

# United Kingdom

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Technical co-operation with the United States (US) and the development of its nuclear weapons has been considered an imperative by successive United Kingdom (UK) governments since the beginning of the UK's atomic bomb programme.

The UK government initiated the MAUD Committee in 1940<sup>1</sup> with the remit of giving the highest priority to obtain nuclear weapons in the shortest possible time. In 1945, Conservative Prime Minister Churchill approved of the US attacks on Hiroshima and Nagasaki, after which Atlee's Labour government stated, "The answer to an atomic bomb on London is an atomic bomb on another great city."<sup>2</sup> By 1948 the Labour government told the House of Commons that UK weapons were in development.<sup>3</sup> Two years later, the Conservatives were back, led by Churchill authorising the tests which commenced at Monte Bello off the coast of Australia in 1952.<sup>4</sup> By 1957, US President Eisenhower was enabling US-UK exchange of nuclear weapon information. In response, plans were also being put into place for the formation of the Campaign for Nuclear Disarmament (CND) and the first Aldermaston march.<sup>5</sup>

A decade later, as the negotiations leading to the nuclear Non-Proliferation Treaty (NPT) were starting, the UK tested its first US supplied Polaris missiles off the coast of Florida and the carrying fleet was commissioned.<sup>6</sup> Then-UK Prime Minister Harold Macmillan had already agreed to allow the US to establish a ballistic missile submarine base in Scotland in return for access to US missiles. This was despite concerns about the proposed site's proximity to Scotland's largest city, Glasgow. Former UK Prime Minister Thatcher and then-US President Reagan's continued commitment to the new Trident system in the early 1980s is well documented<sup>7</sup> as is the protest movement that led to the serious reductions in the number of nuclear weapons held by the US and Russia. These reductions were undertaken by Reagan and Gorbachev<sup>8</sup> albeit not to the extent of fulfilling their NPT disarmament obligations to end the arms race and eliminate their arsenals.

The UK's nuclear-armed policy and its nuclear alliance with the US is increasingly focused on capacity to respond to perceived threats. The UK government is resistant to scrutiny but shows no evidence of intention to disarm or to fulfil its obligations under Article VI of the NPT Scotland's deep-water fjord coast and cloud cover, as well as the comparative remoteness of its west

coast, provided a strategic location for occupation by the Ministry of Defence (MoD) and establishment of its nuclear submarine base at Faslane and adjacent weapons store at Coulport.<sup>9</sup> In 1998, The Scotland Act allowed devolution and a degree of autonomy to the Scottish Parliament, but the Act firmly reserves all powers relating to nuclear weapons to the UK government at Westminster. The opposition to nuclear weapons in Scotland expressed by its government is not considered to be an issue of democracy by the UK government.<sup>10</sup>

John Ainslie of the Scottish Campaign for Nuclear Disarmament (CND) meticulously researched MoD and government publications. He persistently questioned parliament and statutory agencies as well as observed and analysed military activities in the UK, which informed scientifically robust and reliable earlier editions of this publication. Many of us are indebted to him for that and are still utilising work that he undertook and questions that he raised while exploring the developments since his death. In collating this account of developments since then, the author has relied on John's work and that of many others who have built on, expanded, or added to his reports and questions. They include but are not limited to David Cullin, Peter Burt, Jane Tallents, David Mackenzie, Lynn Jamieson, and Stuart Parkinson.

## Current status

The UK previously claimed 120 operationally available nuclear warheads as part of a larger stockpile of between 180 and 225 warheads. The MoD had indicated that it would reduce the overall stockpile to 180 warheads by the mid-2020s. There are four Vanguard class submarines, three of which are normally armed. Each armed submarine carries eight US-built Trident D5 missiles and a total of 40 nuclear warheads.<sup>11</sup> Observations of warhead convoy movements undertaken by the citizen activist group Nukewatch UK suggested that warheads had gradually been removed from service at a rate of around three warheads per year to meet this stockpile reduction target of around 60 warheads which are not operationally available.<sup>12</sup>

