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BLAIR'S BOMB: THE REAL FINANCIAL COSTS

'The greatest security threat we face as a global community won't be met by guns and tanks. It will be solved by investment in the emerging techniques of soft power - building avenues of trust and opportunity that will lead to a low carbon economy. There is no backstop: politics and diplomacy have to work'
Margaret Beckett. Foreign Secretary, October 2006

'I believe climate change is, without doubt, the major long-term threat facing our planet'[1]
Tony Blair (Feb 2006)

The £15 to £20 billion figure stated by the Government and the media hides the real cost of replacing Trident. Using publicly available government figures, including their own running cost estimates, the real cost of replacing Trident is £76 billion. That is equivalent to over £4500 per British family, or approximately 40% of Ministry of Defence conventional weapons purchases each year.[2]

This briefing:

- **Details how the £76 billion figure is reached.**
- **Outlines additional costs that could push the final cost far higher – perhaps over £100 billion.**
- **Calculates how spending the same amount on tackling climate change could reduce the UK's carbon emissions by over 12% - significantly improving our energy security.**
- **Demonstates that such investment in energy efficiency measures would pay itself back in ten years.**

Breaking down the basic figures

The Government's White Paper states the cost of replacing Trident to be £15-20 billion. This includes procurement of submarines (estimated at £11-14 billion), new warheads (estimated at £2-3 billion), and estimated infrastructure costs (excluding Aldermaston) of £2-3 billion. These are conservative provisional estimates. Contracts will not be given until 2012-2014 when more detailed costings will be available.[3]

What is often missed in reporting is that these are only the design and building costs and do not include the far higher costs of maintaining and developing the nuclear weapons system over thirty years – i.e. the true cost to the taxpayer.

The White Paper states that the ongoing in-service costs of Blair's proposed new nuclear weapons system will be equivalent to 5-6 % of the defence budget. Examination of government figures indicates that this adds another £50-£66 billion to the final cost. Defence Secretary Des Browne recently described combining costs in this way as 'perfectly legitimate'.[4]

Table 1. Proposed system costs – not taking into account hidden costs

Procurement costs[5]	**£15 – 20 billion**
In-service costs 2024 - 2054 (30 years @ £1.6 billion – £2.1 billion) based on MoD's 2007-2008 budget)[6]	**£50 – 66 billion**
Basic cost of proposed system (midpoint £76 billion)	**£66 – 86 billion**

Additional costs

The Government's history of openness about the cost of nuclear weapons has been extremely poor. Defence Secretary, Des Browne, recently acknowledged that for many years governments have misled the public about the true in-service costs of Britain's nuclear bomb; they are equivalent to 5-6% of the defence budget, not the 2-3% repeatedly stated.[7]

All costs outlined below are directly connected to nuclear weapons and have *not* been factored in to the government's 5-6% of defence budget estimate. (See appendix 1 for full details):

- The full costs of building new bomb-making facilities at Aldermaston Atomic Weapons Establishment. The Government is very unclear on the cost of 'upgrades' at Aldermaston. The White paper appears to attribute over £1 billion pounds to Aldermaston, but the total expenditure there is expected to be several billion.

- The costs of new missiles. Britain rent and use American D5 missiles. The US has decided to retire the D5 in 2042 and there will be additional design and production costs for new missiles. The best estimate given in the White Paper is that the cost of the past D5 missiles at today's prices would be £1.5 billion

Assumptions

The UK's defence budget is currently increasing by approximately 1% per year in real terms, but it is unclear what percentage increase MoD expects over the 25 or 30 year lifetime of the new submarines. Greenpeace has calculated minimum and maximum government estimates, assuming a thirty year lifetime; as a percentage increase of the defence budget over the lifetime, we have used a 0% increase for the minimum estimate, and a 6% increase for the maximum figure. Our higher estimate includes the Government's cost of new missiles in the 2040s. (See Appendix I for details)

As the Government has not provided clear information to parliament or the British public, Greenpeace has created a spreadsheet with government and other cost estimates and welcomes anyone to comment or add to that analysis. Visit www.greenpeace.uk.org/trident-replacement-spreadsheet

Other factors affecting the true costs of new nuclear weapons

Defence budget increases: The White Paper says 'decisions on the level of our defence spending' in the futre will be taken later this year. Without clarity on this, it is difficult to estimate what Trident's 5-6% figure will be. Currently defence spending is increasing at over 1% per annum, a worldwide phenomenon.

Historical cost overruns in major defence projects: It is impossible to rely on industry and the Government to accurately cost major projects – the nuclear powered Astute hunter-killer, program for example, is 4 years late and running hugely over budget.

