MINISTRY OF DEFENCE

Sustainable Development Annual Report 2009/10

February 2011

Safety Sustainable Development & Continuity Division

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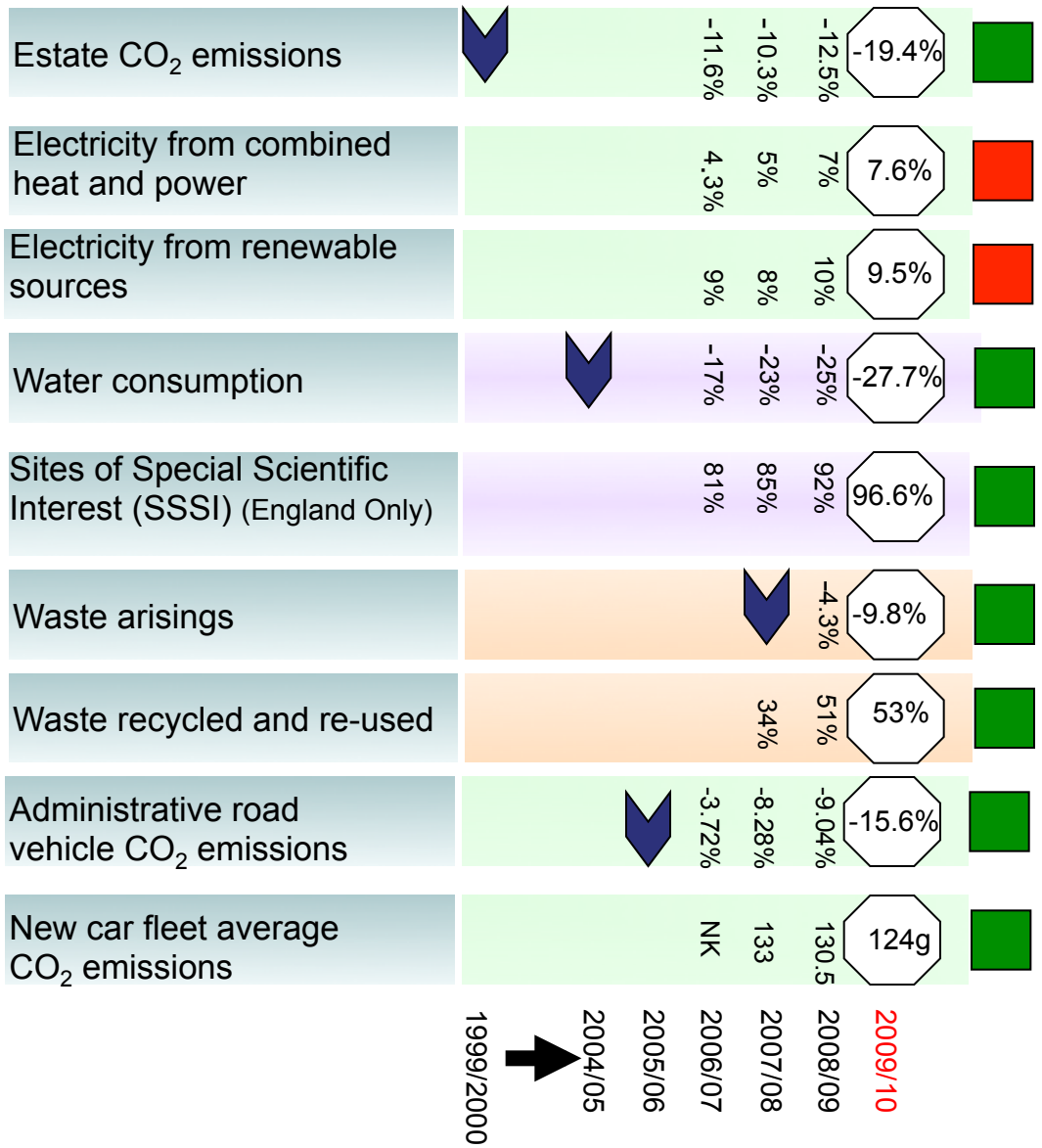
2009/10 Performance – Sustainable Operations on the Government Estate Targets



Target 12.5% reduction by 2010/11 against 1999/00 baseline
On Target. This target began in June 2006 against emissions for 99/00.

Target: 15% of electricity from CHP by Mar 2010
MOD has failed to meet this target

Target: 10% of electricity from renewables by Mar 2010
There was a reduction in energy consumption, this has reduced renewable electricity by 0.5% just missing the target.

