

# Security not Trident



CAMPAIGN FOR NUCLEAR DISARMAMENT

## Contents

Introduction	Page 1
Actual security threats facing us today	Page 3
Obsolete: a weapon with built in redundancy?	Page 7
Dangerous take-over: risk of cyber-attack	Page 8
An accident waiting to happen	Page 9
The myth of 'deterrence'	Page 11
Not independent: how system relies on US	Page 12
Impact of nuclear attack	Page 13
Conclusion	Page 15

# Security not Trident

## Introduction

**W**HY DID BRITAIN find itself so signally unprepared for the coronavirus, with insufficient equipment, staff and infrastructure to serve – and save – its people? That is the question so many of us are asking, and government does not answer. If the pandemic threat had been completely unexpected then maybe the situation would be understandable. But that just isn't the case.

For some years, pandemics have been designated tier one threats to our security. Successive governments have identified such human health crises as needing the highest level of concern and planning. Yet the necessary level of investment has not been put into preparing for this major risk. After a decade of austerity, we are all aware of the inadequate funding of our NHS; the situation is bad enough in 'normal' times but during the coronavirus crisis it has had disastrous consequences.

But we don't have to look far to see what has gone wrong when it comes to security policy and spending. The last two security strategies have designated nuclear weapons as a tier two threat. Yet at the same time the governments that produced those risk assessments chose to automatically pour money into a new nuclear weapons system to 'meet' this lower level threat, leaving the health system chronically underfunded.

Out of this catastrophe we need new thinking from the government, to meet the real challenges our society faces. Pandemics will continue to shape and limit our lives; the climate crisis worsens; a deepening economic crisis is unfolding; water and food insecurity – these are all major security problems. But our government's capacity to deal with them is hindered by massive wasteful spending on nuclear weapons: the money wasted on them must be re-allocated to meet our real needs.

The submarines which carry Britain's nuclear weapons will need to come out of service from the early 2030s. The government is building four new submarines – the Dreadnought class – to take their place and eventually replace the entire Trident system. This new nuclear weapons system will cost at least £205 billion and will mean Britain remains a nuclear-armed state – at huge public expense – for decades to come.

This will have major consequences, not least for our security. The decision on whether or not to replace Trident should be taken on the basis of what will most contribute to the security of the British people.

---

This report will argue that nuclear weapons do not make us safe. Opposition to these weapons of mass destruction is increasing and broadening as the debate goes on.

It is striking how many contemporary security threats are actually non-military, suggesting that security should be conceptualised in a new way. In fact, overwhelmingly the security threats we face stem either from the problems arising from climate change or from twentieth century politics – imperialism and the cold war. We have to find collective ways – internationally – to resolve and move beyond these problems, or we'll have no world left to fight over.

We need our politicians to understand that basing our national security on the game of bluff known as 'deterrence' is absurd, and so too would be building enormous submarines that may fall prey both to cyber-attack via their computer systems and to physical attack via underwater drones. This report looks at all the reasons why nuclear weapons don't keep us safe; why they are not the answer to the country's security. It looks at a range of issues including the actual security threats we face today; how technology could soon make our nuclear weapons system redundant; the nuclear accidents that have made the world less safe; and considers what impact a nuclear war would have on the planet.

The last few months have turned the world upside down. The coronavirus pandemic has changed our lives in an unprecedented fashion and it is clear there can be no going back to the way things were before. This is the time for a new vision of society, and nuclear weapons have no part in it.



Kate Hudson  
General Secretary  
Campaign for Nuclear Disarmament

## Actual security threats facing us today

The UK government published its latest National Security Strategy and Strategic Defence and Security Review in 2015.<sup>1</sup> This document identifies the real security threats we face today, based on 'a judgement of the combination of both likelihood and impact'. The tier one threats listed include terrorism, cyber-attacks and a health crisis. A nuclear attack is not listed here, but is rather placed in the second tier. This quite sensible analysis is not reflected in the government's rhetoric, when it claims nuclear weapons are vital for our security.

*Paul Rogers is Emeritus Professor of Peace Studies at Bradford University. His book 'Irregular War: the New Threat from the Margins' was published by I B Tauris in 2017.*

"If we look at the major threats to UK security, nuclear weapons are not just irrelevant and dangerous but they stop us addressing the real problems that are common not just to Britain but to the world as a whole. Three issues are central, the first being that we are facing a world-wide challenge of an economic system failing to deliver anything approaching equity or emancipation.

