

# Thinking Green Digest 2015



Department of the Environment  
and Climate Change

HM Government of Gibraltar





*Picture painted by [J.Caballero-iordel.com](http://J.Caballero-iordel.com)*

# Thinking Green

## Digest 2015

Produced by the Department of the Environment and Climate Change (DECC).

This document aims to present an overview of some of the work carried out during 2015 by DECC, as well as significant information relating to our environment.

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## Minister's Foreword

Man-induced Climate Change is real. The whole world has come to accept this, and at the Paris summit and since, the international community has embraced it in an unprecedented way. The medium to long-term threats to the very fabric of societies around the world are huge. The need for clean water and clean air for our physical health, the green areas for our mental health are well established. The obligation to both protect our environment and enhance biodiversity is understood by all, children and adults alike, if only using the success of TV documentaries such as Planet Earth II as evidence.

Surprisingly then, developments other countries in 2016, and possible developments coming in 2017, at first sight seem to question these very paradigms. The failure of those of us who care about the environment has been to allow other issues to overshadow the very real and very immediate problems that poor environmental governance bring and will bring.

I am therefore pleased, and proud, that in Gibraltar, both in 2015, the year under review in this publication, and since, we have steadfastly worked towards our environmental aims, achieving tremendous

improvements in our environmental stewardship, while seeing our economic performance progress unabated. It is possible therefore to count our money without having to hold our breath, to paraphrase an incisive comment by Guy McPherson, Professor Emeritus in Natural Resources and Ecology at the University of Arizona.

I am certain that you will enjoy reading this Digest as much as the incredibly dedicated team at the Department of the Environment and Climate Change has enjoyed working to deliver all that is reported herein.

As we face up to the challenges of the UK's exit from the European Union, an organisation at the forefront of international environmental legislation, and to which we owe so much, I am determined that our course towards a greener and more sustainable Gibraltar, with cleaner air, cleaner water, and greater biodiversity, continues without deviation.

Best Wishes,

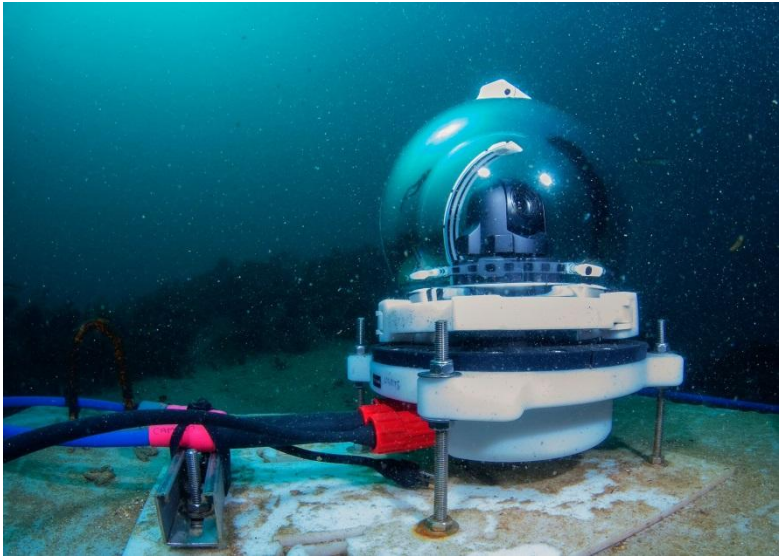
A handwritten signature in blue ink, appearing to read 'John Cortes', with a stylized flourish at the end.

Dr. John Cortes MBE, C.Env

Minister for Education, Heritage, Environment, Energy and Climate Change

# Our Natural Environment

Expanding Marine Monitoring Capabilities and New Marine Initiatives

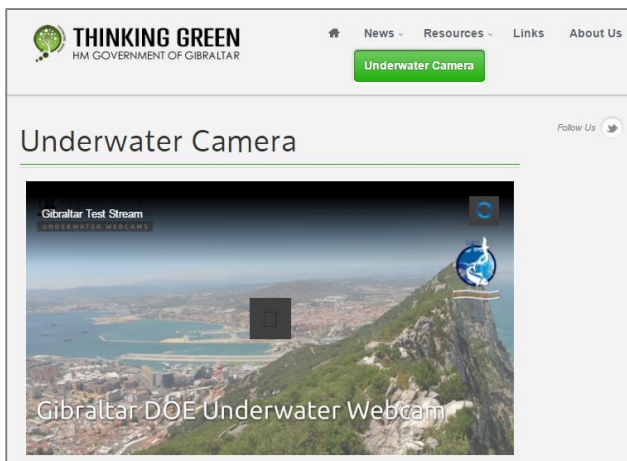


As part of HM Government of Gibraltar's drive to increase its marine monitoring and surveillance capabilities, the Department of the Environment and Climate Change (DECC), together with the US based company View into the Blue and Wright Tech Media,



have installed a state of the art underwater camera in the Gibraltar Marine Reserve which is the first of its kind in Europe.

The underwater camera forms yet another element of the wider marine surveillance programme carried out by the DECC to monitor the status of marine habitats and species within British Gibraltar Territorial Waters. A dedicated website has been created on the Department's Thinking Green website to provide local scientists and members of the public with real time footage of Gibraltar's rich underwater environment.



The website ([www.thinkinggreen.gov.gi/underwater-camera](http://www.thinkinggreen.gov.gi/underwater-camera)) also provides users with a simple fish identification guide that will be continuously expanded, together with a comments box to enable users to report any marine life activity. Additional cameras are expected to be installed within the Gibraltar Artificial Reef Network which was recently expanded with the sinking of the Sunswale off the South Mole; a well-known fishing and recreational diving area.

It has been nearly two years since the Artificial Reef Programme was re-invigorated by DECC with the creation of the North West Artificial Reef which has proven to improve marine life in the area. The reef modules themselves have been found to host an array of marine life such as sponges, ascidians, invertebrates and algae. Fish species such as bream, wrasse, congers and sea bass have also been identified within the reef area as well as octopus and cuttlefish.

A new programme involving chemical monitoring of fish and shellfish has also been developed by DECC in conjunction with the UK's Centre for Environment, Fisheries and Aquaculture Science (Cefas). The species sampled as part of the programme include White Bream and Common Mussels. Both of these are abundant species in Gibraltar's Coastal Waters. The results of this programme will complement the work carried out as part of the Department's coastal water monitoring programme as well as helping scientists within the Department to better understand the ecological status or health of Gibraltar's marine environment.

Minister for the Environment and Climate Change, Dr. John Cortes, commented, "We are making tremendous progress in increasing our knowledge of marine life, and significantly, in creating new habitat and supporting the regeneration of marine life. Our marine programme started from zero, and over the past three years has rocketed into a serious monitoring, conservation and educational programme, including some of the best technology deployed in Europe".

## Marine Ecosystem Restoration Programme

In addition to the creation of new reefs, DECC also embarked on a Marine Ecosystem Restoration Programme. This programme draws on historical sources of information and local expert knowledge to inform the re-introduction of species that were known to exist in the area such as fan mussels, oysters and seagrasses; the latter species being a tremendously important source of food, oxygen and habitat, as well as an excellent carbon sink.



DECC began carrying out small scale pilot projects at different locations to determine the most suitable site for seagrasses. The particular species of seagrass that was planted is "Neptune Grass (*Cymodocea Nodosa*)". This

species was known to be abundant within our waters, particularly towards the North of the Bay, although its presence has diminished over the years due to human activity, such as pollution and raking of the seabed.

DECC has worked closely with The University of Algarve's Centre of Marine Sciences (CCMAR) on this project.

September 2015 saw the transplanting of Neptune Grass from a donor site in Portugal. Professor Rui Santos from the CCMAR commented that he was 'extremely pleased with the progress that had been made so far'.

The marine survey conducted by the Department's Dive Team along with the CCMAR showed that previously transplanted seagrass was actually sprouting indicating that the plants were adapting well to Gibraltar's marine environment.

The public is reminded that they are able to view the underwater surveys and the seagrass beds in real time by logging into the underwater camera website ([www.thinkinggreen.gov.gi/underwater-camera](http://www.thinkinggreen.gov.gi/underwater-camera)).

The Department's Dive Team will continue to monitor the newly planted seagrass beds and provide further details on the next phase of the restoration as this becomes available.



## Coastal and Ground Water Sampling

Under the EU water policy of the Water Framework Directive, DECC has, since 2009, conducted a monitoring programme of Gibraltar's coastal waters. The coastal waters are managed by DECC under the coastal water management plan.

It is by far the most elaborate exercise ever undertaken with regards to assessing the state of our coastal water. Water quality samples are being collected on a monthly basis.

The monitoring programme is meant to address any pressures that could potentially affect our coastal environment. Results gathered from this monitoring project are providing DECC with an accurate picture of Gibraltar's coastal waters; whilst also providing a basis for future decision making, in terms of aiding the implementation of any necessary programme of measures that need to be introduced, to ensure that our water quality is maintained at a good level.





*Environment Officers groundwater water sampling*

Environment officers at DECC use a variety of instruments to determine the quality of coastal water, including secchi disks (to measure water clarity), probes, nets, gauges and meters.

The Department also collects groundwater data from the two aquifers found in Gibraltar, the bedrock aquifer and the Northern Isthmus aquifer.

Water quality is not just measured by direct sampling. Information is also being derived by observing the surrounding environment such as the seashore and by collecting organisms that live in our coasts, such as plankton.

## Minister for the Environment and Climate Change at High Level Meetings in Geneva

Minister for the Environment and Climate Change, Dr. John Cortes, travelled to Geneva, Switzerland for a number of meetings, following on from last year's workshop on Sustainability organised in Gibraltar. Dr. Cortes was accompanied by Prof. Daniella Tilbury, in her role as adviser to the UN on Sustainability.

The first meeting, at the Palais des Nations, the United Nations Geneva Headquarters, was with the Chief of Environment for Europe and Sustainable Development Section of UNECE (United Nations Economic Commission for Europe) Zaal Lomtadze, together with members of his team.

Dr. Cortes also held a meeting with Inger Anderson, the Director-General of IUCN, the World Conservation Union, together with Enrique Lahman, Global Director for Union Development. This visit was of particular interest to Dr. Cortes, as he has worked with IUCN for several decades and recently achieved membership for DECC to follow from the membership by GONHS (the Gibraltar Ornithological and Natural History Society) that he had previously spearheaded.

Inger Anderson was familiar with nature conservation work in Gibraltar and was impressed with the progress being made in environmental policy on the Rock. Following the meeting, the Director-General tweeted:

"Plsd to meet Minister of Env @cortes\_john #Gibraltar. Bravo#Gibraltar 4 great progress on #conservation"



A third meeting was held with Jan Dusik, Director of the Regional Office for Europe of UNEP, the United Nations Environment Programme, and Wondwosen Kibret, UNEP's Programme Officer, for Civil Society.

The meetings served to strengthen Gibraltar's international links and credentials. Dr. Cortes showcased the huge progress made in environmental governance in Gibraltar over the last three years. He also explained plans for future greening of Gibraltar including cleaner power generation, nature conservation and waste disposal. There was a great deal of support for, and interest in, Gibraltar from all the different institutions, with future collaboration and participation in initiatives being discussed and planned.

