Statistics Report 2015

Department of the Environment,
Heritage and Climate Change
HM Government of Gibraltar

Contents

1. Air Quality

Introduction

From world leaders on a global level, to neighbours in our local community, air pollution has become one of the most pressing environmental concerns. Intricately connected to human health, welfare, and the natural environment, air pollution plays a significant role in our quality of life and is one of the driving forces behind global warming.

To monitor air pollution and determine the quality of the air we breathe, advanced technology is used to measure the concentration of pollutants in the air. In Gibraltar, this is done through a formalised programme that consists of three automatic monitoring stations measuring a variety of pollutants; and a passive monitoring network measuring nitrogen dioxide and volatile organic compounds with diffusive samplers.

Operated with the objective of monitoring legislative compliance and developing future guidance on how to reduce impacts on humans and the natural environment, results logged at all stations are continuously examined and made public near real-time at www.gibraltarairquality.gi.

Month	Number of Visits	Unique Visitors	Page Views
Jan-15	345	193	842
Feb-15	450	207	1,451
Mar-15	650	274	1,721
Apr-15	587	220	1,683
May-15	687	220	2,665
Jun-15	632	163	2,013
Jul-15	630	176	1,854
Aug-15	524	149	1,634
Sep-15	558	146	2,006
Oct-15	394	149	1,248
Nov-15	385	159	1,262
Dec-15	285	138	856

Gibraltar Air Quality Hits for 2015

The table above provides an indication of the level of activity recorded on Gibraltar's air quality website throughout 2015.

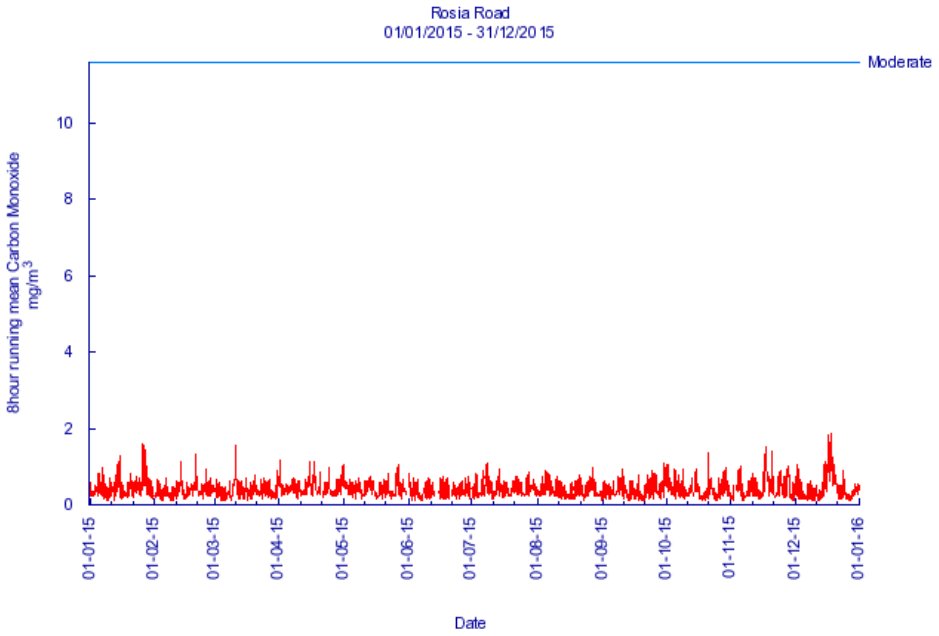
Annual Automatic Data Summary Reports

Rosia Road: 1st January to 31st December 2015

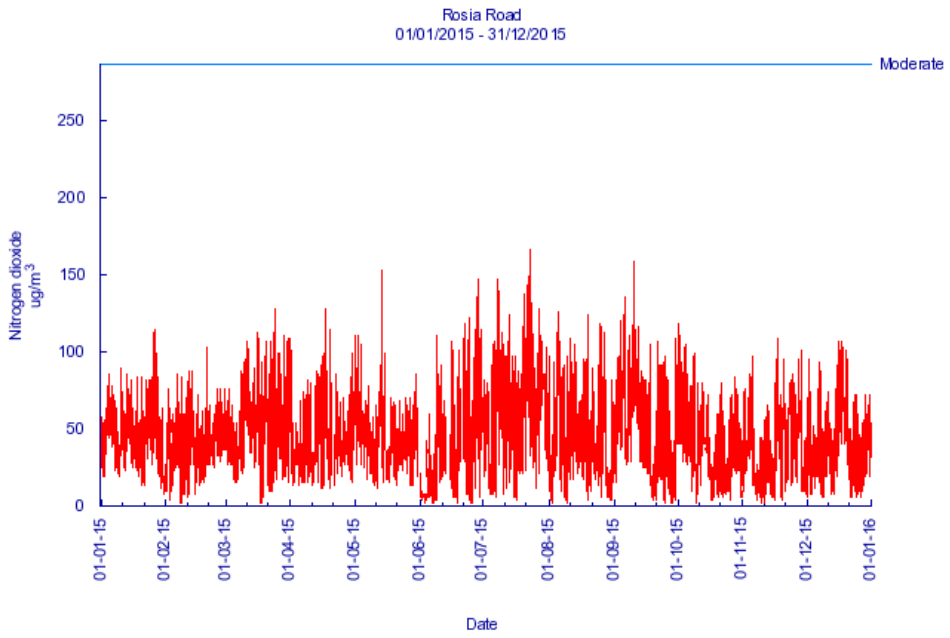
The following series of data highlights recordings taken at the Rosia Road automatic monitoring station throughout 2015. At this site readings of benzene, carbon monoxide (CO), nitrogen dioxide (NO_2), and sulphur dioxide (SO_2) are taken.

POLLUTANT	BENZ	CO	NO_2	SO_2
Maximum hourly mean	26.2 µg m^{-3}	3.5 µg m^{-3}	166 µg m^{-3}	104 µg m^{-3}
Maximum running 8-hour mean	9.5 µg m^{-3}	1.9 µg m^{-3}	122 µg m^{-3}	40 µg m^{-3}
Maximum running 24-hour mean	6.1 µg m^{-3}	1.3 µg m^{-3}	107 µg m^{-3}	23 µg m^{-3}
Maximum daily mean	6 µg m^{-3}	1.3 µg m^{-3}	103 µg m^{-3}	21 µg m^{-3}
Average	1.5 µg m^{-3}	0.4 µg m^{-3}	46 µg m^{-3}	5 µg m^{-3}
Data capture	93.2%	97.2%	97%	97%

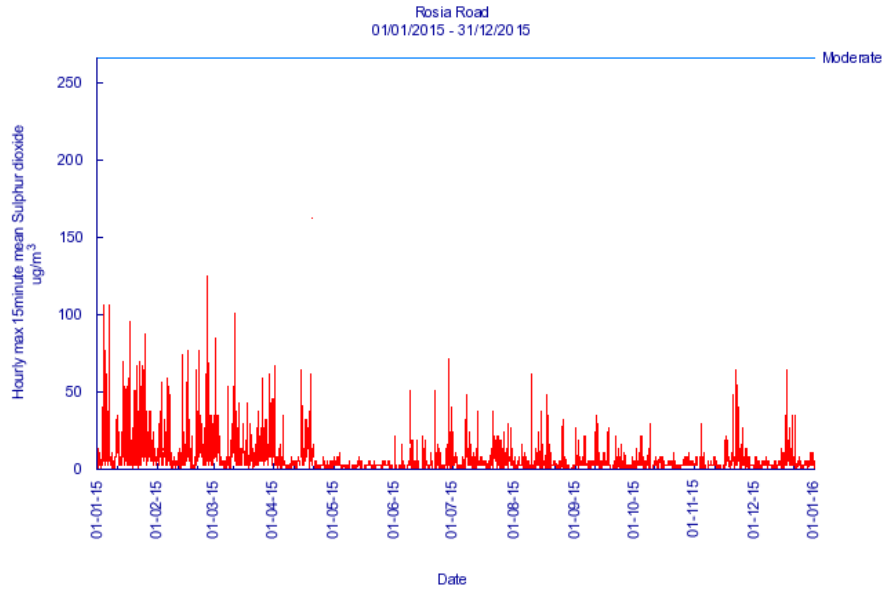
Rosia Road monitored results 2015



CO 8 hour running mean for 1st January to 31st December 2015



NO2 hourly mean for 1st January to 31st December 2015



SO2 hourly max 15 minute mean for 1st January to 31st December 2015

Pollutant	Public Health (Air Quality Limit Values) Rules 2002, (Amendment) Rules 2003 and (Ozone) Rules 2004	Exceedances
Carbon Monoxide	Running 8-hour mean > 10.0 mg m^{-3}	0
Nitrogen Dioxide	Hourly mean > 200 µg m^{-3}	0
Sulphur Dioxide	Annual mean > 20 µg m^{-3}	0

Rosia Road pollutant exceedances for 2015

Analysing collated data against those recorded in 2014, it becomes clear that air quality at Rosia Road improved in comparison to previous years.

In 2015, the annual mean for benzene and carbon monoxide remained the same as that in 2014, but both highlighted significant improvements in maximum hourly mean. Nitrogen dioxide and sulphur dioxide showed greater progress still with notable reductions in their annual mean from 54 µg m^{-3} to 46 µg m^{-3}, and 10 µg m^{-3} to 5 µg m^{-3} respectively. This overall improvement resulted in no threshold exceedances at this site during 2015.

The table below highlights the engine operating hours of South District power stations for 2015.