"The rich-poor gap is widening rapidly, with 62 billionaires owning as much wealth as the poorest 50% and just 1% of the world's population owning as much wealth as the remaining 99%. The neoliberal free market model is of huge benefit to a very wealthy minority but shows itself increasingly unfit for purpose. It is leading to anger and frustration across much of the world as educated but marginalised people see so few life chances. Moreover, this readily aids recruitment into politically violent movements.

"This will be compounded by the second issue, the steadily increasing impact of environmental limits to growth. The most obvious element of this is the huge impact that climate disruption is already starting to have, and the near certainty that it will have an even greater effect on the poorer states of the Global South, particularly in the northern sub-tropics. The tragedy of the mass refugee flows, and Europe's unwillingness to cope, is an indicator of much greater problems in the future.

"The final issue is what is best called the 'control paradigm', the propensity for elite states to maintain control of an uncertain and threatening world by resort to force. Even as we move towards the third decade of the failed war on terror this approach persists, although the preference is now for low profile special forces, armed drones and the used of privatised militias in place of tens of thousands of boots on the ground.

"There are many ways in which Britain could rethink its entire approach to security instead of being stuck in a time warp which results in a thoroughly obsolete and irrelevant outlook. Getting rid of Trident is just the start – it is what comes afterwards that could really be worthwhile and quite possibly inspiring as well."

---

## **So what are the actual security problems which are facing us today?**

### **Pandemics**

Even before the Covid-19 outbreak, public health had come to be regarded as a security concern, with a number of factors combining to create an increasingly unstable situation in the realm of public health. These include issues such as the increasing physical interconnectedness of the world, weak public health services and the rise of drug resistance. The combination of these factors has resulted in a situation where infectious diseases are now able to spread geographically at a much faster rate than ever before. There is also clear evidence that infectious diseases are emerging at an unprecedented rate, with the World Health Organisation (WHO) confirming that since the 1970s, newly emerging diseases have been identified at the unprecedented rate of one or more per year. This increase in both the occurrence and spread of microbes with the potential to cause pandemics is placing pressure on existing health services, creating scientific challenges and has the potential to impose enormous economic damage on states.

As well as the government's 2015 National Security Strategy sensibly identifying 'a major human health crisis' as a tier one threat to our security, the UK's Biological Security Strategy published in 2018, declared that 'significant outbreaks of disease are amongst the highest impact risks faced by the UK'.<sup>2</sup> But insufficient preparation was made to ensure that the UK had enough equipment to cope with a pandemic such as the current strain of coronavirus. In particular, there were shortages of ventilators and personal protective equipment (PPE) for medical and care staff.

### **Terrorism**

International terrorism from groups such as the Islamic State in Iraq and the Levant (ISIL) and Al Qaida remains a dangerous threat today, even if the total number of deaths from terrorism has fallen from its 2014 peak.

The UK's current terrorism threat level is 'Substantial', meaning that a terrorist attack on the country is likely. Although the ISIL geographical caliphate has ceased to exist, the risk of international terrorist violence from the tens of thousands of people who travelled to the caliphate remains high and poses a complex problem that urgently needs addressing.

### **Cyber-attack**

The UK is facing an increasing threat of cyber-attacks from hostile states, terrorist and criminals, with the internet representing a critical axis of potential vulnerability in today's internet reliant world. Cyber security embraces both the public and the private sector and spans a broad range of issues related to national security, whether through terrorism, crime or industrial espionage.

It was revealed in September 2020 that Britain is defending itself against 60 significant cyber-attacks a day. General Sir Patrick Sanders, Commander Strategic Command, described how the country is under 'constant attack' in cyberspace, with up to ten attacks a day coming from other governments.<sup>3</sup>

## **Climate change**

There is a clear consensus that climate change constitutes a serious threat to global security as across the world, the devastating effects of climate breakdown will make the outbreak of major conflict, and even a nuclear exchange, more likely.

Senior military figures have formally warned that global warming is the greatest security threat of the 21st century.<sup>4</sup> Major natural hazards were listed as a tier one threat in the 2015 National Security Strategy, with the risk increasing each year as a result of climate change.

As the effects of climate change are felt globally, conflict over natural resources will increase pressure on governments to deliver for their citizens, with a risk of state overthrow if they are unable to do so. Already we are seeing rogue actors seizing on this opportunity to gain legitimacy as states in the most affected areas lose their ability to meet their citizens' expectations. Whether it is inhabitants of the Lake Chad region forced to become reliant on Boko Haram due to climate change or the water crisis in the Horn of Africa worsening existing issues of inequality, societal tensions and weakness of state institutions, climate change is exacerbating conflict across the globe. These are developments which will only accelerate in the coming years and to which nuclear-armed states are by no means immune.