Dr. John Cortes stated "It was a hugely successful and motivating visit. The reception that Gibraltar received from both the UN Agencies and the IUCN was tremendous. I was very proud that these entities, the top in the world in Environment and Sustainability, were already informed of the work we are doing here. I was most encouraged. We are now planning a number of initiatives which will benefit Gibraltar and its international standing further. It's given me a great boost of energy to continue on this journey".

## Cemeteries Bill

HM Government of Gibraltar published the new Cemeteries Bill as a Command Paper. The Bill is for an Act to replace the Cemetery Act (commenced 1889) which is outdated and required review.

The existing Act only applied to the cemetery at the North Front and appointed a Superintendent of the cemetery to manage the cemetery, together with a Keeper subject to his instructions. A Board of Visitors was established to advise the Superintendent and bring to his attention any matter which in its opinion affected the management and control of the cemetery.

The fine to be issued for persons making a disturbance was £5 and together with the prescribed fees as contained in the accompanying Cemetery Rules, the Act did not reflect the current times.



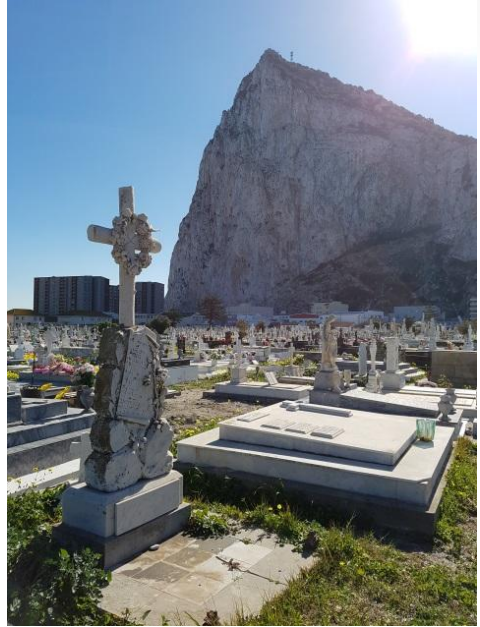
The main changes in the new Act include:

1. The application of the new Act will not be limited to the cemetery at North Front, but now applies to all Cemeteries located in Gibraltar which are under the control of the Government of Gibraltar.

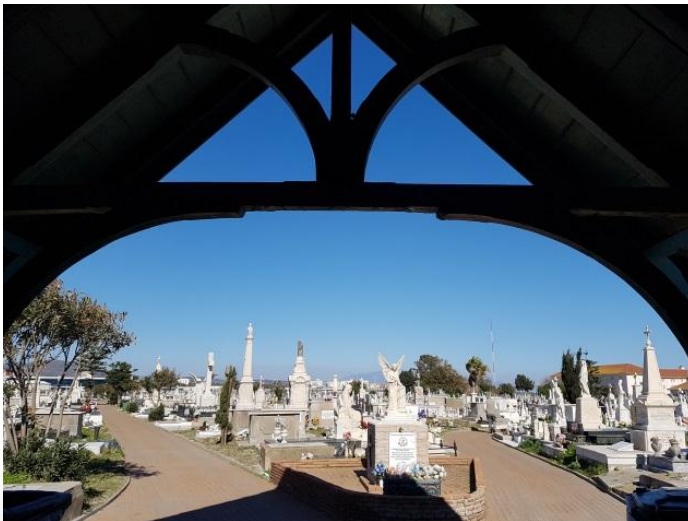


2. The post of Superintendent of Cemetery disappears and is replaced by a Cemetery Authority. The Cemetery Authority shall be responsible for the general management and supervision of the cemetery and registration and control of burials. The role of Keeper (in the new Act referred to as "Cemetery Keeper") shall continue and he/she shall be under the direction of the Cemetery Authority.
3. The Board of Visitors established under the current Act remains, save that now it:
  - a) is known as the "Cemetery Board";
  - b) advises the Cemetery Authority on matters concerning its powers, functions and responsibilities under the Act; and
  - c) brings to the attention of the Cemetery Keeper any matters relating to the upkeep of the cemetery.
4. The definitions of burial rights, and who may construct a grave or vault on a pre-identified plot, and on how records are to be maintained are expanded.
5. Offences in the cemetery are not taken lightly and the fine for any person who creates a disturbance or nuisance has been increased from £5 to a fine not exceeding level 3 on the standard scale, i.e. a £1,000 fine.

The new Bill went through a two week public consultation before being published.



*Different aspects of North Front Cemetery*



## Swift boxes go up around Gibraltar

As part of DECC's drive to enhance the natural environment, a programme aimed at installing swift, and bat, boxes around Gibraltar is being carried out.

It has been a longstanding condition in the planning process for developments to have to replace swift nest sites that are removed during works, but the Government is now determined to lead by example and is installing boxes in public buildings.



Older buildings in Gibraltar were constructed using traditional methods, leaving gaps under the eaves and gables. These have long been used by swifts for nesting. However, modern building styles and techniques have had an adverse effect on the local swift population by eliminating much of the habitat that these birds use for nesting in built-up areas.



Two species of swift nest in built-up areas in Gibraltar; the Common Swift characterized by its dark, almost black colour and the Pallid swift, which is paler brown. These fast moving birds with sickle-shaped wings signal the start of the spring and are a characteristic feature of spring and summer skies in Gibraltar. Their screaming parties wheeling between and over buildings are a feature of much of the Town, and are part of Gibraltar's urban heritage.

Buildings where swift boxes have been placed include St. Bernard's Hospital and the Gibraltar International Bank. In addition, swift nest sites that were removed during works to the bank were restored while the swifts, which spend the winter in Africa, were away, and holes were purposely made to allow them to continue to nest in this traditional site.

It is hoped that the installation of the nest boxes, along with the promotion of more eco-friendly building designs, will help increase local swift population numbers. In return, they'll help keep down the number of mosquitos during the hot summer nights!





## Bluefin Tuna Fishing Season



DECC informed all recreational anglers that the open season for Bluefin Tuna in British Gibraltar Territorial Waters was to commence on Tuesday 16<sup>th</sup> June 2015. Anglers were informed that a Class K license was required to fish for Bluefin Tuna in Gibraltar. Both Application and Tuna Catch forms were made available online from DECC's website (<https://www.gibraltar.gov.gi/new/marine-protection-permits>).

Any Bluefin Tuna caught within British Gibraltar Territorial Waters must now be reported to the Department of the Environment. A dedicated office and landing point was created within the North Mole (No. 1 Jetty) where anglers were able to dock against the jetty to weigh and report any tuna catches between 08:00 and 14:30. Any catches landed between 14:30 and sunset could also be weighed and reported by contacting the on-call landing point staff. The landing point staff would assist

anglers in completing the required catch form. Alternatively, anglers would also be able to submit the required catch forms electronically to:

[catches@marinemanagement.gi](mailto:catches@marinemanagement.gi) or  
[info.environment@gibraltar.gov.gi](mailto:info.environment@gibraltar.gov.gi)

within 24 hours of landing a tuna.

The closure of the Bluefin Tuna Fishing Season came into effect on Thursday 15<sup>th</sup> October 2015.



## Bathing on Western Beach

Western Beach consistently had excellent bacterial water quality prior to 2010. Since then, and especially during periods of rainfall in the winter months, there have been episodes associated with sewage discharges from a storm water drain from La Linea which significantly affected the bacterial water quality at this beach. Nevertheless, it was possible to open Western Beach since bathing water quality was acceptable from an EU bathing water perspective during this period.

The EU Bathing Water Directive stipulates two sets of bacterial bathing water standards known as Mandatory and Guideline values, the latter being more stringent. Bathing is allowed when either of these values are met.

During 2015, bathing water quality was found to meet the mandatory values consistently and the beach was therefore open as from the 12<sup>th</sup> June. A protocol to protect public health was also implemented.

The protocol was as follows:

- The sampling regime will be maintained at three times a week, i.e. 6 times the recommended minimum sampling period stipulated in the Bathing Water Directive.
- Visual and olfactory inspections will be carried out on a daily basis. Any pollution detected will be assessed and, if deemed necessary, the beach will be closed until such time sample results confirm that EU values are met.
- Similarly, when there is deterioration in the bacterial water quality and the mandatory values

are not met, the beach will be closed and the sampling frequency increased to daily samples. This will continue until the authorities are satisfied that bathing water quality meets EU values at which time the beach will be reopened.

- As bathing water quality may be influenced strongly by rainfall, the beach will be closed during periods of heavy rain.
- In the above situation, the sampling frequency will be increased to daily until it is ascertained that the EU values are being met, at which time the beach will be reopened.

The bathing water quality sampling results continue to be published on the Environmental Agency website (<http://www.environmental-agency.gi/beachresult.php?beachid=6>) and in the GibEnviro smart phone App.



In addition to publishing the results on the web, the Government has introduced a notice board at Western Beach where the latest results of the bathing water quality programme will be displayed and updated in parallel to the Environmental Agency's Website. This notice board is prominently displayed at the official point of entry to the beach. The bathing Water Quality will be displayed by a simple indicator based on three coloured square plates; green, yellow and red.



**Bathing water quality passes Mandatory EU standards. Bathing permitted at your own risk.**



**Bathing water quality passes EU Mandatory standards but fails guideline values. Bathing permitted at your own risk.**



**Bathing water quality fails to meet EU standards. Bathing not allowed.**

Routine bathing water samples are taken on Mondays, Wednesday and Fridays, since bacteriological analysis of bathing water requires at least 48 hours before the complete results are available. The above indicators will, under normal circumstances, illustrate the quality of the bathing water on the preceding Monday, Wednesday or Friday of any week.

## Barbary Macaque Management Plan



*Barbary Macaques (Macaca sylvanus). Photo: Eric Shaw*

The Minister for the Environment and Climate Change unveiled the works carried out in selected areas of the Gibraltar Nature Reserve to improve access to freshwater and foraging habitat for Gibraltar's macaques along with other wildlife in the reserve. The works include the clearing of undergrowth to increase foraging grounds, the provision of shaded feeding areas as well as the creation of five natural ponds in key sites within the reserve at Apes' Den, Prince Phillip's Arch, Middle Hill, Royal Anglian Way and Rock Gun.

The measures form part of the wider Macaque Management Plan in preparation and are intended to improve the macaques' natural foraging behaviour whilst at the same time reducing the chances of the animals venturing into urban areas. Increased resources have also been provided to the Macaque Management Team to help implement these measures.

# Gibraltar River Basin Management Plan 2015-2021



Department of the Environment  
and Climate Change  
HM Government of Gibraltar

## Gibraltar River Basin Management Plan 2015 – 2021

Main Report

Water Framework Directive

September 2015



Under Article 13 of the Water Framework Directive (2006/60/EC), Member States are required to submit River Basin Management Plans for each river basin district within their territory. These plans must be reviewed and updated every six years and the first review cycle ended in 2015. This plan has been prepared to cover a second six-year cycle from 2015 to 2021. At that point the plan will be updated again and subjected to further planning and consultation.

The aim of the Water Framework Directive is to establish a framework for the protection of all inland, groundwater and coastal water bodies to:

- Prevent deterioration and to protect and enhance aquatic ecosystems;
- Promote sustainable use of water to protect water resources in the long term;
- Enhance protection and improvement of the water environment through a progressive reduction in pollution;
- Mitigate the effects of floods and droughts.

