



MINISTRY OF DEFENCE

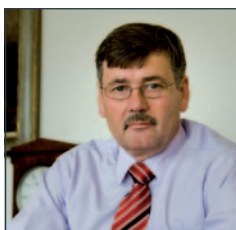
Ministry of Defence

# MOD Climate Change Strategy 2010

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# Foreword



**W**e already know enough to understand the need for nations – including our own – to take urgent steps to cut the level of greenhouse gas emissions going into the atmosphere, as much and as fast as possible, to avoid the more severe impacts of climate change.

Failure to do so will have significant implications for Defence – the National Security Strategy cites climate change as “potentially the greatest challenge to global stability and security” which ultimately therefore threatens the achievement of the Defence Vision.

In order to continue to act as a Force for Good in the World, Defence must play its part alongside other Government Departments such as the Foreign and Commonwealth Office and the Department for International Development in preserving peace and stability in those areas most likely to be affected by climate change.

Furthermore, under the Climate Change Act 2008, the Ministry of Defence (MOD) now has its own Carbon Budget which we must stay within, covering both emissions from our estate and business travel, as well as those of our vehicles, ships and aircraft.

There is also a strong internal incentive to reduce emissions. Not only does the reduction of emissions across all business areas reduce costs and our vulnerability to energy price spikes, but reduction in fuel use at the front line has a direct benefit in reducing the logistical costs and risks of getting it to theatre.

In addition there is a need to adapt Defence to the threats posed by a changing climate, both in terms of the risks to global security presented by the complex geopolitical interactions resulting from a changing climate, as well as the risk to our own establishments and equipment from the impacts of climate change.

Defence in a Changing Climate sets out why climate change is important to the MOD. This strategy builds on the questions raised in that document, in order to set out the process by which we will:

- Mitigate against climate change by reducing our own emissions
- Adapt to the challenges posed by climate change

It is important that we show leadership, not just within the MOD, but across Government, to meeting the requirements set out in this strategy. They will not be met without a concerted, continued effort from all MOD staff. Those who are tasked with procurement must ensure that we procure equipment, buildings and services that are as energy efficient as possible, while maintaining, or even improving Defence capability; as well as taking decisions with an awareness of the future challenges posed by climate change. At the same time, those who are the end users of this equipment must ensure that they use it in the most efficient, practicable, manner – irrespective of whether that equipment is a simple light switch or a state-of-the-art fast jet.

We fully support the MOD Climate Change Strategy, and the associated Climate Change Delivery Plan and urge everyone in Defence to take action, both individually and collectively, to meet the aims and objectives that are set out in the following pages.

**Rt Hon Bob Ainsworth MP**  
The Secretary of State  
for Defence

**Sir Bill Jeffrey KCB**  
Permanent Under Secretary

**Air Chief Marshal Sir Jock Stirrup**  
**GCB AFC ADC DSc FRAeS**  
**FCMI RAF**  
Chief of the Defence Staff

# 1. Introduction

## 1.1 Context

The context for the impact of climate change on the Ministry of Defence (MOD) is discussed in *Defence in a Changing Climate*. The MOD Climate Change Strategy 2010 takes forward the necessity to both mitigate climate change by reducing our own Greenhouse Gas (GHG) emissions, as well as adapting to the impacts of climate change which the world is expected to face as a result of current and future GHG concentrations in the atmosphere.

Since the 2008 publication of the original MOD Climate Change Strategy, the implementation of the Climate Change Act 2008 has brought about significant changes in the governance of climate change across Whitehall, predominantly with the introduction of Carbon Budgets but also with a review of the Sustainable Operations on the Government Estate (SOGE) and Sustainable Procurement (SP) targets.

## 1.2 Purpose of this Strategy

This strategy updates the existing MOD Climate Change Strategy to take into account the new governance arrangements. In doing so it will remain the single source of strategic direction necessary to enable the MOD to mitigate and adapt to the challenges of climate change and, where possible, to exploit any opportunities it presents. Detailed actions to deliver the objectives and targets set out in this strategy are contained in the Climate Change Delivery Plan.

This strategy forms a sub-strategy under the MOD Sustainable Development (SD) Strategy.

## 1.3 Scope of the Strategy

This strategy does not address the use of Ozone Depleting Substances<sup>1</sup> or our Waste<sup>2</sup> policy (and its impacts on GHG emissions). These are addressed by separate documents.

“...to my mind, the bottom line is clear. We may not yet know the precise effects, the exact costs or the definite dates of how climate change will affect security. But we already know enough to start taking action [...] I believe, for example, that the security implications of climate change need to be better integrated into national security and Defence strategies”

**Anders Fogh Rasmussen, NATO Secretary General (Oct 2009)**

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<sup>1</sup> JSP 418 Vol 2 Leaflet 11

<sup>2</sup> MOD Sustainable Waste Management Strategy

## 2. The Strategic Framework for the MOD's Approach to Climate Change

### 2.1 The MOD Climate Change Vision

Effective delivery of Defence capability that is robust to climate change and does not substantially contribute to its causes.