Moreover, climate-related disasters such as food insecurity, drought and rising sea levels are major causes of mass migration flows, with Friends of the Earth estimating that there are currently 40 million environmental refugees, a figure that is expected to continue to rise substantially over coming years.<sup>5</sup>

Focusing on the wrong threats and replacing Trident instead of tackling climate change has its own economic cost in both the short and long term. As we saw in 2019, the floods across England and Wales caused huge disruption to the lives of thousands of people and councils have had to spend vast amounts on shoring up flood defences. Part of the reason the UK found itself so woefully underprepared for the floods is linked to the fact that the UK's environment agency, tasked with preparing for such events, has seen its budget cut by 50% since 2010. While the government has now pledged to double the amount it invests in the flood defence programme in England to £5.2 billion over the next six years, this is significantly less than the cost of running Trident over the same period.

Longer term, the costs of climate change will be monumental. Extreme weather will become a more regular occurrence with the government having to spend vast amounts on rebuilding. There are already up to 40 million people worldwide who have been forced to leave their home and seek refuge elsewhere as a result of climate change and further inaction will only see this number, and the resulting pressure on those states still habitable, increase. These calculations don't even begin to consider the monetary cost, in addition to the vast human cost, that would be required in the aftermath of the outbreak of a nuclear conflict to rebuild any semblance of a society for those who might survive.

Our conventional security solutions also make this problem worse as our traditional military, missiles systems and air-force have a huge carbon footprint, usually hidden from the public due to alleged concerns around transparency. A 2020 report found that the carbon footprint of British military spending is estimated to be around 11 million tonnes of carbon dioxide equivalent.<sup>6</sup>

---

Britain's nuclear weapons contribute to the ever-worsening climate crisis. Trident uses massive energy and resources in research, production, operation, dismantling and eventual waste storage, never mind the environmental catastrophe that would be created if it were ever deployed. This is in addition to the environmental devastation wreaked by decades of uranium mining, nuclear testing and nuclear waste dumping. Consecutive British governments have also struggled with the question of what to do with the toxic, radioactive nuclear waste produced.

*Dr Stuart Parkinson is Executive Director of Scientists for Global Responsibility, and author of the report 'The environmental impacts of the UK military sector.' He has a PhD in climate science and has been an expert reviewer for the Intergovernmental Panel on Climate Change.*

"The military itself is a massive consumer of fossil fuels and, as a result, a major source of damaging carbon emissions. Recent estimates suggest that the global military-industrial sector could be responsible for up to 6% of global emissions. The world's largest military – that of the USA – directly emits more carbon emissions than sizeable countries, such as Hungary.

"Military vehicles and aircraft individually have very high levels of fuel consumption. For example, a new UK fighter bomber has a fuel consumption of only 0.6 miles per gallon and in one mission emits 28 tonnes (carbon dioxide equivalent) – about twice the average carbon footprint of a UK citizen for one year. Quite apart from the enormous human cost, reconstruction after the destruction of towns and cities results in even more damaging emissions."<sup>7</sup>

*Richard Norton Taylor is a writer on Defence and Security, and a former 'Guardian' defence and security editor. He is the author of the recently published book 'The State of Secrecy: Spies and the Media in Britain'.*

"Defence was conspicuously absent from the last general election debates, unsurprisingly perhaps given the parlous state of Britain's armed forces. Neither Labour nor the Liberal Democrats dared to question the future of the Trident project despite further delays, uncertainties, and escalating costs.

"In a devastating report in January 2020, the National Audit Office referred to 'unique challenges' over the nuclear weapons programme and a failure to learn from past mistakes over the past 30 years with more and more funds paid out to large, protected, and inefficient arms companies.

"Dominic Cummings, the prime minister's chief adviser, has castigated the Ministry of Defence (MoD) and called for a radical security and defence review. Nuclear weapons, opposed privately by many senior military figures, must be the prime target if the review is to be credible."



## Obsolete: a weapon with built in redundancy?

“In the past, submarines have enjoyed the luxury of hiding in empty seas. In the future, those seas are likely to be increasingly crowded with networked drones.”<sup>8</sup>

Ever more advanced technology continues to reshape all forms of conflict across the globe, posing challenges for traditional military equipment. Advance drone technology in particular is likely to have significant implications for nuclear weapons.

Experts have already raised questions about the future viability of Trident due to the potential for underwater drones to be able to efficiently detect the submarine platform on which the whole system is based. Existing anti-submarine technology often struggles to locate the Vanguard-class boats as currently detection is generally undertaken by staffed ships and aircraft. Manpower is a precious resource and so only a limited number are searching for adversaries' submarines at any one time. Swarms of undersea, surface and/or aerial drones could more efficiently search across oceans for adversary submarines, thus removing the unknown element that is crucial for the system to work as planned.

