



Addressing Climate Change by Promoting
Low Carbon Climate Resilient Development
in the UK Overseas Territories

Needs Assessment:
Tristan da Cunha

Department for International Development

July 2012

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Background and Purpose

Introduction

This report forms one of a suite of 16 individual needs assessments of the UK Overseas Territories (UKOTs) produced as part of the process of developing a DFID/FCO led cross HMG programme design to address climate change by promoting low carbon climate resilient development in the UKOTs. The purpose of this assignment was to identify the scope and best way to deliver an appropriate climate change programme for all UK OTs and develop a business case for it (contract duration Feb – June 2012).

The purpose of the reports was to provide a rapid synthesis of information contained within available documentation and frame this in a way which: helped to establish a clear rationale for a generic framework forming one business case for the UK OTs but not allowing this to exclude targeted and selective action to meet specific needs. They were also designed to provide an evidence base for the later comparative analysis across OTs and subsequent prioritisation of different approaches for the business case, which was going to be designed later in the consultancy.

It was agreed in May 2012 by the client and the consulting team that the contract was not fully deliverable as expressed in the original Terms of Reference. Details of the full programme of work and consultation is available in the project Inception Report (29th March 2012) and End of Contract Report (11th June 2012).

These reports now form a standalone output of the abbreviated consultancy.

The Reports

The original purpose of the reports still holds and the reader should recognise that the design and level of analysis in this report was set to be achievable within the time available (2 days of evidence gathering, research and writing against over 150 specific data points) and for the original purposes specified and no other. This report provides a general overview to facilitate future potential decision making and does not constitute a comprehensive nor in-depth analytical climate change report.

In a process facilitated by the UK Overseas Territories Association, data content in this report has been reviewed by in-country stakeholders via a nominated point of contact, with feedback incorporated if appropriate.

The report is tailored to the data points required to complete a climate change vulnerability matrix (VAM) tool. The VAM is structured around an understanding of four main issues: the exposure of an OT to climate change (threat analysis); adaptation and resilience; low carbon development and UK exposure. Each issue contains a number of subsets and indicators.

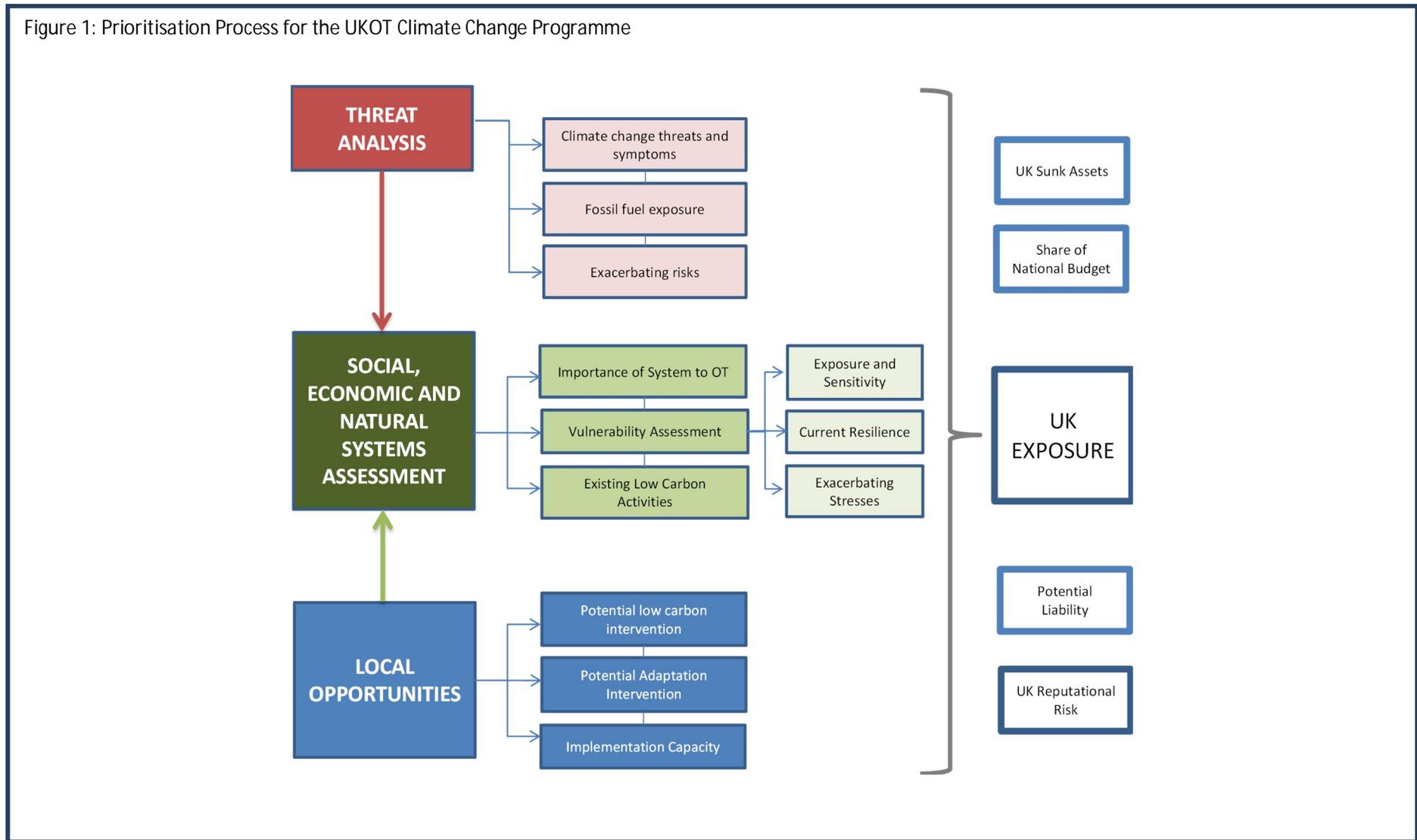
The completed VAM in this report uses a RAG colour coding system to provide a comparative analysis across all of the OTs to feed into the overall programme design. In most cases, data has been included specifically for the later appraisal and business case design process which would have followed.

Attached as annexes to this report are: an associated glossary of terms; a climate change VAM system definitions list; the VAM scoring system (which feeds into the coloured squares in the report text); the scored OT VAM; an initial programme approach table with preliminary sectoral and geographical analysis; and, if relevant, a greenhouse gas emission table.

Figure 1 overleaf illustrates how the data points in the VAM and in this report would have fed into the prioritisation process for a potential UKOT Climate Change Programme and DFID Business Case.

For a full understanding of how the data in this report and the VAM framework has been used, the reader is directed to the programme approaches which are elaborated in the programme Inception Report.