River Basin Districts are the main areas used to coordinate the management of the water environment through the Water Framework Directive. The term is used to delineate areas that combine river basins and their associated transitional waters and coastal waters. The Gibraltar River Basin District (although a slightly misleading term, as there are no rivers in Gibraltar) encompasses the whole of Gibraltar and its coastal waters extending out to one nautical mile from the coast. This report summarises the status of Gibraltar's River Basin District, pressures and impacts on water quality and the objectives for water body classification up to 2027, as required by the Water Framework Directive.

The report has been produced on behalf of the Government of Gibraltar, who has primary responsibility for carrying out compliance with the Water Framework Directive and reporting the findings to the European Commission.

This document can be found on DECC's webpages within HM Government of Gibraltar's website.



## Sustaining Partnerships: a conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island communities

On 11<sup>th</sup> July 2015, conservation workers, scientific researchers, representatives of civil society environmental groups, and government's environmental departments from across the UK Overseas Territories, met in Gibraltar for a 5-day gathering. The purpose was to exchange best practice, discuss successes, explore innovations and forge partnerships with the overall aim of ensuring that the wildlife and the ecosystems of the UK Overseas Territories and Crown Dependencies are secured for future generations. Over 90% of the global biodiversity for which the UK has responsibility under international agreements depends on these territories and their ecosystems are vital too for services to humans.

The conference was organised by HM Government of Gibraltar and the UK Overseas Territories Conservation Forum (UKOTCF), with support from the Gibraltar Ornithological and Natural History Society. Seventeen UK territories were represented, several up to ministerial level, as well as nine other countries, with over 100 participants in total.

Blue iguanas, mountain chickens (a threatened frog species), spiky yellow woodlice, sea turtles, gigantic whales and millions of albatross all have homes in the UKOTs. Many are not found anywhere else on Earth. Each UKOT has a set of unique challenges but they all share some similarities – for example, small human populations, often remote locations, many are low-lying

islands, and small land areas. This means that many of them face the same pressures, for example, those caused by climate change and sea-level rise, unsustainable development, and alien species introduced by humans.

Safeguarding the natural environment is as important for the services this provides to people as for habitats for this vulnerable and unique wildlife. Sharing of knowledge is a powerful tool and, since the first of this series of working meetings to be organised (also in Gibraltar, in 2000), several initiatives and projects have been launched. These include: invasive species removals, scientific surveys and research, economic evaluation projects in several UKOTs, pilot work on tourism to protect wildlife, increased support from UK institutions and UK Parliament and input into EU funding policy.

The use of drones, remote sensing, apps and citizen science to monitor and carry out survey work; the use of controlled burns and native nurseries to save species from extinction; the use of satellites for surveillance of illegal fishing; the importance of environmental economics and putting a price on nature and how to manage fisheries sustainably: these are just some of the concepts which were discussed and shared. Some of the novel ways in which Gibraltar is dealing with its challenges to its unique biodiversity and environment were also at the forefront of what was discussed.

The discussions enabled participants to find new ways of working in addition to allowing them to learn from others on how to approach various challenges, which are experienced in similar situations across all the UKOTs.



The UK Overseas Territories are part of the UK's sovereign territory, and their citizens are British citizens. The 16 UK Overseas Territories are: Anguilla, British Virgin Islands, Cayman Islands, Montserrat, and the Turks and Caicos Islands in the Caribbean; Bermuda in the North Atlantic; Ascension Island, St Helena, Tristan da Cunha, Falkland Islands, South Georgia & the South Sandwich Islands, and British Antarctic Territory in the South Atlantic; British Indian Ocean Territory; Pitcairn Islands in the Pacific; and Gibraltar and the Cyprus Sovereign Base Areas in Europe.

UKOTCF also works closely with the Crown Dependencies (the Isle of Man, Jersey, Guernsey, Alderney and Sark). Like the UKOTs, they are territories of the British Crown, but not represented in the UK Parliament nor funded through the British domestic budget.

## Environment Ministerial Meeting

Environment Ministers from the UK Overseas Territories (OTs) and Crown Dependencies (CDs) gathered together for the first time ever in Gibraltar's Garrison Library on the 16<sup>th</sup> July 2015 to consider the environmental challenges facing the Territories. Present at this Ministerial Meeting were representatives from Gibraltar, British Virgin Islands, Isle of Man, Alderney, Turks and Caicos, Falkland Islands, Tristan da Cunha and Montserrat, with Cayman present through Skype and other territories involved electronically.

The session was opened by the Chief Minister, the Hon Fabian Picardo, who stressed the importance of good environmental governance, and chaired by Minister for the Environment and Climate Change Dr. John Cortes.

In agreeing unanimously that the overriding problem facing all our communities, and the world at large, is the consequence of climate change, the Ministers and other high level representatives discussed ways of pooling resources in order for the OTs and CDs to play a bigger role at an international level.

It was agreed that the Environment Ministers' 'syndicate' should enhance ways for Ministers to remain in contact in real time and should meet annually to drive the environmental agenda, not just within the UK Territories, but in the wider context of small states and islands. The issue of energy transition, with increasing use of renewables was a key priority, as was the need to include the economic value of the environment in financial planning.

It was also agreed to use electronic means to share information between environmental scientists and officials, allowing access to expert reports and assessments across territories. This will reduce the cost of expert advice and will pool resources, which will increase the sharing of experience and expertise. This initiative will be run from Gibraltar by DECC.

Other initiatives for cooperation, action and greater participation at a global level, were also agreed and rolled out over the following months, including a recommendation to increase the emphasis placed on the environment at the annual OT Joint Ministerial Council in London.

Due to the success of this first meeting, Ministers (or their equivalents) expressed a desire to continue to meet on an annual basis.



## Improvement works in the Gibraltar Nature Reserve

**April 2015**

Ongoing improvement works in the Upper Rock area of the Nature Reserve were unveiled on the 23<sup>rd</sup> April 2015 by the Minister for the Environment.

Refurbishments and improvements to Mediterranean Steps and Inglis Way were completed. In addition the area of Genoese Battery was completely refurbished and is now open to the public.

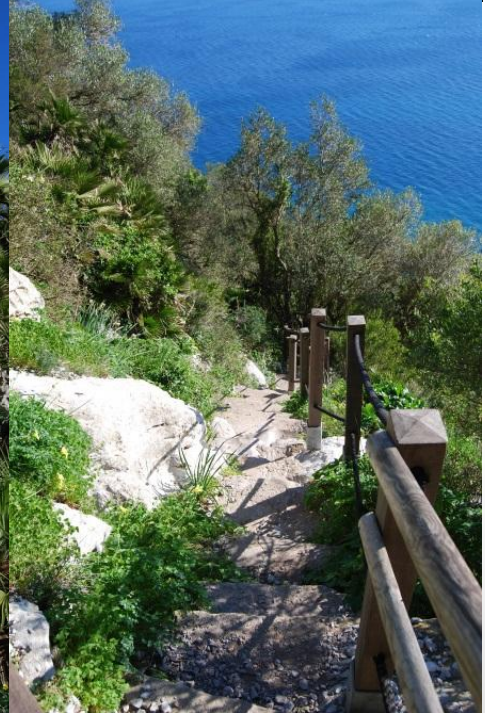
Extensive works were also carried out to Anglian Way, with a long-overgrown path having been opened, linking this to the Queen's Lookout. Part of Anglian Way was temporarily closed whilst works to the next phase continued.

Signage was also erected to highlight the network of paths, and an App called "Upper Rock Paths" was made available to the public.

At the end of the process, a full network of paths on the Upper Rock was made available, opening up many new areas to the public.

These schemes represent dramatic improvements and a revitalization of our foremost tourist product and one of our greatest natural treasures.

The Government has invested considerable effort in improving the Nature Reserve for the benefit of locals and tourists alike. We would like to remind the public that we all have a role to play in maintaining the area.



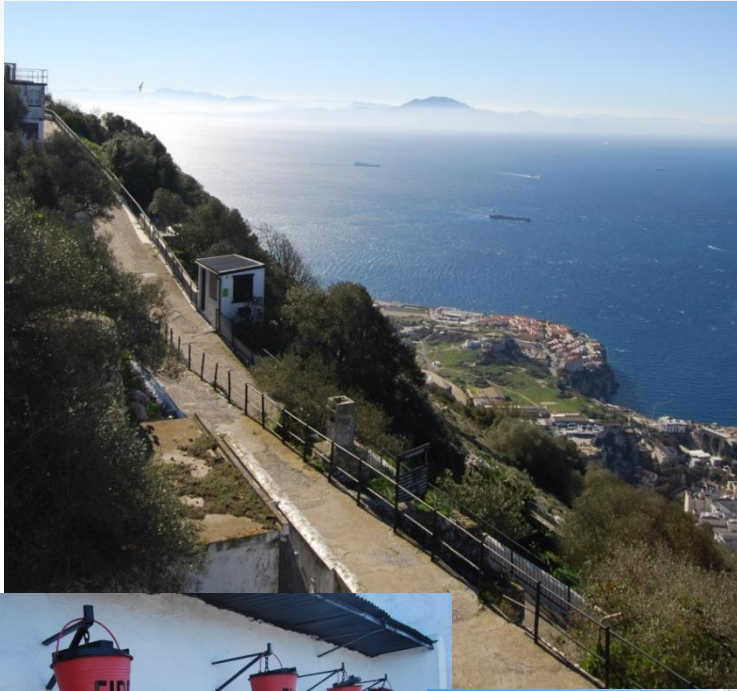
## August 2015

In line with Government's programme to improve the Upper Rock, the Gibraltar Nature Reserve Management Team completed a number of projects in different areas of the Upper Rock such as the Governor's Lookout, O'Hara's Battery and Jew's Gate. The works carried out included the renovation of a dilapidated building that will be used by the Gibraltar Astronomical Society, upgrading facilities for the recently deployed Environmental Security Guards in the Upper Rock and carrying out much needed maintenance works for the Gibraltar Scouts Association's training site.

During August and September 2015, the team continued to carry out general maintenance works in the Upper Rock, under the supervision of DECC, with particular emphasis on upgrading picnic areas, restoring roadside balustrades and water tanks, clearing undergrowth and improving key paths such as the Mediterranean steps. These measures all form part of the wider Nature Reserve Management Plan.







## December 2015

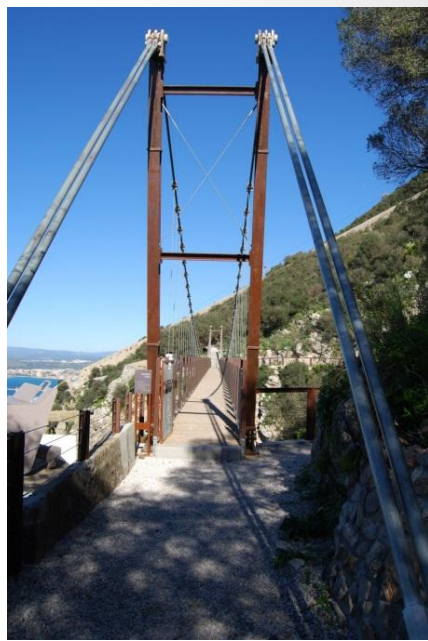
The programme of improvements continued right up until the end of 2015. The latest area to be improved and restored was Anglian Way, which was cleaned with new fencing provided and picnic tables and seats added. In addition, another series of historical monuments within the complex were also uncovered and cleared of debris after decades of neglect.

