years
- Global pandemic surveillance and control at \$8bn per annum for the next 250 years
- Money for 4 years to lift the poorest people in the world above extreme poverty (UBI for the 700 million poorest)
- UN peacekeeping operations at current \$4.5bn per annum for the next 444 years
- UN peacekeeping at \$15bn per annum for the next 133 year

Looked at it another way.

- ❖ 20 years' worth of world military expenditure (\$2 trillion in 2020) would procure **ALL** of the items mentioned.

³⁵ <https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2021/>

³⁶ <https://oxfamlibrary.openrepository.com/handle/10546/621066>; SIPRI.

³⁷ <https://transformdefence.org/publication/value-for-money/>

- ❖ Furthermore, to fund all of this list requires \$740bn a year (\$500bn of this is UBI for 700m people). This equates to mere 37% of annual global military spending. Take out the UBI, a mere 12% of annual global military spending can fund all the remaining items.

CONFLICT PREVENTION, PEACE BUILDING AND PEACEKEEPING

underfunded yet needed more than ever

- ❖ A 2018 study estimated that if the UN had invested \$200 billion in peacekeeping operations with strong mandates during the period 2001–2013, major armed conflict would have been reduced by up to two-thirds (relative to a scenario with no peacekeeping operation) and 150,000 lives would have been saved. The actual budget over these 13 years was \$59 billion. The researchers conclude that “UN peacekeeping is clearly a cost-effective way of increasing global security.”
- ❖ As of December 2020³⁸
 - 10 out of 21 ongoing UN peace operations were located in countries ranked as most exposed to climate change.
 - 6 of the 10 biggest UN peace operations (by total international personnel) were in countries ranked most exposed to climate change.
 - Of a total of 92,159 personnel deployed to UN peace operations, 80 per cent (74,396 personnel) were deployed in such countries.

GREEN NEW DEALS: POLICIES MUST INCLUDE MILITARY SPEND AND EMISSIONS

U.S. Senator Bernie Sanders in his Green New Deal offer during the presidential race included this courageous, paradigm-shifting pledge,

Bring together the leaders of the major industrialized nations with the goal of using the trillions of dollars our nations spend on misguided wars and weapons of mass destruction to instead work together internationally to combat our climate crisis and take on the fossil fuel industry. Bernie recognizes that the Pentagon is the largest institutional emitter of greenhouse gases in the world and that the United States spends \$81 billion annually to protect oil supplies and transport routes. We are uniquely positioned to lead the planet in a wholesale shift away from militarism.

WRONG

- ❖ The US Congress has approved a mere \$1 billion in international climate finance for 2022 – falling far short of Joe Biden’s pledge to provide \$11.4bn a year by 2024.³⁹ The budget is only \$387 million more than Trump-era spending.

³⁸ <https://www.sipri.org/commentary/topical-backgrounder/2021/why-united-nations-peace-operations-cannot-ignore-climate-change>

³⁹ <https://www.climatechangenews.com/2022/03/11/betrayal-us-approves-just-1bn-climate-finance-for-developing-countries-in-2022/>

Analysis by the Overseas Development Institute found the US should be providing \$45-50 billion of international climate finance every year under a “fair share” calculation that includes the size of its economy and historical emissions. The \$1bn voted by Congress is just 2% of its fair share.

WARS, EMISSIONS, BOMBS, DESTRUCTION

- ❖ According to “very conservative” estimates published by Oil Change International in its 2008 *The Climate of War* report, the Iraq War was responsible for at least 141 million tonnes of CO₂ equivalent from the start of war in March 2003 up to December 2007 – 28.2 million tonnes of CO₂ equivalent per year.
 - If the Iraq war were ranked as a country in terms of GHG emissions, it would rank above 139 of the world’s countries.
 - And if this annual emissions figure were multiplied by the number of years of the Iraq War, total GHG emissions for the war would be approximately 254 million tonnes of CO₂ equivalent – more than the 2016 emissions by Spain (the 14th biggest economy in the world), and only a quarter less than France (the 6th biggest economy in the world).
 - At the height of the Iraq War in 2005, the Pentagon alone consumed daily the same amount of oil as the whole of Iraq – consumption that would rank the Pentagon 34th in the world ahead of Pakistan (with a very big population) and Sweden (with an advanced industrial economy).
- ❖ The US coalition dropped 4,000 bombs in Afghanistan in 2017 and more than 7,000 bombs in 2018.
- ❖ The Saudi coalition carried out 19,000 airstrikes, dropping British and American made bombs between March 2015 and January 2019 in Yemen.
- ❖ The US-led coalition (including the UK, France, the Netherlands and Iraq) has launched more than 15,000 airstrikes in Syria – in the battle for Raqqa alone, at least 21000 munitions were dropped – while Russia conducted 9,000 airstrikes between October 2015 and March 2016.
- ❖ During Israel’s seven-week Operation Protective Edge in 2014, more than 6,000 airstrikes were carried out in Gaza, the 3rd most densely populated place on earth.
- ❖ Cement production is one of the largest industrial sources of GHG emissions in the world – contributing an estimated 8% of total global CO₂. In the World Bank’s 2017 *Toll of War* report on the consequences of war in the 10 worst-affected Syrian cities, it was estimated nearly 900,000 housing units were (partially) destroyed in 2017. The cement required to rebuild these units will release approximately 22 million tonnes of CO₂.

ABOUT US



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

It includes roadmaps for progressively converting military spending into funding for development; calling military emissions to account to UN processes; developing new thinking on how to reshape current foreign and defence policies that better advance our collective human safety.

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

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

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>

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