Figure 1: Prioritisation Process for the UKOT Climate Change Programme



Needs Assessment: Tristan da Cunha



KEY INDICATORS

Population:	261
GDP (\$):	Approx. \$3,000
Per Capita GDP (\$):	N.A.
ODA Entitled:	Yes
UK Annual Budget Support:	N.A.
Value of UK Sunk Assets:	N.A.
Key Economic Sectors:	Fishing

Threat Exposure Analysis

Climate Change Exposure

The Tristan da Cunha Islands group comprises Tristan da Cunha, Inaccessible Island, Gough Island and Nightingale Island. Located in the South Atlantic Ocean, collectively they cover 178 km². The two inhabited Islands (Gough and Tristan) are considered some of the remotest inhabited islands on the earth and are only accessible by ship.¹ Together with St Helena and Ascension Islands, they form part of a UK Overseas Territory. The islands are of volcanic origin, and have a temperate, extremely oceanic climate, with only small fluctuations in the temperature between summer and winter. Lying close to the *Roaring Forties*, the weather is liable to sudden and drastic changes, which can be violent.²

A study conducted in 2003 indicated that there had not been any change in the level of precipitation on the Island of Gough between 1960 and 2000.³ However, some of the natural ponds/bogs are becoming smaller.⁴ In 2001, a strong tropical storm resulted in serious material damage in the Tristan da Cunha archipelago. A tropical storm also developed in 2004 in the South Atlantic but they can be considered as isolated events.⁵

Warmer temperatures and sea level rise are likely to happen.⁶ Isolated storm events do not make it possible to predict clearly whether such extreme weather events will become the norm in the region in the future.⁷

¹ K. Varnham, T. Glass, and C. Stringer (2011), 'Involving the community in rodent eradication on Tristan da Cunha', Pages 504-507 In: Veitch, C. R.; Clout, M. N. and Towns, D. R. (eds.). 2011. *Island invasives: eradication and management*. IUCN, Gland, Switzerland. Found at: www.issg.org/pdf/publications/Island_Invasives/pdfHqprint/4Varnham.pdf accessed 31 July 2012

² Dag O. Øvstedal & Niek J. M. Gremmen (2010), New lichen species from Tristan da Cunha and Gough Island, *Folia Cryptog. Estonica*, Fasc. 47: 43-49 (2010) www.ut.ee/ial5/fce/fce47pdf/fce47_ovstedal.pdf accessed 31 July 2012

³ Jones et al, 2003 in Petit, J. and Guillaume, P., 2008. *Climate Change and Biodiversity in the European Union Overseas Entities*. Gland, Switzerland: IUCN (International Union for Conservation of Nature) Publication Services

⁴ Brown, N., 2008. *Climate change in the UK Overseas: Territories: An Overview of the Science, Policy and You*. Peterborough, UK: Joint Nature Conservation Committee.

⁵ Petit, J. and Guillaume, P., 2008. *Climate Change and Biodiversity in the European Union Overseas Entities*. Gland, Switzerland: IUCN (International Union for Conservation of Nature) Publication Services

⁶ Brown, N., 2008. *Op cit.*

⁷ Petit, J. and Guillaume, P., 2008. *Op cit.*

Resource Exposure

Since the presence of a hydroacoustic station, a continuous power source has been installed at Tristan da Cunha. This power source provides electricity free of charge to the homes on the island for eight hours at night and provides an uninterrupted power supply for the first time.⁸

Tristan's water supply is derived from fresh water springs.

Adaptation and Resilience

Importance to OT

Importance of System to OT

Natural Systems: Biodiversity in the Tristan archipelago is characterized by a high level of endemism. The archipelago supports five globally threatened seabirds including the vulnerable Spectacled petrel (*Procellaria conspicillata*), endemic to Inaccessible Island, and the endangered Atlantic yellow-nosed albatross (*Thalassarche chlororhynchos*).

Gough and Inaccessible Islands global importance means that they have UNESCO World Heritage Site designation. Gough Island is home to two endemic species of land birds, the gallinule and the Gough rowettie, as well as to 12 endemic species of plants, while Inaccessible Island is home to two birds, eight plants and at least 10 invertebrates endemic to the island.⁹ Gough Island supports the entire global population of the critically endangered Tristan albatross (*Diomedea dabbenaea*) and millions of pairs of other seabirds including the world's largest colony of Northern rockhopper penguins (*Eudyptes chrysocome moseleyi*) and Dark mantled sooty albatross (*Phoebastria fusca*).¹⁰

Significant marine populations also inhabit the waters of the Tristan archipelago. In addition to their suggested importance as a mid-oceanic nursery area for southern right whales, the waters also provide a concentration area for *T. shepherdi*, one of the least-known of the world's cetaceans. Other species that have been sighted within the archipelago's territorial waters include: *Eubalaena australis*, *Megaptera novaeangliae*, *Tasmacetus shepherdi*, *Globicephala melas* and *Orcinus orca*., eight species (*Balaenoptera physalus*, *B. borealis*, *B. acutorostrata/bonaerensis*, *Physeter macrocephalus*, *Mesoplodon mirus*, *M. bowdoini*, *Delphinus sp.* and *Lissodelphis peronii*) have been seen or taken within 200 nautical miles (360 km) of the group or have been found stranded on its shores, while another two species (*Caperea marginata* and *Lagenorhynchus obscurus*) have been recorded close enough to be considered likely to occur within 200 nautical miles.¹¹

The pristine vegetation on the Islands includes coastal tussock communities dominated by *Spartina arundinacea*, dense 3–4 m high, *Phylica arborea* bush, dense fernbush communities, mires and bogs, dominated by bryophytes, upland heath vegetation and open alpine vegetation.¹²

Economic Systems: Tristan da Cunha's economy relies predominantly on the income from the island's highly sustainable lobster fishery. Other sources of current income – a small scale tourist industry based on three or four tourist ships per annum and the sale of stamps and coins – are limited and further potential economic developments, such as the sale of mineral water, will require considerable capital investment.¹³

⁸ CTBTO (Undated), HA09, Tristan da Cunha, United Kingdom, <http://www.ctbto.org/verification-regime/featured-stations/types/hydroacoustic/ha09-tristan-da-cunhaunited-kingdom/> accessed 31 July 2012

⁹ UNESCO (Undated), World Heritage List, <http://whc.unesco.org/en/list/740/> accessed 30 July 2012

¹⁰ Petit, J. and Guillaume, P., 2008. *Climate Change and Biodiversity in the European Union Overseas Entities*. Gland, Switzerland: IUCN (International Union for Conservation of Nature) Publication Services

¹¹ Peter B. Best, James P. Glass, Peter G. Ryan and Merel L. Dalebout (2009). Cetacean records from Tristan da Cunha, South Atlantic. *Journal of the Marine Biological Association of the United Kingdom*, 89, pp 1023-1032

¹² Dag O. Øvstedal & Niek J. M. Gremmen (2010), New lichen species from Tristan da Cunha and Gough Island, *Folia Cryptog. Estonica*, Fasc. 47: 43–49 (2010) www.ut.ee/ial5/fce/fce47pdf/fce47_ovstedal.pdf accessed 31 July 2012

¹³ FCO, 2012. *The Overseas Territories – Security, Success and Sustainability*. London: Foreign and Commonwealth Office

Social Systems: The total population of ascension is approximately 260 people. Tristan's GDP is reported as \$3,000 per capita.¹⁴ Life expectancy is assumed to be equal to Saint Helena levels: 70.8 years for men and 77.3 years for women.¹⁵

Vulnerability

Sensitivity to Climate Exposure

The spread of introduced species could be accelerated by warmer temperatures. Coastal areas are likely to be affected if there is a rise in seawater, as it could encroach on the native habitat forcing species that breed in the coastal zone, such as the Northern rockhopper penguin, to move further inland. The decrease in rainfall could have implications for local water supplies on Tristan.¹⁶ As recently as 2010, although found in older specimens two new lichen species were discovered on the Islands, which highlights the importance of maintaining a climate status quo.¹⁷

The fishing industry could be negatively affected by warming temperature. The Tristan da Cunha archipelago is especially dependant on the local Tristan crayfish and any change in the lobster population would be devastating for the archipelago's economy. Increased storm severity puts the sole harbour – the only means of access to the outside world- at risk and it would also affect current maritime routes.^{18 19}

As discussed above, the loss of fishing opportunities is anticipated with climate change, this would impact not only the economy of the island but also seriously affect the livelihoods of any Islander working in the fishing or associated industries.