Target: Reduce water consumption by 25% by 2020 against 2004/05 baseline.
On Target. Target achieved early as a result of leakage reduction.

Target: 95% of sites to be in target condition.
On Target. An investment program agreed with English Nature has resulted in MOD meeting this target.

Target: Reduce waste arisings by 5% by 2010/11 against 2007/08 baseline.
On Target. Since setting a baseline in 07/08 MOD has tried hard to improve its waste handling and data capture to meet this target.

Target: Reuse/Recycle 40% of waste by 2010/11
On Target. MOD is steadily improving its recycling rates at both a local level and through Disposal Sales Authority.

Target: 15% CO2 reduction by 2010/11 against 2005/06 baseline
On Target. We have currently exceeded the target due to new vehicles with low emissions and less travel undertaken.

Target: Average CO2 /Km to be 130g or less by 2010/11
MOD's white fleet contractor has progressively upgraded the fleet with smaller cars and low emission cars to achieve this target.

Key: Baseline Year Position at March 2010

RAG assessment: at March 2010
Green = Action is on track and target should be met
Amber = There is the some slippage but the issue is being dealt with
Red = There is a serious risk that the target will be missed

Update compiled by SSDC

Sustainable Procurement Performance 2009/10

Flexible Framework: Target: To be at an average of at least level 3 that includes at least a level 3 for 'measurement and results' by end of 2012 and at level 5 for all areas by end of March 2015

Theme	07/08	08/09	09/10	10/11 Forecast
People	2	1	1	1
Policy, Strategy & Communications	1	1	3	3
Procurement Process	1	1	1	2
Engaging Suppliers	2	2	2	3
Measurement & Results	1	1	1	2

Amber assessment reflects position at end 09/10. Despite slow progress between 07/08 and 09/10 (mainly due to resource constraints) work has now accelerated and the Department is on track to achieve the new target of an average Level 3 against the Framework by end 2012.

Compliance with mandatory Government Buying Standards (GBS) - formerly "Quick Wins" - for New Contracts and Existing contracts

Although not currently compliant the Dept has now agreed priority areas for action against GBS and is making steady progress. Work is currently focused on ensuring new contracts meet the the relevant standards.

Engagement with key suppliers on SD, the sustainable operations targets and Sustainable Procurement Action Plan (SPAP) commitments

Good engagement. All key suppliers have signed a voluntary SP charter with MOD and are actively engaging with the Dept on SD issues, including good participation in the Carbon Disclosure Project.

Percentage of staff with procurement responsibilities have sustainable operations targets and or SPAP in their personal objectives?

Was less than 5% at end 2009/10 but instructions issued directing staff to include SP in personal objectives for the 2010/11 reporting year.

Permanent Secretaries to have SOGE targets and SPAP commitments in their personal performance objectives

Achieved.

Current SD Action Plan (SDAP) to set out the actions being taken to make sure procurement practice helps achieve the sustainable operations targets

Achieved. The current SDAP includes targets for publishing the SP Strategy and ensuring teams assess sustainability impacts.

Progress against Govt Sustainable ICT Goals / Quick Wins

- **20 Govt Sustainable ICT Goals / Quick Wins**
  - *61% In Progress / Complete*
  - *13% Planned*
  - *26% Not Agreed / Under Review*
- *Currently drafting Policy to support / drive the Sustainable ICT Agenda (Due Dec 2010)*

Key
1 or G In Progress / Complete
2 or A Planned
3 or R Not Agreed / Under Review

