



# INDEFENSIBLE:

The true cost of the global military  
to our climate and human security

The case for deep cuts to global  
military spending and emissions

## Executive Summary

**TIPPING POINT NORTH SOUTH**

A co-operative that supports and initiates creative, campaign-driven projects that  
advance the global social justice agenda

## MILITARY SPENDING: A HIDDEN DRIVER OF CLIMATE CHANGE

**The global military is a major driver of climate change.** At UN level it is exempt from 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 international development and human safety is harmed in myriad ways. *As a matter of urgency* we need this issue addressed as an international development, environment and human safety concern.

**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, climate change and sustainable human safety.

***INDEFENSIBLE: The true cost of the global military to our climate and human security*** is one of Tipping Point North South's ***Transform Defence*** series of reports and briefings.

Collectively they seek to offer (i) a framework for progressively converting military spending into funding for development, strengthening human safety and averting climate catastrophe and (ii) new ideas on how to reshape current foreign and defence policies that better advance our collective human security. Tipping Point North South's *Five Percent Proposal* for cuts to runaway military spending is at the heart of our *Transform Defence* project and is funded by Polden-Puckham Charitable Foundation.

This report is also pertinent to Tipping Point North South's *Green New Deal Plus* (see Appendix One), which is designed to complement all current variations of Green New Deal economic proposals. *GND Plus* is supported by the Ratcliff Foundation.

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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 social justice agenda.

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## AUTHORS' NOTE

This report was completed in 2019, before the pandemic began, and whilst this does not directly affect the subject of this report – the global military's impact on climate change, human security and development and what we must do about it – it has been revised to take account of both the pandemic and new research relating to the global military and climate change.

COVID-19 has shed yet another strong, bright light on how many of us have been let down by our defence planners. The most illuminating example is the United States where President Donald Trump cancelled his predecessor Barack Obama's pandemic planning, enabling pandemic financing to become yet another trough from which the defence contractors can feed.<sup>1</sup> All this as the USA has the highest COVID-19 deaths in the world and as of October 3, U.S. Centers for Disease Control and Prevention estimated there have been 299,028 excess deaths, more than the total number of U.S. war casualties since WWII.<sup>2</sup>

Meantime, the UK government identified pandemic as one of the top 4 (Tier 1) security threats in successive '*National Security Strategies*' (NSS) 2010 and 2015.<sup>3</sup> The risk of human pandemic disease "remains one of the highest we face", reported the 2010 NSS. Yet nothing was done in practice to prepare or mitigate it – instead it landed on a National Health Service (NHS) facing unsustainable funding cuts and privatisation, all in the name of austerity. In the UK more people have died as a result of COVID-19 than in the Blitz – and in a shorter time period.<sup>4</sup>

We are now in desperate need of a paradigm shift on how we define 'defence.' Our present day collective foreign, security and defence policies are rooted in 19<sup>th</sup>-century politics and economics. Today, climate change is our greatest collective threat. And it has been a virus, not a foreign adversary, that has brought fear to the human family and the global economy to the brink.

We are all hoping for a post-pandemic recovery that is green and just. We are all hoping that the Black Lives Matter (BLM) movement – and the Me Too (#MeToo) movement – will consolidate their campaigns and move us ever more forward. We must also **transform defence** and demand that our leaders – north, south, east, west – collectively review foreign and defence policies such that they are fit for the 21<sup>st</sup> century.

## PREFACE

*Indefensible: The true cost of the global military to our climate and human security* is a major new report on the role of military emissions in causing climate change.

I write this preface from the United States in the wake of the election of Joe Biden as 46th President of the United States. Biden has promised some spectacular about-turns in U.S. foreign policy, including immediately rejoining the Paris Climate Agreement. That is a welcome development, but as this report shows, more is required.

### **Climate change is now a “national security” issue**

The U.S. national security establishment has acknowledged for more than a decade that climate change is real, and that it needs to adapt to operate in climates that are becoming – depending on the region – hotter, wetter, or drier. The military has also speculated that climate change is a “threat multiplier” — certainly increasing migration and displacement, and potentially leading to conflict over scarce resources, and armed conflict.

### **While the U.S. and other militaries have focused on adapting to climate change, they have failed to address their role in causing it**

Advanced air forces, navies and armies use equipment that emits enormous quantities of greenhouse gas. Further, military bases and other infrastructure are also significant contributors to greenhouse gas emissions. Yet militaries have not acknowledged their significant role in causing climate change, and therefore their role in causing potential increased risks to global security.

