

Arms conversion in the UK

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UK is major military spender/ arms exporter

- UK military budget is world's 3rd largest
 - Up 22% since 2001
- UK is home to world's largest arms company
- UK is 5th largest arms exporter
- UK military spending per person
 - more than 2 times that of Russia
 - more than 10 times that of China
- UK spending per person/ per unit GDP is much larger than EU average

- UK military budget was £38.6 bn (\$59.6 bn) in 2010 – world's 3rd largest behind USA and China; ahead of Russia
- UK is home to world's largest arms company – BAE Systems (has become largest following further takeovers of US companies)
- UK is 5th largest arms exporter behind USA, Russia, Germany and France

Main references: Stockholm International Peace Research Institute (2010, 2011a, 2011b)

Changing security strategies?

- Strategic Defence and Security Review
 - Largest cuts to military since end of Cold War
- National Security Strategy
 - Acknowledgement that security problems need a broader approach
- Government could (and should) go further, for example:
 - Non-Offensive Defence
 - Sustainable Security

- SDSR - Ministry of Defence (2010)
- NSS - HM Government (2010)
- Non-Offensive Defence – decommission weapons systems that can be used for large-scale attack, eg nuclear weapons, aircraft carriers, long-range bombers/ missiles/ warships (Civilisation 3000, 2010)
- Sustainable Security – focus on tackling the roots of conflict such as resource depletion, militarisation, climate change (Abbott et al, 2006)

Major UK military procurement

	Number	Estimated procurement cost
Typhoon fighter aircraft	232	£21 bn
Trident replacement (including submarines, nuclear warheads & infrastructure)	-	£15-20 bn
Aircraft supercarriers (including aircraft)	2	£12-14 bn
FSTA tanker aircraft	14	£13 bn
FRES armoured vehicles	3,500	£6 bn
Type-45 destroyers	6	£3.6 bn
Astute submarines	3	£3.5 bn

Government plans in 2009

Total: *at least* £74 billion

- Government estimates as given in: Greenpeace UK (2009), p6
- Poor cost control led to considerable overspend in several major projects

Employment in military industrial sector

	UK employees (including supply chain)
Ministry of Defence equipment spending	150,000
Arms exports	65,000
<i>Total</i>	<i>215,000</i>

Source: MoD (2009)

- Only approx. 0.7% of total UK employment;
7% of manufacturing sector
- Most jobs in regions of high employment
(e.g. South East England)

- Figures include direct and indirect (supply chain) employment (roughly 50:50)

Data from: Defence Analytical Services and Advice (2009), Table 1.10; Office of National Statistics (2009)

Strategic Defence and Security Review 2010

- UK military spending will fall by 8% over next four years
- Existing, huge procurement overspend will lead to further equipment cuts
- Greater security co-operation with allies, especially USA, France

Reference: Cameron (2010); Ministry of Defence (2010)

Military equipment – major cuts

Equipment	2005 level	2010 level	2020 level
Aircraft carriers	3	2	1 (+ 1 in reserve?)
Destroyers and frigates	28	23	19
Submarines - conventionally armed	11	7	7
Battle tanks	~360	~330	~200
Heavy artillery	~140	~120	~80
Fast jets (fighters)	~250	~200	??
Maritime reconnaissance aircraft - Nimrod	14	0	0
Air support - VC10/ TriStar/ A330	24	18	Up to 14

Sources: MoD (2010); DASA (2010)

- Scale of changes 2005-2020 comparable with those at end of Cold War
- Aircraft carriers: 2 'super' carriers to be built (Queen Elizabeth class) – one to be held in reserve or sold off; helicopters only (no fast jets capability) from 2011 to 2020; carry Joint Strike Fighters from ~2020
- Destroyers: 6 x Type-45 replacing Type-42 by 2020
- Frigates: reduce to 13 x Type-23 by 2020 (phaseout of Type-22)
- Submarines (conventional): 7 x Astute class to replace Trafalgar & Swiftsure by 2020
- Submarines (nuclear) – cut in number of operational warheads from 160 to 120; delay in decision on Trident replacement until 2016
- Battle tanks: Challenger 1 & 2
- Heavy artillery: AS90 armoured artillery vehicles
- Fast jets: Harriers retired in 2011; Tornados phased out; by 2020 – only Typhoon and Joint Strike Fighter
- Nimrod: existing Nimrods grounded due to safety concerns; new Nimrods cancelled
- Air support: phased replacement of VC-10 and TriStars with A330 (adapted Airbus)
- Commensurate reductions in other smaller equipment holdings
- Nevertheless, there are some increases – in robotic aircraft (UAVs) and transport helicopters

References: Ministry of Defence (2010); Defence Analytical Services and Advice (2010)

UK military industry...