Drones that can potentially critically attack a nuclear delivery system will have a huge impact on the future of nuclear conflict. A nuclear threat becomes less credible if the threatened state believes it can reliably defeat the nuclear system; while conversely, if a state believes its nuclear delivery systems can be defeated, it may develop and deploy more nuclear weapons and novel delivery system, as well as acting more aggressively in crises and conflicts.

The use of drones in 'swarms', deployed in small squads, able to think independently and operate collectively, remains nascent, but armed forces around the world, including the UK, invest heavily in their development. In 2019, then British defence secretary, Gavin Williamson, pledged to invest £7m in developing a squadron of drones used to jam enemy defences.<sup>9</sup>

Drones can even be launched in bad weather conditions which would usually be too dangerous for a staffed ship or aeroplane. A current limitation on the use of drones is that their time in operation is relatively short, but drones are being developed which are capable of extracting power from wave energy as well as solar energy to recharge their propulsion and systems for extended periods of semi-autonomous operation.

A network of drones successfully detected, reported and tracked a live submarine in a Royal Navy demonstration in 2016.<sup>10</sup>

Given these developments and the vast amounts of money being poured into new submarine detection technology, Trident will inevitably become detectable and targetable in the near future.

---

## **Dangerous take-over: risk of cyber-attack**

Back in 2015, Former Defence Secretary Lord Browne warned that Trident could be rendered obsolete by cyber-attacks.<sup>11</sup> He went on to say in the same interview that unless ‘weak spots’ were protected, there was ‘no guarantee’ of a reliable nuclear system. The British American Security Information Council (BASIC), an independent think tank, published an extensive report in 2017 warning that a successful cyber-attack could ‘neutralise operations, lead to loss of life, defeat or perhaps even the catastrophic exchange of nuclear warheads (directly or indirectly)’<sup>12</sup>. While the MoD has typically maintained that Trident’s operating systems can’t be penetrated at sea because they have no internet connection, Trident relies on networked computers, devices and software to receive new data or weather reports, and is vulnerable to malware and hacking when docked for maintenance.

Common sense would support the claim that since Trident relies on various computers and networks, this means there is at least a possibility of an adversary affecting the running of the system. Especially considering that it uses the very common, and therefore well-known and understood, ‘Windows for Submarines’ software, based on Windows XP. The XP system was used by the NHS until it was subject to a cyber-attack back in 2017 which affected over 300,000 computers worldwide and had an impact on staff and patients across the healthcare system.

While the government tries to reassure us that Trident is safe from hackers because it is ‘air-gapped’ from the internet, hackers across the world have become proficient in overcoming such ‘gaps’ using a combination of code manipulation, malware and other subversive technologies. The Atomic Weapons Establishment (AWE) near Reading, where Britain’s nuclear bombs are made and serviced, even uses a public cloud service to store its data.<sup>13</sup> AWE has refused to answer whether this includes classified information.

The worst-case scenario is a hostile, cyber take-over of our nuclear weapons system. This is more likely to succeed if an adversary manages to install a malware programme during the building phase that would activate at a later date. Potentially increasing the risk of this happening is the fact that a lot of equipment for Britain’s submarines is produced outside the country.

Another cyber-threat is the possibility of another state or organisation hacking into communications to the submarines, and suggesting a nuclear attack was imminent to a sufficient degree to confuse those on board. In this case, a cyber-attack could cause a nuclear war. This is a particularly high risk for states (such as the US and Russia) that have their nuclear weapons on high alert.

The government does have high security measures in place to attempt to counter these threats, but with 250-350 serious cases of cyber-attack against NATO countries each week,<sup>14</sup> the risk of just one being successful and accessing Trident is not unthinkable.

## An accident waiting to happen

We know of nearly 70 military nuclear accidents since 1950. These include several incidents of lost or missing nuclear weapons. Many incidents have involved explosions and/or fires or some other mechanism for spreading fissile material. There was also a number of times when a nuclear war was narrowly averted. There are undoubtedly many more we do not (and may never) know about.