Works consisted of removing many tons of rubble, metal sheeting and accumulated rubbish, cutting back vegetation, adding of balustrades and other safety features, creating picnic areas with bins, signage and way-finding (visible along the roads) to create a homogenous visitor experience, and opening up of previously sealed tunnels and chambers.

This adds to and complements the extensive works that have been carried out during 2015 to the Northern Defences and Genoese battery, as well as earlier work in restoring the Footpath to Town.

All this work is part of the Upper Rock experience. It is an experience not just for nature lovers but also aimed to attract those who enjoy history or just wish to do some training away from our urban centre.





## Gibraltar's Marine Monitoring Programme

HM Government of Gibraltar sought views from the general public regarding the updated Marine Monitoring Programme for British Gibraltar Territorial Waters (BGTW) to measure progress towards achieving and maintaining Good Environmental Status (GES) in our seas by 2020. The Marine Strategy Framework Directive (MSFD) requires that Member States put in place measures to achieve or maintain GES in their seas by 2020.

Gibraltar's Marine Monitoring Programme covers monitoring proposals for each of the eleven Marine Strategy Framework Directive descriptors.

These relate to:

- Biological diversity
- Non-indigenous species
- Fish and shellfish
- Food webs
- Human-induced eutrophication
- Sea floor integrity
- Hydrographical conditions
- Contaminants
- Contaminants in fish and other seafood
- Marine litter
- Introduction of energy (including underwater noise)

The public consultation period lasted six months and was held between August 2015 and February 2016.

## Marine Sightings

During 2015, DECC, with the help of members of the public, have kept a record of marine sightings within British Gibraltar Territorial Waters (BGTW).

The table below shows some of the sightings recorded by DECC. As can be seen below, the species observed are recorded in addition to when and where they were spotted.

Date	Time	Species Observed	N° Individuals	Coordinates/ Approximate Location
12/01/15		Blue Spotted Cornet Fish	1	Camp Bay
09/03/15		Orca	5	1nm West S.Mole
16/05/15	1924	Common Dolphin	1	North west of the Bay
25/05/15	1700	Sperm Whale	8	2nm SW Europa Point
26/05/15	1340	Bottlenose dolphin	2	Inner Harbour
17/04/15	2015	shark	1	Eastern Beach
28/05/15	1428	Common Dolphin	1	North west of the Bay
09/07/15		Fin Whale	4	1nm East off Catalan bay
17/06/15	1635	Fin Whale	2	1nm East off Catalan bay

18/06/15	1200	Fin Whale	1	1nm East off Catalan bay
18/06/15	1000	Beaked whale	1	0.5nm West off Camp Bay
20/06/15	1141	Sperm Whale	2	SW Europa point
25/07/15	1100	Fin Whale	5	2.5nm SE Europa Point
07/08/15		swordfish	1	1nm South Europa point
20/09/15		Eagle rays	2	Seven sisters underwater camera
27/08/15	1917	Hammerhead shark	1	Territorial boundary S Europa Point
27/08/15	1650	Dolphin	1	1 nm west SM
20/09/15	822	Eagle rays	1	Seven sisters underwater camera
29/10/15	1340	Bottlenose dolphin	14	0.5 nm east of Ghorams cave
21/11/15		Fin whale	2	1.5nm East Catalan Bay



*Dolphin with a plastic ring as a result of marine plastic pollution.  
Photos by Rocio Espada*



*Blue Spotted Cornet Fish. Considered an invasive species in BGTW.  
Photo by Brian Gomila Snr.*



Rocio Espada©

*Orca spotted in  
the Bay of  
Gibraltar. Photos  
by Rocio Espada*



Rocio Espada ©



*Sperm  
Whale  
spotted in  
the Bay of  
Gibraltar.  
Photo by  
Damian  
Vazquez.*



## Cetacean and Reptile Strandings

Below is an example of the data compiled during 2015 with regards to all Cetacean and Reptile Strandings which took place in BGTW.

Three of the strandings mentioned in the table below and in the following two pages, have been expanded on, and presented in further detail to follow within the Digest.

<b>Date</b>	<b>Time</b>	<b>Species</b>	<b>Location Found</b>	<b>Action / Comments</b>
20/07/15	1843	Juvenile Striped Dolphin	West Aero Buoy	Staff informed
23/08/15	1100	Female Common Dolphin	0.5nm West off Detached Mole	Dolphin was observed to have been opened. Large Slit, lungs and liver missing. It is possible that is has been dissected by fishermen to extract the lungs which are reportedly used as bait by some.

Date	Time	Species	Location Found	Action / Comments
26/12/15	1335	Juvenile Striped Dolphin	Catalan Bay	Dolphin rescued. Transported to the Bay and released with a pod of striped dolphins
06/09/15	1214	Juvenile Striped Dolphin	Inner Harbour RGP/GDP Base	Collected and transported for measurement recording. No visible markings to determine cause of death.
12/09/15	1415	Adult Common Dolphin	South Mole	Collected. Lots of small lacerations and damage to eye and body. Possibly from crashing against the rocks.
22/08/15	1820	Leatherback Turtle	1.5nm S Europa Point	Observed to have been deceased for quite some time. Not possible to identify cause of death.
15/09/15		Juvenile Loggerhead Turtle		Collected. Flaking shell and swollen. Not possible to identify cause of death.

<b>Date</b>	<b>Time</b>	<b>Species</b>	<b>Location Found</b>	<b>Action / Comments</b>
17/09/15	1344	Sub-adult Striped Dolphin	1.5nm S Europa Point	Collected and transported for measurement recording.
02/11/15	1018	Juvenile Striped Dolphin		Collected and transported for measurement recording. Damage to beak and side. Rigamortis noted. No visible cause of death.
22/12/15	1210	Loggerhead Turtle	North End Eastern Beach	Collected and transported for measurement recording. No visible markings present to determine cause of death.

## Wildlife Rescue

The first weekend in September saw the successful rescue of a juvenile Striped Dolphin in the area of Western Beach/Marina Bay. The calf was approximately two weeks old and had moved into shallow waters after becoming separated from its mother. The Calf was spotted by a resident from Waterport Terraces and DECC's Environmental Research and Protection Unit (ERPU) was notified. A joint operation between ERPU and HM Customs, with assistance from Dolphin Adventure staff, ensued and the calf was caught and taken out to sea where it was released to increase its chances of survival.

However, a few hours later, the calf made its way back into the area in question and grounded itself on Western Beach, a scenario which the Department of the Environment feared could happen. Members of the public quickly attended to it and once again the ERPU was notified and a second attempt made to release the animal.

Luckily, the Environmental Protection Officers found a pod of Striped Dolphins in the Bay and released the young calf amidst its own kind with the hope that the pod would accept it. The ERPU continued to patrol our waters and there were no further sightings of the calf.

HM Government of Gibraltar thanked the officers involved as well as the members of the public for their response and assistance.

## Boxing Day Dolphin Rescue

Officers from DECC were called out on Boxing Day to attend to a young Striped Dolphin which was in distress at Catalan Bay. When the officers arrived on scene, the young dolphin, believed to be around 4 to 5 years old, was being held on the southern end of Catalan Bay by members of the public who had braved the elements and gone into the sea to move the dolphin to a safe location as it was being thrust against the rocks by the waves. There had been previous attempts by a member of the public to guide the animal out to sea but this proved unsuccessful as a result of the bad weather.

The first officers on the scene implemented the dolphin rescue protocol and carried out an initial inspection of the animal that had numerous superficial wounds. Although showing signs of stress, the animal was breathing well and showed no life threatening injuries prompting the officers to release the animal as soon as possible.

Unfortunately the sea conditions on the east side did not allow for a marine based deployment. As the rest of the team arrived, the young people on the scene, who had now been in the cold sea for over an hour, assisted the officers in moving the dolphin which was taken to the Department's marine base. HM Custom's officers were quick to assist and the dolphin was released successfully in one of HM Custom's RHIBs. The Department continued to monitor the dolphin after its release to ensure it was coping well.

The Department would like to take this opportunity like to thank all members of the public who reported the incident and took responsible action to save the dolphin's life and assisted the Department in the rescue.



## Endangered Turtle found dead on Eastern Beach

The remains of a female loggerhead turtle were washed up on Eastern Beach on the 22<sup>nd</sup> December 2015, bringing into sharp relief the plight of this endangered species of nomads of the sea.

Loggerhead Turtles migrate across the entire globe, so it is possible that this animal travelled tens of thousands of kilometers in its life before ending up here. The International Union for Conservation of Nature and Natural Resources estimates that there are only 60,000 nesting females in the world.

The turtle that washed up in Gibraltar was aged between 18 and 35, according to local conservationists, and was in the prime of its life. It weighed over 50 kilograms and was almost a metre long.

The remains were intact and the most probable cause of death was asphyxiation. The turtle had no physical signs of injury from propellers or fishing gear.



## Sandy Bay Regeneration

The Sandy Bay regeneration project was completed by HM Government of Gibraltar in June 2014. The regeneration works have completely transformed Sandy Bay from being almost non-existent into a sizeable beach that can be enjoyed year round. The project included two curved groynes and a conjoining submerged frontal breakwater. These were designed and constructed to protect the beach from the full impact of wave action, trap shifting sand and provide a new micro-environment for marine life.



DECC's Dive Team conducted regular marine life surveys of the groynes and breakwater, the results of which revealed the clear enhancement of marine biodiversity in the area. Sponges, ascidians, invertebrates, algae and a large number of fish species such as bream, wrasse, gobies, flounder and mullets were identified as well as octopus, crustaceans and echinoderms.



The Sandy Bay groynes and submerged breakwater have evidently become an important breeding ground or nursery for marine life on the Eastside and the inner sections have therefore been afforded legal protection under the Marine Protection Regulations 2014 as a No Fishing Zone.



## Strongest Environmental Governance amongst UK Overseas Territories

Gibraltar was ranked as THE leader in environmental governance amongst the UK Overseas Territories. The Royal Society for the Protection of Birds (RSPB) conducted an analysis which aims to qualify the significant progress made towards high level pledges on environmental governance. The outcome of this analysis reports that Gibraltar once again emerges as the Overseas Territory with the strongest level of environmental governance, and the only territory that was rated as strong across the board.

In separate letters to the Minister for the Environment, Dr John Cortes, and to CEO of DECC, Dr Liesl Mesilio, Jonathan Hall, Head of UK Overseas Territories Unit of the RSPB states: "Congratulations to all involved in this achievement. Building on the successful environmental conference that Gibraltar hosted this summer, we hope that Gibraltar may continue to play a key role in environmental leadership amongst the Territories, and further assist in helping to raise standards where practicable".



# Energy



## Earth Hour



Earth Hour is a global environmental movement of WWF that mobilises hundreds of millions of people to make a difference for the planet. Its core vision is to create environmental impact by utilizing the power of the crowd.