Do new missiles mean another new submarine design? An issue not covered in the White Paper is that the UK may well need to build new submarines to carry the new missiles that replace the D5's. The Government says that any D5 missile replacement will fit existing submarine designs, based on assurances from George Bush to that effect.[8]

But it is hard to imagine that such an assurance will be binding on the commercial interests of US missile and submarine manufacturers in thirty years time.

£76 billion

the real cost of replacing Trident

12%

reduction in the UK's carbon emissions that could be achieved by spending £76 billion on making domestic housing more energy efficient

What £76 billion could deliver in tackling threats to climate change and energy security

Greenpeace research shows how £76 billion could help make a major contribution to tackling the real threats we face today – global warming and energy security. This is just one possibe scenario.

Calculations based on publicly available figures show that spending £76 billion on simply making housing in Britain more energy efficient would save 44% of domestic housing carbon emissions – reducing the UK's total carbon emissions by 12%.

Furthermore, this £76 billion would pay itself back within ten years through energy cost savings. If that £76 billion was then reinvested in other efficiency measures, total domestic carbon emissions could be cut by 80% – reducing total UK carbon emissions by 23%. This gain would pay itself back within 12 years. (See Appendix 2)

Rushed decision, poor consultation

Tony Blair tells us that a decision is needed now, because the current submarines will not last beyond 2025 and it takes seventeen years to build new ones. Industry experts (other than those who will profit from building them) have testified that there are no technical reasons to proceed on Blair's timeline. He also says his proposal is the cheapest option - but an option to put nuclear cruise missiles on submarines is not costed at all in the White Paper, and indications are that such a system could be 40% cheaper and could be built in less than ten years – meaning a decision is not needed until 2012 at the earliest.

Blair says his proposed system is 'operationally independent' of the USA, a statement questioned by some defence experts. Nobody pretends the UK can independently build such a system, and it is no coincidence that the USA has decided to build exactly the same system. Britain has access to such US technology through the secret Mutual Defence Agreement which Blair signed in 2004. One must ask what the US asked for in exchange for giving away its nation's most sensitive nuclear weapons and missile technology – was it a Blair commitment in 2004 to remain exactly in step with US submarine, missile, warhead and nuclear posture?

SUMMARY

Tony Blair is rushing through a decision to commit £76 billion to rebuilding a Cold War nuclear weapons system, misleading the public on the costs of his proposal, misleading them on the need to make a decision now, and has stymied informed debate in Parliament, in his party, and in public.

40 years ago, the UK promised in the nuclear Non-Proliferation Treaty (NPT) to get rid of its nuclear weapons; in exchange, all other non-weapons states promised not to build them.

Negotiations on reviewing the NPT start in May, and UK plans to modernise their nuclear weapons will undermine that treaty.

Kofi Annan said last year about such modernisation plans: **'They should not imagine that this will be accepted as compatible with the NPT. Everyone will see it for what it is: a euphemism for nuclear re-armament. Instead, by clinging to and modernizing their own arsenals, even when there is no obvious threat to their national security that nuclear weapons could deter, nuclear-weapon States encourage others – particularly those that do face real threats in their own region – to regard nuclear weapons as essential.'**[9]

This is why Greenpeace are calling on the UK Government to:

Reject weapons of mass destruction:

- immediately abandon preparations to replace Trident.
- support and lead international efforts to strengthen multilateral disarmament and non-proliferation negotiations. This should include taking Trident off patrol and confining its warheads to an internationally monitored site in the UK.

Build real global security:

- encourage international cooperation and conflict resolution
- Focus government funds on tackling the real threats of climate change and ensuring energy security

1 Open letter to Stop Climate Chaos Campaign, Feb 28 2006

2 Defence Procurement Agency Annual Report and Accounts page 21. "Procurement of new equipment systems and associated weapons, for 2005/2006 was £5,931.

3 These costs are "inevitably initial estimates at this stage and there has not been the level of detailed work with industry that would be necessary to refine them" Q327 Defence Select Committee Feb 7 2007 http://www.publications.parliament.uk/pa/cm200607/cmselect/cmdfence/uc225-iv/uc22502.htm

4 Defence Committee 6 February 2007 www.publications.parliament.uk/pa/cm200607/cmselect/cmdfence/uc225-iv/uc22502.htm

5 £15-20 billion is composed of three broad components: the submarines, £11-14 billion; a warhead another £2-3 billion; infrastructure £2-3 billion. Director General Strategic Requirements:Feb 6 2007 Select Committee