Here are some examples:

- July 27, 1956: US bomber skidded off runway at RAF Lakenheath, crashing into a storage unit containing three atomic bombs. Weapons engulfed in flames before fire fighters were able to extinguish the fire.
- May 22, 1957: Nuclear bomb accidentally dropped in the New Mexico desert.
- September 25, 1959: Aircraft in trouble dropped two large fuel tanks shortly after take-off at Greenham Common, one hit a parked aircraft nearby which had a nuclear bomb on board. Two were killed in resulting fire which took 16 hours to extinguish. Area around base was radioactively contaminated. The incident remained a secret until uncovered by CND in 1996.
- January 23, 1961: Three people were killed when an aircraft carrying nuclear bombs crashed in North Carolina. Three of four arming devices on one bomb triggered, meaning it was only one safety mechanism away from detonation.
- December 5, 1965: A nuclear-armed airplane rolled off the aircraft carrier USS Ticonderoga and sunk in 16,000 feet of water off the coast of Japan.
- January 17, 1966: Two bombers collided while refuelling mid-air above Palomares, near the Spanish coast. Seven were killed and high explosives triggered upon hitting the ground, which scattered radioactive material. Cleaning up the area cost the US up to \$800,000.
- May 21, 1968: The US nuclear submarine Scorpion sunk in the Atlantic near the Azores, killing 99 crewmen. The submarine carried two nuclear-armed torpedoes.
- April 12, 1970: The Soviet nuclear submarine K-8 sunk in the Bay of Biscay, killing 53 crew members. It carried two nuclear torpedoes.
- September 8, 1977: Soviet nuclear submarine jettisoned a nuclear warhead by mistake in the Pacific.

- 
- September 19, 1980: A dropped spanner broke a fuel tank in a missile silo in Arkansas. The explosion blew the 740-ton door off, which sent a warhead 600ft into the air. One person was killed and 21 injured.
- August 10, 1985: Soviet nuclear submarine suffered a reactor explosion killing ten people. A radioactive cloud contaminated Vladivostok.
- September 27, 1991: Missile misfired on Soviet submarine carrying nuclear weapons.
- March 20, 1993: Russian nuclear submarine collided with a US nuclear attack submarine in the Barents Sea.
- August 29, 2007: Six nuclear-armed cruise missiles were loaded onto a bomber at Minot Air Force Base in North Dakota and flown to Barksdale AFB in Louisiana. They remained on the aircraft for 36 hours unprotected by mandatory security precautions and were never reported missing by Minot.
- February 4, 2009: UK and French submarines collided in the Atlantic. Both had nuclear weapons on board.

Nuclear weapons do not make us safe. They put us at more risk. How long can our luck hold out?

## The myth of 'deterrence'

Many supporters of Trident claim that nuclear weapons keep the peace by acting as a 'deterrent'. This is the false belief that we will dissuade an 'enemy' from attacking if they know that we could retaliate with nuclear weapons. During the Cold War, the United States and the Soviet Union may have avoided a direct war – and whether or not that was anything to do with nuclear weapons possession is unknowable – but that didn't prevent their involvement in wars in Vietnam, Korea, Afghanistan and elsewhere. The nuclear powers have been involved in hundreds of wars since the atomic bomb was first invented in 1945. Having nuclear weapons did not defend France from terrorist attacks, or the US from 9/11 or the UK from the July 7th bombings.

In fact, replacing Trident might encourage more countries to get nuclear weapons and so increase the danger of nuclear war. If countries like the UK and others insist that they need these weapons for their security, other countries will come to the same conclusion. Unstable or isolated states are more likely to seek nuclear weapons in this context. Their behaviour is often the result of complex regional problems or of a history of hostile external intervention or exploitation. These issues are best resolved through diplomacy and political negotiation based on equality and mutual respect – not on the basis of having the capacity to destroy them many times over.

*Veterans for Peace UK is a voluntary and politically independent ex-services organisation of men and women who have served in conflicts from WW2 through to Afghanistan. It works to influence the foreign and defence policy of the UK, for the larger purpose of world peace.*

*"The notion that we should spend billions on a weapon system only a misanthrope would use and that its use would prove the failure of its value as a deterrent leaves us completely and utterly gobsmacked. Who would want to live in a world to see the revenants of Hiroshima and Nagasaki? By no rational or mathematical measure would it make sense to launch nuclear weapons after these islands have already taken a significant hit. What would be the point? More destruction for the sake of revenge? We cannot further the cause of world peace with such a spiteful weapon at our disposal. Our ownership of a nuclear weapon system is a real threat to the people of these islands as it makes us the target of other nuclear-armed states."*

---

## Not independent: how system relies on US

Some MPs voted in favour of replacing Trident on the false belief that Britain's nuclear weapons are a symbol of the country's independence and ability to act alone. But Trident is neither politically or technically independent. Most of the system relies on technical support from the United States. The missiles are leased from them with the Trident submarines having to regularly visit a US base for their maintenance; the UK warhead is a copy of the US one, with some components directly bought from Washington. It is inconceivable to imagine a British Prime Minister firing a nuclear missile without permission from the American President, and the rest of the world knows this.