While a decision to increase the cap was announced on 16 March 2021, Nukewatch observations suggest that additional warheads had already been delivered to Coulport by this date.<sup>13</sup> The UK Trident warhead contains a mixture of UK and US elements. The high explosive

in the warhead is British. Three key components, which are part of the US W76 warhead, are supplied from the United States. The final design could be described as a W76 variant, i.e. around 100 kilotons.<sup>14</sup> The Atomic Weapons Establishment (AWE) warheads are manufactured and serviced at two sites in Berkshire: at Aldermaston, which includes research into warhead design and the manufacture of plutonium components, and at Burghfield where the warheads are assembled and disassembled. They are routinely transported on public roads between the HM Clyde Naval Base at Faslane, 25 miles from Glasgow, Scotland's largest city, and AWE in Berkshire for maintenance or replacement. Nuclear warheads in these convoys consist of nuclear materials surrounded by high explosives, a combination that is prohibited by regulations governing civil transportation of radioactive materials.<sup>15</sup>

The base includes a submarine facility, Faslane, and a nuclear weapons depot, Coulport. Submarines are built at Barrow in Furness. The fuel cores for naval reactors are manufactured by Rolls Royce in Derby. There is normally one Vanguard class submarine in refit at Devonport dockyard.

The MoD has restructured its internal arrangements for management of the Defence Nuclear Enterprise. An internal body called the Defence Nuclear Organisation (DNO) oversees the Enterprise and acts as a customer to another internal body, the Submarine Delivery Agency (SDA), which is in charge of building and supporting the submarine fleet. The DNO also acts as customer in the contract managing the Atomic Weapons Establishment. The SDA manages 52 procurement and support projects within the Enterprise. The Navy, as operator of the submarine fleet, also acts as a customer of the SDA.<sup>16</sup>

Twenty decommissioned Royal Navy nuclear powered submarines are floating in nuclear licensed dockyards at Rosyth (Scotland) or Devonport (England). The Submarine Dismantling Project was established in 2000 following a study by the MoD, which concluded that the radioactive waste should be stored on land. In 2011 the MoD conducted a consultation on how this waste should be removed from the submarines, where this process should be conducted, and the type of sites where waste should be stored. Following the public consultation, it was decided that initial dismantling will take place at both dockyards and that the Reactor Pressure Vessel (RPV) from each submarine will be removed and stored whole at Capenhurst Nuclear Services (CNS) in the interim.<sup>17</sup> The MoD was paying an estimated £1.5 million a year for storage at the Cheshire site. Initial dismantling on HMS Swiftsure began in December 2016 at Rosyth. Low level radioactive waste has now been removed from HMS Swiftsure and HMS Resolution. Work on HMS

Revenge is underway and scheduled for completion with a developed removal process to be operational by 2026 but the costs are to remain unannounced for "reasons of protecting commercial interests" and the MoD recognises that safety and sustainability are complex and challenging.<sup>18</sup> On 1 April 2019 the National Audit Office (NAO) had published a report which detailed many delays to the project and associated cost increases, stating that the [DNO] is responsible for all disposal-related projects, including those previously within the Royal Navy's remit.<sup>19</sup>

## Modernisation

### Submarines

The UK continues to drive forward its Defence Nuclear Enterprise (DNE) programme to replace its Vanguard class submarines with new Dreadnought class vessels.<sup>20</sup> It is also proposed that from 2020, all of the UK's submarine fleet will be based at the upgraded Faslane naval base, located in Scotland.<sup>21</sup>

The UK began the process of replacing the Vanguard class submarines following the publication of a White Paper in 2006<sup>22</sup> and parliamentary votes which took place in 2007 and 2016. Contracts for the second phase of the Dreadnought submarine build programme were signed by the MoD in May 2018. The majority of the UK's nuclear-powered submarines have been constructed at Barrow-in-Furness at the BAE Systems Marine site, with deep maintenance taking place at Devonport Royal Dockyard in Plymouth by Babcock Marine Systems. The Dreadnought submarines will also be built by BAE at Barrow-in-Furness.