#### **MOD Climate Change Vision**

Achieving the vision will be a significant, long-term, challenge. For Defence capability to be truly sustainable in the long term, MOD and its suppliers must cease to be significant net contributors of GHGs to the atmosphere.

Defence activities are large consumers of energy which will, for the foreseeable future, have a carbon component. However, the vision encompasses a future where the use of fossil fuels is greatly reduced and Defence GHG emissions are a fraction of their current levels.

Meanwhile, the MOD must ensure that it retains the capacity to effectively deliver its required outputs by adapting to a changing climate.

### 2.2 Objectives

In order to meet this vision, MOD has specific objectives for mitigation and adaptation:

**Objective 1 – Mitigation:** Continually reduce the GHGs that result from Defence activities, such that Defence will eventually not be a significant contributor to the causes of climate change.

**Objective 2 – Adaptation:** Ensure the MOD has the capacity to operate in a changing climate, such that Defence capability is not compromised and any potential benefits from the future climate are realised.

## 2.3 Targets and Indicators

In order to achieve these objectives, this strategy identifies both targets and indicators.

- Targets are specific goals on emissions reduction or adapting to climate change.
- Indicators are SMART<sup>3</sup> metrics that the Department will report in order to understand our progress against targets.

The specific actions that the Department will take in order to achieve these targets can be found in the Climate Change Delivery Plan

Defence in a Changing Climate builds up a series of questions relating to Defence and climate change that this strategy seeks to address. For each target, this strategy identifies the question(s) which the target seeks to address. For ease of reference, a list of these questions is provided at Annex A.



3 Specific, Measurable, Achievable, Relevant, Timely

# 3. Meeting our Carbon Budget – Mitigation Strategy

**Objective 1 – Mitigation: Continually reduce the GHGs that result from Defence activities, such that Defence will eventually not be a significant contributor to the causes of climate change.**

## 3.1 Introduction

In November 2008 the UK Climate Change Act 2008 (CCA) gained Royal Assent, setting a legally binding target for the UK to reduce its emissions by 80% by 2050 against a 1990 baseline. The CCA is being implemented through a series of five-year “Carbon Budgets”, whereby the entirety of the UK’s emissions have been divided up into sectors. For more on the MOD Carbon Budget please see Defence in a Changing Climate

MOD emissions included in the UK Carbon Budgets are:

- a. Our marine, aviation and ground fuel** which will be part of the Transport sector, for which the MOD share is 3% of the overall emissions.
- b. Our own Public Sector Estate and Operations** which will be part of the Public Sector Estates and Operations emissions sector, which includes emissions from our estate, and from our business administrative travel. The MOD has an 18% share of emissions in this sector.

The MOD is responsible for emissions of approximately 5.6 Mega tonnes of Carbon Dioxide equivalent (Mt CO<sub>2</sub>e) each year, roughly 1% of UK emissions<sup>4</sup>. A full breakdown of MOD CO<sub>2</sub> emissions can be found here

## 3.2 Transport Sector – Operational Energy Use<sup>5</sup>

Questions addressed in this section:

2. How can the MOD reduce its vulnerability to changes in energy availability and price?
6. How can the MOD reduce greenhouse gas emissions while at least maintaining or preferably improving operational capability?
7. How can the MOD take advantage of the emergence of low carbon technologies to reduce dependency on fossil fuels?

The use of Operational Energy (the fuel used to power military aircraft, ships, vehicles and generators) accounted for approximately two-thirds of MOD emissions in 08/09. These are part of the Transport sector of the Carbon Budgets framework.

<sup>4</sup> Based on 2008/09 figures

<sup>5</sup> Defined as “the energy used to deliver propulsive power and electricity in generation, sustainment and recuperation of fighting power”. Essentially, all the fuel used to power MOD ships, aircraft, vehicles and generators in the UK or overseas.

Defence in a Changing Climate recognises the need to reduce the amount of fossil fuel consumed by such vehicles, in order not only to reduce GHG emissions, but also to seek the benefits this may bring in terms of a reduction in the cost and logistical burden of delivering fuel to point of use and an increase in energy security.

It also recognises that the global trend towards low-carbon technologies presents MOD with an opportunity to reduce the amount of fuel being taken to the front line, a costly, risky, and logistically challenging issue, and reduce remote site energy vulnerability. By doing so, the MOD is in a position to demonstrate leadership in reducing GHG emissions. It is therefore imperative that MOD positions itself to influence and achieve the necessary pull-through of low-carbon technologies into military equipment. This should be achieved by exploiting emerging civilian applications and technologies wherever possible, but also driving, through military research and development, operationally beneficial low-carbon technologies where they are not developing rapidly enough commercially.