Every March, Earth Hour celebrates the symbolic “lights off” hour; which has grown from a one city initiative to a mass global event, involving more than 162 countries and 7000 cities and towns. The movement is collectively supported by millions of individuals, organisations and governments.

WWF's Earth Hour took on its biggest challenge to date in 2015 by strengthening focus on the globe's main environmental challenge – climate change. As the opportunity for action on climate change peaked in 2015, the world's largest grassroots movement raised its voice to change climate change. The ninth edition of Earth Hour rolled across the globe at 8.30pm on Saturday 28<sup>th</sup> March 2015, only months before a new global climate deal was expected to be agreed.



During this weekend, Gibraltar also took part. The Gibraltar Electricity Authority switched off the illuminating lights of the Rock Face and Moorish Castle but local public support was also seen from local businesses and families.

Switching off and other energy efficiency actions reduce pollution and save power and money.

**Remember – Every Action Counts.**



## Energy Performance of Buildings Assessor Training (EPCs)

HM Government of Gibraltar re-doubled its efforts to contribute to the fulfilment of Europe's Kyoto Protocol commitments to combat the threat of climate change. 40% of the EU's carbon dioxide emissions come from buildings and experts estimate that it could meet up to half of its Kyoto commitments through energy efficiency measures alone.

The Energy Performance of Buildings Directive (EPBD) is an EU directive aimed at reducing the amount of energy consumed by buildings in an attempt to reduce carbon emissions and was transposed into Gibraltar legislation by the Environment (Energy Performance of Buildings) Regulations of October 2012. These Regulations contain a section on conservation of fuel and power to reflect minimum energy performance standards.

The Simplified Building Energy Model Gibraltar (SBEM-GI) was developed by the Building Research Establishment, as part of Gibraltar's commitments under the EPBD. This is the official Government approved methodology used to calculate the energy performance of dwellings and non-domestic buildings, as well as to carry out building regulations compliance checks.

DECC offered a training course on the SBEM-GI as an opportunity for new individuals to join the list of Government accredited energy assessors for the production of Energy Performance Certificates (EPCs).

The Building Research Establishment delivered a two day course on the use of the SBEM-GI model between the 19<sup>th</sup> and 20<sup>th</sup> May 2015. The course was only open to those who have the relevant qualifications, and a minimum of five years' experience within the construction industry (architects, engineers, energy consultants, etc).



## Certified Energy Auditors' Course



HM Government of Gibraltar is continuing its efforts to reach the EU target of improving its energy efficiency by 20% by 2020; as part of the Energy Efficiency Directive (EED). The EED establishes a set of binding measures to help EU countries reach this target. Energy audits form part of this initiative to increase energy efficiency and reduce energy consumption. Improving energy efficiency can deliver a range of benefits to the economy and to society. More efficient use of energy results in energy and monetary savings, and reduces greenhouse gas emissions which helps our environment.

DECC provided the opportunity for eligible individuals to undertake training to become accredited Energy Auditors under HM Government of Gibraltar's

Accreditation Scheme for the purposes of carrying out energy audits in line with the EED.

The week long course, held at the University, was delivered by Target Energy and was attended by 18 individuals. It was part sponsored by the European Social Fund (ESF). The ESF invests in people, with a focus on improving employment and education opportunities across the European Union.

An 'energy audit' refers to a systematic procedure with the purpose of obtaining adequate knowledge of the energy consumption profile of a building or buildings, an industrial or commercial operation, or a private or public service; identifying and quantifying cost-effective energy saving opportunities, and reporting the findings.

Energy audits are an essential tool for achieving savings. They are necessary to assess the existing energy consumption and identify the whole range of opportunities to reduce energy use and energy waste. An energy audit results in a proposal of energy efficiency measures for management, public authorities or home owners. Furthermore, energy audits allow for the identification and prioritization of opportunities for improvement. In this manner, energy audits tackle the information gap that is one of the main barriers to energy efficiency.

The results of an energy audit may be, for example, a recommendation for window replacement in a household, for insulation in a factory, or for setting up a comprehensive energy management system in a commercial building, among other recommendations.

The Certified Energy Auditor (CEA) Training programme covers numerous key topics including: energy audit and audit approach, energy fundamentals, benchmarking and energy accountancy, energy auditing instrumentation, data analysis, energy financials, air conditioning systems and refrigeration, facilities and lighting systems, electrical systems, motors and drivers, alternative financing and measurement and verification, hot water and steam boilers and distribution systems, compressed air pumping and industrial processes, commissioning and maintenance, water conservation and water auditing, structured energy management programme, and ISO 50001.

There were a number of pre-requisites for sitting the course as laid down by the Association of Energy Engineers (AEE). Certified Energy Auditor (CEA) Certification was attained by those who completed the course, attained the required examination mark, and met the necessary qualifications and experience. Those candidates who did not possess the required experience received the Certified Energy Auditor in Training (CEAiT) Certification.



**European Union**  
European  
Social Fund

## Gibraltar's Renewable Energy Strategy

HM Government of Gibraltar has adopted the target of meeting at least 15% of Gibraltar's energy consumption from renewable energy sources by 2020. In addition, HM Government of Gibraltar also wishes to pursue the target of 27% of energy consumption from renewables by 2030, in line with proposed EU-wide targets.

Gibraltar's Renewable Energy Strategy highlights much of what needs to be done to encourage the deployment of renewable electricity capacity.

It presents a Technology Scenario that illustrates what Gibraltar's portfolio of renewable energy technologies, might look like in 2020 and 2030. This portfolio was based on the market-readiness of renewable energy technologies, as well as particular resources and deployment constraints found in Gibraltar.

It should be highlighted that the Technology Scenario presented within this document is not definitive; the amounts of specific renewable energy technologies ultimately deployed may differ from what is presented. It is intended simply to be illustrative; and to provide a context for the actions that will need to be taken to facilitate the deployment of renewables.

The document can be found on DECC's webpages within HM Government of Gibraltar's website.

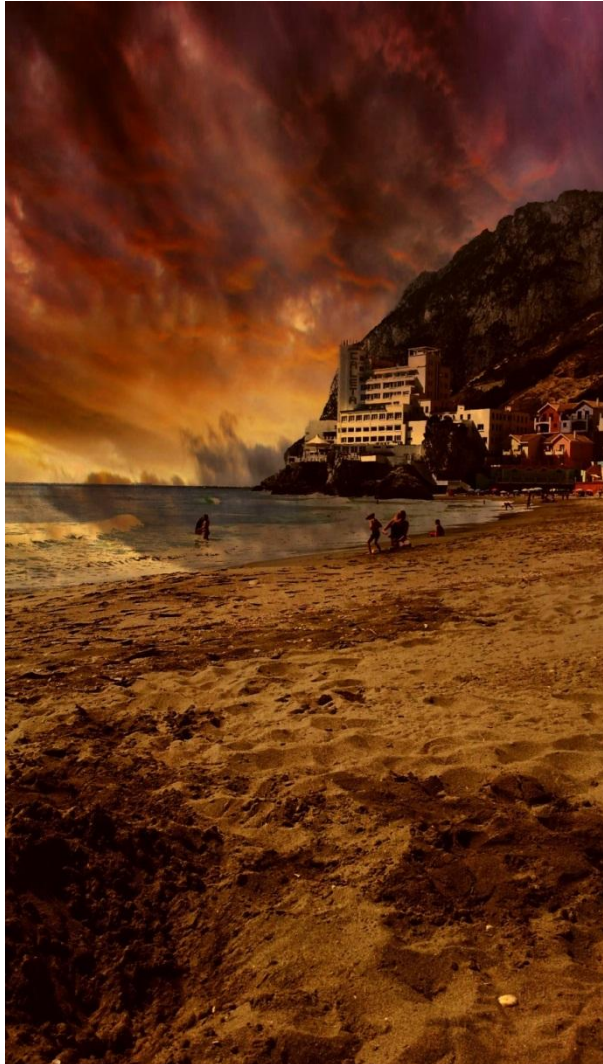
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# Climate Change



Climate change has ceased to be a scientific debate, and is no longer just one of our many environmental and regulatory concerns. Climate Change has become the overriding environmental issue of our time, and the single greatest challenge facing environmental regulators. It is a growing crisis, which will not only impact the environment but all aspects of human activity including the economy, food production, security and health.

There is alarming evidence that important climatic tipping points, leading to irreversible changes in major ecosystems and the planetary climate system, may already have been reached.

Ecosystems as diverse as the Amazon rainforest and the Arctic tundra may be approaching thresholds of dramatic change through warming and drying. Mountain glaciers are in alarming retreat and the downstream effects of reduced water supply in the driest months will have repercussions that could transcend generations. Climate feedback systems and cumulative environmental effects are building across Earth's systems demonstrating consequences we cannot anticipate.

The most dangerous climate changes may still be avoided if we transform our hydrocarbon based energy systems. The tools are available; we just need to apply them. Raising awareness about climate change is extremely important, as it is an issue which is affecting many and will eventually affect us all. Awareness can lead to change and a better future for us and our environment.

## COP21

December 2015 saw the world watching as nations gathered in France for crunch climate talks. Known as COP21, or the 21<sup>st</sup> Conference of the Parties to the UN Framework Convention on Climate Change, a lot has been made of this year's meeting.

UN Climate talks have occurred for the past 20 years since the 1992 Rio Earth Summit, when governments formed the United Nations Framework Convention on Climate Change, a treaty to limit greenhouse gas emissions to prevent man-made climate change.

It took a further five years before all the nations could agree on commitments to reducing emissions in Kyoto by 5% compared to 1990 levels. COP21 was seen as a particularly landmark event, as representatives from 196 nations gathered in Paris, including many heads of state such as President Barack Obama, President Xi Jinping, and Prime Minister David Cameron. As the current commitment for cutting greenhouse gas emissions is set to end in 2020, new targets had to be agreed on.

Gibraltar attended COP21 with the presence of a scientific delegation including Prof. Daniella Tilbury (Vice Chancellor of the University of Gibraltar) and Dr. Liesl Mesilio (CEO, Department of the Environment and Climate Change).



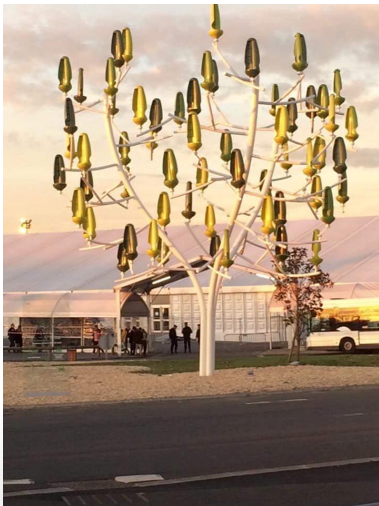
PARIS2015  
UN CLIMATE CHANGE CONFERENCE  
COP21·CMP11







COP21 closed on 12<sup>th</sup> December 2015 with the adoption of the first international climate agreement (concluded by 195 countries and applicable to all). The 12 page text, made up of a preamble and 29 articles, provides for a limitation of the temperature rise to below 2°C and even to tend towards 1.5°C. It is a flexible agreement which takes into account the needs and capacities of each country.