The Scottish Environment Protection Agency (SEPA) works within a framework drawn up by the Scottish Government subject to approval by the Minister for Environment, Climate Change and Land Reform.<sup>23</sup> The MoD has applied to licence the Nuclear Support Hub (NSH) which it is building at Faslane and which is intended to centralise the existing radioactive waste handling facilities and radiochemistry laboratories there. The key legislation governing radioactive substances and SEPA's responsibilities, the Environmental Authorisations (Scotland) Regulations 2018 (EASR), makes the MoD exempt from many its provisions as in this case. The Hub is situated in a new location within the Faslane site, with a new effluent discharge point into the middle of the Gare Loch.<sup>24</sup> With the increased number of nuclear submarines, radioactive discharges into the Gare Loch are expected to increase and could cause radioactive contamination of the entire Gare Loch, including its flora and fauna, and result in increased radiation doses to people living in the vicinity of the Loch. An application to SEPA in regard to

the increased radioactive discharges made by HMNB Clyde indicates a steep rise in the radioactive wastes that could be expected to be discharged every year from the new Faslane hub. The application made in May 2019 was not available in the public domain until late 2020 because SEPA's assessments for 2019 were delayed by the coronavirus pandemic.

## Submarine reactors<sup>25</sup>

At Rolls Royce's privately owned Raynesway factory in Derby the MoD is overseeing its Core Production Capability programme to produce reactor cores for Astute Class attack submarines and building new facilities that will produce cores for Dreadnought submarines. The new PWR3 Dreadnought reactor is based on a US design and runs on highly enriched uranium fuel.<sup>26</sup> The Astute class submarines carry conventional weapons but will use the same reactor cores as Dreadnought and there are complex dependencies and mechanisms that mean they are deeply integrated in the UK's nuclear weapons programme.

## Missiles

D5 missiles were developed and produced at Kings Bay, Georgia in the United States. The UK has rights to a total of 58 missiles from a common pool shared with the US. The US Strategic Systems Program (SSP) is extending the life of the D5 Trident weapon system. They are updating all the Trident subsystems: launcher, navigation, fire control, guidance, missile, and re-entry.<sup>27</sup> All of these modernisation measures apply to the system deployed on British submarines. The missile compartments on Dreadnought submarines will accommodate D5 missiles and will be identical to the missile compartments on the US Columbia-class submarines. The UK has paid towards the cost of the Common Missile Compartment and towards the US-run Life Extension Programme, primarily being carried out by US firm Lockheed Martin, to extend the life of the D5 so that it can remain in service until the 2040s. Since the intention is that Dreadnought will be in service until the late 2060s and the Life Extension Programme for D5 will only sustain this missile until the early 2040s, D5 will not be available for most of the intended lives of the new submarines. The UK government has stated that "investment in a replacement ballistic missile would eventually be needed."<sup>28</sup> The Life Extension version may already have been introduced on some submarines, though there is no information in the public domain to confirm this, and the US may be working on a further life extension rather than a new missile.

## Warheads

Work under the Nuclear Warhead Capability Sustainment Programme (NWCSP) is funded through a contract between the MoD and AWE Management which has a predicted end date of 3 April 2025. The NWCSP is an ongoing rolling programme with no defined end date, that aims to ensure that the UK retains the infrastructure, skills, and capability to develop and manufacture nuclear warheads. This includes increasing the likelihood that each of the separately targeted warheads carried by a D 5 missile will explode close enough to its target to completely destroy it. Even while disregarding the increased cap on the number of warheads, it is worth noting that sites can now be completely destroyed by using a smaller number of warheads.<sup>29</sup>

## Collaboration

UK parliamentarians and experts learned through a Pentagon announcement in early February 2020 that billions of UK pounds will be spent on a new generation of warheads based on US technology. The Pentagon announcement stated that the W93 or Mk 7 warhead "will support a parallel replacement warhead programme in the UK." This expenditure had not been reported to them in the House of Commons or by the MoD.<sup>30</sup>

From December 2006, when correspondence between former US President George W. Bush and then UK Prime Minister Tony Blair referenced the latter in stressing the need to "maintain and modernise the UK's capability in the longer term," close work between AWE Aldermaston and US research laboratories has been evident, despite the major gaps in the UK's transparency. In 2007, the senior official responsible for defence procurement had reported that the plan was "to replace the entire Vanguard submarine system, including the warhead and missile".<sup>31</sup> The linking of US nuclear weapons laboratories and AWE is a crucial element of the US-UK nuclear special relationship.