The sustainable procurement of Defence capability (supported by the Defence Equipment and Support Sustainable Procurement Team – DE&S SPT) will be essential to this, and will be critical to ensuring long term operational sustainability. We need to acquire capabilities that can operate in a wide variety of climatic and environmental conditions and to reduce our reliance on fossil fuels.

The lead time for procuring new equipment, particularly major platforms, can be very long. It will take time, therefore, to fully adapt our capabilities to cope with the impacts of climate change. However, looking ahead to 2020 and beyond we need to ensure that new capabilities are sustainable, minimise GHG emissions and that they can be adapted to future climate change.

The MOD Sustainable Procurement Strategy provides the direction on all elements of sustainable procurement, beyond those relating to climate change.

### 3.2.1 Baselineing our emissions

The nature in which the Armed Forces are deployed means that identifying a suitable baseline against which to set percentage fuel use reduction targets is a challenge, and in some cases may take some time. This, however, will not stop action being taken to reduce the amount of fuel that MOD uses.

Serial	Target	Date	Owner	Relevant Question(s)
A	Set targets to reduce the greenhouse gas emissions produced by our equipment	Mar 2012	DE&S SPT	2,6,7

In the meantime, reporting emissions against the indicator described below will enable the MOD and other Government Departments involved in the Transport sector of the Carbon Budgets to assess the contribution of MOD emissions to the sector as a whole.

Indicator	Frequency	Data responsibility
Total emissions from MOD use of aviation, marine and ground fuel over each financial year, broken down between operational and non-operational energy use.	Annually	Defence Fuels Group; Permanent Joint Headquarters

## 3.3 Public Sector Emissions

Questions addressed in this section:

2. How can the MOD reduce its vulnerability to changes in energy availability and price?
6. How can the MOD reduce greenhouse gas emissions while at least maintaining or preferably improving operational capability?
7. How can the MOD take advantage of the emergence of low carbon technologies to reduce dependency on fossil fuels?

The emissions from our Public Sector Estate and Operations are made up of emissions from our estate, and emissions from our business administrative travel. Combined, these accounted for approximately one-third of MOD emissions in 08/09.

Emissions from this sector are governed by the Sustainability targets for Government departments targets. As a result, MOD has a target to reduce emissions from this sector by 34% by 2020.

Serial	Target	Date	Owner	Relevant Question(s)
B	34% reduction in carbon budget on Public Sector Estate and Operations <sup>6</sup> emissions by 2020 against 99/00 baseline	2020	Defence Estates and DG Human Resources & Corporate Services	2,6,7

Indicator	Frequency	Data responsibility
Total emissions from MOD Estate and business admin travel	Annually	Defence Estates; Travel policy owners <sup>7</sup> ;

### 3.3.1 Estate Emissions

Approximately 90% of MOD emissions in this sector are as a result of emissions from our estate. MOD is a major landowner, occupying land and property to support the delivery of the Defence vision. The size and nature of use of the estate means that many activities require energy which leads to the emission of GHGs, thereby contributing to climate change.

Reducing and decarbonising our energy will not only reduce GHG emissions it will save us money and reduce our vulnerability to volatility in energy availability and price. Achieving these reductions will be a challenge for the MOD. The MOD has a significant transient population who deploy on, and return from operations in large numbers, which can significantly affect the level and profile of energy use across the Defence estate.

The MOD approach to energy management and reduction is geared around the trinity of Technology, Behaviour, and Measurement change and is reflected in the updated MOD Non-Operational Energy Strategy.

<sup>6</sup> Includes estate and business admin travel (car, rail, air) emissions. Baseline year for business admin travel is 05/06

<sup>7</sup> Defined in Sustainable Business Admin Travel Portfolio

The strategy focuses on improvement to data management, auditing (to identify spend to save opportunities) and investment on the top 220 non-operational energy consuming sites which account for approximately 76% of the non-operational GHG emissions from across the Defence estate (UK and Overseas).

### **3.3.1.1 Technology**

MOD is currently developing an opportunities database to capture the spend to save projects identified either through the site audit process or local level knowledge and expertise. These opportunities will be presented in terms of financial and carbon savings, cost to implement and likely payback periods. It is envisaged that this information will help target internal and external funding for these projects and so drive additional investment into the estate. The scale of technology will range from the relatively straight forward, low cost solution such as lighting upgrades through to major investment in infrastructure such as district heating systems and on site renewables.

### **3.3.1.2 Measurement**

As part of data management, the strategy involves the roll out of automated metering and sub metering across the estate, the development of an IT hosted single set of consumption data as well as the validation of TLB energy management structures and processes through the application of Carbon Trust Standard (CTS) (formally known as the Carbon Trust Energy Efficiency Accreditation Scheme (EEAS)). Improved governance and standards and guidance for manually collected data will also improve data quality.