## Combating Climate Change – Greenhouse Gas Inventory produced for Gibraltar

HM Government of Gibraltar was proud to announce the development of a City-Level Greenhouse Gas Inventory for Gibraltar in line with the Government's wider strategy to combat climate change. The DECC Climate Change Task Force, chaired by the Deputy Chief Minister, Dr. Joseph Garcia, have been actively addressing key aspects of Gibraltar's strategy during the course of the year.

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**RICARDO-AEA**

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### **A City-Level Greenhouse Gas Inventory for Gibraltar**



Effective monitoring, reporting and verification of greenhouse gas emissions (GHGs) forms a critical element in developing a strategy towards a low carbon economy and Gibraltar's inventory is among some of the most comprehensive city-level inventories produced to date.

The inventory identifies the main causes of carbon emissions in Gibraltar. These include traffic, power generation, and shipping. This presents a number of challenges, all of which point towards initiatives for energy efficiency, and traffic reduction, which is one of the aims of the Sustainable Traffic, Transport and Parking Plan.

DECC embarked on an Energy Efficiency campaign mentioned in greater detail further along within this report. Action to increase energy efficiency has been at the heart of Government policy for the past two years. Part of the Government's Energy strategy has been to replace street lighting with lower energy alternatives. Figures released by the Gibraltar Electrical Authority show considerable reductions in energy use for street lighting, flood lighting and traffic lights. This is in spite of the increase in such lighting around Gibraltar. The reductions represent 19% in street lighting from 2012/2013 to 2014/2015, 50% in floodlighting from 2011/2012 to 2014/2015 and 22% in traffic light consumption from 2012/2013 to 2014/2015. These represent a reduction both in carbon emissions and in cost to Government.

In addition, the total amount of Carbon Dioxide emitted from power generation fell by 24% from 181,182t in 2013 to 141,936t in 2014. While differences in weather (which

can affect use of heating or air conditioning) can be a major contributor, it is also likely that energy efficiency action by both the public and Government has contributed to this.

Minister for Environment, Energy and Climate Change, Dr. John Cortes, commented "Clearly our energy and environment policies are not only taking shape, but showing results. Government is leading by example, investing in technical studies to guide our actions, and in the technology required to reduce our carbon footprint and save public money. It is clear that the public has embraced the principle of saving energy, and this is absolutely essential. Gibraltar has never before seen such determination and sense of direction in achieving these hugely important aims that benefit both our citizens and our reputation in environmental governance".

The City-Level Greenhouse Gas Inventory is currently available online on the DECC webpages on HM Government of Gibraltar's Website.

## Blue Shark Power to study marine currents off Europa Point

In line with the Government's commitment to explore the deployment of marine renewable energy technologies in Gibraltar, the Government has signed a Memorandum of Understanding with Blue Shark Power – an Aquitaine French 'clean tech' company established in 2013, that is currently developing patented technology for the manufacture of high power marine renewable energy turbines. This existing development will allow Blue Shark Power to work closely with DECC in order to assess the feasibility of installing its marine current turbines in Gibraltar. Initial surveys are expected to commence in autumn this year and these will take place in different areas of British Gibraltar Territorial Waters.

“The sea provides a vast source of potential energy resources and as renewable energy technology develops, investments in ocean energy are likely to grow” commented Dr. John Cortes. “Given our unique and strategic location within the Straits, it is only right that Gibraltar forms part of the global drive to harness our oceans. This Memorandum of Understanding is the first step in what could be one of Gibraltar's major renewable energy sources in future”.

## Compact of Mayors

As part of the World's largest Coalition of City Leaders addressing Climate Change, Gibraltar pledged to Take Action in advance of UN's Climate Conference in Paris.



Gibraltar committed to the Compact of Mayors in October 2015, a global coalition of city leaders dedicated to reducing their greenhouse gas (GhG) emissions, make their communities more resilient to climate change and regularly report their progress publicly.

By participating in the Compact of Mayors, HM Government of Gibraltar will reinforce its commitment to climate action by taking stock of greenhouse emissions and the current effects of climate change in the city, creating an action plan including clear and ambitious reduction targets, and implementing a common system of measuring those emissions and monitoring climate risks.

As one of the key initiatives launched at the UN Climate Summit in September 2014 by the UN Secretary-General Ban Ki-moon and his special Envoy for Cities and Climate Change, Michael R. Bloomberg, the Compact of Mayors is, to date, the world's largest collective effort by cities to

tackle climate change, proactively prepare for its impacts, and regularly track and report progress.

The Compact was activated under the leadership of the global city networks – C40 Cities Climate Leadership Group (C40), ICLEI – Local Governments for Sustainability (ICLEI) and the United Cities and Local Governments (UCLG) – and with support from UN-Habitat, the UN’s lead agency on urban issues. In the lead-up to the 2015 United Nations Climate Change Conference in Paris, the unity and ambition among cities through the Compact of Mayors inspired world leaders to follow suit and forged a global climate deal in Paris. It includes cities such as Paris, New York, Lisbon and Rio de Janeiro.

“The Compact of Mayors reflects the commitment that cities are making to reduce carbon emissions and the crucial role they play in confronting climate change,” said Bloomberg. “The more cities that take part in the Compact the bigger impact it will have. I applaud all of the mayors who have joined, and look forward to welcoming more cities into our growing coalition.”

Research shows that if every local government in the world took action in accordance with the Compact of Mayors – particularly by targeting their building, energy, transportation, and waste sectors – they could reduce global greenhouse gas emissions by the equivalent of cutting the world’s annual coal use by more than half.

For more information on the Compact of Mayors, visit: [www.compactofmayors.org](http://www.compactofmayors.org)

# Waste





## Dispelling the Recycling Myth

Since the kerbside recycling scheme was introduced in Gibraltar, various myths have been circulating, including:

**Myth 1:** What's the point of recycling? It just gets mixed with our general refuse and sent to landfill!

**Myth 2:** What's the point of separating the recyclate? It all gets mixed on the Master Services truck anyway as they go round emptying the bins!

DECC would like to dispel, once and for all, these myths and explain why, under certain conditions, individuals might think the above statements might be true.

Considering Myth 1, all recyclate collected in our recycling bins, at our Civic Amenities Site and at the Eco Park on Flint Road, is sent to authorized recycling plants in an EU Member State. This can be verified through the issuing of a Transfrontier Shipment certificate which is needed when transporting recyclate across a border. On a transfrontier shipment certificate, the carrier needs to detail the amount of material being transported and the destination of the material. Once delivered at its destination (the recycling plant), the recipient needs to verify the type and amount of waste being received. Once verified, the transfrontier shipment is countersigned by the recipient of the recyclate and the form is then brought back to Gibraltar for submission to the controlling body.

The process described above is required by law, and takes place for each lorry load crossing the frontier.

Considering Myth 2, there have been occasions when members of the public have accused contractors of consistently mixing our segregated recyclate when collecting these from the kerbside bins.

Generally, this is not the case as most recyclate is either collected separately, or at the same time but kept segregated within the same truck. The recyclate is then sent to our EcoPark for processing and transportation to designated recycling plants.

However, there have been occasions when recyclate has been mixed and disposed of at our local waste transfer site due to the fact that it has been deemed contaminated. By contaminated we refer to the fact that some members of the public, through reasons unknown, have disposed of their general household refuse or dog fouling within the recycling bins.

Because of the amount of general household refuse and/or dog fouling found within the recycling bins, the recyclate cannot be further processed and therefore has had to be disposed of with our general refuse.

Whilst these occasions are rare and few and far between, we urge the general public to be mindful of where they dispose of their household waste. It is a shame that because of the actions of a few, the hard

work of those who recycle on a regular basis can sometimes be in vain.

Please remember that due to space restrictions, Gibraltar cannot provide a sorting facility in order to separate recyclate from general waste. Therefore we depend greatly on the public to separate their recyclate before disposing of their waste.

On the following pages we have a reminder of what can be disposed of as recyclate and in which bin it can be disposed of.

For any further information, please contact DECC via email at: [info.environment@gibraltar.gov.gi](mailto:info.environment@gibraltar.gov.gi)

WHAT ITEMS CAN YOU DEPOSIT IN THE

# BLUE RECYCLING BINS?

**NEWSPAPER  
MAGAZINES  
CARDBOARD  
EGG CARTONS  
FOOD PACKAGING  
BOXES**

REMEMBER: Fold empty cartons & cardboard boxes to make them easier to transport and place in bins.



WHAT ITEMS CAN YOU DEPOSIT IN THE

# GREEN RECYCLING BINS?

**ALL GLASS JARS  
GLASS BOTTLES  
WITHOUT THEIR  
CAPS & LIDS**

Bottles of wine, spirits, etc.  
Jars of food, jams, etc.  
Perfume and cosmetic  
glass bottles.



WHAT ITEMS CAN YOU DEPOSIT IN THE

# PINK RECYCLING BINS?

## **ANYTHING ELECTRIC including:**

Small household items:  
clocks, coffee machines and  
electric toothbrushes.

IT and telecommunications  
equipment: all types of  
phones, computers and  
keyboards, etc.

Toys and leisure equipment:  
video games, car racing sets, etc.

For a comprehensive list  
please visit: [thinkinggreen.gov.gi](http://thinkinggreen.gov.gi)



WHAT ITEMS CAN YOU DEPOSIT IN THE

# RED RECYCLING BINS?

## ALL TYPES OF BATTERIES including:

AAA, AA, C, D, 4,5 volt,  
9 volt and Lantern (Spring).  
Smaller batteries from watches,  
etc, are also recyclable.

NB: Car and other vehicle  
batteries should be taken  
to the Recycling Centre  
at Europa Advance Road.



# WHAT ITEMS CAN YOU DEPOSIT IN THE YELLOW RECYCLING BINS?

## PLASTIC

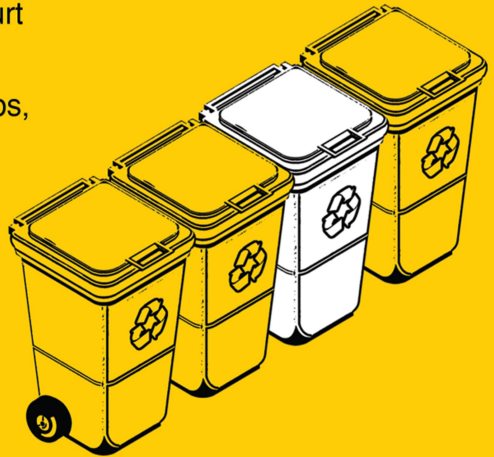
Bottles of water, soft drinks, etc.  
Cleaning product containers.  
Bath/shower gel bottles, yogurt  
containers, plastic shopping  
bags, plastic wrappers (from  
biscuits, etc). Packets of crisps,  
sweets, etc.

## TETRA BRIK

Tetra Brik packaging from  
juices, milk, wine, etc.

## CANS/METALS

All types of food tins and  
cans (tomato, tuna, peas,  
etc). Soft drink cans.  
Metal bottle caps. Clean  
aluminium foil and foil trays.





## ECO Park

Her Majesty's Government of Gibraltar was proud to announce the launch of Gibraltar's first Ecopark.

Waste Management is a vital aspect of environmental governance and the Government's sustainability policy, which aims to find more sustainable and innovative ways of managing our waste streams. This Ecopark represents a partnership between the public and private sector, which encourages the local community to improve our waste management practices. By utilizing both private and public sector knowledge, the Ecopark will ensure best waste management options for our community and increase its customer base.