UK-US collaboration has now been extended to supporting Australia in the acquisition of nuclear-powered military submarines in what is described as an effort to "sustain peace and stability in the Indo-Pacific region"—a controversial policy and statement, both in the region and for the UK's other nuclear ally, France. It comes at a time when the UK still needs to finish building its final Astute model attack submarines in order to minimise delays in building the Dreadnought fleet, suggesting that the US rather than the UK may provide the practical support for the Australian submarines planned for the 2040s. The Australian submarines are almost certain to run on highly enriched uranium (HEU), which would constitute a serious

erosion of nuclear non-proliferation norms.<sup>32</sup> Dating from 2013, the Teutates warhead science programme is a UK collaboration with France, covering three areas of support for their independent nuclear weapons capabilities: safety and security, stockpiles, and counter-nuclear terrorism. Funds have been invested in regenerating the infrastructure at AWE sites.<sup>33</sup> This is part of a joint construction with a new hydrodynamics facility at Epure in France and a technology department and interim firing point at AWE Aldermaston, which is purposed with enabling performance checks without nuclear explosive tests. In 2019, the MoD Investment Approval Committee (IAC) approved rising costs as in line with the programme within the context of the NWCS, though delivery of the programme is challenging and technically demanding. The instrument that dictates this collaboration is a binding treaty that commits the UK to ten years' notice of intent to withdraw, well beyond the timescale of the present NWCS.<sup>34</sup> The IAC will continue to assess the possible impact of Brexit on the costs.<sup>35</sup>

## Infrastructure

The problems in the UK's nuclear weapons programme are considerable. Burgeoning costs, delays of several years, and the impact of these factors on each other has escalated to the point where it is unlikely that the new submarines will be available by the end of the already over-extended lifetime of the outgoing vessels. Building projects that began ten years before the 2016 Parliamentary vote are still incomplete or have been delayed, leaving retired submarines occupying docks instead of being dismantled. Leaks, accidents, and neglect add to the dangers that the public and those working on the project face, aside from the squandering of resources vital for addressing a climate change situation, thus increasing the likelihood of a nuclear incident at the same time as reducing the capacity to survive it.<sup>36</sup>

Deployment of a fully armed submarine at sea on patrol at all times will be impossible to maintain if there is a lack of submarine availability before the current system is replaced. The current submarines are already at the end of their projected functional lifetimes. An overall equipment plan that underestimated the costings, radioactive leaks, limited dock space, shortage of staff, poor contractor performance, and fluctuating currency each put the nuclear weapons programme at risk.

The expenditure is failing to keep pace with the demands of the programme, delays exacerbate the escalating costs, and secrecy surrounds the projections of completion dates. Efforts to reign in escalating costs, included moving the Dreadnought delivery back from

2024 to 20, may reduce expenditure during that budget period but does not reduce the overall cost of the Dreadnought programme. In fact, delays of this sort increase the costs in the longer term.<sup>37</sup>

Amongst the early lead-in items purchased before the 2016 vote, Common Missile Compartments (CMCs) were produced for the Dreadnought programme and US Columbia-class submarines. When it became apparent that these were affected by faulty welds, the schedule for the project was in question and as well as safety being severely compromised and there were, again, major cost implications.<sup>38</sup>

Since 1980 every decommissioned Royal Navy nuclear-powered submarine has been floating in a nuclear licensed dockyard at either Rosyth in Scotland or Devonport in England. Pressure on dock operations are likely to lead to further delays in dismantling the twenty submarines, nine of which still carry fuel.<sup>39</sup> Their presence in turn adds pressure on any major upgrade to address dock capacity. Extending the lifetime of the Vanguard class will put pressure on the limited dock space at Devonport, where the life extension work would be carried out. Defuelling Vanguard-class submarines when they come out of service will create bottlenecks arising when deep maintenance is being done on the Dreadnought submarines in the 2040s.

Since the initial plans for the upgrade, maintaining and developing a workforce in conjunction with the civil nuclear industry has been seen as critical.<sup>40</sup> Government and the nuclear industry both continue to have concerns in this regard, added to which the Navy is struggling to recruit submariners.<sup>41</sup> In August 2018, 15 per cent of MoD civilian positions for Nuclear Suitably Qualified and Experienced Personnel (NSQEP) were unfilled and the MoD was unwilling to disclose the number of unfilled military NSQEP posts, on the grounds that doing so would be "detrimental to the armed forces".<sup>42</sup>

The MoD is expected to play a part in maintaining the expectations of contractors and ensuring the competence of their workforce. Components that are commissioned may require service for the duration of another aspect of the programme, while the contractors need the workforce to be fully and profitably occupied at all times. Meantime they have to maintain their own workforce against diminishing enthusiasm for life on board a submarine without access to social media.<sup>43</sup> The lived experience of the COVID-19 pandemic is unlikely to create an appetite for this work. In 2018, Rolls Royce restructured internally with thousands of job losses, while conducting a public campaign for government support to develop SMR technology. Another significant contractor, Babcock, announced the intended closure of its shipyard in North

Devon against a background of public criticism and falling share prices.