6 5-6% of MoD resource budget of _33,018 million. See "Information about key areas of the Defence Budget" http://www.mod.uk/DefenceInternet/AboutDefence/Organisation/KeyFactsAboutDefence/DefenceSpending.htm

7 oral evidence given by Rt Hon Des Browne MP, 6.2.07, Q345 in HC 225-iv The Future of the UK's Strategic Nuclear Deterrent: The White Paper, Oral Evidence taken before the Defence Committee, Tuesday 6 February 2007

8 Memorandum from the MoD to Select Committee 1 Jan 2007, says HMS Vigilant and Vengeance will leave service in 2026 and 2029 http://www.publications.parliament.uk/pa/cm200607/cmselect/cmdfence/uc225-iv/uc225m02.htm

9 Kofi Annan Speaking at Princeton in Nov 2006 http://www.un.org/News/Press/docs/2006/sgsm10767.doc.htm

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Greenpeace is committed to eliminating all weapons of mass destruction and tackling the root causes of global insecurity.

Appendix 1 Trident Replacement cost

all figures are £million, except percentages. Three models are used; low and high come from Govt figures; the possible column includes extra probable or possible costs

	Item	Low govt	High govt	Possible	
a	New replacement submarines	11000	14000	16000	MoD Memorandum to Def Select Committee 1 Jan 2007 see note 8.
	New warhead development	2000	3000	4000	MoD Memorandum to Def Select Committee 1 Jan 2007 see above
	New infrastructure: Faslane, Coulport, Devonport	2000	3000	3000	MoD Memorandum to Def Select Committee 1 Jan 2007 see above
	Subtotal subs, warheads, infrastructure	**15000**	**20000**	**23000**	
b	Aldermaston upgrades	1050	1050	2000	see sections 5-13 and 5-14 of the White Paper, which are not clear. It acknowledges three years of 350 million, then suggests extra for other years. So 1050 is still probably a VERY low estimate.
c	Real increase in defence budget over life of system(percentage)	0	6	8	currently real increase is over 1% per annum. This figure is an assumption of total percentage increase over the 25 or 30 years, not per annum.
d	Running cost 5-6% def budget for 2007/8 adjusted for real increase in line above	1651	2100	2140	low column is 5%, high and possible columns are 6%, adjusted for any real increase in line above. See note 4 below and White Paper section 5.14
e	Conventional defence forces cost to protect the strategic system (1998 pounds)	0	0	300	300 mill per year from 1998 CND questions But maybe these costs are now in the revised Go 5%-6% figure of inservice costs
f	Other hidden costs including refits (1998 pounds)	0	0	60	60 mill per year from 1998 CND questions But maybe these costs are now in the revised govt figures for inservice costs of 5%-6% of MoD budget.
g	Conventional forces and refits (1998 pounds) subtotal - no pun intended	0	0	360	by adding lines e and f
h	Total annual inservice running, defence of system by MoD and refit costs	1651	2100	2500	by adding running costs and conv force defence and refits- i.e add lines d and g
i	Life of system, number of years	30	30	30	but this assumes that a NEW replacement will not have to be ordered earlier, as the USA take the D5 missile out of service in the 2040s, possibly compelling the UK to order a new system i the late 2020s with unknown costs, possibly 30 billion
j	**Subtotal running costs over life of system**	**49527**	**62998**	**74987**	**multiply line h by life of system in line i**
	D5 missile life extension program	250	250	250	ref: White Paper section 5-10, page 26
	D5 missile replacement from 2030s	0	1500	2000	White Paper section 5-11 says that 'there could also be the cost of starting to replace the D5 missile from the 2030s' as the US will be making them obsolete then. It gives an indicative cos of 1500 million at todays prices.
	replacement replacement subs from 2042	0	0	16000	16000 would assume approx 20% real increase on current submarine estimate for a new replacement of the replacement in 2040s
	decommissioning replacement subs	0	0	100	cost unknown?
	current Trident 5 year life extension	0	0	600	"hundreds of millions" according to the Defence Select Committee
k	**Total**	**£65,827**	**£85,798**	**£118,337**	
	Average of govt high and low estimates	**£75,813**			
	% of MoD new equipment and weapons budget over lifetime	**37%**	**48%**	**67%**	**Current govt new equipment procurement and associated weapons 2005/2006 was £593 million. So these figures are for each year of the lifetime above. See note 7**
	Cost per family	**£3,993**	**£5,204**	**£7,178**	based on 61 million Britons, with 1.7 children per family