### **3.3.1.3 Behaviour**

Individuals have the power to influence MOD's consumption of utilities. While an individual switching off monitors and unused lights will, of themselves make only a small contribution to energy efficiency, the aggregated effect can be significant. The Non-Operational Energy Strategy encourages TLBs to run campaigns on energy awareness, reminding everyone how they might contribute. These are supported by centrally coordinated campaigns, such as that for World Environment Day. Centrally produced training and guidance material is also available; for example, Defence Estates in collaboration with the Carbon Trust has produced a Carbon Savings booklet that offers practical approaches to carbon emission reductions on the Defence estate.

### **3.3.1.4 Green ICT**

Greening Government Information Communication Technology (ICT) is an important part of the wider pan-government ICT Strategy. A key objective is to deliver sustainability within government's ICT, ensuring that policy requirements are embedded throughout the Acquisition process. The Greening Government ICT strategy not only considers the carbon cost of ICT across the whole life cycle, it also addresses the use of ICT to reduce the overall carbon emissions in delivering government services.

ICT is a contributor to reduce energy use and emissions from the MOD Estate, and also has a role in reducing emissions from MOD business administrative travel and waste through increased use of video/tele-conferencing and on-line collaborative editing tools.

An Advanced CIO Green ICT Workbook has been launched, which includes 20 formal UK Government Green ICT objectives for Departments covering sustainable and low carbon actions in areas such as hardware, software, printing, paper, procurement and data centre and broadband codes of conduct. The Workbook is being rolled out in MOD and will serve to baseline our progress to date to ensure high value programmes are prioritised and supported.

The Climate Change Delivery Plan outlines the key actions that the MOD is taking in these areas.

### **3.3.2 Business Administrative Travel Emissions**

Emissions from MOD business administrative travel<sup>8</sup> account for around 10% of MOD emissions in this sector (but only around 2% of overall MOD emissions). There are a number of opportunities to reduce the emissions from MOD travel, some of which also present an opportunity to reduce costs.

Due to the diverse and global nature of much of the work that the Department undertakes, MOD personnel regularly travel on official business, both within the UK and overseas. The MOD Sustainable Travel Portfolio sets out how the department will reduce its GHG emissions from business administrative travel. This will also offer up potential increases in productivity as staff spend less time travelling and consequently could be more cost effective and efficient.

The key to improving the sustainability of business admin travel is enabling staff to take the correct decisions when planning their travel requirements so that they can carry out their business effectively whilst minimising GHG emissions. The main aim is to minimise business administrative travel which offers the twin benefits of financial savings and lower GHG emissions. Where travel is unavoidable the aim is to minimise the GHG and maximise the benefit of staff travelling in a less stressful environment which provides opportunities to read/work on the move.

#### **3.3.2.1 Travel Avoidance**

Video/Tele-conferencing is already widely available throughout MOD. However, there is an opportunity to further promote its use – and thus its scope for enabling GHG reductions and increasing staff productivity. A technical videoconferencing strategy is being developed by the Chief Information Officer.

#### **3.3.2.2 Rail and Air Travel**

Rail and air travel policy and guidance will be reviewed for sustainability, and data quality improved.

#### **3.3.2.3 Road Travel**

Reductions in emissions will be found through initiatives such as Electronic Driver Assistance devices, driver training and through the routine replacement of pool cars with more efficient models as technology allows. Data quality issues will also be addressed.

Specific actions are available in the Climate Change Delivery Plan, and beyond that in the Sustainable Travel Portfolio.

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<sup>8</sup> Business Administrative Travel refers to normal, day-to-day tasks supporting the running of an individual department or agency. The majority of cars in the MOD fleets fall within this category.

# 4. Adaptation

**Objective 2 – Adaptation: Ensure the MOD has the capacity to operate in a changing climate, such that Defence capability is not compromised and any potential benefits from the future climate are realised.**

## 4.1 Introduction

Until recently, mitigation has been the main focus of action on climate change. However there is a growing acceptance that some climate change is inevitable and that action will have to be taken to adapt to the challenges and opportunities that this may present.

MOD's first step towards coherent adaptation planning is to understand the likely impacts of climate change, both in the UK and overseas, on MOD outputs. There are two distinct impacts of climate change that the MOD must ensure we are well placed to adapt to:

**Global impacts upon international peace and stability and therefore equipment capability and personnel** – climate change is likely to have an impact upon international peace and stability, particularly as a “threat multiplier” in states that are already unstable. This could mean a change in the size, type and location of the Operations we expect to support in the future, therefore presenting a need to ensure that not only our policy planning, but also our military equipment capability and personnel can evolve to meet the impacts of climate change.