Purchases from the US means that currency value differences will affect the cost of components and that need to be paid for from MoD contingency funds, which are already over-stretched. Brexit scenarios are driving up the overall project costs. This is not addressed in government, and neither is the impact of COVID-19 on the economy.<sup>44</sup>

In November 2020, the MoD announced that the AWE atomic weapons facility would be taken back under the direct management of the government.<sup>45</sup> From June 21, the government's Non-Departmental Public Body (NDPB), owned by the MoD and working under contract to the Defence Nuclear Organisation (DNO) would take over the running of the AWE from a consortium (which had been expected to continue until 2025) made up of US defence giant Lockheed Martin, and Serco and Jacobs Engineering. This is named as "AWE plc". This decision was made to address concerns that the previous set-up was monopolistic, and also came after a series of safety and management failures and inability to deliver projects. The value of shares in Serco immediately dropped by nearly 12 per cent. A year later, in November 2021, as Serco considered bidding for the contracts to manufacture warheads for AWE plc, the new Environmental, Social and Governance (ESG) standards were highlighted by investors chary of condemnation from the International Sustainability Standards Board (ISSB), newly formed at the COP26 climate summit.<sup>46</sup>

While Serco had made some recovery and become known for its work on the NHS test and trace during the coronavirus pandemic, the impact of the new developing norm against nuclear weapons inhibited investment for AWE plc. This has raised a question over the environmental social and governance legitimacy of nuclear weapons in the UK, despite the UK government's rejection of the Treaty on the Prohibition of Nuclear Weapons (TPNW). Serco's fund managers have succeeded in dissuading them from competing for contracts with AWE plc, although many of AWE plc's directors are drawn from the previous consortium management board.<sup>47</sup>

The replacement uranium facility known as Pegasus was suspended because of safety concerns. Previously, similar concerns have been the cause of regulatory action when corrosion was discovered in the steel columns supporting the building, involving expenditure of £150 million.<sup>48</sup> Pegasus was restarted in March 2021 in response to the MoD requirement to deliver a replacement warhead, identifying Pegasus as the best possible value-for-money solution while recognising

that costs exceeded the originally approved amount. While the letter advising the restart was addressed to the Public Accounts office, it made no reference to any safety concerns.<sup>49</sup> Devonport has been under enhanced regulatory attention since 2013 and there is a Nuclear Safety Improvement Plan in place to try and improve safety standards at the site. These included problems with the fire alarm detection and emergency lighting systems. Crane lifting operations were carried out that "fell short of the required standard" and two further crane incidents occurred at Devonport in September 2018, resulting in another halt to crane work on site and an investigation by the ONR.<sup>50</sup>

If the HMS Vanguard is retired as soon as deep maintenance on all the Vanguard submarines has been completed in 2030, several years before the first Dreadnought comes into service, it will be 37 years old, a service life almost 50 per cent longer than that for which it was designed. Admiral Lord West, previously Chief of Naval Staff, called the plan "bloody dangerous" and "very high risk," saying that it was contrary to the advice he had been given when he was in post.<sup>51</sup> There exists a significant question mark over the capacity of the UK to continuously keep one nuclear weapon submarine deployed at sea during the transition to the Dreadnought submarines. In the 1980s, the Thatcher government kept Polaris on continuous deployment against the advice of safety regulators about known problems with the reactor pipework.<sup>52</sup> As the programme proceeds, pressure from regulators, parliamentarians, or the public could force action to be taken at a time that is not of the MoD's choosing. The MoD may be forced to prioritise sustaining its contractors over keeping costs low if it wishes to retain a nuclear weapon programme.

## Economics

The upgrading of the UK's nuclear weapons and the building of the Dreadnought submarines is underway while doubt on any possibility that the project will be delivered on time or within the projected costs is met with a complete lack of capacity or willingness by the MoD or the UK government to be subjected to scrutiny.