Government Sustainable ICT Goals / Quick Wins	Comments	Status	RAG
1. Remove active screensavers	Requires CIO to sponsor a formal change request on DII	2	
2. Switch monitors to standby after 5 minutes of inactivity	Requires CIO to sponsor a formal change request on DII	3	
3. Shut down PCs after office hours and weekends	Standard Security Ops state this	1	
4. Enable active power management on desktops		3	
5. Ensure re-use of user devices and printers that are no longer required but still serviceable	Equipment disposed of through Disposal Sales Authority	1	
6. Specify low-power consumption CPUs and high-efficiency Power Supply Units	Part of product selection	1	
7. Set defaults for more sustainable printing including duplex and grey scale		1	
8. Optimise use of power-saving standby modes on all printers	Already implemented but times could be more aggressive.	1	
9. Undertake a printer consolidation and rationalisation exercise	Atlas preparing a proposal on managed print services	1	
10. Device consolidation CIOs to achieve 1 to 1 (PC or laptop) ratio per staff member	Single device is standard policy. Use KVM switch for multi-domains.	1	
11a. Implement storage virtualisation & capacity management	To be considered under DII Optimisation programme	3	
11b. Convert existing physical servers to “virtual servers” and consolidate	Project initiated with 9:1 target on existing servers.	1	
11d. When designing & provisioning new services, create "virtual servers"	DII Release 2b (Blenheim) targeted at virtualised platform only.	1	
11e. Use of intelligent storage, which supports off-lining/powering down	Additional storage tiering being introduced. Tech refresh needed.	3	
12. CIOs must become endorsers of the EC Data Centre Code of Conduct	DII adopting Code of Conduct standards where possible	2	
13. CIOs must become endorsers of the EC Broadband Codes of Conduct	Unsure, not yet assessed	2	
14. Reduce cooling in each server room or data centre	Requires further investigation	3	
15. Decommission redundant servers and data disks in the centres	Servers regularly audited and actively monitored	1	
16. Data centre audit to establish energy efficiency level for each data room/centre		1	
17. Extending the life of your ICT equipment to five years	Inc 3a increased PC's from 3 to 4 yrs, Servers & Networks at 5yrs	1	
18. CIOs should use brown unbleached paper at all times		3	
19. CIOs and estate teams to actively investigate renewable energy sources		1	
20. Undertake an application audit to identify duplicate, and unused applications currently running		1	

Update compiled by Sustainable ICT Team

SUSTAINABLE DEVELOPMENT

Waste arisings, recycling and reuse by the Ministry of Defence[1]

Target: Government Departments to reduce their waste arisings by 5% by 2010 and 25% by 2020, against their baseline (2007/08 for MOD).

Target: Government Departments to increase their recycling figures to 40% of their waste arisings by 2010/11 and to 75

MOD has established a waste baseline for 2007/08 covering around 75% of known MOD waste. This resulted from work with the Sustainable Development Commission (SDC) and the Centre of Expertise in Sustainable Procurement (CESP) to identify what should be inc

The data in this table are not National Statistics because they have not been assessed as such by the UK Statistics Authority.

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Waste Arisings[2] (Metric Tonnes)	..	..	..	177 000	170 000	160 000
Percentage reduction in waste arisings	..	..	..	..	*4.3*	*9.8*
Percentage recycled/reused[3]	*23*	*39*	*37*	*34*	*51*	*53*

Source: Safety, Sustainable Development and Continuity Division

1. Waste data covers the UK including Trading Fund Agencies, plus MOD sites in Germany.
2. The waste arisings data in the table are calculated from weighed waste data and using volumetric conversion factors. (Volumetric conversion is a method which calculates the weight of the waste using a standardised conversion factor for the type of waste a
3. The recycling figures prior to 2008/09 are based on the best available data at the time. This means they should not be compared with the percentage recycled/reused figures for 2008/09 onwards which have been calculated against the new baseline.

SUSTAINABLE DEVELOPMENT

Ministry of Defence Carbon Dioxide Emissions[1]

Target: Government Departments to reduce carbon dioxide emissions from buildings across the non-operational estate by 12.5% by 2010/11 relative to 1999/00 levels and then 30% by 2020.

Target: Government Departments to reduce carbon emissions from administrative road vehicles by 15% by 2010/11 relative to 2005/06 levels.

A 12.5% reduction in carbon emissions from the Defence Estate had been achieved in 2008/09, against a baseline of 1990/00.
A 15% reduction in carbon emissions from road vehicles had been achieved in 2009/10, against a baseline of 2005/06.
The increase shown in air travel emissions is due in part to improved data capture from the centralisation of travel booking across MOD.

See the **Carbon Dioxide Emissions Notes** page for more information about emissions data.

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	1999/00	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Total Emissions (tonnes CO^2)	..	..	..	..	**6 012 700** r	**5 592 400**	**4 742 200** r
of which							
Emissions from Defence Estate[2]	2 135 400 r	2 169 700	1 880 200	1 834 600	1 895 900	1 848 700	1 720 600
Emissions from Motive Fuel	..	..	..	..	4 022 300 re	3 623 000 e	2 907 700 e
of which							
Ground Fuel	..	..	..	..	172 100 e	249 600 e	217 900 e
Marine Fuel	..	..	..	..	827 700 e	706 900 e	701 800 e
Aviation Fuel	..	..	..	..	3 023 200 e	2 666 500 e	1 988 000 e
Emissions from Business Admin Travel	..	..	..	..	..	..	..
of which							
Road Travel[3]	..	..	61 000 r	58 700 r	55 900 r	55 500 r	51 400
Air Travel	..	..	..	..	38 700	65 200 r	62 400