**Impacts upon the Defence Estate** – There is a need to ensure that the Defence Estate is resilient to the impacts of climate change such as sea level rise, change of temperature and an increased frequency of extreme weather events, both in the UK and abroad.

Fig 1. shows the process by which the MOD will manage adaptation, which will be broadly the same for both UK specific and global issues. It starts by reviewing our current climate vulnerabilities to identify areas where we need to improve our understanding and so set research requirements. The outputs of any research will be used to assess the current and future vulnerabilities and opportunities that climate change presents to the MOD, which will be applied to both our estates programmes and our work with OGDs relating to international climate security. Options will be identified that address the risks that have been identified, and an adaptation strategy developed and implemented accordingly. This will be an iterative process, whereby the adaptation strategies will form the starting point of the next review of our climate vulnerabilities.

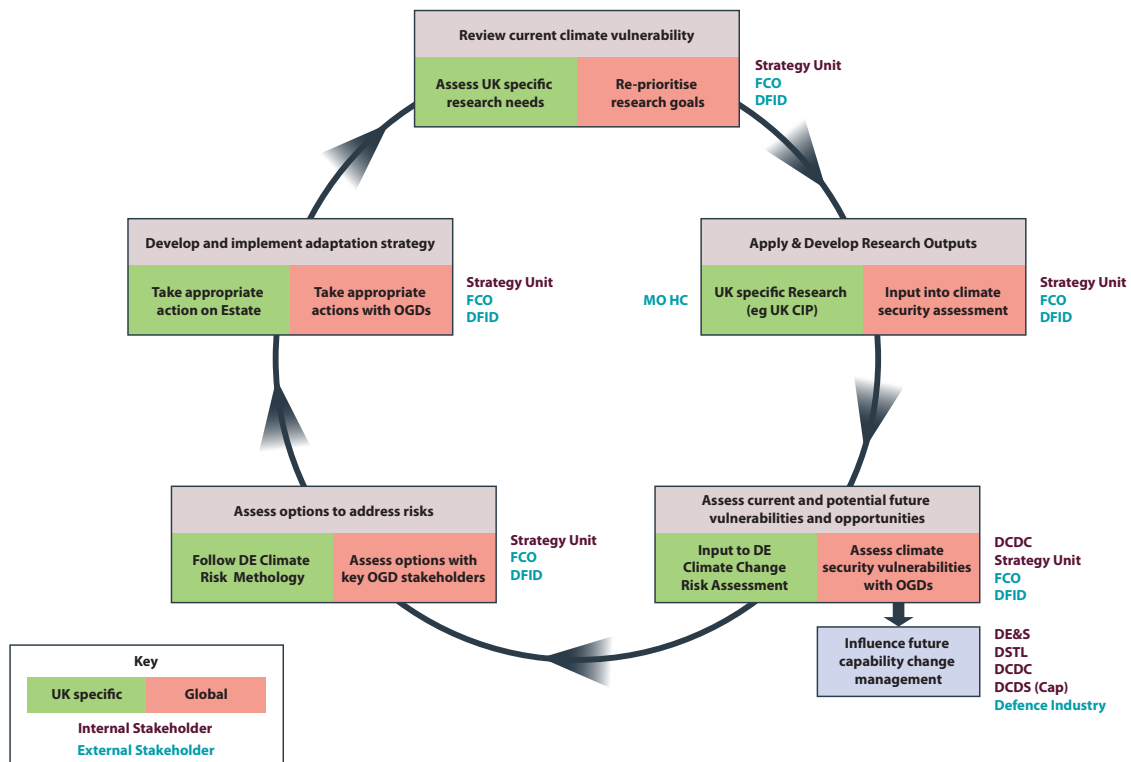


Fig 1 – MOD Adaptation Process<sup>9</sup>

## 4.2 Impacts on International Peace and Stability

Questions addressed in this section:

1. Where, how often and with what type of operations might the MOD have to take action as a result of climate change?
3. How will the MOD ensure it is able to source the products and services it requires to operate in the future?
4. What role is there for the MOD in the multilateral response to climate change?
8. How will MOD get the information it needs on climate change to continually inform policies and decisions?

### 4.2.1 Adapting Policy Planning

Climate change is already recognised in aspects of high-level UK Government and Departmental Policy Planning and Direction. However, there is still work to be done to understand, in greater detail, the likely effects of climate change at home and overseas and how this may affect the types, frequency and location of the operations that MOD is required to conduct.

This, however, is not a piece of work that can, or should, be done in isolation. Other Departments with an overseas focus, particularly the Foreign and Commonwealth Office, Home Office (for immigration) and Department for International Development have a need to understand this interaction of international climate change with global and national security.