In the past, an annual update for the MoD's large value projects was published by the National Audit Office (NAO), and since 2015 it has been published by the government's Infrastructure and Projects Authority, which offers less detailed information.<sup>53</sup> The obfuscation of the difficulties is facilitated by the highly technical nature of much of the documentation. Changed procedures for budgeting and accounting further obscure what is happening from the public, thus reducing opposition to the government's plans.<sup>54</sup>

**£7.2  
BILLION**

**ANNUAL COST FOR UK  
NUCLEAR WEAPONS**

**OR**



**100,000**  
**BEDS IN  
INTENSIVE  
CARE**

+



**30,000**  
**VENTILATORS**

+



**50,000**  
**NURSES**

+



**40,000**  
**DOCTORS**

Sources: see [icanw.org/healthcare\\_costs](https://www.icanw.org/healthcare_costs)



ICAN has calculated how the annual cost for UK nuclear weapons could pay for health care services.

In addition to the lack of easily comprehensible information on cost, matters of safety and environmental considerations arising from the NWCSF are also subject to secrecy and lack of transparency. During 2017, the MoD refused to publish the annual report of the Defence Nuclear Safety Regulator and redacted all information about nuclear safety from the annual report of the Defence Safety Agency.<sup>55</sup>

The Nuclear Information Service in the UK uses a wide range of elements as well as extrapolating from the MoD's own figures and historical spending to estimate costs over time. This method estimates the total cost of the UK's nuclear weapons programme between 2019 and 2070 to be £172 billion. This is a low estimate based on 2019 prices, yet is far higher (four times) that the most commonly cited Government figures. The UK government does not release total cost figures, but the estimate for the Dreadnought programme figure is £31 billion, plus the additional £10 billion contingency for building four new Dreadnought submarines.<sup>56</sup>

MoD expenditure on the nuclear weapon programme is not released into the public domain. Based on an MoD estimate that the programme would cost 6 percent of MoD spending over the lifetime and that an MoD budget of 2 per cent of GDP, CND's estimate for the programme is £205 billion.<sup>57</sup>

There are a number of areas where costs are at best bewildering, if not politically misleading. Environmental considerations and risks become externalities that are neither considered nor identified, with no analysis of

remediation requirements or responses to climate change impacts, accidents, or the protection of civilian populations.

The Astute submarine programme shares infrastructure and workforce with the nuclear armed submarines, while its activities are not related to nuclear weapons. Reconnaissance aircraft, mine warfare vessels, and destroyers are utilised by the nuclear weapons programme, but they have other primary duties, meaning their costs are not accounted for within the programme.

The MoD 2018 Update to Parliament reports on its part in the Nuclear Skills Strategy Group. This group supports the civil nuclear sector and a primary aim for the group is developing a workforce that can support the NWCSF. The absence of a buoyant civil nuclear sector makes government financial support a likely requirement. This is a historical relationship. In 2005, the MoD funded a RAND Corporation report highlighting the links between developing and servicing the nuclear submarines and a robust civil nuclear industry.<sup>58</sup>

The different lifespans of various elements in the nuclear weapon programme make it difficult to estimate life-cycle costs overall. Other costs are unquantifiable liabilities listed in the MoD accounts,<sup>59</sup> in particular indemnities to Rolls Royce, Babcock, and BAE Systems, amongst other companies currently struggling in the post-Brexit and COVID-impacted UK. These are complicated to negotiate and can lead to costs increasing along with risks.

In the absence of transparency and given the urgency of addressing the real risks presented by both the climate



emergency and the planetary risks presented by nuclear weapons, inclusive cost accounting could soon become a necessity for the UK government. The inscrutable and escalating cost of the UK's nuclear ambitions are set against a background of crippling austerity, with social security payments at their lowest level since the establishment of the welfare state in the UK. In a report published by the Institute for Public Policy Research (IPPR) just before the December 2019 election, it was noted that food bank use is escalating with the steepest rise the Trussell Trust charity has witnessed since its network of food banks was established.<sup>60</sup> The most common driver of food bank use relates to the characteristics and functioning of the British welfare system. The IPPR report goes on to state that in the UK,

“The economy is not working for millions of people and needs fundamental reform. Average earnings have stagnated for more than a decade; young people are set to be poorer than their parents; the nations and regions of the UK are diverging further. Many of the causes of the UK's poor economic performance go back 30 years or more, particularly its weaknesses in productivity, investment and trade.”<sup>61</sup>