Engine Hours	
	Total 2015
GMES EX MOD Power Station	3829
GMES South Temp. Gen.	943
Portman Temp. Gen.	4214

*OESCO Power Station was decommissioned in 2015

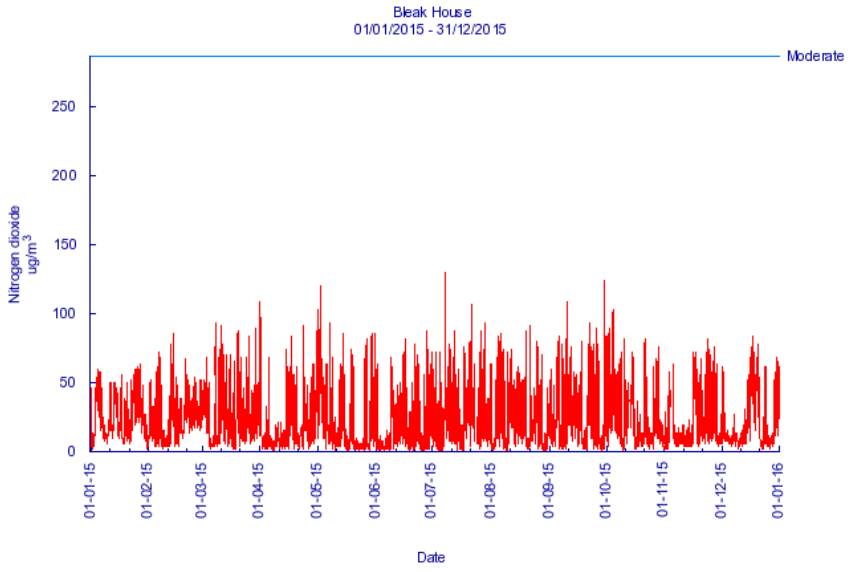
South District Power Stations engine hours in 2015

Bleak House: 1st January to 31st December 2015

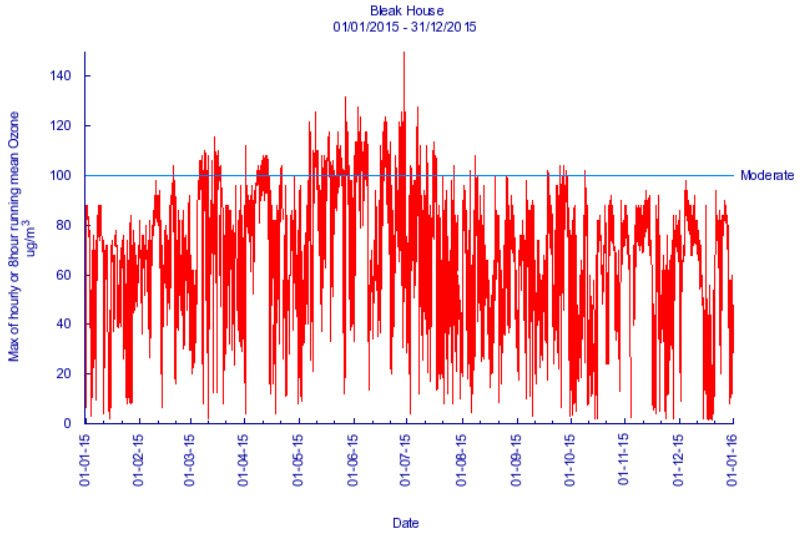
Air pollutant data for the suburban setting of Bleak House in Gibraltar is shown. At this site, nitrogen dioxide and ozone (O_3) are monitored.

POLLUTANT	NO_2	O_3
Maximum hourly mean	130 µg m^{-3}	150 µg m^{-3}
Maximum running 8-hour mean	94 µg m^{-3}	141 µg m^{-3}
Maximum running 24-hour mean	67 µg m^{-3}	112 µg m^{-3}
Maximum daily mean	61 µg m^{-3}	109 µg m^{-3}
Average	24 µg m^{-3}	60 µg m^{-3}
Data capture	98%	99 %

Bleak House monitored results 2015



NO2 hourly mean data for 1st January to 31st December 2015



Ozone maximum of hourly or 8 hour running mean for 1st January to 31st December 2015

Pollutant	Public Health (Air Quality Limit Values) Rules 2002, (Amendment) Rules 2003 and (Ozone) Rules 2004	Exceedances
Nitrogen Dioxide	Hourly mean > 200 µg m^{-3}	0
Ozone	Running 8-hour mean > 120 µg m^{-3}	5

Bleak House pollutant exceedances for 2015

In 2015 levels of nitrogen dioxide appear to have stabilised at Bleak House recording the same annual mean of 24 µg m^{-3} as was captured in 2014. With no exceedances recorded at the site either, it suggests that no notable environmental changes were experienced at the site.

Ozone showed an increase from 53 µg m^{-3} to 60 µg m-3 in annual mean. Maximum hourly mean also showed a rise from 129 µg m-3 to 150 µg m-3, and the maximum running 8-hour mean also recorded an increase from 122 µg m-3 to 141 µg m-3. A total of 5 threshold exceedances were recorded for ozone at Bleak House.

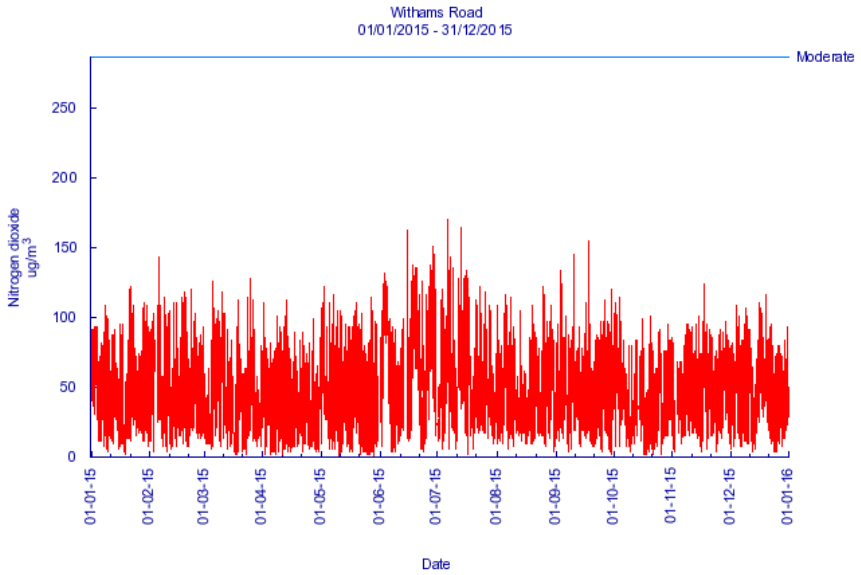
Ozone, is formed by the sunlight-initiated oxidation of volatile organic compounds (VOCs) in the presence of nitrogen oxides (NO_x). This pollutant is created from ozone precursors that are predominantly of a transboundary nature. As a result, this issue is currently being tackled through international agreements on a global scale.

Witham's Road: 1st January to 31st December 2015

As the final automatic monitoring station, Witham's Road is located in the South District and within range of local GMES power stations. Positioned here intentionally to observe the effects of traffic and power station emissions on pollutant levels, nitrogen dioxide is recorded at this site and has been regulated since 2008.

POLLUTANT	NO_2
Maximum hourly mean	170 µg m^{-3}
Maximum running 8-hour mean	126 µg m^{-3}
Maximum running 24-hour mean	111 µg m^{-3}
Maximum daily mean	109 µg m^{-3}
Average	49 µg m^{-3}
Data capture	97%

Witham's Road monitored results 2015



NO2 hourly mean data for 1st January to 31st December 2015

Pollutant	Public Health (Air Quality Limit Values) Rules 2002, (Amendment) Rules 2003 and (Ozone) Rules 2004	Exceedances
Nitrogen Dioxide	Hourly mean > 200 µg m^{-3}	0

Witham's Road pollutant exceedances for 2015

Maximum hourly, 8-hour and 24-hour means have seen notable reductions since 2014 which would suggest that environmental conditions at this location improved. Despite this, however, small increases in maximum daily mean were experienced leading to an annual mean increase from 46 µg m^{-3} to 49 µg m^{-3}.

Overview of Gibraltar's automatic air pollution measurement

An average 95% data capture was recorded for all monitored parameters in 2015 which is markedly higher than the UK network mean as shown below.

2015 Sites	CO	NO2	O3	PM10	PM25	SO2	Total
Number of Sites	7	131	79	73	81	28	152
Number of sites < 85 %	0	18	4	26	16	3	30
Number of sites < 90%	1	25	8	36	30	5	50
Network Mean (%) (UK)	96.1	93	95.1	82.6	87.8	89.9	90.5
Gibraltar Network Mean (%)	97.2	97.3	99	96	81	97	94.6

Data capture for 2015 (%)

Compliance with Air Quality Limit Values

To ensure compliance with air quality objectives and legislative limit values, it is necessary to cross-examine gathered data with these policies. Within this section, pollutants from the automatic monitoring framework (carbon monoxide, nitrogen dioxide, sulphur dioxide, benzene and ozone) will be evaluated, with the failures to meet standards highlighted in red and compliant values highlighted in green.

Air quality objective for CO (as maximum daily running 8hr mean)	Recorded levels (as maximum daily running 8hr mean)
10 mg m^{-3}	**1.9 mg m-3**

Automatic measurement of Carbon Monoxide in 2015

Air Quality Objective for NO_2	Recorded Annual Mean
40 µg m^{-3}	**46 µg m-3 (Rosia Road)** **49 µg m-3 (Witham's Road)** **24 µg m-3 (Bleak House)**

Recorded annual means for Nitrogen Dioxide in 2015

Air Quality Objective for NO_2 (1 hour mean)	Recorded 1 hour mean
200 µg m^{-3} not to be exceeded more than 18 times per year	**166 µg m^{-3} (Rosia Road)** **170 µg m^{-3} (Witham's Road)** **130 µg m^{-3} (Bleak House)**

Recorded one hour mean for Nitrogen Dioxide in 2015

Air Quality Objective for SO_2 (Daily Mean)	Recorded Daily Mean
125 µg m^{-3} not to be exceeded more than 3 times per year	**21 µg m^{-3}**
350 µg m^{-3} not to be exceeded more than 24 times per year	**104 µg m^{-3}**

Recorded daily mean for Sulphur Dioxide in 2015

Air Quality Objective for Benzene (Annual Mean)	Recorded Annual Mean
5 µg m^{-3}	**1.5 µg m^{-3}**

Recorded annual mean for Benzene in 2015

Air Quality Objective for Ozone (Maximum Daily 8 Hour Mean)	Maximum rolling 8-hr mean (µg m-3)

120 µg m^{-3} not to be exceeded more than 25 days per calendar year, averaged over 3 years.	**141 µg m^{-3}** **Target value exceeded on 5 days**

Maximum rolling 8-hr mean for Ozone in 2015

All the pollutants monitored under the automatic monitoring framework met legislative thresholds except nitrogen dioxide. Rosia Road reported an annual mean of 46 µg m^{-3} and Witham's Road 49 µg m^{-3}. Although figures exceed NO_2 air quality objectives, Rosia road experienced an improvement since 2014 which saw a recorded annual mean of 54 µg m^{-3}. Witham's Road, however, showed a very slight deterioration as 2014 reported a lower mean of 46 µg m^{-3}.

Review of Gibraltar's non-automatic air pollution measurement

As part of Gibraltar's non-automatic monitoring programme, concentrations of particulates and heavy metals such as arsenic (As), cadmium (Cd), nickel (Ni), and lead (Pb) are measured. Assessed against limit values and objectives, the following series of data highlights compliant figures in green and non-compliant in red.