<sup>9</sup> A list of acronyms used in the diagram can be found at Annex B

A pan-Government understanding of how these international impacts of climate change will affect the interests of the UK is needed, both at home through increased migration, and abroad as climate change acts as a threat multiplier, destabilising areas of the world that are of strategic importance to the UK.

The MOD also has a role in communicating the security implications of climate change in support of Foreign Office efforts to lead the global effort to avoid dangerous climate change

Serial	Target	Date	Owner	Relevant Question(s)
C	Develop a process to identify and respond to the risks that climate change poses to UK Government efforts to reduce the impact of global conflict.	Mar 2012	Strategy Unit	1, 4, 8

Indicator	Frequency	Data responsibility
MOD participation in projects to identify the global impacts of climate change and their impact on the UK	Annually	Strategy Unit
Existence of pan-Government governance structure necessary to respond to international impacts of climate change	Annually	Strategy Unit
Internal policy and guidance on including international impacts on climate change in MOD decision making process	Annually	Strategy Unit

#### 4.2.2 Adapting Capability Planning

Whilst climate change is predicted to bring a rise in average global temperatures, our capabilities should not simply be acquired for operations in higher temperatures, as the exact impacts of climate change will be uncertain and varied depending on location and social factors.

Capability requirements are driven, in part, by the environments in which they are likely to be used. Understanding how these environments may differ to those in which current capabilities are operating is essential.

This work, however, will not necessarily be informed directly by predictions for a future climate. Seeking to interpret competing global factors and what this might mean for the Armed Forces is routine business for the MOD and will form a product of the policy planning work in assessing current and potential future vulnerabilities and opportunities. We will therefore factor climate change into our plans for force development, equipment capability and health alongside other future strategic trends to ensure that our Armed Forces are equipped for and capable of a range of different Operations.

This is most applicable to capabilities currently in development that may be in service for decades to come, certainly within the timeframe that some of the more significant impacts of climate change are expected to be experienced. Nevertheless, attention will also be given to existing capabilities as and when capability upgrades are introduced.

As climate change progresses there will be effects on global population health as a result of changes in water availability and altering disease vectors. As well as affecting the local populations, these environments may change the way in which military personnel operate, are sustained, and

have to respond to humanitarian needs. Although military personnel already operate in extreme environments globally, personal medical preparation, logistics, and medical treatment will need to adapt to changing and emerging health threats as these become apparent.

Serial	Target	Date	Owner	Relevant Question(s)
D	Capability Planning and Procurement process ensures climate change impacts are assessed and managed	Mar 2012	DE&S SPT	1, 3

Indicator	Frequency	Data responsibility
Projects assessing and managing adaptation as part of sustainability impacts at Initial and Main Gate approval points	Annually	DE&S SPT

### 4.3 Adapting the Defence Estate

Questions addressed in this section:

5. What are the likely impacts on the MOD estate as a result of the local implications of climate change?

6. How can the MOD reduce greenhouse gas emissions while at least maintaining or preferably improving operational capability?

8. How will MOD get the information it needs on climate change to continually inform policies and decisions?

The MOD estate covers over 240,000 hectares and extends from military training areas and ranges, to camps, air and naval bases, and offices. The estate also includes large areas with biological diversity in some of the more remote parts of the country and it is responsible for 171 Sites of Special Scientific Interest, training areas inside National Parks, over 9,000 archaeological field monuments, 793 Listed Buildings and 9 registered parks and gardens and 2 battlefields.

#### 4.3.1 New Estate

Policy on considering adaptation in new estate projects already exists. All estate construction and refurbishment projects must be accompanied by a Sustainability Appraisal and achieve an 'Excellent rating' in the Defence Related Environmental Assessment Method (DREAM) or the Building Research Establishment Environmental Assessment Methodology (BREEAM) as appropriate. All these methods include question sets on climate change mitigation and adaptation. The findings are then taken into account in the Business Cases that are submitted to MOD's Investment Approvals Board (IAB) to decide whether a project is mature enough to proceed.

### 4.3.2 Existing Estate

As well as including adaptation in new builds, it is essential that we understand the risks posed by climate change to our existing estate and use this understanding to inform business continuity and resilience planning.

In order to better understand these risks, a Climate Impacts Risk Assessment Methodology (CIRAM) has been developed. MOD will use this method to identify and manage a proportionate response to the impacts of climate change on the estate. The aim of CIRAM is to maintain/maximise operational capacity by identifying and addressing the effects of climate change factors. CIRAM outputs will enable MOD sites to incorporate risks and management actions into future site planning and development, location and design of new buildings/major refurbishments and maintenance requirements and planning. The method uses the UK Climate Projections 09 (UKCP09) to identify the climate changes expected at the sites being assessed. The latest version of UKCP will be used to ensure we have the most up to date information on climate change.