### **Until recently, there has been no effort to quantify military emissions**

This is partly because of the way emissions are reported under international rules. As part of the Kyoto Protocol, signed in December 1997, the U.S. insisted that fuels used by ships and aircraft engaged in international transport and multilateral military operations (“bunker fuels”) should not be included in a country’s total emissions.<sup>5</sup> As the U.S. Undersecretary of State Stuart Eizenstat said in testimony to the U.S Congress on the Kyoto Protocol:<sup>i, 6</sup>

*“We took special pains, working with the Defense Department and with our uniformed military, both before and in Kyoto, to fully protect the unique position of the United States as the world’s only super power with global military responsibilities. We achieved everything they outlined as necessary to protect military operations and our national security.”*

*At Kyoto, the parties... took a decision to exempt key overseas military activities from any emissions targets, including exemptions for bunker fuels used in international aviation and maritime transport and from emissions resulting from multilateral operations, such as self defense, peacekeeping, and humanitarian relief.*

*This exempts from our national targets not only multilateral operations expressly authorized by the U.N. Security Council, such as Desert Storm or Bosnia, but, importantly, also exempts multilateral*

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<sup>i</sup> Even though the US never ratified the Kyoto Protocol, the exemptions for the military stuck for every other signatory nation. See Page 15.

*operations that the U.S. initiates pursuant to the U.N. Charter without express authorization, such as Grenada.”*

This exemption means that the Intergovernmental Panel on Climate Change continues to treat national military emissions, specifically international aircraft and naval bunker fuels, differently to other emission types.<sup>7</sup>

***Military emissions are a significant contributor to global greenhouse gas emissions***

Two recent studies have focused on U.S. military emissions: Oliver Belcher, Patrick Bigger, Ben Neimark, and Cara Kennelly have calculated one year’s fuel use for the U.S. military by using previously unavailable data,<sup>8</sup> while my own analysis, using publicly available data, has calculated U.S. Pentagon emissions from 1975 to 2019. While these reports use different methods, they come to the same conclusion: the U.S. Defense Department is an enormous greenhouse gas emitter.<sup>9</sup>

Specifically, with annual emissions averaging an estimated 83 million metric tons CO<sub>2</sub>e, from 1975 to 2019, the U.S. military is one of the largest greenhouse gas emitters in the world. In other words, its average annual emissions for this period are larger than the entire emissions for many countries.

*Indefensible: The true cost of the global military to our climate and human security* by Tipping Point North South, 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. As it says, “If we were then to rank the world’s militaries together as a single country, collectively they would rank as the 29th biggest oil consumer in the world, just ahead of Belgium or South Africa and behind Argentina or Malaysia.” Further, it connects the dots between military fuel use, military spending, war, and the burden of climate change on development. Finally, it offers important solutions.

*Indefensible: The true cost of the global military to our climate and human security* is essential reading for all those concerned with climate change and the path to a sustainable and secure future.

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*9 November, 2020*

## EXECUTIVE SUMMARY

This report focuses specifically on the military-oil industry relationship to reveal its role in climate breakdown. It argues that we must start to quantify, expose and act upon the climate burden put upon people and planet by the world's big military spenders.

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.

The 8-point recommendation plan at the end of this report aims to address this.

### THE ELEPHANT IN THE ROOM: MILITARY SPENDING AS A DRIVER OF CLIMATE CHANGE

The UN Environment Programme's *Emissions Gap Report 2018* confirms that global efforts to decarbonise are way off track, and despite pledges to cap them, global emissions continue rising on the back of economic growth. One hugely important economic sector consistently ignored in attempts to tackle climate change – it ranks as the UK governments 4<sup>th</sup> largest area of expenditure<sup>10</sup> and a sector that has made negligible efforts to decarbonise – is the defence/military sector. Greenhouse gas (GHG) emissions from military activities and wars are not included in global emissions totals, meaning we have significantly underestimated the total global GHG emissions from *all* human activities so far.

Greenhouse gas emissions from day to day military activities and attendant wars are so substantial that we will never achieve the zero-emission goal recommended by the Intergovernmental Panel on Climate Change (IPCC) by 2050 *without also making our militaries carbon neutral*. If we do not decarbonise our militaries and urgently reframe our approach to foreign policy, security thinking and defence spending, the world's militaries will themselves become a threat to our collective “human security”<sup>11</sup>.

By analysing the existing data and research, we can piece together a disturbing picture of the global military's environmental impact:

- **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, and international aviation alone is responsible for around 1.3% of global GHG emissions. This means that the global military-industrial complex accounts for the compatible amount of greenhouse gas emissions as civil aviation which is essential for global trade and our modern well-being. When everyone is thinking to do their bit by taking fewer flights and buy local food and consumer products, militaries are having a free pass to buy and operate as many big-ticket**