Lead

Air Quality Objective for Lead (measured as an annual mean)	Recorded Annual Mean
0.5 µg m^{-3}	**0.0099 µg m^{-3}**

Recorded annual mean for Lead in 2015

Particulate Matter (PM_{10})

Air Quality Objective for PM_{10} (measured as an annual mean)	Recorded Annual Mean
40 µg m^{-3}	**24 µg m^{-3}**
Air Quality Objective for PM_{10} (measured as a daily mean)	**No. of exceedances of maximum daily mean**
50 µg m^{-3} not to be exceeded more than 35 times in a year	**6**

Bleak House PM_{10} recorded annual mean and compliance 2015

	2008	2009	2010	2011	2012	2013	2014	2015
% Data Capture	90	98	95	85	90	73	82	94
Annual Mean PM_{10} (40 µg m^{-3})*	41	38.2	40.6	34	34	36	36	31
Max. 24-hour mean PM_{10}	179	79	130	65	83	88	155	41
Days > 50 µg m^{-3} (35 day limit)*	63	37	64	25	18	15	17	16

Breakdown of PM_{10} statistics for Rosia Road

Particulate Matter (PM2.5)

Air Quality Objective for $PM_{2.5}$ (measured as an annual mean)	Recorded Annual Mean
20µg m^{-3}	**14 µg m^{-3}**

$PM_{2.5}$ recorded annual mean for 2015

Arsenic, Cadmium, Nickel & Poly Aromatic Hydrocarbons (measured as Benzo(a)pyrene)

Pollutant	Parameter	Target Value	Recorded Average
Arsenic	Annual average	6 ng m^{-3}	**1.6 ng m^{-3}**
Cadmium	Annual average	5 ng m^{-3}	**2 ng m^{-3}**
Nickel	Annual average	20 ng m^{-3}	**14 ng m^{-3}**
BAP	Annual average	1 ng m^{-3}	**0.061 ug m^{-3}**

4th Daughter Directive pollutant recordings for 2015

Diffusion Tube Networks

Integral to the non-automatic monitoring programme, a diffusion-tube based method is used to assess monthly average concentrations of nitrogen dioxide and benzene at a number of sites across Gibraltar.

Summary of Hydrocarbon Results

Average hydrocarbon concentrations for benzene are shown below. With a pollutant threshold of 5 µg m^{-3}, the table highlights where compliance has been achieved, and also provides a comparison to the previous year's results to determine whether there are improvements being made.

Site ID	Site Name	2014 Benzene (µg m-3)	2015 Benzene (µg m-3)	Difference
gib1	Rosia Road	1.6	0.9	-0.7
gib15	Catalan Bay Road	0.7	0.4	-0.3
gib16	Laguna Estate	0.9	0.5	-0.4
gib17	Kings Lines Fuel Depot	0.9	0.6	-0.3
gib18	Moorish Castle Estate	1.2	0.6	-0.6
gib19	North Mole	1	0.7	-0.3
gib2	Bleak House	0.6	0.3	-0.3
gib20	Sundial Roundabout	1.8	1	-0.8
gib21	Anchorage Rosia Road	1	0.6	-0.4
gib3	Jumpers	1.4	0.7	-0.7
gib30	Governors Meadow House	1.1	0.5	-0.6
gib4	Devils Tower Road	0.6	0.4	-0.2
gib5	Glacis Road	1.7	0.9	-0.8
gib6	Queensway	1.3	0.9	-0.4
gib7	Harbour Views	0.9	0.5	-0.4

Average hydrocarbon concentrations for benzene in 2015

Examining the results, they show that compliance was achieved at all sites in 2015 along with a marked improvement from 2014.

Nitrogen Dioxide Network

The following table shows diffusion tube readings of nitrogen dioxide at a variety of locations throughout Gibraltar.

Site ID	Site Name	2014 NO2 (µg m-3)	2015 NO2 (µg m-3)	Difference
gib1	Rosia Road	53	46	-7
gib10	South Barracks Road	63	56	-7
gib11	Main Street	45	40	-5
gib12	Water Gardens	61	51	-10
gib13	George Don House	51	43	-8
gib14	Prince Edwards Road	56	46	-10
gib2	Bleak House	24	23	-1
gib20	Sundial Roundabout	60	53	-7
gib21	Anchorage Rosia Road	59	51	-8
gib22	Rosia Promenade	59	49	-10
gib23	Lathbury Industrial Park	23	21	-2
gib24	Upper Withams Entrance	56	54	-2
gib25	Churchill House	58	51	-7
gib26	Alameda Gardens Theatre	41	38	-3
gib27	Alameda Gardens Access Road	41	38	-3
gib28	Rock Hotel	58	52	-6
gib29	Gardiners Road	46	39	-7

gib3	Jumpers	65	59	-6
gib30	Governors Meadow House	56	49	-7
gib31	Dockyard Road	60	53	-7
gib32	Woodford Cottage	58	51	-7
gib4	Devils Tower Road	43	39	-4
gib5	Glacis Road	66	57	-9
gib6	Queensway	55	54	-1
gib7	Harbour Views	49	45	-4
gib8	Red Sands Road	55	50	-5
gib9	Lime Kiln Road	50	45	-5

Average nitrogen dioxide concentrations in 2015

Reductions in NO_2 concentrations were logged at all sites in 2015 when compared to 2014. However, numerous locations recorded an annual mean above the limit value. The highest average was noted at Glacis Road with 57 µg m^{-3}, and the lowest at the Lathbury Industrial Park with 21 µg m^{-3}.

2. Natural Resources

Bathing Waters

The Bathing Water Directive (2006/7/EC) was adopted on the 15th February 2006 and was transposed into Gibraltar law by the Environment (Quality of Bathing Water) Regulations 2009. In accordance with the requirements of this legislation, regular monitoring is executed and samples taken from Gibraltar's six bathing areas that include Camp Bay, Catalan Bay, Eastern Beach, Little Bay, Sandy Bay and Western Beach.

Site Name	Number of samples taken
Camp Bay	76
Little Bay	77
Catalan Bay	72
Sandy Bay	112
Bathing Pavilion (GASA)	8
Rosia Bay	38
Western Beach	357

In 2015, updates to the existing bathing water legislation were made thus creating new standards that are twice as strict as those in force prior to 2015. The new directive requires the monitoring of just two microbiological indicators of faecal contamination: *E Coli* and *intestinal enterococci*. The measurement of bathing water quality was also changed, now creating four categories of classifications: "excellent", "good", "sufficient", or "poor".

	Incidences of low water quality	
	E.Coli >500 cfu/100ml	Intestinal enterococci >185 cfu/100ml
Camp Bay	0	1
Little Bay	0	0
Catalan Bay	0	0
Sandy Bay	0	0
Eastern Beach	0	0
Western Beach	161	155
Bathing Pavilion (Europort Avenue)	0	0

Incidences of low water quality at all beaches in 2015

Potable Water Supply

As part of their annual two-tier sampling and analysis programme, the Environmental Agency and AquaGib Ltd analysed the following parameters in potable water:

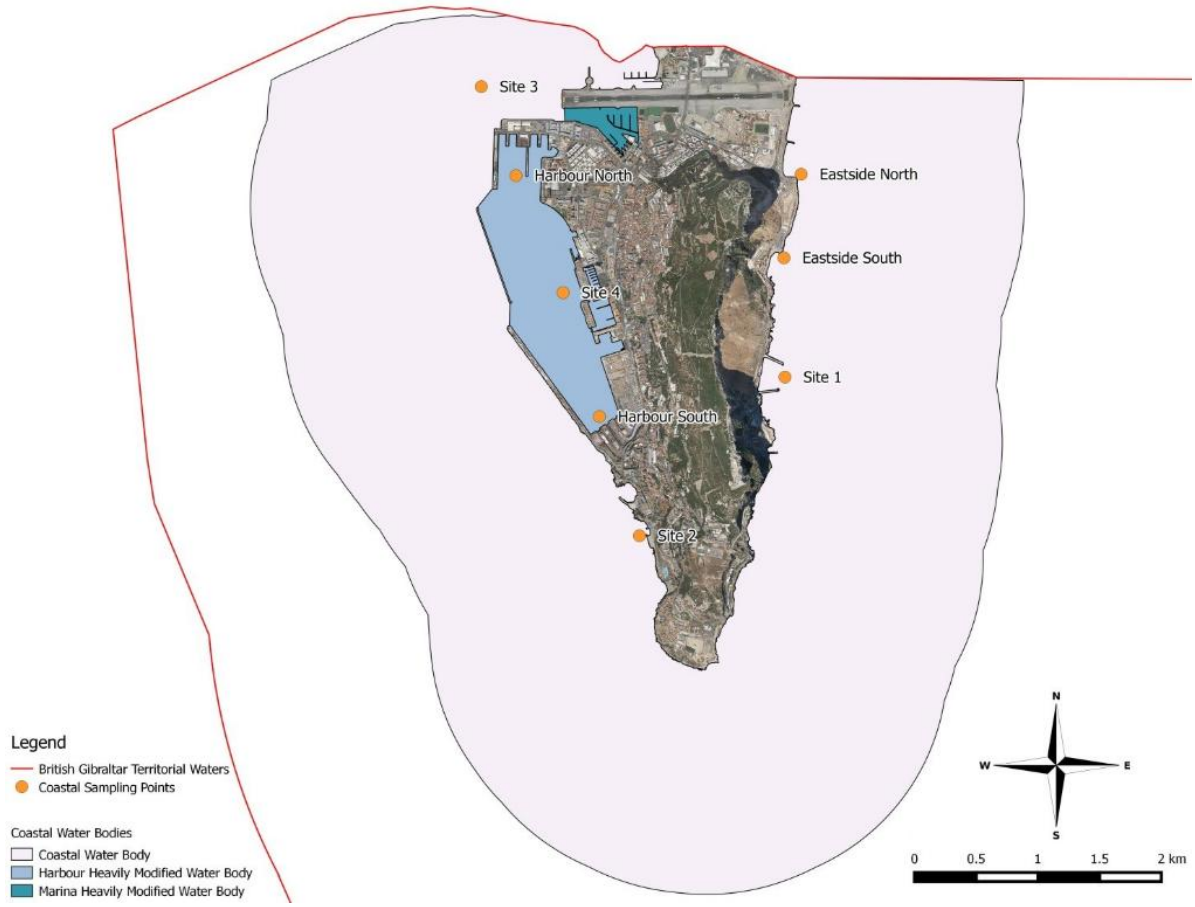
Member State	United kingdom (Gibraltar)				
Year	2015				
Parameter	**Numbers of WSZ Monitored**	**Numbers of WSZ with Non-Compliance**	**Number of Analyses**	**Number of Analyses not complying**	**% of Analyses Complying**
Microbiological Parameters					
Escherichia (E.coli)	1	0	8	0	100
Enterococci	1	0	8	0	100
Chemical Parameters					
Antimony	1	0	8	0	100
Arsenic	1	0	8	0	100
Benzene	1	0	8	0	100
Benzo(a)pyrene	1	0	8	0	100
Boron	1	0	8	0	100
Bromate	1	1	8	0	100
Cadmium	1	0	8	0	100
Chromium	1	0	8	0	100
Copper	1	0	8	0	100
Cyanide	1	0	8	0	100
1,2-dichloroethane	1	0	8	0	100
Fluoride	1	0	8	0	100
Lead	1	0	8	0	100
Mercury	1	0	8	0	100
Nickel	1	0	8	0	100
Nitrite	1	0	8	0	100
Nitrate/nitrite	1	0	8	0	100
Pesticides – total	1	0	8	0	100
Polycyclic Aromatic Hydrocarbons	1	0	8	0	100
Selenium	1	0	8	0	100
Tetrachloroethane	1	0	8	0	100
and Trichloroethane	1	0	8	0	100
Trihalomethanes - Total	1	0	8	0	100
Indicator Parameters					
Aluminium	1	0	8	0	100

Ammonium	1	0	8	0	100
Chloride	1	0	8	0	100
Colour	1	0	8	0	100
Conductivity	1	0	8	0	100
pH	1	0	8	0	100
Iron	1	0	8	0	100
Manganese	1	0	8	0	100
Odour	1	0	8	0	100
Oxidisability	1	0	8	0	100
Sulphate	1	0	8	0	100
Sodium	1	0	8	0	100
Taste	1	0	8	0	100
Coliform	1	0	8	0	100
Turbidity	1	0	8	0	100

National summary information on drinking water quality in water supply zones exceeding 1000m^3 per day as an average or serving more than 5000 persons

Coastal Water Monitoring

Coastal water sampling is undertaken by H.M. Department of the Environment and Climate Change on a frequent basis at the locations outlined below.