From March 2020, in responding to the COVID-19 pandemic, action and investment from the government created a *volte face* on public spending policy with the introduction of furlough, paying people who had to stay at home.<sup>62</sup> Despite the UK government's efforts to return to the politics of austerity, the questions that were raised a year ago about the real nature of what constitutes security are not going away, but are informing a very public debate about the climate, misogyny, and colonisation wherever it occurs, most recently in the context of COP 26 when local activists supported and listened to the Indigenous peoples who had walked out of the talks.<sup>63</sup> Of the £510 billion no longer available to nuclear weapons companies as a result of global divestment between January 2019 and July 2021, UK-headquartered financial institutions account for £23 billion and the Serco story was well received in the media.<sup>64</sup>

## International law and doctrine

The UK Government Foreign and Commonwealth Office (FCO) and the MoD have consistently maintained that that the UK's possession of nuclear weapons is entirely lawful because the UK is designated a nuclear weapons state by the terms of the nuclear Non-Proliferation Treaty (NPT). The UK has also made reference to the International Court of Justice (ICJ) Advisory Opinion as rejecting the argument that nuclear weapons use would necessarily be unlawful in all circumstances, but does not examine the more detailed premise of the opinion

that, “The unique characteristics of nuclear weapons, the use of such weapons seemed scarcely reconcilable with respect for the requirements of the law applicable in armed conflict.” or that the possible circumstances in which lawfulness may be argued would be “an extreme circumstance of self-defence, in which the very survival of a State would be at stake.”<sup>65</sup>

The impact of COVID-19 restrictions on meetings at the United Nations (UN) and postponement of the 2020 NPT Review Conference (RevCon) to 2022 means that the RevCon will take place in a world where the TPNW has entered into force and its state parties are preparing for their First Meeting of States Parties in March 2022. Meanwhile, the UK government considers that it is compliant with the NPT and the ICJ Opinion and rejects the validity of the TPNW.<sup>66</sup> Since signing the NPT, the UK ceased the production of fissile material for nuclear weapons in 1995. However, the UK has accumulated almost 139 metric tonnes of separated plutonium—enough plutonium to produce approximately 20 thousand Hiroshima-size bombs. The costs attached to the storage of this material are astronomical.<sup>67</sup>

In the early 1990's the UK government was so strongly opposed to the question of the legality of nuclear weapons even being put to the ICJ by the World Health Organisation (WHO) that it produced a lengthy report to the ICJ<sup>68</sup> disputing the question being asked at all and claiming that the essential aim of the sponsors of the project was a political, and not a legal matter. It was further argued that if the Court were to rule in favour of an absolute prohibition, the effects could be highly damaging, and jeopardise the NPT. This historical resistance to the work of the ICJ in forming an opinion resonates with the actions taken by the and views expressed by the UK before, during, and since the negotiations for the 2017 TPNW. In a letter to the United Nations Association-UK (UNA-UK)<sup>69</sup> during the 2019 NPT Preparatory Committee the FCO described the TPNW as a risk to the non-proliferation regime and thus in conflict with the NPT. The letter was part of an exchange that took place following a House of Lords International Relations Enquiry<sup>70</sup> which called on the government to address grave concerns about the deteriorating state of nuclear diplomacy.

The UK government's stated position in the Strategic Defence Review in March 2021, particularly the previously mentioned increase in the cap on the number of warheads, was the impetus for seeking a legal opinion from Professor Christine Chinkin and Dr. Louise Arimatsu of the London School of Economics and Political Science in April 2021 on the legality of the Strategic Review's proposals.<sup>71</sup> It found that the government's decisions were at odds with its legal obligations under the NPT

on three points: the modernisation programme and increase in the number of available warheads constitute a breach of article VI of the NPT; the use or threat of use of nuclear weapons against a state party to the NPT solely on the basis of a material breach of the latter's non-proliferation obligations (as referenced in the review) would constitute a breach of international law; as would their third point, that the use or threat to use nuclear weapons on the grounds that the future threat of weapons of mass destruction, such as chemical and biological capabilities or emerging technologies, could have comparable impact to nuclear weapons.