Current Resilience Activities

Infrastructure: Tristan da Cunha's harbour is vital to the island and its economy but was severely damaged in a storm in 2010. Without a harbour, tourism and fishing – the major sources of income on the island – would be severely reduced. Islanders would also not be able to receive regular supplies, cutting off their only means of physical contact with the world. In 2011 emergency repairs to the storm damaged harbour took place. The project produced and placed fifty 10-tonne concrete 'dolosse' blocks specially designed to protect the most vulnerable part of the harbour from future storms. The interlocking blocks are designed to break waves, and deflect their power from the harbour itself. In early 2012 a further project was undertaken to provide a stockpile of further 'dolosse' blocks on the island and to carry out maintenance works to the harbour during the summer.²⁰

Tristan da Cunha hosts also houses a hydroacoustic station used to detect natural and man-made phenomena in the oceans, including underwater nuclear detonations. Since the establishment of the stations, a continuous power source has been installed at Tristan da Cunha.²¹

Natural Systems: Gough Island and Inaccessible Islands (Tristan da Cunha) are designated World Heritage Sites.²² Plans for the management of these islands between 2010 and 2015 are enforced.²³ The wider

¹⁴ FCO, 2012. Tristan da Cunha profile, http://www.fco.gov.uk/content/en/country-profile/north-central-south-america/fco_cp_tristandacunha?profile=all accessed 20 July 2012

¹⁵ St Helena Government, 2009. *The 2008 Population Census of St Helena*. Jamestown: Statistics Office.

¹⁶ Brown, N., 2008. *Op cit*.

¹⁷ Dag O. Øvstedal & Niek J. M. Gremmen (2010), New lichen species from Tristan da Cunha and Gough Island, *Folia Cryptog. Estonica*, Fasc. 47: 43–49 (2010) www.ut.ee/ial5/fce/fce47pdf/fce47_ovstedal.pdf accessed 31 July 2012

¹⁸ Brown, N., 2008. *Op cit*.

¹⁹ Petit, J. and Guillaume, P., 2008. *Op cit*.

²⁰ Further details on both these projects can be obtained from IMC Worldwide.

²¹ CTBTO (Undated), HA09, Tristan da Cunha, United Kingdom, <http://www.ctbto.org/verification-regime/featured-stations/types/hydroacoustic/ha09-tristan-da-cunhaunited-kingdom/> accessed 31 July 2012

²² Brown, N., 2008. *Op cit*.

²³ RSPB and Tristan da Cunha Government, 2010. *Gough and Inaccessible Islands World heritage Site Management Plan, April 2010-March 2015*. Tristan da Cunha Government. Tristan da Cunha

archipelago also hosts four Important Bird Areas (IBAs) and four sites have been proposed to be designated as Ramsar sites.²⁴

In Tristan, three OTEP projects are under implementation in 2012: *Integrated Biodiversity Management Planning on Tristan da Cunha*, *Geo-referenced baseline vegetation survey of Tristan*, *Clearing alien plants from Tristan da Cunha*, as well as a JNCC-funded research project on the endangered Wilkins' bunting *Nesospiza wilkinzi*.

Another flagship project for the *Conservation, monitoring and research on the globally endangered Northern rockhopper penguin at Tristan da Cunha and Gough Island* has been implemented by the Birds Conservation Department of Tristan da Cunha since 2010.^{25 26}

Managing invasive introduced species is a key issue; rodent eradication planning began in 2004 and included the production of detailed operational plans for two rodent eradication projects: the eradication of ship rats and house mice on Tristan and house mice on Gough. The proposed eradication projects would be expensive: estimated costs for the Tristan project were in excess of £2m alone.²⁷

Exacerbating Stresses

The islands are of volcanic origin and remain active. In 1961 a major volcanic eruption took place on Tristan da Cunha, leading to the total evacuation of the island. In July 2004 Tristan da Cunha was affected by an intense earthquake swarm. Seismic data analysis and direct observations show that the events were consistent with a small parasitic eruption having occurred on the lower (submarine) flanks of the Tristan volcano, whilst the sub-aerial portion of the volcano had not been affected.²⁸

Challenges exist for biodiversity conservation on the islands, including the introduction of invasive non-native species, mice in particular, illegal fishing.²⁹ The on-going presence of invasive rodents on Tristan also increases the risk of their reaching the nearby rat-free islands of Nightingale and Inaccessible, where they would be likely to cause more ecological devastation. On Gough Island, mice prey upon chicks of the endangered Tristan albatross, Atlantic petrel (*Pterodroma inverta*) and great shearwater (*Puffinus gravis*), and are likely to prey upon the chicks and eggs of the endemic Gough bunting (*Rowettia goughensi*) as well as endemic flightless moths. Rodents are also a pest for the human population of the islands, eating crops and foodstuffs and presenting a public health risk.³⁰

The spread of plastic and other non-biodegradable waste could also seriously affect birds and sea mammals.³¹ In 2011 an oil spill from a wrecked ship caused serious environmental damage close to Nightingale Island.³²

Future Opportunities

Potential Adaptation Interventions

The development of an operational plan to eradicate mice from Gough Island is foreseen. One of the major challenges for the Tristan Islands is to gain high-level support and sufficient resources for the successful

²⁴ Rayment, M, 2007. *Costing Biodiversity Priorities in the UK Overseas Territories*, GHK, London

²⁵ DEFRA, 2012. *New Darwin projects*. [Online] Available at: <http://jncc.defra.gov.uk/page-4403> [Accessed on 23 April 2012].

²⁶ JNCC, 2012. *St Helena*. [Online] Available at: http://www.nationaltrust.org.sh/darwin_initiative.html [Accessed on 23 April 2012].

²⁷ K. Varnham¹, T. Glass, and C. Stringer (2011), 'Involving the community in rodent eradication on Tristan da Cunha', Pages 504-507 In: Veitch, C. R.; Clout, M. N. and Towns, D. R. (eds.). 2011. *Island invasives: eradication and management*. IUCN, Gland, Switzerland. Found at: www.issg.org/pdf/publications/Island_Invasives/pdfHQprint/4Varnham.pdf accessed 31 July 2012

²⁸ Hards, Vicky. 2009 Shaken, but not stirred : the 2004 eruption of the Tristan da Cunha volcano. *Shima : the international journal of research into island cultures*, 3 (1), V. 17, pp.

²⁹ Petit, J. and Guillaume, P., 2008. *Op. cit.*

³⁰ K. Varnham¹, T. Glass, and C. Stringer (2011), 'Involving the community in rodent eradication on Tristan da Cunha', Pages 504-507 In: Veitch, C. R.; Clout, M. N. and Towns, D. R. (eds.). 2011. *Island invasives: eradication and management*. IUCN, Gland, Switzerland. Found at: www.issg.org/pdf/publications/Island_Invasives/pdfHQprint/4Varnham.pdf accessed 31 July 2012

³¹ RSPB and Tristan da Cunha Government, 2010. *Op. cit.*

³² FCO, 2012. *Op cit.*

implementation of this eradication programme. In the longer term, the feasibility of eradicating rats and mice from the Tristan Islands is under consideration. The development and implementation of a formal biosecurity strategy and plan with strict quarantine measures to prevent the introduction of invasive animals, plants and diseases are also planned.³³

The Management Plan for Gough Island and Inaccessible Island contains a list of priority actions to be implemented by 2015. The priority action includes: the creation of a single, widely accessible and comprehensive database of biodata recorded within the two World Heritage Sites (WHSs); the establishment of the distribution and population sizes of endemic species; the development of a disaster contingency plan for the WHSs; and to prepare and implement an access plan for the WHSs.³⁴

Implementation Capacity

The Tristan da Cunha Government has recently (2008) established a Conservation Department, aiming at preserving biodiversity in the Tristan archipelago.³⁵

Significantly, NAO (2007) reported that there were difficulties in attracting suitably qualified applicants for senior permanent posts in these territories.³⁶

Low Carbon Development (Source)

Current Emissions

Share of Current Emissions

Tristan da Cunha is not covered by UK GHG Inventory.³⁷

GHG Abatement

Abatement Potential

Information on abatement potential was not available.