Coastal water sampling points

In line with the Water Framework Directive (WFD) 2000/60/EC, the following chemical and physio-chemical parameters are monitored at different locations and frequencies throughout the year.

Chemical / physio-chemical parameters	Frequency
General	
Temperature	Monthly
Nutrient status - Total N, Total P, NO3, NO2, NH4, PO4	Monthly
Salinity	Monthly
Total suspended solids	Monthly
Dissolved | Oxygen (DO)*	Monthly
Transparency*	Monthly
Chlorophyll-a*	Monthly
pH*	Monthly
Specific pollutants **Pesticides**	
Alachlor	4 times per year
Atrazine	4 times per year
Chlorfenvinphos	4 times per year
Chlorpyrifos	4 times per year
Endosulfan (alpha-endosulfan)	4 times per year
Hexachlorobutadiene	4 times per year
Hexachlorocyclohexane (gamma-isomer, Lindane)	4 times per year
Simazine	4 times per year
Trifluralin	4 times per year
Metals	
Cadmium and its compounds	4 times per year
Lead and its compounds	4 times per year
Mercury and its compounds	4 times per year
Nickel and its compounds	4 times per year
Polyaromatic hydrocarbons	
Anthracene	4 times per year
Fluoranthene	4 times per year
Naphthalene	4 times per year
(Benzo(a)pyrene)	4 times per year
(Benzo(b)fluoranthene)	4 times per year
(Benzo(g,h,i)perylene)	4 times per year
(Benzo(k)fluoranthene)	4 times per year
(Indeno(1,2,3-cd)pyrene)	4 times per year
Chlorinated Hydrocarbons	
1,2-Dichloroethane	4 times per year
Dichloromethane	4 times per year
Hexachlorobenzene	4 times per year
Pentachlorobenzene	4 times per year
Trichlorobenzenes (1,2,4-Trichlorobenzene)	4 times per year
Trichloromethane (Chloroform)	4 times per year
TBT	
Tributyltin compounds (Tributyltin-cation)	4 times per year
Other hydrocarbons	
C10-13-chloroalkanes	4 times per year

Benzene	4 times per year
BDEs	
Brominated diphenylethers	4 times per year
DEHP	
Di(2-ethylhexyl)phthalate	4 times per year
Urons	
Diuron	4 times per year
Isoproturon	4 times per year
Phenols	
Nonylphenols (4-(para)-nonylphenol)	4 times per year
Octylphenols (para-tert-octylphenol)	4 times per year
Pentachlorophenol	4 times per year
Other pollutants	
Chromium	4 times per year
Copper	4 times per year
Zinc	4 times per year
Biological parameters	
Phytoplankton - Abundance & composition (Abn. & Comp.)	4 times per year
Benthic macroinvertebrates - Abundance, composition & biomass	Every 6 years

Coastal Monthly and Quarterly Recordings for 2015

The following series of tables illustrates 2015 results for coastal monthly and quarterly samples. There are some months where data are not available due to poor weather conditions.

		Site 1 Sandy Bay	Site 2 Camp bay	Site 3 Airport /runway	Site 4 Mid harbour
Date of Sampling		**25-FEB-15 12:46**	**25-FEB-15 11:13**	**25-FEB-15 10:30**	**25-FEB-15 13:39**
Analyte	***Units***				
Chromium Hexavalent	ug/l	<30	<30	<30	<30
Cadmium	ug/l	<0.03	<0.03	<0.03	<0.03
Copper	ug/l	0.33	0.442	1.42	1.28
Lead	ug/l	0.065	0.041	0.466	0.404
Nickel	ug/l	<0.3	<0.3	0.362	0.326
Zinc	ug/l	1.63	1.88	7.87	2.98
Mercury	ug/l	<0.01	<0.01	<0.01	<0.01
Chromium	ug/l	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	ug/l	<0.01	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	ug/l	<0.01	<0.01	<0.01	<0.01
Benzo(k)fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01
Fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01
Chloroform :- {Trichloromethane}	ug/l	<0.1	<0.1	<0.1	<0.1

Coastal monitoring (February 2015)

		Site 1. Sandy Bay	Site 2. Camp Bay	Site 3. Airport Runway	Site 4. Mid Harbour
Date of Sampling		**13-MAY-15 11:40**	**13-MAY-15 12:10**	**13-MAY-15 13:20**	**13-MAY-15 13:00**
Analyte	***Units***				
Nitrogen as N	mg/l	<0.100	<0.100	<0.100	<0.100
Ammoniacal Nitrogen, Filtered as N	mg/l	<0.0200	<0.0200	<0.0200	<0.0200
Nitrite, Filtered as N	mg/l	<0.00400	<0.00400	<0.00400	<0.00400
Nitrogen : Total Oxidised, Filtered as N	mg/l	<0.100	<0.100	<0.100	<0.100
Orthophosphate, Filtered as P	mg/l	0.025	0.029	0.012	<0.0100
Phosphorus : Total	mg/l	<0.0200	<0.0200	<0.0200	<0.0200
Chlorophyll, Acetone Extract	ug/l	1.1	1.7	1.5	1.3
Solids, Suspended at 105 C	mg/l	5.8	<3.00	<3.00	<3.00
Nitrate, Filtered as N	mg/l	<0.100	<0.100	<0.100	<0.100

Coastal monitoring (May 2015)

		Site 1. Sandy bay	Site 2. Camp bay	Site 3. Runway northwest	Site 4. Mid harbour
Date of Sampling		**17-JUN-15 11:00**	**17-JUN-15 11:45**	**17-JUN-15 12:00**	**17-JUN-15 12:35**
Analyte	***Units***				
Chromium Hexavalent	ug/l	<30	<30	<30	<30
Cadmium	ug/l	<0.03	<0.03	<0.03	<0.03
Copper	ug/l	0.259	0.265	0.53	1.06
Lead	ug/l	0.052	0.064	0.115	0.243
Nickel	ug/l	<0.3	<0.3	<0.3	<0.3
Mercury	ug/l	<0.01	<0.01	<0.01	<0.01
Chromium	ug/l	1.67	<0.5	<0.5	0.6
Benzo(a)pyrene	ug/l	<0.01	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	ug/l	<0.01	<0.01	<0.01	<0.01
Benzo(k)fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01
Fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01
Chloroform :- {Trichloromethane}	ug/l	<0.1	<0.1	<0.1	<0.1

Coastal monitoring (June 2015)

		Site 1. Sandy Bay	Site 2. Camp Bay	Site 3. Airport Westside	Site 4. Mid harbour
Date of Sampling		**28-JUL-15 11:05**	**28-JUL-15 11:40**	**28-JUL-15 12:00**	**28-JUL-15 12:40**
Analyte	***Units***				
Nitrogen as N	mg/l	<0.100	<0.100	<0.100	<0.100
Ammoniacal Nitrogen, Filtered as N	mg/l	<0.0200	<0.0200	<0.0200	<0.0200
Nitrite, Filtered as N	mg/l	<0.00400	<0.00400	<0.00400	<0.00400
Nitrogen : Total Oxidised, Filtered as N	mg/l	<0.100	<0.100	<0.100	<0.100
Orthophosphate, Filtered as P	mg/l	<0.0100	<0.0100	<0.0100	<0.0100
Phosphorus : Total	mg/l	<0.0200	<0.0200	<0.0200	<0.0200
Chlorophyll, Acetone Extract	ug/l	<0.500	0.72	1.1	1.2
Solids, Suspended at 105 C	mg/l	7.4	6.1	<3.00	<3.00
Nitrate, Filtered as N	mg/l	<0.100	<0.100	<0.100	<0.100

Coastal monitoring (July 2015)

		Site 1 Sandy Bay	Site 2 Camp Bay	Site 3 Airport Runway	Site 4 Mid Harbour
Date of Sampling		**26-AUG-15 11:20**	**26-AUG-15 12:30**	**26-AUG-15 13:15**	**26-AUG-15 14:00**
Analyte	***Units***				
Chromium Hexavalent	ug/l	<30	<30	<30	<30
Cadmium	ug/l	<0.03	<0.03	<0.03	<0.03
Copper	ug/l	0.262	0.387	0.752	1.29
Lead	ug/l	<0.04	<0.04	0.204	0.278
Nickel	ug/l	<0.3	<0.3	0.351	<0.3
Zinc	ug/l	1.93	6.12	1.29	2.2
Mercury	ug/l	<0.01	<0.01	<0.01	<0.01
Chromium	ug/l	1.37	11.3	<0.5	<0.5
Benzo(a)pyrene	ug/l	<0.01	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	ug/l	<0.01	<0.01	<0.01	<0.01
Benzo(k)fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01
Fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01
Chloroform :- {Trichloromethane}	ug/l	<0.1	<0.1	<0.1	<0.1

Coastal monitoring (August 2015)