It's also important to note that Trident has been assigned to NATO since the 1960s, meaning it could be used against a country attacking – or threatening to attack – one of the alliance's member states. NATO also refuses to implement a no first use policy. Does anyone really want our nuclear weapons to be used in a proxy war which might not even be directly relevant to Britain and its security?

*Major General Patrick Cordingley was Commander of the Desert Rats in the 1st Gulf War*

"The misconception about the independence of our nuclear deterrent stems from the phrase written into the 1962 Nassau Statement stating that we could use the American Polaris nuclear missiles, fired from our Resolution class submarines, independently in a case of 'supreme national interest.' At the same time Harold Wilson reported to the House of Commons during the debate on Great Britain continuing to possess a nuclear deterrent at all: 'There is not one person in authority (in Washington) who thinks that our nuclear deterrent adds one iota to the strength and credibility of the western deterrent.' Nevertheless, the submarines and their Polaris missiles were assigned to NATO. There was no question then of an independent British deterrent.

"In the late 1980s Polaris was replaced by the American Trident D5 missiles and from 1994 onwards put in our four new Vanguard class submarines. When the Soviet Union collapsed NATO no longer needed a nuclear posture, so the submarines formed part of the American Single Integrated Operational Plan and still do so today, although it is now the Operations Plan 8044. At the moment the Trident missiles, built and maintained in America, have British warheads. In the future they will have a warhead made with the help of American technology (under a programme expressly forbidden by the NPT Treaty). Targeting policy is highly classified but is pre-planned and regularly updated. Much of the targeting software needed before a missile can be fired has to be supplied by the US. So, whatever way you look at our nuclear deterrent, it is neither truly British nor independent."

## Impact of nuclear attack

Nuclear weapons have been used twice in conflict – by the United States on the Japanese cities of Hiroshima and Nagasaki in 1945. The cities were obliterated, and by 1950, it is estimated that over 340,000 people had died as a result and generations were poisoned by radiation. Each of Britain's 200 nuclear warheads are eight times as powerful as the bomb dropped on Hiroshima, meaning we could certainly expect even more casualties if a nuclear war were fought now.

Nuclear conflict would also cause severe damage to the climate and environment on a scale incomparable to any other kind of war. Research by the International Red Cross shows the effect of a 'limited' nuclear war involving 100 Hiroshima-sized bombs (i.e. less than half a per cent of the world's stockpile). The five million tonnes of soot produced by the ensuing fires would cause global temperature to fall by an average of 1.3C. The disrupted global climate would have an overwhelming impact on food production. The Red Cross estimates that a billion people around the world could face starvation resulting from nuclear war.

*Dr Phil Webber is Chair of Scientists for Global Responsibility. He has a PhD from Imperial College where he worked for 12 years as a research physicist. Dr Webber has written widely on militarism and nuclear weapons. He co-authored 'London After the Bomb', 'Crisis Over Cruise' and SGR's 2020 guide to nuclear weapons.*

"The sheer destructive and murderous power of nuclear weapons is completely unprecedented in warfare and would cause horrific levels of death and injury. Used to strike city targets, even one UK submarine could inflict over 10 million casualties from burns, blast and radiation including many very severe injuries beyond medical help and leaving city centres devastated, burning, radioactive wastelands.

"But a nuclear launch from the UK Trident submarine alone is not credible. The most credible use of Trident would be either as part of a deliberate US / NATO first strike, or in response to such a nuclear attack. In either of these scenarios, thousands of nuclear warheads, including land-based weapons, would be launched against a huge range of military and city targets, killing hundreds of millions of civilians within hours and leaving hundreds of millions more to die later of serious injuries or radiation sickness. Huge fires and firestorms would ravage cities, oil storage facilities and industry.

"A nuclear conflict would cause long lasting climatic, food supply and ecological impacts threatening human civilisation and ecosystems. Huge volumes of fine sooty smoke would be carried high into the atmosphere causing a period of global cooling, drought and crop failure.

"The possibility of a nuclear winter was first predicted in 1983. The latest scientific models, updated since 2007, following many years of climate research, predict a ten-year period of severe global climate disruption.<sup>15</sup> The protective ozone layer would be very badly damaged. Intense ultra violet radiation would kill huge numbers of the sea's vital food chains such as phyto-plankton, leading to widespread death of fish and other marine animals. Intense cold periods would lead to widespread crop failure on land due to extended periods of frost combined with long periods of drought. One has to consider that any nuclear war could spell the end of civilisation on earth for hundreds of years."