Current Abatement Activities

The Tristan da Cunha Government is investigating alternative energy options as part of the electrical reticulation upgrade on the Island.

Future Opportunities

Potential LCD Intervention

Information on other activities planned to reduce greenhouse gas emissions was not available.

³³ Wolfaardt, A., Glass, J., Glass, T., 2009. *Op. cit.*

³⁴ RSPB and Tristan da Cunha Government, 2010. *Op. cit.*

³⁵ Wolfaardt, A., Glass, J., Glass, T., 2009. *Op. cit.*

³⁶ National Audit Office, 2007. *Op. cit.*

³⁷ Petit, J. and Guillaume, P., 2008. *Op. cit.*

Implementation Capacity

NAO (2007) reported that there were difficulties in attracting suitably qualified applicants for senior permanent posts in these Territories.³⁸

UK Exposure

UK Sunk Assets

Several projects were funded in the past by DFID (along with other international donors, such as the EU) to provide repairs to the damaged sections of the harbour in Tristan da Cunha. One of these projects is operational and has a budget of £6,000,000.³⁹ The UK is also currently working with the Tristan Government in developing a longer term plan for the harbour.⁴⁰

Absolute Value of UK Transfer

The Tristan archipelago is largely self-sufficient. The budget spent by DFID on projects in Tristan da Cunha is reducing and in 2012 it is equal to approximately £1,000,000.⁴¹ A small percentage of St Helena Technical Cooperation Budget coming from UK aid was spent on providing technical assistance to Tristan da Cunha.⁴² Annual bilateral assistance to Tristan da Cunha is modest and consists of support for the provision of medical care and assistance with education, public works and government reform.⁴³

Share of National Budget from UK Transfer

Information on the share of Tristan budget coming from UK transfer was not available.

Potential Liability

Tristan da Cunha is officially part of the Territory including also St Helena and Ascension Island. This Territory is among the signatories of the following multilateral environmental agreements⁴⁴:

- Convention on Biological Diversity (CBD)
- Convention on the Conservation of Migratory Species of Wild Animals (CMS)
- African-Eurasian Migratory Waterbird Agreement (AEWA)
- Agreement on the Conservation of Albatrosses and Petrels (ACAP)
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter – the London Convention and the London Protocol
- Ramsar Convention on Wetlands of International Importance
- Vienna Convention for the Protection of the Ozone Layer
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Other potential liabilities include the provision of support to Islanders in the wake of the volcano erupting on Tristan. Although not as serious as the 1961 eruption that saw the total evacuation of the Island, the 2004 eruption was a stark reminder of the potential liabilities that could incur to HMG should there be further events like this.

³⁸ National Audit Office, 2007. *Op cit.*

³⁹ DFID, 2012. *DFID Project search*. [Online] Available at: <http://projects.dfid.gov.uk/Default.aspx?countrySelect=TA=tristan%20da%20Cunha> [Accessed on 10 July 2012].

⁴⁰ FCO, 2012. *Op cit.*

⁴¹ DFID, 2012. *DFID Project search*. [Online] Available at: <http://projects.dfid.gov.uk/Default.aspx?countrySelect=TA=tristan%20da%20Cunha> [Accessed on 10 July 2012].

⁴² St Helena Government, 2012b. *Statistics* [Online] Available at: www.sainthelena.gov.sh/pages/statistics.html [Accessed on 23 April 2012].

⁴³ FCO, 2012. *Op cit.*

⁴⁴ DEFRA, 2012. *The Environment in the United Kingdom's Overseas Territories: UK Government and Civil Society Support*. London, UK: DEFRA

Reputational Risks



Tristan's economy relies predominantly on the income from the island's highly sustainable lobster fishery. Fluctuating market demand and prices for Tristan lobster has a direct effect on the territory's revenue, and government reserves have been substantially depleted in recent years.⁴⁵ This could potentially affect the current attempt of the Tristan Government to trying to balance its budget through efficiencies and effective management of the finances.

⁴⁵ FCO, 2012. *Op cit.*

Annex One: UKOT Climate Change Vulnerability Analysis Matrix
Glossary of Terms

UKOT Climate Change Vulnerability Analysis Matrix Glossary of Terms

Abatement Potential	(Cost effective) technical potential for reducing emissions within sector.
Absolute GHG Emissions	Annual amount of greenhouse gases (GHG) produced by an Overseas Territory. It is measured as metric tonnes of CO ₂ generated per year.
Absolute Value of UK Transfer	Total amount of funding from UK to an Overseas Territory per year.
Adaptation	The extent to which existing initiatives and measures (projects and programmes) are expected to reduce the vulnerability of natural and human systems against actual or expected climate change effects.
Adaptive Capacity	The ability of a social or natural system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organisation, and the capacity to adapt to stress and change.
Carbon sink	A natural or artificial reservoir that accumulates and stores some carbon-containing chemical compound for an indefinite period. Natural: Absorption of carbon dioxide by the oceans via physicochemical and biological processes and photosynthesis by terrestrial plants. Artificial: include landfill and carbon capture and storage.
Climate Change	A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.
Climate Change Impact	Consequences of climate change on social, economic and natural systems without considering adaptation.
Climate Change Exposure	The change in climate with a potential adverse effect on social, economic and natural systems.
Current Abatement Activities	Any action that reduces the emissions or emissions intensity (per unit output) of a given sector on-going or completed in UK Overseas Territories as of March 2012.
Current Resilience Activities	Resilience activities on-going or completed in UK Overseas Territories as of March 2012.
Energy Efficiency	Ratio of energy output of a conversion process or of a system to its energy input: measures taken to reduce demand for energy for the same projected level of development.
Energy Import Dependence	Percentage of energy imported from abroad by the single Overseas Territory.
Exacerbating Stresses	Natural or human factors which in isolation or combination have the potential to lead to a change in the severity or frequency of a climate change threat. This may include inter alia a natural hazard, an extreme weather event, social tension or conflict, demographic trends and population characteristics and institutional and/or societal capacity constraints.
Exposure	The sum of the character, magnitude and rate of climate change variation to which a system is influenced by.
Fossil Fuel Dependence	The percentage of total fuel consumption derived from carbon-based fuels from fossil carbon deposits (including coal, oil, and natural gas) and the percentage of that fuel that is imported.
Frequency and Severity	Occurrence and magnitude of an event in UK Overseas Territories.
Future Opportunities	A territory's ability to reduce greenhouse gas emissions or to enhance carbon sink (Potential LCD Intervention) coupled with its potential to plan adjustment interventions in response to the effects of climate change (Potential Adaptation Intervention).
GHG Abatement (Current)	Potential for reducing emissions within sector coupled with any action already in place that reduces the emissions or emissions intensity of a given sector.