		SITE 1 SANDY BAY	SITE 2 CAMP BAY	SITE 3 RUNWAY	SITE 4 MID HARBOUR
Date of Sampling		**21-SEP-15 11:30**	**21-SEP-15 12:00**	**21-SEP-15 12:20**	**21-SEP-15 13:00**
Analyte	***Units***				
Nitrogen as N	mg/l	0.115	0.13	0.13	0.118
Ammoniacal Nitrogen, Filtered as N	mg/l	0.082	<0.0200	<0.0200	<0.0200
Nitrite, Filtered as N	mg/l	<0.00400	<0.00400	<0.00400	<0.00400
Nitrogen : Total Oxidised, Filtered as N	mg/l	<0.100	<0.100	<0.100	<0.100
Orthophosphate, Filtered as P	mg/l	<0.0100	<0.0100	<0.0100	<0.0100
Phosphorus : Total	mg/l	<0.0200	<0.0200	<0.0200	<0.0200
Chlorophyll, Acetone Extract	ug/l	2.5	1.6	2	1.6
Solids, Suspended at 105 C	mg/l	<3.00	<3.00	<3.00	<3.00
Nitrate, Filtered as N	mg/l	<0.100	<0.100	<0.100	<0.100

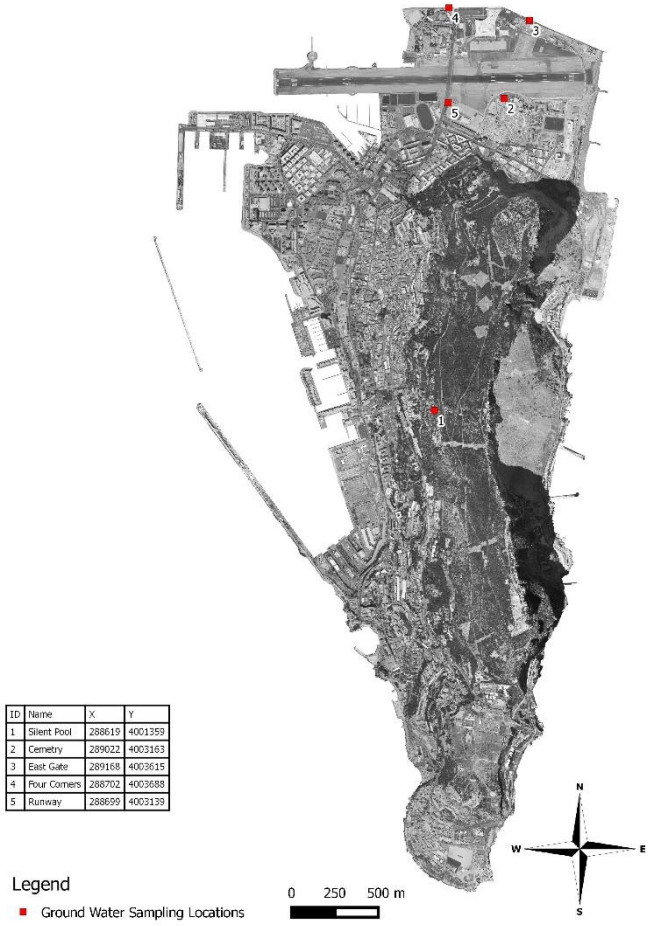
Coastal monitoring (September 2015)

		Site 1 Sandy Bay	Site 2 Camp Bay	Site 3 Runway Northwest	Site 4 Mid Harbour
Date of Sampling		**18-NOV-15 11:40**	**11-NOV-15 11:40**	**11-NOV-15 12:25**	**11-NOV-15 13:35**
Analyte	***Units***				
Chromium Hexavalent	ug/l	0.31	<30	<30	<30
Cadmium	ug/l	<0.03	<0.03	<0.03	<0.03
Copper	ug/l	0.293	1.02	0.877	1.33
Lead	ug/l	0.042	0.164	0.34	0.339
Nickel	ug/l	<0.3	0.302	<0.3	<0.3
Zinc	ug/l	0.875	22.5	8.33	4.49
Mercury	ug/l	<0.01	<0.01	<0.01	<0.01
Chromium	ug/l	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	ug/l	<0.01	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	ug/l	<0.01	<0.01	<0.01	<0.01
Benzo(k)fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01
Fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01
Chloroform :- {Trichloromethane}	ug/l	<0.1	<0.1	<0.1	<0.1

Coastal monitoring (November 2015)

Groundwater Monitoring

On a monthly basis, groundwater monitoring is carried out at two local aquifers: one located in the Northern Isthmus and one in the Southern bedrock. As part of the monitoring programme, samples are taken from five specific locations highlighted below.



ID	Name	X	Y
1	Silent Pool	288619	4001359
2	Cemetry	289022	4003163
3	East Gate	289168	4003615
4	Four Corners	288702	4003688
5	Runway	288699	4003139

Groundwater sampling points

Results for 2015, which are compliant with EU thresholds, are presented in the following tables.

		Site 1 Silent Pool	Site 2 Cemetery	Site 3 Frontier	Site 4 Four Corners	Site 5 Runway
Date of Sampling		**17-FEB-15**	**17-FEB-15**	**17-FEB-15**	**17-FEB-15**	**17-FEB-15**
Analyte	***Units***	**11:26**	**12:15**	**12:39**	**12:55**	**13:15**
Alkalinity to pH 4.5 as CaCO3	mg/l	167	196	201	280	301
Ammoniacal Nitrogen as N	mg/l	<0.0300	<0.0300	<0.0300	<0.0300	<0.0300
Chloride	mg/l	1520	45.7	136	77.9	745
Nitrite as N	mg/l	<0.00400	<0.00400	<0.00400	<0.00400	<0.00400
Nitrogen : Total Oxidised as N	mg/l	4.44	4.69	3.61	3.18	6.15
Carbon, Organic : Total as C :- {TOC}	mg/l	<1.00	<1.00	1.1	3	1.3
Solids, Suspended at 105 C	mg/l	-	<3	<3	<3	<3
Arsenic	ug/l	<1	4.24	2.43	16.4	8.2
Cadmium	ug/l	<0.1	<0.1	0.541	<0.1	<0.1
Lead	ug/l	<2	<2	<2	<2	<2
Zinc	ug/l	19.7	<5	205	6.45	18.3
Calcium	mg/l	113	79.1	71.3	80.7	145
Magnesium	mg/l	110	10.1	18.7	25.8	50.6
Potassium	mg/l	32.6	7.82	7.77	12.6	21.5
Sodium	mg/l	811	26.4	87.3	69.7	405
Sulphate as SO4	mg/l	222	26.1	52.8	76.1	113
Mercury	ug/l	-	<0.01	<0.01	<0.01	<0.01
Bicarbonate as HCO3	mg/l	-	239	245	342	367
Nitrate as N	mg/l	-	<4.69	<3.61	<3.18	<6.15

Groundwater monitoring (February 2015)

		Site 1. Silent Pool	Site 2. Cemetery	Site 3. Frontier	Site 4. Four Corners	Site 5. Runway
Date of Sampling		**08-MAY-15**	**08-MAY-15**	**08-MAY-15**	**08-MAY-15**	**08-MAY-15**
Analyte	***Units***	***08:49***	**09:23**	**09:47**	**10:11**	**10:30**
Alkalinity to pH 4.5 as CaCO3	mg/l	170	199	202	284	317
Ammoniacal Nitrogen as N	mg/l	0.03	0.03	0.03	0.03	0.03
Chloride	mg/l	1650	45.1	140	79.2	907
Nitrite as N	mg/l	<0.00400	<0.00400	<0.00400	<0.00400	0.0072
Nitrogen : Total Oxidised as N	mg/l	4.39	4.74	6.14	2.95	6.46
Carbon, Organic : Total as C :- {TOC}	mg/l	<1.00	<1.00	<1.00	2.3	1.3
Solids, Suspended at 105 C	mg/l	-	<3	<3	<3	<3
Arsenic	ug/l	<1	6.14	3.14	18.2	9.53
Cadmium	ug/l	<0.1	<0.1	0.606	<0.1	<0.1
Lead	ug/l	<2	<2	<2	<2	<2
Zinc	ug/l	7.79	10.2	246	7.76	30.1
Calcium	mg/l	115	76.8	73.9	81.6	167
Magnesium	mg/l	112	9.49	18.2	25.3	72.2
Potassium	mg/l	30.4	8.31	7.51	12.5	30.1
Sodium	mg/l	858	27.2	89.8	67.8	607
Sulphate as SO4	mg/l	236	26.5	53.8	74.1	159
Mercury	ug/l	-	0.0105	0.0131	<0.01	<0.01
Bicarbonate as HCO3	mg/l	-	243	246	346	387
Nitrate as N	mg/l	-	<4.74	<6.14	<2.95	6.45

Groundwater monitoring (May 2015)

		Site 1. Silent Pool	Site 2 Cemetary	Site 3 Frontier	Site 4 Four Corners	Site 5 - Runway
Date of Sampling		**17-JUL-15**	**17-JUL-15**	**17-JUL-15**	**17-JUL-15**	**17-JUL-15**
Analyte	***Units***	**09:20**	**10:05**	**10:30**	**10:30**	**11:15**
Alkalinity to pH 4.5 as CaCO3	mg/l	153	177	175	269	316
Ammoniacal Nitrogen as N	mg/l	0.03	0.03	0.03	0.03	0.03
Chloride	mg/l	1480	44.7	134	78.1	1960
Nitrite as N	mg/l	<0.00400	<0.00400	<0.00400	<0.00400	<0.00400
Nitrogen : Total Oxidised as N	mg/l	4.39	4.57	5.36	2.45	4.78
Carbon, Organic : Total as C :- {TOC}	mg/l	<1.00	<1.00	1.2	2.6	1.3
Solids, Suspended at 105 C	mg/l	-	<3	14	<3	<3
Arsenic	ug/l	<1	4.06	2.53	17.8	7.57
Cadmium	ug/l	<0.1	<0.1	0.784	<0.1	<0.1
Lead	ug/l	<2	<2	<2	<2	<2
Zinc	ug/l	7.93	<5	382	5.75	39.4
Calcium	mg/l	113	68.3	75.8	76.4	197
Magnesium	mg/l	115	10.2	18.7	24.7	118
Potassium	mg/l	32.2	8.13	8.54	11.9	51
Sodium	mg/l	861	26.7	97.4	65.8	1050
Sulphate as SO4	mg/l	236	25.2	59	71.8	249
Mercury	ug/l	-	<0.01	<0.01	<0.01	<0.01
Bicarbonate as HCO3	mg/l	-	216	214	328	386
Nitrate as N	mg/l	-	<4.57	<5.36	<2.45	<4.78

Groundwater monitoring (July 2015)