The Ecopark is a one-stop drop-off facility to dispose of all recyclable waste streams. It is a waste management facility and no waste is treated on site. The Ecopark accepts items such as:

- waste electrical and electronic equipment,
- batteries (all types),
- bulky items,
- mattresses,
- tyres,
- waste oils,
- glass, paper and cardboard,
- mixed packaging recyclables,
- scrap metal,
- paint,
- ozone depleting substances,
- end of life vehicles, etc.

The intention is to increase local recycling rates and provide officials with audited trails of transfer of unwanted items helping us meet sustainable waste management goals. As responsible stewards of the environment, the public (including commercial and industrial entities) are encouraged to visit the facility and obtain further information on modern methods for the handling and treating of waste, and to use the site for as a one stop shop for all their waste items. In this way, individuals will be helping the environment by keeping unwanted materials away from landfill sites.

The Ecopark is operated by MetalRok Ltd and is located at 8 Flint Road, off Devil's Tower Road. It will be open 7 days a week, excluding public holidays. Opening hours are:

- Sunday to Friday from 8am to 11.30pm
- Saturdays from 8am to 8pm

The disposal of all items is free of charge. Fully-trained personnel who are experienced in waste management are available on site to assist the public with the unloading of large items and to answer any queries or questions that the public may have in relation to different waste streams and their end use.



Department of the Environment  
and Climate Change

HM Government of Gibraltar



## OPENING TIMES

**Sunday - Friday:**  
**8am - 11.30pm**

**Saturday:**  
**8am - 8pm**

*Excluding Public  
Holidays*

# ECOPARK

**Drop-off facility for recyclable waste**

**LOCATED AT 8 FLINT ROAD**

## WHAT CAN YOU RECYCLE?



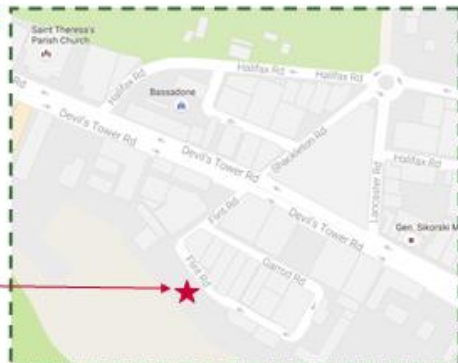
- Electrical & electronic equipment (including light bulbs)
- Batteries (all types)
- Mattresses
- Paper & cardboard
- Paint
- Tyres
- Scrap metal
- Aerosol and Spray Cans
- End of life vehicles
- Household Bulky items
- Waste Oils
- Plastics and Packaging
- Polystyrene (all types)
- Greenery
- Timber

The Disposal is

**FREE**

**OF CHARGE**

## Location :



For further information please  
contact the Ecopark on:  
**200 75108**

## Waste Cooking Oil Bins

As part of the Government's continued commitment towards sustainable waste management, DECC was proud to announce the expansion of its kerbside recycling scheme which now includes the collection of used cooking oil at roadside locations.



This new collection service is in addition to the current collection of used cooking oil already available at the Gibraltar Civic Amenities Site on Europa Advance Road. Furthermore, all used cooking oil produced from all public sector bodies (including but not limited to: the GHA Kitchen and Canteen, Mount Alvernia and other Care Agency kitchens) will also be collected.

The general public is now able to deposit their waste cooking oil into the orange recycling bins. The public is encouraged to deposit their waste cooking oil in sealed plastic bottles into the orange bins.

There are currently 20 separate locations where waste oil recycling bins can be found. These include:

1. Edinburgh Estate
2. Grand Parade entrance
3. Europort Roundabout
4. Varyl Begg Estate by Royal Sovereign House
5. Mid Harbours Seafront
6. Bishop Caruana Road
7. Catalan Bay (Sir Herbert Miles Road)
8. Casemates Service Area
9. Devils Tongue / Waterport Road junction
10. Saluting Battery
11. Eastern Beach Road
12. Waterport Terraces
13. Constitution House
14. Fish Market Road
15. Queensway Car Park
16. Willis's Road (New Police Block)
17. Tarik Road Car Park
18. Cloister Ramp
19. Rosia Road by Rosia Battery
20. Rosia Road by RGP Headquarters

Through this initiative, the public will be helping Government to prevent the disposal of used cooking oil in drains and sewers, which leads to blockages resulting in bursts and overflows. In addition, by not disposing of used cooking oil in drains and sewers, we are all helping protect and enhance our local marine environment.



# Educational Awareness

Environmental education explains how natural environments function and, in particular, how human beings can seek to manage their behaviour and ecosystems in order to live sustainably. It refers not only to education within the school system but also to all efforts to educate the public, including print materials, websites and media campaigns. DECC considers educational awareness of utmost importance and devotes a major part of its efforts to creating a better and more sustainable environment.

## World Environment Day

World Environment Day (WED) is an annual event which aims to be the biggest and most widely celebrated global day for positive environmental action. WED activities take place all year round but culminate on 5th June every year, involving people from all over the world.

WED celebrations began in 1972 and have grown to become one of the main vehicles through which the UN stimulates worldwide awareness of the environment and encourages political attention and action. Gibraltar has now been taking part in the WED celebrations for many

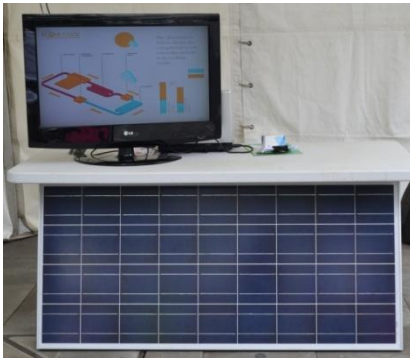
years. Through WED, the UN Environment Programme is able to personalise environmental issues and enable everyone to realise not only their responsibility, but also their power to become agents for change in support of sustainable and equitable development. WED is also a day for people from all walks of life to come together to ensure a cleaner, greener and brighter outlook for themselves and future generations.

The WED theme for 2015 was "Seven Billion Dreams. One Planet. Consume with Care". The wellbeing of humanity, the environment, and the functioning of the economy, ultimately depend upon the responsible management of the planet's natural resources. And yet, evidence is building that people are consuming far more natural resources than what the planet can sustainably provide.

Every action counts and WED is the opportunity for everyone to realize their responsibility to care for the Earth. DECC held an environmental Trade Fair at the John Mackintosh Square, being officially launched by the Minister for the Environment and Climate Change with the support of several local schools who performed at the event.



## Scenes at the World Environment Day Trade Fair



*On show at the Trade Fair were solar thermal panels, waste cooking oil recycling bins and hybrid cars, to name but a few.*







## School Presentations

As part of its educational awareness programme, every year DECC visits all schools and presents them with an environmental issue. The yearly theme is determined by the United Nations Environmental Programme.

The theme for 2015, Sustainable Consumption, was very well received by pupils and teachers alike.



The image shows a promotional poster for World Environment Day 2015. At the top, there is a photograph of a busy street scene with people walking. Overlaid on the left is the UNEP logo. To the right of the logo, the text reads: "United Nations Environment Programme", "World Environment Day", and "Every Year. Everywhere. Everyone.". Below the photograph, the main slogan "Seven Billion Dreams. One Planet. Consume with Care." is written in large white letters on a dark blue background. At the bottom left is the logo for the Department of the Environment and Climate Change, featuring a stylized tree and the text "DEPARTMENT OF THE ENVIRONMENT AND CLIMATE CHANGE". At the bottom center is the coat of arms of the Government of Gibraltar. To the right of the coat of arms, the text reads "Department of the Environment and Climate Change" and "HM Government of Gibraltar".

**Seven Billion Dreams. One Planet. Consume with Care.**

Department of the Environment and Climate Change  
HM Government of Gibraltar

Topics dealt with in the Department's school presentations included sustainable food and energy consumption (in line with the Department's Energy Efficiency Awareness Campaign).

# What needs to Change?

- The things we eat



Food Item	1 kg	Water footprint (litres)	Emissions (kg CO2e)	Land use (m <sup>2</sup> )	Star (by food) (kg)	Calories (kcal)
BEEF	15,500	16	7.9	6	2470	
CHICKEN	3,300	4.6	6.4	1.8	1650	
EGGS	3,333	5.5	6.7		1430	
MILK	1,000	10.6	9.8		610	
WHEAT	1,300	0.8	1.5		3400	
RICE	3,400				1300	

# What needs to Change?

- What we buy

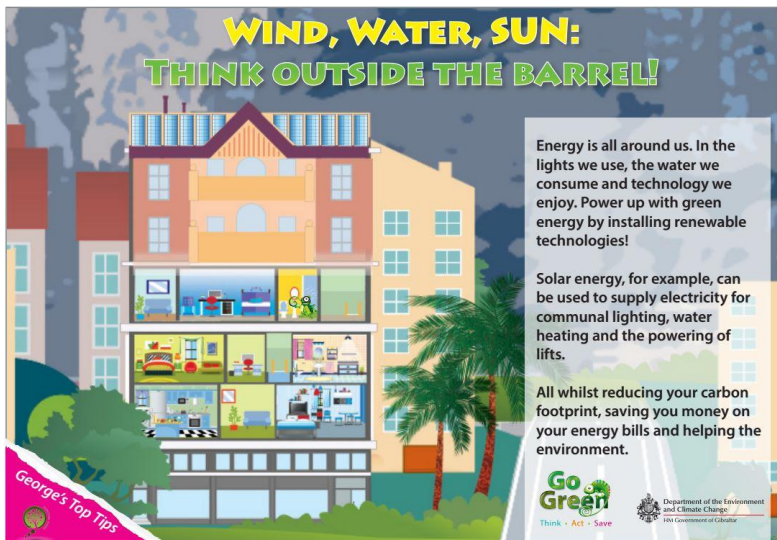







## Energy Efficiency Awareness Campaign

The Energy Efficiency awareness campaign was launched in September 2014 and continued through 2015 to further encourage local residents to save as much energy and water as possible. The campaign included awareness days, TV adverts and information leaflets for distribution to the public.



Renewable energy can be described as a natural, infinite form of energy that is constantly being regenerated. Technologies developed to capture these natural occurring processes, such as sunshine, wind and flowing water, are quickly gaining popularity, as finite fossil fuels supplies of oil and coal dwindle and their contribution to climate change becomes an ever growing issue.

Within the European Union (EU), renewable energy technologies are being described as the answer to driving technological innovation in global business, increasing employment and securing a more self-sufficient future for Member States. As a result of this, a number of legislative targets have been set under the Renewable Energy Directive to ensure the uptake of these technologies, which aim to secure 15% of all Member State energy demands from renewables by 2020.

The Government is committed to producing energy in an environmentally sound and sustainable manner by investing in renewable energy technologies that match its resources and energy needs. In line with other Member States, Gibraltar has also adopted the target of meeting at least 15% of its energy consumption from renewable energy sources. The National Renewable Energy Action Plan (NREAP) outlines the series of measures planned to maximise local energy savings and achieve 2020 targets; through actions such as training and education, improving energy efficiency, roll out of renewables technologies and providing financial instruments and incentives to encourage renewable energy deployment in Gibraltar.