Implementation Capacity	Current (March 2012) capacity to design, implement and monitor all related low carbon / adaptive capacity activities. This includes all current resource constraints (i.e. funding, local personnel capacity, lack of personnel, supportive infrastructure etc.) and opportunities.
Importance of system to OT	The value that society and people in an UK Overseas Territory place on the significance of impacts and vulnerabilities (see Vulnerability) on social, economic and natural systems.
Low Carbon Development (Source)	Actions which include making a contribution towards stabilising levels of CO ₂ and other greenhouse gases at a level that will avoid dangerous climate change, through cuts in emissions, demonstrate a high level of energy efficiency, use low-carbon energy sources and/or utilise and enhance carbon sinks.
Magnitude	The area or number of people likely to be affected as a proportion of total population or land area.
Potential Liability	Legal, Financial, Moral and Political exposure arising from the activities of the UK Overseas Territories. This includes UK commitments to legal treaties that extend to the OTs (e.g European Convention on Human Rights) and response to natural and man-made disasters and terrorist events.
Potential LCD Intervention	A territory's ability to reduce anthropogenic CO ₂ and other greenhouse gas emissions or to enhance carbon sinks, where ability refers to skills, competencies, fitness and proficiencies that a territory has attained and depends on technology, institutions, wealth, equity, infrastructure and information.
Potential Adaptation Interventions	The potential for a planned intervention which constitutes or contributes to an adjustment in natural, social or economic systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
Reputational Risk	Reputation is defined as the social evaluation of the public towards HMG. Risk is the probability that a failure to act will produce harm to that reputation. This reputation may be defined in terms of the potential: loss of HMG ethical (moral) reputation for safe guardianship of its citizens) disruption or distortion of HMG relationship with its citizens in the OTs withdrawal of private sector investment in UK Overseas Territories (investor flight).
Resilience	The ability of a social or natural system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organisation, and the capacity to adapt to stress and change.
Resource Exposure	Degree at which a system is influenced by a variation in the availability or the price of resources (specifically water and energy).
Resource Use Efficiency	The effective use of energy and water resources – limiting wastage and maximising usable resources.
Sensitivity to Climate Exposure	Affects the magnitude and/or rate of a climate related perturbation or stress and is the degree to which a system [exposure unit] is affected, either adversely or beneficially, by climate variability or climate change. The effect may be direct (e.g. a change in crop yield in response to a change in the mean, range, or variability of temperature) or indirect (e.g., damages caused by an increase in the frequency of coastal flooding due to sea level rise).
Share of Current Emissions	Percentage of OT's Absolute GHG Emissions generated by each sector.
Share of National Budget from UK Transfer	Percentage and amount (at 2011 prices) of the total Overseas Territory Budget which comes from HMG budgetary support.
System (Social, Economic and Natural)	A set of functionally inter-related elements subdivided into Natural (ecosystems and biodiversity) and Social and Economic (Human) elements.
Threat Exposure Analysis	Identification of the threats that may affect a system and evaluation of their frequency and severity.
UK Exposure	Risk to the UK arising from activities in the UK Overseas Territories. It includes UK Sunk Assets, Share of National Budget from UK Transfer, Potential Liability and Reputational Risk.

UK Sunk Assets	UK investments in physical infrastructure in the Overseas Territories which cannot be recovered.
Vulnerability	The degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity.

Key:

 Voice reported in VAM

 Additional voice

Annex Two: UKOT Climate Change VAM Systems Definition

SOCIAL, ECONOMIC AND NATURAL SYSTEMS DEFINITIONS	
Biodiversity and Ecosystems (Marine and terrestrial)	<p>Ecosystems – A community of living (plants and animals) and non-living things (climate, landscape) which interact together and affect each other.</p> <p>Biodiversity – The variety of plant and animal life found in an ecosystem and the variation in their genetic makeup. It is a measure of the health of an ecosystem, with healthy ecosystems having greater variety and variation in plant and animal life than unhealthy ones.</p> <p>Source: <i>Brown, 2008ⁱ</i></p>
Hydrology and Water resources	<p>Hydrology - The various systems that are involved in the hydrological cycle (water evaporation, atmospheric circulation of water vapour, cloud formation, precipitation, interception by plant life, land surface runoff, soil infiltrations, groundwater recharge, discharge into streams etc).</p> <p>Water resources – The availability of useful water, often a limiting factor for social and economic development. Sources include groundwater, rainwater and surface reservoirs or rivers.</p> <p>Source: <i>Gray, 2010ⁱⁱ; Parry et al., 2007ⁱⁱⁱ</i></p>
Tourism	<p>Comprises the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purpose</p> <p>Source: <i>UNWTO, 2011^{iv}</i></p>
Transportation	<p>A system of conveying people, goods, etc., from one place to another.</p> <p>The definition includes water, air, and land transport.</p>
Agriculture and Fisheries	<p>Agriculture- The science or practise of cultivating the soil and rearing animals</p> <p>Fisheries – The occupation of catching or rearing fish</p>
Forestry	<p>All economic activities that mostly depend on the production of goods and services from forests including commercial activities that are dependent on the production of wood fibre. It also includes activities such as the commercial production and processing of non-wood forest products and the subsistence use of forest products</p> <p>Source: <i>FAO, 2004^v</i></p>
Energy Supply and Use	<p>Energy supply - Extraction, conversion, and transportation of fuels and electricity to ultimate end use</p> <p>Energy use - The amount of fuels and electricity utilized during a period of time to provide a useful service such as heating, cooling, or transportation</p> <p>Source: <i>Wilbanks et al., 2008^{vi}</i></p>
Industry and Commerce	<p>Industry - Industry includes manufacturing, mining, construction and related informal production activities. Other categories, such as transport, energy supply & demand and processing of forest products have been included in other sectors.</p> <p>Commerce – Commerce is the exchange or buying and selling of commodities. In our definition it includes trade, retail and other commercial activities.</p>
Human Health	<p>Human health includes physical, social and psychological well-being.</p> <p>Society – Society includes <i>infrastructures, human settlements</i> and <i>social issues</i>.</p> <p><i>Infrastructures</i> are systems designed to meet relatively general human needs, often through largely or entirely public utility-type institutions. <i>Infrastructures</i> for settlements and society include both ‘physical’ (sanitation and communication systems) and ‘institutional’ (shelter, health care, food supply, security and fire services and other forms of emergency protection). <i>Human settlements</i> comprise physical capital (buildings) where most of the world’s population live. <i>Social issues</i> include all the factors relating to human society and its members, concerning the way of life of the local population (livelihoods and welfare).</p> <p>Source: <i>Parry et al., 2007</i></p>

HDI/ Livelihoods/ Poverty	<p>HDI (Human Development Index) - A summary composite index that measures a country's average achievements in three basic aspects of human development: longevity, knowledge, and a decent standard of living.</p> <p>Livelihoods - A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living.</p> <p>Poverty – A state or condition in which a person or community lacks the financial resources and essentials to enjoy a minimum standard of life and well-being that is considered acceptable in society.</p> <p><i>Source: Chambers and Conway, 1991^{vii}</i></p>
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Note: The sectors considered as potential sources of greenhouse gases in the Low Carbon Development section are the ones reported by Department of Energy and Climate Change, 2009^{viii}.

ⁱ Brown, N., 2008. *Climate Change in Overseas Territories: An Overview of the Science, Policy and You*, Peterborough, UK: Joint Nature Conservation Committee

ⁱⁱ Gray, G. A. L., 2010. *Montserrat National Climate Change Issue Paper*, Montserrat: Ministry of Agriculture, Land, Housing and the Environment

ⁱⁱⁱ Parry, M., Canziani, O. & Palutikof, J. P., 2007. *Climate Change 2007: Impacts, adaptation and Vulnerability, Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge, UK: Cambridge University Press.

^{iv} UNWTO, 2011. *World Tourism Organisation UNWTO*. [Online] Available at: <http://statistics.unwto.org/en>. [Accessed 12 03 2012].