Serial	Target	Date	Owner	Relevant Question(s)
E	Increase resilience to the impacts of climate change by completing a risk assessment, develop, implement, monitor and review an action plan to improve the estate's preparedness to the impacts of climate change. Thereafter, a system of continuous review will be required on an annual basis.	2015	Defence Estates & Top Level Budget Holders	5, 6, 8

Indicator	Frequency	Data responsibility
Percentage of identified priority operational sites having undertaken CIRAM assessment	Annual	DE

# 5. Delivery of the Strategy

## 5.1 Sustainable Development

The process of mitigating against and adapting to climate change will require considerable effort throughout the Department in the short, medium and long term.

The MOD recognises that we will only achieve our climate change vision if we embed awareness of Sustainable Development (SD) issues into the heart of all decision making in Defence and ensure that all MOD staff understand the importance of SD and how it links to their wider work.

Publishing this strategy will not, on its own, guarantee that the targets will be met; it is the successful delivery of this strategy alongside the MOD Sustainable Development Strategy that will make the real difference. To ensure this takes place, we are focussing our efforts on three key areas:

- Embedding SD within leadership, decision making, training and working culture;
- Improving data and reporting, including GHG emissions;
- Ensuring that responsibility for SD is clearly owned by the appropriate parts of the MOD.

To ensure this is done effectively, SD principles are being integrated into the sub-strategies that cover all of the Department's business, and which support the overall Strategy for Defence, so that the Department's planning and reporting processes drive improvements in SD delivery.

In addition, SD champions in the Department's business areas are required to ensure that SD is embedded into policies and processes. SD champions will be required to self-assess progress in their areas and to report how SD is successfully embedded.

Progress has already been made in this aspect – already all projects submitted to the Department's Investment Approvals Board must take the sustainability, as well as environmental, impact of proposals into consideration, and all business cases taken by the Board must comply with MOD's sustainable procurement policies. In addition, all submissions, including to Ministers, must include a statement to show how SD issues have been taken into consideration.

The MOD Sustainable Development Strategy sets out these aspects of delivery for SD (including climate change) within the MOD.

### 5.1.1 Internal Governance

As the Process Owner for Safety, Sustainable Development and Environmental Protection, the Second Permanent Under Secretary (2nd PUS) is the Senior Responsible Owner for both mitigation (meeting MOD's Carbon Budget) and adaptation within the MOD. The 2nd PUS is also Chair of the Defence Environment and Safety Board which is responsible for advising 2nd PUS on Safety and SD issues.

Process Owners are formally accountable to the Defence Board generally, and to PUS as its Chairman and Departmental Accounting Officer, for meeting their responsibilities. 2nd PUS is required to submit an annual report to the Defence Operating Board (DOB) and the Defence Audit Committee (DAC) for consideration on behalf of the Defence Board. The DOB and/or DAC will refer any issues requiring its attention to the Defence Board. The Annual Assurance Report to the Defence Environment and Safety Board covers sustainable development, including climate change.

2nd PUS delegates responsibility for the sustainable development process in key policy areas. Those applicable to climate change are:

- Sustainable Procurement and Operational Energy – Chief of Corporate Services; Defence Equipment and Support
- Sustainable Estate and Stewardship\* – Chief Executive, Defence Estates.
- Sustainable Business Admin Travel\* – Director General Human Resources and Corporate Services.
- Green ICT\* – Chief Information Officer.

\* With responsibility to Chief of Corporate Services; Defence Equipment and Support for sustainable acquisition within their areas

## 5.2 Sustainable Procurement

Questions addressed in this section:

2. How can the MOD reduce its vulnerability to changes in energy availability and price?

3. How will Defence ensure it is able to source the products and services it requires to operate in the future?

Sustainable procurement (SP), via the Defence Acquisition process, will be critical to ensuring long-term operational sustainability of Defence capability. In future, we need to procure equipment and infrastructure that can operate in a wide variety of climatic and environmental conditions, and to reduce our reliance on hydrocarbon fuels and other finite resources for environmental, social, financial, logistical and operational benefits. The lead time for procuring new equipment, particularly major platforms, can be very long. It will take time, therefore, to fully adapt and design our equipment to cope with the operational impacts of climate change and the use of any future energy and fuel sources. However, looking ahead to 2020 and beyond we need to ensure that new platforms are logistically and environmentally sustainable, minimise GHG emissions, and that they can be adapted to future climate change challenges whilst maintaining their operational effectiveness.

Further details can be found in the MOD SP Strategy. SP principles will be embedded throughout the MOD acquisition processes, including requirement setting, investment decision making, tender evaluation, contract award processes and equipment design and through-life support philosophies.

Progress on SP will be directed and measured using the Sustainable Procurement Task Force National Action Plan's Flexible Framework. This will include assessing both our own performance and that of our key suppliers.