- ...will shrink further
 - Reduction in jobs in servicing/ maintenance of military equipment
 - Reduction in jobs in manufacturing new technologies

‘Green collar’ sector

- Low carbon and environmental goods and services (LCEGS) sector:
 - a. Environmental
 - b. Renewable energy
 - c. Emerging low carbon
- Activities:
 - Maintain clean water, air and land
 - Tackle climate change
 - Improve energy security
 - Protect ecology

➤ Human society needs healthy environment

- *Environmental sector* - including environmental consultancy, air pollution control, environmental monitoring, marine pollution control, waste management, recovery and recycling; as well as the service industries that support environmental management.
- *Renewable energy sector* - including wind, wave and tidal, biomass, geothermal, hydro and photovoltaic energy generation and the services that support them, including renewables consultancy.
- *Emerging low carbon sector* - including alternative fuels such as nuclear, and alternative fuels for vehicles, carbon capture and storage, building technologies, energy management and carbon finance.
- Many security benefits of tackling action to curb climate change and protect environment

Rise of the ‘green collar’ sector

- LCEGS sector is large and growing rapidly
- 100,000’s new jobs expected over next few years

Sub-sector	UK employees (including supply chain)
Environmental	198,000
Renewable energy	266,000
Emerging low carbon	446,000
Total	910,000

Source: Innovas (2010)

- Figures are estimated by a government commissioned study. As the sector is new and not well-defined, estimates are less certain. Some argue that these estimates are too high.
- UK LCEGS sector is estimated to be worth over £100 billion
- Global market for LCEGS estimated at ~£3,200,000,000,000 and growing fast

Reference: Innovas (2010)

UK low carbon plans 2009

- Low Carbon Transition Plan (over-arching)
- Low Carbon Industrial Strategy
- Renewable Energy Strategy
- Carbon Reduction Strategy for Transport
- Complemented by broader policies in other areas
- Further measures announced by Con/Lib government
 - e.g. Green Deal; Green Investment Bank

Main points:

- 34% cut in greenhouse gas emissions by 2020 (from 1990 level)
- 15% of energy from renewable sources by 2020 (tenfold increase)
- New nuclear power stations (very controversial)
- Efforts to substantially improve building energy efficiency
- Working for major improvements in transport efficiency, including cars, trains and aircraft
- Economic measures (eg carbon trading) to encourage energy efficiency across the whole economy
- R&D especially on marine energy, and efficient cars and aircraft
- Green Deal – national scheme for major improvement in home energy efficiency
- Green Investment Bank – to accelerate development of greener technologies

Main references: DECC (2009, 2010)

Potential for conversion

Military v civilian job creation

- Military industry is capital-intensive
 - Expensive
 - Low job creation for investment
 - Highly specialised jobs
 - High use of materials and energy
- Civilian sectors
 - Generally more labour-intensive, including energy efficiency, public transport and some renewable energy sectors

There are some exceptions to this in the civilian sector, such as nuclear power.

Job creation potential

Overall Employment Effects of Spending \$1 Billion for Alternative Spending Targets in U.S. Economy, 2005

Sector	Number of jobs created	Number of jobs relative to defence/ military spending
Defence/ Military	8,600	-
Tax cuts	10,800	+26%
Health care	12,900	+50%
Education	17,700	+107%
Public transport	19,800	+131%
House construction & efficiency improvements	12,800	+50%

Source: University of Massachusetts (2007)

- Figures for number of jobs created rounded to nearest 100

Reference: Pollin and Garrett-Peltier (2007)

"The defense market worldwide is worth a trillion dollars annually. The energy and environmental market is worth at least eight times this amount. The former is set to contract as governments address the economic realities of the coming decade; the latter is set to expand exponentially, especially in the renewables arena."