Source: Defence Estates (Estate Emissions), Defence Fuel Group (Fuel Emissions), Chief Joint Operations (Fuel Emissions), Director Land Equipment (Travel Emissions)

1. Figures may not match those previously and subsequently published, due to DEFRA conversion factors being subject to change.
2. The apparent increase in emissions in 2007/08 is because 2005/06 and 2006/07 data do not include Chief of Joint Operations/Permanent Joint HQ, which is included from 2007/08.
3. A new baseline was established in 2009/10 to remove vehicles not used for business administrative travel. All figures have been corrected from those previously published in 2009.

SUSTAINABLE DEVELOPMENT

Ministry of Defence Energy Consumption

Target: Government departments to source at least 10% of total electricity needs from renewable sources by 2010/11.
Target: Government departments to source at least 15% of total non-operational electricity needs from Combined Heat and Power by 2010/11.

The 2007/08 figure for renewable electricity is lower than the previous year (8% compared to 9%) because of the inclusion of more of the MOD overseas estate, which is in some extremely remote locations such as the Falklands, Gibraltar and Ascension where the application of renewables and Combined Heat and Power (CHP) is more difficult, and the local infrastructure limits outright purchase of such supplies.

The data in this table are not National Statistics because they have not been assessed as such by the UK Statistics Authority.

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Total Energy Consumption[1] (million kWh)	**7 244**	**6 342**	**5 686**	**5 934**	**5 960**	**5 480**
Electricity (million kwh)	..	..	1 767	1 928	2 034	1902
Percentage renewable electricity	*6.0*	*6.0*	*9.0*	*8.0*	*10.0*	9.5
Percentage electricity from Combined Heat and Power	..	*1.5 e*	*4.3*	*6.0*	*7.0*	*7.6*

Source: Defence Estates

1. Energy consumption data include electricity and other forms of energy such as heat, oil and gas.The energy data collected include MOD overseas estate where available but do not include data from the following MOD agencies: UK Hydrographic Office, Meterological Office and Defence Support Group.

Ministry of Defence Water Consumption

Target: Government departments to reduce water consumption by 25% by 2020 relative to 2004/05 levels.
The data in this table are not National Statistics because they have not been assessed as such by the UK Statistics Authority.

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Total Water Consumption[1] (million m^3)	**33.5**	**28.9**	**27.7**	**25.7**	**25.0**	**24.2**
Percentage reduction since 2004/05	*	*14*	*17*	*23*	*25*	*28*

Source: Defence Estates (Aquatrine)

m^3 = cubic metres.

1. Water is provided by Aquatrine, an MOD-wide Water and Wastewater PFI project delivered through three separate contracts known as 'Packages'. Package A covers the Midlands, Wales and South West England, Package B Scotland, and Package C the North and East of England. Aquatrine provides water to over 4000 site groups, which is approximately 85% of MOD

SUSTAINABLE DEVELOPMENT

Sites of Special Scientific Interest in Target Condition

Target:
England - 95% of SSSI to be in target condition by 2010
Scotland - 95% of SSSI to be in target condition by 2010
Wales - 85% of SSSI to be in target condition by 2013
Northern Ireland - 95% of ASSI[1] to be in target condition by 2013.
'Target condition' means a site is in favourable or unfavourable-recovering condition.
Data for different countries should not be compared due to different counting methods. For the same reason it is not possible to provide an overall UK figure. SSSIs in England are calculated by area after Natural England undertook a project to unitise all the English SSSIs, allowing them to inform the MOD of the exact SSSI area that the MOD manage. Wales, Scotland, and Northern Ireland assess the overall SSSI condition by interest feature rather than by area. As SSSIs are often sizeable, MOD may not own complete SSSIs but share the responsibility with several landowners. MOD can therefore only report on these countries by feature. The statutory nature conservation bodies[2] (Natural England, Countryside Council for Wales, Scottish Natural Heritage and Northern Ireland Environment Agency) have rolling six-year assessment programmes, so may not have assessed sites recently. For details of assessment criteria, please refer to the relevant statutory nature conservation body.

The data in this table are not National Statistics because they have not been assessed as such by the UK Statistics Authority.