		Site 1 - Silent Pool	Site 2 - Cemetary	Site 3 - Frontier	Site 4 - Four Corners	Site 5 - Runway
Date of Sampling		**30-NOV-15**	**30-NOV-15**	**30-NOV-15**	**30-NOV-15**	**30-NOV-15**
Analyte	***Units***	**10:25**	**10:55**	**12:00**	**12:15**	**12:35**
Alkalinity to pH 4.5 as CaCO3	mg/l	149	187	208	272	324
Ammoniacal Nitrogen as N	mg/l	<0.0300	<0.0300	<0.0300	<0.0300	<0.0300
Chloride	mg/l	1770	51.6	162	61	1230
Nitrite as N	mg/l	0.0047	0.0054	<0.00400	<0.00400	<0.00400
Nitrogen : Total Oxidised as N	mg/l	4.27	6.71	4.18	8.77	6.61
Carbon, Organic : Total as C :- {TOC}	mg/l	<1.00	<1.00	1	2.3	1.1
Solids, Suspended at 105 C	mg/l	-	<3	<3	<3	<3
Arsenic	ug/l	<1	4.61	2.64	16.3	9.32
Cadmium	ug/l	<0.1	<0.1	0.55	<0.1	<0.1
Lead	ug/l	<2	<2	<2	<2	<2
Zinc	ug/l	7.22	6.01	227	<5	19.7
Calcium	mg/l	131	77.3	71	83.7	157
Magnesium	mg/l	120	9.95	20.2	24	79
Potassium	mg/l	32.2	8.4	9.07	14.1	35.6
Sodium	mg/l	937	31.5	108	64.8	700
Sulphate as SO4	mg/l	256	26.8	62.2	71.6	170
Mercury	ug/l	-	<0.01	<0.01	<0.01	<0.01
Bicarbonate as HCO3	mg/l	-	228	254	332	395
Nitrate as N	mg/l	-	6.7	<4.18	<8.77	<6.61

Groundwater monitoring (November 2015)

3. Habitats

Birds

Nesting Birds of Prey

The Gibraltar Ornithological and Natural History Society (GOHNS) conducts annual surveys during the breeding season with records being kept specifically on Peregrines *(Falco peregrinus),* Common Kestrel *(Falco tinnunculus),* and Lesser Kestrel *(Falco naumanni)*. Records for 2015 are provided below.

Lesser and Common Kestrel

Year	Lesser Kestrel	Common Kestrel
2001	9	8
2002	9	9
2003	7	10
2004	9	10
2005	14	10
2006	15	10
2007	19	11
2008	21	11
2009	15	11
2010	16	11
2011	18	9
2012	13	8
2013	5	5
2014	4	6
2015	4	7

Pairs of Lesser Kestrel & Common Kestrel in Gibraltar

Peregrine Falcon

Year	North face	Catalan Bay	Both Worlds	Oil Tanks	Med Steps	Camp Bay	Mosque	Total
2000	5	3	3	3	2			16
2001	4	2	2	2	3	0		13
2002	5	0	0	2	6	0		13
2003	4	0	0	3	5	0		12
2004	2	0	0	3	4	4		13
2005	2	0	0	2	2	3	0	9
2006	2	2	3	3	4	4	5	23
2007	3	0	3	2	0	1	3	12
2008	3	3	3	4	0	1	3	17
2009	2	2	4	3	3	4	2	20
2010	0	0	3	2	0	2	0	7
2011	2	3	3	0		3	3	14
2012	0	3	2	0		1	2	8
2013	4	3	3	0	3	0	0	13
2014	3	1	2		0		0	6
2015	2	2	0	3		3	0	10

Blank entries denote no pairs present at this site

Locations of breeding success of Peregrines in Gibraltar

Yellow-legged Gulls

As with previous years, culling initiatives of yellow-legged gulls continues to take place with the Gull Control Unit executing these duties. The table below provides an indication of the demographics being targeted by this effort, and highlights that a total of 4268 yellow-legged gulls were culled in 2015.

	Adults	1st/yr	2nd/yr	3rd/yr	Juvenile	Total
January	263	2	2	0	0	267
February	237	1	0	0	0	238
March	445	1	7	6	0	459
April	683	21	59	51	0	814
May	772	0	14	51	0	837
June	640	0	1	19	231	891
July	212	0	0	9	171	392
August (Counts)	0	0	0	0	0	0
September (Counts)	0	0	0	0	0	0
October	74	15	6	2	0	97
November	153	4	0	2	0	159
December	100	9	5	0	0	114
Total	3579	53	94	140	402	4268

Total Yellow-legged Gulls culled throughout 2015

Mammals

Barbary Macaques

In 2015, the Barbary Macaque population began with an overall decline in numbers as a result of many recorded deaths and exportations that took place in the previous year. Throughout the year, few changes were noted within the demographic with just a total of 10 deaths and 39 births.

Year	Population	Deaths	Births	Infant Deaths
2013	209	40	33	6
2014	196	27 (30 exported)	26	7
2015	158	7	39	3

Barbary Macaque demographics

4. Waste

Hazardous Waste

Hazardous waste materials are stored under strict license conditions and then processed for trans-frontier shipment where they can be adequately disposed. Typically consisting of waste oils and asbestos containing products, the table below shows a breakdown of total exported hazardous wastes in 2015.

Waste code(s)	Description of Waste	Totals (Metric Tonnes)
15 02 02*	Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths protective clothing contaminated by dangerous substances	24.265
13 04 01* 13 04 02* 13 04 03* 13 05 06* 13 05 07*	Bilge Oils	9,387.27
17 06 05*	Construction materials containing asbestos	334.44
16 05 04*	Gases in pressure containers (including halons) containing dangerous substances	0.56
16 05 06*	Laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals	0.45
16 01 07*	Oil filters	1.903
16 03 05*	Organic wastes containing dangerous substances	4.45
06 01 06*	Other acids	1.892
13 07 03*	Other fuels (including mixtures)	3,308.67
14 06 02*	Other halogenated solvents and solvent mixtures	1
14 06 03*	Other solvents & solvent mixtures	156.8
15 01 10*	Packaging containing residues of or contaminated by dangerous substance	0.582
18 01 03*	Physio-chemical treatment not specified on list	24
19 08 11*	Sludges containing dangerous substances from biological treatment of industrial waste water	38.5

13 05 02*	Sludges from oil/water separators	14
06 02 04*	Sodium and potassium hydroxide	6.55
17 05 03*	Soil & Stones containing dangerous substances	259.26
17 05 04	Soil and stones other than those mentioned in 17 05 03	35490.2
06 03 13*	Soild salts and solutions containing heavy metals	1
17 05 04	Soils & Stones other than those mentioned in 17 05 03*	10933.45
12 01 16*	Waste blasting material containing dangerous substances	3844.21
13 04 01* 13 04 02* 13 05 06* 13 05 07*	Waste oil with water	46.5
18 01 03*	Wastes whose collection and disposal is subject to special requirements in order to prevent infection 18 01 03*	116
09 01 02*	Water Based Offset plate developer solutions	0.5
08 03 12* 08 03 17*	Waste printing toner containing dangerous substances. Waste ink containing dangerous substances	0.6

Trans-frontier shipments of hazardous waste in 2015

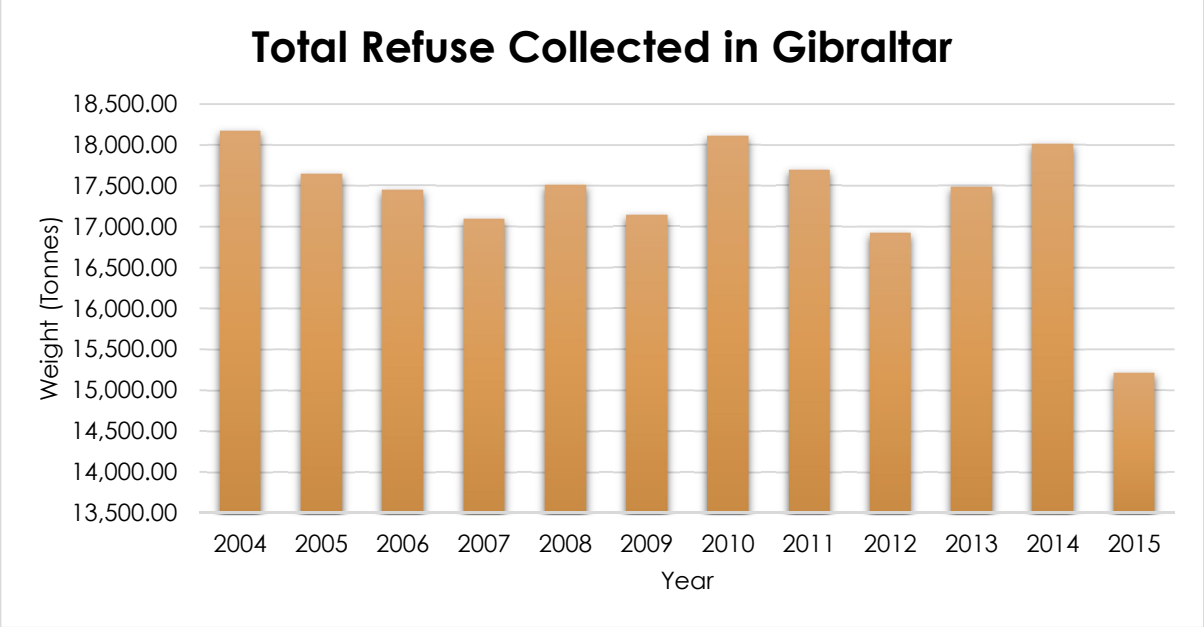
Municipal Waste

In the table below, municipal waste data comprising of general refuse, household waste and mattresses is shown.

