



Department
of Energy &
Climate Change

Department of Energy & Climate Change
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Our ref: 14/0543

23 April 2014

RE: Request for Information

Thank you for your letter dated 13th March 2014 to the Department of Energy & Climate Change (DECC), where you requested the following information:

*“Can you tell me how the Department **measures** climate change?”*

We have considered your request in accordance with the Environmental Information Regulations 2004 (‘the EIRs’) as the information you have sought disclosure of, does in our view, fall within the definition of ‘environmental information’ as stated in the EIRs.

DECC does not measure climate change. Rather, the Department bases its understanding of climate change on a range of scientific assessments, most notably those of the Intergovernmental Panel on Climate Change (IPCC). Scientists use a number of climate indicators to monitor changes in the climate system, including global-average surface air temperature, Arctic sea-ice extent, sea level, ocean heat content and land ice^{1,2}.

A summary of observed changes in the Earth’s climate system can be found in the *Summary for Policymakers* from the IPCC’s Fifth Assessment Working Group I Science Report, published last September³. More detailed information on those observations is given in Chapters 2, 3 and 4 of that IPCC report⁴.

DECC provides funding support for the following programmes on climate observations:

¹ <http://www.metoffice.gov.uk/research/monitoring/climate>

² <http://www.ncdc.noaa.gov/indicators/>

³ <https://www.ipcc.ch/report/ar5/wg1/>

- DECC contributes to the US/European JASON-3 satellite altimeter programme, which provides measurements of sea-level. The altimetry data can be obtained at:
<http://sealevel.colorado.edu/>
- DECC contributes funding to the UK Argo float programme, which is part of a global array of floats that measure temperature, salinity and currents in the top 2000 metres of the world's oceans. Data for UK Argo floats are available at:
https://www.bodc.ac.uk/data/online_delivery/argo/
- DECC funds processing and archiving of sea surface temperature (SST) data obtained from the ATSR⁵ series of satellite instruments, as well as collection and processing of ship-borne radiometry SST data which will provide inter-calibration with the Sea and Land Surface Temperature Radiometer (SLSTR) instrument on the European Space Agency Sentinel-3 mission, due to launch in late 2015. AATSR and ship-borne SST data can be accessed from the archive:
<http://www.neodc.rl.ac.uk/?option=displaypage&Itemid=91&op=page&SubMenu=91>
- DECC sponsors measurements of GHG concentrations in the atmosphere. Information on these how these measurements are made, together with monthly baseline data, can be found at <http://www.metoffice.gov.uk/atmospheric-trends/> and DECC publications derived from these datasets are available at <https://www.gov.uk/government/publications/uk-greenhouse-gas-emissions-monitoring-and-verification>
- The data makes up part of the global AGAGE dataset, which can be found at <http://agage.eas.gatech.edu/data.htm>. Global data, which includes data the UK provides, can also be found at the World Data Centre for Greenhouse Gases <http://ds.data.jma.go.jp/gmd/wdcgg/>

Further information on these programmes is given in DECC's Earth Observation Strategy, which aims to ensure cost-effective access to robust information on the climate and on environmental resources for effective policy making. A copy of this strategy is available at:

⁵ ATSR refers collectively to the ATSR-1, ATSR-2 and AATSR (Advanced Along-Track Scanning Radiometer) series of three UK-funded satellite instruments which measured SST almost continuously between 1991 and 2012.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48428/5592-decc-earth-observation-strategy.pdf

The Climate Programme at the Met Office Hadley Centre is co-funded by DECC and DEFRA and uses a range of climate observations in its work on the monitoring, detection and attribution of climate change.

Appeals Procedure

If you are dissatisfied with the handling of your request, you have the right to ask for an internal review. Internal review requests should be submitted within 40 working days of the date of receipt of the response to your original email and should be sent to the Information Rights Unit at:

Information Rights Unit (DECC Shared Services)
Department for Business, Innovation & Skills
1 Victoria Street
London
SW1H 0ET
E-mail: foi.requests@decc.gsi.gov.uk

Please remember to quote the reference number above in any future communications.

If you are not content with the outcome of the internal review, you have the right to apply directly to the Information Commissioner for a decision. The Information Commissioner can be contacted at: Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF

Yours sincerely

Climate Science Team
Science and Innovation Directorate