Percentage of Sites of Special Scientific Interest in Target Condition

Percentage

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
England	*73*	*78*	*81*	*85*	*92*	*97*
Scotland	*76*	*68*	*68*	*68*	*68*	*94*
Wales	*68*	*75*	*75*	*77*	*78*	*76*
Northern Ireland	*60*	*57*	*57*	*57*	*57*	*70*

Source: Defence Estates

1. Area of Special Scientific Interest (Northern Ireland only).
2. The statutory nature conservation bodies' websites are:
   Natural England: http://www.naturalengland.gov.uk/
   Countryside Council for Wales: http://www.ccw.gov.uk/
   Scottish Natural Heritage: http://www.snh.org.uk/
   Northern Ireland Environment Agency: http://www.ni-environment.gov.uk

SSSI Condition 2010

Hectares

As at 1 Apr 2010	Number of SSSIs	Area in target condition	Area not in target condition	Total area
England	128	69 139	2 419	71 558

Number

	Number of SSSIs	Features in target condition	Features not in target condition	Total assessed features
Scotland	22	125	8	133
Wales	19	48	15	63
Northern Ireland	2	7	3	10

Notes on MOD Carbon Dioxide Emissions

Emissions from Defence Estate

Emissions each year from the Defence Estate includes total energy consumption, in kWh[1], from all fuel types, between 1 April and 31 March for all MOD activities in the world, excluding operational theatres, Trading Fund Agencies (except DSTL) and Non Departmental Public Bodies. Fuel types include electricity (both grid and self generated), natural gas, Liquid Petroleum Gas (LPG), Oil (kerosene, diesel, Furnace Fuel Oil (FFO)), coal and heat (either from Combined Heat and Power (CHP) systems such as Whitehall District Heating Scheme, or third party waste to incineration as in Germany). Carbon conversion and weather correction are conducted by the Building Research Establishment (BRE). Carbon conversion changes KWh to CO_2. Weather correction enables a like-for-like comparison of energy consumption from different periods or places with different weather conditions.

Emissions from Fuel for motive use

Data are based on fuel supplied to units rather than fuel burnt.
Data do not include bulk fuel purchased outside the UK, fuel purchased using some types of fuel procurement cards, or fuel purchased using personal payment methods, which are later claimed back on expenses. The fuel data include some fuel, which may be sold to a third party contractor.

Ground fuel

UK supplied ground fuel: The bulk fuel delivered to units by contractors includes that which is subsequently sold to third parties.
Currently no data are held centrally on ground fuel purchased outside of the UK for example for movements in Canada, Kenya etc.
Ground Fuel used overseas: Except for Afghanistan no data are held on fuel purchased outside the UK. In Iraq and Afghanistan fuel consumption is estimated average monthly fuel consumption, multiplied by 12 to give an estimated average over the whole year. Figures are an estimate based on fuel delivered to theatre. Fuel is regularly shared between coalition forces and as such, this figure is only an estimate.

Marine fuel
Includes fuel obtained through Fuel Exchange Agreement with the United States and fuel supplied from overseas.

Aviation fuel
Includes fuel supplied in the UK; fuel delivered to Cyprus, Falklands and Ascension; fuel delivered to Iraq and Afghanistan; casual pick-ups from overseas airfields; and fuel obtained through Fuel Exchange Agreement with the United States.
Aviation fuel in Iraq and Afghanistan are estimates based on fuel delivered to theatre. Fuel is regularly shared between coalition forces and as such, this figure is only an estimate. It does not include fuel purchased locally.

Emissions from Business Administration Travel

Road Travel
Data consist of the use of vehicles under the "White Fleet" Contract and "Grey Fleet" (using a personal vehicle for business travel). The data include some non-business use and some use not in the baseline as these cannot be separately identified. There is a small element of double counting when White Fleet vehicles use Defence Fuels Group (DFG) supplied fuel for business administration travel.
White Fleet is made up of the continuous use fleet and hire car fleet which covers the majority of MOD's road transport (business admin) but not all. This hire car data are based upon the vehicle ordered. When a vehicle type is unavailable, any upgrade is not recorded.
Continuous use fleet data includes all vehicles up to 7 seats. It excludes minibuses and is based on an average mileage of 18,000 miles per vehicle (based on sampled data) and the average CO_2 of vehicles in the fleet. Hire Car fleet data are based on an estimated journey of 250 miles per hire (based on sampled data) and DEFRA Greenhouse Gas Conversion (GHG) conversion factors based on size of vehicle.
Grey Fleet is the use of personal vehicles for business by civilian staff. It assumes an "average" car using the DEFRA GHG conversion factors.
1. Kilowatt hour. A kWh is the amount of power consumed/generated over a period of one hour.