Notes on Trident replacement costs above

1	one dollar is .51 pounds	0.51	0.51	0.51	
2					
3	2006-2007 MoD budget	32698	32698	32698	
4	2007-2008 MoD budget	33018	33018	33018	See "Information about key areas of the Defence Budget" at "www.mod.uk/DefenceInternet/AboutDefence/Organisation/KeyFactsAboutDefence/DefenceSpending.htm
5	5% of MoD annual budget	1650.9	1650.9	1650.9	using 2007-2008 figures from above
6	6% of MoD annual budget	1981.08	1981.08	1981.08	using 2007-2008 figures from above
7	Current MoD new equipment and weapons procurement budget 2005/2006	5931	5931	5931	Defence Procurement Agency Annual Report and Accounts page 21. “Procurement of new equipement systems and associated weapons, for 2005/2006 was _5,931” (including upgrades, and excluding nuclear) www.mod.uk/NR/rdonlyres/5083DCAF-F17B-4028-87DC-974C4321ED8D/0/354895DPARA.pdf
8	Composition of govt 15 to 20 bill estimate: see: www.publications.parliament.uk/pa/cm200607/cmselect/cmdfence/uc225-iv/uc225m02.htm				The White Paper section 5-11 says the current Trident comparable costs were 14.5 bill in 2006 figures. But next generation systems usually cost much more, and there are frequent cost overruns in such large military projects.
9	D5 missile current costs				In 2001 $541 million contract for the follow-on production of 12 Trident II D5 fleet ballistic missiles, deployed system support and related technical services. http://www.spaceref.com/news/viewpr.html?pid=2809

Appendix 2: Save the Climate not Trident's replacement

If replacing Trident costs £76 billion, how much carbon could be saved by spending the same money on making UK homes more energy efficient and using existing microgeneration technologies? The answer is it could reduce the amount of carbon produced by UK homes by about 80%. That is to say, 12% of total UK carbon emissions would be saved, and it would pay for itself within ten years because it would lower everyone's energy bills. This would then save UK taxpayers an extra £150 billion over new Trident's expected lifetime of 30 years.

Or, if after that payback time, that money were re-invested in other domestic generating methods, UK homes would actually be generating power, which would again pay itself back within another 13 years.
That is to say, 23% of total UK carbon emissions could be saved, and many jobs created.

Or the UK could do as Tony Blair recommends: put the 76 billion pounds into submarines designed only to kill millions of people, and watch the submarines rust away in the Atlantic for thirty years

These figures come from government sources and plans. Some 'comfort taking' could reduce the actual gains, but they are realistic figures. The UK environment ministry, DEFRA gives 2005 UK carbon emissions as follows:

total emissions were 556 million tonnes carbon dioxide equivalent in 2005, of which 83 million tonnes came from the domestic sector. To convert 'Carbon dioxide equivalent' to 'carbon', multiply by 0.272. Thus:

UK domestic carbon emissions million tonnes carbon per year (MtC/yr)	**22.6**	**(MtC/year)**
UK total carbon emissions	**151.6**	

	Average cost per home	Pay-back time years	potential homes (thousands)	Total costs (£million)	Potential carbon savings (MtC/yr)	% of domestic carbon emissions	% of total UK carbon emissions
Hot water cylinder insulation	£14	0.05	1,137	£16	0.1	0.44%	**0.07%**
Cavity wall insulation	£342	2.6	8,500	£2,907	2.1	9.28%	**1.38%**
Loft insulation (full and top-up)	£284	2.7	6,186	£1,757	1.2	5.30%	**0.79%**
Improved heating controls	£147	3.4	2,102	£309	0.2	0.88%	**0.13%**
Draught proofing	£100	4.3	9,793	£979	0.4	1.77%	**0.26%**
Micro CHP	£1,571	5.2	12,000	£18,852	6.1	26.95%	**4.02%**
Solid wall insulation	£3,150	7.5	7,479	£23,559	5.2	22.97%	**3.43%**
A rated boiler	£1,500	9.9	17,128	£25,692	3	13.25%	**1.98%**
TOTAL 10 year payback				**£74,071**	**18**	**81%**	**12%**

Reinvesting 80 billion saved after those ten years gives the following

Ground source heat pump	**£4,725**	**12.8**	**17000**	**£80.3**	**16.8**		
TOTAL 22 year payback					**35**	**155%**	**23%**

Sources

DEFRA 2005 carbon emission at http://www.defra.gov.uk/environment/statistics/globatmos/gagccukem.htm
FOE pg18 of Pre-budget Report 2006: After Stern which cites figures from
DEFRA: The first draft illustrative mix of Measures for EEC 2008-11 , 2006
Buildings research establishment BRE 2005