As part of the financial incentives scheme, the Government have implemented a number of measures, including the removal of import duty on renewable technologies and LED lighting, a tax allowance of up to £3000 for households looking to install solar thermal or PV systems and soft loans for residential estates looking to fund projects that use solar energy to provide electricity for communal lighting, water heating, powering of lifts and for the replacement of traditional lighting with LED.

Further information on these incentives can be found on the Department of the Environment's Thinking Green website:

<http://www.thinkinggreen.gov.gi/index.php/resources/energy/157-government-incentives>

With a number of local renewable energy projects already successfully launched, such as at the GASA swimming pool and the Tercentenary Hall, and more yet to come, now is as good a time as ever to tap into these technologies and financial supports. Start sourcing your energy from renewables and reduce your carbon footprint and save money in the long run.

**BE A GREEN, CLEAN, COOKING MACHINE!**

They say the kitchen is the heart of the home; so let's make it greener & more efficient!

A few simple changes to the way you run your kitchen could reduce your energy bills & help the environment!

Save energy by investing in A+ rated appliances, run efficient cycles on your dish washer, cook using lids, boil only what water you need and don't open the oven door whilst cooking to take a peek!

**Go Green**  
Think • Act • Save

Department of the Environment and Climate Change  
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George's Top Tips

For many families, the kitchen is the heart of the home; it's where we prepare our meals, socialize with friends and family, and spend a great deal of our time! Although we may not think about this, our kitchens also have a big impact on the environment. It's a place

where we generate food waste, have high water consumption and contribute to about 15% of total home energy use; these all directly impact on the earth's natural resources and our pockets when it comes to bills!

In order to help the environment and save money, there are a number of simple ways you and your family could be greener in your kitchen. Keep foods slightly apart on refrigerator shelves and remove any bulky packaging as increased circulation will help to keep the fridge cooler. In the freezer, the removal of built-up frost that exceeds 6mm will also have the same increased cooling effect, helping to reduce power demands on your appliance.

When it comes to cooking, simply thawing frozen foods during the day without the help of water could save approximately 15 minutes on cooking time meaning less energy consumption and savings on your energy bills! Washing fruit and veg in a bowl is also an effective way of saving water, energy and money too. Ensuring pots completely cover hotplates, keeping lids on them, and making sure the oven door remains shut until food is completely cooked can also save energy. Opening the oven door whilst in use to take a peek can cause the temperature inside to reduce by as much as 25 degrees, forcing the oven to work even harder (and use more energy) to get back to the set cooking temperature!

Once dinners have been made, give them time to cool down before putting them in the fridge as uncovered hot food and liquids give off vapours that make the refrigerator work harder. In the meantime, take the opportunity to clean up and give your stovetop a good scrubbing because the cleaner the hotplates are, the more efficiently they work! If using dishwashers to help

clear up, use efficient cycles to reduce water consumption too!

Searching for new appliances? Look to install A+ rated appliances that will achieve significant savings in energy and money! Did you know a new A+ rated electric oven will consume 40 % less energy than a B rated oven? These kinds of savings are just an example of the difference A-rated fridges, freezers and dishwashers can make to your home and the environment. In addition to this, new technology induction stovetops could also be the answer to greener kitchens worldwide; proving up to 50% more energy-efficiency than existing gas and electric ones; these stovetops made from alternative metals can transfer 90% of generated heat directly to the pan reducing wasted energy and cooking time.

With so many simple ways to save energy and water in the kitchen why not help to make the heart of your home a greener one today!

**DON'T GET MAD...**  
**...USE YOUR APPLIANCES WISELY!**

Another High Energy Bill!

Adjusting your appliances to run at optimal temperatures, cycles and settings helps you save energy!

Setting your air-conditioning unit to 1 degree higher or lower than the optimum 21° could result in a 10-15% increase in energy consumption.

Optimizing the settings of these appliances and others, like fridges and freezers, could reduce your energy bills and help the environment today!

**Go Green**  
Think - Act - Save  
DEPARTMENT OF THE ENVIRONMENT  
THE Government of Gibraltar

**George's Top Tips**



In today's society, it's no secret that demand for the latest gizmos and gadgets is on the rise as we become more reliant on them for work, play, and the general running of our homes. From tablets to mobiles and the white goods in our kitchen, all this technology, although still a luxury to have, can come at a big price. Hungry for electricity and water, our appliances when not used efficiently can cause a rise in our energy bills, and an unnecessary strain on our environment for resources to meet our demands. Fear not though, as there is a way to keep your gadgets and reduce your energy bills all whilst helping our environment – by optimizing your appliances! To optimize your appliances, simply adjust its settings to recommended cycles or temperatures in order to achieve a balance between effective performance and energy efficiency. This can be done for all devices including air conditioning units, fridges, freezers, and washing machines. When it comes to air conditioning units, it is recommended that a temperature of 21° be set throughout the year as not only is this temperature a comfortable one to remain cool or warm whatever the season, but any degree above or below this could result in a 10-15% increase in energy consumption! Similarly with fridges and freezers, not setting them to appropriate temperatures could result in these units using 25% more energy than necessary a month! Fridge optimal temperatures can range between 2°C and 5°C, and in the freezer, between -15°C and -18°C, so sticking to this could help to make your units run more efficiently, save you money, and even help increase their lifespan as they won't have to work as hard!

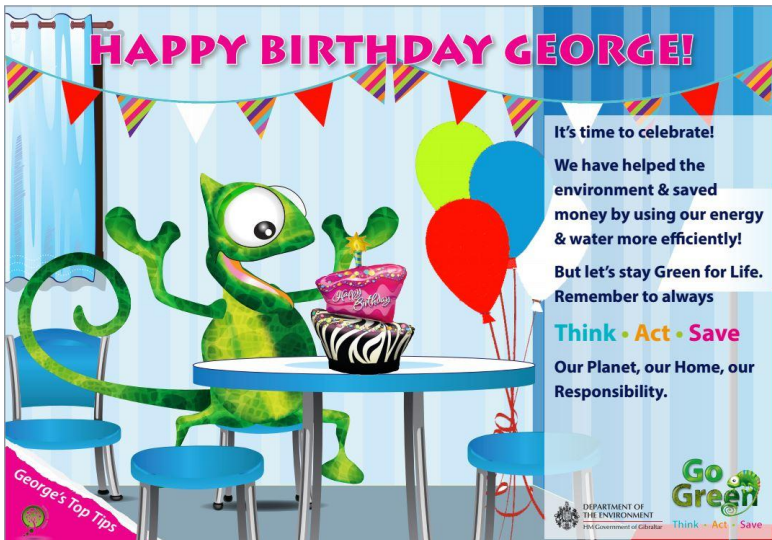
Other devices often found in kitchens which can also be adjusted to work more efficiently are dishwashers, washing machines, and dryers. According to research, dishwashers – depending on how efficient their usage and performance is – can account for 2.5 % of the total energy used in a typical household. As a result, being aware of the different cycles your dishwasher has to offer is key to increasing or decreasing this figure in your home. Nowadays, every modern dishwasher has a special energy-efficiency setting that will use less power to heat the water so refer to the device manual and see if this is available to you today. If it is, this could mean dishes will be washed at a lower temperature, typically 50°C, and use around three litres less water than the standard dishwasher cycle, earning you a massive saving over time. When it comes to half-load or rinse-hold settings, try avoiding these as they consume more energy and water than you think – a rinse-hold feature uses 10-25 litres more in each use!

Washing machines can account for 7% of your energy bill alone, but similarly to dishwashers, there are a number of cycles which can be used to lighten the load on this. Always study your manual and wash your clothes on the shortest cycle and lowest water level practical for your needs. In addition to this, stick to 30°C or cold washes when possible as temperatures of 40°C or higher are more suited to cleaning heavy stains and towels or bedding. When drying your washing items, it is always best to let them air dry which requires no energy at all, but when in need of a dryer, use auto-dry cycles as opposed to timed ones which can cause you to use more energy than you need.

Another appliance you could adjust to achieve optimal performance is the water heater! Often out of sight and

out of mind, this gadget can contribute up to 15% of a home's total energy use if not used wisely. As a result it is recommended that you set temperatures to an optimal 60°C which ensures a balance between meeting heating demands, fighting the growth of bacteria, and consumes only as much energy as necessary.

Using the optimal settings offered to us by our appliances nowadays is one of the easiest and first steps we can take as consumers towards living a more energy efficient lifestyle. Make changes without having to sacrifice the luxuries we all love. Anyone can adopt these tips and save money as well as our environment today!



During the past year, George, the Chameleon, has worked tirelessly to ensure we all do our part to save energy and water at home and at work; in order to help the environment and save us money. We are all aware of the many environmental issues facing the planet today; including climate change, pollution of air and

water, deforestation, over-fishing, biodiversity loss and a general degradation of our natural environment.

All these environmental issues will have grave impacts on our environment and our quality of life. To ensure a healthy, thriving planet for our generation and future generations, we must all work together to live sustainably. Clean, safe drinking water is fundamental for our survival and we have come to depend on electricity for our way of life; therefore using these resources efficiently and wisely is key to sustainability.

Energy and water are inextricably linked, we use electricity to desalinate our water, to pump heat and distribute it. We use electricity every day for lighting, heating and cooling. By conserving water, and using electricity wisely, we save energy; this helps reduce emissions of greenhouse gases, thereby improving local air quality and mitigating against climate change. Water and energy conservation also translate into direct savings on your bills; so it's a win-win situation!

Plus, there are many easy ways in which we can use these valuable resources more effectively; such as better use of our appliances by using optimum eco-friendly settings, switching to LEDs, unplugging our electronics when not in use and when we are away on holiday, greener cooking, investing in A+ appliances and installing low-flow shower heads. So why not go green?



Think • Act • Save

## Barbary Macaque Awareness Days



As part of DECC's Barbary Macaque Awareness Campaign, a Macaque Awareness stall was held on Saturday 30<sup>th</sup> May 2015 outside the ICC in Main Street.

The event was jointly organised with Monkey Talk – Gibraltar who also took the opportunity to carry out a "Monkey Survey". The results of the survey will help assist the Department's ongoing efforts to better understand the varying public perception toward the macaques and ultimately how we can best co-exist with them.



The event also served to showcase some of the day-to-day work carried out by the Department's Macaque Management Team which includes the Gibraltar Veterinary Clinic. Staff members from the Department were also at hand throughout the event to provide general information and feedback.

Members of the public were encouraged to visit the stall on the day to learn more about our Barbary Macaques, which are not only an asset, but also an inherent part of Gibraltarian culture.

Face painting and a cake raffle were also organised for the event.



## Oil Spill Response Training

The Ministry of the Environment and the Gibraltar Port Authority continued to develop their close ties and co-operation in protecting the Marine Environment. Staff from the Port Authority and DECC jointly undertook the Oil Spill Response Beach Master course provided by Oil Spill Response Limited. The training is accredited by the UK Maritime Coast Guard Agency and the International Maritime Organisation.

The successful completion of training has significantly increased the number of specifically trained operatives able to safely attend cleanup operations in the event of an oil spill impacting the coastline.

The course incorporated a live training exercise using the Gibraltar Port Authority's resources and the deployment of equipment at Western Beach in response to a simulated oil spill.