---

*Commander Robert Forsyth RN (Retired) was second in command, and temporarily in command, of a nuclear-armed Polaris submarine crew in the early 1970s.*

“We knew that an order to fire would be based on a single premise; if the Soviets launched a nuclear strike against the UK or NATO then the Prime Minister would order a retaliatory strike - Mutually Assured Destruction.

“So I was surprised to learn, long after retiring, that Trident missiles had been de-targeted and stood down to ‘several days’ notice to fire’ in the late 1990s. Why then, I wondered, were we still paying the high costs of Continuous at Sea Deterrence; especially as our frigate force had sunk to a level invoking Nelson’s cry after the Battle of the Nile “Were I to die at this moment, ‘Want of Frigates’ would be found stamped on my heart”? The cost of maintaining Trident appeared to be making this nation less safe.

“While Trident might be ostensibly keeping us safe from an unknown future threat, we have lost the means to defend ourselves adequately against threats we can see now. Trident has become too close to being our ‘next’ rather than ‘last’ resort and is completely unsuited for today’s cyber world in which a hostile state can wreak just as much damage to our national infrastructure without resorting to a nuclear attack.

“Furthermore, I am alarmed that the nuclear policy of a second strike in the cold war has now become one of ‘deliberate uncertainty’ which - not denied by the government - encompasses the possibility of a first strike, not just against the threat of nuclear attack and is flexible as to how many warheads might be fired. Even to threaten a first strike would offend international law.

“Why then, I wonder, is the government so anxious to spend at least £205 billion over the lifetime of Trident’s replacement? It is not truly independent as, say, the French nuclear weapon system is, and flies in the face of international legal condemnation represented by the United Nations’ Treaty on the Prohibition of Nuclear Weapons. The answer has to be purely out of national hubris to keep up with our US allies and ahead of the French. Trident is neither useful nor is UK policy for its use lawful and we cannot afford it. Spend the money more wisely and keep the nation safe.”



## Conclusion

**I**T IS A GOVERNMENT'S PRIORITY to keep its citizens safe. But the concept of security in the 21st century must be re-evaluated. A £205 billion weapon of mass destruction is useless in the face of modern threats. And as this report has shown, Britain's nuclear weapons could at best soon be rendered obsolete, or at worse be putting us more at risk.

The actual security threats identified by the government and in this report are complex and will not be solved overnight. But Britain does have the capability to overcome them. What the country does not need is to spend billions of pounds replacing Trident.

The government's upcoming Integrated Review of Security, Defence, Development and Foreign Policy is an opportunity to assess and meet the real security needs of the UK. CND has submitted evidence to this landmark government policy review, calling for a rethink. The Integrated Review should reflect the fact that our security can no longer be focused on military scenarios, but rather on increasingly complex and ever-changing factors.

One of the most important decisions Britain can take is to scrap its nuclear weapons system and cancel the planned replacement thus becoming an exemplar to the other nuclear weapons states of how disarmament is both necessary and possible. Disarming will also provide a practical guide, a contemporary blueprint for the remaining nuclear-armed states, drafted by our experts.

This decision would allow the UK to sign the Treaty on the Prohibition of Nuclear Weapons, a United Nations agreement that was adopted with support from the majority of the world's governments. This historic international treaty bans nuclear weapons in those states that have ratified it.

Britain should be supporting this treaty and using its diplomatic leverage to bring back confidence in international treaties in general. International cooperation is essential to maintaining a stable and just world order, and the UK government should do all it can to ensure that all states play their part in this process.

The world must move beyond the current hostile and destructive international atmosphere before it's too late – and Britain must play its role in this, starting with scrapping its own nuclear weapons system.

It's time for Britain to rethink its approach to security, with the first step being to admit that nuclear weapons make the world a more dangerous place.

---

*Gabrielle Rifkind is director of Oxford Process [www.oxfordprocess.com](http://www.oxfordprocess.com) and co-author of 'The Fog of Peace: how to prevent war' published in paperback by IB Tauris, 2016*

“Conflict resolution, early-warning systems and mediation are key to a safer world and a safer Britain yet they remain the military’s poor relations. The Foreign Office budget that pays for those things is currently 28 times smaller than that of the MoD.

“The money saved by downsizing Trident could be redirected into ensuring the UK’s reputation was not based on the threat of nuclear weapons but on our special skills in promoting peace. We could commit ourselves to become the world’s leading specialist in conflict prevention and resolution. The UK can no longer establish its status in the world by force but there is another role as skilled, effective negotiators and mediators that is more important and constructive. It also happens to be one the British are very good at.