**gas guzzlers (eg, F-35s and Eurofighter Typhoons) as they want, with no hard question asked by our politicians.**

- **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 carbon footprint of EU15's militaries and defence industries is 60 million tonnes of CO<sub>2</sub> equivalent – that is the same amount of emission as Ireland and roughly 2% of the total greenhouse gas emissions by EU15 in 2017. In the EU, direct CO<sub>2</sub> emissions from aviation account for about 3% of total emissions. The EU prides themselves to be the world's first region to address CO<sub>2</sub> emissions from international aviation so it is inexcusable for them to neglect the climate impact of their militaries and defence industries when both sectors generate compatible amount of greenhouse gases.**
- **The total GHG emissions of the nine-year Iraq War (between 2003 and 2011) were approximately 254 million tonnes of CO<sub>2</sub> equivalent. That's slightly more CO<sub>2</sub> released than the 14th biggest economy in the world, Spain, in 2016, and only a quarter less than the 6th biggest economy, France.**

This ongoing emissions burden will be sustained as long as excessive global military spending is used to develop and purchase ever more oil-dependent expensive jets, tanks and missiles, which in turn create destruction and greenhouse gases (all the while generating significant shareholder profits). The irony, indeed hypocrisy, of the USA and other leading military nations' spokespeople being among some of the loudest voices calling for action on climate change (summed up by 'everyone but us') is not lost on some observers, since it is precisely those same military nations that know their own contribution towards creating the climate crisis in the first place. But that inconvenient truth is skilfully masked by another narrative that is more easily and widely taken up – the need to *manage* the consequences of climate change and the resulting emergencies and chaos.

And governments are covering the climate burden of their respective militaries' tracks well. At the time of the Iraq War, the USA negotiated an exemption from reporting emissions. To this day, the reporting each country is required to make to the UN on their emissions excludes any fuels purchased and used overseas by the military. And under the Paris Agreement of 2015, countries are still not obliged to cut their military emissions.

Oil, military spending and conflict are currently indivisible, and combined have played and continue to play a major role in impeding or reversing development in communities and nations across the global south as ordinary people pay the price in myriad ways. There seems to be no end in sight as governments (especially the big military spenders) are themselves locked into foreign, security and defence spending strategies that are self-destructive, with endless war-for-oil conflicts that create millions of refugees; conflicts that result in ever-greater military spending on ever-more fossil-fuel dependent equipment operated by fossil-fuel reliant militaries.

Our collective future in this post-climate change world must be guided by social, economic and environmental justice, and in doing so, more fully deliver the global human security we all need

to survive and thrive. Unfortunately, the world's militaries (and the biggest beneficiaries of these budgets are the defence companies) are not working to that measure of 'defence'.

We are now on the brink of a new conventional and nuclear arms race. Global military spending is rising ever closer to 'the \$2 trillion redline',<sup>12</sup> with 85% of global annual military spending (\$1.9 trillion) accounted for by the top 20 spenders alone.<sup>13</sup> The 'peace of mind' secured by nations through foreign, security and defence policies derived from fossil-fuel dependent militaries is – on many critical counts – no longer fit for the 21<sup>st</sup> century. The time has come to replace outdated notions of 'national security' with policies that reflect *all* 21<sup>st</sup> century threats to our collective safety.

While this report highlights the destructive merry-go-round of war, devastation and rebuilding, it presents a **ground-breaking new formula** to help countries progressively convert their military spending into funds for meeting environmental and human needs. The *Five Percent Proposal* is a two-part formula that: 1) halves global military spending over 10 years, with those savings redirected to human need; and 2) implements a *5% threshold formula*, designed to rein back military spending thereafter. It has been developed through lessons learned on campaigns such as debt, trade and tax.

There are now just 11 years (at the time of writing) to meet the international pledge to limit global warming to moderate levels (below 1.5°C) by cutting global greenhouse gas emissions to 45% below 2010 levels by 2030.<sup>14</sup> On 1<sup>st</sup> May, 2019, and after intense pressure, the UK parliament finally declared 'a climate emergency'.<sup>15</sup> Thereafter, the Department for Transport's (DfT) Head of Aviation said "it may be necessary to consider the Committee on Climate Change's recommended policy approach" to restrict the growth of flying in the UK.<sup>16</sup> This statement was only in relation to commercial aviation, ignorant of the UK's significant military aircraft emissions burden.

We need a quantum shift in our willingness to address the significant role of the global military in climate change and the urgent need to decouple it from oil. And if we *do* make progress on this issue, then (albeit belatedly) we will have recognised that our collective 'defence' is as much about how we resource early warning and disaster risk reduction and all it entails, as it is about terror threats and conventional warfare. Every aspect of human activity is now under the climate spotlight and demands transformational re-thinking. The global military should be no exception.



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<sup>11</sup> *Human Development Report 1994: New Dimensions of Human Security*, <http://hdr.undp.org/en/content/human-development-report-1994>

<sup>12</sup> See our paper *the \$2 trillion redline*. <https://transformdefence.org/publication/approaching-the-2-trillion-redline/>

<sup>13</sup> *Trends In World Military Expenditure, 2019*, SIPRI. [https://www.sipri.org/sites/default/files/2020-04/fs\\_2020\\_04\\_milex\\_0.pdf](https://www.sipri.org/sites/default/files/2020-04/fs_2020_04_milex_0.pdf)

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