^v FAO, 2004: Trends and Current Status of the Contribution of the Forestry Sector to National Economies, Rome: FAO, available on <http://www.fao.org/docrep/007/ad493e/ad493e05.htm>

^{vi} Wilbanks T. J. et al., 2008. *Effects of Climate Change on Energy Production and Use in the United States*, Washington, US: US Climate Change Science Programme

^{vii} Chambers, R., & Conway, G. (1991). *Sustainable Rural Livelihoods: Practical Concepts for the 21st Century*. [Online] Available at: <http://www.smallstock.info/reference/IDS/dp296.pdf> [Accessed 28 03 2012].

^{viii} Department of Energy and Climate Change, 2009. *5NC - The UK's Fifth National Communication under the United Nations Framework Convention On Climate Change*. London

Annex Three: UKOT Scoring Matrix

ANNEX III: RAG SCORING FOR UKOT VAM

#		Red	Red/Amber	Amber/Green	Green
Threats Exposure Analysis					
	Exposure: Frequency and Severity of climate effects	Current: High Impact 2050: Impact + Confidence	Current: Medium Impact 2050: Impact + Confidence	Current: Low Impact 2050: Impact + Confidence	Current: No impact 2050: No impact
Resource Exposure					
	Exposure: Fossil Fuel and Energy Import Dependence, Resource Use Efficiency and GHG Emission	High Dependency, Emissions and Low Resource Use Efficiency	Medium Dependency, Emissions and low Resource Use Efficiency	Low dependency, emissions and medium resource use efficiency	Low (or No) dependency, emissions, and high resource use efficiency
Importance to Overseas Territory					
1	Importance of System to OT <i>Natural Systems</i> <i>Economic Systems</i>	Bio-diversity characterised by high levels of endemic / endangered species and / or territory with internationally recognised environmental designation ¹ Critical levels of water stress Dominant contribution to OT GDP (>20%)	Bio-diversity characterised by presence of endemic / endangered species and internationally recognised environmental designation Moderate levels of water stress Significant contribution to OT GDP (5%-20%)	Bio-diversity characterised by low levels of endemic / endangered species and no internationally recognised environmental designation Limited levels of water stress Limited contribution (<5%) to OT GDP	Bio-diversity characterised by very low levels of endemic / endangered species and no internationally recognised environmental designation No water stress No contribution (0%) to OT GDP

¹ As identified by IUCN redbook.

#		Red	Red/Amber	Amber/Green	Green
	<i>Social Systems</i>	Per capita GDP (<\$6000) Low life expectancy / High infant mortality rates	Per capita GDP (\$6001 - \$20000) Medium life expectancy / Medium infant mortality rates	Per capita GDP (\$20001 - \$50000) Medium life expectancy / Low infant mortality rates	Per capita GDP (\$50000 +) High life expectancy / Low infant mortality rates
Vulnerability (Current)					
2.1	Sensitivity to Climate Exposure	High sensitivity to climate change exposure/high potential for irreversible impacts	Medium sensitivity to climate change exposure/medium potential for irreversible impacts	Low sensitivity to climate change exposure/low potential for irreversible impacts	No sensitivity to climate change exposure/no potential for irreversible impacts
2.2	Current Resilience Activities	No resilience planning and/or very limited adaptive capacity	Weak resilience planning and/or adaptive capacity	Moderately effective resilience planning and/or adaptive capacity	Strong resilience planning and/or adaptive capacity
2.3	Exacerbating Stresses	Significant exacerbating stresses	Moderate exacerbating stresses	Limited exacerbating stresses	No exacerbating stresses
Future Opportunities					
3.1	Potential Adaptation Interventions	No technical/programmatic opportunities available.	Limited technical/programmatic opportunities available, and significant work/investment required to develop bankable projects or programmes	Technical/programmatic opportunities exist, but only as pilot projects/strategies and require further investment to develop bankable projects or programmes	Technical/programmatic opportunities exist and bankable investments/projects are available for immediate funding
3.2	Implementation Capacity	No technical, political and financial capacity to	Limited technical, political and/or financial capacity to	Moderate technical, political and/or financial capacity to implement and	Strong technical, political and financial capacity to implement

#		Red	Red/Amber	Amber/Green	Green
		implement and monitor adaptation activities, with full UK input required.	implement and monitor adaptation activities, with significant UK input required.	monitor adaptation activities, with moderate UK input required.	and monitor adaptation activities, with limited UK input required
Current Emissions					
4.1	Share of Current Emissions	High (>30%)	Medium (15%-30%)	Low (5%-15%)	None/Marginal <5%.
GHG Abatement					
5.1	Abatement Potential	No abatement potential <10%	Limited abatement potential identified 10%-25%	Moderate abatement potential identified 25%-50%	Significant abatement potential identified E.g. >50% of current levels
5.2	Current Abatement Activities	No low carbon development planning or investment	Weak low carbon development planning and investment	Moderately effective low carbon development planning and investment	Strong evidence of effective low carbon development planning and investment
Future Opportunities					
6.1	Potential LCD Intervention	No technical/programmatic opportunities available.	Limited technical/programmatic opportunities available, and significant work/investment required to develop bankable projects or programmes.	Technical/programmatic opportunities exist, but only as pilot projects/strategies and require further investment to develop bankable projects or programmes.	Technical/programmatic opportunities exist and bankable investments/ projects are available for immediate funding.
6.2	Implementation Capacity	No technical, political and financial capacity to implement and monitor low carbon activities, with full UK input required.	Limited technical, political and/or financial capacity to implement and monitor low carbon activities, with significant UK input required.	Moderate technical, political and/or financial capacity to implement and monitor low carbon activities, with moderate UK input required.	Strong technical, political and financial capacity to implement and monitor low carbon activities, with limited UK input required.

UK Exposure (2012)					
7.1	UK Sunk Assets	>£100m	£20-£100m	£5-£20m	£0-£5m
7.2	Absolute Value of UK Transfer	£500,001 - £1,000,000	£250,001 - £500,000	£100,001 - £250,000	>£100,000
7.3	Share of National Budget from UK Transfer	75%> of national budget for specific system from UK transfer	51% to 75% of national budget for specific system from UK transfer	26% to 50% of national budget for specific system from UK transfer	25%< of national budget for specific system from UK transfer
7.4	Potential Liability	Cost of honouring and implementing legal treaties and other HMG commitments (>£200m)	Cost of honouring and implementing legal treaties and other HMG commitments (>£50m)	Cost of honouring and implementing legal treaties and other HMG commitments (>£10m)	Cost of honouring and implementing legal treaties and other HMG commitments (<£10m)
7.5	Reputational Risks	Irreparable reputational risk in terms of loss of: HMG reputation for safeguarding citizens / climate change and ecosystems; HMG disruption to the relationship with its citizens; and potential to severely disrupt private sector investment in the UKOTs related to specific system.	Serious but not irreparable reputational risk in regards to loss of HMG safeguarding reputation, HMG relationship with citizens or private sector investment related to specific system.	Limited reputational risk in regards to loss of HMG safeguarding reputation, HMG relationship with citizens or private sector investment related to specific system.	No reputational risk in regards to loss of HMG safeguarding reputation, HMG relationship with citizens or private sector investment related to specific system.