“A shift in political culture is now required. Our mind-set on security seems to be at the heart of many of the world’s problems. In the absence of imaginative thinking, we ‘play safe’ and stick to what we know. Yet that ‘playing safe’ is actually the least safe option.

“The 21st century may prove to be more lethal than even its predecessor. This is not because human nature has become any more destructive but because our weapons have become increasingly sophisticated while we humans have not. The combination of modern weapons and unreconstructed attitudes is a terrifying one. Seventy years on from the atomic bombing of Hiroshima and Nagasaki, we need to take stock and change – or we will find ourselves walking mindlessly, deeper and deeper, into a world of nightmares.”

- 1 'National Security Strategy and Strategic Defence and Security Review 2015: A Secure and Prosperous United Kingdom', HM Government, 2015  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/478933/52309\\_Cm\\_9161\\_NSS\\_SD\\_Review\\_web\\_only.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/478933/52309_Cm_9161_NSS_SD_Review_web_only.pdf)
- 2 'Biological security strategy', HM Government, 2018 <https://www.gov.uk/government/publications/biological-security-strategy>
- 3 'Military under daily blitz of 'significant' cyberattacks', The Times, 26 September 2020, <https://www.thetimes.co.uk/article/military-under-daily-blitz-of-significant-cyberattacks-5tspjc6nw>
- 4 'Climate change will stir 'unimaginable' refugee crisis, says military', The Guardian, 1 December 2016, <https://www.theguardian.com/environment/2016/dec/01/climate-change-trigger-unimaginable-refugee-crisis-senior-military>
- 5 Position Paper on Environmental Refugees by Friends of the Earth, <https://www.foe.co.uk/sites/default/files/downloads/policy-position-environmental-refugees-93215.pdf>
- 6 'The Environmental Impacts of the UK Military Sector', Scientists for Global Responsibility, 2020, [https://www.sgr.org.uk/sites/default/files/2020-05/SGR-DUK\\_UK\\_Military\\_Env\\_Impacts.pdf](https://www.sgr.org.uk/sites/default/files/2020-05/SGR-DUK_UK_Military_Env_Impacts.pdf)
- 7 All figures from 'The carbon boot-print of the military', Scientists for Global Responsibility, 2019, <https://www.sgr.org.uk/resources/carbon-boot-print-military>
- 8 'The Inescapable Net: Unmanned systems in anti-submarine warfare', BASIC, 2016, <https://basicint.org/publications/david-hambling/2016/inescapable-net-unmanned-systems->
- 9 'UK will deploy drone squadron after Brexit, says defence secretary', The Guardian, 11 Feb 2019, <https://www.theguardian.com/politics/2019/feb/11/uk-will-deploy-drone-squadrons-after-brexit-says-defence-secretary-gavin-williamson>
- 10 'Unmanned Surface Vehicles Successfully Detect & Track Live Submarine', Unmanned Systems Technology, 31 October 2016, <http://www.unmannedsystemstechnology.com/2016/10/liquid-robotics-and-boeing-demonstrate-submarine-tracking-at-unmanned-warrior/>
- 11 'Trident could be rendered obsolete by hackers', BBC News, 24 November 2015, <http://www.bbc.co.uk/news/uk-politics-34903327>
- 12 'Report: Hacking UK Trident: A Growing Threat', BASIC, 2017, <https://basicint.org/publications/stanislaw-abaimov-paul-ingram-executive-director/2017/hacking-uk-trident-growing-threat>
- 13 'Atomic Weapons Establishment using public cloud', The Stack, 2 September 2016, <https://thestack.com/cloud/2016/09/02/atomic-weapons-establishment-using-public-cloud/>
- 14 'Trident is old technology: the brave new world of cyber warfare', The Guardian, 16 January 2016, <https://www.theguardian.com/technology/2016/jan/16/trident-old-technology-brave-new-world-cyber-warfare>
- 15 'The climatic impacts and humanitarian problems from the use of the UK's nuclear weapons', Scientists for Global Responsibility, 2008, [https://www.sgr.org.uk/sites/default/files/SGR\\_climatic\\_impacts\\_Trident\\_Feb2013.pdf](https://www.sgr.org.uk/sites/default/files/SGR_climatic_impacts_Trident_Feb2013.pdf)



October 2020 • Campaign for Nuclear Disarmament  
Mordechai Vanunu House, 162 Holloway Rd • London N7 8DQ  
020 7700 2393 • [enquiries@cnduk.org](mailto:enquiries@cnduk.org) • [www.cnduk.org](http://www.cnduk.org)