### 5.2.1 Improving building design to reduce climate impacts

Emissions of GHG as a direct consequence of the construction, occupation and decommissioning of buildings has the potential to make a significant contribution to climate change. All Defence construction projects will therefore mitigate this and other environmental impacts through the use of environmental methodologies, BREEAM or DREAM (or Civil Engineering Environmental Quality Assessment and Award Scheme (CEEQUAL) for engineering facilities). The aim is to achieve a rating of 'Excellent'. In addition all projects should exhibit at least one distinctive and unique SD innovation.

Any new procurement project (whether new build, refurbishment, purchased, leased or the procurement of a service – e.g. managed workspace) must fall into the upper quartile of energy performance for the building type, except where specific Operational requirements prevent this.

### 5.2.2 Engaging Suppliers

As a first step to achieving the target of reducing supply chain emissions, the Department has joined the Carbon Disclosure Project's Public Procurement Programme with the aim of engaging its suppliers and agreeing an approach to measuring and apportioning carbon emissions relating to MOD business. The Carbon Disclosure Project is an independent not-for-profit organisation and the Public Procurement Programme is aimed at facilitating engagement on climate change between public sector organisations and their suppliers.

Serial	Target	Date	Owner	Relevant Question(s)
F	Set target to reduce the greenhouse gas emissions from our key suppliers	Mar 2014	DE&S SPT	2, 3

Indicator	Frequency	Data responsibility
Greenhouse gas emissions from key suppliers as reported to Carbon Disclosure Project	Annually from 2013	DE&S SPT

# Annex A - List of Targets and Questions

## List of Targets

Serial	Target	Date	Owner	Relevant Question(s)
A	Set targets to reduce the greenhouse gas emissions produced by our equipment	Mar 2012	DE&S SPT	2,6,7
B	34% reduction in carbon budget on Public Sector Estate and Operations <sup>3</sup> emissions by 2020 against 99/00 baseline	2020	Defence Estates; DG Human Resources & Corporate Services	2,6,7
C	Develop a process to identify and respond to the risks that climate change poses to UK Government efforts to reduce the impact of global conflict.	Mar 2012	Strategy Unit	1, 4, 8
D	Capability Planning and Procurement process ensures climate change impacts are assessed and managed	Mar 2012	DE&S SPT	1, 3
E	Increase resilience to the impacts of climate change by completing a risk assessment, develop, implement, monitor and review an action plan to improve the estate's preparedness to the impacts of climate change. Thereafter, a system of continuous review will be required on an annual basis.	2015	Defence Estates & Top Level Budget Holders	5, 6, 8
F	Set target to reduce the greenhouse gas emissions from our key suppliers	Mar 2014	DE&S SPT	2, 3

## List of Questions

Question Number	Question	Relevant Target
1	Where, how often and with what type of operations might the MOD have to take action as a result of climate change?	C; D
2	How can the MOD reduce its vulnerability to changes in energy availability and price?	A; B; F
3	How will the MOD ensure it is able to source the products and services it requires to operate in the future?	F; D
4	What role is there for the MOD in the multilateral response to climate change?	C
5	What are the likely impacts on the MOD estate as a result of the local implications of climate change?	E
6	How can the MOD reduce greenhouse gas emissions while at least maintaining or preferably improving operational capability?	A; B; E
7	How can the MOD take advantage of the emergence of low carbon technologies to reduce dependency on fossil fuels?	A; B
8	How will MOD get the information it needs on climate change to continually inform policies and decisions?	C; E

# Annex B – Acronyms

2nd PUS	Second Permanent Under Secretary
BREEAM	Building Research Establishment Environmental Assessment Methodology
CCA	Climate Change Act
CIRAM	Climate Impacts Risk Assessment Methodology
DAC	Defence Audit Committee
DCDC	Development Concepts and Doctrine Centre
DCDS (Cap)	Deputy Chief of Defence Staff (Capability)
DE&S	Defence Equipment and Support
DE&S SPT	Defence Equipment and Support Sustainable Procurement Team
DFID	Department For International Development
DOB	Defence Operating Board
DREAM	Defence Related Environmental Assessment Method
DSTL	Defence Science and Technology Laboratories
FCO	Foreign and Commonwealth Office
GHG	Greenhouse Gas
IAB	Investment Appraisals Board
MO HC	Met Office, Hadley Centre
MOD	Ministry of Defence
Mt CO <sub>2</sub> e	Mega tonnes of Carbon Dioxide equivalent
NATO	North Atlantic Treaty Organisation
OGD	Other Government Department
SD	Sustainable Development
SMART	Specific, Measurable, Achievable, Realistic, Timely
SOG E	Sustainable Operations on the Government Estate
SP	Sustainable Procurement
TLB	Top Level Budget
UK CIP	UK Climate Impacts Programme

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