Annex Four: Tristan da Cunha - Scored VAM

RED
RED/AMBER
GREEN/AMBER
GREEN

Threat Exposure Analysis		
	Frequency and Severity	
	Current	2050
Climate Change Exposure		
1 Increase in temperature		
2 Increase/decrease/variability in precipitation		
3 Decrease in snow cover and ice		
4 Heat waves		
5 Heavy precipitation events/floods		
6 Extreme storm events		
7 Rising sea levels		
8 Ocean acidification		

Resource Exposure	Current
1 Fossil Fuel Dependence	
2 Energy Import Dependence	
3 Resource use efficiency	
4 Absolute GHG emissions	X

Low Carbon Electricity Resource Potential	Share of Current Electricity Production	Potential
1 Wind	X	X
2 Hydro	X	X
3 Solar PV	X	X
4 Geothermal	X	X
5 Biomass	X	X
6 Waste (solid, liquid)	X	X
Low Carbon Heat Potential	% of buildings	Potential
1 Solar Thermal	X	X
2 Biomass	X	X
Liquid Fuels	% of consumption	Potential
1 Bioethanol	X	X
2 Bio diesel	X	X

Tristan da Cunha

Summary
<p>GENERAL INFORMATION The Tristan da Cunha group comprises Tristan da Cunha, Inaccessible Island, Gough Island and Nightingale Island. It is part of the Overseas Territory including also St Helena and Ascension Island. Located in the South Atlantic Ocean, collectively they cover 178 km². Total population around 260 people: Tristan is the most remote inhabited area of the world. The economy relies primarily on lobster fishing.</p> <p>Threat Exposure Analysis Experienced events: no changes in the precipitation pattern since 1960: devastating tropical storm in 2001. Expected events: air temperatures and sea level to increase. Electricity produced through diesel generators. Water supply from local natural springs.</p> <p>Adaptation and Resilience Systems: Presence of endemic species of flora and fauna. Economy primarily relying on lobster fishing. Predicted effects: spread of invasive species accelerated by warmer temperatures. Coastal habitats affected by sea level rise. Decreased rainfall to affect water supply. Devastating effects on economy by decrease in fishery. Activities: Gough Island and Inaccessible Island designated as World Heritage Sites and management plans are enforced. Several projects for the protection of biodiversity ongoing and planned, including projects for the eradication of invasive species. Capacity: Difficulties in attracting suitably qualified staff.</p> <p>Low Carbon Development Tristan Government investigating alternative energy options.</p> <p>UK Exposure Tristan da Cunha largely self-sufficient. UK assistance modest. St Helena, Ascension and Tristan da Cunha signatories of several multilateral environmental. Direct effect of fluctuating market demand and prices for Tristan lobster on Territory revenue and government substantially depleted in recent years</p> <p>Exacerbating Risks Volcanic origin: Introduction of invasive non-native species; Spread of non-biodegradable waste; Oil spills</p>

Additional Potential Classification

- High High levels of cost effective technical potential identified, with strong evidence of associated planning and investment
- Medium Medium cost effective resource potential identified, with medium evidence of associated planning and investment
- Low Limited cost effective technical potential identified, with limited evidence of associated planning and investment
- None No cost effective technical potential identified.
- None No cost effective technical potential identified.

Adaptation and Resilience		Importance to OT	Vulnerability (Current)			Future Opportunities	
		Importance of System to OT	Sensitivity to Climate Exposure	Current Resilience Activities	Exacerbating Stresses	Potential Adaptation Interventions	Implementation Capacity
Natural							
	Biodiversity and Ecosystems						
Economic	Hydrology and Water resources						
	Tourism						
	Transportation						
	Agriculture and Fisheries						
	Forestry						
Social Systems	Energy Supply and Use						
	HDI/Livelihoods/Poverty						
	Human Health						

UK Exposure (2012)				
UK Sunk Assets	Absolute Value of UK Transfer	Share of National Budget from UK Transfer	Potential Liability	Reputational Risks
X		X	X	
X		X	X	
X		X	X	
X		X	X	
X		X	X	
X		X	X	
X		X	X	
X		X	X	

Low Carbon Development (Source)		Current Emissions	GHG Abatement (Current)		Future Opportunities	
		Share of Current Emissions	Abatement Potential	Current Abatement Activities	Potential LCD Intervention	Implementation Capacity
Energy Supply		X	X		X	
Transport		X	X		X	
Public		X	X		X	
Business		X	X		X	
Residential		X	X		X	
Agriculture		X	X		X	
Waste management		X	X		X	
Land Use, Land Use Change and Forestry		X	X		X	

Annex Five: UKOT Potential Programme Approaches – Preliminary Sectoral and Geographical Analysis

	Programme Approach	Sectoral and OT Relevance		Activities	
		Sectors	OTs	Current	Potential
1	Adaptation: Needs Focus	Energy Supply and Use	Gibraltar	Replacement of power plants with a power station powered by diesel engines.	n/a
2	Adaptation: Effectiveness Focus	Biodiversity and Ecosystems	Bermuda	Bermuda Biodiversity Action Plan - Activity report 2010; The Bermuda Plan 2008	Stringent water conservation practices; environmentally-sound desalination operations; better weather forecasting; coastal zone management plan (building on Draft Planning Statement (2008))
			Gibraltar	Management and Action Plan for the conservation of Sites of Community Importance enforced; Marine Special Area of Conservation designated; Catalogue of living resources; Habitat and Species Action Plans.	Dolphin study; climate change studies.
3	Mitigation: Needs Focus	Energy Supply	Bermuda	Electricity for the entire Island is produced at BELCO's Pembroke location.	Public land/seabed allocated for utility-scale renewable electricity generation projects; generation licences for power producers and comprehensive interconnection standards; quality standards specifically for distributed renewable energy systems included in building codes; expedited planning processes for small-scale renewable generation; efficiency standards; energy auditing.
			Gibraltar	Replacement of power plants with a power station powered by diesel engines.	The use of biofuels to be encouraged by selling at lower price in petrol stations; adopt biofuels for Govt fleet.
		Transport	Gibraltar	New bus transport system introduced; free to children.	Reduction in the energy used for road transport (9% target for 2016); Car park and park and ride bus shuttle service construction planned; Increase in public transport times/routes; More free public transport.
4	Mitigation: Emissions Reduction Potential Focus	Energy Supply	Gibraltar	New power station has the capability to run on biofuels.	Adoption of renewable energy resources: wind, energy from waste and tidal current all considered technically viable.
			Montserrat	2008 Montserrat Sustainable Development Plan; shortly be upgrading its diesel based power station to more reliable 1.5 MW source	Exploitation of geothermal energy is a stated aim of the National Energy Policy; test drilling 2012; Geothermal energy is proved to be feasible, there is potential to generate up to 50MW of energy, with export of around 40MW to a neighbouring island; potential wind turbine sites at locations within the Blakes Estate although the new National Physical Development Plan for North Montserrat 2012-2022 zones this land for residential and recreational tourism;
		Transport	Gibraltar	Use of private vehicles discouraged	Car park and park and ride bus shuttle service constructed; increase in public transport times/routes; more free public transport.
		Business	Montserrat	New port development at Carr's Bay	Development of new town at Little Bay creates potential for incorporation of passive design principles; GoM Infrastructure Plan includes suite of potential low cost measures: energy efficient fans, water pumps, cooking appliances and behavioural change.
		Land Use, Land Use Change and Forestry	Montserrat	2008 Montserrat Sustainable Development Plan; New National Physical Development Plan for North Montserrat	National Physical Development Plan for North Montserrat 2012-2022
5	Mitigation: Effectiveness Focus	Business	BVI	National Tourism Policy & Development Master Plan; strengthening Building Regulations; Climate Change risk management protocols, Disaster Relief Fund, micro insurance schemes and mutual/cooperative insurance schemes, financing options for renewable energy installations.	Climate Change Trust Fund - funds would meet costs associated with diversifying tourism product; sub-regional/domestic emissions trading scheme that will ensure benefits are flowing from the UK and European carbon trading scheme; Carbon Levy on guests of hotels and charter yachts; Climate Change Financial Risk Management Levy on foreign registered companies and ships
		Residential	BVI	A National Physical Development Plan, Local Area Plans	Medium/long term implementation A National Physical Development Plan, Local Area Plans
		Waste Management	BVI	Energy & water conservation/efficiency standards;	n/a
		Land Use, Land Use Change and Forestry	BVI	National Tourism Policy & Development Master Plan; expanded protected areas; building & disaster management criteria; National Physical Development Plan; Local Area Plans	Medium/long term implementation A National Physical Development Plan, Local Area Plans