Jane's Defense & Security Intelligence & Analysis (2011)

Jane's (2011)

Main shifts from military to civilian industry in UK

- Post-conflict demobilisation
 - e.g. After World Wars
- Closure of (US) military bases
- As Cold War drew to a close
 - 215,000 jobs in military/defence sector lost in 10y from 1985/86
- Broader shifts in economy successful
- Similar shift is starting now
- Could be much larger
 - with decommissioning (e.g. Trident) providing some jobs during the transition period

- Jobs in military/defence sector fell from 625,000 in 1985/86 to 410,000 in 1995/96
- Employment figures include MoD non-equipment spending

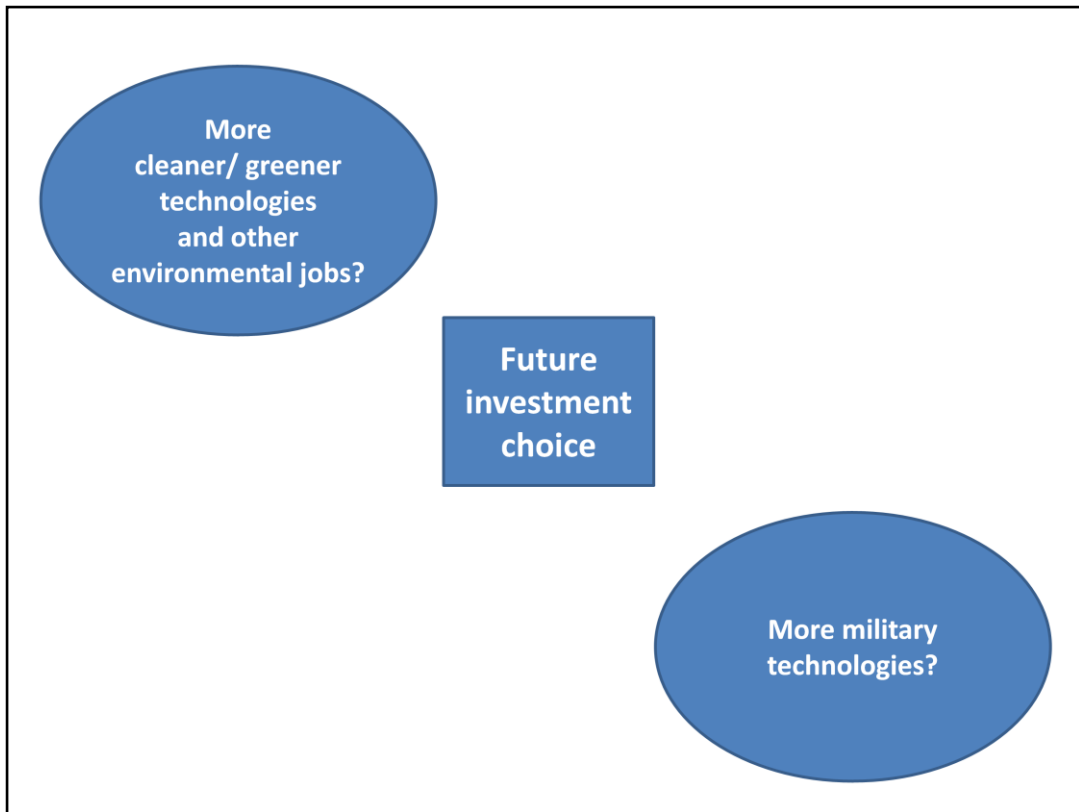
Employment figures from: Defence Analytical Services and Advice (1998)

Potential job creation in UK from arms conversion

Study	Policy change	Number of jobs relative to defence/military option
York University (2001)	Cut arms exports by 50%	+37%
BASIC (2007) – scenario 1	Cancel aircraft super-carriers	+50%
BASIC (2007) – scenario 2	Cancel Trident replacement	+62%

- Figures in table calculated from those in the references
- A cut in arms exports would have a short-term cost to the UK economy, whereas cancellation of Trident replacement and/or aircraft carriers would have a net benefit.

References: York University study: Chalmers et al (2001); BASIC study: Dunne et al (2007)



- Cleaner/ greener future – tackling global environmental problems; creating lots of jobs; security benefits (more secure energy supplies/ less political instability due to climate change)
- Military industries – fuelling arms races; arms exports to unstable/ undemocratic countries; fewer jobs

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