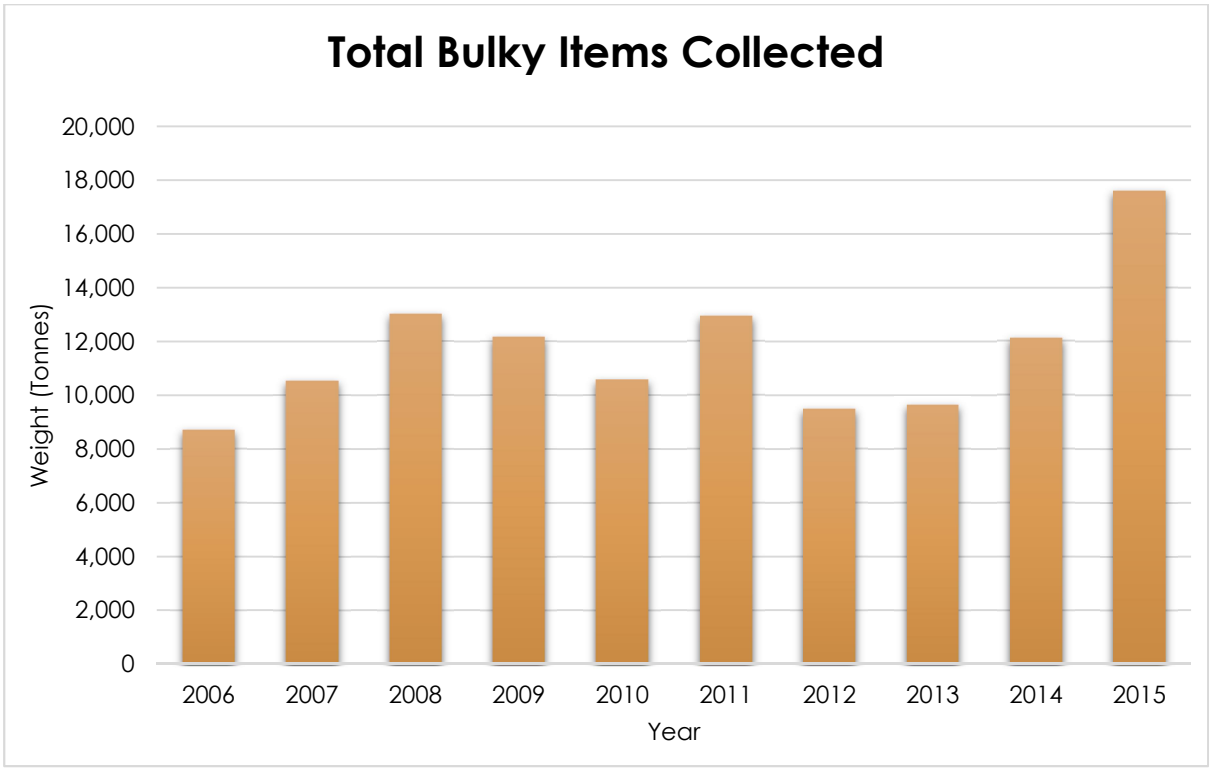
2015	Refuse	Households	Mattresses	Total Refuse Per Month
Month	**Weight (TONs)**	**Weight (TONs)**	**Weight (TONs)**	**Weight (TONs)**
January	1564.06	1095.00	11.46	2670.52
February	1343.90	1196.80	6.32	2547.02
March	1528.52	1221.46	9.52	2759.5
April	1432.82	1069.82	7.52	2510.16
May	1356.34	1278.32	3.98	2638.64
June	1512.68	1964.00	6.16	3482.84
July	1547.76	1446.88	7.04	3001.68
August	1326.70	1107.76	9.74	2444.2
September	1555.90	1211.96	8.58	2776.44
October	1512.96	1338.48	10.14	2861.58
November	1481.70	1278.92	9.62	2770.24
December	1435.70	1001.28	7.26	2444.24
Total	17599.04	15210.68	97.34	32907.06

Municipal waste in Gibraltar 2015

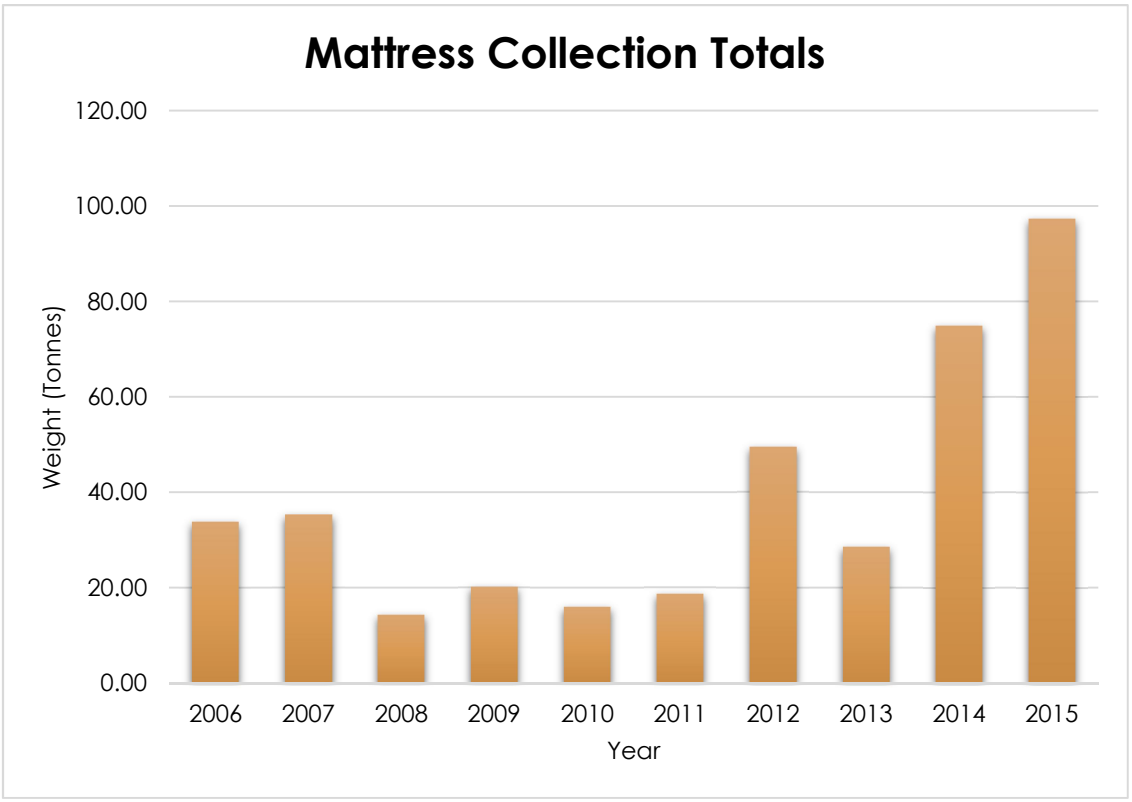
A total of 32,907.06 tonnes of municipal waste were produced in 2015 compared to 30,192.64 tonnes in 2014.



Annual refuse total comparison (2004-2015)



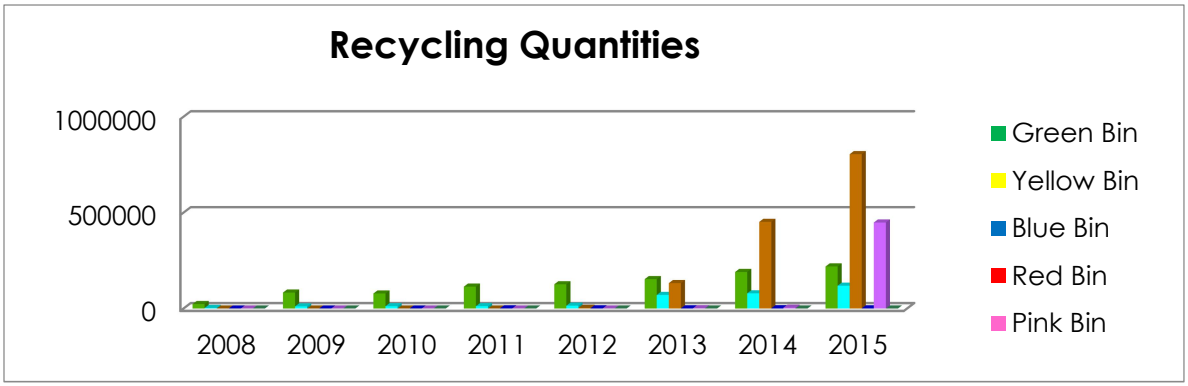
Annual bulky items total comparison (2006-2015)



Annual mattress total comparison (2006 -2015)

Recycling

In recent years, kerbside recycling facilities have expanded to over 80 locations and seen the adoption of new recyclate streams with the most recent being cooking oil (orange bin). To reflect this growth, the quantity of waste being recycled locally has steadily increased particularly in the case of paper (blue bin) and Waste Electrical and Electronic Equipment (WEEE) (pink bin).



Recycling quantities (2008-2015)

Year	Green Bin	Yellow Bin	Blue Bin	Red Bin	Pink Bin	Orange Bin
2015	219260	118840	804674	1040	448470	109.5

*Weight given in Kilograms (Kgs)

Recycling quantities for 2015

WEEE

Due to the mixed and potentially hazardous nature of WEEE, local regulations are in place to ensure that all categories of this waste are handled, treated and disposed safely. The table below highlights which categories are encompassed under this waste category and details of just how much is being treated and recovered.

Categories	Imported		Collected		Sent for treatment		Recovery
	Quantity (No.)	Weight (tons)	Quantity (No.)	Weight (tons)	Quantity (No.)	Weight (tons)	%
Large Household appliances	258	10.8	6261	-	6028	729.4	2426.74
Small Household appliances	213	81.8	502	-	1305	5.01	235.68
IT and Telecoms Equipment	3699	2.7	9591	-	8552	98.3	259.29
Consumer Equipment	834	0.6	959	-	1851	20.9	114.99
Lighting equipment	9622	9622	3055	-	3753	14.2	31.75
Electrical and electronic tools	25778	3	21	-	51	0.3	0.1
Toys, Leisure & Sports Equipment	0	0	26	-	76	1.8	N/A
Medical devices	2	0.04	43	-	6	0.04	2150
Monitoring & Control Instruments	22	0.1	39	-	46	14.2	177.3
Automatic dispensers	0	0	31	-	24	0.3	N/A
Totals:	40428	9721.1	20528.01	-	21692	884.432	

WEEE movements and recovery in Gibraltar 2015

Year	Imported		Collected		Sent for treatment		Recovery	Recycled
	Quantity (No.)	Weight (tonnes)	Quantity (No.)	Weight (tonnes)	Quantity (No.)	Weight (tonnes)	%	%
2010	0	0	25010	0.95	0	0	0	0
2011	0	0	1866	2.1155	0	0	0	0
2012	2322	27.4619	41107	1.7845	0	1.34	133.1716	6.498094
2013	1228	7.36858	117	1.33455	0	0.7	190.65	18.11136
2014	313	15.1889	192.5	2.83815	0	0	0	18.68568
2015	154	1.4519	68105	6.95192	0	0	0	478.8153

Battery waste generated in Gibraltar 2010-2015

Clinical Waste

Results for total clinical waste collected, transported and incinerated locally during 2015 are as follows.