6	Standardised Policy Focus	Relevant to all sectors	Relevant to all OTs	Possibilities are: FCO sponsored pilot on environmental mainstreaming; Scaling up of FCO approach to	Mainstream climate change into existing policies and plans
7	Capacity Building Focus	Relevant to all sectors	Relevant to all OTs	Possibilities are: BAT: provision fo staff education under the Carbon Reduction Strategy. DFID support via	Prioritise interventions in the draft climate change policy and develop programme of capacity support to take forward
8	Next Step Approach	Relevant to all sectors	Relevant to all OTs	Possibilities are: Falklands: scale up wind farm technologies; Gibraltar: renewable energy legislation.DFID support via the ECACC programme and	Prioritise interventions in the draft climate change policy and develop programme of capacity support to take forward
9	UK Exposure Approach	Biodiversity and Ecosystems	Anguilla	Designation of one nationally protected (wetland) area and allocation of 7.5acre demonstration area for Department of Environment; draft climate change policy drafted and to be adopted in 2012;	Conserve existing wetland (saltpond) ecosystems and encourage wetland migration strategies; approve and implement a National Wetlands Policy; continuous monitoring and development of comprehensive bio-diversity baseline; development of an integrated coastal zone management plan which includes understanding the risk of flooding due to sea level rise and improvements to the national coastal monitoring system and system of beach profile data collection ; implement schemes for re-vegetation and re-nourishing beaches
			BAT	26 Specially Protected Areas and Marine Protected Area designated; Penguin distribution study; Wildlife awareness manual; Toolkit for the management of Protected Areas; Identification of important bird areas; Polar Science for Planet Earth project	Proactive management of key Protected Areas; Continuation of the penguin distribution study
			Falklands	Bio-diversity strategy in place. FIG sponsored environmental research, awareness raising, conservation and management activities. OTEP projects to conserve or collect species or restore plant habitats.	Species monitoring and species action plans in place.
			Montserrat	Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention); Vienna Convention for the Protection of the Ozone Layer;	protected areas/zoning; in situ conservation of endemic species and control of invasive species; revise port legislation re discharge; ensure protection of ghauts and vegetative strips and enforce all aspects of land use planning
			Gibraltar	Management and Action Plan for the conservation of Sites of Community Importance enforced; Marine Special Area of Conservation designated; Catalogue of living resources; Habitat and Species Action Plans.	Dolphin study; climate change studies
			SBAs	Special protection Areas designated; Turtle projects; Acacia Control Project	Designation of Special Areas of Conservation; MoU for Conservation of Migratory Birds of Prey in Africa and Eurasia
		Hydrology and Water Resources	Anguilla	New desalination water plant	Water harvesting, increased water storage and more effective maintenance of distribution network to reduce leaks; promote the use of water savings devices (low flush toilets etc); develop and implement national outreach and educational programmes; bring efficiencies to water desalination as technology improves and bring renewable energy sources on stream (wind and solar).
			BAT	Introduction of more efficient reverse osmosis plants; Introduction of water saving flow reduction valves	Implementation of a programme of water efficiency technology changes
			Falklands	n/a	Climate change modelling based on collected data.
			Gibraltar	Modernisation of fresh water distribution (saving of energy during desalination; seawater used for conveyance of sewage and other non-domestic purposes; Replacement of sea defences	Flood defences; Improvement of drainage infrastructure.
			Montserrat	Some adhoc water harvesting, (minidams, roof rainwater harvesting). Many assets not maintained and now in disrepair.	Protect groundwater sources from pollution; develop better water resource management and allocation systems; Opportunity for all new build at Little Bay and Carr's Bay.
			SBAs	n/a	Adoption of Concentrating Solar Power technologies for water desalination

		Tourism	BAT	n/a	Enhancement of UK expertise on tourism management
	Montserrat		Potential investments in the new town at Little Bay and the construction of a new port, if affected, would not reflect well in the international press.	Fiscal incentives to encourage sustainable tourism; integrate mainstream CC issues (impact, responses, opportunities) into tourism development strategy; recommended design speeds increased for new tourism-related structures; enhanced reef monitoring systems to provide early warning alerts of bleaching events, and; artificial reefs or fish-aggregating devices	
	Gibraltar		n/a	n/a	
		Transportation	SBA	n/a	n/a
	Montserrat		Potential investments in the new town at Little Bay and the construction of a new port, if affected, would not reflect well in the international press.	Integrate CC issues into current port design and the master plan development at Little Bay and other infrastructural development projects.	
	Gibraltar		New bus transport system introduced; free to children.	Car park and park and ride bus shuttle service construction planned; Increase in public transport times/routes; More free public transport.	
		Energy Supply and Use	Anguilla	n/a	Enhance efficiency of diesel power generation. Link into regional sources of energy arising from potential geothermal networks on Nevis and Montserrat. Customer educational policies to encourage energy efficiency; promote energy efficient technologies such as energy efficient light fittings and solar hot water heaters.
	BAT		Solar heating systems installed at 2 stations; Introduction of sub-metering more effective monitoring of energy consumption; Introduction of LCD screens	Adoption of renewable energy sources: wind turbine and solar photovoltaic systems; Energy efficient retrofits for research ships; use of unmanned aerial vehicles	
	Montserrat		2008 Montserrat Sustainable Development Plan; shortly be upgrading its diesel based power station to more reliable 1.5 MW source.	Exploitation of geothermal energy is a stated aim of the National Energy Policy; test drilling 2012; Geothermal energy is proved to be feasible, there is potential to generate up to 50MW of energy, with export of around 40MW to a neighbouring island; potential wind turbine sites at locations within the Blakes Estate although the new National Physical Development Plan for North Montserrat 2012-2022 zones this land for residential and recreational tourism.	
	Gibraltar		Replacement of power plants with a power station powered by diesel engines.	The use of biofuels to be encouraged by selling at lower price in petrol stations; adopt biofuels for Govt fleet; Adoption of renewable energy resources: wind, energy from waste and tidal current all considered technically viable.	
		Industry and Commerce	BAT	All infrastructures constructed with best practices in low energy design.	n/a
	Montserrat		Potential investments in the new town at Little Bay and the construction of a new port, if affected, would not reflect well in the international press.	n/a	
	Gibraltar		n/a	Incentives for import and use of highly efficient equipment.	
		Livelihoods/Poverty	Anguilla	n/a	n/a
	Montserrat		Invested heavily in irrigation infrastructure, training of farmers, livestock production units and a farmer's resource centre.	Government is investing in improved fisheries infrastructure and training to improve the quantity, quality and presentation of produce.	
	Falklands		n/a	n/a	
	Gibraltar		n/a	n/a	
		Human Health	Anguilla	n/a	n/a
	Montserrat		n/a	Public education and outreach; forecasting systems for Dengue Fever and other vector-borne diseases.	
	Falklands		n/a	n/a	
	Gibraltar		n/a	n/a	
10	Do Nothing Approach	n/a	n/a	n/a	n/a