The opinion is the basis for a public petition to the UN member states to challenge the UK's decisions at the upcoming NPT RevCon.<sup>72</sup>

Despite a separate legal system in Scotland and opposition to UK nuclear weapons policy, it has not so far been possible to engage either government to seriously consider their legal obligations under international humanitarian law or to test the legality of the nuclear weapons under UK jurisdiction and based in Scotland.

At the Edinburgh conference, "Trident and International Law, Scotland's Obligations"<sup>73</sup> in 2009, His Excellency Judge Mohammed Bedjaoui, former President of the International Court of Justice stated,

Even in an extreme circumstance of self-defence, in which the very survival of a State would be at stake, the use of a 100 kt nuclear warhead (regardless of whether it was targeted to land accurately on or above a military target) would always fail the tests of controllability, discrimination, civilian immunity, and neutral rights and would thus be unlawful.

## Public discourse

Successive UK governments have repeatedly expressed their intention to maintain nuclear weapons and continue with a renewal programme despite public controversy, economic uncertainty, technical difficulties, the impact of COVID-19 on significant manufacturers, impact economically and diplomatically of Brexit, the implications of nuclear weapons possession on the climate emergency, and unpredictable transnational relationships. This commitment is maintained by both major political parties at Westminster.

Following January's 2021's widespread TPNW entry into force celebrations by citizens across the UK, the current government's Strategic Defence Review in March 2021 came as a shock and surprise to disarmament campaigners and to moderate and progressive civil

society organisations in the UK, which was reflected in a wide range of condemnatory responses.<sup>74</sup>

Responses to the Strategic Defence Review were also coordinated by UNA-UK.<sup>75</sup>

The weapons are based in Scotland, with no credible alternative site in the UK for the submarine base and the warhead store in sufficient proximity.<sup>76</sup>

As such, the Scottish parliament and government are strongly opposed to nuclear weapons and seek their abolition.<sup>77</sup> In May 2021, Scotland voted in a new parliament with an increased percentage of women members and an increased majority of Members of the Scottish Parliament (MSPs) that are in favour of Scottish independence. In the two main parties, the Scottish National Party and Scottish Greens, all candidates have joined ICAN's Parliamentary Pledge for the TPNW, as did several other candidates—as such, the majority supporting the TPNW is even greater than the majority for independence.<sup>78</sup>

Since 2015, Scottish Labour has been opposed to the replacement programme, with a proviso that an appropriate diversification programme is put in place.<sup>79</sup>

Developing or aspirational changes such as the following may help to deliver change to UK nuclear weapon policy:

- Entry into force of the TPNW is creating real and quantifiable progress in aspects of international disarmament through divestment and delegitimising nuclear weapons doctrine;
- Following COP 26, there is a real possibility of the election of a UK government that may consider nuclear disarmament in addressing the climate emergency; and
- Economic shocks may seriously disrupt the nuclear weapon programmes.

Additionally, changes could arise if there was:

- A major nuclear accident and/or climate disaster affecting the UK directly;
- A referendum delivering an independent Scotland that could lead to a demand for immediate disarming of warheads and removal of weapons and submarines from Scotland's territory;

Professor Michael Clarke, Former Director General of the Royal United Services Institute, argued that Britain "scrapping" Trident would be the most significant nuclear decision the world has ever seen.<sup>80</sup>



Professor William Walker pointed out that such a move would be unique because of Britain's role in the early development of nuclear weapons and its position as one of the three "custodians" of the NPT.<sup>81</sup>

In the period leading up to the 2014 referendum on Scottish independence, the late John Ainslie provided Scottish CND with invaluable resources to show that a Scottish government that could control policies on defence and international relations could initiate the elimination of the Trident nuclear weapon system in the UK. The deep-seated disregard for the UK government throughout Scotland in the context of the global crises in economics, the climate, and militarism all conspire to create a more urgent necessity for the UK government than at any time since the dawn of the nuclear age to think the "unthinkable" and consider an alternative to

such a patriarchal and imperialistic position of power. The time may come for the Peace Camp at Faslane to become a memorial to all who strive for a nuclear free world.<sup>82</sup>

## Additional reading

John Ainslie's painstaking work is still relevant and available from the Scottish Campaign for Nuclear Disarmament at <http://www.banthebomb.org/index.php/publications/reports>.

The Nuclear Information Service is adding John's archive to their library later this year, and carries detailed resources on the current and proposed UK nuclear weapons programme at <https://www.nuclearinfo.org/>.

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