	Year:		2015
Month	**No. of Containers**	**Total Litres**	**Total Weight (Kgs)**
January	4436	266160	33270
February	4229	253740	31717.5
March	4581	274860	34357.5
April	4391	263460	32932.5
May	4312	258720	32340
June	4645	278700	34837.5
July	4790	287400	35925
August	4831	289860	36232.5
September	4364	261840	32730
October	4621	277260	34657.5
November	4801	288060	36007.5
December	4528	271680	33960
Total	54529	3271740	408967.5

Clinical waste collected 2015

	Year:		2015
Month	**No. of Containers**	**Total Litres**	**Total Weight (Kgs)**
January	3438	206280	25785
February	2818	169080	21135
March	3081	184860	23107.5
April	3157	189420	23677.5
May	3106	186360	23295
June	3443	206580	25822.5
July	1776	106560	13320
August	2913	174780	21847.5
September	3102	186120	23265
October	3266	195960	24495
November	2798	167880	20985
December	2999	179940	22492.5
Total	35897	2153820	269227.5

Clinical waste locally incinerated 2015

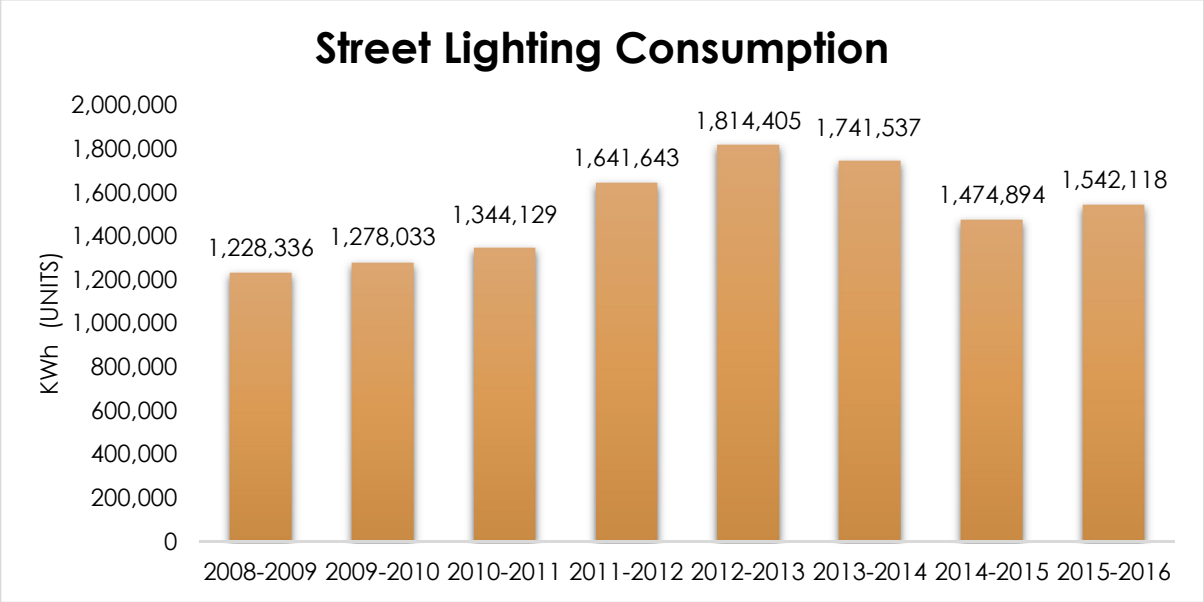
	Year:		2015
Month	**No. of Containers**	**Total Litres**	**Total Weight (Kgs)**
January	1296	77760	9720
February	1296	77760	9720
March	2160	129600	16200
April	864	51840	6480
May	854	51240	6405
June	1286	77160	9645
July	3024	181440	22680
August	1728	103680	12960
September	1296	77760	9720
October	1721	103260	12907.5
November	1708	102480	12810
December	1296	77760	9720
Total	18529	1111740	138967.5

Clinical waste exported for incineration 2015

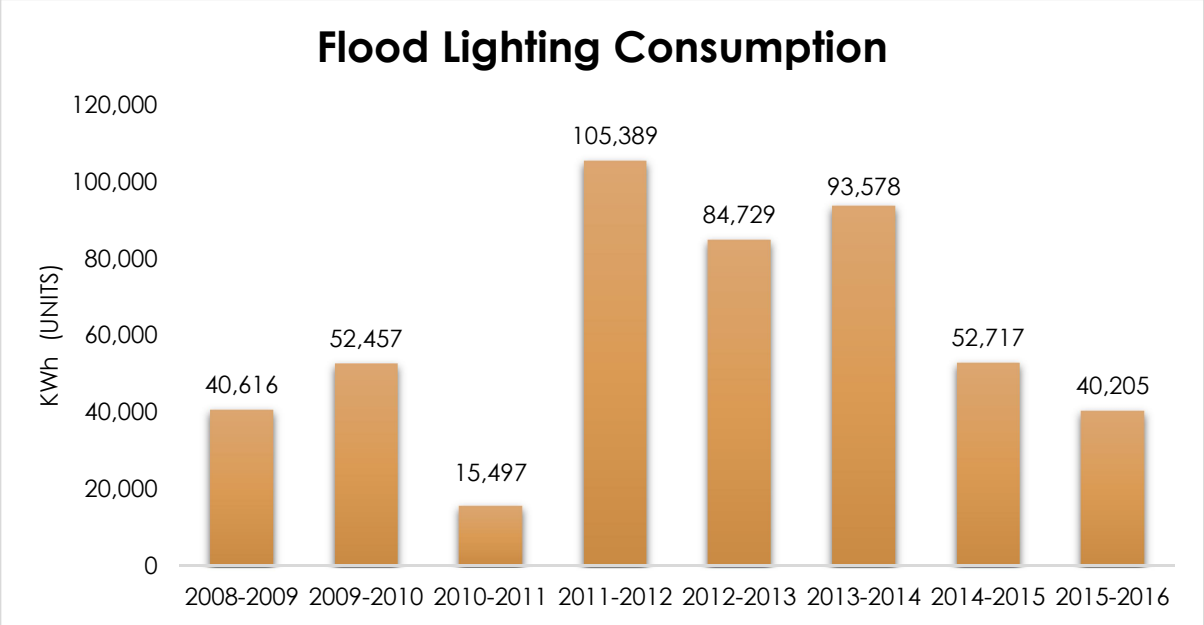
5. Energy

Lighting

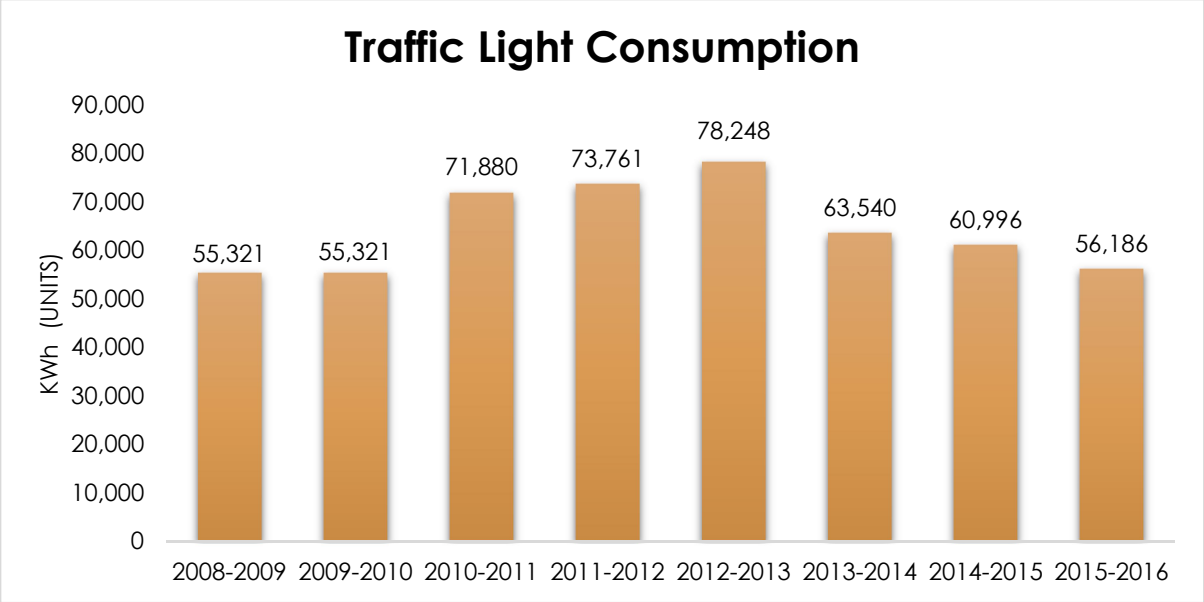
As part of the Department's drive to improve local energy efficiency, the Gibraltar Electricity Authority (GEA) is systematically installing LED lighting throughout different sectors in Gibraltar to reduce energy consumption and consequently carbon emissions. Trends showing how this has affected energy consumption from 2008 to 2015 are shown below.



Street lighting consumption (kWh) (Source: GEA)



Traffic light consumption (kWh) (Source: GEA)

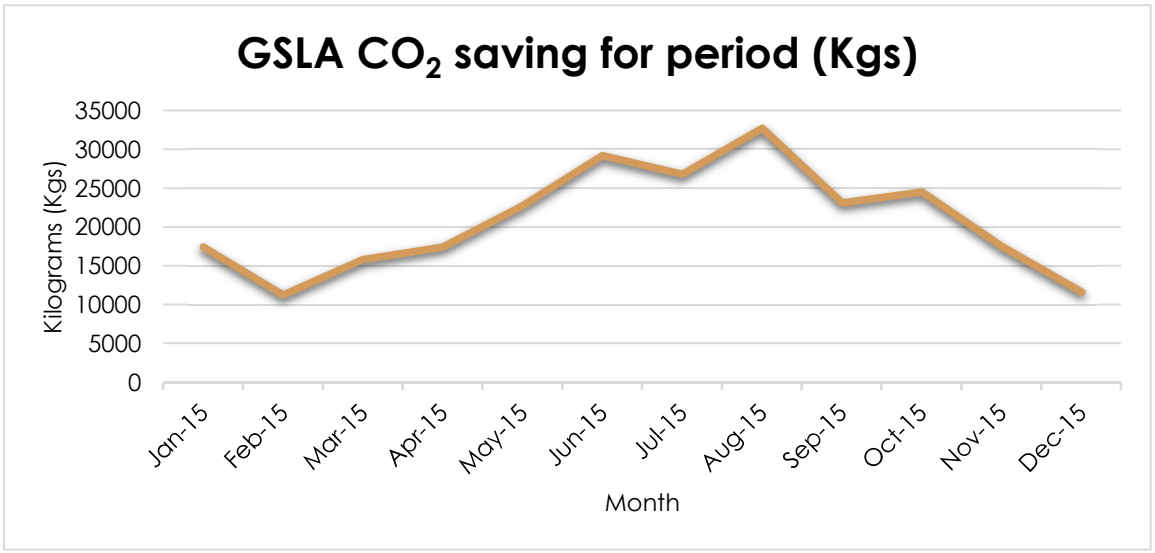


Traffic light consumption (kWh) (Source: GEA)

Solar Energy

In line with EU targets for sourcing 20% of energy by 2020, H.M. Government of Gibraltar is rolling out a number of solar projects. Aimed at reducing carbon emissions from energy consumption, one of the sites equipped with a solar thermal system is GSLA pool.

In the table below, carbon dioxide (CO_2) savings achieved by this renewable energy is illustrated on a monthly basis. Highlighting a lull during the winter months when there is less solar radiation and a pick up during the summer months, the graph shows that the highest CO_2 savings were experienced in August 2015. In this month, savings were equivalent to taking 145 cars off the road for one year.



GSLA CO2 saving for period (Kgs)